



MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
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Boston, MA 02129

Frederick A. Laskey
Executive Director

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ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

Chair: J. Foti
Vice-Chair: J. Barrera
Committee Members:
J. Carroll
K. Cotter
A. Pappastergion
B. Swett
J. Walsh

to be held on

Wednesday, June 26, 2013

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: 10:00 a.m.

AGENDA

A. Information

1. Delegated Authority Report – May 2013
2. FY13 Financial Update and Summary as of May 2013

B. Approvals

1. Final FY14 Capital Improvement Program
2. Final FY14 Current Expense Budget
3. Final FY14 Water and Sewer Assessments
4. Amendment 3 to Memorandum of Understanding with the Department of Public Safety for Electrical Inspections

C. Contract Awards

1. Automated Vehicle Locator Tracking System: Location Technologies, Inc., Contract A586

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Administration, Finance and Audit Committee

June 5, 2013

A meeting of the Administration, Finance and Audit Committee was held on June 5, 2013 at the Authority headquarters in Charlestown. Chairman Foti presided. Present from the Board were Messrs. Barrera, Carroll, Cotter, Flanagan, Pappastergion, Vitale, Swett and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Rachel Madden, Paul Whelan, and Bonnie Hale. The meeting was called to order at 12:00 p.m.

Approvals

***MWRA FY14 Insurance Program Renewal**

Mr. Laskey apologized for the late submittal of the staff summary, noting that staff was negotiating for the best rates right up to the last minute. The Committee recommended approval of the FY14 Insurance Renewal Program (ref. agenda item A.1).

The meeting adjourned at 12:05 p.m.

* Approved as recommended at June 5, 2013 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: Delegated Authority Report – May 2013



COMMITTEE: Administration, Finance & Audit


X INFORMATION
VOTE



Rachel C. Madden

Director, Administration & Finance

Barbie Aylward, Administrator
Frank Renda, Data & Information Coordinator
Preparer/Title



Michele Gillen

Deputy Director, Administration & Finance

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period May 1 through May 31, 2013.

This report is broken down into three sections:

- Awards of Construction, non-professional and professional services contracts and change orders and amendments in excess of \$25,000, including credit change orders and amendments in excess of \$25,000;
- Awards of purchase orders in excess of \$25,000; and
- Amendments to the Position Control Register, if applicable.

BACKGROUND:

The Board of Directors' Management Policies and Procedures, as amended by the Board's vote on October 14, 2009, delegate authority to the Executive Director to approve the following:

Construction Contract Awards:

Up to \$1 million if the award is to the lowest bidder; or up to \$500,000 if the award is to other than the lowest bidder.

Change Orders:

Up to 25% of the original contract amount or \$250,000, whichever is less, where the change increases the contract amount, and for a term not exceeding an aggregate of six months; and for any amount and for any term, where the change decreases the contract amount. The delegations for cost increases and time can be restored by Board vote.

Professional Service Contract Awards:

Up to \$100,000 and one year with a firm; or up to \$50,000 and one year with an individual.

Non-Professional Service Contract Awards:

Up to \$250,000 if a competitive procurement process has been conducted, or up to \$100,000 if a procurement process other than a competitive process has been conducted.

Purchase or Lease of Equipment, Materials or Supplies:

Up to \$1 million if the award is to the lowest bidder; or up to \$500,000 if the award is to other than the lowest bidder.

Amendments:

Up to 25% of the original contract amount or \$250,000, whichever is less, and for a term not exceeding an aggregate of six months.

Amendments to the Position Control Register:

Amendments which result only in a change in cost center.

BUDGET/FISCAL IMPACT:

Recommendations for delegated authority approval include information on the budget/fiscal impact related to the action. For items funded through the capital budget, dollars are measured against the approved capital budget. If the dollars are in excess of the amount authorized in the budget, the amount will be covered within the five-year CIP spending cap. For items funded through the Current Expense Budget, variances are reported monthly and year-end projections are prepared at least twice per year. Staff review all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA budget.

DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT/CO	COMPANY	FINANCIAL IMPACT
05/09/13	MISCELLANEOUS FENCING AND GUARD RAIL AWARD OF CHANGE ORDER 3 TO CONTRACT 6760T, MISCELLANEOUS FENCING AND GUARD RAIL, REDUCING THE QUANTITY OF BID ITEMS TO REFLECT ACTUAL QUANTITIES USED	6760T	3	STEELCO CHAIN LINK FENCE ERECTING CO. INC.	(\$59,935.00)
05/09/13	MISCELLANEOUS FENCING AND GUARD RAIL AWARD OF CHANGE ORDER 4 TO CONTRACT 6760T, ADD FENCING AND ASSIGN A PORTION OF THE CREDIT IN CHANGE ORDER 3 TO THE TYPE OF FENCING THAT IS NECESSARY TO BE INSTALLED BEFORE THE EXPIRATION OF THE CONTRACT	6760T	4	STEELCO CHAIN LINK FENCE ERECTING CO. INC.	\$44,405.40
05/09/13	THERMAL AND HYDRO POWER PLANT MAINTENANCE AWARD OF CHANGE ORDER 3 TO CONTRACT 5500, THERMAL AND HYDRO POWER PLANT MAINTENANCE; INCREASE IN NON EMERGENCY MAINTENANCE AND REPAIR, EMERGENCY MAINTENANCE AND REPAIR AND REPLACEMENT PARTS, BASED UPON REASONABLE ASSUMPTIONS AND PREVIOUS CONTRACT HISTORY	5500	3	O'CONNOR CONSTRUCTORS	\$45,575.00
05/09/13	NORTH MAIN PUMP STATION VARIABLE FREQUENCY DRIVE AND SYNCHRONOUS MOTOR REPLACEMENT, DEER ISLAND TREATMENT PLANT AWARD OF CHANGE ORDER 5 TO CONTRACT 6903, NORTH MAIN PUMP STATION VARIABLE FREQUENCY DRIVE AND SYNCHRONOUS MOTOR REPLACEMENT; FURNISH AND INSTALL AN ADDITIONAL 2,700 SQUARE FEET OF ETHYLENE PROPYLENE DIENE MONOMER MEMBRANE ROOFING SYSTEM ON THE NORTH MAIN PUMPING STATION ROOF	6903	5	J.F. WHITE CONTRACTING COMPANY	\$63,848.02
05/17/13	WESTON RESERVOIR DISINFECTION FACILITY ABOVEGROUND FUEL STORAGE TANK SYSTEM AWARD OF CONTRACT OP-203, WESTON RESERVOIR DISINFECTION FACILITY ABOVEGROUND FUEL STORAGE TANK SYSTEM, FOR FURNISHING AND INSTALLING A COMPLETE ABOVEGROUND DIESEL FUEL STORAGE SYSTEM, CONSISTING OF A TANK, PUMP EQUIPMENT, FUEL MANAGEMENT SYSTEM, TANK MONITORING SYSTEM, CONCRETE SLAB SUPPORT, CONNECTION TO THE ELECTRICAL SYSTEM, AND LANDSCAPE RESTORATION, WHICH REPLACES AN UNDERGROUND TANK REMOVED IN JUNE 2011	OP-203		TMC SERVICES INC, d/b/a TMC ENVIRONMENTAL	\$71,200.00
05/17/13	DEER ISLAND TREATMENT PLANT - LIGHTING IMPROVEMENTS PLAN PHASE 2 EXTERIOR AWARD OF CONTRACT 5519, DEER ISLAND TREATMENT PLANT LIGHTING IMPROVEMENTS PHASE 2 EXTERIOR, TO REPLACE 110 EXISTING HIGH-PRESSURE SODIUM EXTERIOR ROADWAY LIGHTING FIXTURES WITH NEW LED FIXTURES, RESULTING IN ENERGY SAVINGS AND REDUCED MAINTENANCE COSTS	5519		HORIZONS SOLUTIONS LLC	\$93,157.16
05/24/13	KEY PROJECT WORK CREW SERVICES AT DEER ISLAND AND NUT ISLAND AWARD OF CONTRACT 5518, KEY PROJECT WORK CREW SERVICES AT DEER ISLAND AND NUT ISLAND, FOR SUPPLEMENTAL GROUNDS-KEEPING AND PUBLIC ACCESS AREA CLEANING SERVICES AT DEER ISLAND AND NUT ISLAND	5518		ROCA, INC	\$50,000.00
05/24/13	OVERHEAD DOOR MAINTENANCE SERVICES, VARIOUS MWRA FACILITIES AWARD OF CONTRACT OP-212, OVERHEAD DOOR MAINTENANCE SERVICES, VARIOUS MWRA FACILITIES, FOR SCHEDULED PREVENTIVE MAINTENANCE, EMERGENCY AND NON-EMERGENCY CORRECTIVE MAINTENANCE, AND REPLACEMENT PARTS, FOR 80 OVERHEAD DOORS AT VARIOUS MWRA WATER AND WASTEWATER FACILITIES IN THE EASTERN PORTION OF MWRA'S SERVICE AREA	OP-212		COLLINS OVERHEAD DOOR, INC	\$81,800.00
05/24/13	WESTERN OPERATIONS FACILITIES GROUNDSKEEPING SERVICES AWARD OF CONTRACT OP-210, WESTERN OPERATIONS FACILITIES GROUNDSKEEPING SERVICES, TO PROVIDE GROUNDSKEEPING SERVICES AT THE JOHN J CARROLL WATER TREATMENT PLANT, NORUMBEGA COVERED STORAGE FACILITY AND RESERVOIR 3 IN FRAMINGHAM, FOR A 21 MONTH PERIOD	OP-210		SHADY TREE LANDSCAPING, INC	\$94,299.00

PURCHASING DELEGATED AUTHORITY ITEMS - MAY 1 - 31, 2013

DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
5/9/13	HP PROLIANT SERVERS AWARD OF A PURCHASE ORDER, TO THE LOWEST RESPONSIVE BIDDER, FOR 3 HP PROLIANT SERVERS, TO ALLOW CONSOLIDATION OF ALL PRODUCTION-BASED VIRTUAL SERVERS ONTO A SINGLE, STANDARDIZED, RELIABLE, REDUNDANT INFRASTRUCTURE COMPRISED OF THESE 3 SERVERS, REDUCING MAINTENANCE, ADMINISTRATION AND ENERGY COSTS BY SHARING PHYSICAL RESOURCES	WRA-3622Q		P&J SYSTEMS, INC	\$43,401.00
5/9/13	PROCESS INFORMATION SOFTWARE ANNUAL MAINTENANCE AND SUPPORT AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THE ANNUAL MAINTENANCE AND SUPPORT OF PROCESS INFORMATION SOFTWARE, FOR THE PERIOD JULY 1, 2013 THROUGH JUNE 30, 2014			OSI SOFT, LLC	\$70,522.50
5/9/13	HEWLETT-PACKARD ANNUAL MAINTENANCE AND SUPPORT AWARD OF A PURCHASE ORDER FOR THE ANNUAL MAINTENANCE AND SUPPORT OF HEWLETT PACKARD EQUIPMENT, UNDER STATE BLANKET AGREEMENT #ITC47, FOR THE PERIOD JULY 1, 2013 THROUGH JUNE 30, 2014	SC-#ITC47		HEWLETT-PACKARD COMPANY	\$173,707.24
5/9/13	SUPPLY AND DELIVERY OF SODIUM BISULFITE - DEER ISLAND AWARD OF A ONE-YEAR PURCHASE ORDER CONTRACT, TO THE LOWEST RESPONSIVE BIDDER, FOR THE SUPPLY AND DELIVERY OF SODIUM BISULFITE TO THE DEER ISLAND TREATMENT PLANT	WRA-3623		UNIVAR USA, INC	\$176,467.50
5/17/13	TRANSFORMERS AWARD OF A PURCHASE ORDER, TO THE LOWEST RESPONSIVE BIDDER, FOR 6 REPLACEMENT TRANSFORMERS FOR THE DEER ISLAND TREATMENT PLANT, TO BE PLACED IN INVENTORY FOR IMMEDIATE REPLACEMENT IN THE EVENT OF FUTURE TRANSFORMER FAILURES, MINIMIZING DOWNTIME	WRA-3621Q		NEEDHAM ELECTRIC SUPPLY CORP	\$27,340.00
5/17/13	INVASIVE PLANT CONTROL AT THE CHESTNUT HILL RESERVOIR AWARD OF A PURCHASE ORDER, TO THE LOWEST RESPONSIVE BIDDER, FOR INVASIVE PLANT CONTROL AT THE CHESTNUT HILL RESERVOIR	WRA-3607		AQUATIC CONTROL TECHNOLOGY, INC	\$89,450.00
5/17/13	DUMP TRUCKS AWARD OF A PURCHASE ORDER, TO THE LOWEST RESPONSIVE BIDDER, FOR 3 FREIGHTLINER DUMP TRUCKS, UNDER STATE BLANKET AGREEMENT #VEH93, REPLACING 3 EXISTING SIX-WHEEL DUMP TRUCKS THAT ARE BETWEEN NINE AND TWENTY YEARS OLD WHICH HAVE REACHED THE END OF THEIR USEFUL LIVES	WRA-3625Q - SC#VEH93		BOSTON FREIGHTLINER, INC	\$391,350.00
5/20/13	ULTRA-LOW SULFUR #2 DIESEL FUEL AWARD OF A PURCHASE ORDER, UNDER STATE BLANKET CONTRACT #ENE32, FOR 252,000 GALLONS OF ULTRA-LOW SULFUR #2 DIESEL FUEL FOR THE DEER ISLAND TREATMENT PLANT THERMAL/POWER PLANT	SC-#ENE32		GLOBAL MONTELLO GROUP	\$775,429.20
05/24/13	AQUARIUS SOFTWARE LICENSES AWARD OF A PURCHASE ORDER FOR 18 AQUARIUS SOFTWARE WORKSTATION AND SERVER LICENSES, CONSULTING SERVICES, TECHNICAL SUPPORT AND TRAINING, THE SOFTWARE WILL BE UTILIZED BY THE SOUTHBOROUGH QA DATA MANGEMENT GROUP FOR REPORTING TIME SERIES DATA FOR WATER QUALITY COMPLIANCE PURPOSES AND THE ENQUAD GROUP FOR EPA/DEP COMPLIANCE REPORTING	SC-#ITS42		SHI INTERNATIONAL	\$80,900.00
05/30/13	BATTERY BANK REPLACEMENTS AWARD OF A PURCHASE ORDER, TO THE LOWEST RESPONSIVE BIDDER, FOR BATTERY BANK REPLACEMENTS FOR THE ADMIN/LAB BUILDING, THE NORTH MAIN PUMP STATION AND THE WINTHROP TERMINAL FACILITY BUILDING, THESE BATTERY BANKS HAVE REACHED THE AGE AT WHICH DEER ISLAND'S BATTERY MAINTENANCE PROGRAM DICTATES THEY BE REPLACED, EVERY FOUR YEARS	WRA-3619Q		ATLANTIC BATTERY CO, INC	\$36,256.00
05/30/13	GIS SOFTWARE ANNUAL MAINTENANCE AND SUPPORT AWARD OF A PURCHASE ORDER FOR THE ANNUAL MAINTENANCE AND SUPPORT OF ARC GIS SOFTWARE, UNDER STATE BLANKET AGREEMENT #ITS48, FOR THE PERIOD JULY 1, 2013 THROUGH JUNE 30, 2014	SC-#ITS48		ESRI INC	\$39,650.00
05/30/13	FY 13 LAPTOPS REPLACEMENT AWARD OF A PURCHASE ORDER, TO THE LOWEST RESPONSIVE BIDDER, FOR 70 LAPTOP COMPUTERS, UNDER STATE BLANKET AGREEMENT #ITC47, REPLACING EXISTING LAPTOPS THAT ARE FIVE YEARS OLD AND OLDER, ADDRESSING INCREASED TECHNOLOGY REQUIREMENTS AND REDUCING OUT OF WARRANTY INVENTORY	WRA-3634Q - SC #ITC47		HUB TECHNICAL SERVICES	\$61,840.80
05/30/13	GRIT SCREW CLASSIFIER AWARD OF A PURCHASE ORDER, TO THE LOWEST RESPONSIVE BIDDER, FOR ONE GRIT SCREW CLASSIFIER FOR THE DEER ISLAND TREATMENT PLANT, AS A SPARE FOR THE WEST GRIT FACILITY, TO ENSURE IMMEDIATE RE-ESTABLISHMENT OF REDUNDANCY IN CASE OF A FAILURE	WRA-3610		OVIVO USA, LLC	\$95,816.00


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: FY13 Financial Update and Summary



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE


Kathy Soni, Budget Director
David Whelan, Budget Manager
Preparer/Title




Rachel C. Madden
Director, Administration and Finance

RECOMMENDATION:

For information only. This staff summary provides the financial update and variance highlights through May 2013, comparing actual spending to the FY13 Budget, and a year-end projection for the Current Expense Budget.

DISCUSSION:

Total year-to-date expenses are below budget by \$7.0 million or 1.2% mainly due to lower Direct Expenses of \$7.0 million and lower Indirect Expenses of \$381,000 offset by \$323,000 for the loss of Debt Service Assistance (DSA). Non-rate Revenues exceed the budget by \$1.7 million. This resulted in a net total favorable variance of \$8.6 million.

The month of May debt service savings were \$2.5 million which brought the year-to-date defeasance account balance to \$13.1 million. The savings from favorable short-term rates are projected to grow to \$16.7 million at year-end when all variable rate debt including commercial paper (estimated at \$3.3 million) are reconciled. Beyond the variable rate, staff are projecting an additional \$4.2 million in debt service savings based on the timing of the State Revolving Fund (SRF) payment requirements and the effect of not issuing the new money borrowing originally budgeted for this year, offset by \$350,000 for the loss of Debt Service Assistance. As a result, the total Capital Finance savings deposited into the defeasance account are projected to reach \$20.6 million by year-end. However, there are other projected surplus funds that will be used for the \$25 million defeasance approved by the Board.

Beyond Capital Finance related variances of \$20.6 million, staff project a surplus of approximately \$9.2 million at year-end of which \$7.8 million is for lower Direct Expenses, \$316,000 is for lower Indirect Expenses, and \$1.1 million is for greater than budgeted revenue. After the \$25 million defeasance, the total FY13 projected surplus is \$4.8 million.

Please refer to Attachment 4 for a more detailed comparison by line item.

Total Expenses were lower than budget by \$7.0 million or 1.2%.

	FY13 Budget (May)	FY13 Actual (May)	\$ Variance	% Variance
Direct Expenses	\$194.1	\$187.1	-\$7.0	-3.6%
Indirect Expenses	\$42.9	\$42.6	-\$0.3	-0.7%
Debt Service	\$342.9	\$343.2	\$0.3	0.1%
Total	\$579.9	\$572.9	-\$7.0	-1.2%

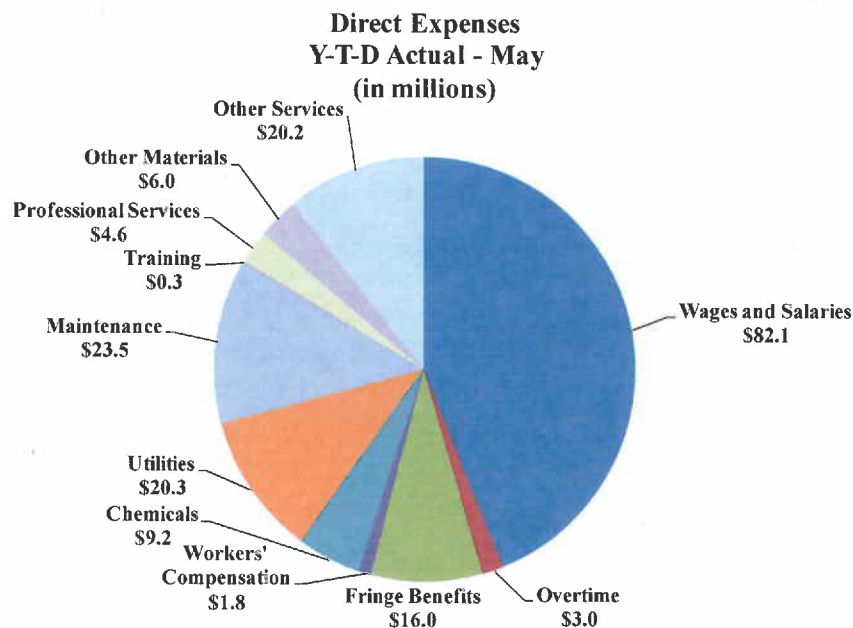
The largest variances year-to-date are driven by Direct Expenses which are lower than budget by \$7.0 million for wages and salaries, maintenance, utilities, other services, fringe benefits, professional services, overtime, and workers' compensation offset by overspending for other materials and chemicals.

Indirect Expenses are below budget by \$318,000 for lower Harbor Electric Energy (HEEC) maintenance expenses and Watershed related expenses due to an FY12 overaccrual, offset by higher insurance claims.

Staff also recognized the year-to-date loss of \$323,000 for Debt Service Assistance (DSA) as a result of the Governor's 9C budget cuts.

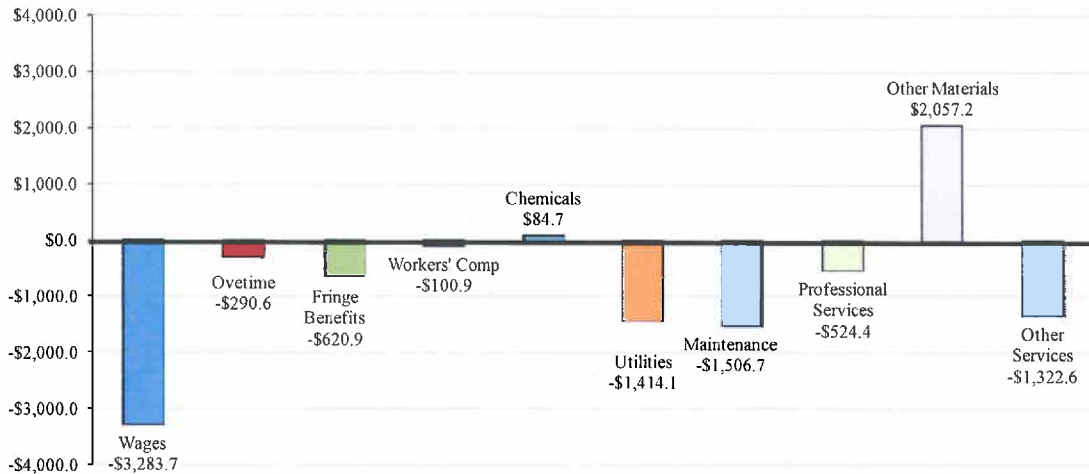
Direct Expenses

Direct Expenses total \$187.1 million, \$7.0 million or 3.6% less than budget. The chart below represents the make-up of direct expense spending by category.



The primary reason for underspending on Direct Expenses is lower spending for: wages and salaries, maintenance, utilities, other services, fringe benefits, professional services, overtime, and workers' compensation offset by higher other materials and chemicals.

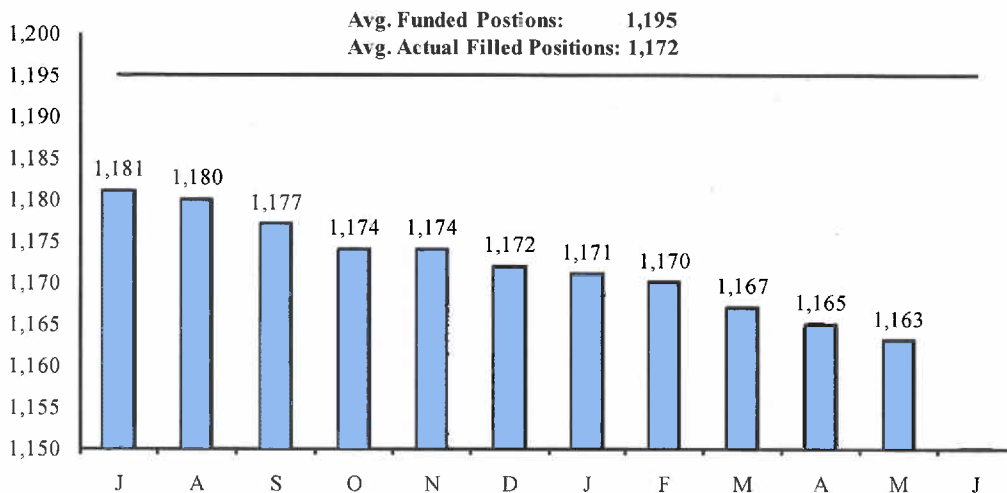
FY13 Direct Expense Variance (Year-To-Date May)
(in 000's)



Wages and Salaries

Wages and Salaries are underspent by \$3.3 million or 3.8% mainly as a result of lower than budgeted filled positions and the salary mix differential between staff retiring and new hires coming on board at lower rates. The average actual filled positions were 1,172 which is 23 positions lower than the 1,195 positions funded. Additionally, MWRA currently has 8 temporary employees.

FY13 MWRA Headcount Trend



Maintenance

Maintenance is underspent by \$1.5 million or 6.0% year-to-date. Services are lower than budget by \$2.3 million while materials are overspent by \$770,000. The underspending for services is at Deer Island mainly due to lower than budgeted janitorial costs, painting and coating services due to delay in contract start, and lower than projected need for medium/low voltage services and in Field Operations due to the timing of the Bellevue roofing replacement project, lower than budgeted spending for paving and fire alarm contract spending, and timing of instrumentation services.

Utilities

Utilities are underspent \$1.4 million or 6.5% mainly due to timing of delivery for Diesel Fuel at Deer Island and lower pricing at Deer Island and Field Operations and lower natural gas due to pricing offset by higher electricity costs of \$367,000 due to higher commodity pricing during the winter months primarily at Deer Island.

Other Services

Other Services are lower than budget by \$1.3 million or 6.2% mainly due to lower than budgeted sludge quantities. Sludge quantities year-to-date are approximately 5% lower, 99.3 tons per day versus 104.8 budgeted. The majority of the underspending for sludge is due to operational changes related to maintenance projects. The Other Services category is also underspent due lower than projected spending for contaminant monitoring and remediation activities.

Fringe Benefits

Fringe Benefits are underspent by \$621,000 or 3.7% year-to-date in FY13 mainly due to lower than budgeted health insurance costs resulting from lower headcount and because new employees contribute at a higher percentage (25% versus 20%) than employees hired before July 2003.

Professional Services

Professional Services are underspent by \$524,000 or 10.2% mainly due to lower than budgeted report preparation and as-needed services for the Harbor Monitoring program of \$149,000, timing of IT Strategic Plan initiatives of \$85,000, and lower than budgeted need for outside legal services of \$40,000.

Overtime

Overtime is underspent by \$291,000 or 8.8% mainly at Deer Island due to lower than budgeted wet weather response through May.

Workers' Compensation

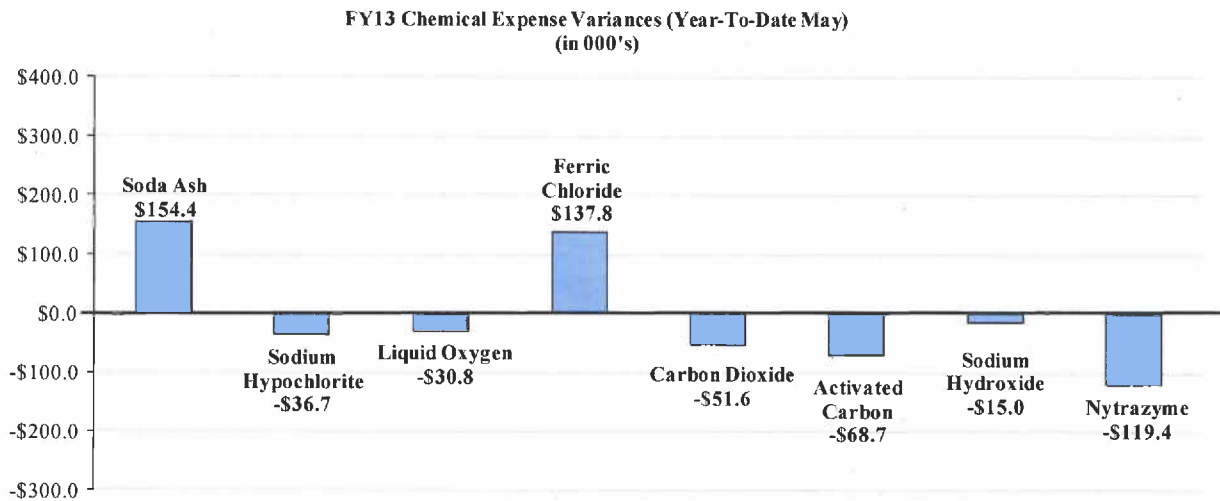
Workers' Compensation expenses are lower than budget by \$101,000 or 5.2%. To date, actual reserves are trending below budget by \$175,000 while actual payments are higher than budget by \$74,000. It should be noted that more than \$100,000 of the underspending is due to two cases for which we expect reimbursements from the secondary insurer.

Other Materials

Other Materials are higher than budget by \$2.1 million or 51.9% due to the purchase of the unbudgeted Motorola radios and the timing of vehicle purchases offset by lower than projected gravel purchases at Clinton.

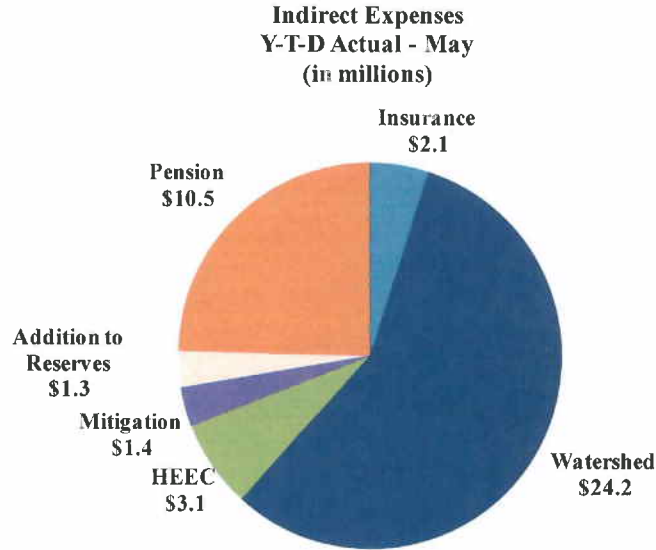
Chemicals

Chemicals are overspent by \$85,000 or 0.9% year-to-date. The majority of the variance is attributable to higher spending on Soda Ash due to price increases offset by lower than budgeted spending for Nitrazyme for corrosion control.



Indirect Expenses

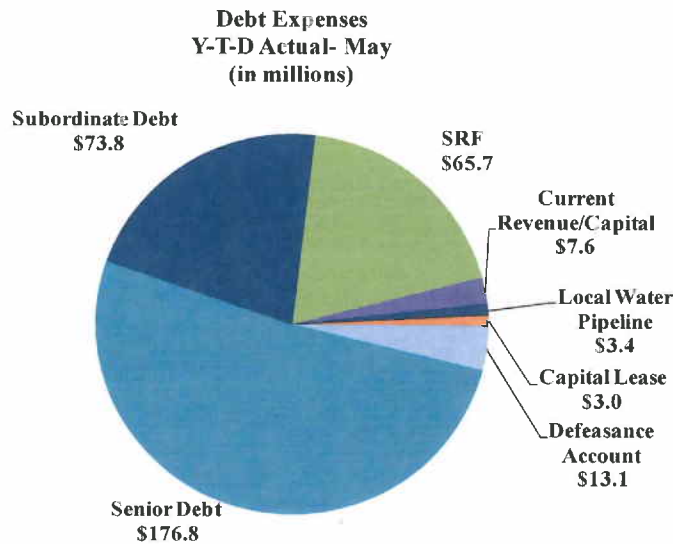
Indirect Expenses year-to-date total \$42.6 million, \$318,000 or 0.7% less than budget.



The majority of the year-to-date underspending on Indirect Expenses is for lower Harbor Electric Energy Company (HEEC) expenses of \$240,000 due to the timing of maintenance projects and lower Watershed expenses of \$200,000 due to a FY12 overaccrual offset by higher Insurance expenses of \$154,000 due to recognition of higher projected claims.

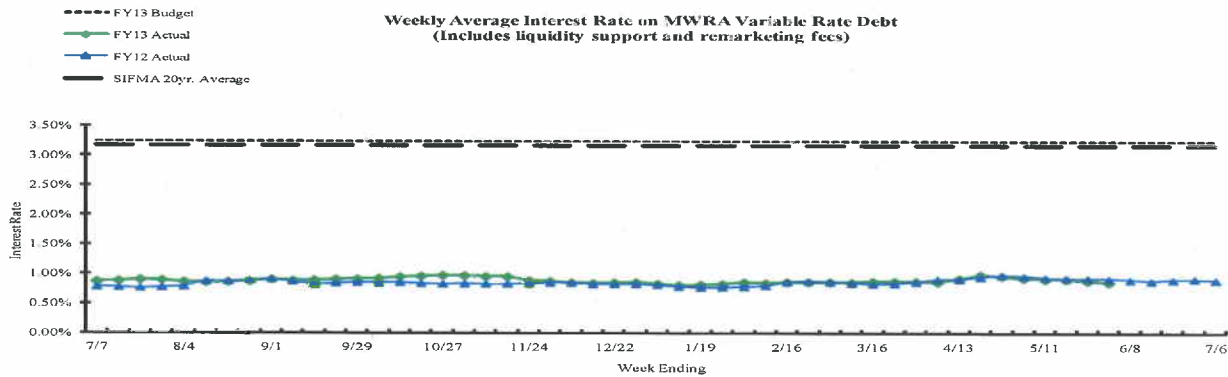
Debt Service Expenses

Debt Service expenses include the principal and interest payment for fixed debt, the variable subordinate debt, and the State Revolving Fund (SRF) obligation, the commercial paper program for the Local Water Pipeline projects, current revenue for capital, and the Chelsea facility lease payment.



Debt Service expenses through May totaled \$343.2 million which is higher than budget by \$323,000 after the transfer of \$13.1 million of a favorable year-to-date variance to the Defeasance Account and recognition of the loss of Debt Service Assistance (DSA) per the Governor's 9C budget cuts.

The graph below reflects the variable rate trend by month over the past year in comparison with FY12 Actuals and the FY13 Budget for the same period.



Revenue

Year-to-date revenue for FY13 totals \$588.2 million which is \$1.7 million or 0.3% higher than budget due to higher non-rate revenue of \$2.5 million offset by lower Investment Income of \$848,000 due to lower than budgeted short-term rates.

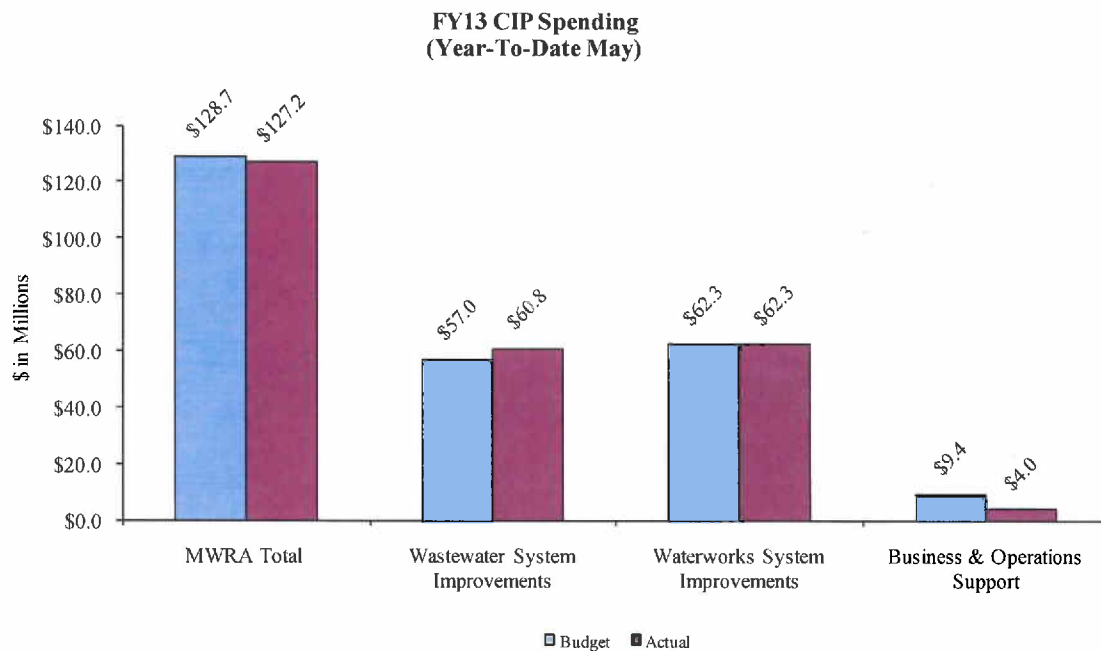
The higher Non-rate Revenue is due to \$701,000 for Profit/Loss for Disposal of Equipment/Land for the sale of land in Chelsea and sale of surplus vehicles and equipment, \$673,000 for higher net energy related revenue mostly for Charlestown Wind and Renewable Portfolio Standard (RPS) sales, \$433,000 is for Federal Emergency Management Agency (FEMA) reimbursements, and approximately \$375,000 for NSTAR and a variety of other vendor rebates and other smaller items.

FY13 Capital Improvement Program

Spending year-to-date in FY13 totals \$127.2 million, \$1.5 million or 1.2% lower than budget. In FY13, community-related program spending is unusual in that significantly larger loans and grants were requested by communities than expected. After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) program, the Local Water Pipeline program, and the community managed Combined Sewer Overflow (CSO's) projects, the underspending is \$31.2 million or 24.3%.

Overspending was reported in the Wastewater program of \$3.8 million offset by underspending in Business and Operations Support of \$5.4 million.

Spending By Program:



\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	4.3	1.9	-2.4	-56.9%
Treatment	27.8	13.7	-14.1	-50.7%
Residuals	0.5	0.4	-0.2	-33.2%
CSO	22.5	24.5	2.0	8.8%
Other	1.8	20.4	18.6	1008.3%
Total Wastewater System Improvements	\$57.0	\$60.8	\$3.8	6.7%
Waterworks System Improvements				
Drinking Water Quality Improvements	39.7	31.9	-7.8	-19.7%
Transmission	15.1	15.8	0.8	5.0%
Distribution & Pumping	7.4	3.8	-3.7	-49.3%
Other	0.1	10.8	10.7	9865.8%
Total Waterworks System Improvements	\$62.3	\$62.3	\$0.0	0.0%
Business & Operations Support	\$9.4	\$4.0	-\$5.4	-57.1%
Total MWRA	\$128.7	\$127.2	-\$1.5	-1.2%

The main reasons for FY13 year-to-date overspending are:

1. **Wastewater Other** of \$18.6 million – primarily due to Inflow and Infiltration (I/I) community requests for grants and loans being greater than budgeted.
2. **Water Other** of \$10.7 million – primarily due to community requests for Local Water Pipeline Improvement Loans being greater than budgeted.
3. **Combined Sewer Overflow (CSOs)** of \$2.0 million – primarily for Cambridge Sewer Separation of \$2.8 million for greater than anticipated award and progress. Also, Reserved Channel Sewer Separation is over budget by \$1.3 million due to greater progress offset by North Dorchester Bay of \$1.0 million due to schedule shift and lower than projected need and additional nominal underspending on other projects for a cumulative effect of \$1.1 million.

