FY 2012

Integrated
Comments and Recommendations

on the MWRA's Proposed
Capital Improvement Program
and
Current Expense Budget

MWRA
Advisory Board

The Community Advisory Board to the
Massachusetts Water Resources Authority

May 2011

The MWRA Advisory Board…

was established by the State Legislature to represent the 60 communities in the MWRA service area. Through annual comments and recommendations on the Authority's proposed capital and current expense budgets and rates, the Advisory Board provides a ratepayer perspective on the MWRA's plans and policies to improve the region's water and sewer systems.

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on the MWRA's Proposed
Fiscal Year 2012
Capital Improvement Program
and
Current Expense Budget

May 2011

Joseph E. Favaloro

Executive Director

Preface

Pursuant to its responsibility under Sections 8 and 23 of Chapter 372 of the Acts of 1984, the MWRA Advisory Board has undertaken a comprehensive review of the Authority's proposed Current Expense Budget and Capital Improvement Program and Budget for the fiscal year beginning July 1, 2011 (FY 2012). The Advisory Board's review has produced these *INTEGRATED COMMENTS AND RECOMMENDATIONS*, which state the Advisory Board's opinions on a number of issues and policies, plus recommendations on proposed spending in each MWRA department. These *Comments and Recommendations* were approved at the May 19, 2011 meeting of the full Advisory Board.

These *Comments and Recommendations* were prepared by Joseph Favaloro and Matthew Romero of the Advisory Board staff, and Cornelia Potter, Advisory Board consultant. Overall direction was provided by Vice Chairman for Finance, Bernard Cooper, with the participation of Advisory Board members.

All base information for figures and tables, schematics and photographs contained within the *Comments and Recommendations* document are provided by MWRA or their consultants, unless otherwise noted.

The Advisory Board extends its appreciation to MWRA staff for their assistance in reviewing the FY12 Capital and Current Expense Budgets.

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TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF CHARTS

INTRODUCTION

Each year the Massachusetts Water Resources Authority (MWRA) transmits its Proposed Capital Improvement Program (CIP) and Proposed Current Expense Budget (CEB) to the MWRA Advisory Board for its statutory review. Beginning in 2009, the Advisory Board consolidated its review of the CIP and CEB into an *Integrated Comments and Recommendations* document.

This integrated format allows the Advisory Board greater flexibility to discuss proposed expenditures that pertain to elements of both the CIP and CEB, as well as to discuss policy decisions within a more comprehensive context of the issues facing the Authority.

In response to the financial challenges that cities and towns were facing last year, the Authority responded to the Advisory Board's challenge by approving a 1.49% wholesale rate increase – the lowest rate increase since 1996. The Authority also included more realistic projected rate increases for the following two years, keeping them just under 4%.

The Advisory Board's primary responsibility is to represent this discussion as it pertains to the cities and towns, and the ratepayers. Over 95% of the Authority's funding in the Proposed FY12 CEB comes from rate revenue, a funding source that could increase an additional $220 million in five years according to the Authority's projections. Despite the Authority's diligence, such projected increases in the rate revenue requirement pose a significant challenge for the Authority to manage and a significant burden for the ratepayers to shoulder.

Driving these projected increases are three major budgetary pressures that some have termed "The Three Headed Monster," namely capital financing expenses, pension, and other post-employment benefits (OPEB).

The Authority borrowed billions of dollars to fund the capital infrastructure necessary to improve its wastewater and waterworks system to meet regulatory standards. The ratepayers currently reap the environmental and service improvement benefits of this investment, but the debt must now be repaid. Moreover, the structure of the debt repayment schedule was predicated on the receipt of Debt Service Assistance (DSA) in excess of $50 million each year, which would have reduced capital financing expenses by over 10% for the next five years.[1] The Authority has not received any DSA for the past three years, although the FY12 state budget (in conference committee at the time of this publication) currently contains $500,000 for this line item.

Retirement fund expenses represent the second budgetary pressure facing the Authority in the years to come. Currently underfunded, the Authority faces significant annual costs in this line item to maintain its current schedule to be fully funded by 2024.

The final budgetary pressure driving the Authority's projections up significantly are the Other Post-Employment Benefits (OPEB). The Authority has complied with the provisions of GASB 45 by disclosing its OPEB liability in the year-end Financial Statements. The challenge of addressing this liability affects not only the Authority, but all public entities throughout the Commonwealth and nationwide. In February 2011 the Massachusetts Taxpayers Foundation issued a report calculating the OPEB liability for the Commonwealth's 50 largest cities at $20 billion; moreover, this liability is 99.98% unfunded and 2½ times larger than the unfunded pension liability in the same 50 communities. The Authority's $46 million unfunded liability, though much lesser in scale than these 50 communities, is of great concern, particularly over the long-term.

[1] According to the Authority's Proposed FY12 planning projections.

In recent years, the Advisory Board has framed its remarks in the context of two timeframes facing the Authority – the short-term and the long-term – and the challenges within each period.

The Advisory Board noted the short-term challenge of managing rates effectively until the changes in the Authority's bond covenants release approximately $140 million in FY14. This challenge becomes increasingly difficult with the updated information that the release of reserves is now likely to occur in FY15-16.

The Advisory Board noted that the long-term challenge was managing rates between FY15-22. This period highlights the challenges of the "Three-Headed Monster" all too clearly. Within the next five years, capital financing expenses are projected to increase by $192 million and become 65% of the Authority's total expenses, compared to 59.8% in FY12. Indeed, debt service repayments continue to climb until FY22. The Authority's current target to fully fund its pension liability is 2024 with an average expense of $6.3 million each year during that time. The Authority's projections include partial OPEB payments between FY13 and FY22 averaging $3.7 million per year.

Given the challenges of the "Three-Headed Monster," the issue becomes identifying what reasonable, sustainable, and predictable rate increases are achievable during this time period, as well as identifying tools for achieving these rates. It is in light of these ongoing and upcoming challenges that the Advisory Board undertakes its review of the MWRA's Proposed FY12 CIP and CEB.

HIGHLIGHTS

CAPITAL IMPROVEMENT PROGRAM OBSERVATIONS

Currently Open Capital Projects Total Nearly $5.5 Billion

The Authority states that the total contract value of active (or open) capital projects is $5.479 billion, of which $3.257 billion has been spent through FY10. Future spending, as identified to date, totals $2.223 billion: $0.182 billion is projected for FY11; $2.001 billion for the ten-year period FY12 through FY21; and $0.039 billion is identified for the period FY21 and beyond.[2] The Authority also budgets $0.137 billion for potential contingency allowances during the FY12 through FY21 period.

The total contract value increased by $146.7 million from the Final FY11 CIP and by $391.6 million since the Advisory Board's review of the Proposed FY11 CIP at this time last year.[3] The increases from the final FY11 CIP were driven by new project requests totaling $117.1 million (mainly for asset protection initiatives, updated cost estimates of $9.4 million (including scope changes, change orders and amendments, actual award amounts as compared to previous budget assumptions and deleted projects), and updated inflation estimates totaling $20.3 million.

Spending Since the Inception of the MWRA is $7.3 Billion

Another $4.12 billion for completed (and closed out) capital projects is identified in Appendix 9 in the Proposed FY12 CIP document.[4] Thus, together with the $3.257 billion discussed above, total spending from inception through FY10 is expected to reach $7.309 billion.

The $3.1 Billion Master Plan Shapes the Proposed Capital Budget

The Authority's Master Plan for Wastewater and Waterworks projects identifies nearly $3.1 billion in capital spending.[5] Nearly $2.034 billion (66%) is identified for the twelve-year period FY 2007 through FY 2018, while another $1.044 billion of future capital needs is identified for the thirty-year period from FY 2019 through FY 2048.[6]

Additional spending needs can be expected to be identified in future updates of the Master Plan, anticipated every five or so years; initial steps for updating the 2006 Master Plan are underway and are anticipated to progress over the next 18 months or so. Also to be developed will be Business and Operations Support project needs including Information Systems projects. These projects are expected to be added to the Business Plan.

[2] These numbers can be expected to grow, as the Authority further identifies and clarifies future elements of its capital program, especially for the years after FY16, based on the Master Plan published in December 2006 and scheduled to be updated in the coming 18 months. The $38.5 million for the period FY21 and beyond is net of $130 million in repayments for the Inflow/Infiltration and Local water Improvements loan programs and also includes $80 million for planned improvements to the Residuals processing facilities.

[3] Does not include contingency funding.

[4] Appendix 9 also includes $629 million of completed but not yet closed out projects that are included in the expenditure forecast that reports spending of $3.257 billion through FY10.

[5] In 2006 dollars.

[6] These figures include disbursements and repayments to the Community Assistance programs.

The Budget for the Five-Year Cap Period FY09-13 is Projected to be $1.070 Billion7

The Authority is proposing a capital budget of $1.070 billion for FY09-13. The total represents spending of $1.0355 billion plus contingency allowances of $0.0345 billion.

Table 1

Proposed FY09-13 Capital Spending by Program
($ millions)

Program	Total Contract	Spending thru FY10	Remaining Balance	FY09 Actual	FY10 Actual	FY11 Projected	FY12	FY13	FY09-13
Wastewater System Improvements	**$2,632.5**	**$1,494.0**	**$1,138.5**	**$123.7**	**$152.7**	**$106.0**	**$122.4**	**$127.0**	**$631.7**
Interception & Pumping	807.2	497.5	309.7	6.8	2.5	9.2	22.6	41.0	82.2
Treatment	622.9	122.6	500.3	14.7	56.0	44.2	54.7	46.4	216.1
Residuals	211.7	64.2	147.6	0.0	0.4	0.5	1.2	2.5	4.6
CSO	867.8	710.9	157.0	99.4	89.3	54.5	42.0	35.1	320.3
Other	122.9	98.9	24.0	2.7	4.5	-2.5	1.8	1.9	8.5
Waterworks System Improvements	**2,742.2**	**1,705.4**	**1,036.9**	**52.9**	**50.1**	**61.0**	**97.4**	**91.0**	**352.4**
Drinking Water Quality Improvements	669.6	538.9	130.7	17.8	12.4	7.1	42.1	30.6	110.0
Transmission	1,142.7	694.9	447.8	6.3	15.7	22.9	25.8	27.6	98.3
Distribution and Pumping	886.8	341.3	545.4	19.4	16.5	16.1	15.6	15.7	83.3
Other	43.2	130.3	-87.1	9.3	5.5	15.0	14.0	17.1	60.8
Business & Operations Support	**104.7**	**57.3**	**47.4**	**5.7**	**8.7**	**16.0**	**15.2**	**6.0**	**51.4**
TOTAL MWRA w/o CONTINGENCY	**$5,479.5**	**$3,256.7**	**$2,222.8**	**$182.2**	**$211.4**	**$183.0**	**$235.0**	**$223.9**	**$1,035.5**

(See footnote[8])

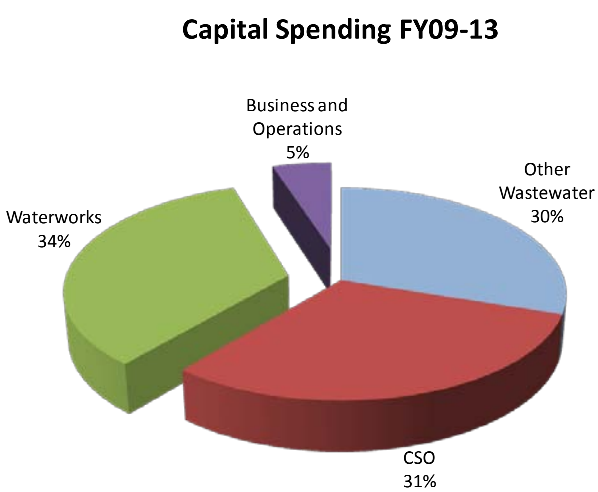

Chart 1

Over the five-year period, 61% of all spending is for Wastewater projects ($631.7 million). Another 34% supports Waterworks projects ($352.4 million), while 5% is for Business and Operations Support projects ($53.5 million).[9] (See Chart 1.)

Gradually, spending is shifting slightly from Wastewater projects and, to a lesser degree, from Business and Operations Support projects to Waterworks projects. However, unlike the proposed levels of spending a year ago in the proposed FY11 CIP, this shift has slowed from reaching nearly even levels of spending by FY 2013. With the proposed FY12 CIP, Wastewater spending is 57% of all spending in FY 2013 and Waterworks project spending is expected to be 41% of all FY 2013 spending. In fact, according to assumptions in the proposed FY12 CIP, it is not until FY17 and FY18 that Waterworks spending exceeds Wastewater project spending. (See Table 1, above, and Chart 1 and Chart 3.)

In addition, the projected levels of spending for each of the next five years, FY12 through FY16, are well over $200 million: spending for each year is to be between $220 million and just over $275 million (plus contingency allowances). This contrasts to the actual spending in seven of the last eight years of less than $200 million, with the exception of FY 2010 at $214 million.

[7] Reflects Advisory Board's adjustment to the Business and Operations category of an increase of $2.1 million.
[8] Numbers may vary slightly from MWRA figures due to rounding.
[9] Includes adjustment of $2.1 million for Business and Operations Support.

The Proposed Budget for FY09-13 Puts Spending $82.7 Million Below the Cap Calculation

In June 2008, in the final FY09 CIP, the Authority set a new capital spending cap for the five-year period, FY09-13, at $1.1438 billion. According to the cap calculation, the Authority now expects spending and other adjustments to reach $1.0612 billion or $82.7 million less than the official cap number set in June 2008 for the five-year period, FY09-13. (See Table 2 and Appendix E.) The change is largely the result of lower capital spending in the first three years of the cap period plus decreased contingency and inflation on unawarded construction contracts. Increased spending during the period for the West Roxbury Tunnel project and Interception and Pumping Asset Protection projects were more than offset by reduced and later schedules for the Combined Sewer Overflow Control Program and the Deer Island Asset Protection projects, as well as revised schedules and cost estimates for a number of Waterworks projects.

Table 2

Baseline Cap Calculation Versus Updated Spending Projections
($ millions)

	FY09	FY10	FY11	FY12	FY13	Total FY09-13
Projected Expenditures	$230.0	$251.7	$224.3	$196.7	$178.7	$1,081.4
Contingency	15.6	13.8	12.0	12.1	11.4	64.9
Inflation on Unawarded Construction	0.0	0.5	2.8	7.8	11.3	22.4
Less: Chicopee Valley Aqueduct Projects	(1.2)	(1.9)	(9.1)	(9.5)	(2.9)	(24.6)
FY09-13 Baseline Cap	**$244.4**	**$264.1**	**$230.0**	**$207.1**	**$198.5**	**$1,144.1**
Updated Projections	$182.2	$211.4	$183.0	$235.0	$223.9	$1,035.5
Contingency	0.0	0.0	9.6	11.8	13.1	34.5
Inflation on Unawarded Construction	0.0	0.0	0.0	2.2	5.8	8.0
Less: Chicopee Valley Aqueduct Projects	(0.6)	(0.5)	(1.2)	(5.1)	(9.5)	(16.9)
FY12 Proposed Subtotal	**$181.6**	**$210.9**	**$191.4**	**$243.9**	**$233.3**	**$1,061.1**
Change ($)	(62.8)	(53.2)	(38.6)	36.8	34.8	(83.0)
Change (%)	-25.7%	-20.1%	-16.8%	17.8%	17.5%	-7.3%

(See footnote)[10]

Outlook for the Next Five-Year Cap Period, FY14 -18

The Authority points out that since the agency's inception in 1985, nearly 80% of all spending has been for court-mandated projects, most notably the Deer Island Wastewater Treatment Plant and the CSO Control Program, as well as the MetroWest Water Supply Tunnel and the Carroll Water Treatment Plant, which supported requirements of the Safe Drinking Water Act.

[10] Note: Due to rounding, Authority's figures may differ; additional cap calculation data in Appendix E.

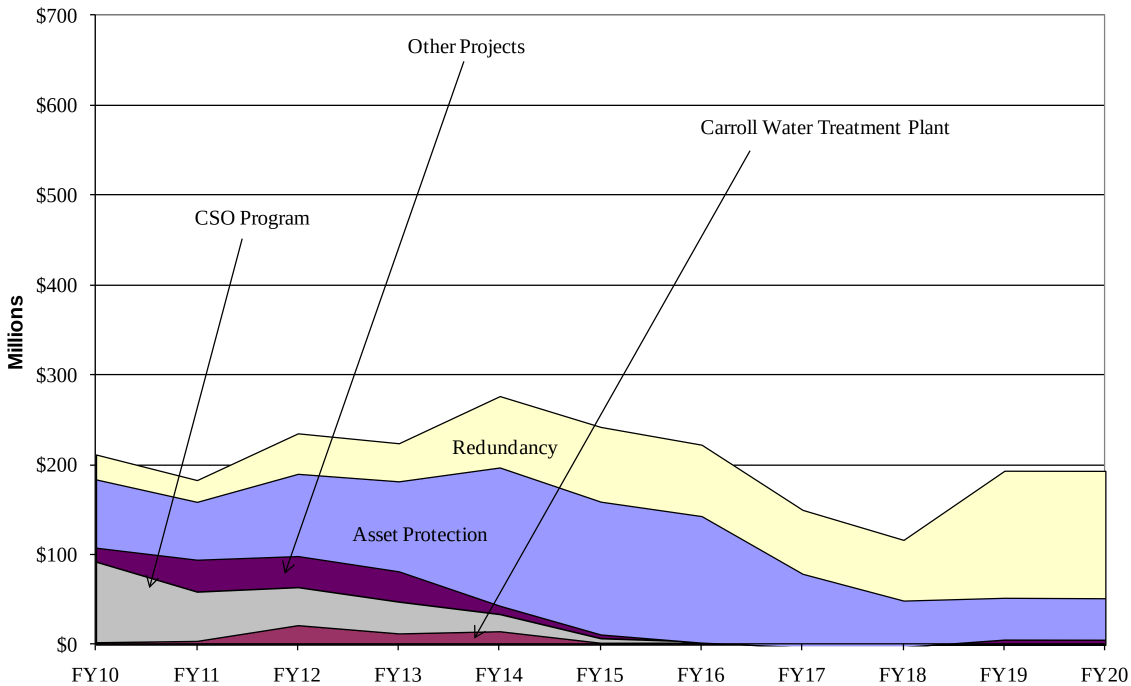

Chart 2

Going forward, the Authority plans to focus on Asset Protection and Water System Redundancy projects. For the next cap period, FY14-18, spending on Asset Protection (primarily wastewater projects) will grow from 15% of all capital spending to 57%, while Water System Redundancy will increase from 12% of all capital spending to 38%; together these two broad categories of spending will total 95% of all spending identified for the next cap period. All other project spending will be less than 5% of the five-year capital program for the next cap period. (See Table 3 and Chart 2.)

Table 3

	Spending Thru FY10	FY09-13	FY14-18
Boston Harbor Project	$3,816.9		
Carroll WTP	376.7	42.1	19.2
Asset Protection	1,094.5	367.2	577.7
Water Redundancy	882.0	162.1	380.2
CSO	694.0	320.3	24.9
Other Projects	444.8	143.8	5.1
Total	**$7,308.9**	**$1,035.5**	**$1,007.1**
Boston Harbor Project	52.2%		
Carroll WTP	5.2%	4.1%	1.9%
Asset Protection	15.0%	35.5%	57.4%
Water Redundancy	12.1%	15.7%	37.8%
CSO	9.5%	30.9%	2.5%
Other Projects	6.1%	13.9%	0.5%
Total	**100.00%**	**100.0%**	**100.0%**

The proposed CIP continues to anticipate peak future spending to be in FY 2014, as Waterworks project spending grows and active construction spending on the West Roxbury Tunnel and Wastewater Headworks projects increase and shift into the next cap period. Spending on the Deer

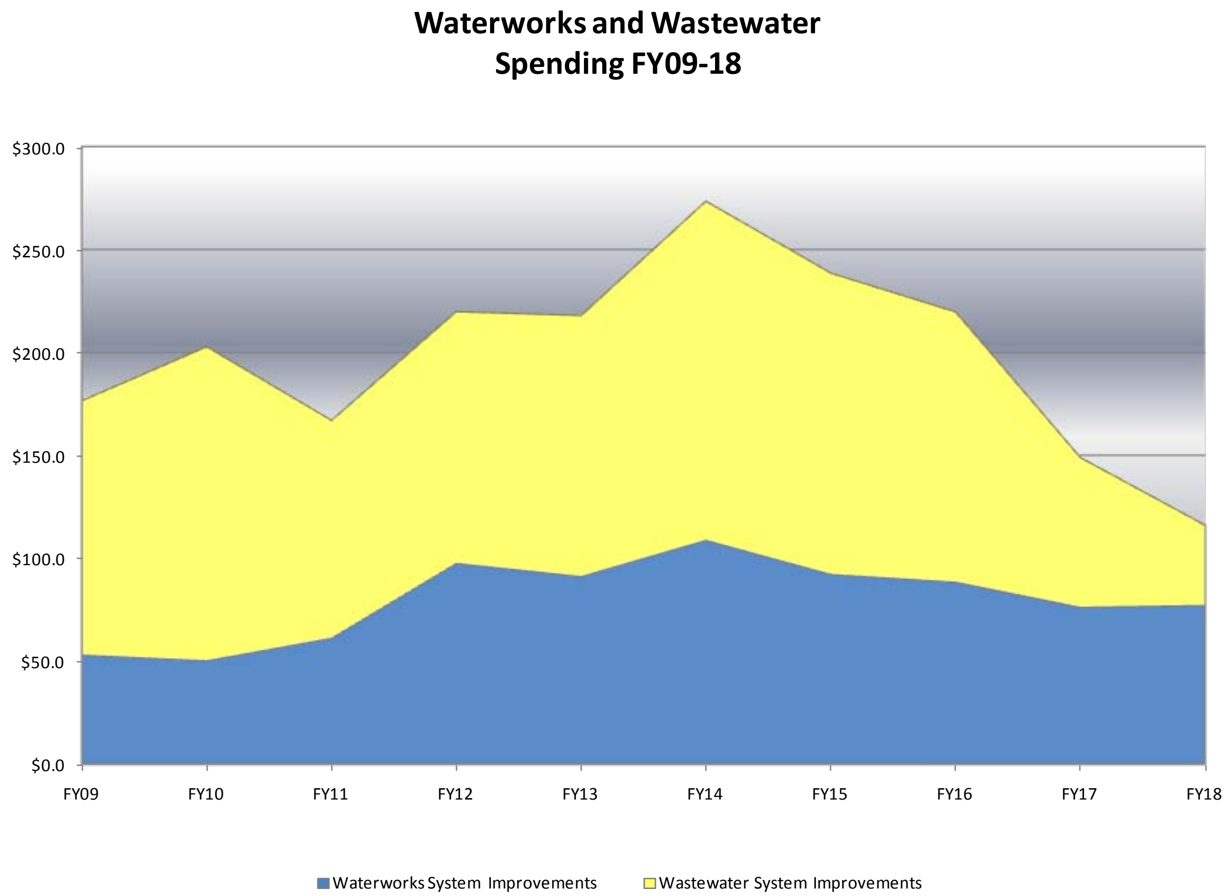

Chart 3

Island Treatment Plant is expected to reach a ten-year peak in FY 2014 as well.[11] Already, projected spending and related contingency allowances total $1.0807 billion, slightly more than the revised projections of $1.070 billion for actual and budgeted spending and contingency allowances for the current cap period.

[11] For the ten-year period from FY09-18.

Future Risk Factors

The Authority has also identified other potential risk factors that could increase capital spending in the future. These include:

- The Cross Harbor Cable may need a deeper installation or protective material as part of the harbor dredging project; additional costs could be in the $20 million range.
- A Chelsea Creek dredging initiative could cost as much as $15 million.
- The Brigham Pond Dam rehabilitation may cost as much as $1 million

The Advisory Board also asserts that the former three risks are not the responsibility of the Authority or the ratepayers to fund. Two additional risks that are legitimate risks and responsibilities of the Authority include:

- Residuals asset protection or the funding to rehabilitate or replace the existing residuals plant has yet to be determined; and
- New mandates could arise and cause increased spending in the future.

Current Expense Budget Observations

The Budget in Brief

The Massachusetts Water Resources Authority has proposed a Current Expense Budget for Fiscal Year 2012 (beginning July 1, 2011) of $621.7 million. Non-rate revenue of $29.5 million leaves $592.2 million to be raised from rate revenue. The amount is $22.4 million or 3.93% more than the $569.8 million in rate revenue budgeted for FY11.

The budget does not include any funds from state Debt Service Assistance. While direct expense spending remains at virtually the same level as the amount budgeted for FY11, increases to certain indirect expenses and to debt service payments result in an overall budget increase of $19.8 million or 3.3%. Net reductions to non-rate revenue of $2.6 million result in the $592.2 million to be raised from rate revenue.

Table 4

MWRA CURRENT EXPENSE BUDGET
($ millions)

	FY11 Budget	FY12 Proposed	$ Change	% Change
Expenses				
Direct Expenses	209.6	209.6	0.0	0.0%
Indirect Expenses	38.0	40.2	2.2	5.8%
Capital Financing	354.3	371.9	17.6	5.0%
Subtotal Expenses	***601.9***	***621.7***	***19.8***	***3.3%***
Offsets				
Bond Redemption	0.0	0.0	0.0	-
Debt Service Assistance	0.0	0.0	0.0	-
Subtotal Offsets	***0.0***	***0.0***	***0.0***	-
Net Expenses	**601.9**	**621.7**	**19.8**	**3.3%**
Revenues				
Other User Charges	7.1	7.5	0.4	6.3%
Other Revenue	4.7	4.5	-0.2	-3.6%
Rate Stabilization	5.0	3.5	-1.5	-29.9%
Investment Income	15.3	13.9	-1.4	-9.2%
Subtotal Non-Rate Revenue	***32.1***	***29.5***	***-2.6***	***-8.2%***
Rate Revenue	***569.8***	***592.2***	***22.4***	***3.93%***
Total Revenue and Income	**601.9**	**621.7**	**19.8**	**3.28%**
FY11 Rate Revenue Increase ($)	$22.4			
FY11 Rate Revenue Increase (%)	3.93%			

Direct expense spending is budgeted at $209.58 million, virtually the same level as the $209.61 million budgeted in FY11 and $209.61 million budgeted in FY10. Despite increases in eight of the line items, reductions to professional services, energy and utilities, and wages and salaries offset those amounts. The largest increase is $0.87 million for maintenance spending, as the Authority sustains its commitment to ongoing maintenance of its asset base. Already some of the newest assets are twenty years old. Other increases include additional funding for chemicals, mainly for anticipated new regulatory requirements for enterococcus compliance and for other services, including increased costs for the Chelsea lease and anticipated increases relating to a new contract for grit and screenings removal.

Total Direct Expenses Held to FY11 Levels

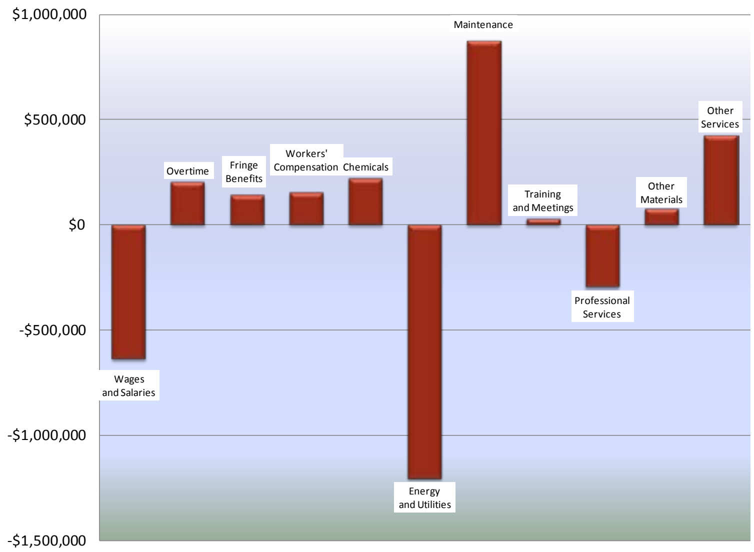

Chart 4

Indirect expense spending is budgeted at $40.2 million, a $2.2 million or 5.8% increase. Increases to the watershed division and related PILOT payments, additions to reserves and the pension fund contributed to the higher level of spending. Most notable is the inclusion of $1.85 million toward the GASB 45 obligation for anticipated other post-employment benefits (health), after a year's pause in budgeting for this category of expense.

Capital financing expenses increase by 5% to $371.9 million (or 60% of the proposed FY12 budget). The $17.6 million increase is primarily the result of increased principal payments of subordinate debt (an increase of $24.8 million) partially offset by lower senior debt service of $12.5 million. The budget assumes no receipts for Debt Service Assistance, and reflects the budgetary benefits of restructuring and defeasance transactions targeted to reduce debt service expenses in FY11, FY12, and FY13.

Rate Revenue Requirements & Percentage Increases[12]

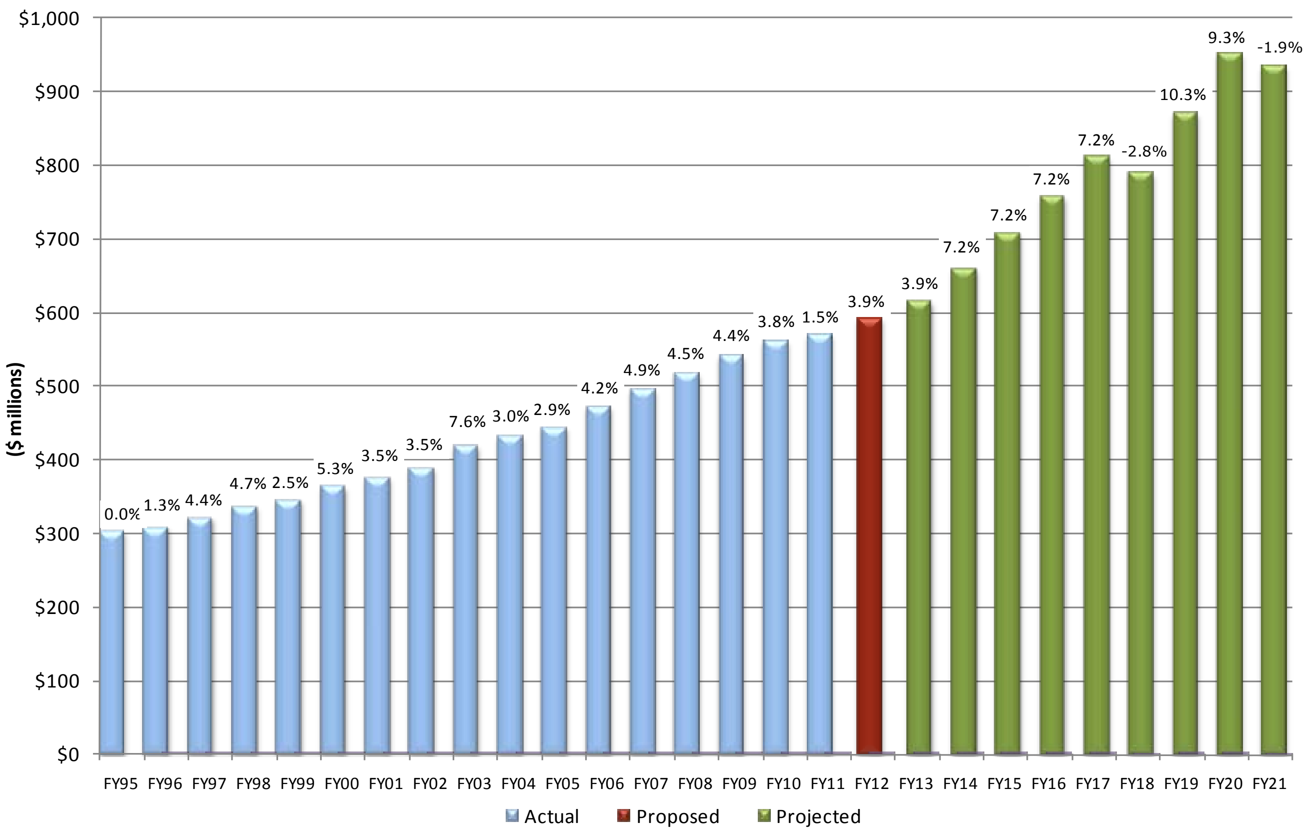

Chart 5

Non-rate revenue of $29.5 million comes from other user charges, other revenues, a drawdown from the rate stabilization fund, and investment income. The use of rate stabilization monies, at $3.5 million, is $1.5 million lower than the amount budgeted in FY11. Investment income also fell nearly 10% (or $1.4 million), as rates for short and long-term investments continue at historic lows.

Thus, the proposed rate revenue requirement for FY12 is $592.2 million, an increase of $22.4 million or 3.93% over the FY11 rate requirement of $569.8 million.