The overspending was offset by underspending for:

1. **Wastewater Treatment** of \$14.1 million – mainly for delays for Electrical Equipment Upgrade Construction of \$1.1 million, Scum Skimmer Replacement of \$1.0 million, Power System Improvements of \$827,000, Expansion Joint repair – Construction 2 of \$714,000, Digester Modifications 1 & 2 Pipe Replacement of \$706,000, Thermal/Power Plant Boiler Control of \$667,000, and Gravity Thickener Center Column Construction of \$583,000, HVAC Equipment Replacement Design of \$547,000, Centrifuge Backdrive Replacement of \$544,000 and Fuel Pipe Abandonment of \$520,000, and net underspending on a variety of other projects totaling approximately \$6.9 million.
2. **Drinking Water Quality Improvements** of \$7.8 million – mainly for lower than budgeted spending for Spot Pond of \$6.6 million due to project delays, Quabbin Water Treatment Plant of \$513,000 due to schedule change and lower award value on Ultraviolet Disinfection Construction, Carroll Water Treatment Plant of \$480,000, and Blue Hills Covered Storage of \$261,000.
3. **Business and Operations Support** of \$5.4 million – mainly for lower spending on MIS projects of \$2.3 million due to timing of IT Strategic Plan implementation, Alternative Energy of \$2.3 million due to delay of Deer Island Phase 2 Wind Construction and lower than projected need for technical assistance, and lower Centralized Equipment Purchase of \$822,000 mainly due to timing of larger vehicle purchases.
4. **Water Distribution and Pumping** of \$3.7 million – mainly for lower spending on Northern Intermediate High of \$2.3 million primarily due to delays on Gillis Pump Station Improvements, Southern Spine Distribution Mains of \$681,000 due to Section 21, 43, & 22 Design CA/RI work and due to the credit change order on Section 107 Phase 2 Construction, Valve Replacement of \$381,000 due to less than anticipated change orders, and net underspending on a variety of other projects totaling approximately \$312,000.
5. **Wastewater Interception & Pumping** of \$2.4 million – mainly due to Prison Point Pump and Gear Boxes of \$744,000 due to timing, Melrose Sewer repayment of \$654,000 for past work budgeted in FY12 and received in FY13, and Braintree-Weymouth Relief

Facilities of \$802,000 offset by overspending on Upper Neponset Valley Sewer System of \$278,000 due to timing.

Construction Fund Balance

The construction fund balance was at \$151 million as of May 2013. Commercial Paper availability was at \$206 million to fund construction projects.

Attachment 1 – Variance Summary May 2013

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

Attachment 4 – FY13 Final versus FY13 Year-End Projection

ATTACHMENT 1

	May 2013 Year-to-Date					
	Period 11 YTD Budget	Period 11 YTD Actual	Period 11 YTD Variance	%	FY13 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	\$ 85,336,512	\$ 82,056,411	\$ (3,280,101)	-3.8%	\$ 94,059,400	87.2%
OVERTIME	3,316,227	3,025,590	(290,637)	-8.8%	3,573,495	84.7%
FRINGE BENEFITS	16,670,422	16,049,563	(620,859)	-3.7%	18,241,926	88.0%
WORKERS' COMPENSATION	1,925,000	1,824,140	(100,860)	-5.2%	2,100,000	86.9%
CHEMICALS	9,118,822	9,203,477	84,655	0.9%	9,963,496	92.4%
ENERGY AND UTILITIES	21,747,257	20,333,145	(1,414,112)	-6.5%	23,127,198	87.9%
MAINTENANCE	25,042,814	23,536,159	(1,506,655)	-6.0%	28,229,070	83.4%
TRAINING AND MEETINGS	322,842	271,990	(50,852)	-15.8%	385,617	70.5%
PROFESSIONAL SERVICES	5,127,421	4,599,478	(527,943)	-10.3%	5,900,785	77.9%
OTHER MATERIALS	3,965,233	6,022,399	2,057,166	51.9%	5,591,291	107.7%
OTHER SERVICES	21,479,321	20,156,757	(1,322,564)	-6.2%	23,743,608	84.9%
TOTAL DIRECT EXPENSES	\$ 194,051,871	\$ 187,079,109	\$ (6,972,760)	-3.6%	\$ 214,915,886	87.0%
INSURANCE	\$ 1,936,500	\$ 2,090,350	\$ 153,850	7.9%	\$ 2,097,875	99.6%
WATERSHED/PILOT	24,381,392	24,181,004	(200,388)	-0.8%	26,413,175	91.5%
BECo PAYMENT	3,378,872	3,138,540	(240,332)	-7.1%	3,741,915	83.9%
MITIGATION	1,446,390	1,399,711	(46,679)	-3.2%	1,566,923	89.3%
ADDITIONS TO RESERVES	1,290,765	1,290,765	-	0.0%	1,398,329	92.3%
RETIREMENT FUND	10,474,376	10,490,247	15,871	0.2%	10,474,376	100.2%
TOTAL INDIRECT EXPENSES	\$ 42,908,295	\$ 42,590,617	\$ (317,678)	-0.7%	\$ 45,692,593	93.2%
STATE REVOLVING FUND	\$ 66,761,629	\$ 65,749,098	\$ (1,012,531)	-1.5%	\$ 73,804,552	89.1%
SENIOR DEBT	176,860,428	176,762,582	(97,846)	-0.1%	193,432,134	91.4%
DEBT SERVICE ASSISTANCE	(323,077)	-	323,077	-100.0%	(350,000)	0.0%
CURRENT REVENUE/CAPITAL	7,569,231	7,569,231	-	0.0%	8,200,000	92.3%
SUBORDINATE MWRA DEBT	85,707,706	85,707,706	-	0.0%	93,303,807	91.9%
LOCAL WATER PIPELINE CP	3,360,477	3,360,477	-	0.0%	3,640,517	92.3%
CAPITAL LEASE	2,969,594	2,969,594	-	0.0%	3,217,060	92.3%
VARIABLE DEBT	-	(11,953,685)	(11,953,685)	---	-	0.0%
DEFEASANCE ACCOUNT	-	13,064,063	13,064,063	---	-	0.0%
TOTAL DEBT SERVICE	\$ 342,905,988	\$ 343,229,066	\$ 323,077	0.1%	\$ 375,248,070	91.5%
TOTAL EXPENSES	\$ 579,866,154	\$ 572,898,792	\$ (6,967,361)	-1.2%	\$ 635,856,549	90.1%
REVENUE & INCOME						
RATE REVENUE	\$ 560,780,308	\$ 560,780,308	\$ -	0.0%	\$ 607,512,000	92.3%
OTHER USER CHARGES	7,146,765	7,102,890	(43,875)	-0.6%	7,766,692	91.5%
OTHER REVENUE	5,179,081	7,751,886	2,572,805	49.7%	6,116,845	126.7%
INVESTMENT INCOME	13,390,105	12,542,149	(847,956)	-6.3%	14,461,012	86.7%
TOTAL REVENUE & INCOME	\$ 586,496,259	\$ 588,177,233	\$ 1,680,972	0.3%	\$ 635,856,549	92.5%

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY13 Budget YTD May	FY13 Actuals YTD May	FY13 YTD Actual vs. FY13 Budget		Explanations
			\$	%	
<u>Direct Expenses</u>					
Wages & Salaries	85,336,512	82,052,819	(3,283,693)	-3.8%	Underspending is due to lower headcount, employees on unpaid leave status, and the salary mix differential between retirees and new hires. As of May the average filled positions were 1,172 which is 23 positions less than the 1,195 funded positions.
Overtime	3,316,227	3,025,590	(290,637)	-8.8%	Underspending mainly at Deer Island.
Fringe Benefits	16,670,422	16,049,563	(620,859)	-3.7%	Underspending for Health Insurance of \$477k, Medicare of \$82k, and Dental Insurance of \$27k mainly due to lower headcount.
Worker's Compensation	1,925,000	1,824,140	(100,860)	-5.2%	Underspending due to lower reserves of \$175k offset by higher payments of \$74k.
Chemicals	9,118,822	9,203,477	84,655	0.9%	Overspending mainly for Soda Ash of \$154k due to pricing offset by lower spending for Nitrazyme of \$119k for corrosion control.
Utilities	21,747,257	20,333,145	(1,414,112)	-6.5%	Underspending for Diesel Fuel of \$1.7 million due to lower than projected need at Deer Island and lower pricing at both Deer Island and Field Operations and lower Natural Gas of \$44k due to pricing offset by higher electricity costs of \$367k due to higher commodity pricing during the winter months primarily at Deer Island.
Maintenance	25,042,814	23,536,159	(1,506,655)	-6.0%	Maintenance Services are lower than budget by \$2.3 million mainly due to lower than projected need for services while materials are overspent by \$770k mainly due to timing.
Training & Meetings	322,842	271,990	(50,852)	-15.8%	Underspending related to less than projected need.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY13 Budget YTD May	FY13 Actuals YTD May	FY13 YTD Actual vs. FY13 Budget		Explanations
			\$	%	
Professional Services	5,127,421	4,603,070	(524,351)	-10.2%	Underspending due to lower than budgeted report preparation and as-needed services for the Harbor Monitoring program of \$149k, lower than budgeted need for as-needed Engineering services of \$89k and timing of IT Strategic Plan initiatives of \$85k.
Other Materials	3,965,233	6,022,399	2,057,166	51.9%	Overspending for Equipment/Furniture of \$1.8 million due to the receipt of unbudgeted Motorola radios and Vehicle Purchases of \$230k due to timing offset by lower Other Materials of \$83k mainly due to projected gravel purchases at Clinton.
Other Services	21,479,321	20,156,757	(1,322,564)	-6.2%	Underspending for Sludge Pelletization of \$753k due to lower quantities and Other Services of \$540k mainly due to the timing of contaminant monitoring and remediation activities, as well as lower than budgeted spending for the Historic Photo Digitization initiative.
Total Direct Expenses	194,051,871	187,079,109	(6,972,760)	-3.6%	
Indirect Expenses					
Insurance	1,936,500	2,090,350	153,850	7.9%	Overspending due to higher payments for claims of \$147k.
Watershed/PILOT	24,381,392	24,181,004	(200,388)	-0.8%	Underspending for lower Watershed Reimbursement due to a FY12 overaccrual.
HEEC Payment	3,378,872	3,138,540	(240,332)	-7.1%	Lower reimbursements of \$240k mainly due to the timing of maintenance projects.
Mitigation	1,446,390	1,399,711	(46,679)	-3.2%	Underspending due to lower mitigation charges.
Addition to Reserves	1,290,765	1,290,765	-	0.0%	
Pension Expense	10,474,376	10,490,247	15,871	0.2%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	42,908,295	42,590,617	(317,678)	-0.7%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY13 Budget YTD May	FY13 Actuals YTD May	FY13 YTD Actual vs. FY13 Budget		Explanations
			\$	%	
Debt Service					
Debt Service	343,229,066	343,229,066	-	0.0%	Debt Service expenses are at budgeted levels after the transfer of \$13.1 million favorable short-term year-to-date variance to the Defeasance Account.
Debt Service Assistance	(323,077)	-	323,077	-100.0%	Reflects the loss of Debt Service Assistance (DSA) per the Governor's 9C budget cuts.
Total Debt Service Expenses	342,905,989	343,229,066	323,076	0.1%	
Total Expenses					
	579,866,154	572,898,792	(6,967,361)	-1.2%	
Revenue & Income					
Rate Revenue	560,780,308	560,780,308	-	0.0%	
Other User Charges	7,146,765	7,102,890	(43,875)	-0.6%	
Other Revenue	5,179,081	7,751,886	2,572,804	49.7%	Higher non-rate revenue is due to \$701k for Profit/Loss for Disposal of Equipment/Land for the sale of land in Chelsea and sale of surplus vehicles and equipment, \$673k in higher net energy-related revenue mostly for Charlestown Wind and Renewable Portfolio Standard (RPS) sales, \$433k for Federal Emergency Management Agency (FEMA) reimbursements, and approximately \$375k for NSTAR and other vendor rebates and other smaller items.
Rate Stabilization	-	-	-		
Investment Income	13,390,105	12,542,149	(847,957)	-6.3%	Lower Investment Income mainly due to lower than budgeted short-term interest rates.
Total Revenue	586,496,259	588,177,233	1,680,972	0.3%	
Net Revenue in Excess of Expenses	6,630,105	15,278,441	8,648,333		

**ATTACHMENT 3
Capital Improvement Program Variance Explanations**

	FY13 Budget YTD May	FY13 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Interception & Pumping (I&P)	\$4,295	\$1,850	(\$2,444)	-56.9%	Underspending for Prison Point Pump & Gearbox Rebuilds of \$744,000 due to schedule shift, Melrose Sewer reimbursement of \$654,000 for prior year's contractual obligations, Braintree-Weymouth Relief Facilities Wetlands Replication of \$375,000 due to timing, North System Hydraulic Study of \$239,000 due to time extension, DeLauri Pump Station Upgrades of \$210,000 due to schedule shift, and other underspending of \$1.0M. Offset by higher spending for Upper Neponset Valley Sewer System Land Acquisition of \$313,000 due to timing and Chelsea Creek Upgrades - Design/Construction Administration of \$298,000 and Cottage Farm Fuel System Upgrade of \$201,000 due to contractor progress.
Treatment	\$27,832	\$13,711	(\$14,121)	-50.7%	Underspending due to Electrical Equipment Upgrades - Construction 4 of \$1.1M, Scum Skimmer Replacement of \$1.0M, Power System Improvements - Construction of \$827,000 and Thermal Power Plant Boiler Controls Replacement of \$667,000, due to schedule shifts; Expansion Joint Repair - Construction 2 of \$714,000 and Gravity Thickener Center Columns Replacement of \$583,000 due to delayed notice-to-proceed; Digester Modules 1 & 2 Pipe Replacement of \$706,000 due to time required to empty digester; Fuel Pipe Abandonment project of \$520,000 due to lower award and schedule shift. Additional net underspending on a number of other projects totaling \$8.0M.
Residuals	\$536	\$358	(\$178)	-33.2%	

ATTACHMENT 3
Capital Improvement Program Variance Explanations

	FY13 Budget YTD May	FY13 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
CSO	\$22,489	\$24,467	\$1,978	8.8%	Overspending on Cambridge Sewer Separation of \$2.8M for award greater than budgeted progress and the Reserved Channel Sewer Separation of \$1.3M due to greater contractor progress. Offset by underspending on North Dorchester Bay of \$1.0M primarily due to schedule shift on North Dorchester Outfall - Inspection and less than anticipated Construction Management Services on the Tunnel & Facilities, South Dorchester Bay Sewer Separation (Commercial Point) of \$352,000, and Morrissey Boulevard Drain of \$308,000 for less than anticipated design services.
Other Wastewater	\$1,844	\$20,436	\$18,592	-	Overspending on Infiltration and Inflow (I/I) due to community requests for grants and loans being greater than budgeted.
Total Wastewater	\$56,996	\$60,822	\$3,827	6.7%	
Drinking Water Quality Improvements	\$39,685	\$31,874	(\$7,811)	-19.7%	Underspending for Spot Pond Storage Facility of \$6.6M primarily due to delayed start of concrete work, Quabbin Water Treatment Plant of \$513,000 mainly for Ultraviolet Disinfection - Design/CA/RI and Construction due to schedule shifts, Carroll Water Treatment Plant of \$480,000 for CP7 Existing Facility Modifications and Fitout Construction due to schedule shifts and Ancillary Modifications - Construction 2 due to longer than anticipated lead time for specialized equipment and lower award offset by overspending for Carroll Water Treatment Plant Ultraviolet Disinfection Construction due to contractor progress, and Blue Hills Covered Storage of \$261,000.

ATTACHMENT 3
Capital Improvement Program Variance Explanations

	FY13 Budget YTD May	FY13 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Transmission	\$15,072	\$15,824	\$752	5.0%	Overspending for MetroWest Supply Tunnel of \$1.8M mainly due to contractor progress on Upper Hultman and Quabbin Transmission System of \$1.1M due to contractor progress on Oakdale Phase I Electrical Design and Construction contracts. Offset by lower spending on Long Term Redundancy Sudbury Aqueduct - MEPA Review of \$1.3M due to lower award and schedule change, and Quabbin Aqueduct & Winsor Pump Station Upgrades - Design of \$400,000 due to schedule shifts.
Distribution & Pumping	\$7,440	\$3,770	(\$3,670)	-49.3%	Underspending on Northern Intermediate High Redundancy & Storage of \$2.3M mainly due to schedule shift on Gillis Pump Station Improvements, Southern Spine Distribution Mains of \$681,000 mainly due to less than anticipated resident engineering and inspection services on Sections 21, 43 & 22 and a credit change order on Section 107 Phase 2 Construction, and Valve Replacement of \$381,000 mainly due to expected change orders being less than anticipated on Construction 7.
Other Waterworks	\$109	\$10,839	\$10,730	-	Overspending on Local Water Pipeline Assistance Program due to community requests for loans being greater than budgeted by \$10.7M.
Total Waterworks	\$62,306	\$62,307	\$1	0.0%	
Business & Operations Support	\$9,407	\$4,038	(\$5,370)	-57.1%	Underspending due to MIS-related projects of \$2.3M due to timing of IT Strategic Plan implementation, Alternative Energy of \$2.3M mainly due to delay of Deer Island Phase II Wind Construction and lower than projected as-needed technical assistance, and Centralized Equipment Purchases of \$822,000 due to timing of security equipment and vehicle purchases.
Total MWRA	\$128,708	\$127,167	(\$1,542)	-1.2%	

ATTACHMENT 4

FY13 Projection vs FY13 Approved Budget

TOTAL MWRA	FY13 Approved Budget	FY13 Projection	Change	
			FY13 Approved Budget vs FY13 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 94,059,400	\$ 90,475,707	\$ (3,583,693)	-3.8%
OVERTIME	3,573,496	3,419,699	(153,797)	-4.3%
FRINGE BENEFITS	18,241,926	17,544,064	(697,862)	-3.8%
WORKERS' COMPENSATION	2,100,000	1,975,000	(125,000)	-6.0%
CHEMICALS	9,963,496	10,091,441	127,945	1.3%
ENERGY AND UTILITIES	23,127,198	22,644,960	(482,238)	-2.1%
MAINTENANCE	28,229,070	26,079,070	(2,150,000)	-7.6%
TRAINING AND MEETINGS	385,617	304,564	(81,053)	-21.0%
PROFESSIONAL SERVICES	5,900,785	5,176,434	(724,351)	-12.3%
OTHER MATERIALS	5,591,291	7,074,347	1,483,056	26.5%
OTHER SERVICES	23,743,608	22,342,058	(1,401,550)	-5.9%
TOTAL DIRECT EXPENSES	\$ 214,915,886	\$ 207,127,344	\$ (7,788,543)	-3.6%
INSURANCE	\$ 2,097,875	\$ 2,251,725	\$ 153,850	7.3%
WATERSHED/PILOT	26,413,175	26,309,530	(103,645)	-0.4%
HEEC PAYMENT	3,741,915	3,379,550	(362,365)	-9.7%
MITIGATION	1,566,923	1,546,923	(20,000)	-1.3%
ADDITIONS TO RESERVES	1,398,329	1,398,329	-	0.0%
RETIREMENT FUND	5,750,085	5,765,956	15,871	0.3%
POSTEMPLOYMENT BENEFITS/ ADDITIONAL PENSION DEPOSIT	4,724,291	4,724,291	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 45,692,593	\$ 45,376,304	\$ (316,289)	-0.7%
DEBT SERVICE (before offsets)	\$ 375,598,070	\$ 371,361,714	\$ (4,236,356)	-1.1%
VARIABLE RATE DEBT	-	(16,661,374)	(16,661,374)	
DEFEASANCE ACCOUNT		20,547,730	20,547,730	
BOND REDEMPTION		-	-	
DEBT SERVICE ASSISTANCE	(350,000)	-	350,000	-100.0%
TOTAL DEBT SERVICE	\$ 375,248,070	\$ 375,248,070	\$ -	0.0%
TOTAL EXPENSES	\$ 635,856,549	\$ 627,751,718	\$ (8,104,832)	-1.3%
REVENUE & INCOME				
RATE REVENUE	\$ 607,512,000	\$ 607,512,000	\$ 0	0.0%
OTHER USER CHARGES	7,766,693	7,766,693	-	0.0%
OTHER REVENUE	6,116,844	8,216,844	2,100,000	34.3%
RATE STABILIZATION			-	
INVESTMENT INCOME	14,461,012	13,461,012	(1,000,000)	-6.9%
TOTAL REVENUE & INCOME	\$ 635,856,549	\$ 636,956,549	\$ 1,100,000	0.2%
 VARIANCE	 \$ -	 \$ (9,204,832)	 \$ (9,204,832)	

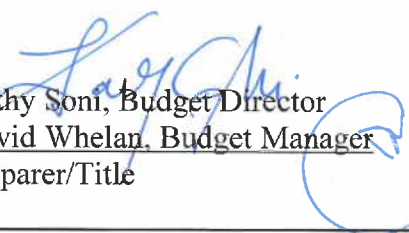
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: FY14 Final Capital Improvement Program



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE


David Whelan, Budget Manager
 Preparer/Title


Rachel C. Madden
 Director, Administration and Finance

The FY14 Capital Improvement Program represents a significant milestone as FY14 is the first year of the next five-year cap. Most importantly, the FY14-18 cap marks the beginning of a new era for the MWRA in that for the first time, MWRA will be reducing its total bonded indebtedness over the cap period by paying off more principal on debt than the annual capital spending.

It is important to note that the proposed \$791.7 million spending cap is the lowest of any five-year period since 1990.

RECOMMENDATION:

1. To approve the FY14 Capital Improvement Program (CIP), with \$150.1 million spending level, including contingency.
2. To approve a capital budget spending cap for the five-year period FY14 through FY18 at \$791.7 million and annual spending as specified in the table below; provided further that spending for any year should not exceed the annual base-line cap by more than 20%, with the goal of spending at least 80% of the base-line cap; provided further that overall spending for FY14-18 does not increase.

	FY14*	FY15	FY16	FY17	FY18	FY14-18
Cap Spending (in millions)	\$ 145.8	\$ 159.1	\$ 166.4	\$ 161.3	\$ 159.1	\$ 791.7

* FY14 Cap funding includes spending, contingency, inflation and is offset by Chicopee Valley Aqueduct (CVA) adjustments.

In the event that the annual base-line cap limit is exceeded and/or the total five-year spending projection exceeds the five-year base-line cap, the Executive Director may request approval from the Board of Directors for higher spending.

3. To approve the Responses to the Advisory Board's Comments and Recommendation on MWRA's Fiscal Year 2014 Proposed Capital Improvement Program (Attachment D).

DISCUSSION:

The FY14 Final Capital Improvement Program represents an update to the FY14 Proposed program presented to the Board in December 2012.

The spending projections put forth today are the result of prioritizing the projects driven by the Master Plan, establishing realistic estimates based on the latest information, striking a balance between maintenance and infrastructure improvements, and taking some risks while ensuring there is adequate support for the core operations and to meet all regulatory operating permit requirements.

Recognizing that capital spending is an important component of the MWRA's long standing multi-year rates management strategy, staff took into consideration a variety of factors when establishing future projected spending levels. Factors such as the on-going economic challenges facing our communities, the Authority's goal to pay down its daunting outstanding debt of \$5.8 billion, the evolving nature of the CIP program from major new construction projects and mandated requirements to Asset Protection and Water Redundancy projects, and finally the Advisory Board recommendations, all contributed to shaping the program.

It should be noted that the FY14 Final CIP increased \$30.5 million from the FY14 Proposed CIP mostly for increased cost estimates for the remaining Cambridge Combined Sewer Overflow (CSO) projects which increased nearly \$21.0 million and expanded Asset Protection initiatives which increased \$6.0 million.

The FY14 Final CIP Cap for the FY14-18 period is \$791.7 million, a decrease of \$1.8 million or 0.2% from the FY14 Proposed CIP Cap. The cap presented today meets the Advisory Board recommendation that capital spending within the FY14-18 timeframe not exceed \$800 million.

FY14-18 Cap Spending

The FY14 Final CIP budget anticipates capital expenditures in the FY14-18 timeframe to total \$718.0 million. Including contingency of \$46.1 million and inflation of \$37.9 million offset by Chicopee Valley Aqueduct adjustments of \$10.3 million, the FY14 Final FY14-18 cap totals \$791.7 million which is \$348 million less than the average of the prior two five-year caps.

The Base-Line Cap

The FY14 Final CIP establishes the FY14-18 Base-Line cap at \$791.7 million with the following breakdown.

FY14 Final		FY14	FY15	FY16	FY17	FY18	Total FY14-18
	Projected Expenditures		\$142.5	\$147.6	\$149.3	\$141.8	\$136.8
Contingency		7.6	9.5	10.1	9.8	9.3	46.1
Inflation on Unawarded Construction		0.8	4.2	8.4	11.1	13.5	37.9
Less: Chicopee Valley Aqueduct Projects		(5.0)	(2.2)	(1.4)	(1.3)	(0.4)	(10.3)
FY14 Final FY14-18 Cap		145.8	159.1	166.4	161.3	159.1	\$791.7

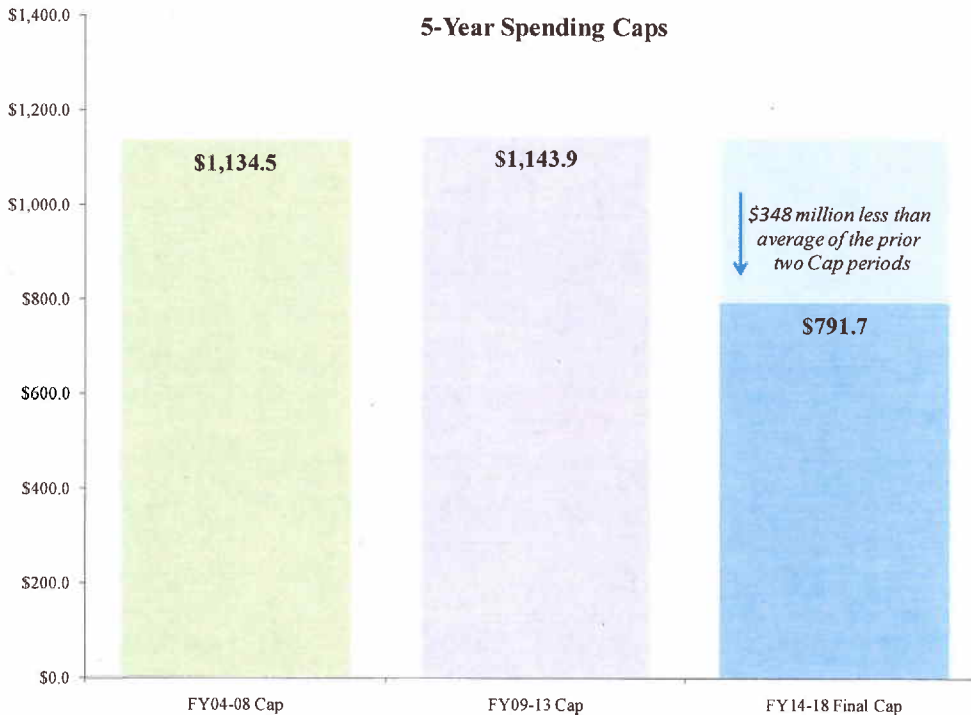
FY14 Final CIP Cap Comparison to the FY14 Proposed CIP Cap

The FY14 Proposed CIP FY14-18 cap cash flow totaled \$793.5 million with the following breakdown.

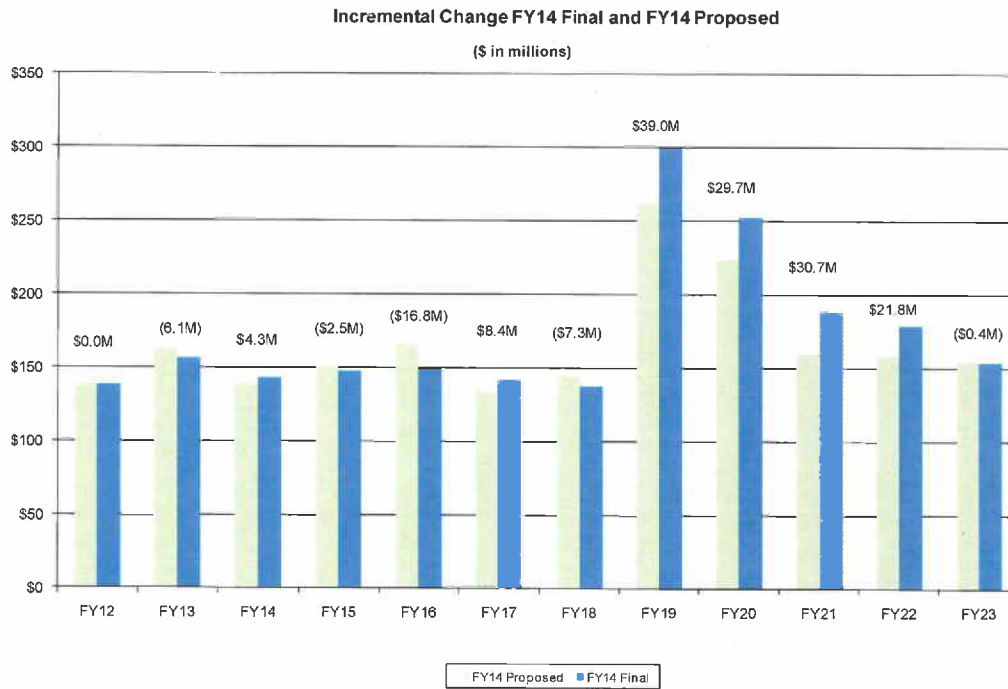
FY14 Proposed		FY14	FY15	FY16	FY17	FY18	Total FY14-18
	FY14 Proposed FY09-13 Cap		143.0	159.6	178.5	145.1	167.3

FY14 Draft Final vs. FY14 Proposed		FY14	FY15	FY16	FY17	FY18	Total FY14-18
	FY09-13 Cap (\$ Change)	\$2.8	(\$0.5)	(\$12.1)	\$16.2	(\$8.2)	(\$1.8)
	FY09-13 Cap (% Change)	2.0%	-0.3%	-6.8%	11.2%	-4.9%	-0.2%

The FY14 Final CIP FY14-18 cap cash flow totals \$791.7, a decrease \$1.8 million or 0.2% from the FY14 Proposed CIP and is \$348.0 million or 31.0% less than the \$1,139.2 million average of the prior two cap periods.



The table below shows the incremental change by fiscal year between the FY14 Final and FY14 Proposed CIP:

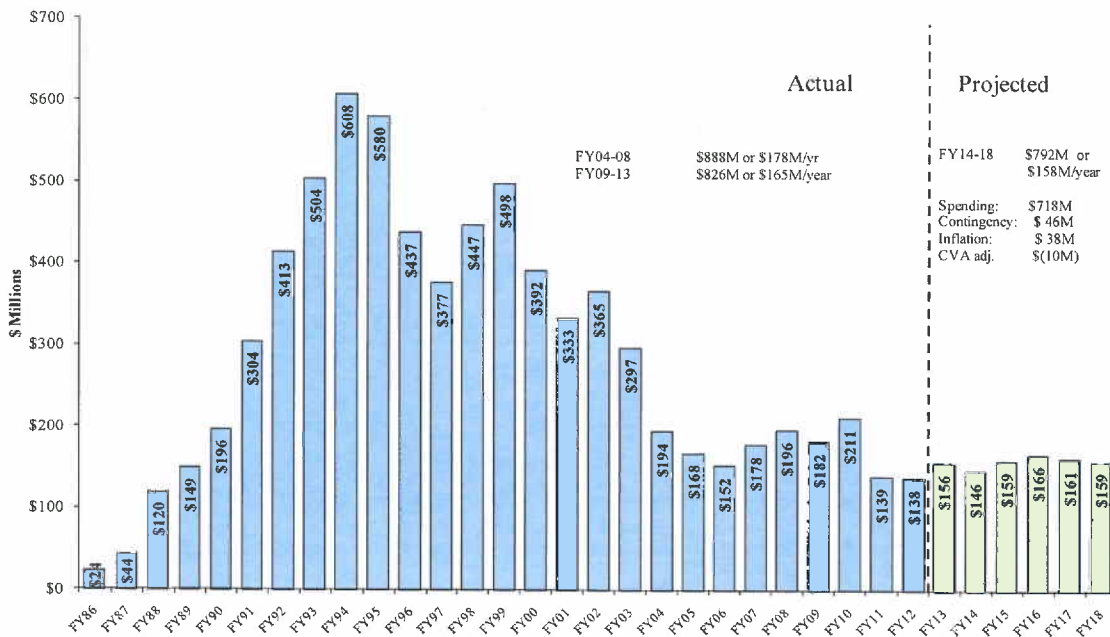


Some of the large changes between the FY14 Proposed and FY14 Final include:

- Increased cost estimates for the remaining Cambridge Combined Sewer Overflow (CSO) projects;
- More realistic award dates for Deer Island projects;
- Weston Aqueduct Supply Main 3 - six month delay;
- Prison Point Pump & Gear Box/Diesel Engine Upgrades, Alewife Brook Construction, and Siphon Structure Rehabilitation cost increases; and
- MIS structural changes to reflect the IT study recommendations and implementation schedule.

Historical Spending

The chart below captures the historical CIP spending through FY12 and projected spending with contingency to FY18 based on the FY14 Final CIP.



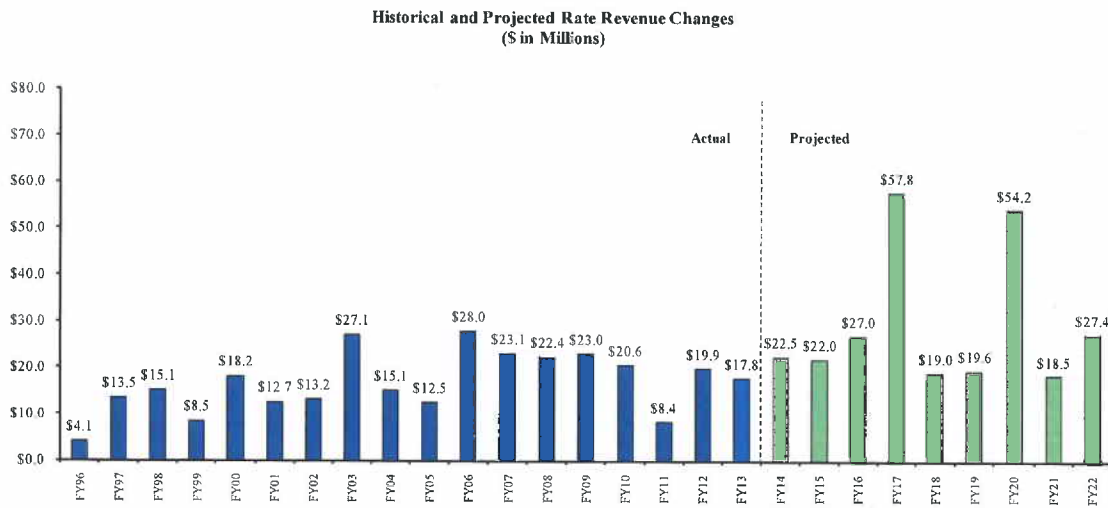
The five-year cap concept was introduced in the FY04 budget cycle and covered the FY04-08 period. The first cap level was established at \$1.134 billion.

The average spending for FY04-08 was \$178 million per year and based on the FY14 Final CIP, we are currently projecting that average spending during the current FY09-13 Cap will be \$165 million, and projected average annual spending during the FY14-18 Cap period will be just over \$158 million per year.

MWRA Capital Improvement Spending versus Debt Service

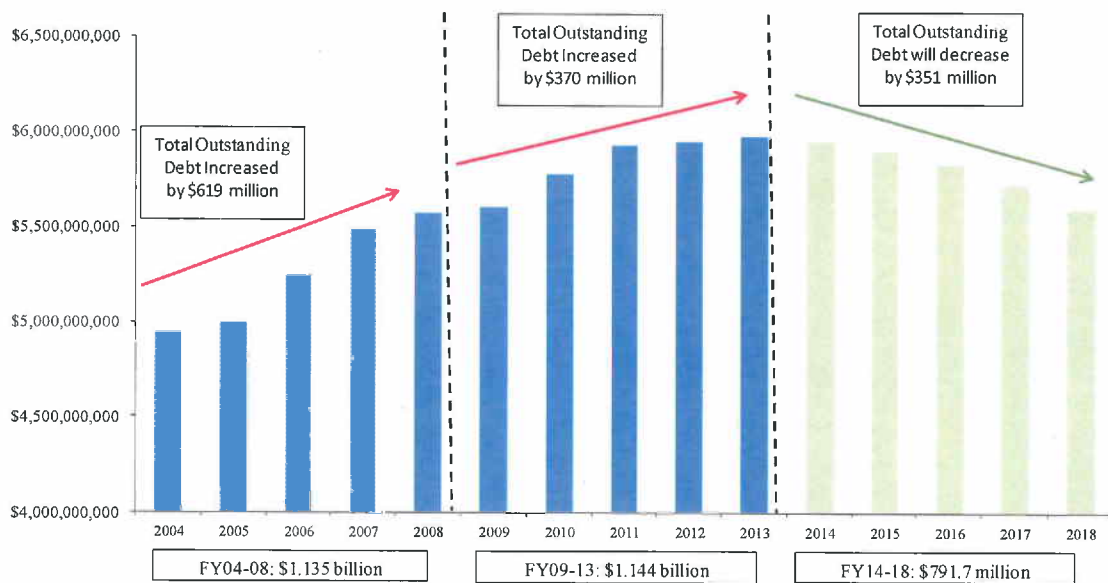
As of June 30th, MWRA's total debt will be \$5.8 billion which results in significant increases in debt service obligations in the upcoming years. The Authority's debt service obligation as a percent of total expenses has increased from 36% in 1990 to 60% in the FY14 Final Current Expense Budget.

The graph below shows the projected Rate Revenue Requirement changes updated with the FY14 CIP spending and debt service projections.



Through FY22, the Rate Revenue Requirement increases an average of \$27.0 million per year, mostly driven by Debt Service related expenses. However, for the first time, MWRA will be reducing its total bonded indebtedness over the next cap period.

MWRA's Outstanding Debt



As shown on the preceding page, MWRA staff projects a \$351 million decline in outstanding debt during the FY14-18 Cap period. Despite some challenging years ahead such as 2017 and 2020, the Authority's long-term rates management strategy has been working successfully over the years. Using various financial tools, including restructurings, refundings, defeasances, maximum use of the State Revolving Fund (SRF) program funding, controlling direct and indirect expenses, making voluntary pension payments whenever possible, and renegotiating bond indenture terms; have resulted in reasonable and predictable assessment increases over the years.