The FY11 rate increase, at 1.49%, was the lowest in 15 years, since 1996 when the Authority received $31.5 million in state Debt Service Assistance. (See Chart 5 and Chart 6.)

[12] The rate revenue increase in FY06 is 4.2% higher than the Final FY05 rate revenue requirement of $453.0 million, which did not include Debt Service Assistance of $8.02 million; figures based upon Proposed FY11 CEB projections and rate runs.

Annual Rate Revenue Requirement Increases

Actual, Proposed, and Projected[13]

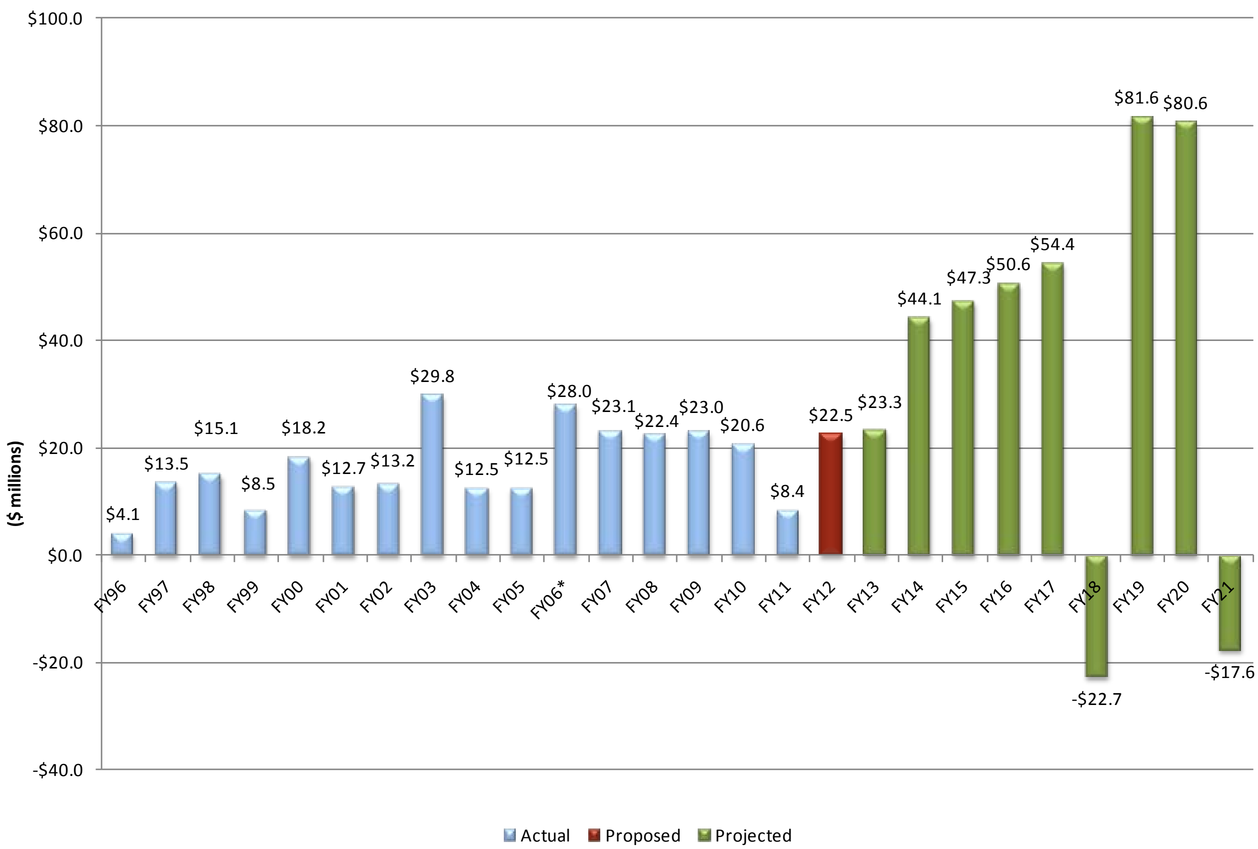

Chart 6

The rate increase, while greater than the 1.49% of FY11, reflects the significant benefits of reduced debt service payments resulting from the January 2007 restructuring transaction, the spring 2008 defeasance transaction, the February 2009 refunding plus reduced debt service payments resulting from the spring 2010 defeasance and the restructuring of a targeted amount of debt service that had been due in FY11, 12 and 13. By way of comparison, projections for capital financing expenses for FY12 in the final FY07 CEB were on the order of $488.8 million, while the proposed FY12 CEB puts next year's capital financing expense at $371.9 million, a difference of nearly $117 million (a reduction of nearly 25%).

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[13] The rate revenue increase in FY06 is 4.2% higher than the Final FY05 rate revenue requirement of $453.0 million, which did not include Debt Service Assistance of $8.02 million; figures based upon Proposed FY11 CEB projections and rate runs.

FY12 Current Expense Budget Process

The Multi-Year Budget Plan

Last year, as part of the FY11 budget process, the Authority set a 1.49% rate increase and also set in motion a series of adjustments to the projections for FY12 and FY13 rate revenue requirements that resulted in proposed increases of 3.9% for those two years. Changes to such key assumptions as inflation and variable rate interest rate assumptions contributed to the lower estimates for FY12 and FY13, as did the use (in the spring of 2010) of targeted rate relief restructuring that focused not just on debt service scheduled for the immediate year ahead, FY11, but on FY12 and FY13 as well.

The Authority continues to pursue the multi-year budget plan in FY12 and also begins to address the challenges of projections for FY14. Just as the FY11 CEB included the utilization of the FY10 surplus for a defeasance transaction of up to $24 million to benefit FY11, 12 and 13, this proposed FY12 CEB reflects the use of $23.6 million in anticipated surplus by the end of FY11 to benefit primarily FY14, and, to some extent, FY12 and FY13. While defeasance – or the prepayment of a portion of a future year's debt service using current year surplus funds – is a tool that has been used consistently and strategically, the Authority typically had not assumed defeasance transactions in its proposed budgets until the proposed FY10 CEB. Given the challenges that the Authority continues to face, staff decided to similarly include the benefits of such a transaction in the proposed FY11 CEB, and, now, the proposed FY12 CEB.

In addition to the latest defeasance transaction, some major components of the proposed FY12 CEB that have allowed the Authority to continue to hold to a 3.9% rate increase in FY12 included:

<u>Controlling Costs and Reducing Direct Expenses Slightly Below FY10 and FY11 Budgeted Levels</u>

For the third year, the Authority has kept direct expenses slightly below the FY10 and FY11 budgeted levels, largely through reductions in wages and salaries, utilities and professional services while increasing maintenance expense to support its core mission objectives.

Continuing its trend from recent years, the Authority has continued to actively manage direct expenses and control costs where it can. The Authority continues to optimize its chemical usage and reducing utility costs through conservation efforts and alternative energy initiatives. Additionally, the Authority assumes no wage increases in FY12 for union and non-union staff.

<u>Controlling Certain Indirect Expenses</u>

The proposed budget continues with the revised contribution to the pension system supported by the updated actuarial study conducted last year at the midpoint of the usual two-year study cycle. The update reset the recommended pension contributions for FY11 and for FY12. The next two-year study will be conducted next year.

The Authority has also reduced budgeted amounts for insurance expense, although actual expenses had increased measurably due to increases to payments/claims due to accruals for the Cottage

Farm CSO facility site cleanup, and for equipment and pipeline replacement and repair due to the March 2010 wet weather events.

FY12 Current Expense Budget Recommendation

The Advisory Board commended the Authority last year for implementing more realistic assumptions for the FY12 and 13 projected rate increases and had indicated early in this year's budget process that the intent would be to make minor reductions to the FY12 CEB rather than advocate for a significant reduction. While the specific recommendations will be discussed in greater depth in their respective sections, **the Advisory Board recommends that the Authority reduce the rate revenue requirement for the FY12 Current Expense budget by $2,514,000, resulting in a 3.49% wholesale rate increase including:**

1. **Eliminate the other post-employment benefits contribution of $1,851,646.**
2. **Reduce the debt service line item by $466,000 to reflect the FY12 benefit of the recent swap amendment.**
3. **Reduce the debt service line item by $199,700 to account for the additional benefit of the expanded defeasance approved through May 2011, as well as any additional adjustments for any additional defeasance authorized by the Board of Directors.**
4. **Reduce the budget by $16,184 to reflect the Advisory Board's reduced FY12 budget.**
5. **Reduce the budget by updating information for various line items (e.g. updated chemical prices, leave balance accrual adjustments, selected maintenance, updated debt service costs to reflect actual borrowings, etc.) and reduce the use of rate stabilization funds to match these corresponding adjustments.**

Long-term Challenge

The Advisory Board also recognizes the long-term challenges facing the Authority. According to the Authority's planning projections based on the proposed FY12 CEB, expenses increase from $601.9 million in FY11 to $981.6 million in FY21, or an average of $38.0 million per year. Characterizing this period are expenses related to significant long-term obligations. Capital financing expense

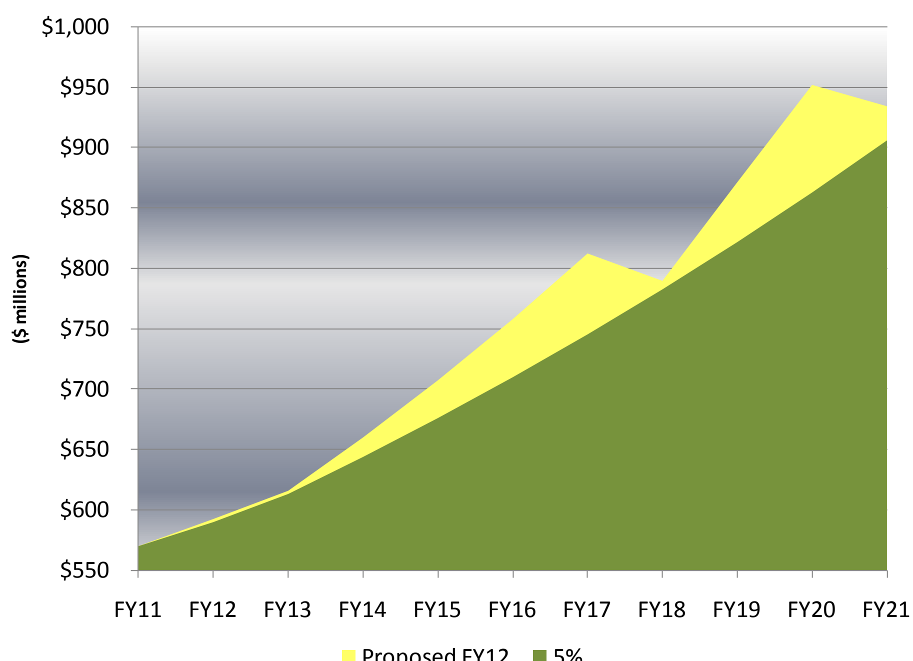

Chart 7

increases by $379.7 million in FY21 and totals $5.5 billion from FY11-21. The Authority currently has a schedule to fully fund the pension fund by FY24, with payments averaging $6.1 million per year. Additionally, the Authority has currently included $1.9 million for other post-employment benefits (OPEB) in FY12 and half of the annual required contribution (ARC) according to the most recent actuarial study averaging $3.8 million per year.

To put in perspective the challenge facing the Authority in the long-term, the Advisory Board has put together hypothetical scenarios based on the Authority's planning estimates. To reduce the FY12 rate increase to 3.49%, maintain the projected increase of 3.95% in FY13 and maintain a level rate increase of 5% from FY13-FY21, the Authority would need to reduce rates or raise revenue by $341.1 million (see the lighter area in Chart 7).

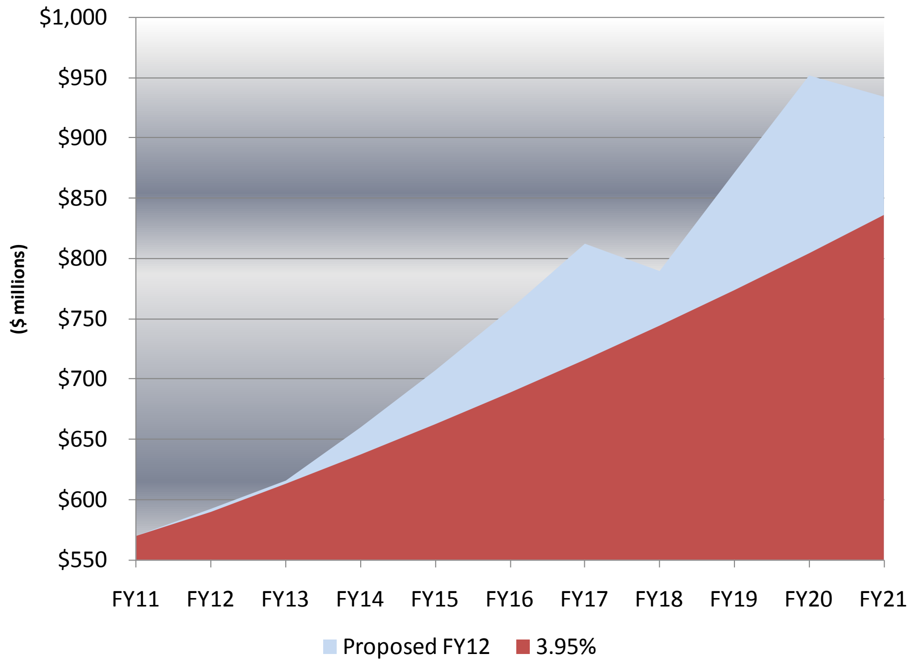

Chart 8

To maintain a level 3.95% rate increase from FY12-21 the challenge increases to $626.4 million (see the lighter area in Chart 8).

In keeping with its approach in previous years, the Advisory Board has identified a series of potential tools to help manage rates in the future (see Table 5 and Table 6), but there are restrictions on many of these and additional difficult decisions will need to be made to manage rates moving forward.

Table 5

Potential Tools	$ millions
Released Reserves Changes to bond covenants, c. FY15-16	$140.2
Reduced Capital Spending ($25 million/year) From Authority's previous estimates	$79.8
Future Debt Service Surplus and increased Investment Income Average of $7 million/year between both sources	$70.0
Direct Expenses Historical Trends $10 million/year average beginning in FY16	$60.0
Remove OPEB from planning projections Do not fund until pension fully funded in FY24	$35.8
Indirect Expenses Historical Trends $5 million/year average beginning in FY16	$30.0
Direct Surplus Historically, 1-2% underspending on budgeted directs number	$20.0
Benefit of Swap Amendment Updated from Authority's figures.	$4.7
Total	**$440.5**

Table 6

Additional Tools With Variable Values
Operating Reserve 1/6 of reduced operating expenses
LPAP – actual distributions How money is actually distributed versus budget and related debt.
Issuing new variable rate debt Currently no variable rate borrowings in projections. Long-term fixed = 6.25%, long-term VR = 4%
Reduce coverage requirement at margin
Reduce funding level of insurance reserve
Future Entrance Fees
Restructuring
Debt Service Assistance

Recently, Authority staff informed the Advisory Board that it would soon be ready to schedule the first meeting of the Long-Term Rates Management Committee recommended in last year's *Comments*. ***The Advisory Board and Authority staff expect to convene the Long-Term Rates Management Committee during the summer of 2011.***

PROPOSED FY12 CIP OVERVIEW

PROPOSED FY12 CAPITAL IMPROVEMENT PROGRAM AND BUDGET

The Authority is proposing a capital improvement program with a total contract value of $5.48 billion. Payments through FY10 of $3.26 billion leaves a remaining balance of $2.22 billion for the period FY11 forward. Projected spending for the current five-year cap period, FY09-13, is $1.036 billion. The Advisory Board's review continues to focus on the current cap period and, particularly the remaining two years of the cap period, FY12 and FY13. Spending for the next five-year period, FY14-18, and for several decades beyond will continue to evolve based on periodic updates of the Master Plan and the development of future capital budgets.

Highlights of the Five-Year Cap Period, FY09-13

The Authority is proposing a budget of $1.070 billion for the five-year period FY09-13: $1.038 billion for project spending plus contingency allowances of $34.5 million. Actual spending in FY09 was $182.2 million, and $211.4 million in FY10. The proposed budget assumes FY11 spending at $183.0 million, while FY12 grows to $235 million and FY13 is budgeted at $223.9 million (before contingency allowances). The highest spending year of the cap period is expected to be FY12, at $235.0 million.

Wastewater spending accounts for 61% of all project spending ($631.7 million), Waterworks projects for 34% ($352.4 million), and Business and Operations Support spending for 5% ($53.5 million). (See Chart 9.)

Planned spending for the cap period decreases $21.6 million, due to a number of cost updates, new and expanded projects, inflation updates and a number of schedule shifts. The cap calculation totals $1.061 billion or $82.7 million lower (7.3%) than the baseline cap of $1.144 billion set in June 2008. (See Table 7.)

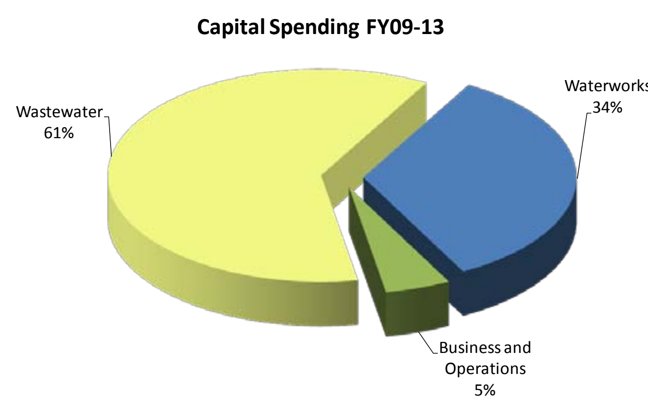

Chart 9

Table 7

FY09-13 Baseline Cap Calculation Versus Updated Spending Projections ($ millions)	FY09	FY10	FY11	FY12	FY13	Total FY09-13
Projected Expenditures	$230.0	$251.7	$224.3	$196.7	$178.7	$1,081.4
Contingency	15.6	13.8	12.0	12.1	11.4	64.9
Inflation on Unawarded Construction	0.0	0.5	2.8	7.8	11.3	22.4
Less: Chicopee Valley Aqueduct Projects	(1.2)	(1.9)	(9.1)	(9.5)	(2.9)	(24.6)
FY09-13 Baseline Cap	**$244.4**	**$264.1**	**$230.0**	**$207.1**	**$198.5**	**$1,144.1**
Updated Projections	$182.2	$211.4	$183.0	$235.0	$223.9	$1,035.5
Contingency	0.0	0.0	9.6	11.8	13.1	34.5
Inflation on Unawarded Construction	0.0	0.0	0.0	2.2	5.8	8.0
Less: Chicopee Valley Aqueduct Projects	(0.6)	(0.5)	(1.2)	(5.1)	(9.5)	(16.9)
FY12 Proposed Subtotal	**$181.6**	**$210.9**	**$191.4**	**$243.9**	**$233.3**	**$1,061.1**
Change ($)	(62.8)	(53.2)	(38.6)	36.8	34.8	(83.0)
Change (%)	-25.7%	-20.1%	-16.8%	17.8%	17.5%	-7.3%

The Authority continues to add projects from the Master Plan, and reports that a total of 103 projects have been added to the capital program since the Master Plan was approved during FY07. The proposed FY12 CIP includes 31 new project subphases, part of 15 capital projects, budgeted at $117.05 million. (See Appendix I.) The Authority notes that much of the future spending in the Master Plan is for the repair or replacement of existing infrastructure (water distribution lines, wastewater interceptors, and facility equipment), and for water system redundancy projects. Although 97% of the CSO Control Program will be completed by the end of this cap period, other capital spending is projected to increase to support these critical asset protection projects and water redundancy initiatives.

A Focus on FY 2012 and FY 2013

The Authority is budgeting spending in FY12 of $235 million and $224 million in FY13, for a two-year total of nearly $460 million. (See Table 8.) Sixteen major wastewater and waterworks projects account for 83% of projected spending during the two years, most notably Deer Island Asset Protection (at 21% of all spending for the two-year period), the latter years of the CSO Control Program (17%) and improvements to the Carroll Water Treatment Plant (7.4% of all spending for the two years). FY12 and FY13 are now the largest spending years of the cap period, and represent 44% of updated FY09-13 spending.

Table 8

Proposed FY09-13 Capital Spending by Program

($ millions)

Program	Total Contract	FY09 Actual	FY10 Actual	FY11 Projected	FY09-FY11	FY12	FY13	FY12-13	FY09-13
Wastewater System Improvements	**$2,632.5**	**$123.7**	**$152.7**	**$106.0**	**$382.4**	**$122.4**	**$127.0**	**$249.4**	**$631.7**
Interception & Pumping	807.2	6.8	2.5	9.2	18.6	22.6	41.0	63.6	82.2
Treatment	622.9	14.7	56.0	44.2	115.0	54.7	46.4	101.1	216.1
Residuals	211.7	0.0	0.4	0.5	0.9	1.2	2.5	3.7	4.6
CSO	867.8	99.4	89.3	54.5	243.2	42.0	35.1	77.1	320.3
Other	122.9	2.7	4.5	-2.5	4.7	1.8	1.9	3.8	8.5
Waterworks System Improvements	**2,742.2**	**52.9**	**50.1**	**61.0**	**164.0**	**97.4**	**91.0**	**188.4**	**352.4**
Drinking Water Quality Improvements	669.6	17.8	12.4	7.1	37.4	42.1	30.6	72.6	110.0
Transmission	1,142.7	6.3	15.7	22.9	44.9	25.8	27.6	53.4	98.3
Distribution and Pumping	886.8	19.4	16.5	16.1	52.0	15.6	15.7	31.3	83.3
Other	43.2	9.3	5.5	15.0	29.7	14.0	17.1	31.1	60.8
Business & Operations Support	**104.7**	**5.7**	**8.7**	**16.0**	**30.3**	**15.2**	**6.0**	**21.1**	**51.4**
TOTAL MWRA w/o CONTINGENCY	**$5,479.5**	**$182.2**	**$211.4**	**$183.0**	**$576.7**	**$235.0**	**$223.9**	**$458.9**	**$1,035.5**

Wastewater

At $101.1 million, spending on wastewater treatment, particularly the Deer Island Treatment Plant, becomes the dominant category of wastewater project spending during the FY12-13 timeframe. CSO Control program spending still represents $77 million and four of the top eight largest wastewater projects. Together these two categories represent $178.2 million, or 71%, of all wastewater spending, and nearly 40% of all capital spending for the two-year period.

Wastewater project spending was $124 million in FY09, rose to nearly $153 million in FY10, and is projected to be 30% lower, $106 million, in FY11. For the next five years, FY12 through FY16, wastewater spending is budgeted at $120 million or more. As the CSO Control Program nears completion, additional interceptor and facility asset protection project spending increases along with continued treatment plant modifications and rehabilitation spending.

Wastewater system improvements are divided into five categories: Interception and Pumping, Treatment, Residuals, the Combined Sewer Overflow Control Program and Other.

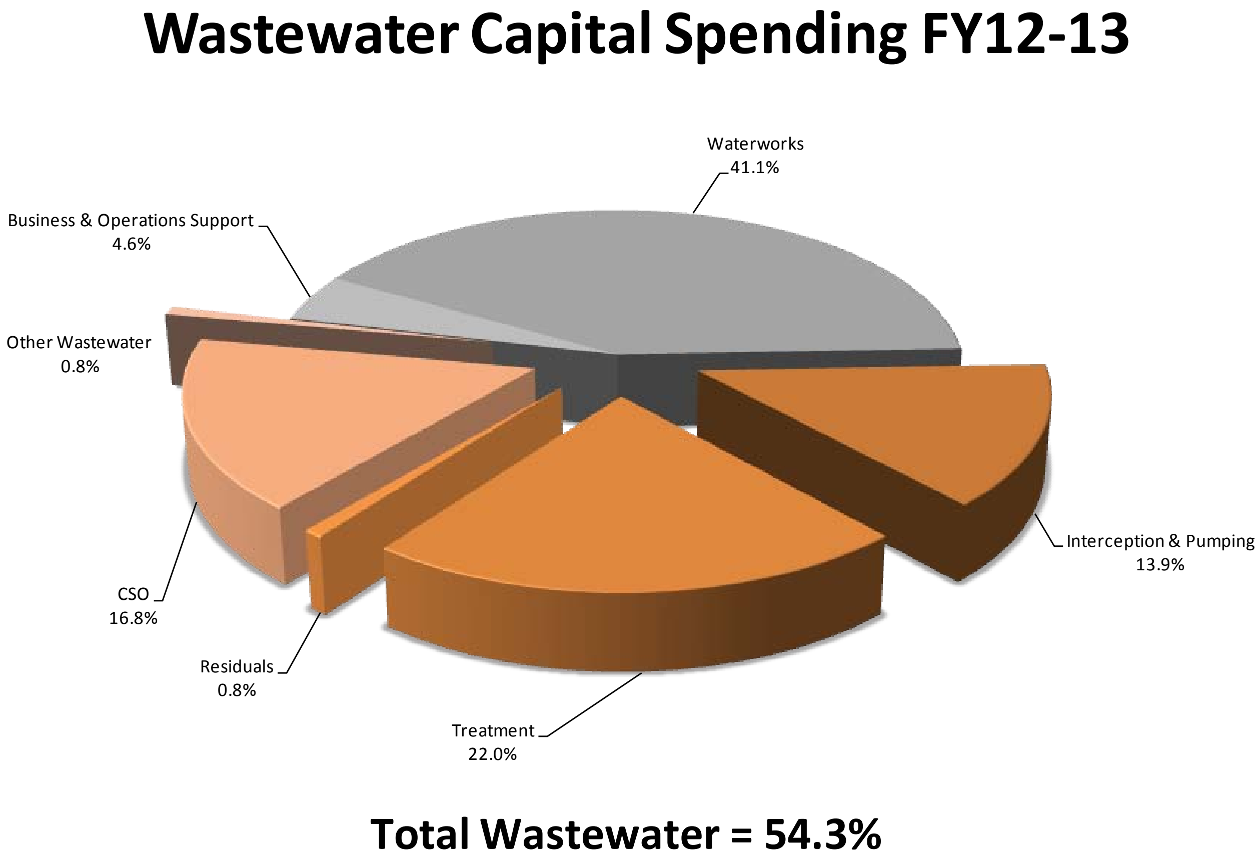

Chart 10

<u>Interception and Pumping</u>

Interception and Pumping projects focus on collection system facilities, sewers and tunnels. The facilities include the four remote headworks and twenty pump stations and CSO facilities. The Authority has noted that three of the headworks facilities are now over 40 years old and are in only fair condition. Recommended in the Master Plan are a comprehensive facilities plan and subsequent upgrades. The average age of the pump stations and CSO facilities is now approximately 20 years old (although some facilities are newer and others are much older). The Master Plan has recommended a number of equipment rehabilitation and replacement projects. There are more than 250 miles of sewer pipelines, of which 18 miles are severely damaged (and ranked "C-rated"). The Master Plan has recommended thirteen projects for interceptor repair. Four cross harbor tunnels to the Deer Island plant total 18 miles. While the Authority states that the tunnels are presumed to still be in good condition, based on the industry benchmark of 100-plus years of useful life, there has been some deterioration in the shafts and the actual condition of the tunnels is unknown.

The Authority is proposing a budget of $63.6 million for Interception and Pumping projects for FY12 and FY13. Spending increases measurably from the $9.2 million projected for FY11 to $22.6 million in FY12 and $41.0 million in FY13. Three projects are among the eight largest wastewater projects for the period.

The largest project during the two-year period is the Interception and Pumping Asset Protection group of contracts. With a total contract value of $163.6 million and an increased focus on this group of projects, the Authority has expanded and accelerated a number of contracts, bringing important increased attention to a number of long overdue improvements.

The largest increase has been to the Headworks Upgrades for the three older headworks facilities. Cost estimates have tripled since the final FY09 CIP, from $28.0 million to $94.5 million (for design and construction management services plus construction costs) and have been advanced to the FY13 to FY17 timeframe. Some $15.5 million is budgeted for FY12 and FY13. Other notable Interception and Pumping Asset Protection projects during this period are: the Alewife Brook Pump Station Rehabilitation ($3.7 million is estimated for the FY12 and FY13 period) and Nut Island Mechanical and Electrical Replacements ($3.67 million is budgeted for the FY12 and FY13 period).

The second largest project is the West Roxbury Tunnel. Long a major project in the CIP, this project was reactivated with the award in January 2009 of a design and engineering services contract. Ongoing have been work to confirm the initial findings of the original conceptual design report and a re-examination of the tunnel. Costs of the tunnel construction and related phases have increased to $88.8 million, the notice to proceed is still budgeted for September 2012 with a substantial completion date of December 2015. The cash flow assumptions have been updated, with spending during the final two years of the cap period budgeted at $14.6 million. The project continues to be under review.

The third largest Interception and Pumping project, in terms of spending during the last two years of the cap period, is the Braintree-Weymouth Relief Facilities project, with spending of $12.2 million planned. The budget includes spending of $10.5 million associated with the Intermediate Pump Station. This amount represents a "placeholder" for a potential claim, which is still pending and is scheduled in the draft CIP for FY12. If the Authority's position is supported or upheld, this expenditure can be expected to be removed from the CIP.

<u>Treatment</u>

Treatment projects address the needs of the Deer Island Wastewater Treatment Plant (including Laboratory Services) and the Clinton Wastewater Treatment Plant. The proposed CIP includes $500.35 million for all future spending from FY10 forward, of which $101.1 million is for ongoing and new project spending during the two-year period (or 22% of all capital spending for FY12 and FY13).

Deer Island Treatment Plant funding totals $95.7 million for FY12-13. The largest projects during the two-year period are: North Main Pump Station Variable Frequency Drive Replacements ($25.6 million), Digester Modules 1 and 2 Pipe Replacement ($8.5 million), completion of the multi-year Primary and Secondary Clarifier Rehabilitation project in FY12 ($6.2 million), Digester Pipe Replacement ($8.5 million), Power System Improvements ($6.2 million), and the initial stages of a new project, Clarifier Rehabilitation, Phase 2 ($4.1 million). The top 12 projects with over $2 million in spending during FY12 and FY13 represent just over 70% of all spending at the Deer Island plant for the period. (See Table 9, next page.)

Table 9

Top Deer Island Projects During FY12-13 ($ millions)		
Projects	Amount	Comments
Top Deer Island Projects, Over $2 Million		
North Main PS VFD Replacement	$25.60	
Digester Mods 1&2 Pipe Replacement	$8.51	
Prim & Sec Clarifier Rehab	6.20	
Power System Improvements	6.18	
Clarifier Rehabilitation Phase 2	4.10	
Digester Sludge Pump Replacement	2.90	
South System PS Lube System Replacement	2.78	
Electrical Equipment Upgrade 4	2.60	
DI Switchgear Replacement - Construction	2.58	
HVAC Equipment Replacement	2.35	Does not include construction costs
Centrifuge Backdrive Replacement	2.18	
Fuel Transfer Pipe Replacement - Construction	2.08	
subtotal	**$68.08**	
All Other Active Projects During FY12-13	**$27.63**	
TOTAL	**$95.71**	

Funding is also included for the Clinton Wastewater Treatment Plant ($4.0 million during the two-year period) and for the Central Laboratory ($1.4 million).

Residuals

Residuals project spending is budgeted at $3.7 million during the two-year period. To date, the Authority has included funding totaling $211.7 million for Residuals Asset Protection, with much of the spending to pick up in FY14. Some $80 million of the total is planned for beyond FY 2021.

Currently a contract operator runs and maintains the pelletizing plant at Fore River. Maintenance includes all capital projects through the term of the contract, which ends in December 2015. Funding beyond the FY13 timeframe would support dryer, air scrubber, and centrifuge replacements, and upgrades to the pumping and utility systems among other potential projects.

First in a multi-step process to address long-term residuals planning for the period beyond 2015 is the Facility Condition Assessment, a $460,000 contract awarded in March 2009. This contract includes an assessment of various facility support utilities, the condition of all major facility assets, the remaining useful life of the assets, recommendations for possible equipment replacement and a review of the quality of the existing maintenance program. A second study is out for bid to Assess Technology and Regulatory Trends in this country and overseas. Award was anticipated for June 2010 and is still pending.

Once both studies are complete, staff expect to recommend a conceptual course of action to address the residuals processing needs beyond 2015.

Combined Sewer Overflow (CSO) Control Program

Combined Sewer Overflow Control Program project spending is proposed at $77.1 million for the two-year period, or 17% of all capital spending for FY12 and FY13. Cash flows and spending schedules are tied to dates established in the Court Order, which drives the CSO Control Program. The Authority is budgeting another $25 million for the next five-year period.