As the Authority continues on the path of conservative and responsible fiscal management, the future assessment rates continue to be reasonable and manageable for our member communities.

The Shift from Mandated Projects

Since 1985, nearly 80% of the Authority's spending has been on court mandated projects. Going forward, Asset Protection and Water System Redundancy projects will dominate future spending. The Pipeline Replacement and Rehabilitation, Energy program initiatives, and IT infrastructure updates will also be a continuing effort.

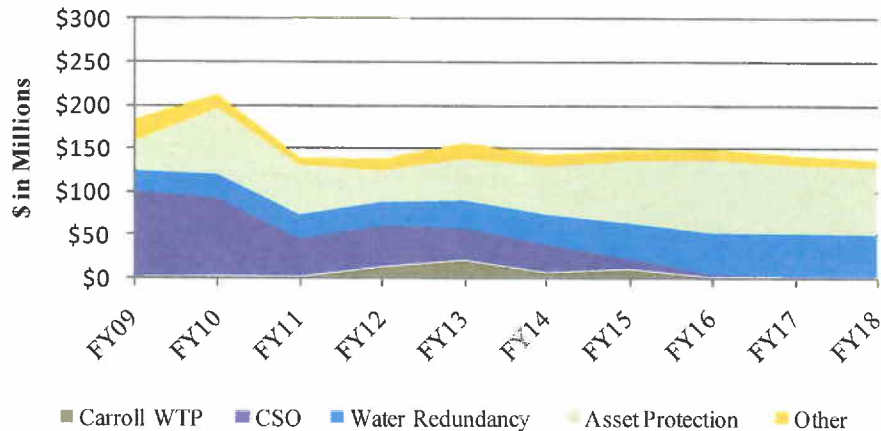
The table below captures the changing nature of the program in the future.

	Total Contract	FY09-13	FY14-18	Beyond 18
Asset Protection	\$ 1,944.0	\$ 252.0	\$ 370.1	\$ 686.4
Carroll WTP	\$ 433.3	\$ 39.4	\$ 21.0	\$ 0.1
Water Redundancy	\$ 1,851.2	\$ 138.4	\$ 223.1	\$ 627.0
CSO	\$ 863.4	\$ 316.5	\$ 48.1	\$ 1.3
Other	\$ 536.7	\$ 80.1	\$ 55.6	\$ (93.7)
Total	\$5,628.5	\$ 826.4	\$ 718.0	\$1,221.2
Asset Protection	34.5%	30.5%	51.6%	56.2%
Carroll WTP	7.7%	4.8%	2.9%	0.0%
Water Redundancy	32.9%	16.7%	31.1%	51.3%
CSO	15.3%	38.3%	6.7%	0.1%
Other	9.5%	9.7%	7.7%	-7.7%
Total	100.0%	100.0%	100.0%	100.0%

As presented above, Asset Protection and Water Redundancy initiatives account for 30.5% and 16.7% of FY09-13 spending. These percentages will grow substantially to 51.6% and 31.1% respectively for the FY14-18 timeframe.

The graph below displays the projected trend of expenditures by major category for the FY09-18 time period.

FY14 Final Expenditure Forecast by Major Category



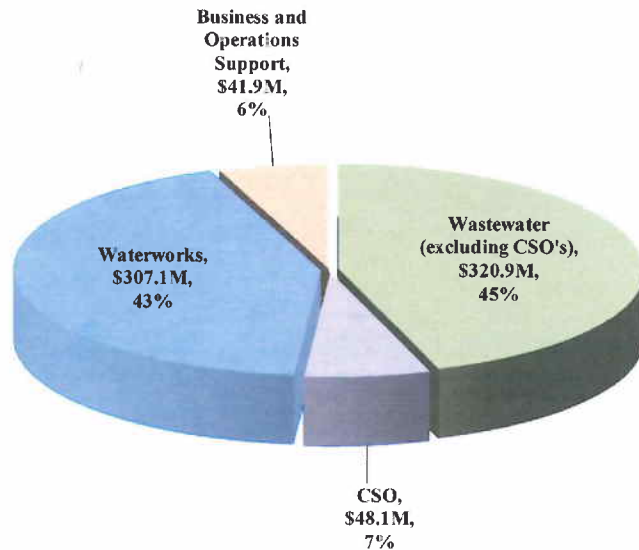
FY14 Final CIP Expenditures

The FY14 Final CIP contains future spending estimated at \$2.1 billion. The FY14 Final CIP (without contingency) includes planned expenditures of \$142.5 million for FY14 and total projected expenditures of \$718.0 million for the FY14-18 timeframe.

The table below represents the projected spending by the major project categories:

	Total Contract Amount	Payments Thru FY12	Remaining Balance	FY13	Total FY09-13	FY14	FY15	FY16	FY17	FY18	Total FY14-18	Beyond 18
Wastewater System Improvements	\$2,685.1	\$1,661.8	\$1,023.3	\$79.9	\$524.0	\$84.3	\$77.8	\$79.8	\$64.8	\$62.3	\$368.9	\$574.5
Interception & Pumping	846.5	518.6	327.9	2.3	32.7	13.1	22.2	28.9	28.8	25.3	118.4	207.3
Treatment	659.6	168.7	490.9	19.7	136.6	39.4	44.4	46.6	34.8	33.9	199.1	272.0
Residuals	168.0	64.2	103.9	0.4	0.8	0.4	0.3	0.2	0.2	0.5	1.5	101.9
CSO	888.1	802.3	85.8	36.4	316.5	32.3	11.3	3.6	0.1	0.8	48.1	1.3
Other Wastewater	122.9	108.1	14.8	21.0	37.4	(0.9)	(0.5)	0.5	1.0	1.7	1.8	(8.0)
Waterworks System Improvements	\$2,821.0	\$1,799.6	\$1,021.4	\$71.6	\$268.7	\$49.8	\$61.0	\$58.6	\$68.0	\$69.7	\$307.1	\$642.7
Drinking Water Quality Improvements	657.2	559.7	97.4	40.0	91.2	32.3	20.6	2.3	1.4	0.6	57.3	0.1
Transmission	1,186.0	737.9	448.1	18.0	83.0	6.4	25.6	23.6	18.9	5.6	80.0	350.1
Distribution & Pumping	948.4	384.1	564.3	4.5	67.5	10.7	13.4	29.3	43.9	57.3	154.6	405.2
Other Waterworks	29.4	117.9	(88.5)	9.0	27.0	0.5	1.4	3.4	3.8	6.2	15.2	(112.7)
Business & Operations Support	122.4	72.2	50.2	4.3	\$33.6	8.4	8.8	10.9	8.9	4.9	\$41.9	4.0
Total MWRA	\$5,628.5	\$3,533.6	\$2,094.9	\$155.8	\$826.4	\$142.5	\$147.6	\$149.3	\$141.8	\$136.8	\$718.0	\$1,221.2

The graph below illustrates a breakdown of the major program spending (in millions) for the FY14-18 timeframe.



Please refer to Attachment B for a more detailed project listing and projected cash flows.

Contingency

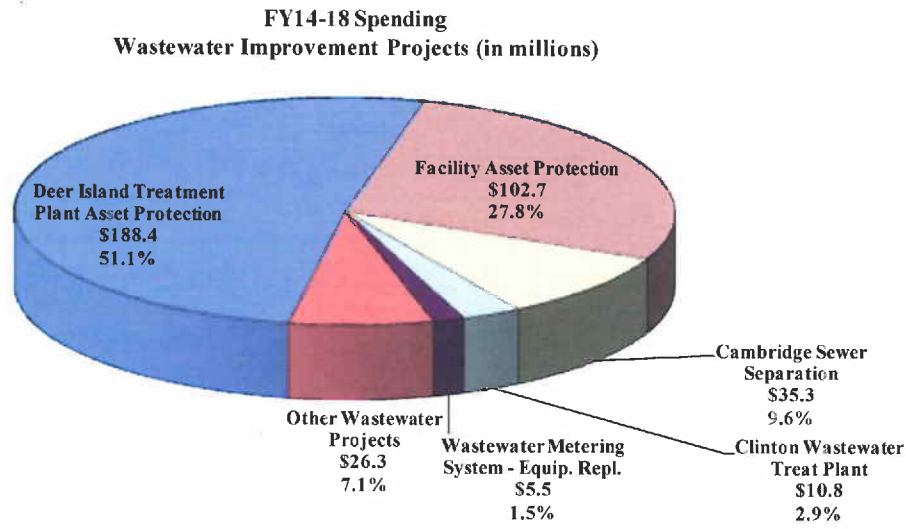
Contingency for each fiscal year is incorporated into the CIP to fund the uncertainties inherent to construction. The contingency budget is calculated as a percentage of budgeted expenditure outlays. Specifically, contingency is 7% for non-tunnel projects and 15% for tunnel projects. The contingency budget is \$7.6 million for FY14 and \$46.1 million for the FY14-18 timeframe.

Top 10 Projects – FY14-FY18 Cap Period

It is important to emphasize that the majority of spending within the Wastewater and Water Capital programs is concentrated in several larger projects with significant spending in the FY14-18 timeframe. These projects are either currently under construction or soon to be awarded. The top 5 projects for the Wastewater program total \$342.7 million for the FY14-18 period and represent 92.9% of the \$369.0 million total program.

Wastewater Improvement Projects	Total Contract Amount	FY14-18 Spending	% of Program
DI Treatment PI Asset Protection	\$606.8	\$188.4	51.1%
Facility Asset Protection	\$279.8	\$102.7	27.8%
Cambridge Sewer Separation	\$85.8	\$35.3	9.6%
Clinton Wastewater Treatment Plant	\$17.1	\$10.8	2.9%
Wastewater Metering System - Equipment Repl.	\$26.4	\$5.5	1.5%
Top 5 Wastewater Improvement Projects	\$1,015.9	\$342.7	92.9%
Other Wasterwater Projects	\$1,669.2	\$26.3	7.1%
Total Wastewater Program Spending	\$2,685.1	\$368.9	100.0%

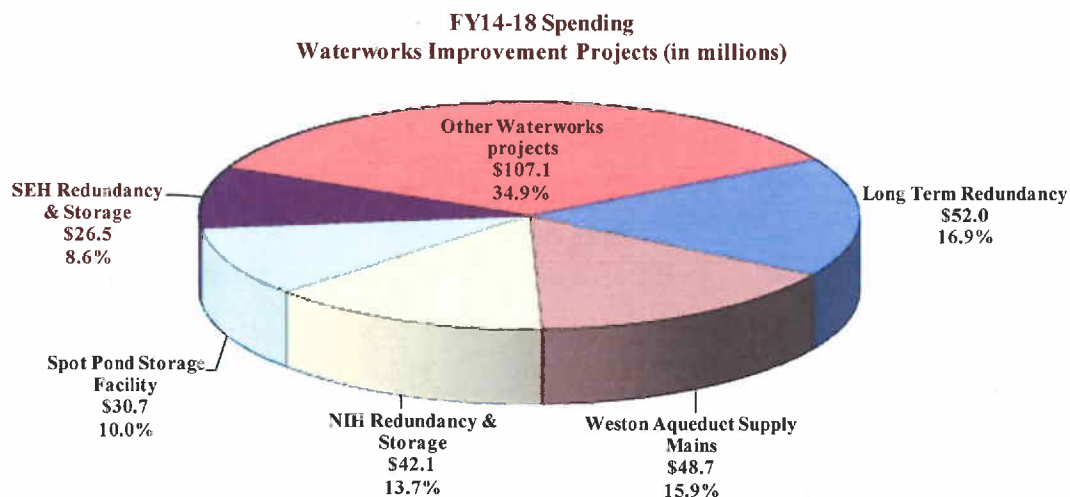
The breakdown of the \$369.0 million program by the major projects is illustrated below:



Similarly, the top 5 projects for the Waterworks program total \$200.0 million for FY14-18 and represent 65.1% of the \$307.1 million total program.

Waterworks Improvement Projects	Total Contract Amount	FY14-18 Spending	% of Program
Long Term Redundancy (Wachusett Pump Station)	\$375.4	\$52.0	16.9%
Weston Aqueduct Supply Mains	\$286.4	\$48.7	15.9%
NIH Redundancy & Storage	\$85.0	\$42.1	13.7%
Spot Pond Storage Facility	\$59.1	\$30.7	10.0%
SEH Redundancy & Storage	\$93.5	\$26.5	8.6%
Top 5 Waterworks Improvement Projects	\$899.4	\$200.0	65.1%
Other Waterworks projects	\$1,921.5	\$107.1	34.9%
Total Waterworks Program Spending	\$2,821.0	\$307.1	100.0%

The breakdown of the \$307.1 million program by the major projects is illustrated on the following graph:



Major Planned Contract Awards for Fiscal Year 2013:

In Fiscal Year 2014, 49 contracts totaling \$133.0 million are projected to be awarded. The largest ten projected contract awards are listed below and account for 66% of expected awards:

Project	Subphase	FY14 Budget Amount
Long Term Redundancy	Wachusett Aqueduct Pump Station Construction	\$45.6
Carroll Water Treatment Plant	Existing Facilities Modifications - CP7	6.1
DI Treatment Plant Asset Protection	Gravity Thickener Rehabilitation	5.8
SEH Redundancy & Storage	Redundancy/Storage Phase 1 Final Design/CA/RI	5.7
Facility Asset Protection	Prison Point/Cottage Farm Facilities	5.1
DI Treatment Plant Asset Protection	Digester Sludge Pump Replacement Phase 2	4.7
Carroll Water Treatment Plant	CWTP Storage Tank Roof Drainage System	4.1
Application Improvement Program	Enterprise Content Management	4.0
DI Treatment Plant Asset Protection	Winthrop Terminal Facility VFD Replacement - Construction	4.0
Facility Asset Protection	Rehabilitation of Sects 186 and 4 Construction	3.5
Top Ten Budget Awards in FY14		\$88.4

Future Risk Factors

There are still potential projects or required spending increases which are not yet funded as part of the FY14 Final CIP which are highlighted below:

- Residual Asset Protection or the funding to rehabilitate or replace the existing Residuals Plant needs to be determined;
- Sudbury Aqueduct – tunnel vs surface pipeline;
- North Metropolitan Trunk Sewer Rehabilitation;
- Chelsea Creek Headworks constructability; and
- New regulatory mandates always pose potential risk for increased future spending.

CIP Review and Adoption Process

In December, the MWRA transmitted the FY14 Proposed Capital Improvement Program to the Advisory Board for its review and comment. The Advisory Board issued their Integrated Comments and Recommendations in May. Please refer to Attachment D for the Authority's responses to the Advisory Boards Comments and Recommendations.

ATTACHMENTS:

- A. New Capital Projects Added to the FY14 CIP
- B. FY14 Final Expenditure Forecast at Project Level
- C. Comparison of the FY14 Final CIP and the FY13 Final CIP
- D. MWRA Responses to Advisory Board's FY14 Integrated CIP and CEB Comments and Recommendations

ATTACHMENT A
New Capital Projects Added to the FY14 CIP

Program	Project	Subphase	Total Contract Amount	FY09-13	FY14-18	Beyond FY18	Total Expenditures
Treatment	DITP Asset Protection	Sodium Bisulfite Tanks Rehabilitation	\$2,543,075	\$0	\$2,543,075		\$2,543,075
	Clinton Wastewater Treatment Plant	Clinton Roofing Rehabilitation	\$508,615	\$0	\$508,615		\$508,615
	Clinton Wastewater Treatment Plant	Clinton Facilities Rehabilitation	\$4,068,920	\$0	\$474,707	\$3,594,213	\$4,068,920
Distribution and Pumping	NHS Revere & Malden Pipeline	Section 56 Replacement/Saugus	\$10,000,000	\$0	\$4,240,000	\$5,760,000	\$10,000,000
Drinking Water Quality Improvements	Carroll Water Treatment Plant	CWTP - Asset Protection	\$500,000	\$0	\$500,000		\$500,000
Other Waterworks	Waterworks Asset Protection	Water Meter Upgrade Replacement	\$1,000,000	\$0	\$1,000,000		\$1,000,000
	Waterworks Asset Protection	Beacon Street Line Repair	\$1,000,000	\$0	\$1,000,000		\$1,000,000
SUMMARY:							
Total Wastewater Projects			\$7,120,610	\$0	\$3,526,397	\$3,594,213	\$7,120,610
Total Waterworks Projects			\$12,500,000	\$0	\$6,740,000	\$5,760,000	\$12,500,000
Total Projects			\$19,620,610	\$0	\$10,266,397	\$9,354,213	\$19,620,610

**ATTACHMENT B
FY14 FINAL EXPENDITURE FORECAST AT PROJECT LEVEL**

Program / Project	Total Contract Amount	Payments through FY12	Remaining Balance	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
Total MWRA	5,628,539,326	3,533,594,910	2,094,944,416	155,786,106	826,387,409	717,957,835	1,221,200,445
Wastewater	2,685,135,203	1,661,795,832	1,023,339,371	79,888,316	524,013,165	368,929,500	574,521,539
Interception & Pumping	846,540,618	518,609,282	327,931,336	2,304,701	32,747,204	118,370,992	207,255,635
102 Quincy Pump Facilities	25,907,202	25,908,077	(875)	(875)	(875)		
104 Braintree-Weymouth Relief Facilities	233,869,249	228,063,541	5,805,708	601	13,032,618	1,364,106	4,441,000
105 New Neponset Valley Relief Sewer	30,300,303	30,300,303	0				
106 Wellesley Extension Replacement Sewer	64,358,543	64,358,543	0				
107 Framingham Extension Relief Sewer	47,855,986	47,855,986	0				
127 Cummingsville Replacement Sewer	8,998,768	8,998,767	0		43,382		
130 Siphon Structure Rehabilitation	5,603,338	939,770	4,663,568			4,581,224	82,344
131 Upper Neponset Valley Sewer System	54,174,078	53,860,692	313,386	313,386	1,024,421		
132 Corrosion & Odor Control	16,259,955	3,001,406	13,258,549		(1,404)	1,000,000	12,258,549
136 West Roxbury Tunnel	11,313,573	10,309,178	1,004,395	4,395	1,433,771		1,000,000
137 Wastewater Central Monitoring	20,482,201	19,782,201	700,000		5,834,465	700,000	
139 South System Relief Project	4,939,244	3,439,244	1,500,000		(645)		1,500,000
141 Wastewater Process Optimization	10,327,761	1,137,662	9,190,099	105,517	312,871	2,541,675	6,542,906
142 Wastewater Meter System - Equip. Replacement	26,437,912	5,137,912	21,300,000		49,147	5,530,769	15,769,231

**ATTACHMENT B
FY14 FINAL EXPENDITURE FORECAST AT PROJECT LEVEL**

Program / Project	Total Contract Amount	Payments through FY12	Remaining Balance	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
143 Regional I/I Management Planning	168,987	168,987	0				
145 Facility Asset Protection	279,793,519	15,347,013	264,446,506	1,881,676	11,019,452	102,653,218	159,911,605
146 Deer Island Cross Harbor Tunnel	5,000,000	0	5,000,000				5,000,000
147 Randolph Trunk Sewer Relief	750,000	0	750,000				750,000
Treatment	659,597,220	168,695,431	490,901,788	19,735,852	136,637,223	199,137,875	272,029,060
200 DI Plant Optimization	33,455,815	33,455,815	0		296,298		
206 DI Treatment Plant Asset Protection	606,847,768	132,409,844	474,437,924	17,618,923	132,668,071	188,385,153	268,433,847
210 Clinton Wastewater Treatment Plant	17,058,617	755,538	16,303,079	1,956,144	2,366,899	10,752,722	3,594,213
211 Laboratory Services	2,235,019	2,074,234	160,785	160,785	1,305,955		
Residuals	168,020,224	64,156,045	103,864,180	406,309	751,506	1,548,749	101,909,122
261 Residuals	63,810,848	63,810,848	0				
271 Residuals Asset Protection	104,209,377	345,197	103,864,180	406,309	751,506	1,548,749	101,909,122
CSO	888,112,279	802,275,285	85,836,994	36,435,304	316,492,456	48,066,290	1,334,395
CSO MWRA Managed	434,901,991	429,187,262	5,714,729	1,316,576	161,053,669	4,085,152	313,000
339 North Dorchester Bay	223,059,718	221,540,523	1,519,195	398,972	82,897,402	807,221	313,000
347 East Boston Branch Sewer Relief	85,873,733	85,534,665	339,068	339,067	75,168,354		

**ATTACHMENT B
FY14 FINAL EXPENDITURE FORECAST AT PROJECT LEVEL**

Program / Project	Total Contract Amount	Payments through FY12	Remaining Balance	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
348 BOS019 Storage Conduit	14,287,581	14,287,581	0		(44,067)		
349 Chelsea Trunk Sewer	29,779,319	29,779,319	0				
350 Union Park Detention Treatment Facility	49,583,406	49,583,406	0		(227,192)		
353 Upgrade Existing CSO Facilities	22,385,200	22,385,200	0				
354 Hydraulic Relief Projects	2,294,549	2,294,549	0				
355 MWR003 Gate & Siphon	4,005,409	148,942	3,856,467	578,537	727,479	3,277,931	
357 Charles River CSO Controls	3,633,077	3,633,077	0		2,531,693		
CSO Community Managed	402,894,739	323,528,806	79,365,933	35,069,940	150,919,200	44,295,990	
340 Dorchester Bay Sewer Separation (Fox Pt)	54,168,552	54,152,295	16,257		389,676	16,256	
341 Dorch Bay Sew Separation (Commercial Point)	64,775,652	60,451,470	4,324,182	696,445	6,257,325	3,627,737	
342 Neponset River Sewer Separation	2,444,394	2,444,394	0				
343 Constitution Beach Sewer Separation	3,768,888	3,768,888	0				
344 Stony Brook Sewer Separation	44,332,539	44,198,384	134,155	134,155	(721,285)		
346 Cambridge Sewer Separation	85,833,982	35,489,357	50,344,625	14,995,524	32,033,751	35,349,100	
351 BWSC Floatables Controls	932,979	932,979	0				
352 Cambridge Floatables Control	1,086,925	1,086,925	0		164,727		
356 Fort Point Channel Sewer Separation	12,006,708	12,006,708	0		3,715,550		

**ATTACHMENT B
FY14 FINAL EXPENDITURE FORECAST AT PROJECT LEVEL**

Program / Project	Total Contract Amount	Payments through FY12	Remaining Balance	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
358 Morrissey Boulevard Drain	32,814,545	32,346,787	467,758		17,670,616	467,758	
359 Reserved Channel Sewer Separation	64,808,529	41,529,984	23,278,545	18,509,630	57,322,620	4,768,914	
360 Brookline Sewer Separation	25,977,385	25,263,178	714,207	734,186	24,725,764	(19,979)	
361 Bulfinch Triangle Sewer Separation	9,943,660	9,857,456	86,204		9,360,456	86,204	
CSO Planning & Support	50,314,549	49,559,217	755,332	48,788	4,519,587	(314,852)	1,021,395
Other Wastewater	122,865,861	108,059,788	14,806,073	21,006,150	37,384,776	1,805,595	(8,005,673)
128 I/I Local Financial Assistance	122,584,985	107,778,912	14,806,073	21,006,150	37,384,776	1,805,594	(8,005,673)
138 Sewerage System Mapping Upgrade	280,876	280,876	0				
Waterworks	2,820,956,187	1,799,565,147	1,021,391,040	71,568,125	268,742,364	307,133,761	642,688,141
Drinking Water Quality Improvements	657,172,228	559,732,487	97,439,742	40,049,471	91,232,007	57,311,272	79,000
542 Carroll Water Treatment Plant	433,252,898	391,220,222	42,032,676	20,927,488	39,435,441	21,026,188	79,000
543 Quabbin Water Treatment Plant	17,392,925	10,832,937	6,559,988	1,524,965	2,214,380	5,035,023	
544 Norumbega Covered Storage	106,674,146	106,674,146	0		101,670		
545 Blue Hills Covered Storage	40,703,606	39,969,816	733,790	133,824	21,214,786	599,966	
550 Spot Pond Storage Facility	59,148,654	11,035,366	48,113,288	17,463,194	28,265,730	30,650,095	

**ATTACHMENT B
FY14 FINAL EXPENDITURE FORECAST AT PROJECT LEVEL**

Program / Project	Total Contract Amount	Payments through FY12	Remaining Balance	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
Transmission	1,185,971,524	737,867,886	448,103,638	18,006,199	82,989,625	80,006,992	350,090,446
597 Winsor Station Pipeline	27,256,312	1,389,157	25,867,155	81,998	1,432,873	5,006,817	20,778,339
601 Sluice Gate Rehabilitation	9,158,411	9,158,411	0				
604 MetroWest Tunnel	708,785,875	683,664,737	25,121,138	11,763,971	61,627,882	7,697,198	5,659,969
615 Chicopee Valley Aqueduct Redundancy	8,666,292	8,666,747	(455)	(455)	94,688		
616 Quabbin Transmission System	13,515,635	4,913,428	8,602,207	2,210,753	2,700,754	3,261,453	3,130,000
617 Sudbury/Weston Aqueduct Repairs	4,326,512	659,948	3,666,564		25,000	3,666,564	
620 Wachusett Reservoir Spillway Improvements	9,287,460	9,287,461	(1)		1,237,499		
621 Watershed Land	24,000,000	15,563,500	8,436,500	2,436,500	9,793,000	6,000,000	
623 Dam Projects	5,540,300	2,887,967	2,652,333	281,084	3,169,051	2,328,393	42,856
625 Long Term Redundancy	375,434,727	1,676,530	373,758,197	1,232,348	2,908,878	52,046,567	320,479,282
Distribution And Pumping	931,432,580	368,277,508	563,155,072	4,483,028	67,308,796	153,474,911	405,196,121
618 Northern High NW Transmission Section 70	1,000,000	0	1,000,000			1,000,000	
677 Valve Replacement	22,310,841	11,522,846	10,787,995	493,537	3,437,055	3,131,000	7,163,460
678 Boston Low Service - Pipe & Valve Rehab	23,690,864	23,690,863	0				
683 Heath Hill Road Pipe Replacement	19,358,036	19,358,036	0		(9,817)		
689 James L. Gillis Pump Station	33,419,006	33,419,007	(1)				

**ATTACHMENT B
FY14 FINAL EXPENDITURE FORECAST AT PROJECT LEVEL**

Program / Project	Total Contract Amount	Payments through FY12	Remaining Balance	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
692 Northern High Service - Section 27 Improve.	1,042,789	123,646	919,143			177,506	741,637
693 NHS - Revere & Malden Pipeline Improve.	48,621,925	26,832,740	21,789,185		2,938,022	12,603,902	9,185,284
702 New Connecting Mains - Shaft 7 to WASM 3	33,351,346	10,960,807	22,390,539	7,349	5,649,430	10,824,000	11,559,190
704 Rehab of Other Pump Stations	55,057,852	30,057,852	25,000,000		12,072,270		25,000,000
706 NHS-Connecting Mains from Section 91	2,360,194	2,360,194	0				
708 Northern Extra High Service - New Pipelines	7,653,106	3,632,119	4,020,987	8,500	8,500	1,197,614	2,814,874
712 Cathodic Protection Of Distribution Mains	1,590,815	140,913	1,449,902			724,950	724,950
713 Spot Pond Supply Mains Rehab	66,243,122	60,980,157	5,262,965		501,659	2,975,000	2,287,965
714 Southern Extra High - Sections 41 & 42	3,657,243	3,657,243	0				
719 Chestnut Hill Connecting Mains	31,301,217	17,486,675	13,814,542		25,061	837,000	12,977,542
720 Warren Cottage Line Rehab	1,204,822	1,204,821	1				
721 South Spine Distribution Mains	73,568,223	36,406,074	37,162,149	534,598	19,330,738	1,157,742	35,469,801
722 NIH Redundancy & Storage	84,956,047	5,331,010	79,625,037	797,739	5,494,776	42,079,126	36,748,172
723 Northern Low Service Rehab - Section 8	22,439,870	2,320,986	20,118,884		2,263,003	754,088	19,364,790
724 Northern High Service - Pipeline Improve.	0	0	0		(1,600)		
725 Hydraulic Model Update	598,358	598,358	0				
727 SEH Redundancy & Storage	93,459,769	6,672,412	86,787,357	149,819	5,154,962	26,521,286	60,116,254

**ATTACHMENT B
FY14 FINAL EXPENDITURE FORECAST AT PROJECT LEVEL**

Program / Project	Total Contract Amount	Payments through FY12	Remaining Balance	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
730 Weston Aqueduct Supply Mains	286,417,600	64,829,663	221,587,937	505,973	4,434,777	48,742,317	172,339,646
731 Lynnfield Pipeline	6,072,838	3,973,945	2,098,893	1,985,513	5,446,737	113,380	
732 Walnut St. & Fisher Hill Pipeline Rehab	2,717,140	2,717,141	0		563,223		
735 Section 80 Rehabilitation	9,339,557	0	9,339,557			636,000	8,703,557
Other Waterworks	46,379,855	133,687,266	(87,307,411)	9,029,427	27,211,936	16,340,586	(112,678,426)
753 Central Monitoring System	16,992,423	15,803,729	1,188,694	60,000	196,784	1,128,694	
763 Distribution Systems Facilities Mapping	1,798,919	1,036,368	762,551			762,551	
764 Local Water Infrastructure Rehab	7,487,762	7,487,762	0				
765 Local Water Pipeline Assistance Program	0	108,821,204	(108,821,204)	8,969,427	26,714,499	2,927,341	(120,717,974)
766 Waterworks Facility Asset Protection	20,100,751	538,203	19,562,548		300,653	11,522,000	8,040,548
Business & Operations Support	122,447,936	72,233,931	50,214,005	4,329,665	33,631,880	41,894,574	3,989,765
881 Equipment Purchase	18,482,592	10,108,351	8,374,241	1,355,320	6,206,564	7,018,921	
925 Technical Assistance	1,200,000	0	1,200,000			1,200,000	
930 MWRA Facility - Chelsea	9,813,633	9,813,633	0		(73,272)		
931 Business Systems Plan	24,475,309	24,288,747	186,562	174,521	2,455,188	12,038	
932 Environmental Remediation	1,478,802	1,478,802	0		10,602		
933 Capital Maintenance Planning & Development	15,700,745	8,269,656	7,431,089	1,785,183	6,335,459	5,645,907	

**ATTACHMENT B
FY14 FINAL EXPENDITURE FORECAST AT PROJECT LEVEL**

Program / Project	Total Contract Amount	Payments through FY12	Remaining Balance	FY13	FY09 - FY13	FY14 - FY18	Beyond FY18
934 MWRA Facilities Management & Planning	2,150,535	370,533	1,780,002		370,533	1,780,002	
935 Alternative Energy Initiatives	28,230,370	16,985,111	11,245,259	628,381	17,021,449	6,965,278	3,651,600
940 Application Improvement Program	9,150,000	0	9,150,000	5,000	5,000	8,985,910	159,090
942 Information Security Program	1,292,950	357,641	935,309	143,773	501,414	791,536	
944 Information Technology Management Program	1,493,000	0	1,493,000			1,493,000	
946 IT Infrastructure Program	8,980,000	561,456	8,418,544	237,487	798,943	8,001,982	179,075

ATTACHMENT C
Comparison of the FY14 Final CIP and the FY13 Final
(\$000)

Program and Project	FY13 Final			
	Total Budget Amount	FY09-13	FY14-18	Beyond 18
Total MWRA	5,524,898	838,130	997,267	826,508
Wastewater	2,645,510	517,299	533,950	376,591
Interception & Pumping	822,656	37,483	156,752	140,253
102 Quincy Pump Facilities	25,908	-	-	-
104 Braintree-Weymouth Relief Facilities	233,735	14,203	4,499	-
105 New Neponset Valley Relief Sewer	30,300	-	-	-
106 Wellesley Extension Replacement Sewer	64,359	-	-	-
107 Framingham Extension Relief Sewer	47,856	-	-	-
127 Cummingsville Replacement Sewer	8,999	43	-	-
130 Siphon Structure Rehabilitation	2,671	30	1,702	-
131 Upper Neponset Valley Sewer	54,942	1,792	-	-
132 Corrosion & Odor Control	16,140	-	5,706	7,431
134 Ashland Extension Sewer	-	-	-	-
135 System Master Plan Interceptors	-	-	-	-
136 West Roxbury Tunnel	11,309	1,429	-	1,000
137 Wastewater Central Monitoring	20,839	6,241	650	-
139 South System Relief Project	4,939	(1)	188	1,313
140 Neponset Valley Relief Sewer	-	-	-	-
141 Wastewater Process Optimization	10,300	558	5,686	3,125
142 Wastewater Meter System-Equipment	26,578	210	8,586	12,691
143 Regional I/I Management Planning	169	-	-	-
145 Facility Asset Protection	257,863	12,977	124,609	114,068
146 D.I. Cross Harbor Tunnel Inspection	5,000	-	4,375	625
147 Randolph Trunk Sewer Relief	750	-	750	-
Treatment	626,107	156,257	270,123	147,933
200 DI Plant Optimization	33,456	296	-	-
206 DI Treatment Plant Asset Protection	580,900	151,601	264,005	147,933
210 Clinton Wastewater Treat Plant	9,538	3,075	6,118	-
211 Laboratory Services	2,214	1,285	-	-
Residuals	211,741	941	54,337	92,652
261 Residuals	63,811	-	-	-
271 Residuals Asset Protection	147,930	941	54,337	92,652

FY14 Final			
Total Budget Amount	FY09-13	FY14-18	Beyond 18
5,628,539	826,387	717,958	1,221,201
2,685,135	524,013	368,930	574,520
846,541	32,747	118,371	207,255
25,907	(1)	-	-
233,869	13,033	1,364	4,441
30,300	-	-	-
64,359	-	-	-
47,856	-	-	-
8,999	43	-	-
5,603	-	4,581	82
54,174	1,024	-	-
16,260	(1)	1,000	12,259
-	-	-	-
-	-	-	-
11,314	1,434	-	1,000
20,482	5,834	700	-
4,939	(1)	-	1,501
-	-	-	-
10,328	313	2,542	6,543
26,438	49	5,531	15,767
169	-	-	-
279,794	11,019	102,653	159,912
5,000	-	-	5,000
750	-	-	750
659,597	136,637	199,138	272,029
33,456	296	-	-
606,848	132,668	188,385	268,434
17,059	2,367	10,753	3,595
2,235	1,306	-	-
168,020	752	1,549	101,909
63,811	-	-	-
104,209	752	1,549	101,909

Change from FY13 Final			
Total Budget Amount	FY09-13	FY14-18	Beyond 18
103,642	(11,742)	(279,309)	394,693
39,625	6,715	(165,020)	197,931
23,885	(4,736)	(38,381)	67,062
(1)	(1)	-	-
134	(1,170)	(3,135)	4,441
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
2,932	(30)	2,879	82
(768)	(768)	-	-
120	(1)	(4,706)	4,828
-	-	-	-
-	-	-	-
5	5	-	-
(357)	(407)	50	-
-	-	(188)	188
-	-	-	-
28	(245)	(3,144)	3,418
(140)	(161)	(3,055)	3,076
-	-	-	-
21,931	(1,958)	(21,956)	45,844
-	-	(4,375)	4,375
-	-	(750)	750
33,490	(19,620)	(70,985)	124,096
-	-	-	-
25,948	(18,933)	(75,620)	120,501
7,521	(708)	4,635	3,595
21	21	-	-
(43,720)	(189)	(52,788)	9,257
-	-	-	-
(43,721)	(189)	(52,788)	9,257

ATTACHMENT C
Comparison of the FY14 Final CIP and the FY13 Final
(\$000)

Program and Project	FY13 Final			
	Total Budget Amount	FY09-13	FY14-18	Beyond 18
CSO	862,140	308,740	31,173	9
340 Dorchester Bay Sewer Separation (Fox Point)	54,187	390	35	-
341 Dorchester Bay Sewer Separation (Commercial Point)	64,725	6,472	3,363	-
342 Neponset River Sewer Separation	2,444	-	-	-
343 Constitution Beach Sewer Separation	3,769	-	-	-
344 Stony Brook Sewer Separation	44,333	(856)	134	-
346 Cambridge Sewer Separation	56,791	29,208	9,131	-
351 BWSC Floatables Controls	933	-	-	-
352 Cambridge Floatables Control	1,087	164	-	-
356 Fort Point Channel Sewer Separation	12,007	3,715	-	-
358 Morrissey Boulevard Drain	32,905	18,009	220	-
359 Reserved Channel Sewer Separation	64,330	50,776	10,837	-
360 Brookline Sewer Separation	25,998	24,726	-	-
361 Bulfinch Triangle Sewer Separation	9,986	9,489	-	-
339 North Dorchester Bay	226,562	83,997	3,523	-
347 East Boston Branch Sewer Relief	85,706	75,000	-	-
348 BOS019 Storage Conduit	14,288	(44)	-	-
349 Chelsea Trunk Sewer	29,779	-	-	-
350 Union Park Detention Treatment Facility	49,583	(227)	-	-
353 Upgrade Existing CSO Facilities	22,385	-	-	-
354 Hydraulic Relief Projects	2,295	-	-	-
355 MWR003 Gate & Siphon	4,098	838	3,260	-
357 Charles River CSO Controls	3,633	2,532	-	-
324 CSO Support	50,316	4,549	670	9
Other Wastewater	122,866	13,878	21,564	(4,256)
128 I/I Local Financial Assistance	122,585	13,878	21,564	(4,256)
138 Sewerage System Mapping Upgrade	281	-	-	-
Total Waterworks	2,769,093	279,095	437,691	449,914
Drinking Water Quality	654,097	99,436	46,111	-
542 Carroll Water Treatment Plant	430,036	41,292	16,031	-
543 Quabbin Water Treatment Plant	17,667	3,353	4,170	-
544 Norumbega Covered Storage	106,674	102	-	-
545 Blue Hills Covered Storage	40,687	21,361	436	-
550 Spot Pond Storage Facility	59,032	33,325	25,474	-