The proposed FY12 CIP shows a total project cost of $867.85 million for the CSO Control Program. Two years ago the Authority anticipated a budget of $927.3 million, but reductions to the North Dorchester Bay Tunnel project, the Reserved Channel Sewer Separation project in South Boston, the Cambridge Sewer Separation/Alewife Brook project and the Brookline Sewer Separation project have contributed to the nearly $60 million in reductions.

Despite these recent revisions, the Program has changed and grown considerably over the years. The Final CSO Conceptual Plan listed a total cost of $398 million in 1994. By 1997 this cost had risen to $487 million when EPA and DEP approved the Final CSO Facilities Plan and Environmental Impact Report. The Plan at that point contained 25 CSO projects.

The proposed FY12 CIP includes 35 projects, of which 27 have been completed and 7 are in construction or design. One project has been recommended for deletion. Average annual volume of CSO discharges has been reduced from 3.3 billion gallons in 1988 to 515 million gallons today, an 84% reduction, with 79% of the current discharge volume receiving treatment at MWRA's four CSO facilities. Of the 36 CSO outfalls recommended to be closed in the Long-Term Control Plan, 27 have been closed.

Four of the eight largest Wastewater Projects with spending during FY12 and FY13 are part of the CSO Control Program. (See Table 10.) The largest is $32.8 million for the Reserved Channel Sewer Separation project, followed by $16.45 million for the Cambridge Sewer Separation project, $16.1 million for the Brookline Sewer Separation project and $5.9 million for the latter stages of the North Dorchester Bay tunnel project.

Table 10

Largest Wastewater Projects
FY12-13
$000s

Project	FY12-13 Spending	Program
DI Treatment Plant Asset Protection	$ 95,706	Treatment
Facility Asset Protection	$ 33,725	Interception and Pumping
Reserved Channel Sewer Separation	$ 32,808	CSO (Community Managed)
Cambridge Sewer Separation	$ 16,451	CSO (Community Managed)
Brookline Sewer Separation	$ 16,099	CSO (Community Managed)
West Roxbury Tunnel	$ 14,637	Interception and Pumping
Braintree-Weymouth Relief Facilities	$ 12,229	Interception and Pumping
North Dorchester Bay	$ 5,861	CSO (MWRA Managed)
TOTAL	**227,517**	

Staff notes that CSO spending is scheduled to continue through FY 2021, when MWRA will complete a sewer system performance assessment verifying attainment of the long-term CSO control levels. Spending will be minor after December 2015 when the last two CSO projects, BWSC's Reserved Channel Sewer Separation and Cambridge's Alewife Brook Sewer Separation projects, are scheduled to be completed.

Other Wastewater Projects

Spending on Other Wastewater projects is budgeted at $3.8 million for FY12 and FY13 and includes distributions and repayments (for the loan portion) for the Infiltration/Inflow Local Financial Assistance Program.

Waterworks System Improvements

Waterworks project spending for the FY12-13 period is budgeted at $188.4 million or 41% of all planned capital spending for the period.[14] MWRA divides Waterworks projects into four categories: Drinking Water Quality Improvements, Transmission, Distribution and Pumping and Other. Spending on Drinking Water Quality Improvements is now the largest category, at nearly one-sixth of all spending for the next two years. (See Chart 11.)

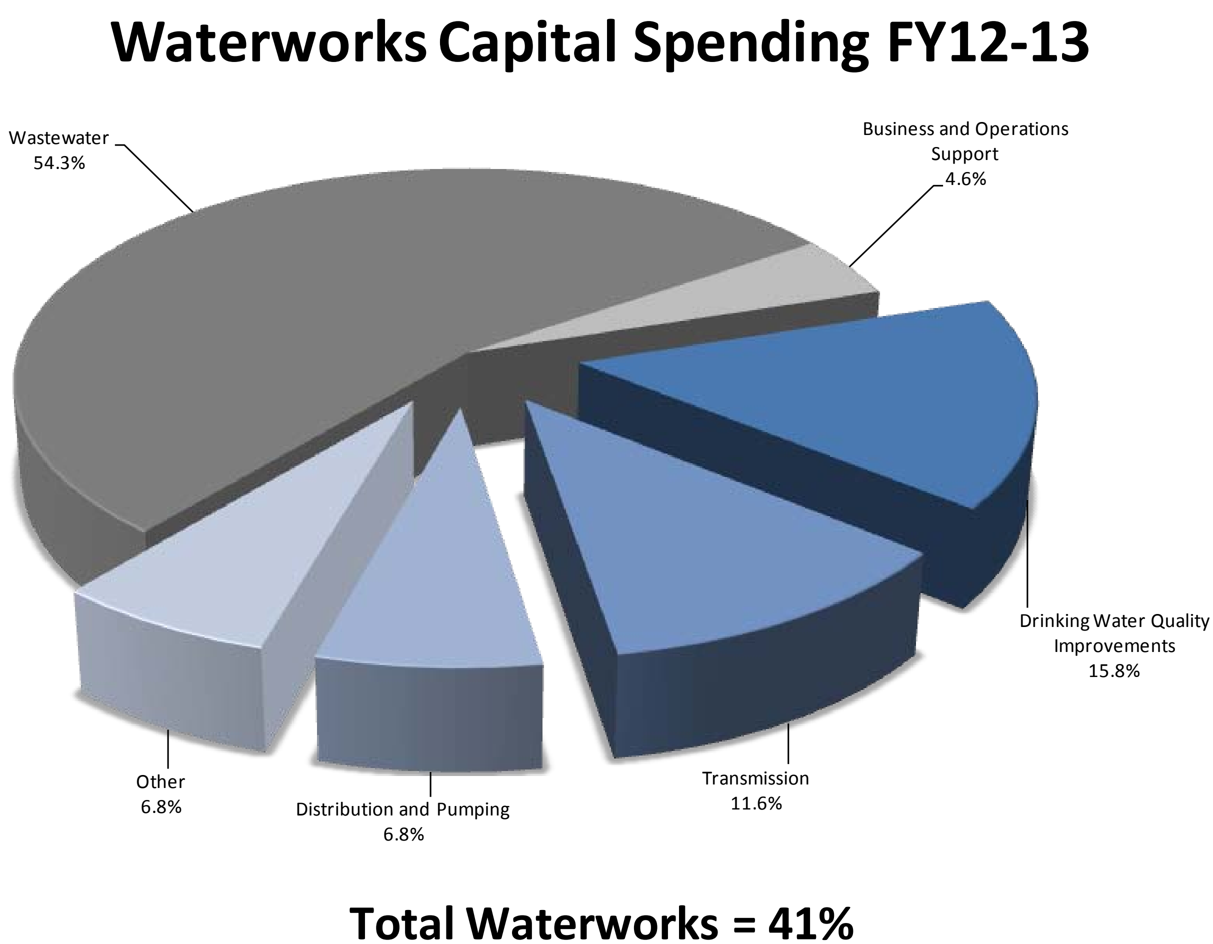

Chart 11

[14] Net of contingency and loan programs.

Drinking Water Quality Improvements

Drinking Water Quality Improvements projects focus on the treatment and storage of the MWRA's water supply. Most notably, the projects in this category include the John J. Carroll Water Treatment Plant (CWTP), Quabbin Water Treatment Plant, Norumbega Covered Storage, Blue Hills Covered Storage, and Low Service Storage near Spot Pond.

Spending for the two-year period is budgeted at $72.6 million. Included are $34.1 million for the Carroll Water Treatment Plant (including $22.1 million for the design and construction costs of the ultraviolet (UV) light treatment process during the period) and $33.1 million for the Spot Pond Low Service Storage project. Costs for the Spot Pond project have increased measurably in the last year, from $53.5 million in the proposed FY11 CIP to the $71.7 million in this proposed FY12 CIP, an increase of one-third. These two projects represent the largest Waterworks spending for FY12 and FY13. (See Table 11.)

Table 11

Largest Waterworks Projects FY12-13 $000s		
Project	**FY12-13 Spending**	**Program**
John J. Carroll Water Treatment Plant	$ 34,054	Drinking Water Quality Improvements
Spot Pond Storage Facility	$ 33,051	Drinking Water Quality Improvements
Local Water Pipeline Assistance Program	$ 29,474	Other Waterworks
MetroWest Tunnel/Hultman Rehabilitation	$ 24,588	Transmission
NIH Redundancy and Covered Storage	$ 10,138	Distribution and Pumping
Winsor Dam Hydroelectric/Pipeline Replacement	$ 7,911	Transmission
Long-term Redundancy	$ 7,578	Transmission
Weston Aqueduct Supply Mains (WASMs)	$ 7,088	Distribution and Pumping
TOTAL	**153,883**	

Transmission

The MWRA's water Transmission system consists of more than 100 miles of tunnels and aqueducts in daily use that transport water by gravity from the supply reservoirs to points of distribution within the service area. Many system improvements over the years have allowed for older facilities, no longer in daily use, to remain as critical emergency standby facilities, as long as the facilities are maintained and linked to new facilities where necessary.

For the two-year period from FY12-13, Transmission projects total $53.4 million, nearly 12% of total Waterworks spending. Included are $24.6 million for projects within the MetroWest Tunnel project, most notable are $19.3 million for the design and construction of the Lower Hultman rehabilitation project plus $5.1 million for the Upper Hultman rehabilitation project. The next largest area of spending during the two-year period is $10.1 million for the Northern Intermediate High Redundancy and Covered Storage project. (See Largest Waterworks Projects Table 11.)

Another of the largest Waterworks projects during the FY12-13 period, the Long Term Water Transmission Redundancy project is budgeted at $338.1 million, with estimated spending of $7.6 million during the two-year period. In June 2010, MWRA staff presented the findings and recommendations of a study conducted to evaluate redundancy alternatives for the metropolitan tunnel system. The proposed FY12 CIP reflects updated design and construction costs based on the findings of this study.

In May 2010, a coupling failed in a pressurized portion of the MetroWest Tunnel that resulted in a massive water main break triggering a boil water order for the City of Boston and surrounding communities. This failure underscored the importance of redundancy in the waterworks transmission system. As a result, the Authority accelerated several redundancy initiatives in the final FY11 CIP. The proposed FY12 CIP notes that the major redundancy initiatives total $1.6 billion with the majority ($356.1 million) in the FY14-18 cap period. (See Table 12.)

Major Water System Redundancy Initiatives

Table 12 ($ millions)

	Total Contract Amount	FY09-13	FY14-18
MetroWest Tunnel/Hultman	$710.3	$53.0	$22.4
Long-Term Redundancy	338.1	9.5	105.3
Weston Aqueduct Supply Mains	266.9	10.6	112.4
SEH Redundancy & Storage	97.2	5.5	33.5
NIH Redundancy & Storage	82.4	11.6	51.1
Spot Pond Storage Facility	71.7	40.1	31.4
Blue Hills Storage Facility	40.7	21.5	0.3
New Connecting Mains	32.3	6.0	10.6
TOTAL	**$1,566.5**	**$130.3**	**$356.1**

<u>Distribution and Pumping</u>

Distribution and Pumping projects focus on the MWRA's Metropolitan system, which is divided into seven pressure zones and contains 284 miles of distribution pipeline east of Shaft 5, eleven storage tanks, eleven pump stations, nine tunnel shafts, and approximately 4,700 valves. Notable Distribution and Pumping projects include the Weston Aqueduct Supply Mains (WASMs), Southern Spine Distribution Mains, Northern Intermediate High (NIH) Redundancy and Covered Storage, and Southern Extra High (SEH) Redundancy and Storage.

For the two-year period FY12-13 spending on Distribution and Pumping projects is budgeted at $31.3 million. Key project spending includes: $10.1 million for NIH redundancy, $7.9 million for Winsor Dam Hydroelectric/Pipeline Replacement and $7.1 million for Weston Aqueduct Supply Mains. (See Largest Waterworks Projects, Table 12.)

A contract to develop a Northern Intermediate High Assessment and Concept Plan was awarded in December 2005 and was completed in August 2010. Concept planning work included environmental review of the recommended plan and specification and purchase of the Mobile Pump Unit. Major components of spending during the two-year period (FY12-13) include Gillis Pump Station Improvements ($3.6 million), Section 89 & 29 Redundancy Design ($2.5 million) and

Reading/Stoneham Interconnections ($2.5 million). The Authority currently projects $51.1 million of spending during the next cap period (FY14-18).

The Weston Aqueduct Supply Mains (WASM) project features $7.1 million in spending for the two-year period. Together, the City Tunnel and the four Weston Aqueduct Supply Mains (WASMs) carry water from the end of the Hultman Aqueduct and the MetroWest Tunnel to the majority of customers in the waterworks system. When rehabilitation of the WASMs is complete, they will transmit about one-third of the water to MWRA's service areas, and the City Tunnel will carry the remaining two-thirds. The WASMs are now the only means of conveying water to the city in the event of a problem with the City Tunnel. The Sudbury Aqueduct can deliver non-potable water during extreme emergency. The majority of spending during FY12-13 ($3.9 million) is for WASM 3 design. The Authority currently projects $112.4 million of spending in the next cap period (FY14-18).

Other Waterworks

Other Waterworks projects total $31.1 million for the FY12-13 period. These projects include the Central Monitoring System project, Distribution System Facilities Mapping, the Local Water Infrastructure Improvements Loan Program, and Waterworks Facility Asset Protection. Budget estimates include net community loan distributions of $29.5 million during the two-year period, including $44.6 million in new community pipeline improvement loans and $25 million in loans under the Local Water System Assistance Program. Eventually, the $200 million in loans under the latter program will be fully offset by $200 million in repayments over time.

Business and Operations Support

Spending on Business and Operations Support projects for the FY12-13 period totals $21.1 million and includes $7.6 million for Alternative Energy Initiatives, $7.4 million for the Business Systems Plan (MIS), $1.23 million for Facilities Management and Planning, and $3.1 million for Equipment Purchases.

The budget for Alternative Energy Initiatives has increased in recent years to $25.8 million. The proposed CIP anticipates spending to peak in FY11, with FY12 spending at $6.3 million (to complete wind projects at Deer Island and Nut Island) and FY13 spending at $1.3 million, leaving $0.56 million for future years.

CAPITAL SPENDING CAP

Background for Setting a Five-Year Cap on Capital Spending

The Advisory Board's advocacy for an effective spending cap was born of the desire to achieve sustainable and predictable levels of capital spending and annual wholesale rate revenue requirements for the member communities without compromising needs for maintaining the system's infrastructure.

Prior to establishing the five-year cap, the MWRA had employed a ten-year spending cap. However, during that time the Authority stayed within the ten-year cap by assuming that the funds allocated in later years of the cap would be available to "cover" spending scheduled in earlier years. The Advisory Board's argument to revisit the capital spending cap centered on the argument that this practice defeated the spirit and intent of the cap.

The First Five-Year Cap: FY04-08

The Authority took the Advisory Board's recommendations under advisement, and explored various options for revising the structure and policies governing the capital spending cap. In June 2003 the MWRA Board of Directors approved the first five-year capital spending cap of $1.135 billion for the years FY04-08. (See Table 13.)

As part of the policy changes, spending caps were applied to both the overall five-year period and to each individual year within the cap. The Authority was also given the flexibility to vary spending in individual years within ±20% of the original base year cap for each year. The cap calculation includes planned capital expenditures, contingency allowances, inflation on unawarded construction contracts less Chicopee Valley Aqueduct projects.

Table 13

Final FY04 CIP	Baseline Cap FY04-08 ($ millions)						
		FY04	FY05	FY06	FY07	FY08	Total FY04-08
	Projected Expenditures	$237.0	$190.2	$195.2	$217.3	$183.6	$1,023.3
	Contingency	19.4	14.1	15.5	19.8	18.1	86.9
	Inflation on Unawarded Construction	0.0	0.8	5.8	13.0	16.1	35.7
	Less: Chicopee Valley Aqueduct Projects	(5.4)	(1.5)	(1.4)	(0.1)	(3.0)	(11.4)
	FY04-08	**$250.9**	**$203.5**	**$215.2**	**$250.1**	**$214.8**	**$1,134.5**

(See footnote[15])

During the first five-year cap, the Authority exceeded neither the overall five-year cap nor the allowance of 20% over the individual base year caps. Actual spending, according to the cap calculation, was $880 million. The average annual cap-related spending of $17 million has led the Authority to define its guideline for annual agency-wide capital spending at about $200 million. (See Appendix F.)

The Second Five-Year Cap: FY09-13

The Authority set the second five-year cap, for the years FY09-13, in June 2008 as part of the approval process for the final FY09 CIP. Capital expenditures for the period totaled $1.081 billion and the cap calculation came to $1.144 billion. The number was $9.3 million greater than the first five-year cap, although because contingency allowances were tightened and inflation amounts on unawarded construction contract were lower than for the first cap, the capital expenditures were $58.1 million greater than for the first cap period.

[15] Note that numbers may not add up due to rounding of original numbers.

Table 14

FY09-13 Baseline Cap Calculation Versus Updated Spending Projections ($ millions)	FY09	FY10	FY11	FY12	FY13	Total FY09-13
Projected Expenditures	$230.0	$251.7	$224.3	$196.7	$178.7	$1,081.4
Contingency	15.6	13.8	12.0	12.1	11.4	64.9
Inflation on Unawarded Construction	0.0	0.5	2.8	7.8	11.3	22.4
Less: Chicopee Valley Aqueduct Projects	(1.2)	(1.9)	(9.1)	(9.5)	(2.9)	(24.6)
FY09-13 Baseline Cap	**$244.4**	**$264.1**	**$230.0**	**$207.1**	**$198.5**	**$1,144.1**
Updated Projections	$182.2	$211.4	$183.0	$235.0	$223.9	$1,035.5
Contingency	0.0	0.0	9.6	11.8	13.1	34.5
Inflation on Unawarded Construction	0.0	0.0	0.0	2.2	5.8	8.0
Less: Chicopee Valley Aqueduct Projects	(0.6)	(0.5)	(1.2)	(5.1)	(9.5)	(16.9)
FY12 Proposed Subtotal	**$181.6**	**$210.9**	**$191.4**	**$243.9**	**$233.3**	**$1,061.1**
Change ($)	(62.8)	(53.2)	(38.6)	36.8	34.8	(83.0)
Change (%)	-25.7%	-20.1%	-16.8%	17.8%	17.5%	-7.3%

(See footnote[16])

The Authority reports that for the first full year of the cap, FY09, expenditures were $47.8 million below the budgeted amount, and that the cap calculation for the year (including contingency, inflation and CVA project adjustments) totaled $181.6 million or $62.8 million below the cap set for that year, or 26% below the original cap amount. (See Appendix E.)

For the second year of the cap, FY10, expenditures were $211.4 million or $40.2 million below the amount budgeted for the year. The cap calculation is $210.9 million, $53.2 million or 20.1% below the $264.1 cap set for the year.

For this, the third year of the cap, expenditures are projected to total $183.0 million, $41.3 million in capital spending below the $224.3 million in the cap calculation for the year. The updated cap calculation is $191.4 million, $38.5 million or 16.8% below the original cap set for FY11.

The proposed FY12 CIP includes capital expenditure budgets of $235.0 million for FY12 and $223.9 million for FY13, both greater levels of spending than used in setting the original FY09-13 cap for those two final years of the cap period, but within the cap calculation for those years and for the five-year period as a whole.

As the Advisory Board has noted previously, experience during the first eight years of the first and second cap periods points to the evolving nature of the capital budget and spending assumptions. The Authority has made a number of adjustments to capital spending and budgets, including a shift in contingency allowances, reducing non-tunnel contingency from 10% to 7%. Annual spending has tended to approach or even fall below the "minus 20%" guideline, reflecting the changing pace of actual capital spending, and the influence of certain projects that are not managed by the Authority including the community managed CSO projects and the community grant/loan programs.

The Third Five-Year Cap: FY14-18

The Authority is expected to set the next five-year cap, for the years FY14-18, with the final budget for FY14 in June 2013, two years from now. With each budget cycle, the Authority reviews the

[16] Note that numbers may not add up due to rounding of original numbers.

capital program and the pace of planned spending. For this upcoming cap period, spending is projected to be between $222 million and $276 million for each of the first three years, followed by two years at $150 million and $116.5 million. (See Table 15.) The five-year spending, currently totaling $1.007 billion is nearly as high as the $1.038 billion budgeted for the FY09-13 timeframe. Adding in contingency allowances, the projected budget for the period totals $1.081 billion, slightly more than the updated figures of $1.070 billion for the current cap period.

Table 15

Proposed FY14-18 Capital Spending by Program
($ millions)

Program	FY14	FY15	FY16	FY17	FY18	FY14-18
Wastewater System Improvements	$164.9	$146.5	$131.4	$72.9	$39.1	$554.7
Waterworks System Improvements	108.6	92.1	88.3	76.1	77.0	$442.0
Business & Operations Support	2.8	3.5	2.6	0.9	0.5	$10.3
TOTAL MWRA w/o CONTINGENCY	$276.3	$242.1	$222.3	$149.9	$116.5	$1,007.1

(See footnote[17])

While the Authority still has two years to finalize planned spending for the next cap period, the Advisory Board continues to believe that the Authority should keep a close eye on the direction of planned and projected spending. As noted in the discussion of tools for managing future levels of debt service and rate revenue requirements, **the Advisory Board recommends that the Authority reduce capital spending by at least $25 million/year from the levels in the proposed FY12 CIP expenditure forecasts.**

[17] Note that numbers may not add up due to rounding of original numbers.

Table 16

Proposed FY12 CEB Major Categories of Spending ($ millions)	
Capital Financing	$371.9
Personnel-Related Costs	114.2
Indirect Expenses	40.2
Maintenance Expenses	29.6
Utilities	22.1
Other Services	23.0
Chemicals	10.0
Professional Services	5.7
Other Materials	4.7
Training and Meetings	0.3
TOTAL EXPENSES	**621.7**
REVENUE	**621.7**

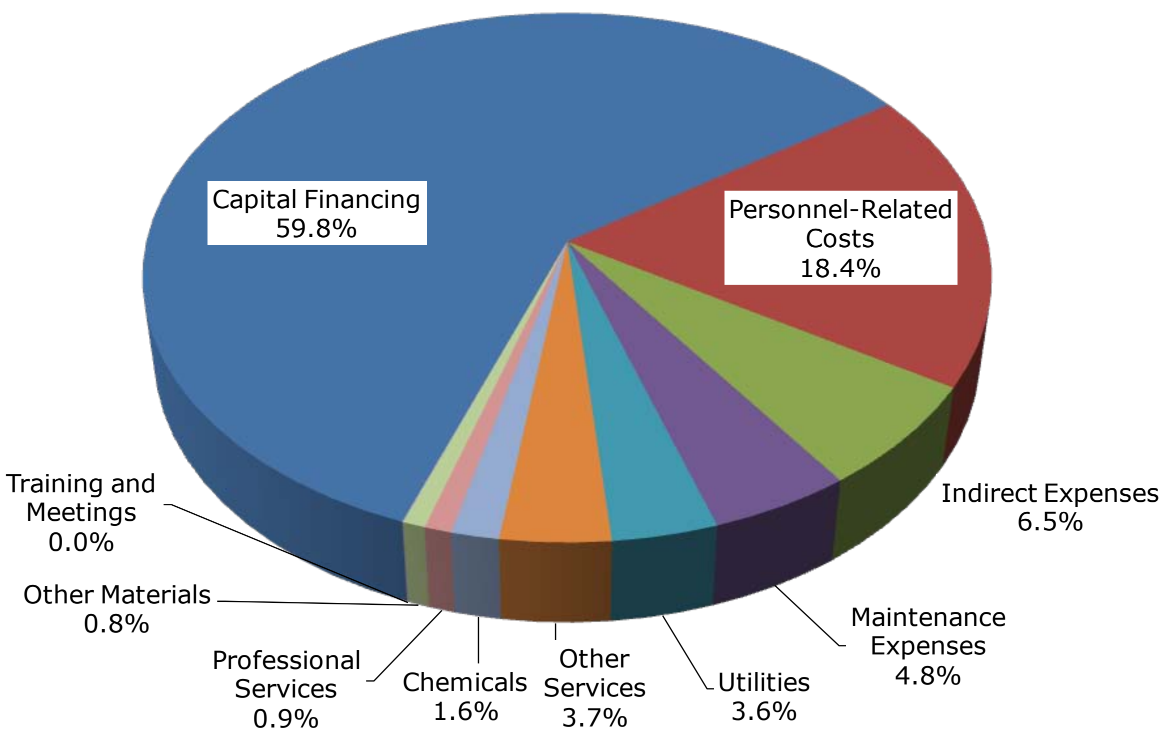

Chart 12

Table 17

Proposed Fiscal Year 2012 **Capital Financing Summary** ($ millions)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Total Senior Debt Service	**$199.69**	**$187.20**	**-$12.49**	**-6.3%**
Outstanding	$197.87	$185.80	-$12.07	-6.1%
New FY11/FY12	$1.83	$2.29	$0.47	25.6%
Potential Defeasance/Restructuring	0.00	-0.89	-0.89	-
Fixed rate debt service, existing and new borrowings during FY11/12.				
Total Subordinate Debt Service	**71.84**	**96.67**	**24.83**	**34.6%**
Outstanding	71.84	96.78	24.94	34.7%
New FY12	0.00	0.00	0.00	-
Potential Defeasance/Restructuring	0.00	-0.11	-0.11	-
Variable rate debt service. 3.25% interest rate assumption (FY11); 3.25% (FY12).				
Total SRF Debt Service	**68.94**	**73.13**	**4.19**	**6.1%**
Outstanding	63.30	69.15	5.85	9.2%
New FY11/FY12	5.64	3.98	-1.66	-29.5%
Low-interest loans from the Commonwealth. 2.0% interest rate (Water); 2.5% (Sewer).				
TOTAL DEBT SERVICE	**$340.47**	**$357.00**	**$16.53**	**4.9%**
Water Pipeline Commercial Paper	**$3.44**	**$3.50**	**$0.06**	**1.8%**
Debt service supporting $25 million/year for the Local Water Pipeline Improvement and Local Water System Assistance Loan Programs.				
Current Revenue/Capital	**$7.20**	**$8.20**	**$1.00**	**13.9%**
Amount of current revenue used to fund ongoing capital projects and to meet coverage requirements.				
Capital Lease	**$3.22**	**$3.22**	**$0.00**	**0.0%**
Chelsea facility lease payment.				
TOTAL OTHER CAPITAL EXPENSES	**$13.85**	**$14.92**	**$1.06**	**7.7%**
Debt Service Assistance (offset)	**$0.00**	**$0.00**	**$0.00**	**-**
The state-wide program providing assistance with wastewater debt service is not expected in the Commonwealth's FY12 budget.				
TOTAL CAPITAL FINANCING EXPENSES	**$354.33**	**$371.92**	**$17.59**	**5.0%**

Other Highlights

- Debt outstanding through December 2010 totals $5.79 billion.
- New MWRA borrowing of $100 million and SRF borrowing of $135 million is proposed for FY12.
- Other sources of capital funding include tax exempt commercial paper; interest is paid from the construction fund.

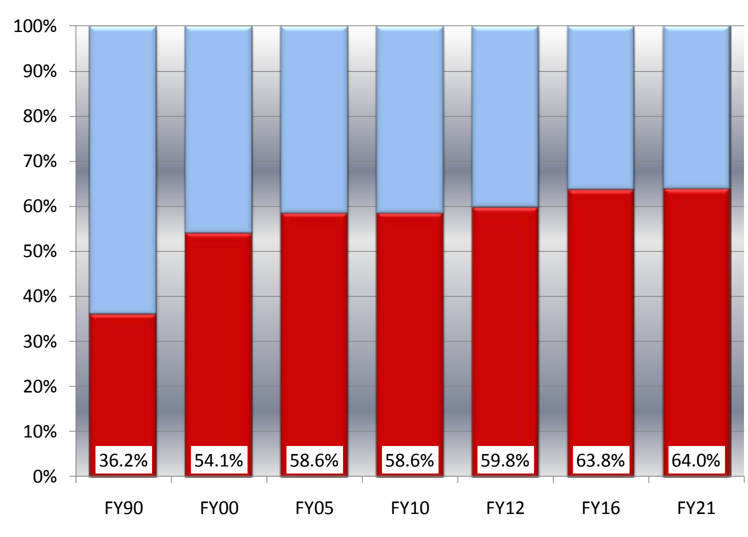

Chart 13

Overview: Capital Financing

Debt service payments and related capital financing expenses make up the largest component of the Authority's Current Expense Budgets and, in recent years, approached 60% of all expenses. FY12 marks the first year that the 60% mark is reached, and the share of debt service and related expenses is expected to grow further to 64% in just four more years, in FY16. Debt service and all other capital financing expenses are budgeted at $371.9 million in the proposed FY12 CEB.

Major components of capital financing expense are:

- Debt Service Payments including:
  - Senior Debt Service
  - Subordinate Debt Service
  - Debt Service on State Revolving Loan Fund borrowings
- Interest on Commercial Paper for the Local Water Pipeline Program
- Current Revenue for the Capital Construction Fund
- Capital Lease Payment for the Chelsea Facility

When it has been available, Debt Service Assistance from the Commonwealth has been treated as an offset to capital financing expense. Commercial paper issued to support current spending for the capital program is capitalized until it is replaced with a new bond issue, after which the debt service payments are added to the debt service payments listed above.

Other aspects of capital financing expense include the size and other characteristics of each maturity (including whether a maturity is callable or non callable) and associated interest rates which impact whether the Authority can refund or restructure certain maturities in order to reduce or retime specific debt service payments.

The Relationship Between Capital Spending and Debt Service

While there is a direct relationship between capital spending and the debt service payments that repay the borrowing that supports that capital spending, reducing capital spending as a method for reducing rate revenue requirements is best used as a long-term tool for managing rates over a number of years.

It should be noted that the availability of grant and stimulus program (ARRA) funding have also served as a means of reducing borrowing and associated debt service payments.

As can be seen on Chart 14, debt service payments are projected to peak by FY 2022, when they are projected to total $574 million, just over the entire budget of $570 million for the current fiscal year, FY11.

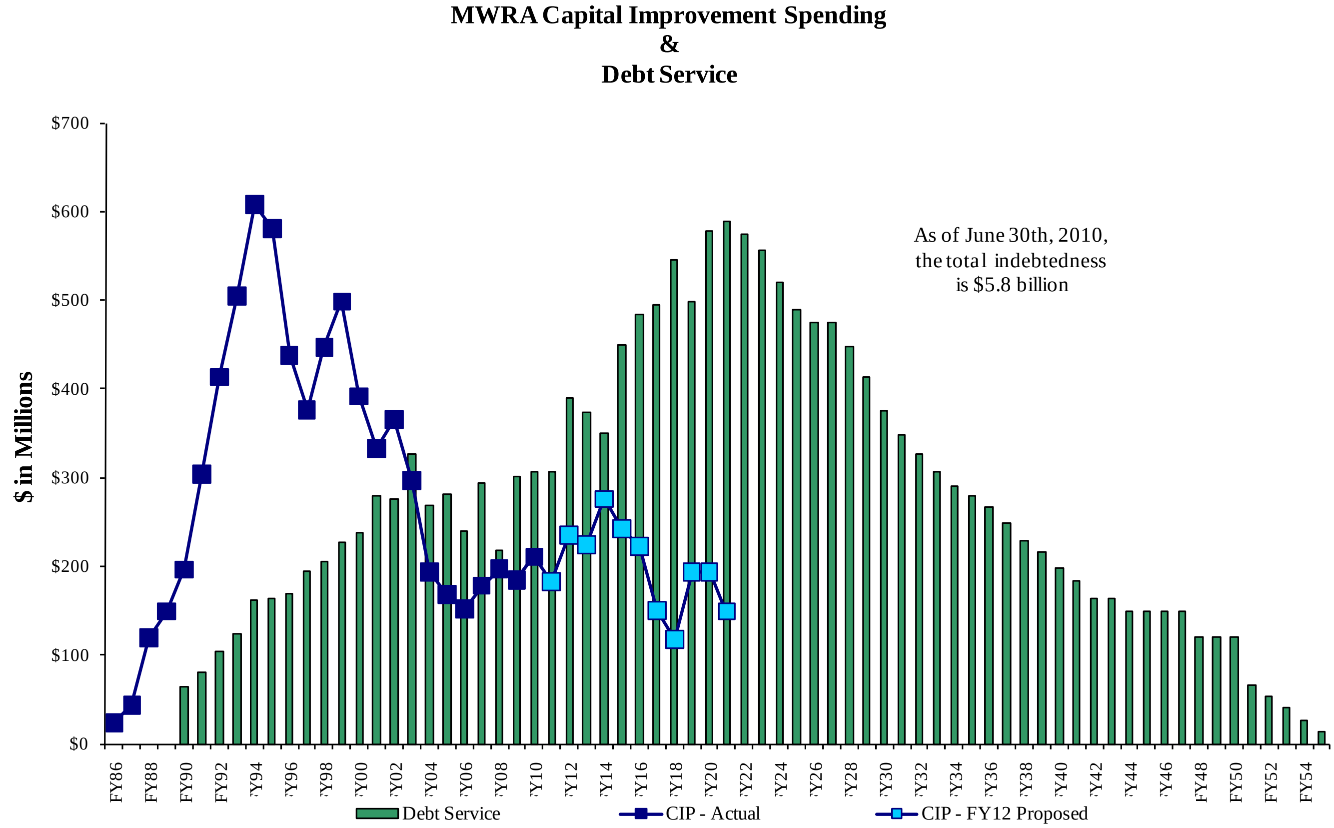

Chart 14
(See footnote [18])

In order to influence the level of capital spending in the coming years, the Authority therefore needs to anticipate spending over a multi-year period. One such approach is to begin to address the anticipated level of spending during the next cap period, FY 2014 – FY 2018. (See discussion under the Capital Spending Cap section.) But as noted in previous *Comments*, other elements of capital financing as well as other tools must be examined if a meaningful reduction or modifications to current projections of annual debt service payments are to be achieved.