Program and Project	FY14 Final			
	Total Budget Amount	FY09-13	FY14-18	Beyond 18
CSO	888,111	316,492	48,066	1,334
340 Dorchester Bay Sewer Separation (Fox Point)	54,169	390	16	-
341 Dorchester Bay Sewer Separation (Commercial Point)	64,776	6,257	3,628	-
342 Neponset River Sewer Separation	2,444	-	-	-
343 Constitution Beach Sewer Separation	3,769	-	-	-
344 Stony Brook Sewer Separation	44,333	(721)	-	-
346 Cambridge Sewer Separation	85,834	32,034	35,349	-
351 BWSC Floatables Controls	933	-	-	-
352 Cambridge Floatables Control	1,087	165	-	-
356 Fort Point Channel Sewer Separation	12,007	3,716	-	-
358 Morrissey Boulevard Drain	32,815	17,671	468	-
359 Reserved Channel Sewer Separation	64,809	57,323	4,769	-
360 Brookline Sewer Separation	25,977	24,726	(20)	-
361 Bulfinch Triangle Sewer Separation	9,944	9,360	86	-
339 North Dorchester Bay	223,060	82,897	807	313
347 East Boston Branch Sewer Relief	85,874	75,168	-	-
348 BOS019 Storage Conduit	14,288	(44)	-	-
349 Chelsea Trunk Sewer	29,779	-	-	-
350 Union Park Detention Treatment Facility	49,583	(227)	-	-
353 Upgrade Existing CSO Facilities	22,385	-	-	-
354 Hydraulic Relief Projects	2,295	-	-	-
355 MWR003 Gate & Siphon	4,005	727	3,278	-
357 Charles River CSO Controls	3,633	2,532	-	-
324 CSO Support	50,315	4,520	(315)	1,021
Other Wastewater	122,866	37,385	1,806	(8,005)
128 I/I Local Financial Assistance	122,585	37,385	1,806	(8,005)
138 Sewerage System Mapping Upgrade	281	-	-	-
Total Waterworks	2,820,956	268,742	307,134	642,692
Drinking Water Quality	657,172	91,232	57,311	79
542 Carroll Water Treatment Plant	433,253	39,435	21,026	79
543 Quabbin Water Treatment Plant	17,393	2,214	5,035	-
544 Norumbega Covered Storage	106,674	102	-	-
545 Blue Hills Covered Storage	40,704	21,215	600	-
550 Spot Pond Storage Facility	59,149	28,266	30,650	-

Program and Project	Change from FY13 Final			
	Total Budget Amount	FY09-13	FY14-18	Beyond 18
CSO	25,971	7,753	16,893	1,325
340 Dorchester Bay Sewer Separation (Fox Point)	(18)	-	(19)	-
341 Dorchester Bay Sewer Separation (Commercial Point)	51	(215)	265	-
342 Neponset River Sewer Separation	-	-	-	-
343 Constitution Beach Sewer Separation	-	-	-	-
344 Stony Brook Sewer Separation	-	135	(134)	-
346 Cambridge Sewer Separation	29,043	2,826	26,218	-
351 BWSC Floatables Controls	-	-	-	-
352 Cambridge Floatables Control	-	1	-	-
356 Fort Point Channel Sewer Separation	-	1	-	-
358 Morrissey Boulevard Drain	(90)	(338)	248	-
359 Reserved Channel Sewer Separation	479	6,547	(6,068)	-
360 Brookline Sewer Separation	(21)	-	(20)	-
361 Bulfinch Triangle Sewer Separation	(42)	(129)	86	-
339 North Dorchester Bay	(3,502)	(1,100)	(2,716)	313
347 East Boston Branch Sewer Relief	168	168	-	-
348 BOS019 Storage Conduit	-	-	-	-
349 Chelsea Trunk Sewer	-	-	-	-
350 Union Park Detention Treatment Facility	-	-	-	-
353 Upgrade Existing CSO Facilities	-	-	-	-
354 Hydraulic Relief Projects	-	-	-	-
355 MWR003 Gate & Siphon	(93)	(111)	18	-
357 Charles River CSO Controls	-	-	-	-
324 CSO Support	(1)	(29)	(985)	1,012
Other Wastewater	-	23,507	(19,759)	(3,749)
128 I/I Local Financial Assistance	-	23,507	(19,758)	(3,749)
138 Sewerage System Mapping Upgrade	-	-	-	-
Total Waterworks	51,863	(10,353)	(130,557)	192,778
Drinking Water Quality	3,076	(8,204)	11,201	79
542 Carroll Water Treatment Plant	3,217	(1,857)	4,995	79
543 Quabbin Water Treatment Plant	(274)	(1,139)	865	-
544 Norumbega Covered Storage	-	-	-	-
545 Blue Hills Covered Storage	17	(146)	164	-
550 Spot Pond Storage Facility	117	(5,059)	5,176	-

ATTACHMENT C
Comparison of the FY14 Final CIP and the FY13 Final
(\$000)

Program and Project	FY13 Final				FY14 Final				Change from FY13 Final			
	Total Budget Amount	FY09-13	FY14-18	Beyond 18	Total Budget Amount	FY09-13	FY14-18	Beyond 18	Total Budget Amount	FY09-13	FY14-18	Beyond 18
Transmission	1,157,005	84,688	151,538	247,894	1,185,972	82,990	80,007	350,090	28,966	(1,698)	(71,532)	102,196
597 Winsor Station Pipeline	26,427	2,075	24,314	-	27,256	1,433	5,007	20,778	829	(642)	(19,307)	20,778
601 Sluice Gate Rehabilitation	9,158	-	-	-	9,158	-	-	-	-	-	-	-
604 MetroWest Tunnel	709,477	59,063	15,513	1,100	708,786	61,628	7,697	5,660	(691)	2,565	(7,816)	4,560
615 Chicopee Valley Aqueduct Redundancy	8,667	95	-	-	8,666	95	-	-	(1)	-	-	-
616 Quabbin Transmission System	13,526	2,903	3,718	2,480	13,516	2,701	3,261	3,130	(10)	(202)	(457)	650
617 Sudbury/Weston Aqueduct Repairs	4,308	25	3,648	-	4,327	25	3,667	-	19	-	19	-
620 Wachusett Reservoir Spillway Improvement	9,287	1,238	-	-	9,287	1,237	-	-	-	(1)	-	-
621 Watershed Land	19,000	10,794	-	-	24,000	9,793	6,000	-	5,000	(1,001)	6,000	-
622 Cosgrove/Wachusett Redundancy	-	-	-	-	-	-	-	-	-	-	-	-
623 Dam Projects	5,651	3,427	2,224	-	5,540	3,169	2,328	43	(111)	(258)	104	43
625 Long Term Redundancy	351,504	5,069	102,119	244,314	375,435	2,909	52,047	320,479	23,931	(2,160)	(50,072)	76,165
Distribution & Pumping	914,533	73,606	204,704	330,770	931,433	67,309	153,475	405,200	16,900	(6,297)	(51,229)	74,430
618 Northern High NW Tran Sections 70 & 71	1,000	-	1,000	-	1,000	-	1,000	-	-	-	-	-
677 Valve Replacement	22,392	4,092	4,511	5,209	22,311	3,437	3,131	7,163	(81)	(655)	(1,380)	1,954
678 Boston Low Service-Pipe & Valve Rehabilitation	23,691	-	-	-	23,691	-	-	-	-	-	-	-
683 Heath Hill Road Pipe Replacement	19,358	(10)	-	-	19,358	(10)	-	-	-	-	-	-
689 James L. Gillis Pump Station Rehabilitation	33,419	-	-	-	33,419	-	-	-	-	-	-	-
692 NHS - Section 27 Improvements	3,475	-	778	2,574	1,043	-	178	742	(2,432)	-	(600)	(1,832)
693 NHS - Revere & Malden Pipeline Improvement	37,276	2,938	4,494	5,950	48,622	2,938	12,604	9,185	11,346	-	8,110	3,235
702 New Connect Mains-Shaft 7 to WASM 3	32,763	5,680	10,664	11,101	33,351	5,649	10,824	11,559	588	(31)	160	458
704 Rehabilitation of Other Pump Stations	55,058	12,072	-	25,000	55,058	12,072	-	25,000	-	-	-	-
706 NHS-Connecting Mains from Section 91	2,360	-	-	-	2,360	-	-	-	-	-	-	-
708 Northern Extra High Service New Pipelines	7,479	13	2,908	925	7,653	9	1,198	2,815	174	(4)	(1,710)	1,890
712 Cathodic Protection Of Distribution Mains	1,527	-	-	1,386	1,591	-	725	725	64	-	725	(661)
713 Spot Pond Supply Mains Rehabilitation	66,187	502	4,725	482	66,243	502	2,975	2,288	56	-	(1,750)	1,806
714 Southern Extra High Sections 41 & 42	3,657	-	-	-	3,657	-	-	-	-	-	-	-
719 Chestnut Hill Connecting Mains	30,041	25	6,315	6,239	31,301	25	837	12,977	1,260	-	(5,478)	6,738
720 Warren Cottage Line Rehabilitation	1,205	-	-	-	1,205	-	-	-	-	-	-	-
721 South Spine Distribution Mains	72,465	19,958	1,013	33,885	73,568	19,331	1,158	35,470	1,103	(627)	145	1,585
722 NIH Redundancy & Storage	83,660	9,063	51,456	22,506	84,956	5,495	42,079	36,749	1,296	(3,568)	(9,377)	14,243
723 Northern Low Service Rehabilitation Section 8	21,698	2,268	4,149	15,222	22,440	2,263	754	19,366	742	(5)	(3,395)	4,144
724 Northern High Service - Pipeline Rehabilitation	-	(2)	-	-	-	(2)	-	-	-	-	-	-
725 Hydraulic Model Update	598	-	-	-	598	-	-	-	-	-	-	-
727 Southern Extra High Redundancy & Storage	101,849	5,311	11,998	82,873	93,460	5,155	26,521	60,116	(8,389)	(156)	14,523	(22,757)
730 Weston Aqueduct Supply Mains	276,166	6,081	100,111	109,072	286,418	4,435	48,742	172,341	10,252	(1,646)	(51,369)	63,269

ATTACHMENT C
Comparison of the FY14 Final CIP and the FY13 Final
(\$000)

Program and Project	FY13 Final				FY14 Final				Change from FY13 Final			
	Total Budget Amount	FY09-13	FY14-18	Beyond 18	Total Budget Amount	FY09-13	FY14-18	Beyond 18	Total Budget Amount	FY09-13	FY14-18	Beyond 18
731 Lynnfield Pipeline	5,563	5,050	-	-	6,073	5,447	113	-	510	397	113	-
732 Walnut St. & Fisher Hill Pipeline Rehabilitation	2,717	563	-	-	2,717	563	-	-	-	-	-	-
733 NHS Pipeline Rehabilitation 13-18 & 48	-	-	-	-	-	-	-	-	-	-	-	-
734 Southern Extra High Pipelines-Sections 30, 39,40, & 44	-	-	-	-	-	-	-	-	-	-	-	-
735 Section 80 Rehabilitation	8,928	-	582	8,346	9,340	-	636	8,704	412	-	54	358
Other	43,458	21,366	35,338	(128,750)	46,380	27,212	16,341	(112,677)	2,922	5,846	(18,997)	16,073
753 Central Monitoring System	16,992	326	1,000	-	16,992	197	1,129	-	-	(129)	129	-
763 Distribution Systems Facilities Mapping	1,799	-	763	-	1,799	-	763	-	-	-	-	-
764 Local Water Infrastructure Rehabilitation Assistance Program	7,488	-	-	-	7,488	-	-	-	-	-	-	-
765 Local Water Pipeline Improvement Loan Program	-	20,737	22,179	(133,993)	-	26,714	2,927	(120,718)	-	5,977	(19,252)	13,275
766 Waterworks Facility Asset Protection	17,179	303	11,396	5,243	20,101	301	11,522	8,041	2,922	(2)	126	2,798
Business & Operations Support	110,294	41,736	25,627	-	122,448	33,632	41,895	3,990	12,154	(8,104)	16,268	3,990
881 Equipment Purchase	16,744	7,561	3,925	-	18,483	6,207	7,019	-	1,739	(1,354)	3,094	-
925 Technical Assistance	1,200	400	800	-	1,200	-	1,200	-	-	(400)	400	-
930 MWRA Facility - Chelsea	9,814	(74)	-	-	9,814	(73)	-	-	-	1	-	-
931 Business Systems Plan	26,583	2,385	2,190	-	24,475	2,455	12	-	(2,108)	70	(2,178)	-
932 Environmental Remediation	1,479	11	-	-	1,479	11	-	-	-	-	-	-
933 Capital Maintenance Planning	10,617	6,286	611	-	15,701	6,335	5,646	-	5,084	49	5,035	-
934 MWRA Facilities Management	2,151	371	1,780	-	2,151	371	1,780	-	-	-	-	-
935 Alternative Energy Initiatives	27,225	19,680	6,954	-	28,230	17,021	6,965	3,652	1,005	(2,659)	11	3,652
940 Applicat Improv Program	3,800	787	3,013	-	9,150	5	8,986	159	5,350	(782)	5,973	159
942 Info Security Program ISP	1,000	700	300	-	1,293	501	792	-	293	(199)	492	-
944 Info Tech Mgmt Program	2,562	1,012	1,550	-	1,493	-	1,493	-	(1,069)	(1,012)	(57)	-
946 IT Infrastructure Program	7,120	2,616	4,504	-	8,980	799	8,002	179	1,860	(1,817)	3,498	179

ATTACHMENT D

MWRA's Responses to the Advisory Board's FY2014 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations/Comments	MWRA Responses
<p>1. Reduce the rate revenue requirement for the FY14 Current Expense Budget by \$2,510,662, resulting in a 3.49% wholesale rate increase including:</p> <p>a. Reducing the retirement fund expense line item by the \$2,151,996 associated with the increase associated with updated mortality tables to be introduced in FY15.</p> <p>b. Reduce the addition to reserves line item by \$358,666 to reflect the amount that would have been added to cover the \$2,151,996 being recommended for reduction from pension expense.</p>	<p>Agree to reduce the Rate Revenue Requirement (RRR) by \$2.5 million, to achieve an assessment increase of 3.49%.</p> <p>a. MWRA reduced the Rate Revenue Requirements for the Draft Final CEB by \$1.2 million resulting in an assessment increase of 3.7%. The RRR reductions included: Debt Service of \$784k, Direct Expenses of \$26k, Indirect Expenses of \$52k, and increased Revenue & Income of \$381k.</p> <p>At the direction of the Board, staff revisited all line items and further reduced the RRR by \$1.3 million to achieve an assessment increase of 3.49%. The additional RRR reduction of \$1.3 million included \$600k decrease to the retirement funding for the effect of the mortality tables, \$445k Direct Expense reduction, and \$233k in Indirect Expense reduction.</p> <p>b. The Operating Reserve Requirements in total were reduced by \$194k as result of the overall expense reductions.</p>
<p>2. Remove the Hatchery Pipeline project from the Proposed FY14 CIP.</p>	<p>The CVA-Hatchery pipeline project is proposing to eliminate the threat of water reservoir operations significantly impacting the McLaughlin Fish Hatchery (warm water spills from Quabbin Reservoir are more frequent due to declining water demand which could devastate the hatchery). Associated with the pipeline is a proposed hydropower facility. The hydropower project cannot and would not exist without the water supply pipeline. The generation of hydropower, and the value of the electricity generated in avoiding energy purchases for the new UV facility at Ware or for net metering and sale of power to the grid, will partially offset the cost of the pipeline. MWRA has received one grant from the Massachusetts Clean Energy Center already for 50% of the hydropower facility's cost. The hydropower facility is also the subject of a second grant from the Executive Office of Energy and Environmental Affairs Department of Energy Resources Leading By Example program that would cover the other 50% of the hydropower facility's project cost. The grant received, plus the grant sought, have milestones associated with them. Failure to move ahead with this project on a timely basis would result in loss of grant funding. Because of the project need, i.e., to address concerns associated with reservoir operations' adverse impact on the hatchery downstream, coupled with efforts to make the project more cost neutral, MWRA's position is that the Hatchery project should remain in the CIP.</p>
<p>3. With the exception of the Hatchery Pipeline, the Advisory Board endorses the Authority's Proposed capital spending cap for FY14 -18 as well as its Proposed FY14 CIP with the caveat that any updated assumptions incorporated into the Final FY14 CIP and capital spending cap calculation remain under the \$793.5 million in the Proposed FY14 CIP.</p>	<p>Agree. The Final FY14 Cap stands at \$791.7 million.</p>
<p>4. Advisory Board officially recommends that the \$4,976,411 in the Proposed CEB for "Other Post-Employment Benefits/Additional Pension Deposit" be added to the retirement fund as an optional payment.</p>	<p>Agree. This amount is included in the budget as Additional Pension Deposit.</p>

ATTACHMENT D

MWRA's Responses to the Advisory Board's FY2014 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations/Comments	MWRA Responses
5. Reduce the FY14 Current Expense Budget by removing \$2,151,996 related to the updated mortality tables from the retirement fund expense line item.	Partially agree. Staff removed \$600,000 from the \$2,151,996, increase related to the mortality table changes, which will be required as of FY15. As discussed during the Board briefings, it is very desirable to include additional funds in FY14. Building in any additional funds in the FY14 Budget will lessen the significant increase required in FY15.
6. Reduce the Additions to Reserves line item by \$358,666.	The Additions to Operating Reserves were reduced by \$193,667.
7. Remove funding or require DCR to find alternative funding for any dam work that does not directly impact the water supply.	DCR Watershed is required by state law to maintain the dams acquired along with watershed land when the water system was developed. DCR Watershed works closely with MWRA to help maintain several of the major dams and dikes around the reservoirs. While much of the DCR Watershed investment in dam safety requirements (e.g. inspections, brush clearing) has not been substantial, there is one dam in Hubbardston (Brigham Pond Dam) that requires a more significant fix or costly removal. MWRA and DCR continue to discuss how to finance that project.
8. Design a co-digestion program to provide a financial benefit to the Authority significantly greater than the costs associated with co-digestion.	Agree. MWRA shares the Advisory Board's view that any long-term co-digestion program not merely be revenue-neutral, but rather revenue-positive. The planned program currently includes three phases of gradually increasing expansion and complexity – the bench-scale phase, now underway at UMass-Amherst; the pilot phase – with a target start-up of Spring 2014; and the full-scale phase – pending results of the pilot, with a possible startup some time in 2016-2017. In each of these phases, MWRA will vigorously seek out financial assistance from available sources to offset our expenses. In the first two phases, given that they are demonstration phases; the primary objective is really proof of concept, not revenue generation. We do expect to use the actual results and cost experiences from these two phases to make the final determination of financial viability prior to any long-term commitment.
9. Convene a working committee to explore new options for containing costs associated with PILOTs with relevant stakeholders, but not limited to, the Department of Revenue, the impacted communities, MWRA and staff, and the MWRA Advisory Board and staff.	Agree.
10. Have DCR pursue a "green" recertification of DWSP lands through the Forest Stewardship Council. This will provide an additional layer of oversight, openness, interaction, and assurance as DCR moves forward with its forestry management plan.	<p>Agree. MWRA staff strongly support the Advisory Board recommendation for "green certification" or for "sustainable forestry certification" by other respected certification bodies.</p> <p>DCR Watershed has committed to pursuing some type of "third party certification" for the watershed forestry program. The process may take several years as the program is restarted and forestry operations are conducted. The FY14 Water Supply Trust budget contains some funding for outside consulting regarding the evaluation of options for the "green" recertification, and DCR Watershed is committed to come back to the Trust with an update of the forestry program status and to discuss options of "green" recertification in the fall of 2013.</p>

ATTACHMENT D

MWRA's Responses to the Advisory Board's FY2014 Integrated CIP and CEB Recommendations and Comments

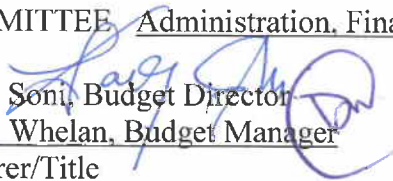
Advisory Board Recommendations/Comments	MWRA Responses
<p>11. Institute a sunset provision on the current terms of entrance fee payment with a date certain of June 30, 2014.</p>	<p>In 2012, the MWRA Advisory Board adopted recommendations to revise the terms of entrance fee payment for water system expansion to allow new water served communities to pay the entrance fee over 25 years, with no interest assessed, and to allow payment to start in the fourth year. The MWRA Board was apprised of the Advisory Board recommendation, but did not formally vote on revising the current entrance fee policy. In discussions with prospective communities, allowing payment of the entrance fee over 25 years appeared to be well received. MWRA staff urge that MWRA and the MWRA Advisory Board continue to keep open the possibility of payment of the entrance fee over 25 years with no interest. It may be an important incentive to communities evaluating local source and treatment options versus joining the MWRA water system. As experience has indicated, the process to become an MWRA water community may take a while, as communities weigh options very carefully, various Town meeting or City Council votes may be required, and there are regulatory processes that must be completed prior to application to MWRA. Even with a streamlined regulatory process in which participating agencies expedite reviews, a June 30, 2014 due date for application to MWRA is problematic.</p>
<p>12. Create a task force to look at all of the MWRA area approved septic sites to identify how to best regulate, monitor, and manage all sites to better guarantee proper disposal of septage.</p>	<p>Agree.</p>
<p>13. Because the Watershed Land Acquisition program has been so successful with a higher percentage of ownership/conservation restriction than originally intended at this time, the Advisory Board is recommending a change in approach to the land acquisition program. First, DCR should establish a list of the "top ten" most desired parcels of land from among their Priority 1 parcels (in executive session if need be to avoid impacting subsequent financial negotiations with the landowners). Second, only if these ten parcels of land become available either for purchase or conservation restriction should funds be expended from the Land Acquisition funds.</p>	<p>The DCR/MWRA land acquisition process has worked very successfully over the years to carefully assess possible projects at various stages of development. A team of DCR and MWRA experts is convened on a quarterly basis to scrutinize each possible project, with many rejected at initial or secondary stages. Project lists, along with detailed maps and analysis, are updated regularly. Given the limited funding, only the best parcels are brought forward to the MWRA Board for approval. The timing when desirable properties become available for conservation restrictions or purchase is unknown, thus limiting purchases to only the "top ten" first could prevent the acquisition of valuable watershed lands which may become available in the interim. DCR Watershed has also been successful in finding outside sources of funding and partnerships for some watershed acquisitions.</p>

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: FY14 Final Current Expense Budget



COMMITTEE Administration, Finance & Audit


Kathy Soni, Budget Director
David Whelan, Budget Manager
Preparer/Title

INFORMATION

VOTE


Rachel C. Madden
Director, Administration & Finance

The FY14 Proposed Current Expense Budget (CEB) submitted to the Advisory Board at the February 2013 Board meeting proposed a 3.9% combined assessment increase.

The Draft Final CEB presented to the Board at the June 5th budget hearings included a reduction of \$1.2 million Rate Revenue Requirement and a corresponding 3.7% assessment increase versus the Proposed CEB. The decreased Rate Revenue Requirement reflected a reduction in debt service expenses in recognition of larger than originally planned defeasance and increased energy related revenues. Although all other direct and indirect line items were also updated, they remained level funded versus the Proposed CEB.

Per the Board's direction at the hearing, staff revisited all major line items of the budget and evaluated options to further reduce the Rate Revenue Requirement by \$1.3 million to achieve a 3.49% assessment increase for FY14, in keeping with the Advisory Board's recommendation. Subsequently, staff made the following changes to the Draft Final CEB:

- *Reduced the optional pension funding for the effect of the new mortality table increases by \$600,000;*
- *Lowered direct expenses by \$445,000 in a variety of line items such as diesel fuel, sludge quantity assumptions, as-needed engineering services, etc; and*
- *Recognized the lower Operating Reserve requirement of \$183,000 based on these other expense reductions.*

For a line item comparison between the FY14 Proposed CEB to the FY14 Final CEB, please refer to Attachment A.

RECOMMENDATION:

1. To adopt the FY14 Final Current Expense Budget (CEB) set forth in Attachment A and Attachment B with current revenue and expenses of \$658.4 million.
2. To adopt the FY14 Final Operating Budget (Trustee's Budget) set forth in Attachment D.

DISCUSSION:

This staff summary presents the FY14 Final CEB. On June 5th, the Board of Directors held a hearing on the FY14 Draft Final CEB. Discussions and materials provided at the hearing outlined changes to the budget since the transmittal of the FY14 Proposed CEB in February 2013. The additional changes made to the FY14 Draft Final CEB are highlighted on the first page. Attachment A recaps the changes between the FY14 Proposed and FY14 Final CEB. Please note the FY14 Final CEB does not include receipt of any Debt Service Assistance (DSA).

Summary

The FY14 Final CEB recommends a combined increase in rates and charges of 3.5%. Capital Financing costs remain the largest component of the CEB, accounting for 60.3% of total expenses, and are projected to grow significantly in future years.

Total expenses of \$658.4 million include \$397.2 million or 60.3% for Capital Financing costs and \$261.2 million or 39.7% for operating expenses, of which \$214.4 million is for Direct Expenses and \$46.8 million is for Indirect Expenses. Total expenses increased \$22.6 million or 3.5% from the FY13 Approved Budget mainly due to a higher debt service requirement of \$21.6 million and higher Indirect Expenses of \$1.1 million mainly due to increased Pension Fund contributions and higher Watershed expenses primarily for greater Payment In Lieu of Taxes (PILOT) requirements. These increases were offset by lower Direct Expenses of \$542,000 mainly due to lower Other Services, Maintenance, and Utilities.

Non-rate Revenue for FY14 totals \$29.7 million, an increase of \$1.4 million or 4.8% from the FY13 Approved Budget. The FY14 Final Budget Non-Rate Revenue budget includes \$11.6 million in investment income, \$8.1 million in other user charges, \$6.4 million in other revenue, and \$3.5 million in Rate Stabilization funds. As compared with the FY13 Approved Budget, the increase in revenue is primarily driven by the use of Rate Stabilization funds of \$3.5 million partially offset by lower Investment Income of \$2.8 million.

The Rate Revenue Requirement for the FY14 Final Budget is \$628.7 million, an increase of \$21.2 million or 3.5% from the FY13 Approved Budget.

Table 1 on the following page provides a comparison of the FY14 Final and FY13 Approved Budget by major categories. Additional detail by line item and by Division is provided in Attachments B and C.

Table 1

**MWRA Current Expense Budget
FY14 Final versus FY13 Approved Budget**

(\$ in Millions)	FY13 Budget	FY14 Final	\$ Change	% Change
Directs	\$ 214.9	\$ 214.4	\$ (0.5)	-0.3%
Indirects	45.7	46.8	1.1	2.5%
Sub-Total Operating Expenses	\$ 260.6	\$ 261.2	\$ 0.6	0.2%
Capital Financing (before Offsets)	375.6	397.2	21.6	5.8%
Offsets: Bond Redemption ¹	-	-	-	
Variable Debt Savings	-	-	-	
Debt Service Assistance	(0.4)	-	0.4	-100.0%
Sub-Total Capital Financing	\$ 375.2	\$ 397.2	\$ 22.0	5.9%
Total Expenses	\$ 635.9	\$ 658.4	\$ 22.6	3.5%
Investment Income	\$ 14.5	\$ 11.6	\$ (2.8)	-19.6%
Non-Rate Revenue	13.9	14.6	0.7	5.0%
Rate Stabilization ¹	-	3.5	3.5	
Sub-Total Non-Rate Revenue	\$ 28.3	\$ 29.7	\$ 1.4	4.8%
Rate Revenue	607.5	628.7	21.2	3.5%
Total Revenue & Income	\$ 635.9	\$ 658.4	\$ 22.6	3.5%
FY14 Rate Revenue Increase		3.5%		
Combined Use of Reserves	\$ -	\$ 3.5		

¹ MWRA has two reserve funds (Bond Redemption and Rate Stabilization) which can be used at the discretion of the Authority to manage the Rate Revenue Requirement. Use of the Bond Redemption reduces total expenses and Rate Stabilization increases total revenue. Under the terms of the General Bond Resolution, the annual use of Rate Stabilization funds cannot exceed 10% of the year's senior debt service. Bond Redemption funds can be used only to retire or prepay outstanding debt. There is no annual limit on the amount of Bond Redemption funds used in a year, however the use is tied to the bonds' maturity dates and is utility specific.

EXPENSES:

Direct Expenses

FY14 Direct Expenses total \$214.4 million, a decrease of \$542,000 million or 0.3% from the FY13 Budget.

- **Wages and Salaries** – The final budget includes \$94.9 million for wages and salaries as compared to \$94.1 million in the FY13 Budget, an increase of \$815,000 or 0.9% largely due to contractual agreements offset by lower funded positions. Of the \$94.9 million, \$93.0 million is for regular pay. The final budget assumes a headcount of 1,175 funded positions, 20 positions lower than the FY13 Budget. As always, new hires and backfills of vacant positions will be managed at the senior management level and addressed on a case-by-case basis.
- **Overtime** – The final budget includes \$3.6 million for overtime, essentially level funded with the FY13 Budget. The FY14 Budget assumes overtime will be limited to coverage, emergencies, and critical maintenance projects.
- **Fringe Benefits** – The final budget includes \$18.1 million for fringe benefits, a decrease of \$178,000 or 1.0% from the FY13 Budget.
- **Workers' Compensation** – The final budget includes \$2.0 million for workers' compensation, a decrease of \$100,000 or 4.8% from the FY13 Budget and is based on the average actual spending for FY10-12.
- **Chemicals** – The final budget includes \$10.7 million for chemicals, an increase of \$708,000 or 7.1% from the FY13 Budget. The majority of the increase in the budget is for projected chemical cost increases and increased usage of several chemicals based on historical trends and dosing changes.
- **Utilities** – The final budget includes \$22.8 million for utilities, a decrease of \$367,000 or 1.6% from the FY13 Budget. The budget assumes funding of \$16.3 million for electricity, \$3.6 million for diesel fuel, \$2.0 million for water and \$628,000 for natural gas. The FY14 Final energy and utilities budget reflects the most recent pricing outlook based on energy futures and the latest bids for contracts and updated assumptions for self-generation at Deer Island, green energy initiatives, along with efficiency improvements in Field Operations.
- **Maintenance** – The final budget includes \$27.8 million for maintenance projects, a decrease of \$467,000 or 1.7% from the FY13 Budget, which is approximately 4.0% above the average of FY12 actual spending and is in line with the FY13 projection. The lower spending is attributed to the large number of capital projects that are currently underway and planned for FY14.

- **Training and Meetings** – The final budget includes \$331,000 for training and meetings, a decrease of \$55,000 or 14.2% from the FY13 Budget mainly due to the elimination of some one-time training performed in FY13.
- **Professional Services** – The final budget includes \$6.1 million for professional services, an increase of \$183,000 or 3.1% from the FY13 Budget. The budget reflects funding for Security of \$1.8 million, regulatory monitoring of \$1.7 million, and Other professional services funding of \$1.2 million to support items such as the Authority-wide MIS initiatives, Treasury outside consulting support services, and energy audits.
- **Other Materials** – The final budget includes \$6.0 million for other materials, an increase of \$378,000 or 6.8% more than the FY13 Budget. The budget includes funding of \$1.7 million for vehicle purchases, \$1.1 million for vehicle expenses mostly for gasoline purchases, \$808,000 for lab and testing supplies, \$540,000 for equipment and furniture, and \$437,000 for computer hardware needs.
- **Other Services** – The final budget includes \$22.3 million for other services, a decrease of \$1.5 million or 6.2% from the FY13 Budget. The budget includes funding of \$13.8 million for sludge pelletization, \$3.3 million for Space/Lease Rentals and related expenses for the CNY and Chelsea facilities, and \$1.4 million for voice and data costs. The largest decrease, or \$762,000, is related to the decreased quantities and utility indices pertaining to the Sludge Pelletization contract.

Indirect Expenses

Indirect Expenses for FY14 are \$46.8 million, an increase of \$1.1 million or 2.5% more than the FY13 Budget. Below are the highlights of major changes:

- The FY14 Final Budget includes \$27.2 million for the Department of Conservation and Recreation (DCR) Office of Watershed Management, an increase of \$802,000 or 3.0% over the FY13 Budget. The budget is comprised of \$13.4 million for reimbursement of operating expenses net of revenues, \$8.2 million for Payment in Lieu of Taxes (PILOT), and \$5.6 million for debt service expenses on prior land purchases financed by the Commonwealth. The largest increases are for PILOT payments of \$600,000 and for the operating expenses net of revenues of \$202,000 mainly for contractual increases.
- The FY14 Final Budget includes \$12.4 million for the Pension Fund, an increase of \$2.0 million or 18.7% over the FY13 contribution. Of the \$12.4 million contribution, \$5.9 million represents the minimum required contribution for FY14 based on the most recent actuarial evaluation of January 1, 2011, \$5.0 million represents the redirection of Other Post Employment Benefit (OPEB) funding included in the FY14 Proposed Budget to the Pension Fund, and \$1.6 million reflects recognition of the projected increases associated with the revised mortality tables.

- The FY14 Final Budget includes \$3.3 million for the Harbor Energy Electric Company (HEEC), a decrease of \$395,000 or 10.6% from the FY13 Budget, primarily for special maintenance projects. The majority of funding is for the contractual repayment of the capital investment of the Deer Island electric cable and substation which provides electric power to the treatment plant.
- The FY14 Final Budget includes \$2.1 million for Insurance, and is primarily level funded from the FY13 Budget. The FY14 Final Budget was based on actual average spending for the past five years, FY08-12. It should be noted that the Board of Directors approved the MWRA FY14 Insurance program at the June 5th Board with a not-to-exceed amount for the Excess Liability coverage of \$300,000. Since then, staff have received final pricing for this item of \$285,000 which has been imbedded into the FY14 Final Budget.
- The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved a strategy to aggressively pay down our pension liability and upon reaching full funding, move to address the OPEB obligation. This strategy was employed in FY08, FY09, FY10, FY12, and FY13 Budgets. It was temporarily halted in FY11 to achieve a 1.5% rate increase. In an effort to restore the Authority's long-term commitment for its liabilities, the \$5.0 million included for OPEB in the FY14 Final Budget, consistent with the planning estimates, has been redirected to the Pension Fund.
- Funding for the Operating Reserve for FY14 is \$1.2 million lower than the FY13 Budget. The Operating Reserve balance is in compliance with MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY14 Final CEB, the required balance is \$39.0 million versus the \$38.8 million required in FY13.

Capital Financing

As a result of the Authority's Capital Improvement Program, debt service as a percentage of total expenses (before offsets) has increased steadily from 36% in 1990 to 60% in the FY14 Final Current Expense Budget. Much of this debt service is for completed projects, primarily the Boston Harbor Project and the Integrated Water Supply Improvement Program. The MWRA's capital spending, from its inception, has been dominated by projects mandated by court order or regulatory requirements, which in total have accounted for 80% of capital spending to date. Going forward, and as the Combined Sewer Overflow (CSO) project winds down, greater emphasis and spending will be focused on asset protection and water redundancy initiatives.

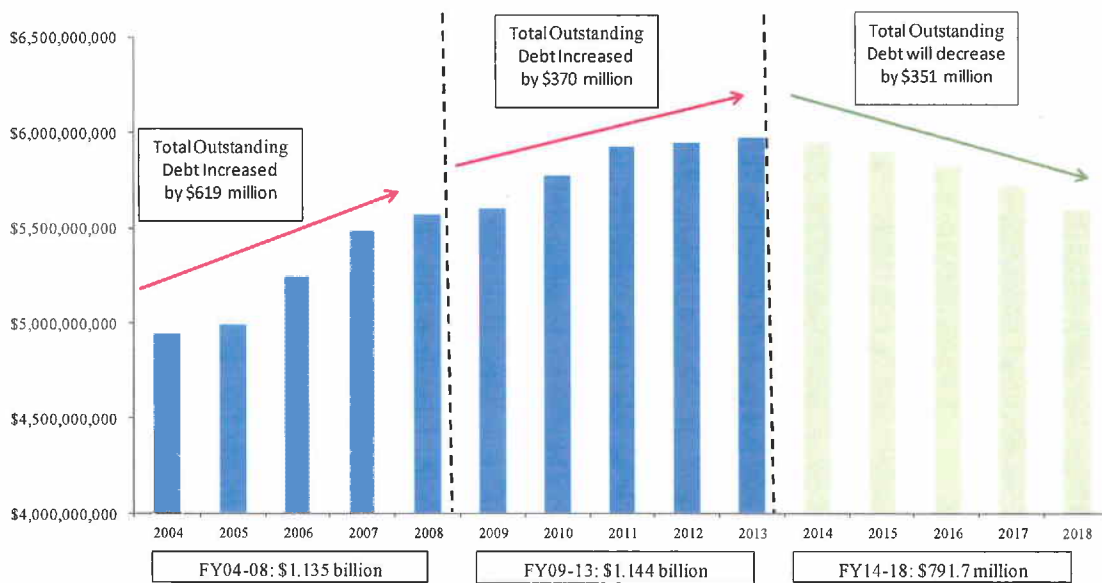
The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates include current and advanced refunding of outstanding debt, maximizing the use of the subsidized State Revolving

Fund (SRF) debt, issuance of variable rate debt, swap agreements, and the use of surplus revenues to defease debt. The MWRA also uses Tax Exempt Commercial Paper to minimize the financing cost of construction in process.

As presented in the FY14 CIP staff summary, FY14 represents a significant milestone in that the Authority established the lowest five-year spending cap for FY14-18 period since 1990, resulting in lower borrowing requirements in future years.

Most importantly, MWRA will be reducing its total bonded indebtedness over the next five years as illustrated in the graph below.

MWRA's Outstanding Debt



The FY14 Final capital financing costs total \$397.2 million and remain the largest portion of the MWRA's budget, accounting for 60% of total expenses. No Debt Service Assistance (DSA) has been included in the FY14 Final Budget.

The FY14 Final Budget includes a targeted defeasance of \$25.0 million which will reduce debt service by approximately \$960,000 in FY14, \$10.2 million in FY15, and \$15.1 million in FY16.

The FY14 Final Budget assumes a 3.25% interest rate for variable rate debt which is the same level as in FY13. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series, liquidity fees for the Standby Bond Purchase Agreement and Letter of Credit providers, and remarketing fees. While MWRA continues to experience unusually low interest rates, they are not reflective of historical averages and there is no guarantee that rates will stay low.

The FY14 Final capital financing costs increased by \$21.6 million or 5.8% compared to the FY13 Budget. This increase in the MWRA's debt service is the result of the new money issued in FY13 and projected FY14 issuances partially offset by the impact of the year-end defeasance.

The FY14 Final capital financing budget includes:

- \$204.5 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$1.1 million to support issuance of \$100 million in June 2014;
- \$100.1 million in principal and interest payments on subordinate bonds;
- \$76.0 million in principal and interest payments on SRF loans. This amount includes \$3.7 million to support issuances of \$54 million in 2014;
- \$9.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$4.1 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and
- \$3.2 million for the Chelsea Lease.

Revenue

FY14 non-rate revenue totals \$29.7 million, an increase of \$1.4 million or 4.8% from the FY13 Budget. The FY14 Final non-rate revenue budget includes:

- \$11.6 million in Investment Income, a decrease of \$2.8 million or 19.6% from the FY13 Budget due to lower average fund balances. The FY14 Final short-term interest rate assumption is .20%, 20 basis points lower than the .40% included in the FY13 Budget.
- \$8.1 million in Other User Charges, including \$4.6 million for Chicopee Valley Aqueduct (CVA) communities, \$1.5 million for Deer Island water usage, \$651,000 for entrance fees from member communities, and \$500,000 for the Commonwealth's partial reimbursement for Clinton Wastewater Treatment Plant expenses. Other User Charges are \$361,000 or 4.6% more than the FY13 Budget which is mainly due to Chicopee Valley communities assessment increases related to the Quabbin Treatment Plant Ultraviolet project.
- \$6.4 million in Other Revenue, including \$2.6 million from the sale of the Authority's Renewable Portfolio Credits and revenue from the demand response program, \$2.3 million in permit fees and penalties, and \$707,000 in energy revenue from wind, hydroelectric, and solar production. Other Revenue increased \$327,000 or 5.4% from the FY13 Budget mainly due to increased pricing for Renewable Portfolio Credit certificates and the projected revenue from renewable energy sources such as wind and solar.