Components of Capital Financing

Outstanding Principal and Debt Service Payments

The Authority currently has $5.79 billion in outstanding principal (as of December 2010) made up of senior debt, subordinate debt (both synthetically fixed and floating variable rate), and SRF debt as well as outstanding commercial paper. (See Chart 15; does not include commercial paper.) It is important to note that not all subordinate debt is variable rate, and that over half of outstanding

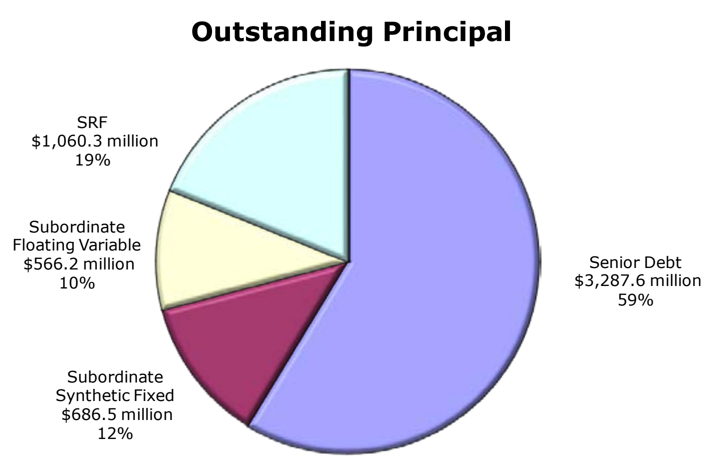

Chart 15

[18] Includes SRF. Capital spending reflects proposed FY12 spending estimates; debt reflects June 30, 2010 level.

subordinate debt is, in effect, fixed-rate debt.

In addition to repaying this principal, the Authority pays interest on the amount borrowed, resulting in its annual debt service payments. The Authority is proposing $357.0 million for total debt service payments in FY12 including senior debt service, subordinate debt service and SRF debt service (Chart 16). The debt service payments apply to $5.60 billion of outstanding debt (the $5.79 billion of total indebtedness less $194 million of commercial paper outstanding associated with the Local Water Community Loan Programs).

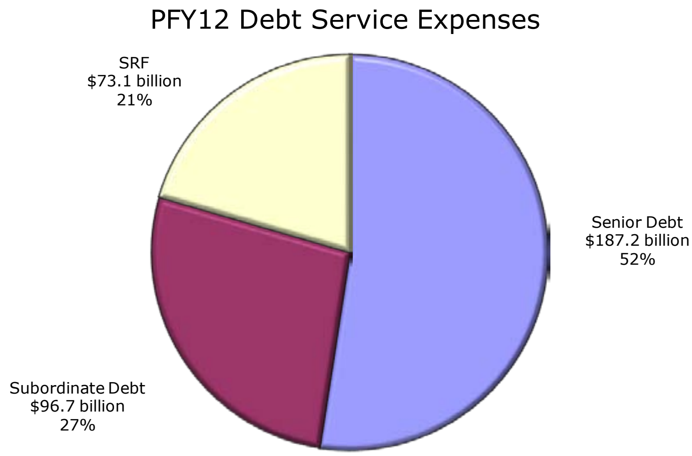

Chart 16

Debt Service on Senior Debt

Senior debt service is fixed rate. Short of refinancing there is typically little opportunity to reduce this component of capital financing. Through December, the total senior debt outstanding was $3.2876 million or 59% of all senior, subordinate and SRF related debt.

The proposed FY12 budget assumed senior debt service payments of $187.2 million. The amount includes $9.0 million in debt service payments associated with an upcoming borrowing of $150 million (to close in May 2011), $2.29 million in payments associated with a borrowing of $100 million in the spring of 2012, and the benefit of an upcoming defeasance transaction (assumed in the proposed budget to be for $23.6 million), which would reduce FY12 senior debt service by $0.889 million. These numbers can be expected to be updated for the final FY12 budget. Additional adjustments to FY12 debt service resulting from the upcoming defeasance would also allow the debt service budget, including an incremental reduction to current revenue for the capital program, to be somewhat lower than in the proposed CEB.

Future new borrowings are projected to be senior debt. Lower capital spending of $25 million per year would reduce projections of future senior debt service. (**See recommendation on page 30.)**

Debt Service on Subordinate MWRA Debt

The Authority's subordinate debt through December stood at $1.257 billion or 22% of the $5.6 billion of outstanding senior, subordinate and SRF debt. It should be noted that just under half of the subordinate debt ($566.2 million) is pure floating-rate debt, while the 55% of the remaining subordinate debt ($686.49 million) is synthetically fixed-rate debt. Thus, 10% of the Authority's current outstanding debt is truly variable rate debt.

The Authority is proposing a budget of $96.67 million for debt service payments on subordinate debt for FY12. The amount assumes the benefit in FY12 of the spring 2011 defeasance transaction in the amount of $0.11 million in lower variable rate debt service. The amount is expected to be revised for the final FY12 budget.

The total additional reduction is $199,700 for both the senior and subordinate debt due to the higher defeasance transaction. (**See recommendation on page 14.**)

The proposed FY12 CEB assumes a 3.25% interest rate for variable rate debt, the same rate assumed for variable rate debt service in FY11 and 50 basis points lower than what had been projected for FY12 variable rate debt in the final FY11 budget.

This spring the Authority approved an amendment to a swap agreement involving a portion of subordinate debt. The annual savings are estimated to be $466,000. (**See recommendation on page 14.)**

<u>SRF Borrowings</u>

The Authority is assuming debt service on SRF borrowings of $73.13 million including $10.03 million for FY12 debt service on new borrowings: the full year cost of borrowings during FY11 ($6.06 million) plus the partial year cost of new borrowings during FY12 ($3.98 million).

Outstanding SRF related borrowings through FY10 totaled $1.061 billion or 19% of all outstanding debt as of December 2010.

<u>Bond Defeasance and Refunding</u>

Other tools for modifying capital financing expenses, in both the short-term and the longer term, are refunding and defeasing existing senior and subordinate debt as the opportunities to do so become available. For example, the Authority refunded some debt as part of the February 2009 revenue bond issue. Nearly $230 million of refunding bonds were sold for a savings of approximately $690,000 per year between FY 2010 and 2015, and nearly $2 million per year between FY 2016 and 2027. More recently, as part of a multi-part transaction in spring 2010, the Authority refunded $75 million to provide budget relief in the years FY 2011, FY 2012 and FY 2013 plus the issuance of up to $135 million in general revenue refunding bonds to achieve interest rate savings. The benefits of these transactions are reflected in the proposed FY12 CEB.

Also last spring the Authority defeased $54.6 million, using $23.6 million of FY10 surplus funds and $30.9 million from the restructuring of outstanding debt to achieve rate relief for FY 2011, FY 2012 and FY2013. This spring, the Authority plans on defeasing $28.5 million using FY11 surplus to achieve savings in FY 2012 ($1.2 million), FY 2013 ($1.2 million) and FY 2014 ($26.2 million). The proposed budget reflects the benefit of a defeasance transaction of $23.6 million; the final FY12 CEB will be updated to reflect the slightly higher transaction now planned.

These revisions and reductions to budget assumptions will also have the effect of lowering coverage requirements of the bond covenants and lowering the amount of current revenue for the capital program that would have been needed to be budgeted in the target years.

Other Components of Capital Financing

<u>Local Water Pipeline Improvement and Water System Loan Programs Interest Payments</u>

The Authority is proposing a budget of $3,498,000 for interest payments relating to the commercial paper issued in support of the Local Water Pipeline Improvement Program and the Local Water System Loan Program. The assumptions include a 3.25% interest rate (the same level as assumed in the FY11 budget) and an average balance of $107,628,853 of commercial paper outstanding in support of the two loan programs.

<u>Use of Current Revenue to Fund the Capital Program</u>

For FY12, the Authority is proposing to budget $8.20 million in current revenue to fund ongoing capital projects. The amount continues to grow each year, and is $1.0 million greater than the $7.2 million budgeted for FY11.

As noted in previous *Comments*, ***the Advisory Board anticipates that the several categories of expense that can be used to meet coverage requirements as called for in the bond***

covenants can be revisited and resized as part of the final budget process, including current revenue for the capital program.

Capital Lease

The Authority is budgeting $3,217,060 for the tenth year of payments on the capital lease for the Chelsea office and maintenance facilities. This is the same amount budgeted each year since 2002.[19]

Debt Service Offsets

Among the credits that can be used to offset budgeted amounts for debt service (and also to offset debt service coverage requirements) are the use of bond redemption funds and variable rate savings (from previous years).

The Authority, as part of the authorizations for the spring defeasance transaction, received Board approval for the use of some bond redemption funds to reach the defeasance goal of $28.5 million if the FY11 surplus proves to be less than that amount. The proposed FY12 budget assumes that the Bond Redemption Fund holds nearly $33 million.

No variable rate debt service savings from previous years are assumed, as the Authority now accrues actual savings in the year in which they occur.

Debt Service Assistance from the Commonwealth is also treated as a debt service offset. The budget assumes no DSA funding will be available in FY 2012. More recently, the state budget for FY 2012 in conference committee in conference committee at the time of this publication includes $500,000 for the statewide program.

American Recovery and Reinvestment Act (Stimulus/ARRA) Funding

The Authority reports that some $33 million was received for water, wastewater and alternative energy projects.

Reserves Requirements

The Authority made a number of changes to the bond covenants in January 2007, which will allow certain reserve requirements to be eased when two-thirds of its outstanding principal has been issued or restructured pursuant to the revised covenants. The Authority currently estimates that this turning point will be reached in FY2016. Current estimates put the anticipated released reserves at $140 million.

[19] The Authority treats this expense as an operating expense for purposes of calculating the coverage requirement called for in the bond covenants; otherwise, this is considered a capital finance expense.

Table 18

Proposed Fiscal Year 2012 Personnel Expenses Summary ($s)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Regular Pay	89,693,839	89,064,161	-629,678	-0.7%
Regular wages and salaries for full- and part-time employees.				
Other Pay	1,457,457	1,447,363	-10,094	-0.7%
Includes shift differential, holiday pay, temporary employees, interns/co-ops, and stand by pay.				
Wages and Salaries Subtotal	91,151,296	90,511,524	-639,772	-0.7%
Fringe Benefits	17,995,660	18,133,683	138,023	0.8%
Includes health insurance, dental insurance, Medicare, and all other fringe benefits.				
Overtime	3,310,659	3,513,633	202,974	6.1%
For planned maintenance, emergency, and coverage.				
Workers' Compensation	$1,870,000	$2,020,000	$150,000	8.0%
Includes compensation payments, medical payments, and other related costs.				
TOTAL PERSONNEL EXPENSES	**$114,327,615**	**$114,178,840**	**-$148,775**	**-0.1%**

Other Highlights

- Personnel expenses are essentially level-funded.
- Regular pay decreases slightly, by less than 1% and reflects a net average funded staffing level of 1,205, which is 5 fewer average funded positions than the 1,210 in the FY11 budget.
- Overtime increases by 6.1% to support changes in wet weather business practices.
- Fringe benefits make up 8.7% of all direct expenses and 15.9% of total personnel costs.

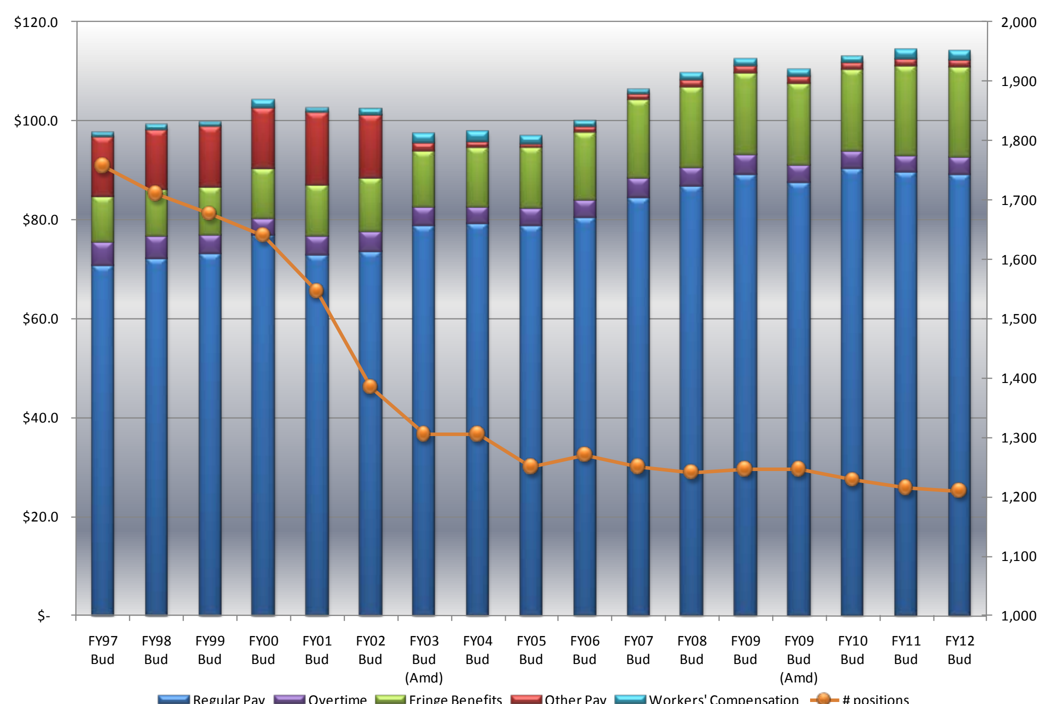

Chart 17

Overview: Personnel-Related Expenses

The Authority is proposing a budget of $114,178,840 for all personnel-related expenses for FY12. The amount represents a $148,775 (0.1%) decrease from the $114,327,615 budgeted for FY11, notable given the cost pressures from workers' compensation and fringe benefits as well as an increase in overtime expense to support changes in wet weather management practices.

Wages and Salaries

The Authority's proposed budget of $90.51 million for wages and salaries in FY12 represents a 0.7% decrease (nearly $640,000) from the FY11 budget.

The budget assumes a funded staffing level of 1,210 positions and reflects a continuing downward trend over the last fifteen years. The Authority also assumes a vacancy rate equivalent to 5 positions, for a net average funded staffing level of 1,205 (or five fewer positions than funded in the FY11 budget and 17 fewer average funded positions than the 1,222 in the FY10 budget). As of April 2011, staffing stood at 1,199 positions. This compares with the peak number of filled positions of 1,775 in March 1997, a reduction of over 575 positions or nearly one-third. The proposed budget does not include any salary increases for union employees or non-union managers. Also included are estimated accruals for leave balance liabilities. The Authority's collective bargaining agreements with all unions have expired. The Authority is currently in negotiations for successor agreements.

As noted in previous *Comments*, contributing to the lower staffing levels over the years have been the completion of a number of new and upgraded facilities, as well as new technology and increased automation of facilities. Other efficiencies have been achieved through union negotiations.

Other pay, totaling $1,447,363, includes funding for shift differential, holiday pay, temporary employees, interns/co-ops and stand-by pay.

Staffing Study

At its February 2010 meeting, the MWRA Board of Directors discussed a letter sent by the Advisory Board's representatives to the Board of Directors requesting that a staffing level study be conducted. MWRA staff returned in April 2010 with a procurement proposal for a consultant firm to compare the MWRA with comparable utilities and to prepare a report on findings and recommendations for an approach to attaining an appropriate level of staffing for the Authority. A one-year contract was awarded in March 2011. An 11-member staffing study committee has been established to oversee the study.

The most recent staffing study, conducted by Black and Veatch, originally called for a follow up staffing study in 2007. Although the Authority has continued to reduce its headcount beyond the recommendations of the Black and Veatch study, the agency's focus has changed since its inception. Indeed, MWRA staff note that the agency is currently shifting from a focus on major new capital construction, as with the Boston Harbor Project, towards a focus on maintaining its assets and infrastructure. ***The Advisory Board expects the Authority to update its staffing levels consistent with any recommendations from the staffing study, and*** **recommends that the Authority utilize the staffing study to address any other employee compensation issues including salary compression (union employees earning more than their managers) and appropriate salary compensation levels.**

Overtime

The Authority's proposed budget of $3.514 million for overtime expense in FY12 is among the lowest in years (with the exception of FY09 actual spending of $3.0 million). The reductions reflect a decline in the number of overtime hours, including reduced overtime for coverage, based on adjustments developed with the cooperation of the unions. The Authority has been working in recent years on containing and tightening the use of overtime, including negotiating agreements with facility operators to carry out light maintenance tasks. Increases in kitting of materials for planned maintenance has allowed some maintenance work to be completed within shorter timeframes and regular schedules. Changes in shift assignments and staffing levels have also resulted in measurable savings.

While these steps have resulted in reduced use of overtime, the extreme wet weather over a six-week period in late February and March plus the Shaft 5A pipe break in early May 2010 resulted in greater than budgeted spending for FY 2010. As of the April variance report for FY11, year-to-date spending was nearly $573,000 (21%) over budget, due to the Shaft 5A leak last summer and hurricane preparations, as well as for snow removal. April spending was below the budget for the month.

Fringe Benefits

The Authority is proposing a budget of $18.13 million for fringe benefits in FY12, less than a 1% increase ($138,023) from the FY11 budget. Included in this category of expense are: health insurance, dental insurance, unemployment insurance, Medicare payments, tuition reimbursement and overtime meals. (See Chart 18.)

Proposed FY12 Fringe Benefit Expenses

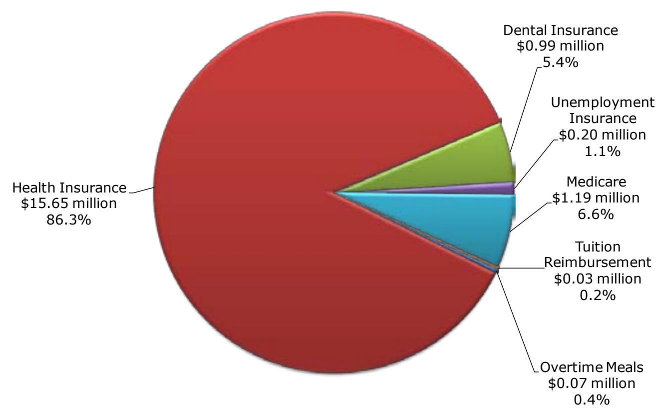

Chart 18

Despite fewer employee participants, shifting of some costs to employees (such as higher co-pays), and renegotiation of rates to lower levels, costs are rising due to higher costs of health insurance and of unemployment insurance. However, it should be noted that FY11 spending for the year to date has been below budgeted amounts in all major categories of fringe benefits and are projected to be below budget by the end of the year by about $622,000 (3.8%).

The rising cost of fringe benefits, particularly health insurance, has been a subject of continual discussion for a number of years. As noted in previous *Comments*, fringe benefits have been a "pressure point" for the Authority's budget in recent years as well. Between FY04 and FY09, the Authority's fringe benefits expense increased by over 50%. The Advisory Board expects that the Authority will continue to monitor any changes in program scope and costs, as well as changes resulting from recent national legislation regarding health insurance contributions very closely. Costs are also a function of union negotiations.

Workers' Compensation

The Authority is proposing a budget of $2,020,000 for workers' compensation expense in FY12, an increase of 8% ($150,000) from the $1,870,000 budgeted in FY11. Actual spending and accruals were at lower levels in FY08, FY09, and FY10, as the Authority resolved a number of open claims. However, accruals through April 2011 are running more than $414,000 over budget and reflect actual payments, as well as monthly reserve adjustments. Projections for the year end are for $2,296,548 or $426,548 (32%) greater than budgeted due to increased reserve projections.

Table 19

Proposed Fiscal Year 2012 **Indirect Expenses Summary** ($s)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Pension	$5,342,856	$5,488,792	$145,936	2.7%
Scheduled updated contribution to retirement fund.				
Post-Employment Benefits	0	1,851,646	1,851,646	-
All other benefits for retirees (e.g. health insurance). Strategy for meeting liability tied to pension strategy.				
Insurance	2,586,000	2,400,000	-186,000	-7.2%
Insurance and payments/claims.				
Mitigation Payments	1,518,401	1,528,705	10,304	0.7%
Mitigation payments to Quincy and Winthrop.				
HEEC Payments	4,174,256	3,665,499	-508,757	-12.2%
Cross harbor cable to Deer Island (includes both debt service and O&M components).				
Watershed Reimbursements	24,744,920	25,325,896	580,976	2.3%
Supports the operations and related costs of the state's Department of Conservation and Recreation, Office of Watershed Management.				
Additions to Reserves	-407,581	-94,998	312,583	-76.7%
1/6th of all planned Operating Expenses.				
TOTAL INDIRECT EXPENSES	**$37,958,852**	**$40,165,540**	**$2,206,688**	**5.8%**

Other Highlights

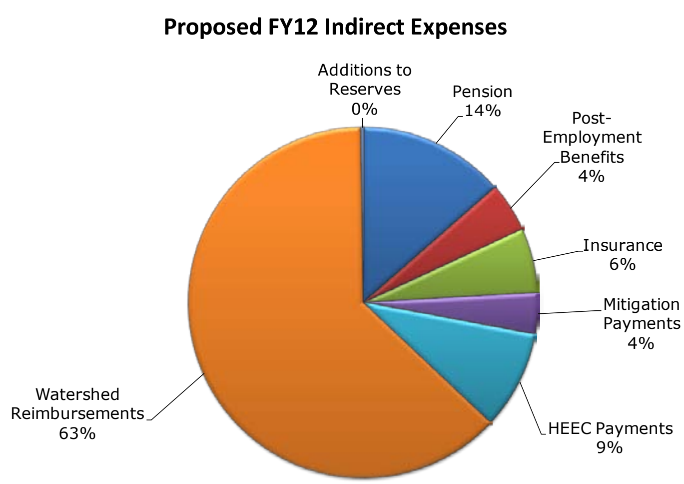

Chart 19

- The pension contribution is based on last year's mid-cycle update to the January 2009 actuarial study.
- The OPEB expense is funded at a nominal level of $1.85 million.
- Insurance expense decreases by $186,000 due to lower claims payments.
- HEEC payments decrease by 6% for the capacity (debt service) charge while the O&M charge declines to $0.7 million reflecting a different mix of special projects for FY12.
- Watershed expenses increase by 2.3% to $25.3 million and reflect a 1.4% increase for the Division of Watershed Management and 6% increase for Payments in Lieu of Taxes (PILOT).

Overview: Indirect Expenses

The largest categories of indirect expenses are watershed reimbursement and pension expense; together, they represent 77% of the $40,165,540 budgeted for indirect expenses.

Watershed Reimbursement/PILOT Payments/Debt Service

The Authority has proposed a budget of $25,325,896 for watershed reimbursement, which includes operating expenses for the Division of Water Supply Protection (DWSP), debt service for watershed land purchases, and Payments in Lieu of Taxes (PILOTs).

The DWSP has continued to actively manage its operating expenses, and the 2.3% increase overall is largely due to increases in PILOT payments combined with a decrease in projected revenue (see Table 20) together with a return to annual watershed debt service payments of $5.608 million as established in a review of the multi-year payment schedule. In essence, the DWSP is doing its part to tighten its expenses due to the current economic situation; the Advisory Board commends both DWSP and the Authority for controlling these expenses.

Table 20

Watershed Reimbursement [20]

EXPENSES	Budget FY2010	Amended FY2011	FY2012 Proposed	Increase %
Division of Water Supply Protection Operating Expenses	$13,520,280	$13,721,254	$13,882,063	1.2%
Revenue	$1,403,000	$1,478,000	$1,465,000	-0.9%
Net	$12,117,280	$12,243,254	$12,417,063	1.4%
Debt Service	5,608,833	5,608,833	5,608,833	0.0%
TOTAL	$17,726,113	$17,852,087	$18,025,896	1.0%
Payment In Lieu of Taxes	6,500,000	6,892,834	7,300,000	5.9%
TOTAL	**$24,226,113**	**$24,744,921**	**$25,325,896**	**2.3%**

Watershed CIP Projects

The Authority has some projects in its Proposed FY12 CIP that relate to water supply protection with planned spending in the FY12-13 period.

Budgeted since FY06 is funding to support the ongoing purchase of watershed land. Prior to this point, land acquisition was carried out by the Commonwealth, with the Authority reimbursing the state for the ongoing debt service for those purchases (as discussed above). The Authority's budget includes $19.0 million for these purchases, of which $13.4 million has been spent through FY10. Another $3.0 million is budgeted for FY11, $1.25 million in FY12 and $1.33 million in FY13. No additional funds are budgeted for FY14 and beyond.

The Wachusett Reservoir Spillway Improvements/Winsor Dam Repair project was undertaken to make necessary improvements at dams that are 60 and 100 years old respectively; however, during preparations for improvements at the Wachusett dam, the presence of polychlorinated biphenyls (PCBs) was discovered in exterior caulking materials and nearby facilities as well. Three separate contracts were developed for PCB-removal. The project reached substantial completion in FY10, at a total cost of $11.8 million.

The Authority is also budgeting $9.1 million in Dam Repairs with $6.64 million of spending scheduled for the FY10-13 timeframe and $2.46 million during FY14 through FY16. The proposed

[20] Source data: DCR Division of Water Supply Protection.

FY12 CIP includes a new project: Goodnough Dike Drainage Improvement, with a budget of $1 million.

Also included in the CIP is $2.25 million for the design and construction of an automated chemical dispensing system to control algae in the Wachusett Reservoir.

Other projects relating to watershed management are funded through the Current Expense Budget. (See Table 21.) Among them are: a three-year contract for invasive aquatic plant control primarily in the Wachusett Reservoir ($65,000 in FY12); an aquatic plant harvester for the Chestnut Hill Reservoir ($65,000); Sudbury Reservoir water chestnut control ($25,000); and the development of an emergency response plan for invasives control ($5,000). A baseline survey for invasive species (to be conducted every three years) was conducted in FY11 at a cost of $50,000.

In addition, there are three dam related projects: dam inspection ($35,000), appurtenant structures inspection ($35,000 in FY12), and inspection technical services related to repairs ($15,000).

Table 21

Watershed-Related CEB Projects

Project	$	Comments
Invasive Species Survey	$125,000	Every three years
Invasives Control Services	65,000	3-year contract FY10-12
Aquatic Plant Harvesters, Chestnut Hill	65,000	New in FY12
Dam Appurtenant Structures Inspection	35,000	$100,000 from FY10-12
Dam Inspection	35,000	Bi-annual program; 17 dams
Sudbury Reservoir Water Chestnut Control	25,000	New in FY12
Dam Inspection Technical Services	15,000	
Emergency Response for Invasives Control	5,000	New in FY12
TOTAL	**$370,000**	

<u>Pension Expense/OPEB</u>

The Authority is proposing a budget of $5.49 million for the pension fund deposit in FY12, based on an updated (in the spring of 2010) actuarial study of the fund's returns over the previous year. The report update recommended deposits for both FY11 and FY12. An updated review this spring confirmed that improving returns put the funded level at 87.5%, a slight improvement over the 86.4% level in last year's report. The next two-year report is expected next spring using data as of January 2012. The Authority's current schedule restores the pension fund to full funding by FY 2024. It should be noted that many entities in the Commonwealth are currently on a schedule to fully fund their pension funds by FY 2030, and there has been discussion of legislation to allow the schedule to be further extended to FY 2040. The Advisory Board commends the Authority on its current schedule, and does not advocate extending the schedule at this time. In fact, the Advisory Board believes this current funding schedule arguably demonstrates the Authority's aggressiveness to fund this liability, placing it ahead of many other entities in the Commonwealth in this regard.

While no funds are included for the OPEB expense in FY11, the Authority has proposed nominal funding in FY12 of $1,851,646 to demonstrate a commitment to gradually fund this liability. Additionally, the Authority has included in its planning estimates half of the annual required contribution (ARC) outlined by the most recent OPEB actuarial study for each of the years from FY13-21.

The Authority has had an ongoing discussion about a plan for funding this obligation. In FY09, the Board of Directors voted to redirect the funds originally designated for the OPEB liability toward the pension fund liability based, in part, upon its financial advisors' advice, and, in effect, dramatically altering its strategy with regard to these two line items. In effect, the Authority began viewing the pension and OPEB liabilities as one total liability, choosing to focus first on restoring full funding to the pension fund before addressing its OPEB liability directly.

At the April 2011 Board of Directors meeting, the Authority presented additional information about OPEB to the Board, indicating that it will be seeking direction on a plan to meet this unfunded liability. The Advisory Board has consistently advocated against funding OPEB in recent years for many reasons.

First, member communities are still feeling the effects of the economic recession, facing difficult budget decisions. Most communities are still not able to address this liability without impacting services; of those that are, contribution levels tend to be below the ARC.

Second, the Authority's financial advisors have noted that the pension and OPEB liabilities could, in essence, be viewed as one total liability. Indeed, based upon this advice, the Board of Directors adopted a strategy focused on restoring the pension to full funding before addressing the Authority's OPEB liability.

Third, the exact amount of the OPEB liability is in many ways a "moving target." Most acknowledge that the current levels of employee contribution, years to be fully vested and thereby receive retiree health care benefits, and many other components of employee health care benefits are unsustainable. Substantial changes to the eligibility and terms of retiree health care are a near certainty, and those changes will certainly have a favorable effect upon the OPEB liability.

At the April 2011 Board of Directors meeting, discussion turned to the rating agencies and their views on unfunded liabilities. Authority staff noted that the rating agencies had been concerned that the Authority presented a plan to make an additional payment to the pension fund beyond the ARC, but then removed these funds when economic conditions worsened to help provide relief for the ratepayers. The belief was that the Authority needed to adhere to a clearly defined plan to address the unfunded liabilities. Indeed, in response to a question from the Board, Authority staff acknowledged that the consistency was more important than the amount being allocated each year.

Toward that end, the Advisory Board has three recommendations related to the pension and other post-employment benefits:

1. **Eliminate the other post-employment benefits contribution of $1,851,646 in the FY12 Current Expense Budget.**

2. **Identify and report on the effect on the unfunded OPEB liability of increasing the employee contributions to health insurance in future years at different levels and report to the Board of Directors no later than September 2011.**

3. **Adopt the following as a formal plan to address unfunded liabilities (pension and OPEB) for the purpose of presenting to the rating agencies:**

    a. **The Authority commits to maintaining its current and aggressive schedule to fully fund its retirement fund by FY2024.**

    b. **In keeping with the view that the pension and OPEB form one total liability, the OPEB liability will be addressed after the pension has reached full funding.**

Insurance

The Authority is proposing a budget of $2,400,000 for Insurance expense, a 7% ($186,000) reduction from the $2,586,000 budgeted for FY11. Accruals for payments and claims have, to date, been well below the amounts budgeted as a number of outstanding claims have been resolved during FY11. The insurance program is out for bid in spring 2011 and remains on an annual renewal schedule.

Mitigation Payments

The proposed budget includes $1,528,705 for mitigation payments of an estimated $800,000 to the City of Quincy and $728,705 to the Town of Winthrop in FY12. The combined total is a 0.7% increase from the amounts budgeted in FY11. The amounts are set by an agreement with each community.

HEEC Agreement Payments

The Authority is proposing to budget $3,665,499 for FY12 payments to the Harbor Electric Energy Company (a subsidiary of the Boston Edison Company, now NStar). The amounts repay the investment over a 25-year period to fund the installation of the cross-harbor electric cable to Deer Island and the construction of the power substation in South Boston.

The capacity charge, representing the payment of debt-related expense, has been gradually decreasing as more of the asset is depreciated. The proposed budget includes $2,959,349 or a 6% ($193,909) reduction from the amount budgeted in FY11.