- \$3.5 million in use of Rate Stabilization funds is planned in FY14 which results in a \$3.5 million increase versus FY13.

The Rate Revenue Requirement for FY14 is \$628.7 million, an increase \$21.2 million or 3.5% over the FY13 Budget. The Rate Revenue Requirement is the difference between total expenses of \$658.4 million less non-rate revenue of \$29.7 million.

Planning Estimates and Future Rate Increases

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. MWRA uses the planning estimates to model and project what future rate increases might be based upon these assumptions, as well as to test the impact of changes to assumptions on future rate increases.

The planning estimates are not predictions of what rate increases will be but rather they provide the context and framework for guiding MWRA financial policy and management decision making that ultimately determine the level of actual rate increases on an annual basis.

Historically, the planning estimates were based on conservative financial assumptions. Conservative projections of future rate increases benefit the MWRA by providing assurance to the rating agencies that MWRA anticipates to raise revenues sufficient to pay for its operations and outstanding debt obligations now and over the long-term. Additionally, conservative forecasts of rate revenue increases enable member communities to adequately plan and budget for future payments to MWRA. These conservative assumptions are revised annually and adjusted to reflect more current conditions in the upcoming budget cycles.

Table 2 below presents the combined estimated future rate increases and household charges based on the FY14 Final Budget. The planning estimates shown below assume use of Rate Stabilization and Bond Redemption reserves through FY2023 to manage the rate increases but do not assume receipt of Debt Service Assistance (DSA) from the Commonwealth. For planning purposes, the yearly use of combined reserves is currently limited to a maximum of \$12 million. MWRA anticipates the release of additional reserves starting in FY16 as a result of Bond Indenture changes to mitigate rate increases in future years. The release reserves are reflected in these projections.

Table 2

Rates & Budget Projections										
FY14 Final CEB	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Total Rate Revenue (\$000)	\$ 628,721	\$ 651,551	\$ 678,509	\$ 736,413	\$ 755,600	\$ 775,286	\$ 829,570	\$ 847,999	\$ 875,457	\$ 845,784
Rate Revenue Change from Prior Year (\$000)	\$ 21,209	\$ 22,830	\$ 26,959	\$ 57,904	\$ 19,187	\$ 19,686	\$ 54,284	\$ 18,429	\$ 27,458	\$ (29,673)
Rate Revenue Increase	3.5%	3.6%	4.1%	8.5%	2.6%	2.6%	7.0%	2.2%	3.2%	-3.4%
Use of Reserves (\$000)	\$ 3,500	\$ 12,000	\$ 12,000	\$ 12,000	\$ 4,900	\$ 4,466	\$ 12,000	\$ -	\$ 12,000	\$ -

Estimated Household Bill

Based on annual water usage of 61,000 gallons	\$ 970	\$ 1,014	\$ 1,065	\$ 1,133	\$ 1,184	\$ 1,227	\$ 1,295	\$ 1,352	\$ 1,412	\$ 1,448
Based on annual water usage of 90,000 gallons	\$ 1,432	\$ 1,497	\$ 1,571	\$ 1,672	\$ 1,747	\$ 1,810	\$ 1,911	\$ 1,994	\$ 2,084	\$ 2,136

CEB Review and Adoption Process

In February, the MWRA transmitted the FY14 Proposed CEB to the Advisory Board for its review and comment. In June, the Advisory Board submitted their *Integrated Comments and Recommendations*. Responses to the Advisory Board’s review and comments are attached as Attachment F.

Attachments

- Attachment A - FY14 Final Budget vs. FY14 Proposed Budget
- Attachment B - FY14 Final Budget vs. FY13 Approved Budget
- Attachment C - FY14 Final Direct Expense Budget by Division
- Attachment D - FY14 Final Operating Budget (Trustee’s Budget)
- Attachment E - FY14 Final Budget vs. FY13 Projection (May)
- Attachment F - MWRA Responses to Advisory Board’s FY14 Integrated CIP and CEB Comments and Recommendations

ATTACHMENT A

FY14 Final Budget vs FY14 Proposed Budget

TOTAL MWRA	FY13 Budget	FY14 Proposed	FY14 Final	Change FY14 Final vs FY14 Proposed	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 94,059,400	\$ 94,612,012	\$ 94,874,284	\$ 262,272	0.3%
OVERTIME	3,573,496	3,580,025	3,580,025	-	0.0%
FRINGE BENEFITS	18,241,926	17,613,825	18,063,825	450,000	2.6%
WORKERS' COMPENSATION	2,100,000	2,025,000	2,000,000	(25,000)	-1.2%
CHEMICALS	9,963,496	10,653,746	10,671,225	17,479	0.2%
ENERGY AND UTILITIES	23,127,198	22,989,800	22,760,588	(229,212)	-1.0%
MAINTENANCE	28,229,070	27,963,425	27,761,580	(201,845)	-0.7%
TRAINING AND MEETINGS	385,617	355,617	330,917	(24,700)	-6.9%
PROFESSIONAL SERVICES	5,900,785	5,873,902	6,083,402	209,500	3.6%
OTHER MATERIALS	5,591,291	6,044,284	5,969,470	(74,814)	-1.2%
OTHER SERVICES	23,743,608	23,134,268	22,278,700	(855,568)	-3.7%
TOTAL DIRECT EXPENSES	\$ 214,915,886	\$ 214,845,904	\$ 214,374,016	\$ (471,888)	-0.2%
INSURANCE	\$ 2,097,875	\$ 2,143,618	\$ 2,093,618	\$ (50,000)	-2.3%
WATERSHED/PILOT	26,413,175	27,214,833	27,214,833	-	0.0%
HEEC PAYMENT	3,741,915	3,386,970	3,346,854	(40,116)	-1.2%
MITIGATION	1,566,923	1,566,797	1,566,797	-	0.0%
ADDITIONS TO RESERVES	1,398,329	362,971	169,304	(193,667)	-53.4%
RETIREMENT FUND	5,750,085	8,055,103	7,455,103	(600,000)	-7.4%
POSTEMPLOYMENT BENEFITS/ ADDITIONAL PENSION DEPOSIT	4,724,291	4,976,411	4,976,411	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 45,692,593	\$ 47,706,703	\$ 46,822,920	\$ (883,783)	-1.9%
DEBT SERVICE (before offsets)	\$ 375,598,070	\$ 398,010,515	\$ 397,226,267	\$ (784,248)	-0.2%
VARIABLE RATE DEBT				-	
VARIABLE RATE DEBT/OTHER				-	
BOND REDEMPTION				-	
DEBT SERVICE ASSISTANCE	(350,000)	-	-	-	
TOTAL DEBT SERVICE	\$ 375,248,070	\$ 398,010,515	\$ 397,226,267	\$ (784,248)	-0.2%
TOTAL EXPENSES	\$ 635,856,549	\$ 660,563,122	\$ 658,423,204	\$ (2,139,919)	-0.3%
REVENUE & INCOME					
RATE REVENUE	\$ 607,512,000	\$ 631,233,000	\$ 628,721,000	\$ (2,512,000)	-0.40%
OTHER USER CHARGES	7,766,693	8,198,509	8,127,379	(71,130)	-0.9%
OTHER REVENUE	6,116,844	5,850,795	6,444,291	593,496	10.1%
RATE STABILIZATION		3,500,000	3,500,000	-	0.0%
INVESTMENT INCOME	14,461,012	11,780,819	11,630,534	(150,285)	-1.3%
TOTAL REVENUE & INCOME	\$ 635,856,549	\$ 660,563,122	\$ 658,423,204	\$ (2,139,918)	-0.3%

ATTACHMENT B

FY14 Final vs FY13 Approved Budget

TOTAL MWRA	FY12 Actual	FY13 Budget	FY14 Final	Change FY14 Final vs FY13 Budget	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 89,887,813	\$ 94,059,400	\$ 94,874,284	\$ 814,884	0.9%
OVERTIME	3,086,175	3,573,496	3,580,025	6,529	0.2%
FRINGE BENEFITS	17,662,544	18,241,926	18,063,825	(178,101)	-1.0%
WORKERS' COMPENSATION	1,600,726	2,100,000	2,000,000	(100,000)	-4.8%
CHEMICALS	9,271,528	9,963,496	10,671,225	707,729	7.1%
ENERGY AND UTILITIES	22,766,837	23,127,198	22,760,588	(366,610)	-1.6%
MAINTENANCE	26,776,012	28,229,070	27,761,580	(467,490)	-1.7%
TRAINING AND MEETINGS	184,229	385,617	330,917	(54,700)	-14.2%
PROFESSIONAL SERVICES	5,099,517	5,900,785	6,083,402	182,617	3.1%
OTHER MATERIALS	5,513,699	5,591,291	5,969,470	378,179	6.8%
OTHER SERVICES	22,985,817	23,743,608	22,278,699	(1,464,909)	-6.2%
TOTAL DIRECT EXPENSES	\$ 204,834,898	\$ 214,915,886	\$ 214,374,016	\$ (541,871)	-0.3%
INSURANCE	\$ 2,076,962	\$ 2,097,875	\$ 2,093,618	\$ (4,257)	-0.2%
WATERSHED/PILOT	25,629,604	26,413,175	27,214,833	801,658	3.0%
HEEC PAYMENT	3,561,130	3,741,915	3,346,854	(395,061)	-10.6%
MITIGATION	1,744,579	1,566,923	1,566,797	(126)	0.0%
ADDITIONS TO RESERVES	195,467	1,398,329	169,304	(1,229,025)	-87.9%
RETIREMENT FUND	5,488,792	5,750,085	7,455,103	1,705,018	29.7%
POSTEMPLOYMENT BENEFITS/ ADDITIONAL PENSION DEPOSIT	1,874,378	4,724,291	4,976,411	252,120	5.3%
TOTAL INDIRECT EXPENSES	\$ 40,570,912	\$ 45,692,593	\$ 46,822,920	\$ 1,130,327	2.5%
DEBT SERVICE (before offsets)	\$ 365,136,323	\$ 375,598,070	\$ 397,226,267	\$ 21,628,197	5.8%
VARIABLE RATE DEBT				-	
BOND REDEMPTION				-	
DEBT SERVICE ASSISTANCE	(384,323)	(350,000)	-	350,000	-100.0%
TOTAL DEBT SERVICE	\$ 364,752,000	\$ 375,248,070	\$ 397,226,267	\$ 21,978,197	5.9%
TOTAL EXPENSES	\$ 610,157,810	\$ 635,856,549	\$ 658,423,204	\$ 22,566,653	3.5%
REVENUE & INCOME					
RATE REVENUE	\$ 589,700,000	\$ 607,512,000	\$ 628,721,000	\$ 21,209,000	3.49%
OTHER USER CHARGES	7,264,794	7,766,693	8,127,379	360,686	4.6%
OTHER REVENUE	5,655,582	6,116,844	6,444,291	327,447	5.4%
RATE STABILIZATION	1,091,780		3,500,000	3,500,000	
INVESTMENT INCOME	16,267,462	14,461,012	11,630,534	(2,830,478)	-19.6%
TOTAL REVENUE & INCOME	\$ 619,979,621	\$ 635,856,549	\$ 658,423,204	\$ 22,566,655	3.5%

ATTACHMENT C

FY14 Final Direct Expense Budget by Division

Division	FY13 Budget	FY14 Final	Change FY14 Final to FY13 Budget	
			\$	%
Executive	\$1,136,599	\$1,178,114	\$41,515	3.7%
Emergency Preparedness	2,528,605	2,850,290	\$321,685	12.7%
Planning*	0	0	\$0	N/A
Administration and Finance	46,232,667	45,330,636	-\$902,031	-2.0%
Law	1,824,588	1,703,734	-\$120,854	-6.6%
Affirmative Action	570,069	579,127	\$9,058	1.6%
Internal Audit	673,743	681,486	\$7,743	1.1%
Public Affairs	1,122,627	1,208,106	\$85,479	7.6%
Operations	160,826,987	160,842,524	\$15,537	0.0%
Total Authority	\$214,915,886	\$214,374,016	-\$541,871	-0.3%

* In the FY14 Final Budget, the Planning Division (historically a separate division) is combined with the Operations Division for comparison purposes.

ATTACHMENT D

**Massachusetts Water Resources Authority
Fiscal Year 2014 Operating Budget for Filing with the Trustee
Pursuant to Section 712 of General Bond Resolution Adopted January 24, 1990**

(\$000s)

Projected Monthly Deposits:

Fund	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Operating	\$17,716	\$22,145	\$17,716	\$17,716	\$22,145	\$17,716	\$17,716	\$22,145	\$17,716	\$17,716	\$22,145	\$17,716	\$230,313
Debt Service & Coverage	30,556	38,195	30,556	30,556	38,195	30,556	30,556	38,195	30,556	30,556	38,195	30,556	397,226
Debt Service Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
CORE	---	---	---	---	---	---	---	---	---	---	---	---	0
Commonwealth Obligations	---	---	3,352	---	---	3,352	---	---	11,552	---	---	8,960	27,215
Operating Reserve	13	16	13	13	16	13	13	16	13	13	16	13	169
Insurance Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
Renewal & Replacement Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
Rate Stabilization Reserve	269	337	269	269	337	269	269	337	269	269	337	269	3,500
Total	\$48,554	\$60,693	\$51,906	\$48,554	\$60,693	\$51,906	\$48,554	\$60,693	\$60,106	\$48,554	\$60,693	\$57,515	\$658,423

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2014 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations/Comments	MWRA Responses
<p>1. Reduce the rate revenue requirement for the FY14 Current Expense Budget by \$2,510,662, resulting in a 3.49% wholesale rate increase including:</p> <p>a. Reducing the retirement fund expense line item by the \$2,151,996 associated with the increase associated with updated mortality tables to be introduced in FY15.</p> <p>b. Reduce the addition to reserves line item by \$358,666 to reflect the amount that would have been added to cover the \$2,151,996 being recommended for reduction from pension expense.</p>	<p>Agree to reduce the Rate Revenue Requirement (RRR) by \$2.5 million, to achieve an assessment increase of 3.49%.</p> <p>a. MWRA reduced the Rate Revenue Requirements for the Draft Final CEB by \$1.2 million resulting in an assessment increase of 3.7%. The RRR reductions included: Debt Service of \$784k, Direct Expenses of \$26k, Indirect Expenses of \$52k, and increased Revenue & Income of \$381k.</p> <p>At the direction of the Board, staff revisited all line items and further reduced the RRR by \$1.3 million to achieve an assessment increase of 3.49%. The additional RRR reduction of \$1.3 million included \$600k decrease to the retirement funding for the effect of the mortality tables, \$445k Direct Expense reduction, and \$233k in Indirect Expense reduction.</p> <p>b. The Operating Reserve Requirements in total were reduced by \$194k as result of the overall expense reductions.</p>
<p>2. Remove the Hatchery Pipeline project from the Proposed FY14 CIP.</p>	<p>The CVA-Hatchery pipeline project is proposing to eliminate the threat of water reservoir operations significantly impacting the McLaughlin Fish Hatchery (warm water spills from Quabbin Reservoir are more frequent due to declining water demand which could devastate the hatchery). Associated with the pipeline is a proposed hydropower facility. The hydropower project cannot and would not exist without the water supply pipeline. The generation of hydropower, and the value of the electricity generated in avoiding energy purchases for the new UV facility at Ware or for net metering and sale of power to the grid, will partially offset the cost of the pipeline. MWRA has received one grant from the Massachusetts Clean Energy Center already for 50% of the hydropower facility's cost. The hydropower facility is also the subject of a second grant from the Executive Office of Energy and Environmental Affairs Department of Energy Resources Leading By Example program that would cover the other 50% of the hydropower facility's project cost. The grant received, plus the grant sought, have milestones associated with them. Failure to move ahead with this project on a timely basis would result in loss of grant funding. Because of the project need, i.e., to address concerns associated with reservoir operations' adverse impact on the hatchery downstream, coupled with efforts to make the project more cost neutral, MWRA's position is that the Hatchery project should remain in the CIP.</p>
<p>3. With the exception of the Hatchery Pipeline, the Advisory Board endorses the Authority's Proposed capital spending cap for FY14 -18 as well as its Proposed FY14 CIP with the caveat that any updated assumptions incorporated into the Final FY14 CIP and capital spending cap calculation remain under the \$793.5 million in the Proposed FY14 CIP.</p>	<p>Agree. The Final FY14 Cap stands at \$791.7 million.</p>
<p>4. Advisory Board officially recommends that the \$4,976,411 in the Proposed CEB for "Other Post-Employment Benefits/Additional Pension Deposit" be added to the retirement fund as an optional payment.</p>	<p>Agree. This amount is included in the budget as Additional Pension Deposit.</p>

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2014 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations/Comments	MWRA Responses
5. Reduce the FY14 Current Expense Budget by removing \$2,151,996 related to the updated mortality tables from the retirement fund expense line item.	Partially agree. Staff removed \$600,000 from the \$2,151,996, increase related to the mortality table changes, which will be required as of FY15. As discussed during the Board briefings, it is very desirable to include additional funds in FY14. Building in any additional funds in the FY14 Budget will lessen the significant increase required in FY15.
6. Reduce the Additions to Reserves line item by \$358,666.	The Additions to Operating Reserves were reduced by \$193,667.
7. Remove funding or require DCR to find alternative funding for any dam work that does not directly impact the water supply.	DCR Watershed is required by state law to maintain the dams acquired along with watershed land when the water system was developed. DCR Watershed works closely with MWRA to help maintain several of the major dams and dikes around the reservoirs. While much of the DCR Watershed investment in dam safety requirements (e.g. inspections, brush clearing) has not been substantial, there is one dam in Hubbardston (Brigham Pond Dam) that requires a more significant fix or costly removal. MWRA and DCR continue to discuss how to finance that project.
8. Design a co-digestion program to provide a financial benefit to the Authority significantly greater than the costs associated with co-digestion.	Agree. MWRA shares the Advisory Board's view that any long-term co-digestion program not merely be revenue-neutral, but rather revenue-positive. The planned program currently includes three phases of gradually increasing expansion and complexity – the bench-scale phase, now underway at UMass-Amherst; the pilot phase – with a target start-up of Spring 2014; and the full-scale phase – pending results of the pilot, with a possible startup some time in 2016-2017. In each of these phases, MWRA will vigorously seek out financial assistance from available sources to offset our expenses. In the first two phases, given that they are demonstration phases; the primary objective is really proof of concept, not revenue generation. We do expect to use the actual results and cost experiences from these two phases to make the final determination of financial viability prior to any long-term commitment.
9. Convene a working committee to explore new options for containing costs associated with PILOTs with relevant stakeholders, but not limited to, the Department of Revenue, the impacted communities, MWRA and staff, and the MWRA Advisory Board and staff.	Agree.
10. Have DCR pursue a "green" recertification of DWSP lands through the Forest Stewardship Council. This will provide an additional layer of oversight, openness, interaction, and assurance as DCR moves forward with its forestry management plan.	<p>Agree. MWRA staff strongly support the Advisory Board recommendation for "green certification" or for "sustainable forestry certification" by other respected certification bodies.</p> <p>DCR Watershed has committed to pursuing some type of "third party certification" for the watershed forestry program. The process may take several years as the program is restarted and forestry operations are conducted. The FY14 Water Supply Trust budget contains some funding for outside consulting regarding the evaluation of options for the "green" recertification, and DCR Watershed is committed to come back to the Trust with an update of the forestry program status and to discuss options of "green" recertification in the fall of 2013.</p>

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2014 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations/Comments	MWRA Responses
<p>11. Institute a sunset provision on the current terms of entrance fee payment with a date certain of June 30, 2014.</p>	<p>In 2012, the MWRA Advisory Board adopted recommendations to revise the terms of entrance fee payment for water system expansion to allow new water served communities to pay the entrance fee over 25 years, with no interest assessed, and to allow payment to start in the fourth year. The MWRA Board was apprised of the Advisory Board recommendation, but did not formally vote on revising the current entrance fee policy. In discussions with prospective communities, allowing payment of the entrance fee over 25 years appeared to be well received. MWRA staff urge that MWRA and the MWRA Advisory Board continue to keep open the possibility of payment of the entrance fee over 25 years with no interest. It may be an important incentive to communities evaluating local source and treatment options versus joining the MWRA water system. As experience has indicated, the process to become an MWRA water community may take a while, as communities weigh options very carefully, various Town meeting or City Council votes may be required, and there are regulatory processes that must be completed prior to application to MWRA. Even with a streamlined regulatory process in which participating agencies expedite reviews, a June 30, 2014 due date for application to MWRA is problematic.</p>
<p>12. Create a task force to look at all of the MWRA area approved septic sites to identify how to best regulate, monitor, and manage all sites to better guarantee proper disposal of septage.</p>	<p>Agree.</p>
<p>13. Because the Watershed Land Acquisition program has been so successful with a higher percentage of ownership/conservation restriction than originally intended at this time, the Advisory Board is recommending a change in approach to the land acquisition program. First, DCR should establish a list of the "top ten" most desired parcels of land from among their Priority 1 parcels (in executive session if need be to avoid impacting subsequent financial negotiations with the landowners). Second, only if these ten parcels of land become available either for purchase or conservation restriction should funds be expended from the Land Acquisition funds.</p>	<p>The DCR/MWRA land acquisition process has worked very successfully over the years to carefully assess possible projects at various stages of development. A team of DCR and MWRA experts is convened on a quarterly basis to scrutinize each possible project, with many rejected at initial or secondary stages. Project lists, along with detailed maps and analysis, are updated regularly. Given the limited funding, only the best parcels are brought forward to the MWRA Board for approval. The timing when desirable properties become available for conservation restrictions or purchase is unknown, thus limiting purchases to only the "top ten" first could prevent the acquisition of valuable watershed lands which may become available in the interim. DCR Watershed has also been successful in finding outside sources of funding and partnerships for some watershed acquisitions.</p>


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: Final FY14 Water and Sewer Assessments



COMMITTEE: Administration, Finance & Audit

X VOTE
INFORMATION

 Kathy Soni, Budget Director
Leo Norton, Assistant Manager, Rates, Revenue
and Finance
Preparer/Title


Rachel C. Madden
Director, Administration, Finance

The FY14 Proposed Current Expense Budget (CEB) included a Rate Revenue Requirement of \$631,233,000, a 3.9% increase over FY13. Based on updated information, including an increase in the planned defeasance resulting from the projected FY13 operating surplus, the FY14 Draft Final CEB presented to the Board at the June 5th budget hearing included a Rate Revenue Requirement of \$629,990,000, an increase of 3.7%.

Per the Board's direction, staff are now submitting for approval Final FY14 Water and Sewer Assessments which reflects a Rate Revenue Requirement of \$628,721,000. This is a \$2.5 million reduction from Preliminary FY14 Assessments and results in a 3.49% combined assessment increase over FY13.

The Rate Revenue Requirement is allocated to MWRA communities based on their respective shares of CY12 MWRA water use, the average of CY10-CY12 wastewater flows and corresponding strength of flows, and population data.

RECOMMENDATION:

To adopt the following effective July 1, 2013:

- 1) Water system assessments of \$203,216,774 and sewer system assessments of \$425,504,226 for Fiscal Year 2014.
- 2) FY14 sewer assessments of \$500,000 for the Town of Clinton and \$195,825 for the Lancaster Sewer District.
- 3) FY14 charge to the City of Worcester of \$129,071 which represents approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant.
- 4) FY14 water assessments of \$3,253,485 for the City of Chicopee, \$684,611 for South Hadley Fire District #1, and \$709,198 for the Town of Wilbraham.
- 5) A wholesale water rate of \$3,124.91 per million gallons.
- 6) A retail sewer rate of \$6,444.16 per million gallons.

DISCUSSION:

The Final FY14 Current Expense Budget includes a Rate Revenue Requirement of \$628,721,000, an increase of 3.49% over the FY13 requirement.

	FY14 Final	FY13 Approved	\$ Change from FY13	% Change from FY13
Water	\$203,216,774	\$196,001,401	\$ 7,215,373	3.68%
Sewer	425,504,226	411,510,599	\$13,993,627	3.40%
Total	\$628,721,000	\$607,512,000	\$21,209,000	3.49%

Attachment I summarizes FY14 wholesale water and sewer charges for each MWRA community.

The estimated impact of the FY14 assessment increase on the MWRA portion of the average household bill for water and sewer service in a fully served MWRA community that uses close to the system average of 61,000 gallons of water per year is \$14.

Community charges in the MWRA service area vary widely based on local decisions, water usage, and sewer flows. Each community has its own strategies and policies with respect to water and sewer revenue matters. Local decisions are based on strategies regarding enterprise fund accounting, recovery of revenue to meet system improvement needs, use of rate stabilization funds and community specific policies. Therefore, the estimated household impact is not necessarily indicative of the rates proposed by each community.

Water Assessments

MWRA calculates water assessments for customer communities by apportioning the water rate revenue requirement according to each community's share of total water use for the most recent calendar year. FY14 assessments are based on each community's share of CY12 water use of 65.031 billion gallons, a 0.6% increase compared to CY11 water use of 64.636 billion gallons. Changes in FY14 water assessments for customer communities compared to FY13 assessments vary considerably, depending on each community's use of water and how that use factors into their share of the water system in CY12 compared to CY11. This is particularly true for communities that receive only part of their water from MWRA.

Preliminary FY14 assessments were calculated based on preliminary CY12 water use as of February 2013. Since February, minor revisions to CY12 water use for several communities resulted in FY14 assessment impacts for BWSC (-\$21,112), Melrose (-\$3,782), Stoneham (-\$13,449), Waltham (-\$3,011), and Woburn (-\$1,069). These adjustments represent 0.4% or less of each community's preliminary FY14 assessment.

The following graph illustrates the water Rate Revenue Requirement for the past 5 years. The changes from FY13 to FY14 are primarily the result of increased debt service related to water utility rehabilitation and improvements.

MWRA Water Rate Revenue Requirement

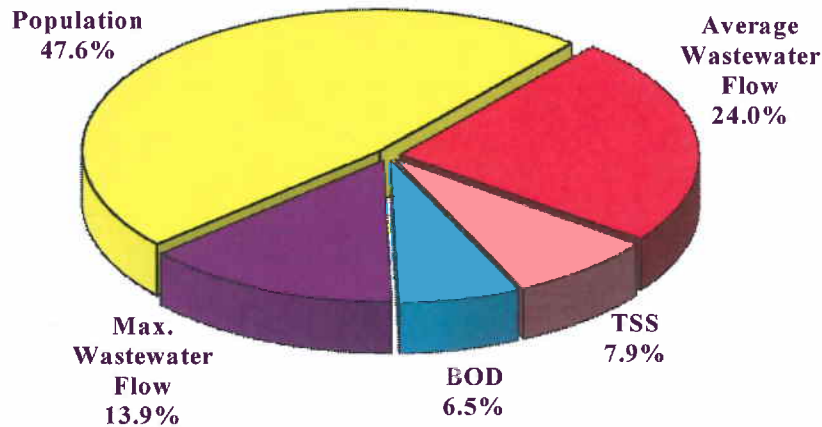


Sewer Assessments

MWRA allocates sewer assessments based on each community's share of the following allocation parameters: annual wastewater flow, maximum month flow, strength of flow, census population, and sewer population.

On average, approximately 52% of a community's FY14 sewer assessment is based on each community's share of wastewater flow and strength of flow (total suspended solids-TSS and biochemical oxygen demand-BOD), and approximately 48% is based on population as illustrated in the graph below.

Allocation of Total Sewer Utility Assessment

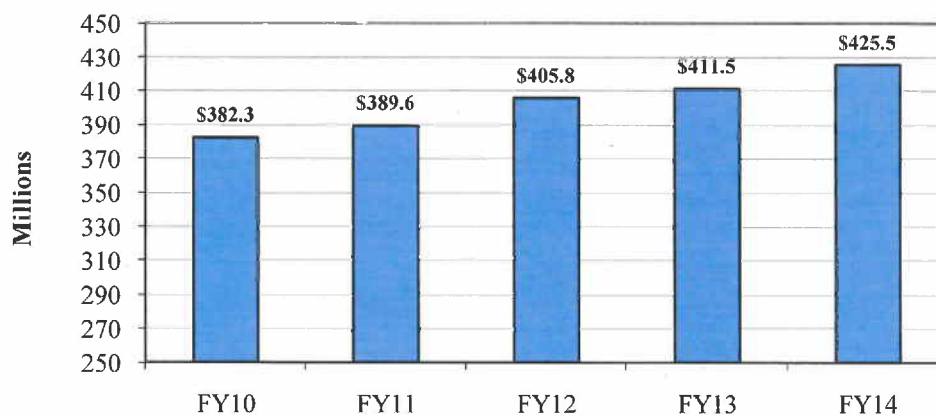


Both the preliminary and final FY14 assessment for population were calculated using the most recent (July 2011) community population estimates from the U.S. Census Bureau, as well as the percentage of total population receiving municipal sewer service reported by each MWRA community.

Preliminary FY14 assessments were calculated using the average of CY10, CY11 and CY12 wastewater flows and strength of flows as of February 2013. Since February, staff have revised CY12 flows for several communities resulting in assessment impacts for Boston (-\$80,796), Brookline (+\$112,602), Framingham (+\$59,601), Needham (+\$47,246), Newton (+\$119,316), and Somerville (-\$21,103). These adjustments represent less than 0.9% of each community's preliminary FY14 assessment.

The graph below illustrates the sewer Rate Revenue Requirement for the past 5 years. The change from FY13 to FY14 is primarily the result of increased debt service related to sewer utility rehabilitation and improvements.

MWRA Sewer Rate Revenue Requirement



Clinton Sewer Service Area Assessments

FY14 operating and maintenance (O&M) and capital expenses attributable to the Clinton Wastewater Treatment Plant are \$2,454,133, an increase of 1.2% from FY13 expenses. This includes a 3.7% increase in capital expenses related primarily to the digester cleaning/rehabilitation project.

In accordance with MWRA's Clinton Sewer Service Area rate methodology adopted in 1991, the City of Worcester is charged approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant. FY14 direct operating expenses for the plant total \$1,631,539, resulting in an FY14 charge of \$129,071 for the City of Worcester. Worcester has been paying this annual charge to MWRA or its predecessors since 1914.

The Town of Clinton and the Lancaster Sewer District are allocated proportional shares of the remaining expenses based on annual metered wastewater flow to the Clinton WWTP. Based on FY14 expenses and CY12 wastewater flows, FY14 charges are \$195,825 for the Lancaster Sewer District and \$2,129,236 for the Town of Clinton. However, pursuant to Chapter 307, Section 8 of the Acts of 1987, Clinton is only liable for the first \$500,000 of its share of O&M and capital costs. *Attachment 2* details the expenses and corresponding charges for the Clinton Sewer Service Area.

CVA Water Assessments

Based on the FY14 CIP and CEB for the Chicopee Valley Aqueduct (CVA) water system, the FY14 system assessment is \$4,647,295, an increase of 7.5% from FY13 assessments. This is primarily the result of a 6.4% increase in budgeted capital expenses, including expenses related to the UV Water Treatment project at the Quabbin Water Treatment Plant.

MWRA's CVA water assessment methodology allocates CVA assessments to the three communities served by the CVA system based on their share of prior calendar year water use. Based on CY12 water use, FY14 assessments are as follows:

- **Town of Chicopee:** \$3,253,485 (+ 6.4%)
- **South Hadley Fire District #1:** \$ 684,611 (+ 4.5%)
- **Town of Wilbraham:** \$ 709,198 (+16.3%)

In addition to the impact of the budget for FY14, each community's CY12 water use relative to the system total accounts for assessment changes that are higher or lower than the system average of 7.5%. The Town of Wilbraham has been advised of their increased water use.

Attachment 3 details the expenses and corresponding assessments for the CVA Water Service Area.

Wholesale Water Rate

MWRA's wholesale water rate per million gallons is applied to customers purchasing MWRA water on a pay-as-you-go basis (including customers with emergency agreements). Examples include the Department of Conservation and Recreation, the Department of Youth Services, and the Walter E. Fernald State School. The wholesale water rate for FY14 is \$3,124.91 per million gallons. The FY14 CEB includes revenue of \$148,760 from these customers.

Retail Sewer Rate

MWRA provides direct retail sewer service to Regis College in Weston and the New England Center for Children in Southborough. In accordance with MWRA Policy #OP.11, Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area, both entities are charged a modified per million gallon "retail" rate that captures both sanitary and non-sanitary flows. Based on FY14 sewer assessments, the FY14 retail sewer rate will be \$6,444.16 per million gallons. The FY14 CEB includes revenue of \$65,678 from these customers.

ATTACHMENTS:

1. Final FY14 Water and Sewer Assessments
2. Clinton Wastewater Treatment Plant: FY14 Sewer User Charge Determination
3. FY14 Chicopee Valley Aqueduct System Assessment

MWRA Fully Served Water and Sewer Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
ARLINGTON	\$4,706,235	\$4,553,819	-3.2%	\$7,404,065	\$7,661,286	3.5%	\$12,110,300	\$12,215,105	\$104,805	0.9%
BELMONT	2,263,350	2,516,559	11.2%	4,593,647	4,652,803	1.3%	6,856,997	7,169,362	312,365	4.6%
BOSTON (BWSC)	71,651,462	73,408,095	2.5%	116,347,350	122,165,554	5.0%	187,998,812	195,573,649	7,574,837	4.0%
BROOKLINE	5,656,061	5,906,771	4.4%	12,401,739	12,675,295	2.2%	18,057,800	18,582,066	524,266	2.9%
CHELSEA	3,406,236	3,524,702	3.5%	6,451,121	6,833,214	5.9%	9,857,357	10,357,916	500,559	5.1%
EVERETT	4,334,567	4,486,488	3.5%	7,243,065	7,612,435	5.1%	11,577,632	12,096,923	521,291	4.5%
FRAMINGHAM	7,355,228	7,645,878	4.0%	10,385,748	10,691,353	2.9%	17,740,976	18,337,231	596,255	3.4%
LEXINGTON	5,145,927	5,555,065	8.0%	6,954,177	7,014,300	0.9%	12,100,104	12,569,365	469,261	3.9%
MALDEN	6,053,825	6,264,071	3.5%	11,319,673	11,761,795	3.9%	17,373,498	18,026,866	652,368	3.8%
MEDFORD	5,534,818	5,520,265	-0.3%	10,766,699	10,943,641	1.6%	16,301,517	16,463,906	162,389	1.0%
MELROSE	2,405,858	2,519,249	4.7%	5,437,804	5,646,906	3.9%	7,843,662	8,168,155	324,493	4.1%
MILTON	2,718,549	2,834,490	4.3%	4,985,169	4,999,997	0.3%	7,703,718	7,834,487	130,769	1.7%
NEWTON	9,695,370	10,333,024	6.8%	18,917,866	20,152,363	1.2%	29,613,236	30,485,387	872,151	2.9%
NORWOOD	3,372,954	3,133,277	-7.1%	5,967,178	6,147,982	3.0%	9,340,132	9,281,259	(\$58,873)	-0.6%
QUINCY	9,889,803	10,147,276	2.6%	18,073,247	18,635,986	3.1%	27,963,050	28,783,262	820,212	2.9%
READING	1,811,212	1,854,203	2.4%	4,326,182	4,499,328	4.0%	6,137,394	6,353,531	216,137	3.5%
REVERE	4,362,470	4,353,201	-0.2%	9,486,795	9,920,985	4.6%	13,849,265	14,274,186	424,921	3.1%
SOVERVILLE	6,167,896	6,440,071	4.4%	13,887,278	14,595,600	5.1%	20,055,174	21,035,671	980,497	4.9%
STONEHAM	3,104,419	3,262,031	5.1%	4,357,938	4,452,189	2.2%	7,462,357	7,714,220	251,863	3.4%
WALTHAM	7,792,300	7,809,194	0.2%	12,485,924	12,759,248	2.2%	20,278,224	20,568,442	290,218	1.4%
WATERTOWN	2,925,467	2,945,405	0.7%	5,471,720	5,654,172	3.3%	8,397,187	8,599,577	202,390	2.4%
WINTHROP	1,387,397	1,429,691	3.0%	3,036,088	3,161,934	4.1%	4,423,485	4,591,625	168,140	3.8%
TOTAL	\$171,741,404	\$176,442,825	2.7%	\$301,300,473	\$312,640,366	3.8%	\$473,041,877	\$489,083,191	\$16,041,314	3.4%

MWRA Sewer and Partial Water Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
CANTON	\$2,138,489	\$1,414,000	-33.9%	\$3,313,092	\$3,460,713	4.5%	\$5,451,581	\$4,874,713	(\$576,868)	-10.6%
NEEDHAM	964,345	1,271,018	31.8%	5,381,187	5,423,810	0.8%	6,345,532	6,694,828	349,296	5.5%
STOUGHTON	700,394	758,402	8.3%	4,420,052	4,364,713	-1.3%	5,120,446	5,123,115	2,669	0.1%
WAKEFIELD	1,617,772	1,604,779	-0.8%	5,512,303	5,549,601	0.7%	7,130,075	7,154,380	24,305	0.3%
WELLESLEY	854,839	1,423,735	66.6%	5,078,134	5,246,821	3.3%	5,932,973	6,670,556	737,583	12.4%
WILMINGTON	296,556	125,176	-57.8%	2,241,570	2,408,266	7.4%	2,538,126	2,533,442	(\$4,684)	-0.2%
WINCHESTER	974,666	1,127,860	15.7%	3,634,180	3,718,082	2.3%	4,608,846	4,845,942	237,096	5.1%
WOBBURN	2,535,816	3,549,339	40.0%	8,959,770	9,134,120	1.9%	11,495,586	12,683,459	1,187,873	10.3%
TOTAL	\$10,082,877	\$11,274,309	11.8%	\$38,540,288	\$39,306,126	2.0%	\$48,623,165	\$50,580,435	\$1,957,270	4.0%

MWRA Sewer-only Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
ASHLAND				\$2,081,319	\$2,175,735	4.5%	\$2,081,319	\$2,175,735	\$94,416	4.5%
BEDFORD				2,909,153	2,968,529	2.0%	2,909,153	2,968,529	59,376	2.0%
BRAINTREE				7,597,309	7,759,278	2.1%	7,597,309	7,759,278	161,969	2.1%
BURLINGTON				4,723,848	4,846,498	2.6%	4,723,848	4,846,498	122,650	2.6%
CAMBRIDGE				20,768,232	21,224,419	2.2%	20,768,232	21,224,419	456,187	2.2%
DEDHAM				4,864,300	4,924,268	1.2%	4,864,300	4,924,268	59,968	1.2%
HINGHAM SEWER DISTRICT				1,513,205	1,562,020	3.2%	1,513,205	1,562,020	48,815	3.2%
HOLBROOK				1,434,900	1,495,280	4.2%	1,434,900	1,495,280	60,380	4.2%
NATICK				4,634,401	4,903,457	5.8%	4,634,401	4,903,457	269,056	5.8%
RANDOLPH				5,393,673	5,561,761	3.1%	5,393,673	5,561,761	168,088	3.1%
WALPOLE				3,300,822	3,373,364	2.2%	3,300,822	3,373,364	72,542	2.2%
WESTWOOD				2,317,405	2,362,136	1.9%	2,317,405	2,362,136	44,731	1.9%
WEYMOUTH				10,131,271	10,400,989	2.7%	10,131,271	10,400,989	269,718	2.7%
TOTAL				\$71,669,838	\$73,557,734	2.6%	\$71,669,838	\$73,557,734	\$1,887,896	2.6%

MWRA Water-only Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
LYNNFIELD WATER DISTRICT	\$401,149	\$467,594	16.6%				\$401,149	\$467,594	\$66,445	16.6%
MARBLEHEAD	1,825,752	1,990,555	9.0%				1,825,752	1,990,555	164,803	9.0%
NAHANT	309,977	349,194	12.7%				309,977	349,194	39,217	12.7%
SAUGUS	3,151,506	2,963,455	-6.0%				3,151,506	2,963,455	(\$188,051)	-6.0%
SOUTHBOROUGH	595,717	695,113	16.7%				595,717	695,113	99,396	16.7%
SWAMPSCOTT	1,661,956	1,781,628	7.2%				1,661,956	1,781,628	119,672	7.2%
WESTON	1,684,844	1,898,881	12.7%				1,684,844	1,898,881	214,037	12.7%
TOTAL	\$9,630,901	\$10,146,420	5.4%				\$9,630,901	\$10,146,420	\$515,519	5.4%

MWRA Partial Water-only Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
DEDHAM-WESTWOOD WATER DISTRICT	\$28,781	\$124,703	333.3%				\$28,781	\$124,703	\$95,922	333.3%
LYNN (LWSC)	259,592	242,626	-6.5%				259,592	242,626	(\$16,966)	-6.5%
MARLBOROUGH	2,753,457	3,184,761	15.7%				2,753,457	3,184,761	431,304	15.7%
NORTHBOROUGH	883,118	1,022,003	15.7%				883,118	1,022,003	138,885	15.7%
PEABODY	621,271	779,127	25.4%				621,271	779,127	157,856	25.4%
TOTAL	\$4,546,219	\$5,353,220	17.8%				\$4,546,219	\$5,353,220	\$807,001	17.8%
SYSTEMS TOTAL	\$196,001,401	\$203,216,774	3.7%	\$411,510,599	\$425,504,226	3.4%	\$607,512,000	\$628,721,000	\$21,209,000	3.5%

Massachusetts Water Resources Authority
Clinton Wastewater Treatment Plant
Sewer User Charge Determination

BUDGETED EXPENSES: Draft Final FY2014	
Clinton Direct Operating Expenses:	\$1,631,539
MWRA Support Allocation:	352,664
Subtotal O&M Expenses:	\$1,984,203
Total Debt Service Expenses:	\$469,930
Total Clinton Service Area Expenses	\$2,454,133
Less Revenue (City of Worcester Payment)	-129,071
Clinton WWTP Rate Revenue Requirement:	\$2,325,062

WASTEWATER FLOW and FLOW SHARES:	CY2012		
	Town of Clinton Flow	Lancaster Sewer District Flow	Total Wastewater Flow
Average Daily Flow (MGD)	2.465	0.227	2.692
Average Flow (MG/YR)	899.761	82.751	982.512
Proportional Share of Flow	91.58%	8.42%	100.0%

Sewer User Charge Determination

TOWN OF CLINTON	
O&M Expenses	\$1,984,203
Less Revenue (City of Worcester Payment)	-129,071
O&M Expenses to be Recovered	\$1,855,132
Clinton's Share of Flow	91.58%
Clinton's Share of O&M Costs	\$1,698,885
Total Clinton O&M Charge	\$1,698,885

Debt Service Costs to be Recovered	\$469,930
Clinton's Share of Wastewater Flow	91.58%
Total Clinton Debt Service Charge	\$430,351

Total Clinton O&M and Debt Service Charge	\$2,129,236
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Less MWRA Water Ratepayer Subsidy	-1,629,236
Billable Charge to the Town of Clinton as per CH. 307, Section 8 The Acts of 1987	\$500,000

LANCASTER SEWER DISTRICT	
O&M Expenses	\$1,984,203
Less Revenue (City of Worcester Payment)	-129,071
O&M Expenses to be Recovered	\$1,855,132
Lancaster's Share of Flow	8.42%
Lancaster's Share of O&M Costs	\$156,246
Total Lancaster Sewer District O&M Charge	\$156,246

Debt Service Costs to be Recovered	\$469,930
Lancaster's Share of Wastewater Flow	8.42%
Total Lancaster Sewer District Debt Service Charge	\$39,579

Total Lancaster O&M and Debt Service Charge	\$195,825
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Billable Charge to Lancaster Sewer District	\$195,825
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Billable Sewer User Charges and Payment Schedule

Sewer Customer	Billable Charges
Town of Clinton	\$500,000
Lancaster Sewer District	\$195,825
Total Sewer Charges	\$695,825

Payment 1 on or before Sept 15, 2013	Payment 2 on or before Nov 15, 2013	Payment 3 on or before Feb 15, 2014	Payment 4 on or before May 15, 2014
\$125,000	\$125,000	\$125,000	\$125,000
\$48,956	\$48,956	\$48,956	\$48,956
\$173,956	\$173,956	\$173,956	\$173,956

Massachusetts Water Resources Authority
 Chicopee Valley Aqueduct System Assessment
 Fiscal Year: 2014

SYSTEM ASSESSMENTS


	FY14	Prior Period Adujstments	FY14 Net Operating Assessment
Operating Assessment			
Chicopee	\$1,324,411	(\$3,580)	\$1,320,831
South Hadley Fire District #1	278,780	(775)	278,005
Wilbraham	288,572	(751)	287,821
TOTAL	\$1,891,763	(\$5,106)	\$1,886,657

	FY14	Prior Period Adujstments	FY14 Net Capital Assessment
Capital Assessment			
Chicopee	\$1,966,411	(\$33,757)	\$1,932,654
South Hadley Fire District #1	413,917	(7,310)	406,606
Wilbraham	428,455	(7,078)	421,377
TOTAL	\$2,808,782	(\$48,145)	\$2,760,637

	FY14	Prior Period Adujstments	FY14 Net Assessment
TOTAL ASSESSMENTS			
Chicopee	\$3,290,822	(\$37,336)	\$3,253,485
South Hadley Fire District #1	692,697	(8,086)	684,611
Wilbraham	717,027	(7,829)	709,198
TOTAL	\$4,700,545	(\$53,251)	\$4,647,295

TOTAL ASSESSMENTS	FY14	FY13	CHANGE	
			Dollars	Percent
Chicopee	\$3,253,485	\$3,056,914	\$196,571	6.4%
South Hadley Fire District #1	684,611	655,277	29,334	4.5%
Wilbraham	709,198	609,677	99,522	16.3%
TOTAL	\$4,647,295	\$4,321,867	\$325,427	7.5%

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 26, 2013
SUBJECT: Amendment 3 to Memorandum of Understanding with the Department of Public Safety for Electrical Inspections

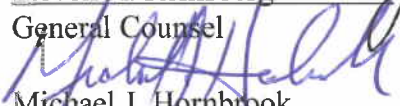
COMMITTEE: Administration, Finance & Audit

John V. Navoy, Associate General Counsel
A. Navanandan, P.E., Director, Construction
Preparer/Title

INFORMATION

VOTE


Steven A. Remsberg
General Counsel


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute Amendment 3 to the Memorandum of Understanding with the Department of Public Safety, substantially in the form attached hereto, to provide electrical inspection services for Authority projects and operations in an amount not to exceed \$50,000, for a term of twenty-four months, from July 1, 2013, through June 30, 2015.

DISCUSSION:

Pursuant to the Authority's enabling legislation, the Department of Public Safety ("DPS") has "exclusive jurisdiction and responsibility with respect to projects and operations of the Authority for inspection, approvals, enforcement, permitting and licensure" authorized or required by the state building code.

Through long standing agreements between DPS and MWRA, DPS has provided electrical permits and has performed electrical inspections for MWRA construction projects as part of DPS's issuance of building permits and Certificates of Occupancy. This arrangement started with the Boston Harbor Project and since March 2000 has expanded to other MWRA construction projects and in-house electrical work. The electrical inspections were historically performed by DPS staff.

In September 2007, MWRA was advised by DPS that due to both its lack of a qualified electrical inspector in-house, and budgetary constraints, DPS would no longer provide electrical inspections for MWRA projects or in-house electrical work. MWRA was advised that DPS had

contracted with an outside individual to perform electrical inspections. However, funding to allow DPS to perform inspections was limited to work performed for the Convention Center and the Saltonstall Building only and not for MWRA projects. While MWRA disagreed with DPS's interpretation of its responsibilities in this regard, the reality of the situation was that DPS would not fund MWRA inspections, and MWRA's enabling act does not require that DPS provide inspection services free of charge.

On January 16, 2008, because staff believed that the efficient and safe prosecution of MWRA projects depended, in large part, upon the prompt and consistent interpretation of the electrical code and related regulations, the Board authorized the Executive Director to enter into a Memorandum of Understanding (MOU) with DPS to provide permitting and the services of an electrical inspector for MWRA work. In return, MWRA would pay for DPS inspections at the contract rate of \$110 per hour.

On June 29, 2011, the Board authorized execution of Amendment 2 to the MOU extending the term of the MOU for an additional two years. In accordance with that Amendment, the MOU is now due to expire on June 30, 2013. The services under the MOU have been satisfactorily performed in a timely manner and have been effective in meeting MWRA's needs. Under Amendment 2, from July 1, 2009 through May 31, 2011, MWRA has paid a total of \$21,644 for electrical inspection services (of the not-to-exceed amount of \$50,000). Staff anticipate that there may be approximately an additional \$5,000 in billings to be received for services rendered before the expiration date of June 30, 2013.

Staff believe that it is important that DPS continue to be the sole permitting and inspecting agency for MWRA capital projects and in-house work. Amendment 3 would extend the term of the MOU through June 30, 2015. The hourly rate that MWRA will pay for DPS inspection services is approximately the same for the balance of 2013 and 2014 as the rate paid under Amendment 2. The rate for the first six months of 2015 has not been established yet. In the event that the hourly rate increases in 2015, staff will return to the Board to obtain approval of any increased rates. Therefore, staff recommend that the Board authorize the Executive Director to execute Amendment 3 to the MOU so that this relationship with DPS will be continued.

BUDGET/FISCAL IMPACT:

An expenditure of \$25,000 per fiscal year can be absorbed within the FY14 and FY15 CIP Budgets.

ATTACHMENT:

Copy of Amendment 3 to the MOU

MEMORANDUM OF UNDERSTANDING
BETWEEN THE DEPARTMENT OF PUBLIC SAFETY
AND
THE MASSACHUSETTS WATER RESOURCES AUTHORITY
AMENDMENT NUMBER 3

WHEREAS, the Department of Public Safety ("Department") through the Board of Building Regulations ("BBRS") administers the provisions of chapter 143 of the General Laws; and

WHEREAS, pursuant to chapter 92, App. §1-8(k) of the General Laws, the Commissioner of Public Safety or his designee is granted exclusive jurisdiction and responsibility with respect to projects or operations of the Massachusetts Water Resources Authority ("MWRA") authorized or required by MGL chapter 143 or any regulation adopted pursuant to chapter 802 of the Acts of 1972; and

WHEREAS, the Department and the MWRA (collectively referred to as the "Parties") entered into a Memorandum of Understanding dated February 6, 2008 ("MOU") whereby the Department would provide the services of an Electrical Inspector to perform electrical inspections on MWRA projects and issue appropriate permits, including electrical permits, on MWRA projects, and the MWRA would pay the actual costs of such electrical services performed by the Department's Electrical Inspector; and

WHEREAS, the Department and the MWRA entered into Amendment 2 which extended the Term of the MOU from June 30, 2011 through and including June 30, 2013; and

WHEREAS, the term of the MOU is due to expire as of June 30, 2013; and

WHEREAS, the Parties have found that MOU has been efficient and effective in providing such necessary services with regard to MWRA projects; and

WHEREAS, the Parties wish to continue with the performance of the MOU and want to therefore extend the term of the MOU from June 30, 2013 through June 30, 2015.

NOW THEREFORE, in consideration of the mutual covenants of the Parties, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties agree that the MOU is extended and amended as follows:

1) Section II, Paragraph 1 is amended as follows:

In line 3, **CHANGE** "FY 2012 and FY 2013" to "FY 2014 and FY 2015" respectively.

2) Section II, Paragraph 2 is amended as follows:

DELETE Paragraph 2 in its entirety; **REPLACE** with the following Paragraph 2:

“2. The MWRA shall pay for electrical services performed by the Department’s Electrical Inspector from July 1, 2013 through June 30, 2015 at a rate per hour as agreed between the Department and the Department’s Electrical Inspector for inspection services. Such rates are provided in Schedule A attached hereto and incorporated herein. The MWRA shall pay for the electrical inspections directly to the Department’s Electrical Inspector.”

3) Section IV, Term, is amended as follows:

In line 1, **DELETE** " through June 30, 2013"; **INSERT** in its place "through June 30, 2015".

All other terms and conditions of the MOU remain unchanged.

The undersigned hereby execute this Amendment Number 3 to Memorandum of Understanding on behalf of the Department of Public Safety and the Massachusetts Water Resources Authority.

DATED this ____ day of _____, 2013.

Thomas G. Gatzunis, P.E., C.B.O.
Commissioner
Department of Public Safety

Frederick A. Laskey,
Executive Director
Massachusetts Water Resources
Authority

AMENDMENT 3

SCHEDULE A

<u>CALENDAR YEAR</u>	<u>RATE/ HOUR</u>
2013	\$95.76
2014	\$95.75
2015	TBD

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: Automatic Vehicle Locator Tracking System
Location Technologies, Inc.
Contract A586



COMMITTEE: Administration, Finance & Audit

Russell J. Murray, Director, MIS
Susan A. McAree, Manager, Policy & Planning
Richard P. Trubiano, Deputy Chief Operating Officer
Preparer/Title

 INFORMATION
 X VOTE
Rachel C. Madden
Rachel C. Madden, Director
Administration and Finance
Michael J. Hornbrook
Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract A586, Automated Vehicle Locator Tracking System, to the lowest qualified bidder, Location Technologies, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$354,152, for a contract term of 1,095 days from the Notice to Proceed.

DISCUSSION:

Staff developed the procurement for an Automatic Vehicle Locator (AVL) System contract to monitor MWRA vehicles. The system will be used by MWRA managers and supervisors to track approximately 385 MWRA vehicles and operator-driven pieces of equipment.

Implementing an AVL system will better enable MWRA to:

- Improve efficiency and employee accountability;
- Respond more quickly to emergencies;
- Enhance driver and vehicle safety;
- Reduce fuel costs;
- Track vehicle progress to sites throughout the day, and collect mileage electronically; and
- Monitor unauthorized vehicle usage.

The recommended system will provide real-time transmission of vehicle location and other data utilizing vehicle-installed hardware, cell towers, and global positioning system radar. The AVL system will provide web-based map and/or report form data for vehicles in MWRA's service area, which extends south to Hingham, north to Lynn, west to Ludlow/Ware, and east to the Deer Island Treatment Plant.

In the process of evaluating AVL systems, MWRA staff met with staff from Boston Water & Sewer Commission (BWSC), Brookline DPW, the City of Boston, and a for-profit heating services company to review their existing systems. Staff also spoke with and observed system demonstrations from several vendors. Based on these meetings and discussions, staff identified features and capabilities that best meet MWRA's objectives. These features include the ability to:

- Locate any MWRA vehicle at any time;
- Plot a vehicle's route on a map to see at a glance where it is or where it has been;
- Enter an address requiring an immediate response or action and find the closest vehicle to that address based on a specified search radius;
- See all vehicles in a particular defined area;
- Replay vehicle activity for given time frames and locations;
- Add many landmarks (e.g., MWRA facilities) and "geo-fences" (geographically restricted areas);
- Provide alerts that can be sent via e-mail or mobile phone to selected users (sample alerts would include entering or exiting geo-fenced areas, excessive speeds, extended idling time, lengthy stops, etc.); and
- Provide a variety of daily, weekly, and monthly reports as needed to synthesize and summarize vehicle data.

Prior to going out to bid, MWRA met with all of its bargaining units and has entered into a Memorandum of Understanding (MOU) with each unit regarding the procurement and use of an AVL system. The MOUs provide a system use review process, guidelines for follow-up on AVL data indicating staff non-conformance with MWRA policies, and data handling and distribution protocols.

Procurement Process

Staff developed the AVL system procurement as a three-year, low-bid lease agreement with business capacity, insurance, data privacy, and security threshold requirements, with the possibility of two additional one-year extensions, subject to mutual agreement of terms. It also includes a provision to purchase the devices for a nominal sum at the end of the agreement.

Staff recommended the use of a service/lease procurement (as opposed to a software and hardware purchase) given the rapid changes in software and hardware technology. A lease arrangement will allow MWRA to more quickly initiate AVL use since there will be no need to develop and procure additional separate contracts for hardware installation or cell phone communications, and there will be no transition time needed for MWRA's MIS Department to install and configure the system on in-house servers. The lease arrangement also consolidates and places full responsibility with the AVL vendor to make the system work, which reduces MWRA's risk relative to major upfront costs for software/hardware purchase and installation. If any problems with the system develop, it will be the vendor's responsibility to quickly resolve them.

The system will be hosted by the AVL vendor and will not require customization (beyond input of fleet data and service area facility location information). Payment for this system will be on the basis of a monthly unit price per vehicle. For this unit price, the selected AVL vendor will provide all necessary goods and services required to produce the reports that MWRA has requested, and provide:

- Web-based access to program software;
- Vehicle hardware, installation, and warranty;
- Staff training and on-going technical support;
- Software upgrades (as produced); and
- Secure storage and monthly delivery of all data collected by the system.

The Automated Vehicle Locator Tracking System Request for Qualifications/Bids (RFQ/B) was advertised on February 12, 2013. A primary requirement of the RFQ/B was that the vendor could demonstrate that it had been regularly and continuously engaged in providing fleet management tracking services for at least three years and had successfully performed services during such time period under at least two contracts of similar size, scope, nature, and level of complexity as MWRA's contract.

Fifteen timely bids were received from companies across the country. Thirteen vendors that appeared to meet the requirements included in the RFQ/B were shortlisted, and their cost envelopes were opened with the following results:

<u>BIDDERS</u>	<u>PRICE*</u>
Transcore, LP	\$320,270
Location Technologies, Inc.	\$354,152
Synovia	\$354,920
Network Fleet Inc.	\$373,527
Vehicle Tracking Solutions	\$409,028
T-Mobile/ Forward Thinking Solutions	\$457,102
Radio Satellite Strategies, Inc.	\$521,240
GPS/ N.A.	\$527,228
Fleetmatics	\$533,610
Sagequest	\$535,535
Reltronics	\$548,842
Clevest Solutions	\$600,935
AT&T	\$600,936

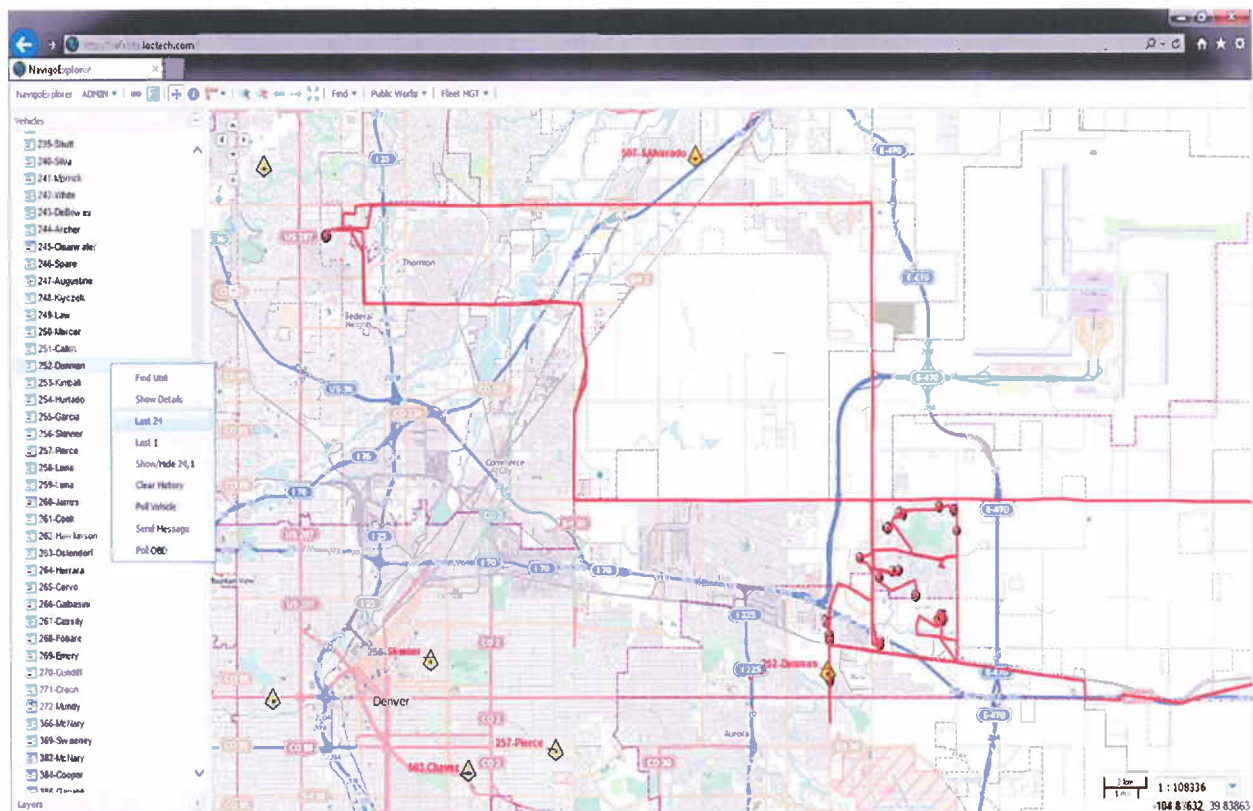
*The prices listed are those as supplied by the vendors.

A post-bid qualification process of the Apparent Low Bidder was then conducted, as provided for in the RFQ/B. Although Transcore, LP was the Apparent Low Bidder, after extensive reference checks and subsequent confirmation from the firm; it became clear that Transcore, LP had no demonstrated experience providing the required satellite and cellular transmission

product to external clients, but rather, primarily offered only satellite tracking devices. Therefore, it was determined that Transcore was not the Apparent Low Bidder.

Location Technology, Inc. was then named as the Apparent Low Bidder, and its product and services were confirmed, through the post-bid qualification process (which included a live on-site demonstration), to meet RFQ/B requirements. Location Technology, Inc. is located in Kansas City, Missouri, and has manufactured and installed AVL and wireless data systems for nearly 20 years. Location Technology's system demonstration confirmed that it provides the required mapping and reporting functions. As part of the demonstration, test units were installed on two MWRA vehicles and they were satisfactorily tracked on routes from Deer Island to the Quabbin Reservoir.

Below is one representative example of the types of mapping/reporting capabilities of Location Technologies' system. It depicts a 24-hour trip route map, which tracks the route a vehicle traveled – the red line indicates the route of the day.



Reference checks from Location Technology's similar-sized fleet installations were positive, indicating reliable system operation and good customer service. A review of financial data indicates that the firm is financially stable.

Based on the vendor's bid price, satisfactory product demonstration, and positive references, staff recommend the award of Contract A586 to Location Technologies, Inc. in the bid amount of \$354,152, out of which MWRA will pay a monthly unit price per vehicle of \$21.94 for the term of the contract.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY14 Current Expense Budget and adequate funds will be included in the Proposed FY15 and FY16 Current Expense Budgets to cover this contract. With the tracking of approximately 385 vehicles used by an estimated number of more than 500 staff, even a small increase in efficiency and reduced vehicle costs will result in the system paying for itself.

MBE/WBE PARTICIPATION:

There were no MBE/WBE requirements established for this procurement.



MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Frederick A. Laskey
Executive Director

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WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

Chair: J. Walsh
Vice-Chair: P. Flanagan
Committee Members:
J. Carroll
A. Pappastergion
B. Swett

to be held on

Wednesday, June 26, 2013

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately following AF&A Comm.

AGENDA

A. Approvals

1. Approval of New Wastewater Advisory Committee Member

B. Contract Awards

1. Nut Island Headworks Electrical and Conveyors Improvements: J.F. White Contracting Co., Contract 7313

C. Contract Amendments/Change Orders

1. Supply and Delivery of Odor and Corrosion Control Chemicals for the Framingham Extension Sewer and Framingham Extension Relief Sewer: Siemens Water Technologies, WRA 3417, Amendment 1

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Wastewater Policy and Oversight Committee

June 5, 2013

A meeting of the Wastewater Policy and Oversight Committee was held on June 5, 2013 at the Authority headquarters in Charlestown. Chairman Walsh presided. Present from the Board were Messrs. Barrera, Carroll, Cotter, Flanagan, Foti, Pappastergion, Swett and Vitale. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, John Vetere, and Bonnie Hale. The meeting was called to order at 12:05 p.m.

Approvals

***Wastewater Advisory Committee Contract**

The Committee recommended approval of the renewal of the contract with the Wastewater Advisory Committee (ref. agenda item A.1).

Contract Amendments/Change Orders


***Crane Maintenance Service: Safeway Overhead Crane Service, Inc., Contract OP-200, Change Order 1**

Staff described the need for the change order, and the Committee recommended approval of Change Order 1 (ref. agenda item B.1).

The meeting adjourned at 12:10 p.m.

* Approved as recommended at June 5, 2013 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 26, 2013
SUBJECT: Approval of New Member to the Wastewater Advisory Committee

COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

Wendy S. Leo, Program Manager, Marine Data
Preparer/Title


Kevin A. McCluskey
Director, Public Affairs

RECOMMENDATION:

To approve the addition of Zhanna Davidovitz to the Wastewater Advisory Committee.

DISCUSSION:

The Wastewater Advisory Committee (WAC) was created in 1990 to offer independent recommendations on wastewater programs and policies; it is a successor to the Facilities Planning Citizen Advisory Committee established during the planning of the new Deer Island Treatment Plant. WAC's members include citizen advocates, representatives from the MWRA Advisory Board, Massachusetts Area Planning Council, watershed associations, the engineering and business communities, and science and education fields.

The current Agreement between WAC and MWRA provides that WAC shall have a maximum of twenty members approved by MWRA's Board of Directors; the Agreement prohibits alternates or designees. WAC elects its chairman and employs an Executive Director (selected by WAC's membership with the concurrence and approval of MWRA's Public Affairs Department). WAC's current chairman is Stephen Greene and WAC's current Executive Director is Andreae Downes. On June 5, 2013, the Board approved the new Agreement with WAC for FY14.

In accordance with the current Agreement, the WAC Chairman has nominated the following individual for membership:

Zhanna Davidovitz is a resident of Belmont, a town served by MWRA. She is an environmental officer in the Environment, Health and Safety Office of the Massachusetts Institute of Technology (MIT) in Cambridge, which is an MWRA industrial user. She has more than 20 years of experience in addressing a wide spectrum of environmental compliance and regulatory issues. She is responsible for a variety of projects at MIT, including wastewater discharges.

The current ten members on WAC are: Mary Adelstein, citizen advocate; Stephen Greene (WAC Chairman), Howland-Greene Consultants; Bill Katz, citizen (retired from Industry); Tabor Keally, Neponset River Watershed Association; Karen Lachmayr, Harvard University; Martin Pillsbury, Metropolitan Area Planning Council; Vincent Spada, SEA Consultants; Maggie Atanasov, MWRA Advisory Board; Beth Miller, independent engineer; and Craig Allen, Commonwealth Research Group, Inc.

STAFF SUMMARY

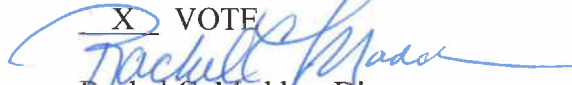
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: Nut Island Headworks Electrical and Conveyors Improvements
J.F. White Contracting Co.
Contract 7313



COMMITTEE: Wastewater Policy & Oversight

 INFORMATION

 X VOTE



Rachel C. Madden, Director
Administration and Finance

Michael J. Hornbrook
Chief Operating Officer

Jae R. Kim, Chief Engineer
David K. Pottle, Program Manager
Preparer/Title

RECOMMENDATION:

To approve the award of Contract 7313, Nut Island Headworks Electrical and Conveyors Improvements, to the lowest responsible and eligible bidder, J.F. White Contracting Co., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$4,740,000, for a contract term of 500 calendar days from the Notice to Proceed.

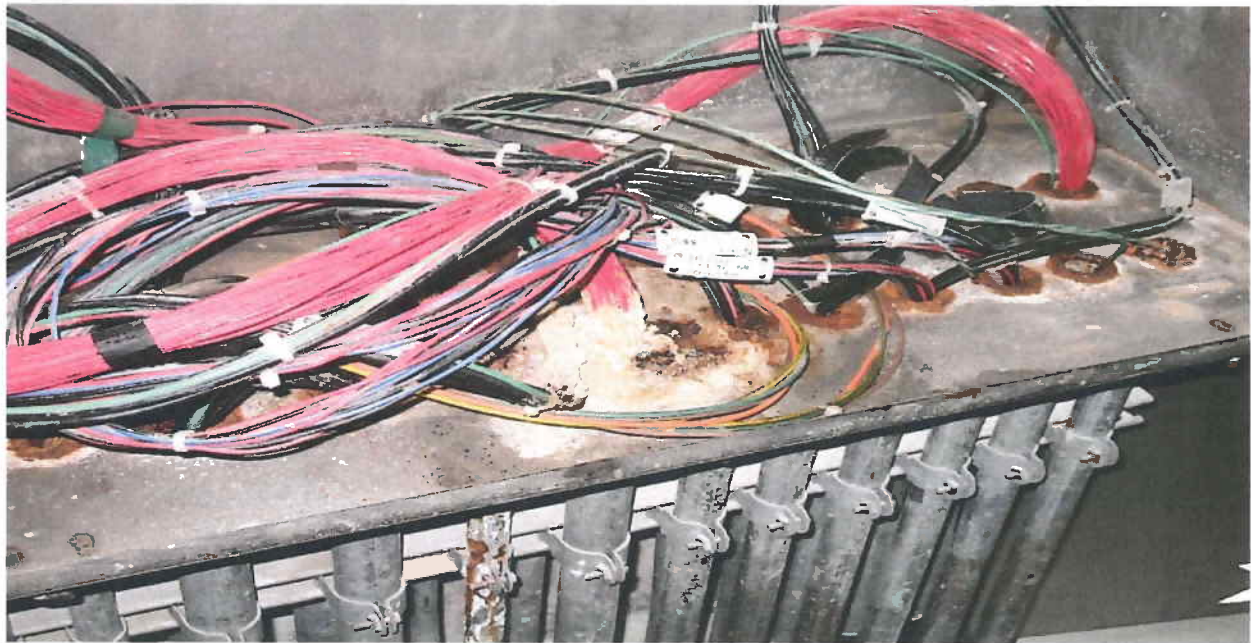
DISCUSSION:

The Nut Island Headworks, located in the Hough's Neck section of Quincy (pictured below and shown on Attachment A), was placed into operation in 1998 (Prior to the completion of the cross-harbor tunnel, the site housed the Nut Island Treatment Plant.) The facility provides screening and grit removal, flow metering, and flow control for Deer Island's Lydia Goodhue (South System) Pump Station. The facility receives flow from almost the entire MWRA south collection system. The Nut Island Headworks serves 22 communities and has a peak hydraulic capacity of 360 million gallons per day.



Tidally-influenced groundwater has infiltrated floor-slab-embedded electrical conduits in the bottom level of the headworks. Over time, this infiltration has caused corrosion of the electrical wiring and conduits (see pictures below and on the following pages). This corrosion can impact the operational reliability of critical pieces of equipment, including pumps, blowers, and the odor control system. Under this contract, all embedded electrical components below high-tide level will be replaced with ceiling- and surface-mounted components.

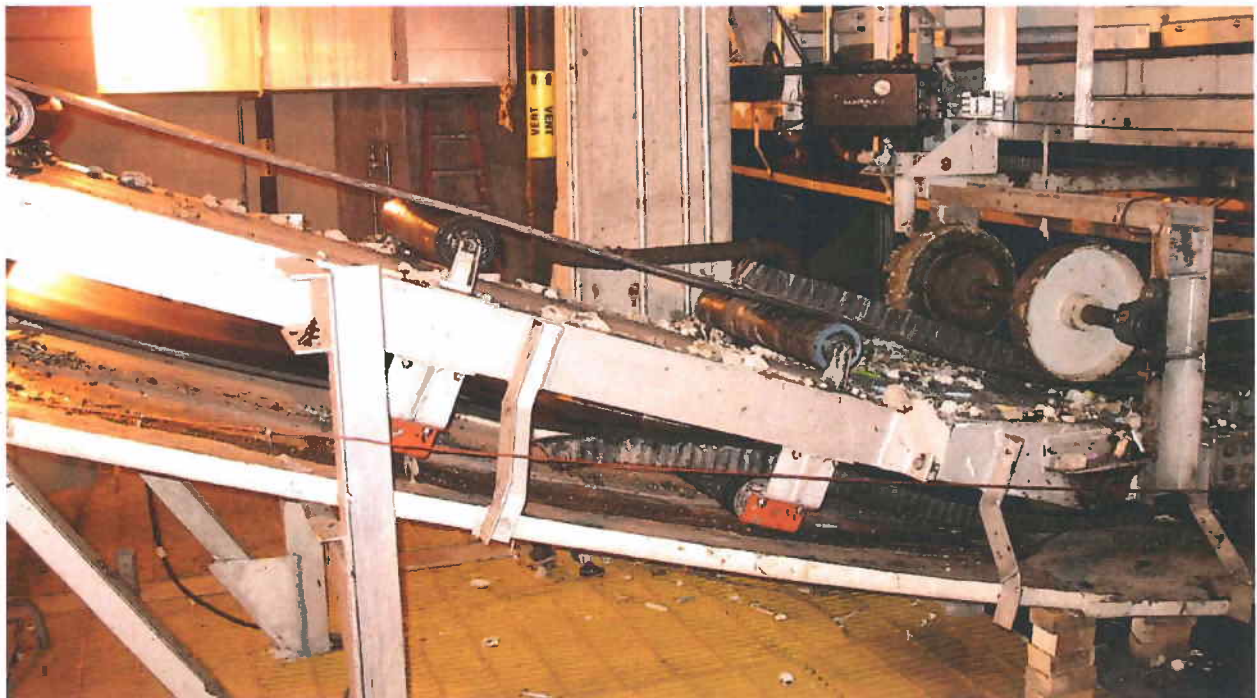
The Nut Island Headworks utilizes a network of three screenings conveyors and six grit conveyors to remove the grit and screenings from the lower levels of the facility to the ground floor for ultimate disposal at a licensed landfill under a separate, competitively bid contract. The harsh environment in which these conveyors operate has led to significant operational and maintenance problems, including difficulty maintaining belt alignment and belt and roller wear. The conveyors are no longer capable of fully containing the material as it moves along the belts. To improve the operation of the grit and screenings conveyors, Contract 7313 also includes replacement of belt scrapers, enclosure of vertical belts, installation of wider drip pans and replacement of the inclined screenings conveyor.



Corroded Pullbox



Corroded Conduits



Inclined Screenings Conveyor



Vertical Screenings Conveyors

Procurement Process

Contract 7313, designed by Malcolm Pirnie/Arcadis U.S., Inc., was advertised on April 20, 2013, and competitively bid in accordance with Chapter 149 of Massachusetts General Laws. General bids were received and opened on June 13, 2013 from four contractors as follows:

<u>Bidder</u>	<u>Bid Amount</u>
J.F. White Contracting Co.	\$4,740,000
Fischbach & Moore Electric Group, LLC	\$5,460,000
Annese Electrical Services, Inc.	\$6,464,000
Dagle Electrical Construction Corp.	\$6,853,333
<i>Engineer's Estimate</i>	<i>\$7,800,000</i>

J.F. White's bid is 39% lower than the Engineer's Estimate and the average of all four bids is almost 25% lower than the Engineer's Estimate. It is clear from the bids received that the methodology employed in the development of the Engineer's Estimate differed from the methodology used by the contractors in preparing their bids.

J.F. White's bid is 13% lower than the next lowest bidder. J.F. White was contacted to discuss the bid to determine why there is such a large variance from the Engineer's Estimate. The information obtained indicates the primary reason for the difference between the bid and the Engineer's Estimate resulted from the number of labor hours estimated to perform the work. J.F. White's labor estimate was developed utilizing its in-house project cost/history database, which is based on previously completed projects (including several MWRA projects) that involved similar types of electrical work, such as cable trays, PVC-coated rigid steel conduit, and disconnection and reconnection of existing equipment. The Engineer's Estimate for labor hours included 10,000 more hours than J.F. White's labor estimate.

In addition, Malcolm Pirnie/Arcadis has acknowledged that it incorrectly used a labor rate of \$95 per hour for electricians, not the prevailing wage rate (approximately \$73 per hour) in developing its Engineer's Estimate. Further, while the prevailing wage rate schedule allows a ratio of two apprentices to three electricians, the Engineer's Estimate erroneously assumed no apprentices would be used. MWRA staff believe it is reasonable to assume that J.F. White's bid includes the allowable 2:3 ratio. Factoring in the apprentice rate of approximately \$45 per hour, the blended apprentice:electrician rate over the course of the job would translate into a cost difference of approximately \$1,498,235 or nearly 49% of the total cost difference between the Engineer's Estimate and J.F. White's bid.

J.F. White also indicated that the general work items, such as temporary facilities, environmental protection, health and safety, and submittals, plus overhead and profit, represent 20% to 30% of its bid, or a range of \$950,000 to \$1,400,000. The Engineer's Estimate for these items was \$1,900,000 which represents 16% - 31% of the total cost difference between the Engineer's Estimate and J.F. White's bid.

Based on discussions with J.F. White, MWRA staff and Malcolm Pirnie/Arcadis U.S., Inc. believe that J.F. White understands the full nature and scope of this project. References were checked and found to be favorable. It should be noted that J.F. White Contracting Co. is currently working on Contract 6903, North Main Pump Station Variable Frequency Drive and Synchronous Motor Replacement, and Contract 7057, Waste Sludge Centrifuges Power and Controls Systems Upgrade, both on Deer Island.

MWRA staff and the Design Engineer have concluded that J.F. White Contracting Co. is qualified to perform the work and that its bid price is reasonable, complete, and includes the payment of prevailing wage rates, as required. Therefore, MWRA staff recommend that Contract 7313 be awarded to J.F. White Contracting Co. as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The FY13 CIP includes a budget of \$7,066,166 for Contract 7313. This contract is \$4,740,000, or \$2,326,166 under budget.