The operating and maintenance charge is to be budgeted at $706,150 or a 31% reduction ($314,848) from the $1,020,998 budgeted in FY11. This category of expense includes $110,000 for special projects, as compared to the $300,000 budgeted in FY11. The operating and maintenance charge, net of special projects, is rising.

Current projections for FY11 year-end spending for HEEC payments are unchanged from the original budgeted amounts.

Additions to Reserves

The Authority's bond resolutions require three reserve funds: the operating reserve, the insurance reserve and the renewal and replacement reserve.
The operating reserve must equal two months of budgeted MWRA operating costs (which include direct expenses, insurance, mitigation payments, retirement fund deposits, other post-employment benefits, BECo/HEEC expense and the Chelsea lease payment). **The Advisory Board expects the Authority to make any necessary adjustments to the operating reserve additions based upon any additional operating expense reductions in the Final FY12 CEB.**

The insurance reserve, which is maintained to mitigate the budgetary risk of self-insurance, currently stands at $19 million. The Authority's insurance consultant has recently issued a new report (February 2011) on the adequacy of the Insurance Reserve Fund. The consultant has concluded that "…an acceptable range for the Fund level is in the range of $12 million to $16 million. … Should the Fund be drawn down due to losses, the minimum level for the fund should be $6 million. If the Fund reaches this level with use, it should be replenished … over a 3-year period…" As noted in the *Comments* last year, **The Advisory Board recommends that the Authority reconsider the funded level for the insurance reserve, and include excess amounts as one of the tools for addressing management of debt service and rate revenue requirements between now and FY 2022.** Revised insurance reserve levels could be lowered, over time, by at least $3 to 7 million.

Table 22

Proposed Fiscal Year 2012 **Maintenance Expense Summary** ($s)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Buildings and Grounds Expense	$3,644,024	$4,197,926	$553,902	15.2%
Materials and services for maintaining buildings and grounds.				
Automotive Expense	705,505	667,500	-38,005	-5.4%
Materials and services for maintaining vehicles.				
Plant and Machinery Expense	11,948,787	12,370,287	421,500	3.5%
Materials and services for maintaining plant and machinery expenses. (E.g. drive chains, facility painting and coating)				
Pipeline Expense	962,579	1,075,562	112,983	11.7%
Materials and services for maintaining pipeline.				
Specialized Equipment Expense	3,314,490	3,903,688	589,198	17.8%
Materials and services for specialized equipment. (E.g. grit screens, lab equipment repairs, sewer bucketing equipment)				
Computer Expense	3,069,001	2,755,346	-313,655	-10.2%
Includes materials services, software licenses and upgrades.				
Electrical Expense	3,933,035	3,554,227	-378,808	-9.6%
Materials and services for maintaining electrical systems.				
All Other Maintenance Expense	1,182,252	1,106,596	-75,656	-6.4%
Includes HVAC materials and services and purchase cards.				
TOTAL MAINTENANCE EXPENSE	**$28,759,673**	**$29,631,132**	**$871,459**	**3.0%**

Other Highlights

- Maintenance expense increases by $871,459 or 3.0%.
- Maintenance expense is 14% of all direct expenses.
- Nearly half of all maintenance is for Deer Island ($13.9 million).
- Another 35.5%, or $10.5 million, is for Field Operations, including the CWTP, headworks, CSO facilities, and water and wastewater pump stations.

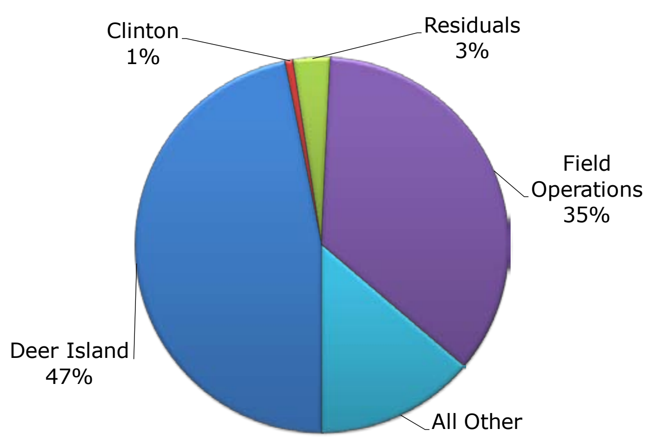

Chart 20

- All other Operations Division maintenance expense is $1.45 million and includes $0.94 million for the residuals plant plus $0.22 million for the Clinton Wastewater Treatment Plant.
- All other maintenance expense accounts for $3.79 million, or 13%, of total maintenance expense including $2.6 million for MIS, $0.72 for fleet maintenance and $0.29 million for lab services.

Overview: Maintenance

The Authority is proposing a budget of $29,631,132 for maintenance expense in FY12, an increase of 3.0% ($871,459) over the $28,759,673 budgeted for FY11. This category of expense has grown by 50% since FY06, an increase of $10 million. This growth reflects the fact that even the so-called "new" facilities are aging: major elements of the Deer Island Wastewater Treatment Plant are 15 years old and the Carroll Water Treatment Plant is now over five years old. As the agency completes these major facilities and upgrades of many others, it is moving increasingly into "maintenance mode" with its facilities and systems.

Maintenance spending is at the core of both the Current Expense and Capital Budgets. Some maintenance projects in the Current Expense Budget address immediate needs until a larger, more comprehensive capital project can be scoped and designed as part of the Capital Program. Some projects are ongoing, such as regular painting and coating of facilities and are considered components of the Current Expense Budget; others are periodic, such as pump or VFD replacements and are considered candidates for the Capital Budget. Still others appear in both budgets, depending on the their size and duration: most roof repair projects have been considered part of the Current Expense Budget, while more recently, larger roof repair and replacement projects meet the criteria for inclusion in the Capital Budget (discussed below).

Nearly half of all CEB maintenance spending is for the Deer Island Wastewater Treatment Plant, $13.9 million. Another 35%, or $10.5 million, supports maintenance spending for the Field Operations Department.

The Authority has been using a Reliability Centered Maintenance strategy (RCM) in identifying and prioritizing maintenance needs. RCM is a structured maintenance approach that rigorously analyzes systems' design, operational and maintenance strategies, and safety issues. The Authority states that by reviewing systems in their site-specific operating context, staff maintenance efforts can be more focused on maximizing value. Often, the result is a Preventive Maintenance (PM) Program that is less costly and more effective in maintaining system availability and long-term asset protection.

Indeed, the steady increase each year in the budgeted amounts for maintenance expense may begin to ease as the RCM strategy and preventative maintenance projects, including ongoing capital projects, contribute to a different mix of projects in the current expense budget at a somewhat lower total cost.

Deer Island Maintenance Spending

Of Deer Island's $13.88 million maintenance expenses, 63% is for maintenance services, the remaining 37% for maintenance materials. Spending is level-funded from the FY10 budgeted amount.

The largest category of expense within the Deer Island maintenance budget is for plant and machinery maintenance totaling $8.15 million. Together, plant and machinery materials and services represent nearly 60% of all Deer Island maintenance expense.

Deer Island Proposed FY12

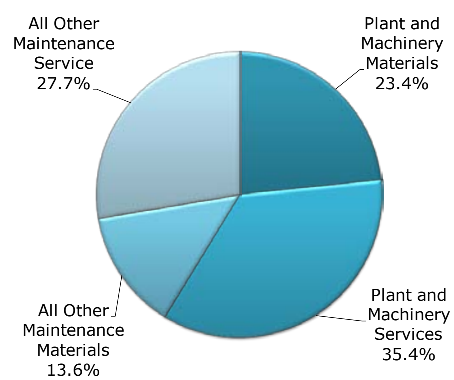

Chart 21

The budget for maintenance services totals $8.75 million and has two distinct groupings: specialty services ($5.43 million) and project services ($3.32 million). Projects are gradually shifting to more predictive and preventive maintenance, and less corrective maintenance.

Examples of projects planned are: energy demand management program, boiler related services, PICs related services, pipe cleaning, centrifuge maintenance, maintenance of the CTGs, HVAC related services, rebuilding of reactor mixer gearboxes, large motor repairs, refurbishment of another two digester mixer assemblies, repair of hypochlorite trays and replacement of elevator controllers. Also planned are motor repairs, ongoing painting and coating of facilities, and maintenance of the wind turbines, among many other projects.

Deer Island capital projects represent nearly $210 million for over 60 contracts in the Capital Improvement Program for the cap period (FY09-13). Capital spending on the plant grew rapidly between FY09 and FY10, more than tripling from $14.2 million to nearly $56 million. Spending on the plant from FY11 - FY13 averages $46.5 million per year.

Two large contracts dominate Deer Island capital spending: Primary and Secondary Clarifier Rehabilitation ($59.54 million, awarded January 2009) and North Main Pump Station Variable Frequency Drive (VFD) Replacements ($46.0 million of which $27.9 million is budgeted for the cap period; the contract was to have been awarded in fall 2010 but is now expected during the summer 2011). Together these two contracts represent nearly 45% of all Deer Island capital spending during the cap period.

Another six contracts with spending greater than $10 million bring the total to just over $140 million. They are: Electrical Equipment Upgrade ($15.0 million, of which $14.4 million is budgeted for the cap period), HVAC Equipment Replacement ($16.0 million, of which $2.93 million is budgeted for the cap period), Digester Pipe Replacement ($11.5 million), Heat Loop Pipe Replacement ($11.5 million) and Power System Improvements ($10.74 million), and Clarifier Rehabilitation Phase 2 ($28.5 million, of which $4.1 million is budgeted for the cap period).

Energy projects, such as wind turbines, are budgeted as part of the Alternative Energy Initiatives under Business and Operations Support.

Table 23

Top Deer Island Projects During FY12-13
($ millions)

Projects	Amount	Comments
Top Deer Island Projects, Over $2 Million		
North Main PS VFD Replacement	$25.60	
Digester Mods 1&2 Pipe Replacement	$8.51	
Prim & Sec Clarifier Rehab	6.20	
Power System Improvements	6.18	
Clarifier Rehabilitation Phase 2	4.10	
Digester Sludge Pump Replacement	2.90	
South System PS Lube System Replacement	2.78	
Electrical Equipment Upgrade 4	2.60	
DI Switchgear Replacement - Construction	2.58	
HVAC Equipment Replacement	2.35	Does not include construction costs
Centrifuge Backdrive Replacement	2.18	
Fuel Transfer Pipe Replacement - Construction	2.08	
subtotal	**$68.08**	
All Other Active Projects During FY12-13	**$27.63**	
TOTAL	**$95.71**	

Field Operations Department

Maintenance work performed by the Field Operations Department is budgeted at $10.5 million for FY12. The amount represents an increase of $1.1 million or 11.6% over the FY11 budget of $9.4 million. It reflects a $436,000 net increase in major projects and parts, a $275,000 net increase in day-to-day project needs (such as meter batteries) and an increase of $94,000 in service contract spending (including increases for instrumentation services, maintenance services for the new PIMS contract, overhead door maintenance and alarm services) and an increase for energy initiatives of $287,000 and include HVAC and lighting improvements at a number of facilities including Chelsea.

A series of asset management projects are budgeted in the CIP under Interception and Pumping Asset Management (for wastewater projects) totaling $33.72 million for the period FY12-13 and under Other Waterworks Projects/Waterworks Facility Asset Protection (for waterworks projects) totaling $0.447 million for the two-year period, FY12-FY13. As facilities age, these projects will include more specific facility based projects and contracts, particularly for the Water Treatment Plant.

Table 24

Field Operations Department Wastewater Asset Protection Projects With Spending During FY12-13
($ millions)

Project	Amount	Comments
Headworks Upgrades Construction	11.61	Under review, total last estimate $81.3 million to start FY13
Nut Island Mech & Elec Replacements	3.67	
Alewife Brook PS Rehab Construction	2.88	
NIH Electric and Grit and Screenings	2.06	
Headworks Upgrade CM Services	2.00	
PS/CSO Condition Assessment	2.00	
Headworks Upgrades Design	1.95	Awarded June 2010
Prison Point HVAC Upgrades	1.46	
Prison Point and Cottage Farm CSO Rehab Design	1.00	
Subtotal (Top 10 Projects)	**$28.63**	**Accounts for nearly 85% of FY12-13 spending**
All Other I&P FAMP	$5.09	
Total I&P FAMP during FY12-13	**$33.72**	Total contract cost is $86.9 million; remainder after FY13

A number of other waterworks pipeline and facility maintenance and rehabilitation projects are included under the category of Distribution and Pumping. Some $31 million is included in the CIP during the FY12-13 cap period. One of the largest contracts is the Southern Spine Distribution Mains, Section 107 - Phase 2 contract at just under $14 million with FY12 and FY13 spending budgeted at $3.17 million.

Residuals Maintenance

The Authority is budgeting $941,678 in the CEB for maintenance work at the residuals pelletizing plant at Fore River during FY12. Most of the funding, nearly $931,678, is for capital repair, replacement and improvement projects as called for in the New England Fertilizer Company (NEFCo) contract (which includes a specific level of maintenance work each year, adjusted for inflation). Work includes RTO insulation repairs.

The CIP includes $4.6 million for capital projects, studies and design contracts for the FY09-13 timeframe and anticipates significant future spending on elements of the plant, estimated at $147.9 million. Much of this projected spending – $83 million – is scheduled in the years after the next cap (FY14-18) period. But more than $60 million is budgeted for the FY14-18 timeframe. The pellet plant is the second largest in the country (after Chicago).

Initial steps in framing the direction of future improvements or modifications to the plant include two studies currently underway. The first, a condition assessment of the pelletizing facility, started in March 2009, at a cost of $460,000. The consultant is assessing various facility support utilities and the condition of all major facility assets, as well as developing estimates of the useful life of the plant assets and recommendations for possible equipment replacement. Draft reports are being prepared and the project is expected to be completed by the summer. The second study is an assessment of technology and regulatory trends. The contract has been out for bid, but is not yet awarded. The study is expected to last nine months and cost $600,000. It is expected to result in a conceptual plan to optimize the existing residuals processing operation and identify long-term capital improvements, extending the useful life of the processing facilities for another 15 to 20 years.

The results of both studies are expected to help shape an updated approach to the capital project needs of the residuals program (including possible projects for residuals processing facilities at Deer Island) for the FY13 CIP. The CIP also includes $4.0 million for design of upgrades for the residuals facility, to begin January 2012.

Clinton Wastewater Treatment Plant Maintenance

The Authority is budgeting $216,040 in the FY12 CEB for maintenance of the Clinton Wastewater Treatment Plant. The amount includes buildings and grounds maintenance supplies and services, an emergency pump for wet weather and plant and machinery materials and services. Also included is $65,000 for major projects, including a mixer for soda ash, and two fabric belts for both filter presses.

The capital program includes $4.47 million for projects during the FY09-13 period, including funding for a digester cleaning and repair project, plant-wide concrete repair and aeration efficiency improvements. The Authority projects $4.0 million of that amount will be accrued in FY12 and FY13. In addition, a project to provide increased phosphorus removal, as may be required by the next NPDES permit, is now included; the capital cost estimate is $3.5 million with $1.095 million in spending during the current cap period. Additional operating costs related to this project are projected to be $130,000 annually plus increased costs for solids handling, transportation and landfilling.

With the growing costs of additional anticipated regulatory requirements and the growing gap between the $500,000 provided by the Commonwealth for operating expenses at the plant, as compared to the $1.67 million budget for FY12, the Authority needs to seek other ways to contain the costs of the Clinton Wastewater Treatment Plant. Indeed, the Authority also accounts for allocated costs of support from other departments and divisions of the Authority, such as Law and Procurement, which total $344,071, bringing the total costs of operating the Clinton plant to $2.1 million in FY12.

The Authority should establish a source reduction program setting additional limits to discharges to the Clinton Wastewater Treatment Plant, not just for phosphorus, but for other components of plant influent as well. Such reductions could, in turn, reduce the need for chemicals such as aluminum sulfate (used to treat phosphorus), for which a new and more stringent limitation is now proposed in the draft NPDES permit. The previous NPDES permit expired in September 2005 and has been administratively continued since that time.

Capitalization Policy

The Authority's capitalization policy states that: "Expenditures for tangible assets are included in the Capital Improvement Program and Budget if the expected cost of the individual asset or capital project is $100,000 or more and if the expected useful life is more than one year. Expenditures for intangible assets are capitalized if the expected cost is $100,000 or more and if the expected benefit period is three years or more. Annually recurring costs and expenditures for maintenance of assets are not capitalized, even if their costs may exceed $100,000."

The policy is subject to interpretation. One recent example is a Deer Island roof replacement project, which, unlike earlier phases, was a larger project involving several facilities with a cost of $2.3 million in FY09 and $1.23 million in FY10. The project had been budgeted in the CEB, but the project has since been assigned to the CIP.

Authority staff continues to review the capitalization policy and approaches to asset capitalization.

Table 25

Proposed Fiscal Year 2012 **Utilities Summary** ($s)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Electricity	$18,249,213	$16,975,992	($1,273,221)	-7.0%
Most facilities are powered by Electricity including DITP and CWTP.				
Diesel Fuel	2,496,313	2,566,978	70,665	2.8%
Heating, CTGs at DITP, and other backup generators.				
Water	1,735,990	1,783,994	48,004	2.8%
A "pass-through" cost to account for Water; self-supplied.				
Natural Gas	665,073	596,565	-68,508	-10.3%
Primarily used for heating various MWRA facilities				
All Other Utilities	168,145	186,532	18,387	10.9%
Oxygen, #2 Fuel Heating Oil, Propane, and all Other Utilities.				
TOTAL UTILITIES EXPENSES	**$23,314,734**	**$22,110,061**	**-$1,204,673**	**-5.2%**

Other Highlights

- Utilities expenses decline 5.2%, largely due primarily to reduced electricity usage at Deer Island and lower pricing for the new interval accounts in Field Operations.
- Utilities costs represent 10.5% of all direct expenses.
- Electricity prices in New England are driven by natural gas pricing rather than oil pricing.
- 60% of purchased electricity (kWh) powers the Deer Island Treatment Plant.
- Diesel fuel expense is essentially level-funded.

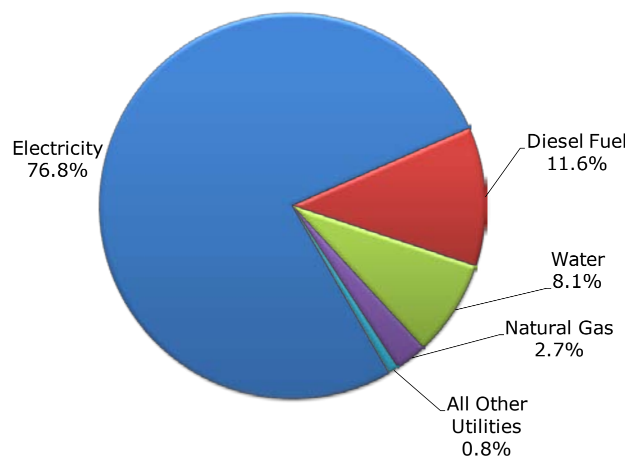

Chart 22

- Natural gas use at the Fore River pelletizing plant is part of the NEFCo monthly charge, under the Other Services budget category.

Overview: Utilities

At $22.1 million, the cost of Utilities is 10% of all direct expenses. The proposed budget represents a 5.2% reduction from the $23.3 million budgeted for FY11, a reduction of $1.2 million. Most notable is the $1.27 million reduction in purchased electricity, a decline of 7%. Water is a transfer cost; more than 77% of the dollar value of water charged is at the Deer Island Treatment Plant.

<u>Electricity</u>

Electricity costs, which make up just over 75% of all utilities expense for FY12, total just under $17.0 million. There are two components of electricity expense: the amount of electricity purchased and the unit price of electricity purchased. Of that, just over 60% of electricity expense is for the Deer Island Treatment Plant (see Chart 233).

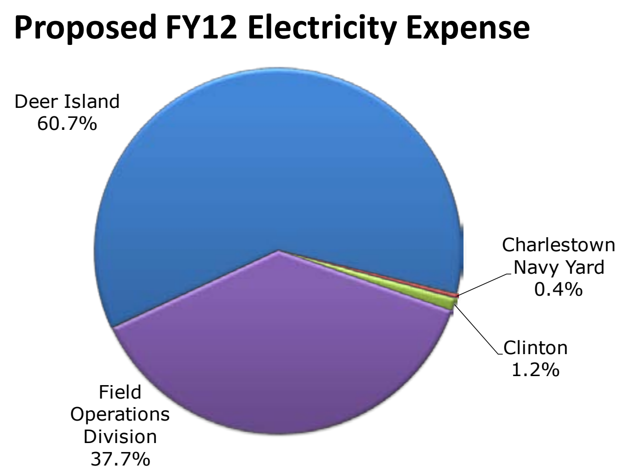

Chart 23

Usage

There are three components of usage: required usage – the total amount of electricity actually needed to run operations; avoided purchase – self-generated energy from alternative sources used for operations (e.g. wind, solar, STGs); avoided use – demand-side changes; and reductions of use (e.g. energy-efficient equipment replacement).

The Authority's required usage has remained fairly constant over recent years but has declined slightly due to the continued pursuit of demand-side initiatives or installation of self-generation facilities (solar, wind, and hydropower).

The Authority's proposed FY12 budget indicates that it expects 29% of Deer Island's electricity to be self-generated. In addition, required use is projected to decline by another 500,000 kilowatt hours. Required use has declined by 6.2 million kilowatt hours in the last four years. There are five sources of self-generation at Deer Island: the largest category is the steam turbine generators, followed by the combustion turbine generators, hydropower turbines, wind and photovoltaic. Together, these sources are expected to contribute 42.6 million kilowatt hours of the required 160.8 million kilowatt hours. Total purchased electricity has declined by over 18.5 million kilowatt hours in the last four years.

Additional wind capacity is being installed at Deer Island – a third turbine is being tested and should be operational soon. An initial 150,000 kWh of production is assumed for FY12. Additional solar installations are also in progress, with output assumed to increase by 60% (just over 300,000 kWh) in FY12.

The Authority has also sought to reduce the amount of electricity needed to conduct its operations – avoided use – by pursuing a number of demand-side changes and initiatives. A series of energy audits and lighting retrofits at various locations is being pursued. A number of projects at Deer Island are planned or are underway. The budget assumes the benefit of 500,000 kWh of output in

FY12 resulting from the Electrical Upgrade 3 project. Out for bid is a contract to replace the variable frequency drives at the North Main Pump Station, which, when completed, is expected to result in annual cost savings of $187,000. Another five projects will contribute an estimated $400,000 in annual savings when completed.

Pricing

The second component of the Authority's electricity costs is unit pricing. The Authority has some contracts that utilize fixed pricing. At Deer Island the supply contract awarded last spring has a base block component and variable pricing for the remainder. Budgeted price for FY12 is assumed to rise by 1% to $0.09/kWh as compared to FY11 pricing. The contract for purchased electricity for Deer Island is currently out for bid as is the contract for the profile accounts. Bids are due in mid-May.

<u>Diesel Fuel</u>

At $2.57 million, diesel fuel expenses make up almost 12% of the utilities budget. Expense for diesel increases 3% ($71,000) from the FY11 CEB. Fuel costs for the vehicle fleet are budgeted under other materials, vehicle expense.

Diesel fuel costs at Deer Island are largely a function of assumptions about starting inventory, purchased amounts and timing of purchases.

Almost all diesel expenses for FOD are for wastewater operations: pumping, headworks, and CSOs, and are utilized largely for heating.

The largest category of use of diesel fuel at Deer Island is for wet weather operation of the CTGs. The use of the CTGs during wet weather events arose following power outages at Deer Island in 2004 and 2005. Since then, the Authority has invested tens of millions of dollars in equipment repairs and upgrades, undertaken staff training, changed operating procedures, and hired new electricians. The Authority is much better positioned than before to avoid new outages or to start up the CTGs more quickly and reliably in the event of an outage in the future. In February 2010, the Authority experienced an outage and was able to restore power within minutes.

The Authority currently assumes purchase of 450,000 gallons of diesel fuel at $2.50 per gallon for Deer Island. Pricing and quantities will be updated for the final budget.

Table 26

Proposed Fiscal Year 2012 **Other Services Summary** ($s)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Pelletization	$14,041,266	$14,190,689	$149,423	1.1%
NEFCo contract to process and dispose of sludge pellets				
Lease	3,393,575	3,595,048	201,473	5.9%
Charlestown ($1.68 million), Chelsea ($1.76 million), Marlborough Records Center ($95.8 thousand).				
Telephone	1,399,485	1,394,486	-4,999	-0.4%
Voice and data lines; Operations Division				
Grit and Screenings Removal	931,845	959,204	27,359	2.9%
Removal of grit and screend materials from various facilities.				
All Others	2,841,766	2,893,070	51,304	1.8%
Printing, membership dues/subscriptions, advertising; health/safety, police details; Advisory Board operations; various other services.				
TOTAL OTHER SERVICES EXPENSES	**$22,607,937**	**$23,032,497**	**$424,560**	**1.9%**

Other Highlights

- New England Fertilizer Company pelletizing contract runs from FY01-FY16. The budget is based on processing 106 tons per day, plus a 2% increase due to inflation adjustments.
- Lease costs include the Charlestown and Chelsea facilities and Marlborough records center. The Chelsea facility costs increase for lease payments and taxes.
- Grit and screenings are removed from Deer Island, headworks including Nut Island, certain pump stations, and CSO facilities. Tonnages decrease slightly but an increase in unit costs is assumed when contract is renewed this spring.

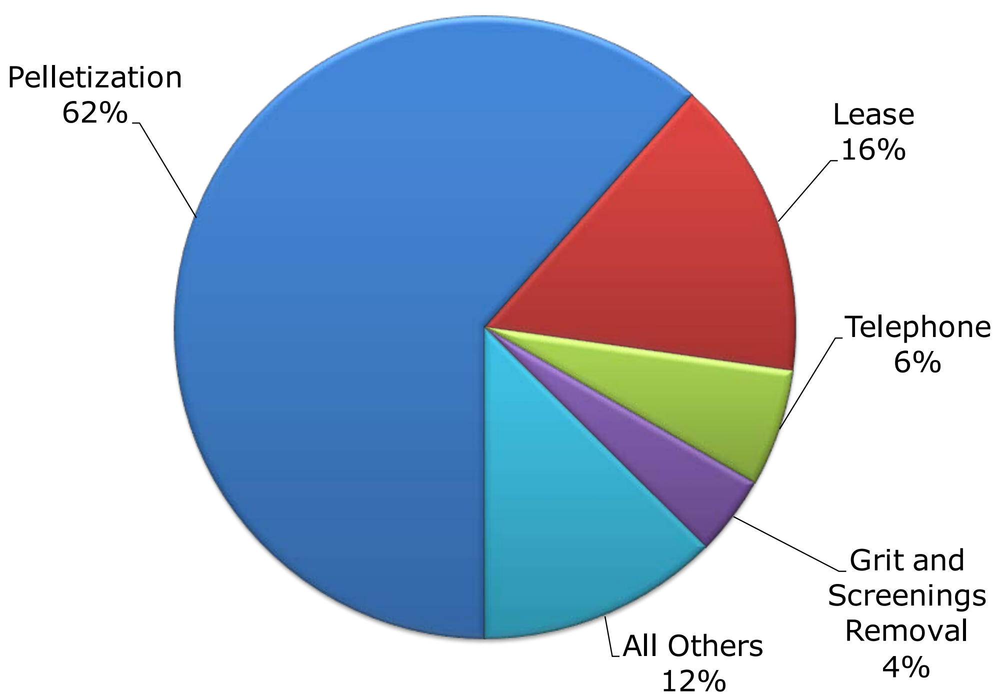

Chart 24

Overview: Other Services

The largest driver of the other services category of spending is pelletization, which makes up nearly two-thirds of total category spending. Pelletization costs must be discussed in two contexts – in the short-term through the end of the current NEFCo contract, and the long-term costs beyond FY16. Short-term costs are directly tied to the amount of sludge processed, and the long-term costs are to be addressed through two projects in the CIP. Regarding the other line items in this category of expense, the Authority has largely had success in recent years in reducing costs. One other area of note is a discussion of the police details line item.

Pelletization

Pelletization is the largest component of the other services category of expenses. The Authority is proposing a budget of $14.19 million for FY12, a 1% (nearly $150,000) increase from the amount budgeted for FY11.

The issue of pelletization costs should be addressed in two timeframes: the short-term costs under the current NEFCo contract, and the long-term costs after the contract expires in FY16.

In the short-term, the only method of controlling pelletization costs is to reduce the amount of residuals being processed. The Proposed FY12 CEB includes an assumption that 106 tons-per-day (TPD) will be processed, the same assumption as for FY10 and FY11. Staff has estimated that for tonnages over the 90 tons per day base amount in the contract, a reduction of 1 TPD on an annual basis would be equivalent to the reduction to pelletization costs of $100,000 per year.

It should also be noted that one component of the pelletization costs is governed by adjustments to the Producer Price Index (PPI). Updated assumptions can be expected to be reflected in the final FY12 CEB.

Additionally, there are many long-term issues to consider with the Fore River facility. Most important will be the new costs associated with pelletization after the expiration of the NEFCo contract. Currently, the contract is financially beneficial for the Authority, particularly with the elimination of barging costs. NEFCo, or any other bidder, will undoubtedly seek a contract with a more favorable contract structure for the vendor. This means that costs for pelletization could increase post-FY15, depending on the structure of the contract.

This upcoming change may, however, provide the opportunity for the Authority to reexamine how it handles its residuals processing as a whole. As the Advisory Board has noted in previous *Comments*, some topics that could be considered include a cost-benefit analysis of continuing to privatize the function versus managing the process in-house, or perhaps considering the processing and disposal functions separately, contracting out for one, while retaining the other in-house.

The Proposed FY12 CIP includes a two-phased project that will be critical to these considerations. The first phase is a condition assessment of the current Fore River facility. The second phase will identify and evaluate any emerging or alternative technologies for pelletization and processing. Award of this second phase is pending. The technology study should provide important information on options for moving forward. **Revisit plans for conducting the residuals technology study and award or rebid the planned contract.**

It should be noted that the Proposed FY12 CIP and Master Plan both include placeholder projects for any capital improvements identified in the condition and technology assessments. The Advisory Board expects that these projects will be more fully discussed with the next update of the Master Plan, which would need to be completed in FY12 for use in setting the next capital spending cap during FY13 (the Proposed FY14 budget process).

Lease

The portion of this line item attributable to the Chelsea lease pertains specifically to the operating and tax costs associated with the facility. Regarding the other facilities and leases, the Authority has continued to monitor its facility needs, reducing unnecessary leased space and lease costs. The Advisory Board expects that the Authority will continue monitoring this item for any potential reductions and savings.

Also included in lease expense are the costs of the Charlestown Navy Yard space, rental of some garage space, and lease of space in Marlborough for the Records Center, for a total proposed budget of $3,595,048.

Telephone Expense

The Authority is proposing a budget of $1,394,486 for telephone-related expense in FY12, little changed from the FY11 budget. Much as with lease costs, the Authority has continued to monitor this expense and reduce it whenever possible by consolidating telephone accounts. This expense is used not only for voice data lines, but also by several remote facilities.

Grit and Screenings

The Authority's proposed budget of $0.96 million for grit and screenings expenses increases 3% from the FY11 budget. The proposed budget amount is based on slightly lower quantities (approximately 6,000-6,500 tons) and an increase in unit costs from a new two-year contract to be approved in May 2011.
The contract is to haul and dispose of minor residuals from various MWRA wastewater facilities. Minor residuals are by-products of wastewater pre-treatment and primary/secondary treatment processes and include grit, screenings and scum screenings. A third of the amount is collected at Deer Island and the balance is from various other wastewater facilities, including Nut Island and the other headworks, CSO facilities, pump stations and the Chelsea Creek Screenhouse.

Police Details

The Proposed FY12 CEB includes $0.362 million for police details, which represents an increase of $41,000 (13%) from the police details budget for FY11. Spending through April has been close to budget.

Last year, the Advisory Board remarked upon an executive order of the Governor to use flaggers instead of police details on state construction projects; specifically, concern was raised that the attempts to follow the new regulations were compromising the Authority's maintenance programs due to protests by local police at MWRA worksites. The Advisory Board commends the Authority for taking the practical steps necessary to bring its maintenance program back on schedule with regard to this issue.