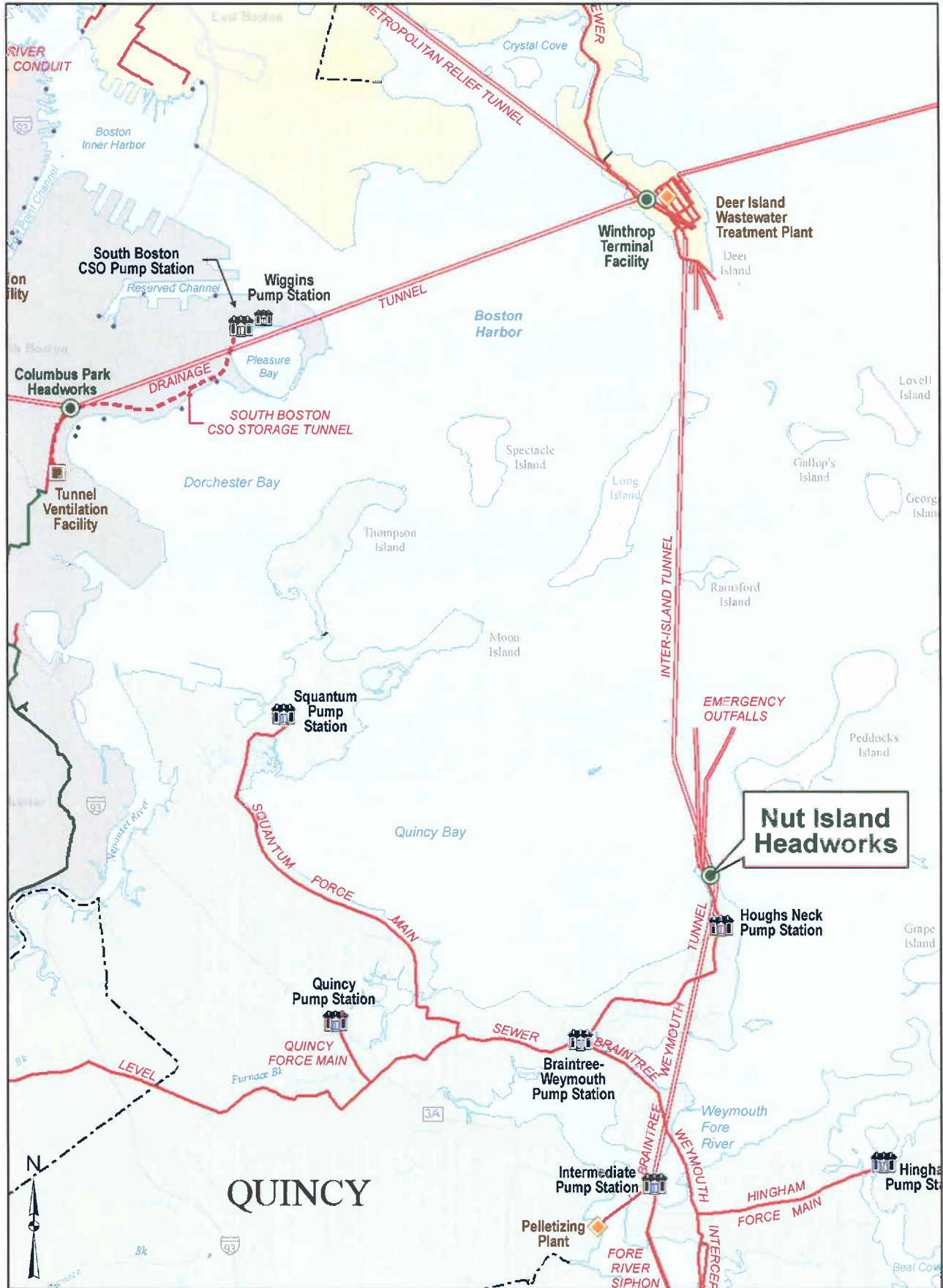
D/MBE and D/WBE/PARTICIPATION:

The D/MBE and D/WBE participation requirements for this project are 3.40% and 3.80%, respectively. The Affirmative Action & Compliance Unit has reviewed the bids and determined that J.F. White Contracting Co.'s bid is responsive to these requirements.

ATTACHMENT:

Attachment A – System Map Showing Nut Island Headworks

Attachment A



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director *F. A. Laskey*
DATE: June 26, 2013
SUBJECT: Supply and Delivery of Odor and Corrosion Control Chemicals for the Framingham Extension Sewer and Framingham Extension Relief Sewer
Siemens Water Technologies
Bid WRA-3417, Amendment 1

COMMITTEE: Wastewater Policy & Oversight

 INFORMATION
 X VOTE

Richard P. Trubiano, Deputy Chief Operating Officer
Michele S. Gillen, Deputy Director, Administration and Finance
Preparer/Title

Michael J. Hornbrook
Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to the purchase order contract under Bid WRA-3417, for the supply and delivery of odor and corrosion control chemicals for the Framingham Extension Sewer and Framingham Extension Relief Sewer, with Siemens Water Technologies, exercising the first of two one-year extension options that were included in the original bid, for an amount not to exceed \$311,240, increasing the purchase order amount from \$311,240 to \$622,480, and extending the contract term from July 1, 2013 to June 30, 2014.

DISCUSSION:

MWRA has been addressing odor and corrosion issues in the Framingham Extension Sewer (FES) and the Framingham Extension Relief Sewer (FERS) – see attached map – for several years during the warmer months when temperatures and hydrogen sulfide levels in these sewer lines typically rise beyond target levels.



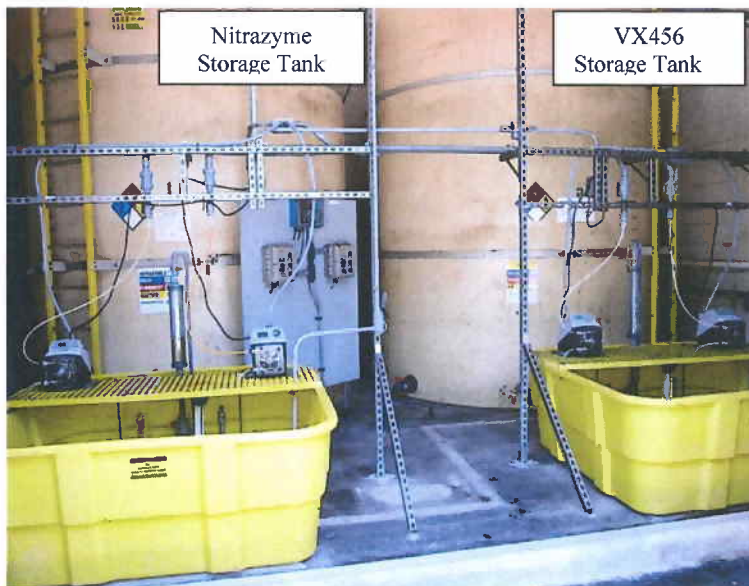
One control strategy (along with other efforts described below) involves chemical injection treatment at the Framingham (“Arthur Street”) Pump Station (shown in the picture above). In 2002, staff conducted a pilot study that involved injecting a combination of

two chemicals into the sewer line during the warmer months. The chemicals successfully reduced atmospheric hydrogen sulfide gas levels on a consistent basis by two-thirds. Because of the success of the pilot study, MWRA has been using these two chemicals – one is a nitrate-based product called Nitrazyme, and the other is a sodium-chlorite product, simply called “VX456” – ever since.

Chemical treatment is discontinued in the winter as the colder weather keeps hydrogen sulfide gas in these sewers below the target level of 20 parts per million. It also should be noted that air space hydrogen sulfide gas entering the Framingham Pump Station has been reduced over the years as a result of ongoing MWRA, community, and industry odor and corrosion control efforts, in turn reducing MWRA’s chemical treatment requirements.

In 2010, MWRA staff completed a renovation of the chemical dispensing system (shown on the right), which included new pumps and meters, allowing staff to more accurately and efficiently control chemical dosing.

In 2012, the Executive Director, under delegated authority, approved the award of a competitively bid, one-year contract for Nitrazyme and VX456 to Siemens Water Technologies for an amount not to exceed \$311,240.



Related Information

It is important to note that chemical treatment represents only one facet of MWRA’s overall efforts. In addition to chemical treatment, MWRA’s long-term strategy for odor and corrosion control in the FES and downstream interceptors includes industrial and municipal controls. High strength dischargers of biochemical oxygen demand (BOD) and sulfate are regulated through industrial user permits with local limits that are applicable from April through November of each year. Municipalities are required, under their municipal permits, to meet an aqueous sulfide limit from April through November, also. The towns of Ashland and Framingham also have on-going chemical addition programs, as well as supplemental engineering solutions, underway to minimize the amount of sulfide at the locations where their sewers enter MWRA’s interceptor. Natick, Needham and Wellesley continue regular sewer maintenance to maintain compliance with the limit. The graphs on the following two pages indicate that the actions taken by MWRA, the municipalities, and the industries continue to be a success in the overall reduction in odor and corrosion – BOD, sulfate, and sulfide are within or below the desirable ranges in the FES at the indicator locations.

FIGURE 1
Average BOD Concentration by Year for each Sample Location
2000 through 2012

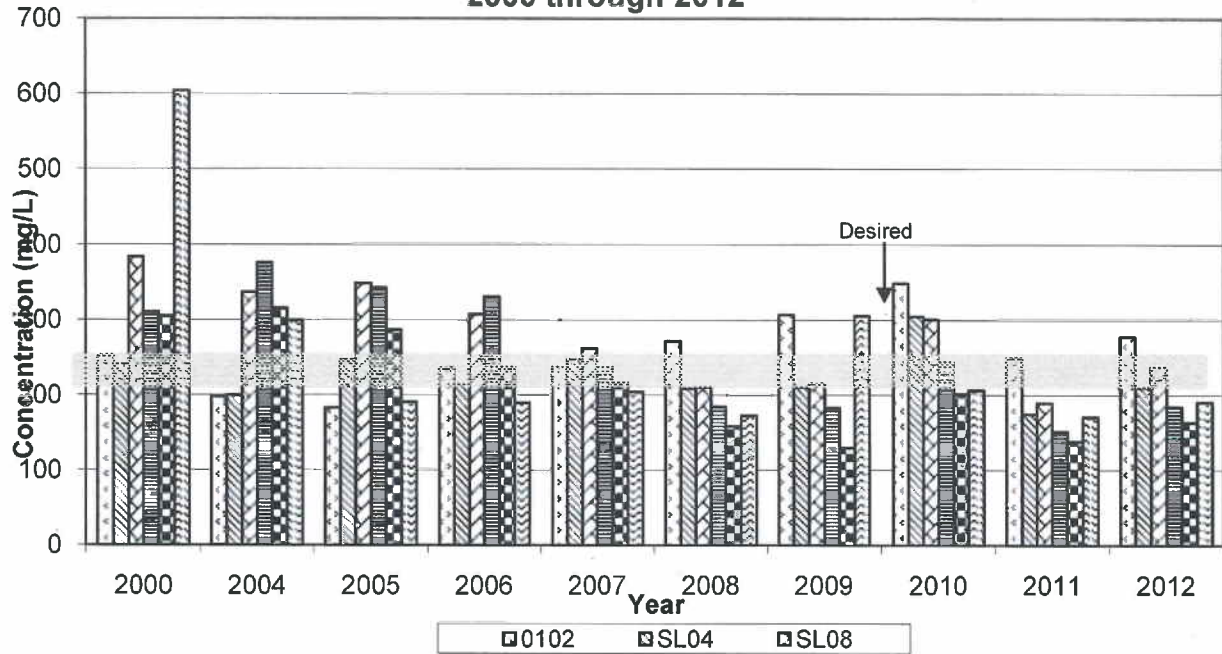


FIGURE 2
Average Sulfate Concentration by Year for each Sample Location
2000 through 2012

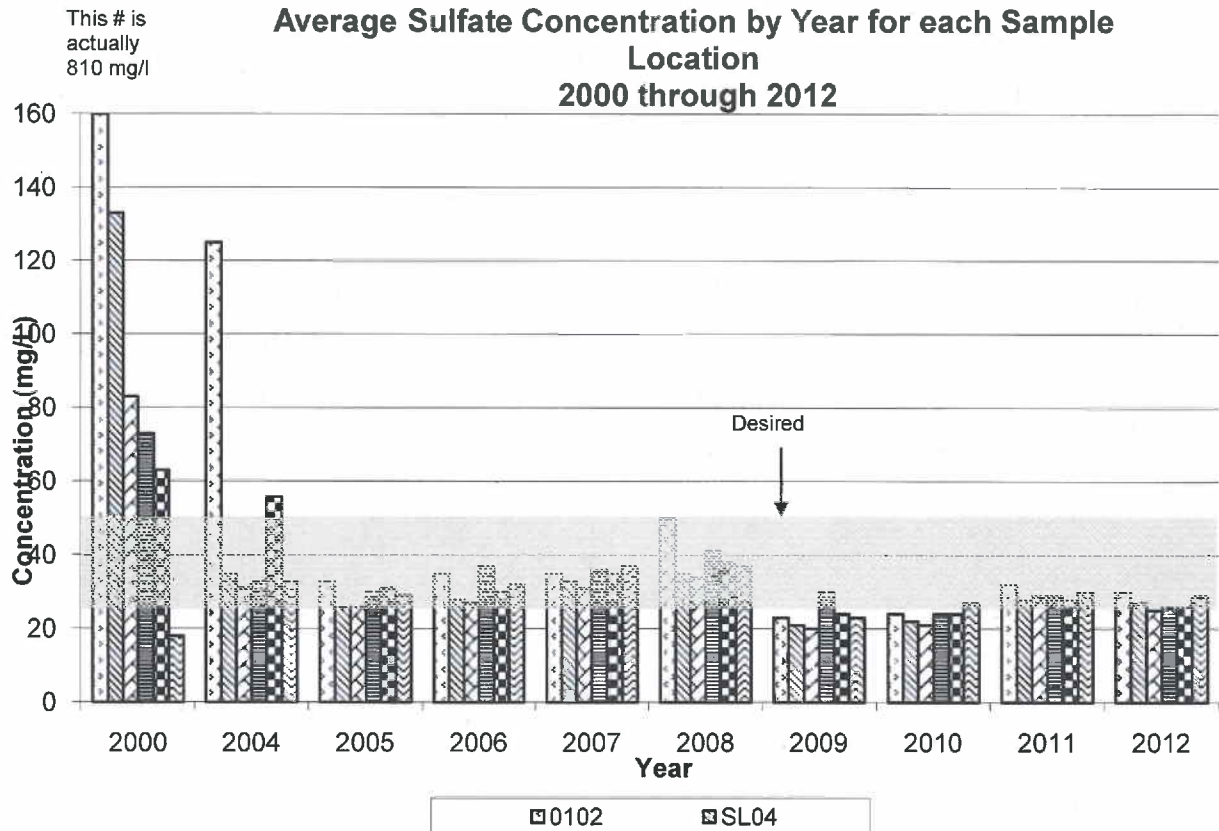
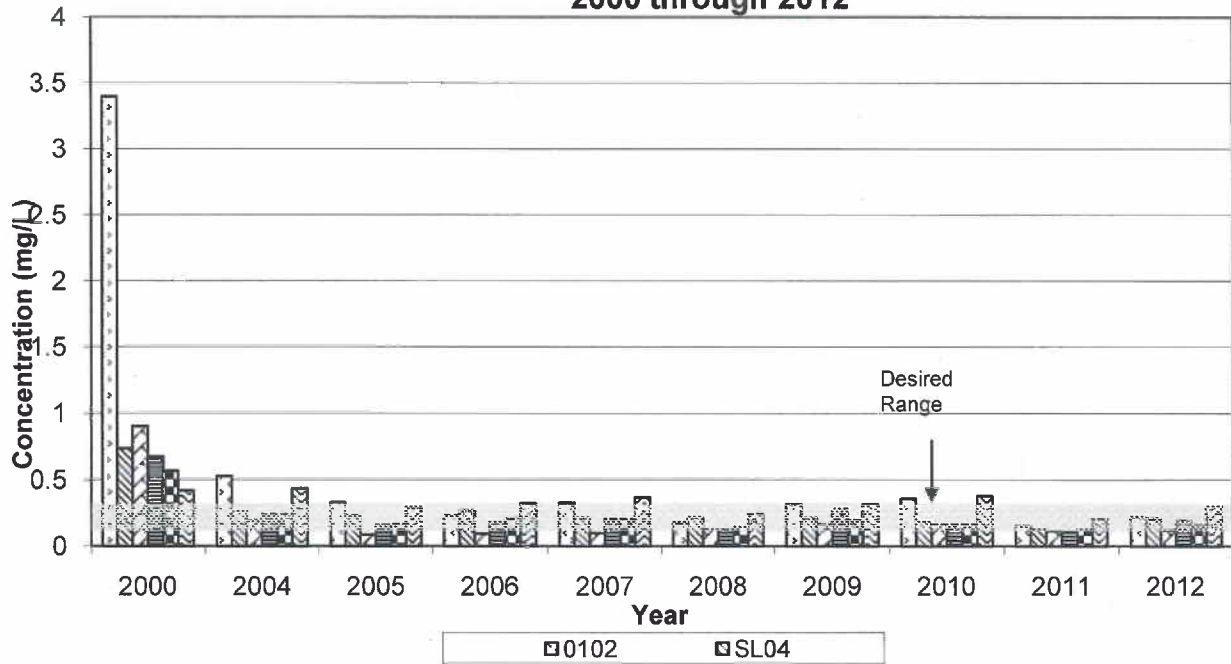


FIGURE 3
Average Sulfide Concentration by Year for each Sample
Location
2000 through 2012



This Amendment

The original bid specifications included two additional one-year extension options that could be exercised by MWRA if recommended by staff. MWRA’s total expenditure during the first year of the contract was only \$224,055.94, which was less than anticipated because summer 2012 was slightly cooler and wetter than usual. However, there will always continue to be chemical usage variations year to year depending on weather and/or operational activities.

There is no doubt that the combination of these two chemicals successfully reduces hydrogen sulfide gas levels in the FES and FERS below the target 20 ppm. Therefore, staff recommend that the first of two possible one-year extension options be approved.

Siemens has agreed to hold the original bid prices for both chemicals. Under the contract, MWRA is paying \$1.46 per gallon for Nitrazyme and \$9.43 per gallon for VX456.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$311,240	One Year	07/01/12
Proposed Amendment 1:	\$311,240	<u>One Year</u>	Pending
Revised Contract:	\$622,480	Two Years	

BUDGET/FISCAL IMPACT:

There are sufficient funds for Amendment 1 in the Operations Division's FY14 Current Expense Budget.

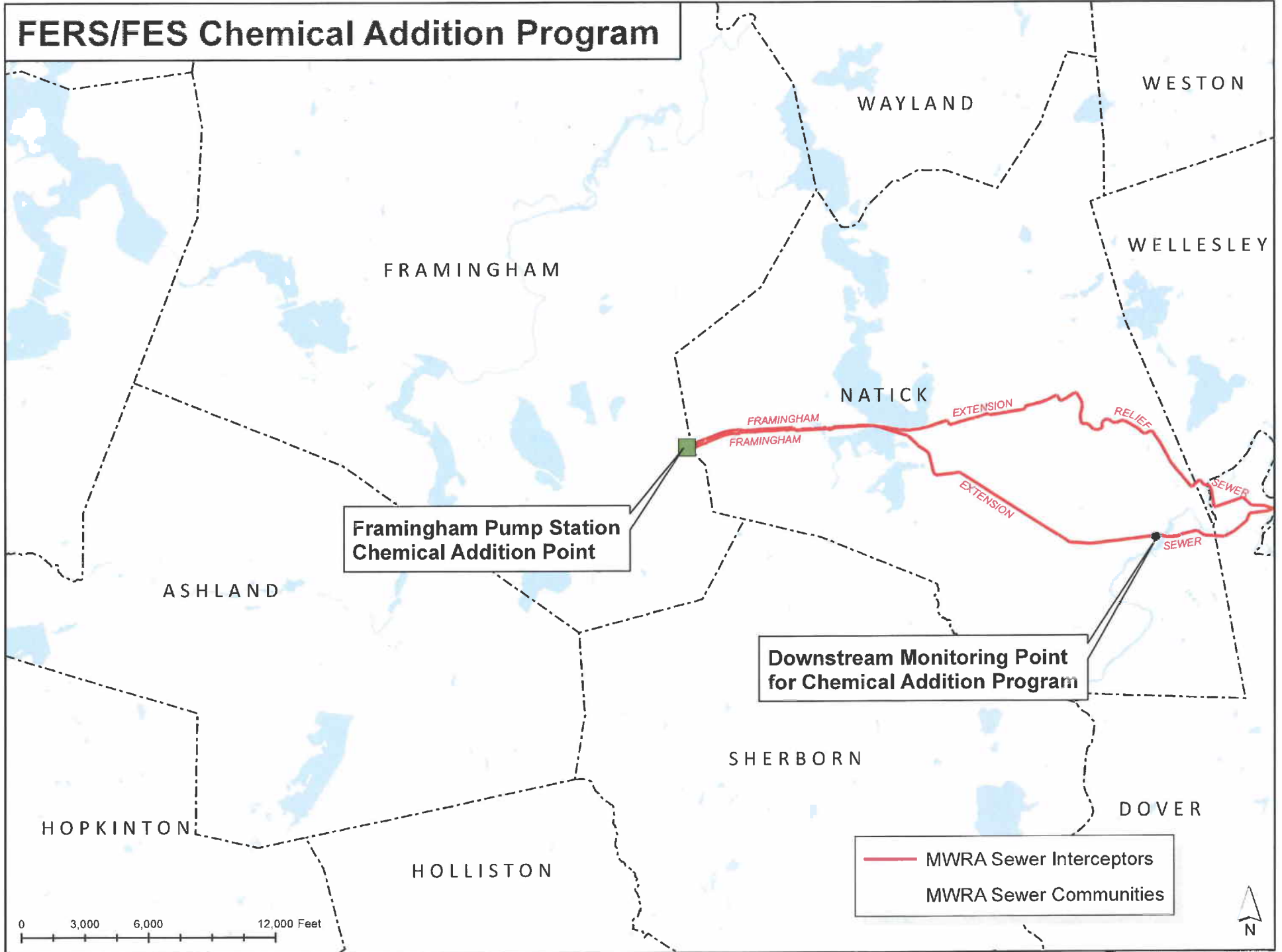
MBE/WBE PARTICIPATION:

Siemens Water Technologies is not a certified Minority- or Women-owned business.

ATTACHMENT:

Map of FERS/FES Chemical Addition Program

FERS/FES Chemical Addition Program





MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
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Boston, MA 02129

Frederick A. Laskey
Executive Director

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WATER POLICY AND OVERSIGHT COMMITTEE MEETING

Chair: A. Pappastergion
Vice-Chair: B. Swett
Committee Members:
J. Carroll
J. Foti
J. Walsh

to be held on

Wednesday, June 26, 2013

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately following Wastewater Comm.

AGENDA

A. Information

1. Weston Aqueduct Supply Main 3, Contract 6539 – Supplemental Information

B. Approvals

1. Emergency Water Supply Agreement with the Town of Hudson

C. Contract Awards

1. Weston Aqueduct Supply Main 3 - Design, Construction Administration and Resident Engineering Services: Fay, Spofford & Thorndike, LLC, Contract 6539
2. Gillis Pump Station Improvements: Baystate Electric, Contract 7260

D. Contract Amendments/Change Orders

1. Aquatic Invasive Macrophyte Control at the Wachusett Reservoir: Aquatic Control Technology, Inc., Bid WRA-3434, Amendment 1

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Water Policy and Oversight Committee

June 5, 2013

A meeting of the Water Policy and Oversight Committee was held on June 5, 2013 at the Authority headquarters in Charlestown. Chairman Pappastergion presided. Present from the Board were Messrs. Barrera, Carroll, Cotter, Flanagan, Foti, Pappastergion, Swett and Vitale. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Steve Estes-Smargiassi, Josh Das, Jae Kim, Fred Brandon, Michele Gillen, and Bonnie Hale. The meeting was called to order at 12:10 p.m.

Information

2012 Annual Water Quality Report (Consumer Confidence Report)

Staff handed out copies of the report, and Mr. Laskey and the Board members complimented all those who had worked on preparing it.

Approvals

*Water Supply Citizens Advisory Committee Contract

The Committee recommended approval of the renewal of the contract with the Water Supply Citizens Advisory Committee (ref. agenda item B.1).

Contract Awards

*Weston Aqueduct Supply Main 3 - Design, Construction Administration and Resident Engineering Services: Fay, Spofford & Thorndike, LLC, Contract 6539

Staff gave a presentation on the work to be performed under this contract. There was extensive discussion and question and answer on the consultant selection process, as the recommended consultant's price was 10% higher than the 2nd ranked bidder, who was deemed qualified to perform the work. Staff explained all the selection criteria and the selection committee process, and why the Committee felt that FST proposed the best technical approach that could ultimately result in a lower cost to complete the project. The Committee voted to postpone consideration of the item, with Messrs. Barrera and Swett opposed (ref. agenda item C.1).

The meeting adjourned at 12:40 p.m.

* Approved as recommended at June 5, 2013 Board of Directors meeting.

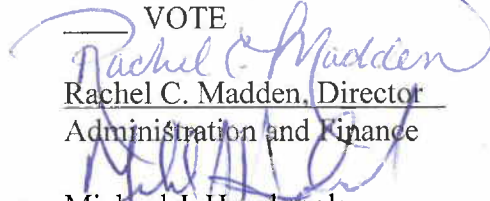
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: Weston Aqueduct Supply Main 3: Design, Construction Administration and Resident Engineering Services
Contract 6539 – Supplemental Information



COMMITTEE: Water Policy & Oversight

X INFORMATION
 VOTE



Rachel C. Madden, Director
Administration and Finance

Jae R. Kim, P.E., Chief Engineer

Michele S. Gillen, Deputy Director, Administration and Finance
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

On June 5, 2013, the Board postponed any action related to staff's recommendation to award Contract 6539, Weston Aqueduct Supply Main 3: Design, Construction Administration and Resident Engineering Services, to Fay, Spofford & Thorndike, LLC (FS&T). Staff recommended FS&T because the Selection Committee was unanimous in its determination that FS&T had submitted a superior overall proposal that included an overwhelmingly stronger project team with more directly related experience, making it worth the additional cost. FS&T, along with its proposed team members, CDM Smith and Green International Affiliates, has successfully completed multiple similar projects for MWRA, and collectively, this team will bring to the WASM 3 project the critically important knowledge and understanding of the hydraulics of MWRA's complicated regional water system. The Selection Committee recognized that this proven experience provided FS&T with a platform to demonstrate its exceptional and proven record of successful management of difficult and complex projects on the critical WASM 3 project. The Selection Committee determined that for this technically challenging \$160 million project, the quality, experience and approach of the FS&T team, although not having the lowest initial cost, should result in overall cost savings to MWRA upon project completion. This staff summary provides the Board with some additional detail on MWRA's procurement and selection process for this contract in support of staff's recommendation.

RECOMMENDATION:

For information only.

DISCUSSION:

Staff utilize different procurement processes for professional services contracts based on the nature, magnitude, complexity, importance, or difficulty of the intended project. The most common types

include a variety of evaluative processes, where a Selection Committee evaluates weighted criteria and recommends selection of the overall best proposal. A second type is a bid process, where a committee identifies all qualified proposals and the lowest price proposal among the qualified bidders is selected.

The proposals in an evaluative process are judged and ranked according to relative, pre-assigned numerical weights (points) for multiple criteria (cost, experience, past performance, key personnel, technical approach and capacity, and M/WBE participation) – with no criteria weighted higher than cost. Alternatively, in a bid process the non-cost criteria (experience, past performance, key personnel, technical approach and capacity, and M/WBE participation) are considered on a qualified/not qualified basis, after which the lowest cost proposal is selected.

For the most complex, lengthy projects, staff are likely to utilize a two-step, evaluative process involving a Request for Qualifications (RFQ), followed by a Request for Proposals (RFP). In that process, those firms that satisfy certain basic qualifications are invited to submit a more detailed proposal based upon a more fully defined scope of services. When this procurement process is selected, it is because it affords MWRA the ability to select the best overall proposal and the most qualified firm for that project, not necessarily at the lowest cost. This process was selected for the WASM 3 project.

It is important to note that MWRA is fairly unique in that unlike many other public entities, it *always* includes a cost criterion in the evaluation process for all of its professional services procurements. Many agencies utilize a “Quality Based Selection” process, whereby the firm is selected on the sole basis of project-specific expertise and experience. Once selected, the awarding agency will then enter into negotiations with the selected firm to arrive at a mutually agreeable cost.

Contract 6539 Selection Process

For this project, a two-step, RFQ followed by an RFP, procurement process for the WASM 3 Rehabilitation/Replacement project was utilized for the following reasons:

- It is an extremely complex project that will require large-diameter pipe rehabilitation and replacement through 10 miles of highly, congested areas with many utility conflicts and relocations a key cost and schedule consideration;
- It is an unusually long-duration project expected to take at least 13 years. Construction is scheduled to start in 2018 and substantial completion of all work is expected in 2025;
- The project will involve construction through multiple towns. It includes design and construction services of three separate construction contracts through six communities: Weston, Waltham, Belmont, Arlington, Somerville, and Medford; and
- The project must be designed, sequenced, and constructed so as to not impact MWRA’s ability to provide adequate quantity and quality of water to 250,000 people in eight communities, which will require hydraulic expertise and knowledge of complex, regional water systems.

Staff firmly believe that the complexity and cost of this project, at \$160 million, warrants the upfront investment of selecting a firm with the best proposal, even if not at the lowest initial cost, because it

will ultimately lead to a better overall project and save MWRA money in the future by avoiding project delays and cost overruns.

MWRA received four qualification statements in the first phase (the RFQ phase does not consider cost) of this procurement (from Chester, IEN/Shaw, Dewberry, and Fay, Spofford and Thorndike, LLC (FS&T)). The Selection Committee felt that Chester and IEN/Shaw had serious shortcomings in their qualifications, both for the firms, and with their proposed key personnel. Furthermore, there was concern about their capacity to provide the services. Neither firm was shortlisted by the Selection Committee.

An RFP was then developed and issued to the two shortlisted firms, FS&T and Dewberry. The RFP included a more fully defined scope of services. The scope of work in a professional services procurement, unlike the specifications in a construction services procurement, is a statement of the owner's project and a request to propose an approach to completing the project in the most efficient and effective way. It is not a request simply for a price, although cost is important. It is an invitation for professionals to use creativity, expertise, and judgment. Therefore, it is expected that different proposers will offer different resources, ideas, approaches, and costs to perform the services requested.

The Selection Committee considered the overall competitiveness of the price, but also the salary rates, level of effort, distribution of hours, and appropriateness of assigned labor classifications. The Committee evaluated the experience of the key personnel assigned to various tasks, the technical approach (e.g., addressing the approach to environmental assessment and permitting, geotechnical and hazardous materials issues, mapping, public participation, preparation of reports, design, construction administration, and resident engineering and inspection), the organizational and management approach, and the proposed M/WBE participation.

Selection & Scoring Summary

After reviewing, scoring, and ranking the two proposals, the Selection Committee was unanimous in its determination that FS&T had submitted the best overall proposal. Scoring was based on the selection criteria of cost, key personnel, technical approach, organization & management, and M/WBE participation. Seventy percent of the proposal scoring was based on non-cost-related selection criteria. It is important to note that FS&T was ranked higher than Dewberry in all selection criteria except cost. Information from the Selection Committee selection criteria discussions on these criteria are summarized below.

Key Personnel

The Selection Committee members were in agreement that FS&T's proposal included an overwhelmingly stronger project team with more directly related experience than Dewberry. FS&T, along with its proposed team members, CDM Smith and Green International Affiliates, also has exceptional knowledge and understanding of the hydraulics of MWRA's water system, critically important in the WASM 3 project.

FS&T's proposed Project Manager, who will direct project strategy and key decision making, has a lengthy, proven record of accomplishment on key MWRA projects, as well as other similar non-

MWRA projects. These include the MetroWest Water Supply Tunnel, the Hultman Interconnections, the Metropolitan System Redundancy Plan, and the New York City Valve Chamber Reconstruction and Connections. He is a seasoned professional with 37 years of experience in waterworks projects. Backing the Project Manager are other seasoned professionals with proven records of accomplishment on MWRA projects.

The Selection Committee was also in agreement that for other key project team positions, such as Lead Engineer for Final Design, and Lead Engineer for Engineering Services During Construction and Resident Engineer during Construction, FS&T proposed individuals with clearly more directly related experience compared to Dewberry. All of these key positions will be required to complete a project of this complexity and size in a cost-effective manner.

FS&T scored significantly higher in Key Personnel criteria than did Dewberry.

Cost Evaluation

The following represents the total costs proposed by each firm to complete this project:

Total Cost		
FS&T	Dewberry	Difference
\$15,482,625	\$14,196,045	\$1,286,580

Dewberry’s total cost is approximately 9% lower than FS&T’s and overall, Dewberry scored higher than FS&T in the cost selection criteria given the importance of consideration of lower contract costs. However, the difference in scores between FS&T and Dewberry in this key area of cost was lessened by the Selection Committee’s determination that FS&T had a more balanced distribution of hours among the preliminary design, construction administration, and project management and control tasks, and among various labor classifications.

Also, Dewberry’s proposal does not identify specific line items for key tasks required in the scope of services that are necessary to support and facilitate the design and MEPA approval process for the project. These tasks include base mapping, wetland investigations, archaeological studies, air quality and noise evaluations and the services of an arborist. By contrast, FS&T’s proposal, although higher, identified specific costs for these tasks, which the Selection Committee felt was reflective of FS&T’s experience and clear understanding of what will be required in such a lengthy and complex project.

Other Selection Criteria Results

The firms were also scored in the categories of technical approach, organization & management approach, and M/WBE participation. FS&T was ranked higher in each of these categories, although the scoring was closer.


CONCLUSION:

In the end, the Selection Committee voting resulted in significantly higher points awarded to FS&T in key personnel, which outweighed the higher (though less significantly different) points awarded to Dewberry in cost. These results, combined with closer scores in the other categories, drove the ultimate ranking of FS&T as the number one ranked and recommended firm.

Therefore, staff strongly recommend that FS&T be awarded this important project based upon a comparison of the two firms and the proposals put forth by both. FS&T clearly has superior directly related personnel resources and experience that staff believe will lead to successful completion of this project and will save MWRA money in the long-term by avoiding delays and cost overruns.

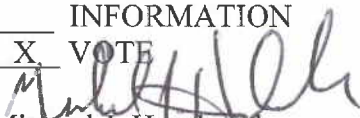
Staff will submit the original staff summary recommending award of Contract 6539 to FS&T to the Board for re-consideration at this meeting based upon the additional supplemental information provided.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 26, 2013
SUBJECT: Emergency Water Supply Agreement with the Town of Hudson

COMMITTEE: Water Policy & Oversight

Pamela Heidell, Policy and Planning Manager
Preparer/Title

INFORMATION
X VOTE

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a six-month Emergency Water Supply Agreement with the Town of Hudson substantially in the form filed with the records of the meeting as an Attachment to this staff summary, and contingent upon approval by the Hudson Board of Selectmen and an Inter-Municipal Agreement between Hudson and Marlborough for the conveyance of MWRA water through Marlborough to Hudson.

DISCUSSION:

Overview

On June 3, 2013, the Town of Hudson Department of Public Works notified MWRA that it required an emergency transfer of water into its distribution system since two of its wells have been removed from service. Hudson indicated that one well (the Cranberry Bog well) was temporarily off-line for well cleaning, redevelopment, and pump replacement. The other well, the Kane Well, has been off-line since October 1, 2012 due to high manganese levels. With both wells out of service, the existing water supply had dropped to a low level. Consequently, Hudson requested an emergency water supply withdrawal from MWRA for one week. Hudson can access MWRA water through an existing emergency interconnection with the City of Marlborough. In accordance with MWRA Policy OP#5, *Emergency Water Supply Withdrawals*, and its provisions for short-term emergency withdrawals of 30 days or less, MWRA's Chief Operating Officer approved the withdrawal. Hudson began withdrawals on June 3, at an average of 0.5 million gallons per day. On June 16, Hudson requested that provisions be made to extend the emergency withdrawal period. This is the first six month emergency withdrawal request from Hudson.

In its emergency water supply withdrawal request to MWRA, Hudson indicated its emergency request was due to uncertainty regarding the use of the Cranberry Bog Well in the near future. Cranberry Well is a 1 mgd well that has also had water quality issues. Both the Cranberry Bog Well and the Kane Well are the subject of a long-term corrective action plan and a DEP

Administrative Consent Order (ACO) issued on June 14, 2013 and which extends until December 31, 2014. Hudson's long-term corrective action plan includes the construction of transmission mains from both the Cranberry Bog Well and the Kane Well to Hudson's Chestnut Street Filtration Plant, along with instrumentation and process modifications at the Treatment Plant. The ACO requires that the Kane Well remain off-line until the transmission main and treatment facility upgrades have been constructed and approved for operation by DEP. It also requires monthly water quality monitoring of the Cranberry Bog well, requires Hudson to take the Cranberry Bog well off-line for evaluation if the levels of iron and manganese exceed secondary maximum contaminant levels, and requires DEP approval prior to putting the well back on line.

In addition to the Cranberry Bog Well and the Kane Well, Hudson's water sources include the Chestnut Wells 1, 2 and 3 and Gates Pond, a surface water supply. The combined capacity of the Chestnut Wells and Gates Pond is approximately 3.6 mgd. Hudson's average day demand on an annual basis is 2.42 mgd, with maximum day demands in the summer of 3.95 mgd. If both the Cranberry Bog Well and Kane Well are off-line, demand can exceed supply. Hudson has requested an average withdrawal from MWRA of 0.5 mgd, in the event that the Cranberry Bog well has reoccurring water quality issues.

Hudson would receive MWRA water through an emergency 8-inch metered connection located on the Hudson/Marlborough line on North Robin Hill Road.

In accordance with O.P.#05, Emergency Water Supply Withdrawals, a premium charge of 10% of the prevailing rate will be assessed for all water provided under the emergency. The operational details and arrangements between Hudson and Marlborough are in place, and an Inter-Municipal Agreement between the Towns will govern terms for the sale. Pursuant to #O.P. 05, the inter-municipal agreement should be in place prior to MWRA's approval. However, in this instance, approval of the MWRA Board of Directors is sought prior to, but contingent upon, the execution of the Inter-Municipal Agreement by July 15, 2013. This is due to the fact that there was insufficient time for the governing bodies in Hudson and Marlborough to review and approve an Inter-Municipal Agreement prior to the June 26 Board meeting. The Hudson Board of Selectmen will meet on July 1, 2013 at which time approval will be sought to approve execution of both the Emergency Water Supply Agreement with MWRA and the Hudson/Marlborough Inter-Municipal Agreement.