Table 27

Proposed Fiscal Year 2012 **Chemicals Summary** ($s)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Soda Ash	$3,244,448	$3,371,810	$127,362	3.9%
Used primarily at the CWTP; some at Clinton WWTP.				
Sodium Hypochlorite	2,374,386	2,573,017	198,631	8.4%
Used for treatment at DITP ($1.6 million) and CWTP ($0.9 million). Increase driven by fuel prices for trucking to DITP.				
Hydrofluosilic Acid	1,005,553	609,496	-396,057	-39.4%
Fluoride control at CWTP. Reduced federal dosing reccomendation ($248 thousand).				
Liquid Oxygen	598,814	504,515	-94,299	-15.7%
Ozone generation at CWTP. Reduced quantity anticipated with operational changes in preparation for UV.				
Sodium Bisulfite	540,549	859,264	318,715	59.0%
For dechlorination of treated wastewater and water. Price increase and usage increased for new NPDES permit requirements.				
Ferric/Ferrous Chloride	409,241	521,098	111,857	27.3%
For struvite control at DITP.				
Activated Carbon	298,960	298,960	0	0.0%
For odor control at DITP.				
Carbon Dioxide	288,900	285,120	-3,780	-1.3%
To increase pH and alkalinity level of water suppply at CWTP.				
Polymer	257,527	253,062	-4,465	-1.7%
Sludge thickening at DITP and Clinton.				
All Other Chemicals	778,740	741,203	-37,537	-4.8%
For algae control; corrosion control in Framingham Relief Sewer and DITP.				
TOTAL CHEMICALS EXPENSES	**$9,797,118**	**$10,017,545**	**$220,427**	**2.2%**

Other Highlights

- Proposed chemicals budget is 4.8% of all proposed FY12 direct expenses.
- Chemicals budget increases 2.2% largely due to additional chemicals for enterococcus treatment at Deer Island for the new NPDES permit. The FY11 budget assumed that the new treatment requirements would begin in the fourth quarter; the proposed FY12 budget assumes additional treatment in the second quarter.
- Total Water Operations chemicals: $5,885,450.

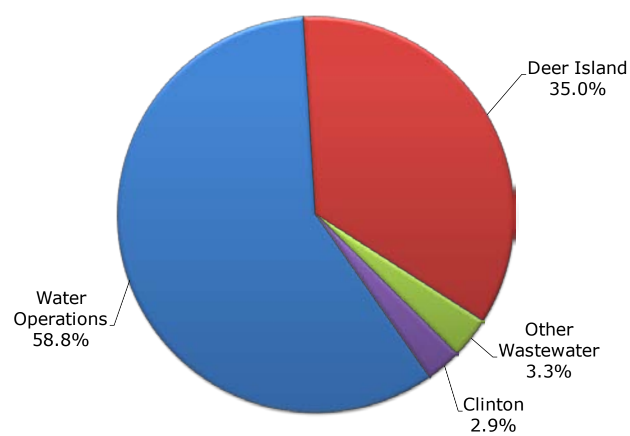

Chart 25

- Total DITP chemicals: $3,506,718.
- Total Other Wastewater Transport Facilities chemicals: $335,352 (the lowest in six years).
- Total Clinton chemicals: $290,024.

Overview: Chemicals

The Authority's proposed budget includes $10.02 million for chemicals, an increase of 2%. The increase is mainly for anticipated new regulatory requirements compliance for enterococcus treatment. The Authority uses more than 17 different chemicals in its process and treatment operations. Water treatment chemicals represent nearly 60% of all chemicals spending; wastewater treatment chemicals at Deer Island, the Clinton Wastewater Treatment Plant, and other wastewater facilities represent just over 40% of the chemicals budget.

NPDES Permit

The National Pollutant Discharge Elimination System (NPDES) permit for Deer Island expired in August 2005, approaching six years ago. Typically, the Authority's proposed CEB's have assumed that the new NPDES permit would be in effect for a full year; however, this year the proposed budget assumes three quarters of the year of higher sodium hypochlorite and sodium bisulfite usage to meet the potential stricter regulatory requirements of enterococcus compliance at Deer Island should a new NPDES permit be put into place during a portion of FY12. Increases are also assumed for the Clinton Wastewater Treatment Plant for a full year of a new permit.

Pricing

Additional risk for future chemicals budgets is price volatility. A number of chemical contracts are out for bid or expire during FY11 and FY12. For example, contracts for sodium hydroxide at various wastewater locations and at Deer Island have recently or are currently out for bid; the proposed budget reflects assumptions for higher prices for these two contracts. The price of sodium hypochlorite at the Deer Island plant is expected to increase. The contract for delivery of sodium bisulfite and sodium hypochlorite for the Water Treatment Plant are also out for bid as of spring 2011. The two chemicals for which pricing is assumed to be measurably higher for FY11 are soda ash and hydrofluosilic acid in Water Operations. *The Advisory Board anticipates that the Authority will adjust chemicals prices to reflect updated pricing and delivery assumptions.*

Usage

Staff continues to implement controls to further optimize usage of chemicals, such as at Nut Island and in the Framingham Extension Sewer. Demand for certain chemicals is also impacted by flow or process conditions, such as the levels of struvite at Deer Island and the need for chemical treatment. Usage of ferric chloride, for example, is expected to increase the chemicals budget for the Clinton Wastewater Treatment Plant. Usage of fluoride is expected to go down due to regulatory changes. ***The Advisory Board expects the Authority to continue monitoring operations for potential dosage modifications and update quantity assumptions accordingly.***

Table 28

Proposed Fiscal Year 2012 **Professional Services Summary** ($s)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Lab and Testing Analysis	$1,632,736	$1,627,836	-4,900	-0.3%
Primarily harbor and outfall monitoring; some specialized outside lab services.				
Security	1,616,908	1,606,247	-10,661	-0.7%
Security and guard contracts.				
Engineering	907,996	873,000	-34,996	-3.9%
Specialized outside services such as dam inspection; beach nourishment studies for Deer Island; as needed engineering support.				
All Other Professional Services	1,803,868	1,555,358	-248,510	-13.8%
Legal Services, Audit Services, Local Limits Study, Communications; energy audits				
TOTAL PROFESSIONAL SERVICES EXPENSES	**$5,961,508**	**$5,662,441**	**-$299,067**	**-5.0%**

Other Highlights

- Professional services expenses have continued to decline over time. Professional services expenses in the proposed FY12 CEB are $1.8 million less than budgeted five years ago.
- Harbor and Outfall Monitoring (HOM) costs are linked to the NPDES permit. If a new permit comes into effect in FY12, a reduction in this line item is possible.
- Security services is budgeted at close to the FY11 amount, $1.6 million, and is nearly 30% of the Professional Services budget.
- All other professional services includes trustee and financial advisor services for the Finance Division; insurance consultant services; energy consulting services; technical and professional development services for human resources; workers' compensation claims administration fees; legal services; audit services; communications including funding for WAC and WSCAC. Includes Local Limits Study updates for the anticipated new NPDES permits for Deer Island and Clinton.

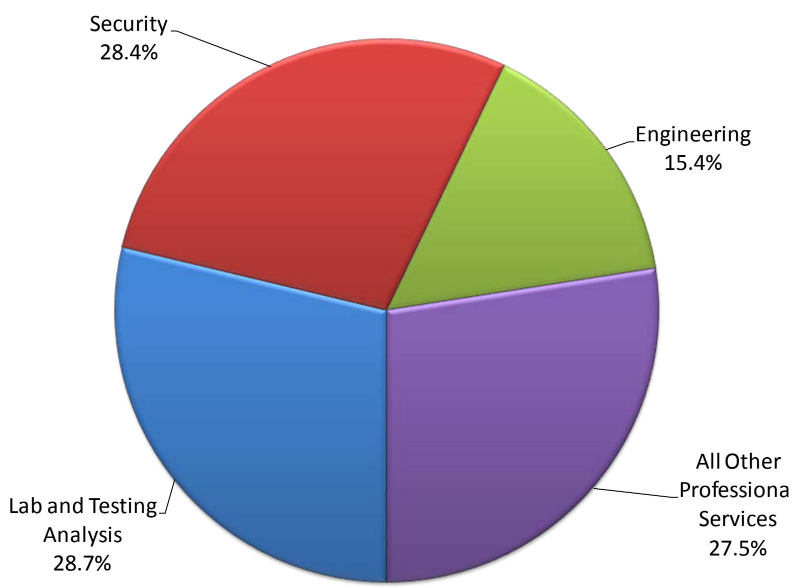

Chart 26

Overview: Professional Services

Reductions in several categories of professional services expense in recent years, most notably Laboratory and Testing Analysis and Security, have resulted in a proposed budget of $5.66 million, the lowest in at least five years. This is true, too, for these two largest categories, and has resulted in a shift in the relative share of all professional services spending, making security services now nearly as much as Laboratory and Testing Analysis.

Security Services

The proposed budget for professional services relating to the Office of Emergency Preparedness (OEP) is $1.61 million, a reduction of 1% ($10,661) from the FY11 budget and covers the costs of the security services contract for a number of Authority facilities. The Authority has worked to refine and reduce costs, and achieve scheduling and shift related efficiencies.
It should be noted that capital security costs are now almost entirely included as part of each individual capital project.

Lab and Testing Analysis

Over the years, the Advisory Board has supported the reconsideration of the shape, scope and budget for harbor and outfall monitoring (HOM) activities and the inclusion of the contingency plan in the NPDES permit.

The ENQUAD budget for professional services grew from $3.04 million in FY01 to $4.35 million in FY03, the highest year for the department. The first major review of the monitoring plan took place in 2003 and resulted in about $900,000 per year in savings. Spending has since gradually declined to below $3 million in FY07. In FY10, a reduction in the scope of HOM activities was implemented based on the favorable findings of nine years of monitoring data and approval by the regulatory agencies. The Authority reports that MWRA will save approximately $800,000 per year in monitoring costs due to the changes. The Authority noted that some discretionary spending was eliminated, several studies completed, and some monitoring was redesigned for improved efficiency. Other cost reductions have resulted from bringing some of the work in-house and from making modifications to the ambient monitoring plan.

The proposed budget for FY12 is $1.567 million, a less than 1% increase from the $1.56 million budgeted in FY11.

The NPDES permit (including the HOM requirements) is more than five years beyond its expiration. By the terms of the permit, the Authority continues to operate under the language of the expired permit until a new one is issued.

Engineering Services

The Authority is proposing a budget of $873,000 for engineering services (a 4% reduction from the amount budgeted in FY11), primarily for as-needed services for the Deer Island and Field Operations Departments as well as a number of services for the Treasury Department and for the Law Division. Funding is also included for the Local Limits Study, assuming that the NPDES permit is issued, and three dam-related projects: dam inspection, appurtenant structures inspection, and inspection technical services related to repairs. (See related discussion under Indirect Expenses, Watershed Reimbursement.)

Table 29

Proposed Fiscal Year 2012 **Other Materials Summary** ($s)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Vehicle Expense	$1,002,143	$985,567	-16,576.00	-1.7%
Bulk gasoline, diesel purchases, mileage reimbursement, and some toll fees.				
Lab and Testing Supplies	757,324	744,685	-12,639.00	-1.7%
Supports Central Lab and TRAC.				
Vehicle Purchase/Replacements	600,000	800,000	200,000	33.3%
Purchases of vehicles and equipment under $100,000.				
Equipment/Furniture	375,230	402,230	27,000	7.2%
Miscellaneous equipment and furniture.				
Computer Hardware	505,494	360,892	-144,602	-28.6%
PCs, printers, plotters, and scanners.				
Office Supplies	184,301	180,339	-3,962	-2.1%
Office supplies including paper.				
All Others	1,187,824	1,214,934	27,110	2.3%
Includes postage, work clothes, and health and safety materials.				
TOTAL OTHER MATERIALS EXPENSES	**$4,612,316**	**$4,688,647**	**$76,331**	**1.7%**

Other Highlights

- Other materials spending is almost level-funded with a 1.7% increase from FY11.
- Vehicle purchase and replacement increase slightly by $200 thousand.
- Computer hardware has decreased by 28.6%, largely due to the purchase of PCs in FY11.
- Office supplies, postage, and lab and testing supplies have all decreased from FY11.

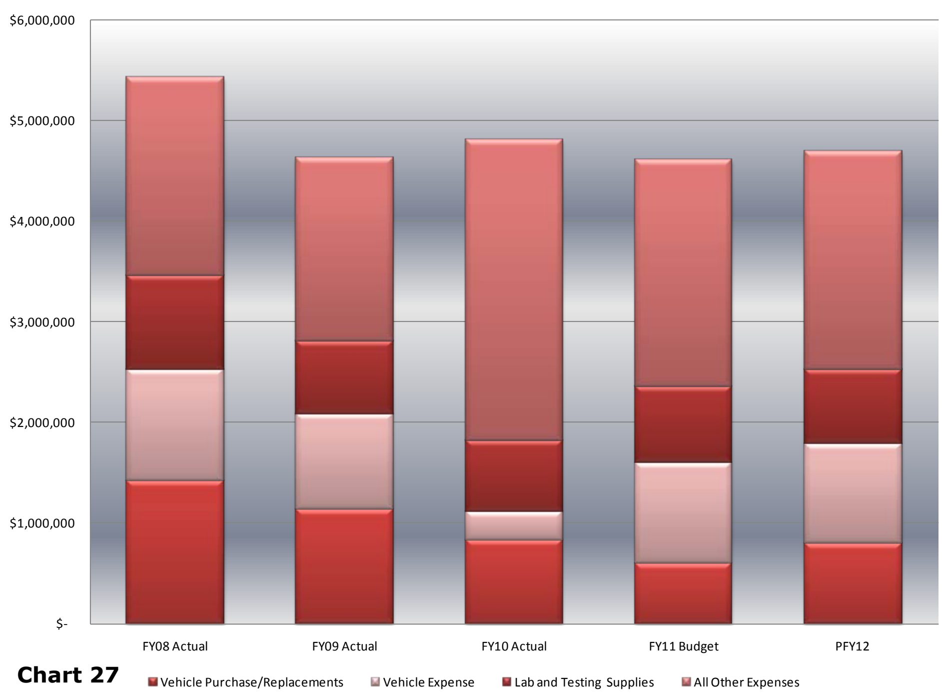

Chart 27

Overview: Other Materials

<u>Vehicle Expense</u>

The Authority is proposing to budget $985,567 for vehicle expense in FY12. The amount includes the purchase of bulk gasoline and bulk diesel, as well as some toll fees. The budget is based on recent fuel usage and fuel costs. The Authority continues to work to reduce consumption of fuel for its own fleet, by reducing idle times. Also, as part of efforts to optimize the fleet, approximately 250 vehicles are powered by fuel other than gasoline.

<u>Lab and Testing Supplies</u>

Lab and testing supplies are budgeted at $744,685 for FY12, a 2% reduction ($12,639) from the FY11 budget. The budget is based on actual supply costs tracked to the individual test level.

<u>Vehicle Purchase</u>

Vehicle purchase expense increases by $200,000 in FY12 to $800,000, close to actual spending in FY10 but below amounts in FY09 and FY08. Over the years the Authority has reduced its fleet by 10% and among other steps has introduced a successful trade down strategy, reduced the number of domiciled vehicles and increased the vehicle pool. Postponed replacement of vehicles increases materials and services costs in the Fleet Services Department.

<u>Laboratory Equipment</u>

Equipment purchases are budgeted at $402,230, a $27,000 increase from the FY11 budget. Replacement equipment and instruments include a sterilizer, glassware washer and autoanalyzer. Large equipment purchases are budgeted in the CIP.

<u>Computer Hardware</u>

Computer hardware spending has been reduced by nearly 30% to $360,892, reflecting purchases of a number of units during FY11 after several years of deferred purchases. The Authority replaced 7+ year old PCs with energy efficient PCs contributing to the green computing model.

<u>Office Supplies</u>

Office supplies are budgeted at $180,339 for FY12. The amount remains the lowest in at least five years, and is an example of the many areas where the Authority continues to tighten spending in virtually every corner of the budget.

Table 30

Proposed Fiscal Year 2012 **Training and Meetings Summary** ($s)				
Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Training and Meetings	$231,783	$260,050	28,267.00	12.2%
TOTAL TRAINING AND MEETINGS EXPENSES	**$231,783**	**$260,050**	**$28,267**	**12.2%**

Other Highlights

- Training and meetings expense is increased by 12.2% and just over $28,000 to $260,050.
- The proposed budget represents an increase to professional training after sharply reduced spending in recent years. Year-to-date spending is nearly 50% below budgeted amounts.

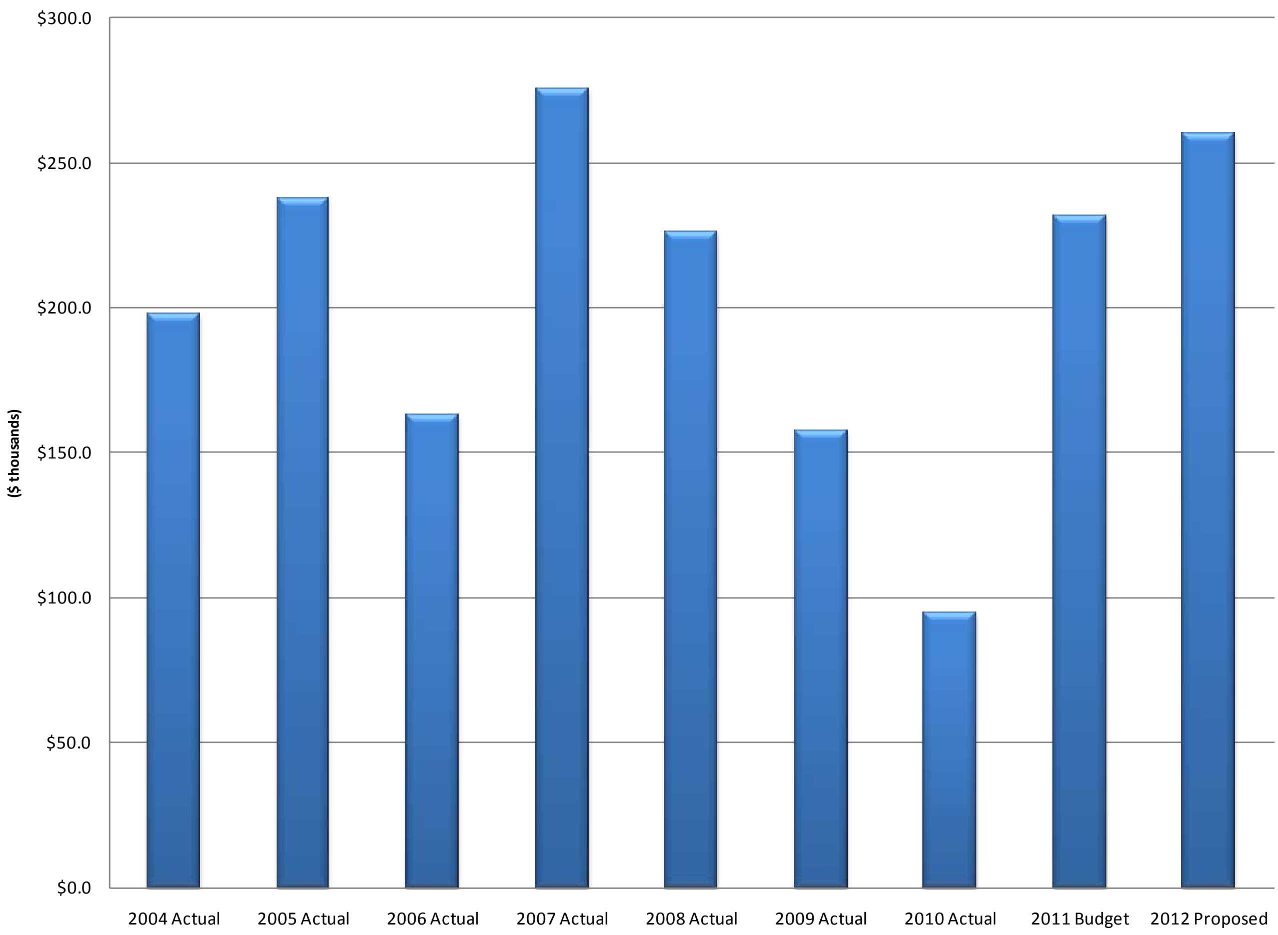

Chart 28

Overview: Training and Meetings

The Authority budgets for training and meetings costs that cover a variety of meetings, seminars, conferences, and training sessions. Most Training and Meeting expenses support maintaining professional license and certifications. Also funded are infrared and acoustic ultrasonic training sessions for Deer Island staff, annual boom deployment training, an annual meeting of the Water Security Congress on the security of drinking water infrastructure, out-of-state site audits, recertification and new technology training for the MIS Department, and law seminars.

The increase is primarily for training in the Field Operations Department on diagnostic equipment associated with the asset management program and on spill prevention and control procedures at operating facilities (as required by regulation).

Table 31

Proposed Fiscal Year 2012
Revenue Summary
($s)

Line Item/Description	*Final FY11*	*Proposed FY12*	*Δ ($s)*	*Δ (%)*
Rate Revenue	$569,800,000	$592,200,000	$22,400,000	3.9%
Revenue generated directly from member communities through annual assessments.				
Other User Charges	7,065,350	7,509,025	443,675	6.3%
From 20 customers including CVA communities; emergency water supply connections, and entrance fees.				
Hydropower Revenue	117,136	279,985	162,849	139.0%
Revenue generated from hydroturbines at Cosgrove.				
Permit Fees	1,946,766	2,020,395	73,629	3.8%
TRAC permit and monitoring fees.				
Penalties	220,000	175,000	-45,000	-20.5%
Issued through the TRAC program.				
Payments from Commonwealth	0	0	0	-
For chemical costs via statute.				
Miscellaneous Revenue	799,842	822,582	22,740	2.8%
Includes revenue from Fore River Railroad, antenna licenses, and other miscellaneous revenues.				
Revenue - Energy	1,609,472	1,227,076	-382,396	-23.8%
Includes Deer Island and CWTP demand-response payments; renewable portfolio credits for Deer Island.				
Other Revenue Subtotal	4,693,216	4,525,038	-168,178	-3.6%
Rate Stabilization	5,029,744	3,525,576	-1,504,168	-29.9%
From rate stabilization fund.				
Investment Income	15,309,902	13,904,635	-1,405,267	-9.2%
Interest on both short- and long-term investments.				
TOTAL REVENUE EXPENSES	**$601,898,212**	**$621,664,274**	**$19,766,062**	**3.3%**

Other Highlights

- Rate revenue is proposed to increase by 3.93% and is 95.3% of all revenue.
- Rate stabilization fund drawdown is reduced by 30% from $5.03 million in FY11 to $3.5 million in FY12.
- The Authority projects that current rate stabilization funds will be fully utilized by FY17.
- The Authority assumes a short-term investment interest rate of 0.30% and a long-term rate of 3.5%.

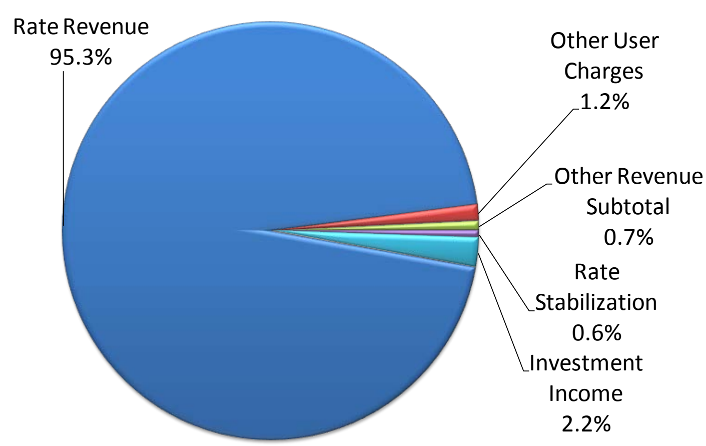

Chart 29

- Chemical cost payments from the Commonwealth of $867,000 have been eliminated since FY10. No funds for Debt Service Assistance are assumed.

Overview: Revenue

The Authority is proposing revenue receipts totaling $621.66 million. Nearly 95.3% or $592,200,000 is to come from rate revenue, the remaining 4.7% or $29,464,274 is to come from other user charges, other revenue, rate stabilization funds, and investment income. (See Chart 29)

Each 1% increase in rate revenue in FY12 represents $5.698 million.

Other User Charges

Other user charges increase 6.3% ($0.444 million) to just over $7.5 million for FY12.

Table 32

Other User Charges		
Fernald School	$88,685	
Commonwealth Zoological (State Zoo)	$29,713	
DCR Pools/Parks	$19,809	
Regis College	$47,616	Individual users of sewer system
NE Center for Children	$12,384	
Lancaster	$219,740	Income relating to Clinton Wastewater Treatment Plant costs
Worcester	$131,778	
Clinton	$500,000	
Chicopee	$2,933,390	CVA Communities
Wilbraham	$617,593	
South Hadley	$635,511	
WTP Residuals	$287,000	From nine water treatment plants
Wilmington	$0	Now part of rate base.
Entrance Fees	$651,427	From Stoughton and Wilmington
Deer Island	$1,334,379	Transfer payment of sewer cost to water revenue
TOTAL	**$7,509,025**	

Among the charges in this category of revenue is $651,427 for entrance fees from Stoughton and Wilmington, as well as payments from individual users of the water or sewer system and from Chicopee Valley communities and communities that are served by the Clinton Wastewater Treatment Plant. (See System Expansion section for additional discussion of entrance fees.)

Other Non-Rate Revenue

Other non-rate revenue totals $4.525 million and includes permit fees and fines, hydropower revenue, energy program revenues and other miscellaneous revenues. The amount represents a net reduction of $168,178 or 3.6% from the $4.69 million budgeted in FY11. Despite increases in anticipated hydropower revenues, the Authority projects a reduction of $396,000 to $526,226 for participation in the load reduction program.

Chemical cost reimbursement payments from the Commonwealth, part of a statewide program to reimburse wastewater plants for the (partial) cost of chemicals used in the treatment process, brought $867,000 in non-rate revenue each year. The payments have been eliminated since FY10. (See Table 31).

The Authority is budgeting $2.02 million for permit and monitoring fees charged to industries and other permitted customers that discharge toxic and other regulated wastes into the sewer system (incentive and other charges program). This amount represents a 3.78% increase from the $1.95

million budgeted in FY11. The Authority, following several years of gradually lower revenue receipts, noted that receipts are a function of the number of industrial users and that the number of photo processors in the service area had decreased as had some large users. During the summer 2009, the Authority updated the regulations to reflect average annual sewer rate increases, required changes from EPA and changes to certain language in the fee regulations to improve clarity. The changes included an across-the-board 4.5% increase to permit and monitoring charges in each of the fiscal years FY10, FY11, and FY12. The Authority estimated that the changes will generate an additional $80,000 in FY10, $165,000 in FY11 and $250,000 in FY12 as compared to FY08 amounts.

Non-Recurring Revenue: Rate Stabilization Fund

The Authority's proposed use of the rate stabilization fund declines by 30% ($1.5 million) to $3.525 million in FY12. Over the years, the Authority has deposited year-end surplus funds into the rate stabilization fund and to the bond redemption fund (the use of which is treated as an offset to debt service – see page 37) and judiciously drawn down these funds to ease the pace of rate revenue increases.

The Authority has already reflected in the proposed budget the use of up to $23.6 million for a defeasance transaction scheduled this spring, which will benefit (reduce) scheduled debt service payments primarily in FY14. As noted in the capital financing section, the Authority has typically not included any planned defeasance in its proposed budgets in years past. That they have done so this year again points toward the relatively "tight" budget it has submitted for review.

Additionally, in anticipation of increased debt service payments for upcoming years, the Authority during the spring 2010 completed the restructuring of $75 million to provide budgetary savings for FY11, FY12, and FY13. With capital financing expense projected to rise by $134 million between FY 2011 to FY 2015, the use of these stabilization funds will play a significant part in controlling even higher rate revenue requirements.

Indeed, a preservation of rate stabilization and bond redemption funds was a primary consideration for the Authority when proposing the Targeted Rate Relief Restructuring (TRRR). Of concern to the Advisory Board was the looseness of the terminology surrounding the rate stabilization and bond redemption funds as compared to the Authority's much more substantial and formally structured reserves. The Advisory Board feels it is important to make clear this distinction: rate stabilization and bond redemption funds are not reserves in the same manner as the Authority's other reserves. The rate stabilization and bond redemption funds are made up of previous years' surplus funds. In essence, they are the sum total of overcharges to cities and towns when rate revenue exceeded budgeted expenditures for the year.

It should also be noted that like bond redemption funds, Debt Service Assistance funds (when available) are treated as an offset to debt service expense (see page 37). The FY12 state budget in conference committee as of this publication recently released this spring, includes $500,000 for the statewide Debt Service Assistance program.

Investment Income

The Authority is assuming investment income of $13.9 million in FY11, a reduction of $1.4 million or 9% from FY11.

Sharply dropping interest rates are the reason for the dramatic multi-year decline in this key source of non-rate revenue (see Chart 30). The Authority is assuming interest rates associated with short-term investments at 0.30% and 3.5% for long-term investments. A change of 25 basis points is equivalent to $1.2 million.

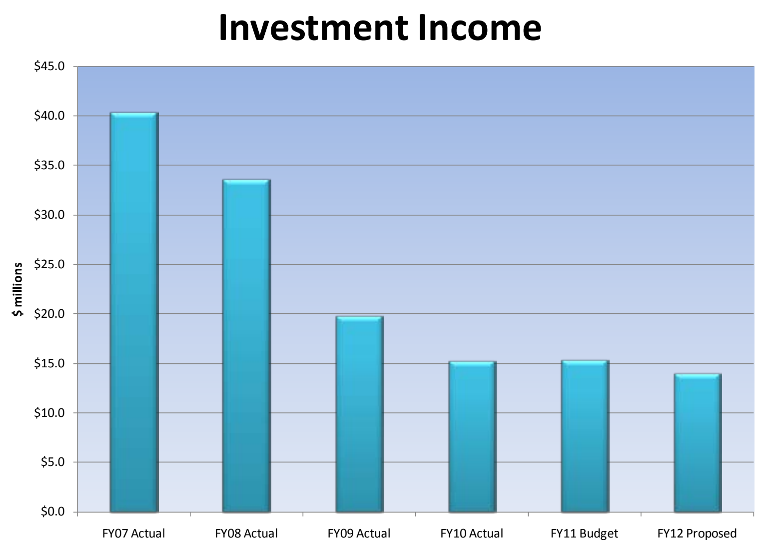

Chart 30

Rate Revenue

The Authority is proposing rate revenue receipts of $592.2 million – an increase of 3.93%, or $22.4 million. The amount is 95.3% of the Authority's proposed total revenue.

Despite many efforts – the major restructuring transaction of January 2007, more recent refinancings and restructuring transactions, and lower capital spending than in the 1990s – rate revenue requirements continue to rise. This is due to continued measurable increases in annual debt service payments on the borrowings previously issued to support the capital program. According to the projections that accompany the proposed FY12 Current Expense Budget, rates are expected to rise by another nearly $190 million by FY 2016.

Additional Sources of Revenue

According to the Authority's current projections, rate revenue approaches $951 billion by FY 2020. This represents a 67% increase over the FY11 rate revenue requirement. This only underscores the Advisory Board's position that the Authority needs to continue to explore additional sources of revenue as a means of controlling and reducing the annual rate revenue requirement, as well as continue to use other tools to manage total expenses.

System Expansion

Overview

The Advisory Board has long advocated for judicious expansion of the Authority's water service area. Spreading the costs across an increased user base is an important way to helping communities shoulder projected rate increases.

Hatchery Pipeline Project

This CIP project – the Quabbin Release Pipeline – has been included in the proposed FY12 CIP to transfer oxygenated water to a trout fishery downstream of the Quabbin reservoir, as well as to provide a method for downstream releases. The design and construction combined costs of this project total $2.6 million, with construction scheduled to begin in FY13.

Because this project is tied directly to the discussion of system expansion and the development of a streamlined process, **the Advisory Board recommends that this project be funded through the entrance fees received under the new streamlined system expansion process.**

Incentives to Join the MWRA

Discussions about system expansion have noted that the entrance fee is a barrier or disincentive for some potential member communities looking to enter the system, even while others take no issue with it. Authority and Advisory Board staff have discussed potential options for mitigating this concern. Among potential approaches could be delaying entrance fee payment (e.g. offering a 5-year grace period before payment); allowing a multi-year payment plan; or waiving interest on said payment plan. Some combination of these approaches could be used or additional methods. **The Advisory Board repeats its recommendation that the Authority explore financial incentives, including but not limited to those described herein, to attract new member communities to the waterworks system.**

Dedicated Streams of Revenue

The Shaft 5A pipe break in 2010 brought into focus the critical, but often forgotten, nature of waterworks infrastructure. While the Authority was able to maintain water pressure and flow for essential services including fire protection, the loss of easily accessible potable drinking water for almost 72 hours crippled many businesses, and negatively impacted over 2 million residents. There is no question the Authority acted in an exemplary fashion, turning what could have been a catastrophic water break into a success story in emergency management; however, the impacts of the water break were negligible to the worst-case scenario should another water infrastructure failure occur in the future. The Authority's Master Plan identified over $1.1 billion in waterworks system needs between FY07 and FY48[21] with ratepayers currently funding 95% of this projected cost. This only serves to underscore the need to develop additional dedicated streams of revenue to meet future infrastructure needs.

Several legislative solutions have been identified or are being pursued:

1) Expansion of the bottle deposit, as recommended in the Governor's budget in 2009, could raise $10 to $20 million each year.

2) A bottle bill tax modeled after Chicago's 5-cent tax on every bottled water container sold could generate up to $65 million annually for statewide water and sewer infrastructure needs.

3) Seek a change in the statute relating to the Commonwealth Sewer Rate Relief Fund to mirror the septic tax credit.

[21] In 2006 dollars, without Community Assistance Programs.

4) Continue to push for Debt Service Assistance even during these difficult economic times. As the economy recovers, over the next few years, seek Debt Service Assistance funding based on the statutory language. Full funding could provide MWRA with more than $60 million per year.

<u>Legislative Changes</u>

An additional change to existing legislation that could benefit the MWRA:

1) Removal of an archaic loophole in the PILOT payment program relating to lands in the Quabbin Reservoir watershed would eliminate duplicate Payments in Lieu of Taxes to watershed communities, saving over $425,000 each year.

Also under discussion has been the possibility of seeking new revenue through the sale of advertising space. Possible locations include the Norumbega Reservoir, along the Massachusetts Turnpike, and Deer Island, with its high visibility in Boston Harbor.

LIST OF APPENDICES

Appendix A

List of Recommendations

1. Reduce the rate revenue requirement for FY12 Current Expense budget by $2,514,000, resulting in a 3.49% wholesale rate increase. (Page 14)

2. Eliminate the other post-employment benefits contribution of $1,851,646. (Page 14, page 44)

3. Reduce the debt service line item by $466,000 to reflect the FY12 benefit of the recent swap amendment. (Page 14)

4. Reduce the debt service line item by $199,700 to account for the additional benefit of the expanded defeasance approved through May 2011, as well as any additional adjustments for any additional defeasance authorized by the Board of Directors. (Page 14)

5. Reduce the budget by $16,184 to reflect the Advisory Board's reduced FY12 budget. (Page 14)

6. Reduce the budget by updating information for various line items (e.g. updated chemical prices, leave balance accrual adjustments, selected maintenance, updated debt service costs to reflect actual borrowings, etc.) and reduce the use of rate stabilization funds to match these corresponding adjustments. (Page 14)

7. Reduce capital spending by at least $25 million/year from the levels in the proposed FY12 CIP expenditure forecasts. (Page 30)

8. Utilize the staffing study to address any other employee compensation issues including salary compression (union employees earning more than their managers) and appropriate salary compensation levels. (Page 39).

9. Identify and report on the effect on the unfunded OPEB liability of increasing the employee contributions to health insurance in future years at different levels and report to the Board of Directors no later than September 2011. (Page 44)

10. Adopt the following as a formal plan to address unfunded liabilities (pension and OPEB) for the purpose of presenting to the rating agencies:

    a. The Authority commits to maintaining its current and aggressive schedule to fully fund its retirement fund by FY2024.

    b. In keeping with the view that the pension and OPEB form one total liability, the OPEB liability will be addressed after the pension has reached full funding. (Page 44)

11. Reconsider the funded level for the insurance reserve, and include excess amounts as one of the tools for addressing management of debt service and rate revenue requirements between now and 2022. (Page 45)

12. Establish a source reduction program setting additional limits to discharges to the Clinton Wastewater Treatment Plant, not just for phosphorus, but for other components of plant influent as well. (Page 50)

13. Revisit plans for conducting the residuals technology study and award or rebid the planned contract. (Page 56)

Appendix A

List of Recommendations (ctd.)

14. Fund the Hatchery Pipeline Project through the entrance fees received under the new streamlined system expansion process. (Page 70)

15. Explore financial incentives to attract new member communities to the waterworks system including, but not limited to:

    a. Offering a 5-year grace period before payment

    b. Allowing a multi-year payment plan

    c. Waiving interest on said payment plan. (Page 70)

Appendix B

List of Comments

1. The Advisory Board and Authority staff expect to convene the Long-Term Rates Management Committee during the summer of 2011. (Page 16)

2. The Advisory Board anticipates that the several categories of expense that can be used to meet coverage requirements as called for in the bond covenants can be revisited and resized as part of the final budget process, including current revenue for the capital program. (Page 36)
3. The Advisory Board expects the Authority to update its staffing levels consistent with any recommendations from the staffing study. (Page 39)

4. Make any necessary adjustments to the operating reserve additions based upon any additional operating expense reductions in the Final FY12 CEB. (Page 45)

Appendix C

	Total MWRA	FY11 Approved	FY12 Proposed	Change FY12 Proposed vs FY11 Approved Budget $	%
EXPENSES	Wages and Salaries	91,151,296	90,511,524	(639,772)	-0.7%
	Overtime	3,310,659	3,513,630	202,971	6.1%
	Fringe Benefits	17,995,660	18,133,683	138,023	0.8%
	Workers' Compensation	1,870,000	2,020,000	150,000	8.0%
	Chemicals	9,797,118	10,017,545	220,427	2.2%
	Energy and Utilities	23,314,734	22,110,061	(1,204,673)	-5.2%
	Maintenance	28,759,673	29,631,132	871,459	3.0%
	Training and Meetings	231,783	260,050	28,267	12.2%
	Professional Services	5,961,508	5,662,441	(299,067)	-5.0%
	Other Materials	4,612,316	4,688,647	76,331	1.7%
	Other Services	22,607,937	23,032,498	424,561	1.9%
	TOTAL DIRECT EXPENSES	**209,612,684**	**209,581,211**	**(31,473)**	**0.0%**
	Insurance	2,586,000	2,400,000	(186,000)	-7.2%
	Watershed/PILOT	24,744,921	25,325,896	580,975	2.3%
	HEEC Payment	4,174,256	3,665,499	(508,757)	-12.2%
	Mitigation	1,518,401	1,528,705	10,304	0.7%
	Addition to Reserves	(407,581)	(94,998)	312,583	-76.7%
	Retirement Fund	5,342,856	5,488,792	145,936	2.7%
	Post-Employment Benefits		1,851,646	1,851,646	-
	TOTAL INDIRECT EXPENSES	**37,958,853**	**40,165,540**	**2,206,687**	**5.8%**
	Debt Service (before offsets)	354,326,676	371,917,522	17,590,846	5.0%
	Bond Redemption	-	-	-	
	Debt Service Assistance	-	-	-	
	TOTAL DEBT SERVICE	**354,326,676**	**371,917,522**	**17,590,846**	**5.0%**
	TOTAL EXPENSES	**601,898,213**	**621,664,273**	**19,766,060**	**3.3%**
REVENUE AND INCOME	Rate Revenue	569,800,000	592,200,000	22,400,000	3.9%
	Other User Charges	7,065,350	7,509,026	443,676	6.3%
	Other Revenue	4,693,216	4,525,038	(168,178)	-3.6%
	Rate Stabilization	5,029,744	3,525,576	(1,504,168)	-29.9%
	Investment Income	15,309,902	13,904,635	(1,405,267)	-9.2%
	TOTAL REVENUE AND INCOME	**601,898,212**	**621,664,275**	**19,766,063**	**3.3%**

Appendix D

Line Item	FY10 Final	FY11 Proposed	$ Δ	% Δ	Description
Regular Pay	89,693,839	89,064,161	(629,678)	(0.7)	Base salaries for employees including longevity + sick leave buyback
Sick Pay			-	0.0	
Vacation Pay			-	0.0	
REGULAR PAY	89,693,839	89,064,161	(629,678)	(0.7)	
Shift Differential	188,552	185,163	(3,389)	(1.8)	incremental hourly pay for working offshift
Holiday Pay	266,079	261,469	(4,610)	(1.7)	incremental hourly pay for working on holidays
Other Temp. Employees	454,997	375,480	(79,517)	(17.5)	temporary or contract employees, contract chemists in Lab
Interns/Co-Ops	60,598	70,600	10,002	16.5	QA/QC database interns
Stand By Pay	487,231	554,651	67,420	13.8	on-call pay
WAGES AND SALARIES	91,151,296	90,511,524	(639,772)	(0.7)	
Overtime	3,270,231	3,473,205	202,974	6.2	
Overtime 1.5#			-	0.0	
Overtime 2.0#			-	0.0	
Shift OT Differential .75	40,428	40,428	-	0.0	
OT Retro Pay			-	0.0	
Overtime Training			-	0.0	
OVERTIME	3,310,659	3,513,633	202,974	6.1	
Overtime Meals	66,956	70,200	3,244	4.8	
Health Insurance	15,559,848	15,654,032	94,184	0.6	consistent with Governor's budget changes
Dental Insurance	995,008	987,664	(7,344)	(0.7)	legislation filed to join Commonwealth plan is in committee
Unemployment Insurance	149,996	200,000	50,004	33.3	
Medicare	1,192,852	1,190,787	(2,065)	(0.2)	
Tuition Reimbursement	31,000	31,000	-	0.0	
FRINGE BENEFITS	17,995,660	18,133,683	138,023	0.8	
Compensation Payments	1,150,000	1,300,000	150,000	13.0	
Medical Payments	650,000	650,000	-	0.0	medical claims
Other	69,996	70,000	4	0.0	legal fees, medical exams and reviews
WORKERS' COMPENSATION	1,869,996	2,020,000	150,004	8.0	
PERSONNEL COSTS	114,327,611	114,178,840	(148,771)	(0.1)	
Caustic Soda	10,860	10,860	-	0.0	odor control at DI thermal power plant
Soda Ash	3,244,448	3,371,810	127,362	3.9	corrosion control at water treatment plant
Sodium Hypochlorite	2,374,386	2,573,017	198,631	8.4	disinfection + odor control at DI, CWTP, Ware, Clinton, HW, CSO's
Hydrofluosilic Acid	1,005,553	609,496	(396,057)	(39.4)	fluoridation
Copper Sulfate		-	-	0.0	algae control in reservoir
Sodium Hydroxide	142,383	136,271	(6,112)	(4.3)	odor control and to elevate pH levels
Other	110,430	64,250	(46,180)	(41.8)	digester gas + boiler chemicals at DI, aluminum sulfate + lime at Cllinton
Polymer	257,527	253,062	(4,465)	(1.7)	sludge thickening at DI, Clinton
Sodium Bisulfite	540,549	859,264	318,715	59.0	dechlorinate at DI + CSO's, removal residual ozone at CWTP
Activated Carbon	298,960	298,960	-	0.0	odor control at DI
Ferrous Chloride	-	-	-	0.0	struvite control (alternates with ferric chloride depending on price)
Liquid Oxygen	598,814	504,515	(94,299)	(15.7)	disinfection at CWTP
Nitrogen	5,000	5,000	-	0.0	for purging of the gas system at DI
Carbon Dioxide	288,900	285,120	(3,780)	(1.3)	to increase pH + alkalinity level of water suppply at CWTP
Ferric Chloride	409,241	521,098	111,857	27.3	struvite control (alternates with ferrous chloride depending on price)
Hydrogen Peroxide	154,591	154,712	121	0.1	corrosion control at DI
Aqua Ammonia	196,881	219,361	22,480	11.4	secondary disinfection at CWTP
Nytrazyme	158,595	150,749	(7,846)	(4.9)	H2S control metro west wastewater pipelines
CHEMICALS	9,797,118	10,017,545	220,427	2.2	
Natural Gas	665,073	596,565	(68,508)	(10.3)	at various water + WW facilities
Electricity	18,249,213	16,975,992	(1,273,221)	(7.0)	three major contracts
Water	1,735,990	1,783,994	48,004	2.8	process water, DI , WW facilities, Clinton,
Oxygen	500		(500)	(100.0)	Metro maintenance
Acetelyn			-	0.0	
Other	60,184	59,428	(756)	(1.3)	DI Lab chemicals
#2 Fuel Oil Heating	29,360	45,000	15,640	53.3	Clinton treatment plant
Diesel Fuel	2,496,313	2,566,978	70,665	2.8	heating at various facilities, CTG operation DI
Propane	78,101	82,104	4,003	5.1	water operations, shaft 8
UTILITIES	23,314,734	22,110,061	(1,204,673)	(5.2)	
Building and Grounds Materials	860,967	1,033,854	172,887	20.1	concrete, crushed stone, gravel for water pipeline maintenance
Building and Grounds Service	2,783,057	3,164,072	381,015	13.7	janitorial services at DI, crane services
Automotive Materials	429,501	401,500	(28,001)	(6.5)	starters + alternators
Automotive Services	276,004	266,000	(10,004)	(3.6)	spring + suspension work
Plant & Mach. Mat'ls	6,477,233	6,292,869	(184,364)	(2.8)	grit piping + pods, burner replacement + boiler repair
Plant & Mach. Services	5,471,554	6,077,418	605,864	11.1	rebuild ozone generator at CWTP
Pipeline Materials	509,105	547,100	37,995	7.5	friction clamps, transitional couplings
Pipeline Services	453,474	528,462	74,988	16.5	manhole rehabilitation contract
Spec. Equip. Mat'ls	1,211,224	1,787,393	576,169	47.6	batteries, sewer bucketing materials
Spec. Equip. Services	2,103,266	2,116,295	13,029	0.6	instrumentation services for water, WW facilities
Computer Materials	371,750	401,163	29,413	7.9	PC supplies + parts, TIC/CADD materials
Computer Services	343,743	351,245	7,502	2.2	preventative maintenance on computer environmental controls
Comp. Software-Licenses/Upg	2,353,508	2,002,938	(350,570)	(14.9)	Lawson maintenance
HVAC Materials	551,040	629,546	78,506	14.2	materials for water + WW pump stations
HVAC Services	571,920	425,950	(145,970)	(25.5)	preventative maintenance at CWTP
Electrical Materials	1,102,372	1,293,025	190,653	17.3	as needed for pipe maintenance + WW CSO's
Electrical Services	2,830,663	2,261,202	(569,461)	(20.1)	high + medium voltage service at CWTP
Purchase Cards	59,292	51,100	(8,192)	(13.8)	

Appendix D

Line Item	FY10 Final	FY11 Proposed	$ Δ	% Δ	Description
ONGOING MAINTENANCE	28,759,673	29,631,132	871,459	3.0	
Trainings and Meetings	182,072	206,609	24,537	13.5	
OutoOfState Meetings/Briefings	2,500	2,500	-	0.0	
OutOfState Prof Assoc/Semi	8,048	11,548	3,500	43.5	
OutOfState Industry Assoc/	6,454	4,325	(2,129)	(33.0)	
Out of State Site Audits	2,500	2,500	-	0.0	
InState Overnight Meetings	1,728	2,025	297	17.2	
InState Local Meetings	26,281	28,353	2,072	7.9	
TM Other Consultants/Vendo	2,200	2,200	-	0.0	
TRAINING & MEETINGS	231,783	260,060	28,277	12.2	
Engineering	907,996	873,000	(34,996)	(3.9)	dam inspection, design support, beach nourishment study DI
Lab & Testing & Analysis	1,632,736	1,627,836	(4,900)	(0.3)	harbor + outfall monitoring, cryptosporidium testing
Legal	263,492	263,500	8	0.0	outside legal counsel
Audit	189,000	160,000	(29,000)	(15.3)	yearly audit, GASB
Communications	164,636	155,982	(8,654)	(5.3)	WAC, WSCAC
Other	1,181,836	970,976	(210,860)	(17.8)	energy consulting services, trustee bank services
Security	1,616,908	1,606,247	(10,661)	(0.7)	security service contract for Chelsea, DI, CWTP, CNY
Resident Inspection	1,400	1,400	-	0.0	backflow prevention inspection
Construction Services	3,504	3,500	(4)	(0.1)	Digsafe
PROFESSIONAL SERVICES	5,961,508	5,662,441	(299,067)	(5.0)	
Office Supplies	184,301	180,339	(3,962)	(2.1)	various office supplies
Postage	228,036	206,532	(21,504)	(9.4)	USPS, UPS, mailing CCR report
Lab & Testing Supp.	757,324	744,685	(12,639)	(1.7)	DI Lab supplies, DITP
Health/Safety	390,899	396,534	5,635	1.4	Lab gloves, roadway safety materials for flaggers, fall retrieval spare parts
Equip/Furniture	375,230	402,230	27,000	7.2	radios and related equipment, replacement light sensors
Veicle Purch./Replace	600,000	800,000	200,000	33.3	prioritized list most critical replacements
Work Clothes	332,322	328,442	(3,880)	(1.2)	work clothes, boots, jackets
Vehicle Expense	1,002,143	985,567	(16,576)	(1.7)	fuel, bulk diesel + gasoline, tolls
Other Materials	203,415	250,276	46,861	23.0	Clinton landfill gravel, oil spill containment supplies
Computer Hardware	505,494	360,892	(144,602)	(28.6)	PICS network equipment, toughbooks
Computer Software	21,996	22,000	4	0.0	SCADA computer software
Purchase Cards	11,156	11,150	(6)	(0.1)	
OTHER MATERIALS	4,612,316	4,688,647	76,331	1.7	
Printing Services	269,990	210,564	(59,426)	(22.0)	CCR, annual report, budget reports, TRAC industrial waste report
Health/Safety	380,100	378,600	(1,500)	(0.4)	ambuland, fire extinguisher, hazmat cleanup
Telephone	1,399,485	1,394,486	(4,999)	(0.4)	MIS voice + data, metering + monitoring
Mem/Dues/Sub	209,817	313,909	104,092	49.6	professional memberships + dues
Advertising	60,704	61,200	496	0.8	recruiting + contract advertising
Space Lease/Rentals	3,393,575	3,595,048	201,473	5.9	Chelsea + CNY rents
Moving/Freight	83,809	90,025	6,216	7.4	delivery + freight charges
Other Rentals	181,296	191,806	10,510	5.8	copier + mail equipment leases
Other Services	1,140,714	1,168,090	27,376	2.4	fax, copier + printer maintenance; oil boom service; aquatic plant control; remediation projects
Grit & Screenings Removal	931,845	959,204	27,359	2.9	grit, screenings + scum from DI, NI, other headworks, pump stations, CSO's
Sludge Pelletization	14,041,266	14,190,689	149,423	1.1	NEFCo contract to process + dispose of sludge pellets
Permit Fees	194,492	116,876	(77,616)	(39.9)	DI + Clinton; air quality permits
Police Details	320,844	362,000	41,156	12.8	construction projects, meter + value maintenance
Landfill Reservation Fee			-	0.0	now part of NEFCo contract responsibility
OTHER SERVICES	22,607,937	23,032,497	424,560	1.9	
OTHER DIRECT COSTS	95,285,069	95,402,383	117,314	0.1	w/o Personnel-Related Costs
DIRECT COSTS	209,612,680	209,581,223	(31,457)	(0.0)	all Direct Expenses
Premiums	1,786,000	1,800,000	14,000	0.8	
Payments/Claims	800,000	600,000	(200,000)	(25.0)	
INSURANCE	2,586,000	2,400,000	(186,000)	(7.2)	estimate of annual renewal, vote in June
Watershed Reimbursement	12,243,254	12,417,063	173,809	1.4	DCR costs less certain revenues
PILOT	6,892,833	7,300,000	407,167	5.9	payments in lieu of taxes
Watershed Debt Service	5,608,833	5,608,833	-	0.0	debt service on watershed land purchases
REIMBURSEMENTS	24,744,920	25,325,896	580,976	2.3	
State Revolving Fund - P &	68,939,902	73,127,522	4,187,620	6.1	SRF debt service on existing + estimated new borrowings
Revenue Bonds P&I	199,692,591	187,203,062	(12,489,529)	(6.3)	debt service on existing + planned new senior debt
Debt Service Assistance			-	0.0	estimated revenue is treated as an offset to debt service
Current Revenue/Capital	7,200,000	8,200,000	1,000,000	13.9	revenue is deposited in capital Construction Fund
Subordinate MWRA Debt	71,841,358	96,671,877	24,830,519	34.6	principal + interest payments on existing variable rate debt
Local Water Pipeline CP	3,435,765	3,498,000	62,235	1.8	interest on commercial paper issued to support water pipeline loan program
Capital Lease	3,217,060	3,217,060	-	0.0	capital (mortgage) portion of Chelsea facility
Variable Debt Savings	-	-	-	0.0	budgeted lower than assumed variable debt interest rate of 4%
DEBT SERVICE	354,326,676	371,917,521	17,590,845	5.0	total of all capital financing related expenses
HEEC Agreement Capacity Ch	3,153,258	2,959,349	(193,909)	(6.1)	debt service payment for construction/installation of cross harbor cable
HEEC Agreement O&M Charge	1,020,998	706,150	(314,848)	(30.8)	operations/maintenance charge for cross harbor electric cable to DI
OTHER	4,174,256	3,665,499	(508,757)	(12.2)	
Mitigation, Quincy	790,160	800,000	9,840	1.2	payments to offset impacts of Authority facilities in Quincy
Mitigation, Winthrop	728,241	728,705	464	0.1	payments to mitigate impacts of DI + related activities
MITIGATION	1,518,401	1,528,705	10,304	0.7	
Operating Reserve	(407,581)	(94,998)	312,583	(76.7)	incremental addition to Operating Reserve due to increases in Operating Expenses
ADDITIONS TO RESERVE	(407,581)	(94,998)	312,583	(76.7)	

Appendix D

Line Item	FY10 Final	FY11 Proposed	$ Δ	% Δ	Description
Pension Expense	5,342,856	5,488,792	145,936	2.7	deposit to pension fund based on actuarial study plus increment to rebuild fund
PENSION EXPENSE	5,342,856	5,488,792	145,936	2.7	
Post Employment Benefits		1,851,646	1,851,646	0.0	estimated lower health care contributions, consistent w/Governor's pFY10 budget
POST EMPLOYMENT BENEFITS	-	1,851,646	1,851,646	0.0	
INDIRECT COSTS	392,285,528	412,083,061	19,797,533	5.0	
OPERATING COSTS (Direct + Indirect)	601,898,208	621,664,284	19,766,076	3.3	
Rate Revenue	569,800,000	592,200,000	22,400,000	3.9	revenue based on rates charged to communities
RATE REVENUE	569,800,000	592,200,000	22,400,000	3.9	
Other User Charges	6,413,923	6,857,598	443,675	6.9	Clinton plant income, CVA payments, water treatment plant residuals charges
Entrance Fees	651,427	651,427	-	0.0	Stoughton, Dedham-Westwood Water District payments
OTHER USER CHARGES	7,065,350	7,509,025	443,675	6.3	
Hydro-power Revenue	117,136	279,985	162,849	139.0	income from hydropower facility at Cosgrove Intake
Permit Fees	1,946,766	2,020,395	73,629	3.8	TRAC fees for permitting + inspecting large industrial + other significant users
Surcharge - Emerg Water Su	-	-	-	0.0	payments from emergency water users including Wilmington
Penalties	220,100	175,000	(45,100)	(20.5)	payments for violations of sewer use regulations
Payments From Commonwealth	-	-	-	0.0	for costs of chemicals used for water + wastewater treatment
Miscellaneous Revenue	799,842	822,582	22,740	2.8	Fore River Railroad fees + leases, antenna licenses, pellet sales, other misc
Revenue -Energy	1,609,472	1,227,076	(382,396)	(23.8)	renewable portfolio credits, load reduction program
Profit (Loss) On Disp. Of E	-	-	-	0.0	sales of surplus equipment, see miscellaneous
Operating Grant	-	-	-	0.0	
OTHER REVENUE	4,693,316	4,525,038	(168,278)	(3.6)	
Rate Stabilization	5,029,744	3,525,576	(1,504,168)	(29.9)	to manage impacts of increased rate revenue requirement
RATE STABILIZATION	5,029,744	3,525,576	(1,504,168)	(29.9)	
Combined Reserves	4,316,560	3,795,072	(521,488)	(12.1)	income from short term + long term investments of monies in these various funds
Construction	426,795	258,249	(168,546)	(39.5)	income from short term + long term investments of monies in these various funds
Debt Service	618,751	340,574	(278,177)	(45.0)	income from short term + long term investments of monies in these various funds
Debt Service Reserves	8,059,254	7,813,006	(246,248)	(3.1)	income from short term + long term investments of monies in these various funds
Operating	703,079	758,480	55,401	7.9	income from short term + long term investments of monies in these various funds
Revenue	562,066	406,690	(155,376)	(27.6)	income from short term + long term investments of monies in these various funds
CORE	316,344	284,940	(31,404)	(9.9)	income from short term + long term investments of monies in these various funds
Redemption	307,053	247,624	(59,429)	(19.4)	income from short term + long term investments of monies in these various funds
INTEREST INCOME	15,309,902	13,904,635	(1,405,267)	(9.2)	income from short term + long term investments of monies in these various funds
TOTAL REVENUE	601,898,312	621,664,274	19,765,962	3.3	

Appendix E

Cap Calculation versus
Proposed FY12 Updated Projections

Final FY09 CIP

Baseline Cap FY09-13
($ millions)

	FY09	FY10	FY11	FY12	FY13	Total FY09-13
Projected Expenditures	$230.0	$251.7	$224.3	$196.7	$178.7	$1,081.4
Contingency	15.6	13.8	12.0	12.1	11.4	64.9
Inflation on Unawarded Construction	0.0	0.5	2.8	7.8	11.3	22.4
Less: Chicopee Valley Aqueduct Projects	(1.2)	(1.9)	(9.1)	(9.5)	(2.9)	(24.6)
FY09-13 CAP	**$244.4**	**$264.1**	**$230.0**	**$207.1**	**$198.5**	**$1,144.1**

Proposed FY12 CIP

Proposed FY12 CIP Updated Spending Projections

	FY09	FY10	FY11	FY12	FY13	Total FY09-13
Projected Expenditures	$182.2	$211.4	$183.0	$235.0	$223.9	$1,035.5
Contingency	0.0	0.0	9.6	11.8	13.1	34.5
Inflation on Unawarded Construction	0.0	0.0	0.0	2.2	5.8	8.0
Less: Chicopee Valley Aqueduct Projects	(0.6)	(0.5)	(1.2)	(5.1)	(9.5)	(16.9)
FY09-13 CAP	**$181.6**	**$210.9**	**$191.4**	**$243.9**	**$233.3**	**$1,061.1**

Change

Final FY09 to Proposed FY12 Comparison

	FY09	FY10	FY11	FY12	FY13	Total FY09-13
Projected Expenditures	($47.8)	($40.3)	($41.3)	$38.3	$45.2	($45.9)
Contingency	(15.6)	(13.8)	(2.4)	(0.3)	1.7	(30.4)
Inflation on Unawarded Construction	0.0	(0.5)	(2.8)	(5.6)	(5.5)	(14.4)
Less: Chicopee Valley Aqueduct Projects	0.6	1.4	7.9	4.4	(6.6)	7.7
FY09-13 CAP Δ ($)	**($62.8)**	**($53.2)**	**($38.6)**	**$36.8**	**$34.8**	**($83.0)**
FY09-13 CAP Δ (%)	**-25.7%**	**-20.1%**	**-16.8%**	**17.8%**	**17.5%**	**-7.3%**

Appendix F

Cap Calculation versus Actual FY04-08 Spending

Final FY04 CIP

Baseline Cap FY04-08
($ millions)

	FY04	FY05	FY06	FY07	FY08	Total FY04-08
Projected Expenditures	$237.0	$190.2	$195.2	$217.3	$183.6	$1,023.3
Contingency	19.4	14.1	15.5	19.8	18.1	86.9
Inflation on Unawarded Construction	0.0	0.8	5.8	13.0	16.1	35.7
Less: Chicopee Valley Aqueduct Projects	(5.4)	(1.5)	(1.4)	(0.1)	(3.0)	(11.4)
FY04-08	**$250.9**	**$203.5**	**$215.2**	**$250.1**	**$214.8**	**$1,134.5**

FY08 Closeout Data

FY04-08 Actual Spending

	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Actual	FY08 Actual	Total FY04-08
Projected Expenditures	$194.0	$167.7	$152.3	$177.7	$196.8	$888.5
Contingency	0.0	0.0	0.0	0.0	0.0	0.0
Inflation on Unawarded Construction	0.0	0.0	0.0	0.0	0.0	0.0
Less: Chicopee Valley Aqueduct Projects	(0.4)	(0.5)	(2.4)	(3.3)	(1.8)	(8.4)
FY04-08	**$193.6**	**$167.2**	**$149.9**	**$174.4**	**$195.0**	**$880.1**

Change

Baseline Cap FY04-08 to Actually Spending

	FY09	FY10	FY11	FY12	FY13	Total FY09-13
Projected Expenditures	($43.0)	($22.5)	($42.9)	($39.6)	$13.2	($134.8)
Contingency	(19.4)	(14.1)	(15.5)	(19.8)	(18.1)	(86.9)
Inflation on Unawarded Construction	0.0	(0.8)	(5.8)	(13.0)	(16.1)	(35.7)
Less: Chicopee Valley Aqueduct Projects	5.0	1.0	(1.0)	(3.2)	1.2	3.0
FY04-08 CAP Δ ($)	**($57.4)**	**($36.4)**	**($65.2)**	**($75.6)**	**($19.8)**	**($254.4)**
FY04-08 CAP Δ (%)	**-22.9%**	**-17.9%**	**-30.3%**	**-30.2%**	**-9.2%**	**($374.0)**

Appendix G

Program / Project	Total Contract Amount	Payments Through FY10	FY09 Actual	FY10 Actual	FY11	FY12	FY13	FY09-13
Total MWRA	5,479,469,460	3,256,687,514	181,917,968	213,848,281	182,990,318	234,962,974	223,922,749	1,037,640,790
Wastewater	2,632,545,564	1,494,037,583	123,710,173	152,658,241	105,991,698	122,408,017	126,964,556	631,732,685
Interception & Pumping	807,170,791	497,510,481	6,801,490	2,542,212	9,247,714	22,643,613	40,997,669	82,232,698
102 Quincy Pump Facilities	25,908,059	25,908,077	-	-	Completed Project			
104 Braintree-Weymouth Relief Facilities	234,950,912	215,884,599	503,724	349,351	3,145,394	11,556,920	672,000	16,227,387
105 New Neponset Valley Relief Sewer	30,300,308	30,300,303	-	-	Completed Project			
106 Wellesley Extension Replacement Sewer	64,358,560	64,358,543	-	-	Completed Project			
107 Framingham Extension Relief Sewer	47,855,985	47,855,986	-	-	Completed Project			
127 Cummingsville Replacement Sewer	8,998,777	8,998,767	43,382	-	Completed Project			43,382
130 Siphon Structure Rehabilition	2,684,821	939,770	-	-	-	-	87,984	87,984
131 Upper Neponset Valley Sewer System	54,425,980	53,753,996	572,550	31,790	671,984	-	-	1,276,324
132 Corrosion & Odor Control	16,782,343	3,002,809	-	-	-	67,874	271,497	339,371
136 West Roxbury Tunnel	88,783,581	9,538,629	38,500	620,327	1,060,332	587,932	14,049,469	16,356,558
137 Wastewater Central Monitoring	20,839,477	19,783,761	5,240,375	595,650	155,716	250,000	600,000	6,841,741
139 South System Relief Project	4,939,244	3,439,244	-	(645)	-	-	-	(645)
141 Wastewater Process Optimization	10,248,436	930,308	-	-	-	-	541,667	541,667
142 Wastewater Meter System - Equipment Replacement	26,578,429	5,137,912	53,959	(4,812)	140,517	60,000	1,171,000	1,420,664
143 Regional I / I Management Planning	168,987	168,987	-	-	-	-	-	-
145 Facility Asset Protection	163,596,892	7,508,790	349,000	950,551	4,073,771	10,120,887	23,604,052	39,098,259
146 D.I. Cross Harbor Tunnel Inspection	5,000,000	-	-	-	-	-	-	-
147 Randolph Trunk Sewer Relief	750,000	-	-	-	-	-	-	-
Treatment	622,918,761	122,569,933	14,742,530	56,033,343	44,186,826	54,684,599	46,416,912	216,064,210
200 DI Plant Optimization	33,455,814	33,455,814	296,298	-	Completed Project			296,298
206 DI Treatment Plant Asset Protection	574,614,278	87,440,105	14,205,352	55,874,056	43,741,391	51,059,812	44,646,588	209,527,193
210 Clinton Wastewater Treatment Plant	7,219,661	586,014	148,560	92,671	219,279	2,704,400	1,304,968	4,469,878
211 Laboratory Services	7,629,008	1,088,000	92,320	66,616	226,156	920,387	465,356	1,770,835
Residuals	211,740,619	64,170,447	-	359,599	503,797	1,211,375	2,522,000	4,596,771
261 Residuals	63,810,848	63,810,848	-	-	Completed Project			
271 Residuals Asset Protection	147,929,771	359,599	-	359,599	503,797	1,211,375	2,522,000	4,596,771

Appendix G

Program / Project	Total Contract Amount	Payments Through FY10	FY09 Actual	FY10 Actual	FY11	FY12	FY13	FY09-13
CSO	867,849,532	710,892,693	99,417,389	89,258,985	54,522,249	42,030,801	35,090,628	320,320,052
MWRA Managed	439,407,029	403,421,294	66,416,412	67,554,708	25,084,849	2,863,386	4,648,559	166,567,914
339 North Dorchester Bay	225,919,128	198,404,219	38,489,017	20,873,108	21,636,441	1,522,911	4,338,559	86,860,034
347 East Boston Branch Sewer Relief	87,124,478	83,220,765	26,241,277	46,274,109	2,766,471	1,137,243	-	76,419,100
348 BOS019 Storage Conduit	14,287,581	14,287,582	(44,066)	-	-	-	-	(44,066)
349 Chelsea Trunk Sewer	29,779,319	29,779,320	-	-	-	-	-	-
350 Union Park Detention Treatment Facility	49,583,407	49,583,407	(227,192)	-	-	-	-	(227,192)
353 Upgrade Existing CSO Facilities	22,385,200	22,385,201	-	-	-	-	-	-
354 Hydraulic Relief Projects	2,294,549	2,294,549	-	-	-	-	-	-
355 MWR003 Gate & Siphon	3,681,947	-	-	-	-	-	310,000	310,000
357 Charles River CSO Controls	4,351,420	3,466,251	1,957,376	407,491	681,937	203,232	-	3,250,036
Community Managed	377,384,100	258,685,821	30,910,182	20,097,912	28,166,393	38,801,415	30,426,069	148,401,971
340 Dorchester Bay Sewer Separation (Fox Point)	54,171,205	53,762,619	-	-	408,586	-	-	408,586
341 Dorchester Bay Sewer Separation (Commercial Pt.)	64,551,351	59,060,735	3,156,000	1,014,146	432,214	1,000,000	2,387,000	7,989,360
342 Neponset River Sewer Separation	2,444,395	2,444,392	-	-	-	-	-	-
343 Constitution Beach Sewer Separation	3,768,888	3,768,891	-	-	-	-	-	-
344 Stony Brook Sewer Separation	44,332,716	44,196,561	(565,745)	(289,695)	136,155	-	-	(719,285)
346 Cambridge Sewer Separation	54,964,406	24,863,397	2,930,970	3,481,296	4,477,000	7,159,000	9,292,000	27,340,266
351 BWSC Floatables Controls	932,979	932,979	-	-	-	-	-	-
352 Cambridge Floatables Control	1,086,925	1,086,926	113,440	51,285	-	-	-	164,725
356 Fort Point Channel Sewer Separation	12,047,018	10,270,403	1,117,211	862,034	1,776,615	-	-	3,755,860
358 Morrissey Boulevard Drain	36,173,538	35,585,080	17,916,977	2,991,931	108,000	240,000	220,000	21,476,908
359 Reserved Channel Sewer Separation	67,201,835	9,652,961	1,554,926	5,381,041	14,301,340	18,112,000	14,696,000	54,045,307
360 Brookline Sewer Separation	25,722,729	4,099,660	1,810,792	1,017,268	5,524,000	12,268,000	3,831,069	24,451,129
361 Bulfinch Triangle Sewer Separation	9,986,115	8,961,217	2,875,611	5,588,606	1,002,483	22,415	-	9,489,115
Planning & Support	51,058,403	48,785,578	2,090,795	1,606,365	1,271,007	366,000	16,000	5,350,167
Other Wastewater	122,865,861	98,894,029	2,748,764	4,464,102	(2,468,888)	1,837,629	1,937,347	8,518,954
128 I / I Local Financial Assistance	122,584,985	98,613,153	2,748,764	4,464,102	(2,468,888)	1,837,629	1,937,347	8,518,954
138 Sewerage System Mapping Upgrade	280,876	280,876	-	-	-	-	-	-

Appendix G

Program / Project	Total Contract Amount	Payments Through FY10	FY09 Actual	FY10 Actual	FY11	FY12	FY13	FY09-13
Waterworks	2,742,236,427	1,705,375,829	52,856,353	50,106,342	61,045,668	97,401,526	90,991,291	352,400,180
Drinking Water Quality Improvements	669,633,119	538,884,457	17,848,444	12,446,061	7,107,213	42,073,111	30,551,631	110,026,460
542 John J. Carroll Water Treatment Plant	434,109,218	376,699,819	1,284,426	2,663,123	4,143,059	21,611,000	12,443,020	42,144,628
543 Quabbin Water Treatment Plant	16,455,917	10,296,770	31,873	121,375	646,934	3,236,292	2,225,000	6,261,474
544 Norumbega Covered Storage	106,674,147	106,674,146	101,670	-	-	-	-	101,670
545 Blue Hills Covered Storage	40,694,846	39,841,137	16,399,345	4,552,938	446,646	15,144	43,029	21,457,102
550 Spot Pond Storage Facility	71,698,991	5,372,585	31,130	5,108,625	1,870,574	17,210,675	15,840,582	40,061,587
Transmission	1,142,682,311	694,899,904	6,336,282	15,679,164	22,874,908	25,757,632	27,611,479	98,259,465
597 Winsor Dam Hydroelectric / Pipeline Replacement	18,557,350	932,863	573,816	320,765	438,616	1,501,264	6,409,555	9,244,014
601 Sluice Gate Rehabilitation	9,158,418	9,158,411	-	-	-	-	-	-
604 MetroWest Tunnel	710,287,166	647,169,913	486,854	12,882,233	15,091,280	14,790,000	9,798,000	53,048,367
615 Chicopee Valley Aqueduct Redundancy	8,666,747	8,666,746	33,651	61,492	-	-	-	95,143
616 Quabbin Transmission System	13,665,518	4,512,714	-	89,287	304,302	2,000,000	717,214	3,110,803
617 Sudbury / Weston Aqueduct Repairs	4,271,969	651,357	-	16,409	5,612	275,250	1,665,250	1,962,521
620 Wachusetts Res Spill Improve/Winsor Dam Repairs	11,920,828	9,304,813	1,335,072	(80,220)	2,616,008	-	-	3,870,860
621 Watershed Land	19,000,000	13,418,500	3,650,500	1,561,000	3,000,000	1,250,000	1,331,500	10,793,000
623 Dam Projects	9,100,959	354,167	-	354,167	230,539	2,614,551	3,438,628	6,637,884
625 Long Term Redundancy	338,053,356	730,420	256,389	474,031	1,188,551	3,326,567	4,251,332	9,496,870

Appendix G

Program / Project	Total Contract Amount	Payments Through FY10	FY09 Actual	FY10 Actual	FY11	FY12	FY13	FY09-13
Distribution And Pumping	886,757,773	341,330,911	19,371,878	16,508,887	16,087,416	15,601,707	15,710,342	83,278,230
618 Northern High NW Trans Sections 70 & 71	1,000,000	-	-	-	-	-	-	-
677 Valve Replacement	19,304,385	9,144,478	480,081	85,069	440,033	1,360,136	1,420,605	3,785,926
678 Boston Low Service - Pipe & Valve Rehab	23,690,867	23,690,863	-	-	-	-	-	-
683 Heath Hill Road Pipe Replacement	19,358,026	19,364,786	(3,067)	-	(6,750)	-	-	(9,817)
689 James L. Gillis Pump Station	33,419,007	33,419,008	-	-	-	-	-	-
692 Northern High Service - Section 27 Improvements	3,307,842	123,646	-	-	-	208	500	706
693 NHS - Revere & Malden Pipeline Improvement	33,611,815	26,832,740	2,368,183	569,839	300	5,500	5,500	2,949,322
702 New Connecting Mains - Shaft 7 to WASM 3	32,330,775	7,152,607	69,658	1,764,223	2,847,525	1,061,842	241,000	5,984,248
704 Rehab of Other Pumping Stations	55,496,712	29,961,799	6,323,844	5,652,373	475,126	59,787	-	12,511,130
706 NHS - Connecting Mains from Section 91	2,360,194	2,360,194	-	-	-	-	-	-
708 Nor Extra High Service - New Pipelines	6,690,164	3,632,119	-	-	7,500	10,000	10,000	27,500
712 Cathodic Protection Of Distribution Mains	1,457,700	140,913	-	-	-	-	-	-
713 Spot Pond Supply Mains - Rehab	66,128,224	60,995,279	516,780	-	(14,069)	300,000	1,950,000	2,752,711
714 Southern Extra High Sections 41 & 42	3,657,244	3,657,244	-	-	-	-	-	-
719 Chestnut Hill Connecting Mains	29,361,450	17,461,614	-	-	25,061	-	422,000	447,061
720 Warren Cottage Line Rehab	1,204,820	1,204,821	-	-	-	-	-	-
721 Southern Spine Distribution Mains	70,014,788	24,984,858	2,435,231	4,939,692	6,995,007	3,710,359	873,422	18,953,709
722 Northern Intermediate High Redundancy & Storage	82,425,782	1,260,226	93,166	533,087	840,051	5,387,000	4,751,070	11,604,374
723 Northern Low Service Rehab - Section 8	20,358,250	2,262,065	1,505,880	698,202	186,018	27,000	37,000	2,454,100
725 Hydraulic Model Update	598,358	598,358	-	-	-	-	-	-
727 Southern Extra High Redundancy & Storage	97,178,949	6,662,885	4,919,389	76,227	157,527	159,272	158,833	5,471,248
730 Weston Aqueduct Supply Mains (WASM)	266,894,605	63,120,481	76,129	2,143,491	1,284,087	1,699,002	5,389,319	10,592,028
731 Lynnfield Pipeline	5,705,479	582,786	23,381	46,684	2,850,000	1,821,601	451,093	5,192,759
732 Walnut St. & Fisher Hill Pipeline Rehab	2,716,993	2,717,141	563,223	-	-	-	-	563,223
735 Section 80 Rehabilitation	8,485,344	-	-	-	-	-	-	-
Other Waterworks	43,163,224	130,260,557	9,299,749	5,472,230	14,976,131	13,969,076	17,117,839	60,835,025
753 Central Monitoring System	16,992,422	15,704,996	38,051	-	350,000	937,427	-	1,325,478
763 Distribution System Facilities Mapping	1,798,919	1,036,368	-	-	-	-	228,000	228,000
764 Local Water Infrastructure Rehab	7,487,758	7,487,762	-	-	-	-	-	-
765 Local Water Pipeline Assistance Program	-	105,810,061	9,261,698	5,472,230	14,451,951	12,674,649	16,799,839	58,660,367
766 Waterworks Facility Asset Protection	16,884,125	221,370	-	-	174,180	357,000	90,000	621,180

Appendix G

Program / Project	Total Contract Amount	Payments Through FY10	FY09 Actual	FY10 Actual	FY11	FY12	FY13	FY09-13
Business & Operations Support	104,687,469	57,274,102	5,351,442	11,083,698	15,952,952	15,153,431	5,966,902	53,508,425
881 Equipment Purchase	15,951,853	7,999,992	1,693,810	3,141,830	1,694,897	2,040,636	1,101,328	9,672,501
925 Technical Assistance	1,200,000	-	-	-	-	400,000	400,000	800,000
930 MWRA Facility - Chelsea	9,851,107	9,851,107	(35,800)	-	-	-	-	(35,800)
931 Business Systems Plan	38,800,321	23,910,223	1,411,901	490,242	1,242,212	4,238,136	3,148,166	10,530,657
932 Environmental Remediation	1,557,790	1,499,928	(4,467)	36,195	57,862	-	-	89,590
933 Capital Maintenance Planning & Development	9,292,584	5,630,919	694,186	1,217,353	2,688,547	973,119	-	5,573,205
934 MWRA Facilities Management & Planning	2,200,535	370,533	269,835	100,698	600,000	1,230,004	-	2,200,535
935 Alternative Energy Initiatives	25,833,279	8,011,400	1,321,977	6,097,380	9,669,434	6,271,536	1,317,408	24,677,735

Part A - Budget by Program Category

Program/Project	Final FY11	Proposed FY12	Incremental Change	% Change	Explanation
Total MWRA	$5,457,812	$5,625,618	$167,806	3.1%	Wastewater +$57.8M, Water +$889.8M, Business & Operations Support ($865K)
Wastewater	$2,574,721	$2,632,545	$57,824	2.2%	
Interception & Pumping	$799,085	$807,171	$8,086	1.0%	I&P Facility Asset Protection +$4M, Corrosion & Odor Control +$2.1M, Braintree-Weymouth Relief Facilities +$1.4M,Wastewater Central Monitoring +$900K.
Treatment	$555,739	$622,919	$67,180	12.1%	DI Treatment Plant Asset Protection +$62.1M,Clinton Wastewater Treatment Plant +$4.1M, Laboratory Services +$962K.
Residuals	$211,741	$211,741	$0	0.0%	
CSO	$885,281	$867,849	-$17,432	-2.0%	
MWRA Managed	$437,561	$439,407	$1,845	0.4%	North Dorchester Bay +$2.3M, East Boston Branch Sewer Relief ($912K).
Community Managed	$396,828	$377,384	-$19,444	-4.9%	Cambridge Sewer Separation ($9M), Reserved Channel Sewer Separation ($6.5M), Brookline Sewer Separation ($3.9M).
CSO Support	$50,892	$51,058	$166	0.3%	CSO Support +$166K.
Other	$122,875	$122,866	-$9	0.0%	
Waterworks System Improvements	$2,652,481	$2,742,236	$89,755	3.4%	
Drinking Water Quality Improvements	$656,826	$669,633	$12,807	1.9%	Spot Pond Storage Facility +$9.2M, John J Carroll WTP +$4.7M, Quabbin WTP ($1M).
Transmission	$1,117,058	$1,142,681	$25,623	2.3%	Long Term Redundancy +$12M, MetroWest Tunnel Supply +$6.3M, Winsor Dam Hydroelectric/Pipeline Replacement +$3.7M, Quabbin Transmission System +$2.2M,, Sudbury/Weston Aqueduct Repair +$1M.
Distribution And Pumping	$847,505	$886,758	$39,254	4.6%	Rehab of Other Pumping Stations +$24.8M, Weston Aqueduct Supply Mains +$6.8M, SEH Redundancy & Storage +$3.3M, NIH Redundancy & Storage +$3.2M, New Connecting Mains Shaft 7 to WASM 3 +$2.2M, Chestnut Hill Connecting Mains ($1.1M).
Other	$31,092	$43,163	$12,071	38.8%	Waterworks Facilities Asset Protection +$12.1M.

Program/Project	Final FY11	Proposed FY12	Incremental Change	% Change	Explanation
Business & Operations Support	$105,552	$104,688	-$864	-0.8%	MWRA Facilities Management ($5.1M), Business Systems Plan +$2.1M, Capital Maintenance Planning/Development +$1M, Equipment Purchase +$981K.

Part B Total with Contingency					
Total MWRA without contingency	$5,332,754	$5,479,469	$146,715	2.8%	
Contingency	$125,058	$146,149	$21,091	16.9%	
Total CIP	$5,457,812	$5,625,618	$167,806	3.1%	

Appendix I

FY11 CIP
NEW PROJECT REQUESTS

Ref No.	Program	Project	Subphase	Current Priority Rating	Included in the Master Plan	Priority Rating per the Master Plan	Total Contract Amount	Project Duration	NTP	FY10	FY11	FY12	FY13	FY09-13	FY14-18	Beyond FY18	Total Expenditures
Wastewater Project Requests																	
1	Interception & Pumping	Braintree-Weymouth Relief Facilities	Mill Cove Siphon Sluice Gates - Design	3	**no**	**n/a**	$600,000	1.5 years	Jan-12			$100,000	$400,000	$500,000	$100,000		$600,000
2		Wastewater Process Optimization	Hydraulic Flood Engineering Analysis N. System		**no**	**n/a**	$2,500,000	1.5 years	Jan-11		$850,000	$1,650,000		$2,500,000			$2,500,000
3			Manhole Structure Flood Protection Design		**no**	**n/a**	$500,000	1 year	Jan-11		$250,000	$250,000		$500,000			$500,000
			Manhole Structure Flood Protection Construction		**no**	**n/a**	$5,000,000	2 years	Jul-13					$0	$5,000,000		$5,000,000
4		I&P FAMP	Interceptor AP - Interceptor Renewal # 5 Milton Sections 607/609/610	?	**yes**	**2**	$4,000,000	3 years	Jul-13						$4,000,000		$4,000,000
5			Interceptor AP - Interceptor Renewal # 6 Chelsea Sections 12/14/15/62	?	**yes**	**2**	$11,000,000	3 years	Jul-13						$11,000,000		$11,000,000
6			New Neponset VFD Replacement	2	**no**	**n/a**	$300,000	1 year	Jan-12			$75,000	$225,000	$300,000			$300,000
7			North Dorchester Outfall Cleaning Study/Design		**no**	**n/a**	$350,000	9 months	Sep-10		$350,000			$350,000			$350,000
8			Squantum Force Main Engineering Analysis		**no**	**n/a**	$250,000	1 year	Jan-11		$125,000	$125,000		$250,000			$250,000
9			Cottage Farm Fuel System Upgrades		**yes**	**3**	$300,000	7 months	Mar-11		$120,000	$180,000		$300,000			$300,000
10			Somerville/Marginal Gate Replacement		**yes**	**3**	$300,000	5 months	Jul-10		$300,000			$300,000			$300,000
Waterworks Project Requests																	
11	Drinking Water Quality Improvements	John J. Carroll Water Treatment Plant	Technical Assistance No. 5	2	**yes**	**2**	$563,000	2 years	Aug-10		$180,000	$270,000	$113,000	$563,000			$563,000
12			Technical Assistance No. 6	2	**yes**	**2**	$563,000	2 years	Aug-10		$180,000	$270,000	$113,000	$563,000			$563,000
13	Transmission	Quabbin Transmission System	CVA Intake Motorized Screen Replacement	3	**no**	**n/a**	$500,000	1 year	Jul-17						$500,000		$500,000
14		Quabbin Transmission System	Wachusett Lower Gatehouse Roof, Masonry Restoration & Weatherproofing	3	**no**	**n/a**	$2,200,000	4.5 years	Jul-13						$275,000	$1,925,000	$2,200,000
15		Dam Projects	Quinapoxet Permits and Preliminary Design		**no**	**n/a**	$100,000	1 year	Jan-11		$50,000	$50,000		$100,000			$100,000
			Quinapoxet Design/ESDC/RI		**no**	**n/a**	$200,000	5 years	Apr-13				$30,000	$30,000	$170,000	$0	$200,000
			Quinapoxet Dam Removal/Construction		**no**	**n/a**	$750,000	2 years	Jul-14						$750,000	$0	$750,000
16	Distribution And Pumping	Spot Pond Supply Mains - Rehab	Section 4 Webster Ave Bridge in Somerville Pipe Rehab Design	2	**no**	**n/a**	$500,000	1 year	Jul-11			$250,000	$250,000	$500,000			$500,000
			Section 4 Webster Ave Bridge in Somerville Pipe Rehab Construction		**no**		$1,500,000	1 year	Jul-12				$1,500,000	$1,500,000			$1,500,000
17			Section 50 Pipe Rehab, Vicinity of Medford Housing Authority Design	3	**yes**	**3**	$500,000	1 year	Jul-12				$250,000	$250,000	$250,000		$500,000
			Section 50 Pipe Rehab, Vicinity of Medford Housing Authority Design & Construction		**yes**		$1,500,000	1 year	Jul-13						$1,500,000		$1,500,000

Appendix I

FY11 CIP
NEW PROJECT REQUESTS

Ref No.	Program	Project	Subphase	Current Priority Rating	Included in the Master Plan	Priority Rating per the Master Plan	Total Contract Amount	Project Duration	NTP	FY10	FY11	FY12	FY13	FY09-13	FY14-18	Beyond FY18	Total Expenditures
18	Other Waterworks	Central Monitoring System	Winsor Dam Hi Line Replacement	3	**yes**	**3**	$1,000,000	1 year	Jan-11		$250,000	$750,000		$1,000,000			$1,000,000
19		Local Water Pipeline Assistance Program - CVA	Loans		**no**	**n/a**	$10,000,000	9 years	Nov-10		$1,000,000	$1,000,000	$1,000,000	$3,000,000	$5,000,000	$2,000,000	$10,000,000
			Repayments		**no**	**n/a**	($10,000,000)	18 years	Nov-11			($100,000)	($200,000)	($300,000)	($2,500,000)	($7,200,000)	($10,000,000)
20		Local Water System Assistance Program	Loans	3	**yes**	**3**	$200,000,000	20 years	Aug-10		$10,000,000	$10,000,000	$15,000,000	$35,000,000	$100,000,000	$65,000,000	$200,000,000
			Repayments		**yes**		($200,000,000)					($1,000,000)	($2,000,000)	($3,000,000)	($40,400,000)	($156,600,000)	($200,000,000)
Business & Ops Support Project Requests																	
21	Business & Operations Support	Equipment Purchase	Front-End Loader	3	**no**	**n/a**	$210,000	3 months	FY11		$210,000			$210,000			$210,000
22			High Lift Fork Loader (Lull)	3	**no**	**n/a**	$125,000	3 months	FY11		$125,000			$125,000			$125,000
23		Alternative Energy Initiatives	Delauri Pump Station Wind	5	**no**	**n/a**	$4,687,000	1.6 years	Feb-10	$151,000	$4,536,000			$4,687,000			$4,687,000
24			JJ Carroll WTP Solar	5	**no**	**n/a**	$2,187,000	7 months	Jan-10	$166,000	$2,021,000			$2,187,000			$2,187,000
25			Deer Island Wind Phase II	5	**no**	**n/a**	$2,500,000	1.5 years	Nov-10		$375,000	$1,750,000	$375,000	$2,500,000			$2,500,000
SUMMARY							**Total Contract Amount**			**FY10**	**FY11**	**FY12**	**FY13**	**FY09-13**	**FY14-18**	**Beyond FY18**	**Total Expenditures**
Total Wastewater Project Requests				**10**			**$25,100,000**			**$0**	**$1,995,000**	**$2,380,000**	**$625,000**	**$5,000,000**	**$20,100,000**	**$0**	**$25,100,000**
Total Waterworks Project Requests				**10**			**$9,876,000**			**$0**	**$11,660,000**	**$11,490,000**	**$16,056,000**	**$39,206,000**	**$65,545,000**	**($94,875,000)**	**$9,876,000**
Total Business & Ops Support Project Requests				**5**			**$9,709,000**			**$317,000**	**$7,267,000**	**$1,750,000**	**$375,000**	**$9,709,000**	**$0**	**$0**	**$9,709,000**
Total All New Projects Requests				**25**			**$44,685,000**			**$317,000**	**$20,922,000**	**$15,620,000**	**$17,056,000**	**$53,915,000**	**$85,645,000**	**($94,875,000)**	**$44,685,000**
Total Count, Contract Amount and Spending for New Projects IN Master Plan					**9**		**$19,726,000**				**$11,030,000**	**$10,470,000**	**$13,476,000**	**$34,976,000**	**$76,350,000**	**($91,600,000)**	**$19,726,000**
Total Count, Contract Amount and Spending for New Projects NOT in Master Plan					**16**		**$24,959,000**			**$317,000**	**$9,892,000**	**$5,150,000**	**$3,580,000**	**$18,939,000**	**$9,295,000**	**($3,275,000)**	**$24,959,000**
Total Count, Contract Amount and Spending for ALL New Projects Requests					**25**		**$44,685,000**			**$317,000**	**$20,922,000**	**$15,620,000**	**$17,056,000**	**$53,915,000**	**$85,645,000**	**($94,875,000)**	**$44,685,000**

Appendix J

Program	Project	Subphase	Total Contract Amount	FY09-13	Beyond CAP	Total Expenditures
Interception & Pumping	Braintree-Weymouth Relief Facilities	Braintree-Weymouth Improvements	$4,000,000	$408,000	$3,592,000	$4,000,000
	Corrosion & Odor Control	Nut Island Odor Control System Evaluation & Design	$1,000,000		$1,000,000	$1,000,000
		System-wide odor control study	$1,000,000		$1,000,000	$1,000,000
	Wastewater Central Monitoring	Wastewater Redundant Communications	$900,000	$850,000	$50,000	$900,000
	I&P FAMP	Caruso PS HVAC & Fire Detection System Upgrade	$1,000,000	$642,000	$358,000	$1,000,000
		Delauri PS Electrical Room Cooling	$250,000	$250,000	$0	$250,000
		System Relief & Contingency Planning Study	$500,000	$188,000	$312,000	$500,000
		Prison Point & Cottage Farm CSO Rehab - Study	$1,000,000	$1,000,000	$0	$1,000,000
		Prison Point Dry Weather Flow & Stripping Improvements	$750,000	$565,000	$185,000	$750,000
		Prison Point Gearbox Rebuilds	$1,000,000	$1,000,000	$0	$1,000,000
		Pump Station Rehab - Preliminary Design & Study	$750,000		$750,000	$750,000
Treatment	DI Treatment Plant Asset Protection	Clarifier Rehab Phase 2	$28,500,000	$4,100,000	$24,400,000	$28,500,000
		DITP Residuals Facility Rehab - Design	$3,000,000	$1,500,000	$1,500,000	$3,000,000
		DITP Residuals Facility Rehab - Construction	$20,000,000		$20,000,000	$20,000,000
	Clinton Wastewater Treatment Plant	Clinton WWTP-Auxillary Pumps	$300,000	$300,000	$0	$300,000
		Clinton WWTP Influent Gates	$300,000	$300,000	$0	$300,000
		Phosphorous Removal	$3,500,000	$1,095,000	$2,405,000	$3,500,000
Drinking Water Quality Improvements	John J. Carroll Water Treatment Plant	CWTP Storage Tank Roof Drainage System	$2,000,000		$2,000,000	$2,000,000
Transmission	MetroWest Tunnel	Shaft 5A / Shaft 5 Surface Piping Inspection and Restoration	$1,500,000		$1,500,000	$1,500,000
		Shaft 5 Electrical Upgrade	$1,000,000		$1,000,000	$1,000,000
	Sudbury / Weston Aqueduct Repairs	Ash Street Sluice Gates	$1,000,000		$1,000,000	$1,000,000
	Dam Projects	Goodnough Dike Drainage Improvement	$1,000,000		$1,000,000	$1,000,000
	Quabbin Transmission System	Rehabilitate Oakdale Turbine	$1,000,000		$1,000,000	$1,000,000
		Geo-Thermal Heating - Wachusett Lower Gatehouse	$200,000		$200,000	$200,000
		Rehab Wachusett Lower Gatehouse Chamber 4 Piping	$1,000,000		$1,000,000	$1,000,000
Distribution And Pumping	Chestnut Hill Connecting Mains	Chestnut Hill Underground Pump Station Electrical Rehab	$1,500,000	$225,000	$1,275,000	$1,500,000
	Rehab of Other Pumping Stations	Pump Station Rehabilitation	$25,000,000		$25,000,000	$25,000,000
Other Waterworks	Waterworks Facility Asset Protection	Shaft 9 Rehab	$2,000,000		$2,000,000	$2,000,000
		Elevated Water Storage Tank Repainting	$5,000,000		$5,000,000	$5,000,000
		Covered Storage Tank Rehabilitation	$5,000,000		$5,000,000	$5,000,000
Business & Operations Support	Business Systems Plan	NET 2020 DITP/Southboro	$2,100,000	$1,838,000	$262,000	$2,100,000
SUMMARY						
Total Wastewater Project			**$67,750,000**	**$12,198,000**	**$55,552,000**	**$67,750,000**
Total Water Projects			**$47,200,000**	**$225,000**	**$46,975,000**	**$47,200,000**
Total Business & Operations Support Projects			**$2,100,000**	**$1,838,000**	**$262,000**	**$2,100,000**
Total Projects			**$117,050,000**	**$14,261,000**	**$102,789,000**	**$117,050,000**

ADVISORY BOARD MEMBERS

CITY/TOWN	CEO	DESIGNEE
ARLINGTON	Clarissa Rowe	Michael Rademacher
ASHLAND	John Petrin	Edward Maguire
BEDFORD	Walter J. St. Onge III	Richard Warrington
BELMONT	Ralph T. Jones	Peter Castanino/Michael Bishop
BOSTON	Hon. Thomas Menino	John Sullivan, Jr.*
BRAINTREE	Hon. Joseph C. Sullivan	Greg Riley
BROOKLINE	Betsy DeWitt	Jay Hersey
BURLINGTON	Walter T. Zenkin	John Sanchez*
CAMBRIDGE	Hon. David Maher	Timothy MacDonald*
CANTON	John J. Connolly	Michael Trotta
CHELSEA	Jay Ash	Andrew DeSantis*
CHICOPEE	Hon. Michael Bissonnette	Walter Ruszala
CLINTON	James LeBlanc	
DEDHAM	Sarah MacDonald	David Field
EVERETT	Hon. Carlo DeMaria	Jon E. Norton
FRAMINGHAM	Charles J. Sisitsky	Peter Sellers
HINGHAM	John A. Riley	Edmund Demko/Michael Salerno
HOLBROOK	Timothy J. Gordon	Thomas Cummings
LEOMINSTER	Hon. Dean Mazzarella	
LEXINGTON	Hank Manz	William Hadley*
LYNN	Hon. Judith Flanagan Kennedy	Jay Fink*
LYNNFIELD	Arthur Bourque III	Paul R. Humphries
MALDEN	Hon. Richard C. Howard	John Russell
MARBLEHEAD	Jackie Belf-Becker	Charles R. McCollum
MARLBOROUGH	Hon. Nancy Stevens	Ron LaFreniere
MEDFORD	Hon. Michael J. McGlynn	Cassandra Koutalidis
MELROSE	Hon. Robert J. Dolan	
MILTON	Robert C. Sweeney	Katherine Haynes Dunphy**
NAHANT	Mark Cullinan	
NATICK	Charles M. Hughes	Winfield A. Peterson*
NEEDHAM	Maurice P. Handel	John Cosgrove/Robert Lewis
NEWTON	Hon. Setti D. Warren	Lou Taverna*
NORTHBOROUGH	Dawn Rand	Kara Buzanoski/John L. Meader
NORWOOD	Michael J. Lyons	Bernard Cooper*
PEABODY	Hon. Michael J. Bonfanti	Peter Smyrnios
QUINCY	Hon. Thomas P. Koch	Michael Coffey
RANDOLPH	Andrew L. Azer	Paul J. Connors
READING	James Bonazoli	Jeffrey Zager
REVERE	Hon. Thomas G. Ambrosino	Donald Goodwin
SAUGUS	Donald Wong	Joseph Attubato
SOMERVILLE	Hon. Joseph A. Curtatone	Rob King
SOUTH HADLEY	Robert G. Judge	John Mikuszewski
SOUTHBOROUGH	William J. Boland	Karen Galligan
STONEHAM	R. Paul Rotondi	John DeAmicis*
STOUGHTON	John J. Stagnone	Ana Singleton
SWAMPSCOTT	Matthew W. Strauss	Gino A. Cresta, Jr.
WAKEFIELD	Patrick S. Glynn	Carol Antonelli*/Richard Stinson
WALPOLE	Nancy Mackenzie	Patrick Fasanello
WALTHAM	Hon. Jeannette A. McCarthy	
WATERTOWN	Mark S. Sideris	Gerald Mee
WELLESLEY	Katherine L. Babson, Jr.	Walter Woods*
WESTON	Steven L. Charlip	Earl J. Forman
WESTWOOD	Patrick J. Ahearn	Robert Angelo/Vickie Vickrey Quiram
WEYMOUTH	Hon. Susan M. Kay	Michael L.J. Chiasson
WILBRAHAM	Patrick J. Brady	Zigmund A. Peret*
WILMINGTON	Louis Cimaglia, IV	Michael Woods/Joseph Lobao
WINCHESTER	Forrest Fontana	Stephen Swymer
WINTHROP	Jeffrey Rosario Turco	Guy Brandenstein
WOBURN	Hon. Scott Galvin	Anthony Blazejowski
WORCESTER	Hon. Joseph C. O'Brien	Robert Moylan, Jr.

Gubernatorial Appointees:
Quabbin and Ware Watershed - J.R. Greene
Wachusett Watershed - Barbara Wyatt
Environmental Protection - Vacant
Boston Harbor - Vacant
Boston Harbor - Vacant
Connecticut River Basin - Vacant

MAPC Appointee:
Edward G. Bates

**Member of Executive Committee*
***Chairman of Executive Committee*

Advisory Board Designees to the MWRA Board of Directors:
John Carroll – *Norwood*
Andrew Pappastergion – *Brookline*
Joseph Foti – *Chelsea*