Emergency Water Supply Approval Criteria (Policy #OP.05)

Under MWRA Policy #OP.05, Emergency Water Withdrawals, several requirements and criteria must be met. These include:

- *There must be no negative impact on the MWRA water system and member communities.* Hudson's withdrawal would have no negative impact on the MWRA system. Water would be supplied via Marlborough's connection to MWRA which is not constrained.
- *A long-term plan to remedy supply deficiencies must be developed.* As noted above, the Town has developed a long-term corrective action plan that includes the design and

construction of transmission mains for both the Kane Street and Cranberry Bog Well and instrumentation and process modifications to its existing Chestnut Street Greensand Filtration Plant. Its ACO with DEP includes a series of milestones for development of bid specifications, permitting, and construction. In the coming months, MWRA also hopes to meet with Hudson to discuss the merits of admission to the MWRA water system.

- *DEP must declare that an emergency exists.* In this instance, the DEP did not issue a Declaration of Emergency, but instead amended an existing Administrative Consent Order (ACO) to refer to the emergency purchase of water. In the ACO, MassDEP acknowledges that the loss of one or two water sources for several months, and during periods of high demand, will stress the remaining sources of water and acknowledged “the purchase from Marlborough as an emergency source.” The ACO also indicates that for the duration of the Consent Order, Hudson is provided temporary relief from the requirements of the Interbasin Transfer Act. The ACO between DEP and Hudson is included as an Attachment to MWRA’s emergency agreement with Hudson.
- *The applicant community does not use MWRA water supply as a chronic emergency back-up supply without equitable contribution for the fair asset value of the MWRA waterworks system.* Hudson is authorized to take emergency water for the duration of the ACO which shall expire on December 31, 2014. The proposed emergency water supply agreement covers the period July 3, 2013 to January 2, 2014. Should Hudson desire emergency withdrawals beyond the six-month period indicated in the Agreement, approvals for from the Advisory Board and the Board of Directors will be required for any subsequent six-month Emergency Water Supply Agreement. Pursuant to OP#5, Emergency Supply Agreement Period 2 and Period 3 require annual payments associated with asset value contribution payments.

Pursuant to OP#5, a community requesting an emergency water supply withdrawal must also submit a detailed description of water conservation and water accountability programs undertaken. The ACO between Hudson and DEP indicates that the Town must meet all of the water conservation requirements of its Water Management Act permit which include:

- A water system audit
- Annual calibration of meters
- Leak detection and repair
- Conservation Pricing, including an increasing rate structure and analysis of effectiveness and adjustments as necessary
- Public education

Contents of Emergency Water Supply Agreement

The Agreement limits water withdrawals to an average rate of 0.5 mgd. Pursuant to the Agreement, all withdrawals must be metered.

During the term of the Agreement, Hudson is required to use all feasible sources of non-MWRA

water to meet demand and to institute and continue all practicable water conservation measures. The Agreement also requires Hudson to adhere to all conditions and requirements contained in the DEP ACO.

The Agreement reflects MWRA's charges for emergency withdrawals, including a premium charge added to the prevailing rate, as discussed below.

BUDGET/FISCAL IMPACT:

Pursuant to #O.P.05, water taken for the first emergency withdrawals is charged at the prevailing rate plus a 10% premium charge on that rate. MWRA will review monthly use information to determine and assess the surcharge amounts.

ATTACHMENTS:

Draft Emergency Water Supply Agreement
DEP Administrative Consent Order

EMERGENCY WATER SUPPLY AGREEMENT
BETWEEN
THE MASSACHUSETTS WATER RESOURCES AUTHORITY
AND
THE TOWN OF HUDSON

Parties.

This Emergency Water Supply Agreement (“Agreement”) is by and between the Massachusetts Water Resources Authority (“MWRA”), and the Town of Hudson (“Hudson”) hereinafter jointly referred to as the “Parties,” and documents the agreement and understanding of the Parties regarding the arrangement whereby MWRA will supply water to Hudson through an interconnection that Hudson has with Marlborough, a MWRA served water community and whereby will purchase a portion of its water supply from the MWRA through Marlborough on an as-needed, emergency basis for a period not exceeding six months ending on January 2, 2014.

Recitals.

- R.1. The MWRA was created by the Massachusetts legislature in December, 1984 to operate, regulate, finance, and modernize the waterworks and sewerage systems servicing the greater metropolitan Boston area. Operating pursuant to the terms of Section 8(d) of its Enabling Act, chapter 372 of the Acts of 1984 (the “Act”), and pursuant to the Policies and Procedures for Emergency Water Supply Connections of its Board of Directors, the MWRA may enter into arrangements to provide emergency supplies of water to any local body of the Commonwealth, provided certain conditions are met.
- R.2. Hudson is a duly constituted municipal corporation of the Commonwealth of Massachusetts (“Commonwealth”).
- R.3. Marlborough is supplied by the MWRA and Hudson has an emergency interconnection through Marlborough to the MWRA water supply system.
- R.4. Hudson’s water sources include five wells (Chestnut Street Wells #1, #2, and #3, Kane Well and Cranberry Bog Well) and one surface water source, Gates Pond. Kane Well has been off-line since October 2012 due to water quality concerns associated with iron and manganese levels. Water quality results for Cranberry Bog Well have also at times indicated iron and manganese levels in excess of the Secondary Maximum Contaminant Level (“SMCL”). Hudson submitted a long term corrective action plan to DEP for the reduction of iron and manganese concentration in drinking water in which Hudson proposed to construct transmission mains from each well to the Hudson Chestnut Street Filtration Plant.

- R.5. On June 14, the Massachusetts Department of Environmental Protection (MassDEP) issued an Administrative Consent Order (“ACO”) to Hudson to remain in effect until December 31, 2014. The ACO directs that effective immediately, Hudson shall cease using the Kane Well until the transmission main and treatment facility upgrades have been constructed and approved for operation by MassDEP. The ACO directs Hudson to submit monthly water quality monitoring results of iron and manganese from the Cranberry Bog well for the duration of the ACO; if the SMCL for iron and/or manganese is exceeded in the finished water, Hudson shall take the Cranberry Bog Well offline and evaluate the need for additional cleaning and obtain MassDEP approval prior to putting the well back on line. The ACO is included as Attachment A to this Agreement.
- R.6 In the ACO, MassDEP acknowledges that the loss of one or two water sources for several months, and during periods of high demand, will stress the remaining sources of water and states that after Hudson has met all of the water conservation requirements of its Water Management Act permit, it grants permission to Hudson, among other things, to purchase water from Marlborough as an emergency source to meet Hudson’s demand. It also states that Hudson is subject to the Interbasin Transfer Act for the purchase of water from Marlborough, because a portion of Marlborough’s water supply is purchased from MWRA, and that for the duration of the ACO, Hudson is provided temporary relief from the requirements of the Interbasin Transfer Act.
- R.7 On June 19, 2013, the Town of Hudson notified MWRA that its available sources of water were not sufficient to meet demand and requested emergency water supply withdrawal and activate its emergency connection with Marlborough.
- R.8. On October 11, 2006, the MWRA’s Board of Directors adopted a revised Policy for Emergency Water Supply Withdrawals, OP.05 (the Policy) which includes criteria and a process for approving requests for emergency withdrawals.
- R.9. Hudson has applied to the MWRA to use emergency interconnections to the MWRA system through Marlborough to supplement Hudson’s available sources on an as-needed basis.
- R.10. The MWRA has determined that it can supply Hudson with an emergency water supply for a period not exceeding six months under this Agreement without jeopardizing its ability to supply its member communities and without exceeding the safe yield of its water supply system.
- R.11. Hudson must comply with all applicable legal and regulatory requirements.
- R.12. Pursuant to MWRA Policy, this agreement is considered an Emergency Supply Agreement Period One.

Agreement.

NOW, THEREFORE, in consideration of the mutual promises contained herein and for other good and valuable consideration, the MWRA and Hudson agree as follows:

1. Hudson will activate its emergency interconnection with Marlborough for a period up to six months ending on January 2, 2014 in accordance with the terms of this Agreement, subject to termination in accordance with numbered paragraph 11 below.
2. Hudson may take water from the emergency interconnection at an average rate of 0.5 million gallons per day. Any increase beyond the stated limits on water use will require a revision to the Emergency Water Supply Agreement.
3. The transfer of water from the MWRA through Marlborough to Hudson shall not extend beyond a period of six months, unless Hudson submits an application for an additional emergency water supply withdrawal and the MWRA's Board of Directors and Advisory Board approve the additional emergency water supply withdrawal. In considering withdrawals beyond six months, the MWRA will consider Hudson's efforts to implement its long range corrective action plan and comply with DEP Administrative Consent Order, and to implement water conservation program.
4. During the six month term of this Agreement, Hudson shall institute and continue all practicable conservation measures including, but not limited to, a water conservation public education program; 100% metering; leak detection surveys and rehabilitation programs; conservation pricing for water services; and a local by-law governing outdoor water use with appropriate enforcement measures such as fines and water shutoff for non-compliance. Hudson shall actively administer and enforce such local by-law.
5. Hudson shall submit to MWRA a monthly report on water use, water conservation program results, and the status of the emergency for the preceding quarter.
6. Hudson shall comply with all the conditions of any DEP Administrative Consent Order.
7. During the term of this Agreement the MWRA shall bill Marlborough for both the total volume of water used by Hudson, as metered by Marlborough, and will bill Hudson directly for the 10% surcharge on prevailing rate mandated by the Policy. Marlborough shall bill Hudson for water used in accordance with the terms of the inter-municipal agreement between the parties. Hudson shall remit its payments to Marlborough for the total volume of water used in accordance with the terms of the inter-municipal agreement between the parties. Hudson will remit its payments for the 10% surcharge to MWRA directly.
8. The parties agree that the emergency withdrawal authorized under this Agreement is not appropriate for or intended to provide a permanent water supply to Hudson. Any request by Hudson for a permanent partial water supply from MWRA shall require full consideration of all alternatives, including effective water conservation and leak detection, and shall be subject to all approvals required under Section 8 (d) of Chapter 372 of the Acts of 1984, MWRA policies, and under applicable state law and regulations.

10. Any dispute arising between the MWRA and Hudson under the terms of this Agreement shall be resolved in accordance with the dispute resolution process set forth at 360 C.M.R. 1.00.
11. This Agreement covers the period from July 3, 2013 to January 2, 2014 provided, however, that the MWRA reserves the right to terminate this Agreement at any time due to unforeseen circumstances such as inadequate supply, insufficient hydraulic capacity and other conditions related to the safe supply of existing users and operational requirements of the MWRA's waterworks system.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed on this _____ day of _____, 2013 by their duly authorized representatives.

MASSACHUSETTS WATER
RESOURCES AUTHORITY

By:

Frederick A. Laskey
Executive Director

TOWN OF HUDSON

By:

Paul W. Blazer
Executive Assistant

**COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

In the matter of: _____)
)
)
Town of Hudson _____)

File No.: ACO-CE-13-5D005

ADMINISTRATIVE CONSENT ORDER

I. THE PARTIES

1. The Department of Environmental Protection (“Department” or “MassDEP”) is a duly constituted agency of the Commonwealth of Massachusetts established pursuant to M.G.L. c. 21A, § 7. MassDEP maintains its principal office at One Winter Street, Boston, Massachusetts 02108, and its Central Regional Office at 627 Main Street, Worcester, Massachusetts 01608.
2. Town of Hudson (“Respondent”) is a Massachusetts municipal corporation with its principal offices located at 78 Main Street, Hudson, Massachusetts 01749. Respondent’s mailing address for purposes of this Consent Order is 1 Municipal Drive, Hudson, Massachusetts 01749.

II. STATEMENT OF FACTS AND LAW

3. MassDEP has primary enforcement responsibility for the requirements of the Federal Safe Drinking Water Act, 42 U.S.C. §300f et seq. and the regulations promulgated there under. MassDEP implements and enforces statutes and regulations of the Commonwealth of Massachusetts for the protection of the public drinking water supply, including, without limitation, M.G.L. c. 111, §5G and §160, and the Drinking Water Regulations at 310 CMR 22.00; the Cross Connections, Distribution System Protection Regulations at 310 CMR 22.22; and the Underground Injection Control Regulations at 310 CMR 27.00. MassDEP, pursuant to M.G.L. c. 111, §160, may issue such orders as it deems necessary to ensure the delivery of fit and pure drinking water by public water systems to all consumers. MassDEP, pursuant to M.G.L. c. 111, §5G, may require by order the provision and operation of such treatment facilities as it deems necessary to ensure the delivery of a safe water supply to all consumers. MassDEP has authority under M.G.L. c. 21A, § 16 and the Administrative Penalty Regulations at 310 CMR 5.00 to assess civil administrative penalties to persons in noncompliance with the laws and regulations set forth above.
4. MassDEP’s Drinking Water Regulations at 310 CMR 22.02 define a public water system as a system for the provision to the public of water for human consumption, through pipes or

other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. 310 CMR 22.02 also defines a supplier of water as “any person who owns or operates a public water system.”

5. Respondent owns and operates a Public Water System, Hudson Water Division, (“HWD”) located in the Town of Hudson, Massachusetts, and serves a drinking water population of approximately 18,790 persons per day. The HWD is registered with MassDEP as a Community Public Water System, PWSID 2141000, pursuant to 310 CMR 22.00 et seq.

6. The following facts and allegations have led MassDEP to issue this Consent Order:

- A. Respondent currently obtains its water from five wells (Chestnut Street Wells #1, #2, and #3, Kane Well, and Cranberry Bog Well), and one surface water source, Gates Pond.
- B. Respondent has a Water Management Act withdrawal permit, #9P21414102 (“Permit”) that allows HWD to withdraw up to 0.95 million gallons per day (MGD) from Chestnut Street Wells #2 and #3.
- C. Respondent has a Water Management Act withdrawal registration, #21414102 (“Registration”) that allows HWD to withdraw up to 2.0 MGD from Chestnut Street Well #1, Kane Well, Cranberry Bog Well, and Gates Pond.
- D. On February 28, 2008, the Hudson Board of Health requested assistance from MassDEP with resolving discolored water complaints from HWD customers from the Sconset Village residential neighborhood.
- E. On April 4, 2008, MassDEP received a letter from Respondent attributing the cause of the discolored water to a high concentration of iron in the water from the Cranberry Bog Well and a high concentration of manganese in the water from the Kane Well. Respondent outlined corrective actions it would take in the fall of 2008 to resolve the discolored water issue which included taking the wells off-line, having them cleaned and redeveloped, flushing the water system, and monitoring iron and manganese levels while flushing.
- F. The secondary maximum contaminant level “SMCL” for iron is of 0.3 mg/L and 0.05 mg/L for manganese in accordance with 310 CMR 22.07D(1). Respondent reported to MassDEP iron concentrations from sampling conducted from the Cranberry Bog Well on January 8, 2008 of 1.3 mg/L and manganese levels of 0.12 mg/L. For the Kane Well, Respondent reported to MassDEP iron concentrations from sampling conducted on July 10, 2007 of 1.5 mg/L and manganese concentrations of 0.81 mg/L. Reporting sampling data from Respondent of both these wells for iron and manganese have shown concentrations in excess of the SMCL’s.

- G. On May 27, 2008, MassDEP issued a letter to Respondent acknowledging its commitment per Respondent's April 2, 2008 letter to cleaning and redeveloping both Cranberry Bog Well and the Kane Well in the fall of 2008, and stated that MassDEP may require treatment for the removal of iron and manganese if the well rehabilitation was not successful.
- H. Respondent redeveloped both wells in 2009. The well redevelopment temporarily reduced the concentration of iron in the Cranberry Bog Well, but had no effect on the manganese concentration in the Kane Well.
- I. On January 29, 2010, MassDEP issued a sanitary survey report of the HWD that required Respondent to submit a long-term corrective action plan to resolve the water quality issues arising from the continued high concentration of iron in the Cranberry Bog Well and high concentration of manganese in the Kane Well by March 31, 2010. Respondent failed to submit the plan by the deadline.
- J. On April 1, 2011, MassDEP sent an email to Respondent requesting distribution system monitoring for manganese to be conducted at its Total Coliform routine sites and report the results to MassDEP; provide an operational plan describing the use of sources with levels of manganese entering the distribution system above 0.3 mg/L; and provide a corrective action plan indicating how the system plans to reduce manganese levels to below the SMCL (0.05 mg/L) in the system.
- K. On October 31, 2011, Respondent submitted to MassDEP an operational plan/interim corrective action plan for the water system to reduce the concentration of iron and manganese in the distribution system. The plan indicated that usage of the Kane Well and Cranberry Bog Well would be minimized.
- L. In August 2012, MassDEP received complaints of discolored water from HWD customers in the Sauta Farms neighborhood.
- M. On November 8, 2012, MassDEP issued a sanitary survey report of the September 2012 inspection of the HWD. In the report, MassDEP again required Respondent to submit the long-term corrective action plan to resolve the water quality issues arising from high concentration of iron in the Cranberry Bog Well and high concentration of manganese in the Kane Well that was required by MassDEP's 2010 sanitary survey report.
- N. Water quality results for the Cranberry Bog Well obtained in 2013 showed the concentration of iron to be 1.31 mg/L and the concentration of manganese to be 0.119 mg/L, which exceed the SMCL of 0.3 mg/L for iron and 0.05 mg/L, for manganese, respectively.

- O. Water quality results for the Kane Well obtained in 2012 showed the concentration of iron to be 0.33mg/L and the concentration of manganese to be 0.92 mg/L, which also exceed the SMCL of 0.3 mg/L for iron and 0.05 mg/L for manganese, respectively. In addition, the concentration of manganese in the Kane Well exceeds the United States Environmental Protection Agency's Health Advisory Value of 0.3 mg/L.
- P. On December 14, 2012, MassDEP met with Respondent to discuss its failure to take permanent actions to correct the discolored water issue.
- Q. On December 20, 2012, Respondent submitted a long term corrective action plan for the reduction of iron and manganese concentrations in the drinking water in which Respondent proposed to construct a transmission line to pump Kane Well to the Chestnut Street Greensand Filtration Plant. Respondent also proposed bi-annual cleaning of Cranberry Bog Well, to be increased to annual cleaning dependent on water quality results for iron and manganese.
- R. On January 18, 2013, Respondent informed MassDEP that the long-term corrective action plan had changed and that a transmission main for each well to the Chestnut Street Greensand Filtration Plant would be constructed.
- S. MassDEP accepted Respondent's long term corrective action plan as a reasonable means to resolve the water quality issues.
- T. On May 6, 2013 Respondent placed two warrant articles for financing the construction cost for the transmission mains and treatment facility upgrades on annual town meeting warrant. These articles were passed at the town meeting.
- U. On June 3, 2013, Respondent activated the emergency interconnection with Marlborough Water Department for the purposes of supplementing their supply on a temporary basis to meet demand while Kane and Cranberry Bog Wells are offline. Marlborough purchases a portion of its water from MWRA and has agreed to sell Hudson water.

III. DISPOSITION AND ORDER

For the reasons set forth above, MassDEP hereby issues, and Respondent hereby consents to, this Order:

7. The parties have agreed to enter into this Consent Order because they agree that it is in their own interests, and in the public interest, to proceed promptly with the actions called for herein rather than to expend additional time and resources litigating the matters set forth above. Respondent enters into this Consent Order without admitting or denying the facts or allegations set forth herein. However, Respondent agrees not to contest such facts and allegations for purposes of the issuance or enforcement of this Consent Order.

8. MassDEP's authority to issue this Consent Order is conferred by the statutes and regulations cited in Part II of this Consent Order.
9. Respondent shall perform the following actions:
 - A. Effective immediately, Respondent shall cease using the Kane Well until the transmission main and treatment facility upgrades have been constructed and approved for operation by MassDEP.
 - B. Effective July 1, 2013, Respondent shall submit to MassDEP monthly monitoring results of iron and manganese in both the raw and finished water from Cranberry Bog Well for the duration of this Consent Order. If the SMCL for iron and/or manganese is exceeded in the finish water, Respondent shall take the Cranberry Bog well offline and evaluate the need for additional cleaning and obtain MassDEP approval prior to putting the well back on line.
 - C. By December 15, 2013, Respondent shall submit to MassDEP the design, plans, and specifications for the construction of the transmission mains for both the Kane Well and the Cranberry Bog Well and instrumentation and process modifications to the existing Chestnut Street Filtration Plant with transmittal permit application BRP WS25 (Water Treatment Facility Modification) for review and approval.
 - D. By January 31, 2014, Respondent shall submit to MassDEP a copy of the posted bidding advertisements for the water system improvements in accordance with the permit approval.
 - E. By March 15, 2014, Respondent shall submit to MassDEP confirmation that the contract for system improvements has been awarded.
 - F. By December 15, 2014, Respondent shall complete the construction of the transmission mains for the Kane and Cranberry Bog Wells, and instrumentation and process modifications at the Chestnut Street Treatment Plant in accordance with the conditions and requirements of the BRP WS 25 permit approval.
 - G. By December 31, 2014, Respondent shall have obtained all necessary federal, state and local permits and approvals to place the upgraded facilities into service, shall have commenced full operation of the Chestnut Street Filtration Plant, and shall notify MassDEP for a final inspection for approval to place the upgraded treatment facilities at the Chestnut Street and the Kane and Cranberry Bog Wells into service.
10. MassDEP acknowledges that the loss one or two water sources for several months, and during periods of high demand, will stress the remaining sources of water. After Respondent has met all of the water conservation requirements of its Water Management Act ("WMA") permit, referenced in paragraph 6B above, MassDEP grants permission to the Respondent to temporarily exceed the maximum daily withdrawal limit of Chestnut Street Well #2 (1.0 MGD) and Chestnut

Street Well #3 (0.7MGD) as stated in Respondent's WMA permit and purchase water from Marlborough as an emergency source to meet Hudson's demand. The volume of water pumped Hudson's own sources and the supplemental water purchased from Marlborough shall not exceed Respondent's total WMA permitted volume. The temporary approval to exceed the maximum withdrawal limits and purchase from Marlborough as an emergency source shall expire no later than December 31, 2014. Hudson is subject to the Interbasin Transfer Act (IBTA) for the purchase of water from Marlborough, because a portion of Marlborough's water supply is purchased from the MWRA. For the duration of this Order, Hudson is provided temporary relief from the requirements of the IBTA.

11. Except as otherwise provided, all notices, submittals and other communications required by this Consent Order shall be directed to:

Marielle Stone, Drinking Water Section Chief
Department of Environmental Protection
627 Main Street
Worcester, Massachusetts 01608.

Such notices, submittals and other communications shall be considered delivered by Respondent upon receipt by MassDEP.

12. Actions required by this Consent Order shall be taken in accordance with all applicable federal, state, and local laws, regulations and approvals. This Consent Order shall not be construed as, nor operate as, relieving Respondent or any other person of the necessity of complying with all applicable federal, state, and local laws, regulations and approvals.

13. All engineering work performed pursuant to this Consent Order shall be under the general direction and supervision of a qualified professional engineer registered in Massachusetts experienced in Drinking Water Treatment Design. Any contractual relationship between Respondent and the engineer for work required hereunder shall require the engineer, as a condition of the contract, to implement work consistent with the provisions of this Consent Order.

14. Respondent understands, and hereby waives, its right to an adjudicatory hearing before MassDEP on, and judicial review of, the issuance and terms of this Consent Order and to notice of any such rights of review. This waiver does not extend to any other order issued by the MassDEP.

15. This Consent Order may be modified only by written agreement of the parties hereto.

16. MassDEP hereby determines, and Respondent hereby agrees, that any deadlines set forth in this Consent Order constitute reasonable periods of time for Respondent to take the actions described.

17. Force Majeure

A. MassDEP agrees to extend the time for performance of any requirement of this Consent Order if MassDEP determines that such failure to perform is caused by a Force Majeure event. The failure to perform a requirement of this Consent Order shall be considered to have been caused by a Force Majeure event if the following criteria are met: (1) an event delays performance of a requirement of this Consent Order beyond the deadline established herein; (2) such event is beyond the control and without the fault of Respondent and Respondent's employees, agents, consultants, and contractors; and (3) such delay could not have been prevented, avoided or minimized by the exercise of due care by Respondent or Respondent's employees, agents, consultants, and contractors.

B. Financial inability and unanticipated or increased costs and expenses associated with the performance of any requirement of this Consent Order shall not be considered a Force Majeure Event.

C. If any event occurs that delays or may delay the performance of any requirement of this Consent Order, Respondent shall immediately, but in no event later than 5 days after obtaining knowledge of such event, notify MassDEP in writing of such event. The notice shall describe in detail: (i) the reason for and the anticipated length of the delay or potential delay; (ii) the measures taken and to be taken to prevent, avoid, or minimize the delay or potential delay; and (iii) the timetable for taking such measures. If Respondent intends to attribute such delay or potential delay to a Force Majeure event, such notice shall also include the rationale for attributing such delay or potential delay to a Force Majeure event and shall include all available documentation supporting a claim of Force Majeure for the event. Failure to comply with the notice requirements set forth herein shall constitute a waiver of Respondent's right to request an extension based on the event.

D. If MassDEP determines that Respondent's failure to perform a requirement of this Consent Order is caused by a Force Majeure event, and Respondent otherwise complies with the notice provisions set forth in paragraph C above, MassDEP agrees to extend in writing the time for performance of such requirement. The duration of this extension shall be equal to the period of time the failure to perform is caused by the Force Majeure event. No extension shall be provided for any period of time that Respondent's failure to perform could have been prevented, avoided or minimized by the exercise of due care. No penalties shall become due for Respondent's failure to perform a requirement of this Consent Order during the extension of the time for performance resulting from a Force Majeure event.

E. A delay in the performance of a requirement of this Consent Order caused by a Force Majeure event shall not, of itself, extend the time for performance of any other requirement of this Consent Order.

18. Respondent is a Permittee, as that term is defined in 310 CMR 4.02, for the purpose of assessing and collecting annual compliance assurance fees pursuant to M.G.L. c. 21A, §18 and M.G.L. c. 21E, §3B.

19. The provisions of this Consent Order are severable, and if any provision of this Consent Order or the application thereof is held invalid, such invalidity shall not affect the validity of other provisions of this Consent Order, or the application of such other provisions, which can be given effect without the invalid provision or application, provided however, that MassDEP shall have the discretion to void this Consent Order in the event of any such invalidity.

20. Nothing in this Consent Order shall be construed or operate as barring, diminishing, adjudicating or in any way affecting (i) any legal or equitable right of MassDEP to issue any additional order or to seek any other relief with respect to the subject matter covered by this Consent Order, or (ii) any legal or equitable right of MassDEP to pursue any other claim, action, suit, cause of action, or demand which MassDEP may have with respect to the subject matter covered by this Consent Order, including, without limitation, any action to enforce this Consent Order in an administrative or judicial proceeding.

21. This Consent Order shall not be construed or operate as barring, diminishing, adjudicating, or in any way affecting, any legal or equitable right of MassDEP or Respondent with respect to any subject matter not covered by this Consent Order.

22. This Consent Order shall be binding upon Respondent and upon Respondent's successors and assigns. Respondent shall not violate this Consent Order and shall not allow or suffer Respondent's employees, agents, contractors or consultants to violate this Consent Order. Until Respondent has fully complied with this Consent Order, Respondent shall provide a copy of this Consent Order to each successor or assignee at such time that any succession or assignment occurs.

23. Respondent shall pay stipulated civil administrative penalties to the Commonwealth in accordance with the following schedule if Respondent violates any provision of this Consent Order:

For each day, or portion thereof, of each violation, Respondent shall pay stipulated civil administrative penalties in the following amounts:

<u>Period of Violation</u>	<u>Penalty per day</u>
1 st through 15 th days	\$ 250.00 per day
16 th through 30 th days	\$ 500.00 per day
31 st day and thereafter	\$ 1,000.00 per day

Stipulated civil administrative penalties shall begin to accrue on the day a violation occurs and shall continue to accrue until the day Respondent corrects the violation or completes performance, whichever is applicable. Stipulated civil administrative penalties shall accrue regardless of whether MassDEP has notified Respondent of a violation or act of noncompliance. All stipulated civil administrative penalties accruing under this Consent Order shall be paid within thirty (30) days of the date MassDEP issues Respondent a written demand for payment. If simultaneous violations occur, separate penalties shall accrue for separate violations of this

Consent Order. The payment of stipulated civil administrative penalties shall not alter in any way Respondent's obligation to complete performance as required by this Consent Order. MassDEP reserves its right to elect to pursue alternative remedies and alternative civil and criminal penalties which may be available by reason of Respondent's failure to comply with the requirements of this Consent Order. In the event MassDEP collects alternative civil administrative penalties, Respondent shall not be required to pay stipulated civil administrative penalties pursuant to this Consent Order for the same violations.

Respondent reserves whatever rights it may have to contest MassDEP's determination that Respondent failed to comply with the Consent Order and/or to contest the accuracy of MassDEP's calculation of the amount of the stipulated civil administrative penalty. Upon exhaustion of such rights, if any, Respondent agrees to assent to the entry of a court judgment if such court judgment is necessary to execute a claim for stipulated penalties under this Consent Order.

24. Failure on the part of MassDEP to complain of any action or inaction on the part of Respondent shall not constitute a waiver by MassDEP of any of its rights under this Consent Order. Further, no waiver by MassDEP of any provision of this Consent Order shall be construed as a waiver of any other provision of this Consent Order.

25. Respondent agrees to provide MassDEP, and MassDEP's employees, representatives and contractors, access at all reasonable times to the public water system for purposes of conducting any activity related to its oversight of this Consent Order. Notwithstanding any provision of this Consent Order, MassDEP retains all of its access authorities and rights under applicable state and federal law.

[No Further Text Appears On This Page]

26. The undersigned certify that they are full authorized to enter into the terms and conditions of this Consent Order and to legally bind the party on whose behalf they are signing this Consent Order.

27. This Consent Order shall become effective on the date that it is executed by MassDEP.

**Consented To:
Town Of Hudson**

By: _____
Paul W. Blazer, Executive Assistant
78 Main Street
Hudson, MA 01749

Date: _____

Federal Employer Identification No.: _____

**Issued By:
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

By: _____
Lee Dillard Adams, Regional Director
Central Regional Office
627 Main Street
Worcester, Massachusetts 01608
Telephone (508) 792-7650

Date: _____

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 5, 2013
SUBJECT: Weston Aqueduct Supply Main 3: Design, Construction Administration and Resident Engineering Services
Fay, Spofford & Thorndike, LLC
Contract 6539

COMMITTEE: Water Policy & Oversight

 INFORMATION

VOTE


Rachel C. Madden, Director

Administration and Finance


Michael J. Hombrook

Chief Operating Officer

Jae R. Kim, P.E., Chief Engineer
Joseph R. Araujo, Program Manager
Preparer/Title

RECOMMENDATION:

To approve the recommendation of the Selection Committee to award Contract 6539, Weston Aqueduct Supply Main 3: Design, Construction Administration and Resident Engineering Services, to Fay, Spofford & Thorndike, LLC, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$15,482,625, for a contract term of 4,840 days from the Notice to Proceed.

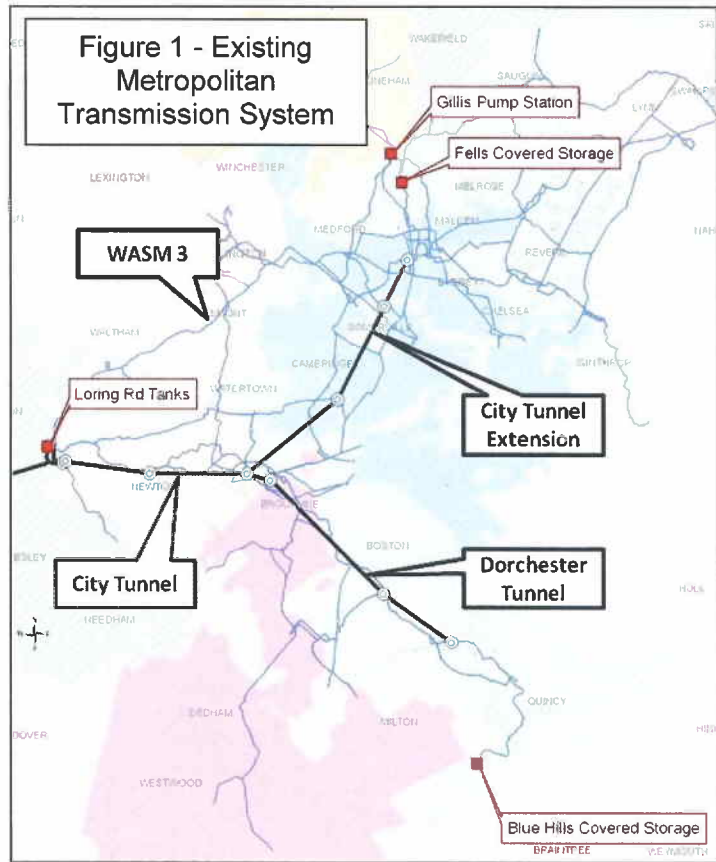
DISCUSSION:

The current metropolitan water distribution tunnel system, consisting of the City Tunnel, the City Tunnel Extension, and the Dorchester Tunnel, is reliant on surface connections and valves that require maintenance and repair. Many of these critical facilities are now more than 60 years old (see Figure 1 on the following page). MWRA's existing water transmission system east of Shaft 5 lacks redundancy to allow a shutdown of the metropolitan distribution tunnel facilities for inspections and repairs to be made, or to respond to emergency leaks or major breaks.

In the event of an emergency or planned repair of the City Tunnel or its connections, the Sudbury Aqueduct, with its water supply from the Sudbury/Framingham open reservoir system, would need to be brought online. Extensive use of the Chestnut Hill Emergency Pump Station and some open distribution system storage facilities, including Spot Pond and Chestnut Hill Reservoir, would also be required. The Sudbury Aqueduct and Chestnut Hill Reservoir were brought into emergency service during the May 1, 2010 water main break supplementing peak demand needs. If the metropolitan water distribution tunnels were to be closed today, supply to the north is limited by the

capacity of the existing Weston Aqueduct Supply Main 3 (WASM 3) pipeline requiring significant water use restrictions, and a "boil water" order would be placed in effect.

In July 2010, staff presented to the Board a proposed redundancy plan, which would allow shutdowns of the metropolitan tunnel system in the event of an emergency or for maintenance, while providing an uninterrupted potable water supply to all service areas. The plan included a southern component (Sudbury Aqueduct Pressurization and Connections) and a northern component (WASM 3 Replacement and Rehabilitation). Contract 6539 addresses the work required to implement the northern component of the proposed redundancy plan. A separate contract to address the southern component is currently in the preliminary design phase.



This contract will provide preliminary design, final design, construction administration, and resident engineering and inspection services for the replacement and rehabilitation of WASM 3. The project will replace 7.3 miles of the existing 56-inch and 60-inch-diameter steel pipe through Weston, Waltham and Belmont with a new 72-inch-diameter pipeline, and will rehabilitate the remaining 2.7 miles of the existing 56-inch and 60-inch steel water main through Arlington, Somerville and Medford. WASM 3 supplies water to 250,000 people in eight communities in the Northern High and Northern Extra High pressure zones, and provides emergency supply to additional communities further east in the Northern High distribution system. The pipeline was originally built in 1926 and 1927 and has had numerous leaks due to pitting corrosion. In addition, the lower portion of the pipeline is under capacity to support emergency needs of the Northern High system. The increased capacity with the 72-inch pipeline will provide emergency supply to 14 Northern High communities via the Gillis Pump Station. The attached Figure 2 shows the location of WASM 3 with respect to the communities it serves during normal and emergency scenarios.

This contract will encompass the design and construction services of multiple construction packages over a 13-year period in order to maintain consistency in the design and coordination of the work. This approach has been found to be beneficial in the past for large multi-phased projects such as the MetroWest Tunnel, the Hultman Aqueduct Interconnections, WASM 4 Rehabilitation, Spot Pond Supply Mains Rehabilitation, Southern Spine Distribution Improvements and WASM 1 & 2 Rehabilitation. Maintaining one designer throughout the entire project will allow efficiencies in the subsequent design and construction phases by refining documents for each contract based on lessons

learned, including design improvements and contract controls. MWRA will issue separate Notices to Proceed for Final Design phase and Construction Administration and Resident Engineering/Inspection services phase for each of the three construction packages.

The significant overall length of the project is driven by the fact that during construction, WASM 3 will need to be taken out of service sequentially, in three separate sections, to ensure an uninterrupted water supply to all of the communities it serves, and to prevent low system pressures. A variety of temporary interconnections and other system improvements, including a new 36-inch pipeline in Waltham that is currently under design, will be utilized to replace the function of each WASM 3 section that is taken out of service for replacement or rehabilitation. Each construction contract will address the work required for the particular section of WASM 3 that is taken out of service. One contract will replace the existing WASM 3 line through Weston and Waltham. A second contract will replace WASM 3 through Belmont, and the third contract will rehabilitate WASM 3 through Arlington, Somerville and Medford, as shown in attached map. Construction is scheduled to start in 2018 and Substantial Completion of all work is expected in 2025.

Procurement Process

A two-step procurement process was utilized for this project. A Request for Qualifications (RFQ) was issued; followed by a Request for Proposals (RFP) issued only to those firms that were pre-qualified and short-listed through the RFQ phase.

A Selection Committee consisting of five voting members and three non-voting members was formed to score and rank the proposals. Recognizing the importance of this project, the appointed voting members of the Selection Committee consisted of senior MWRA staff, who understand the critical needs of the water transmission system.

The RFQ required firms to submit information on: Qualifications/Key Personnel (40 points), Past Performance on Authority Projects (20 points); Similar Experience/Past Performance on Non-Authority Projects (25 points); Capacity (15 points). On January 16, 2013, Qualifications Statements were received from four proposers: Chester Engineers, Inc. (Chester), Dewberry Engineers, Inc. (Dewberry), Fay, Spofford & Thorndike, LLC (FS&T), and International Engineering Network, LLC/Shaw (IEN/Shaw). The Selection Committee evaluated the Qualifications Statements and voted to short-list two teams. The two short-listed teams were: Dewberry and FS&T. Chester was not shortlisted because the Selection Committee felt that the firm lacked key personnel with qualifications and experience designing large diameter pipelines and also lacked experience with Massachusetts bidding and environmental permitting laws. IEN/Shaw was not short-listed because the Selection Committee felt that the firm lacked large pipeline design and permitting experience in North America and also lacked references.

The RFP was issued to Dewberry and FS&T on February 25, 2013 and included the following criteria: Cost (30 points), Key Personnel (30 points), Technical Approach (25 points), Organization and Management Approach (10 points), and MBE/WBE Participation (5 points) for a total maximum score of 100 points.

On March 29, 2013, the two shortlisted teams submitted Proposals. The following is a summary of the costs and level of effort for each consultant team:

Proposer	Proposed Cost	Level of Effort (Total Hours)
FS&T	\$15,482,625	99,849
Dewberry	\$14,196,045	100,492

The Selection Committee met to discuss and rank the Proposals. All of the scores from the Selection Committee members were totaled to determine the first-ranked team. The following is a summary of scores and rankings for each team:

Proposer	Total Final Score	Order of Preference* Points	Ranking
FS&T	425	5	1
Dewberry	397	10	2

*Order of Preference represents the sum of the individual Selection Committee member's rankings where the firm receiving the highest number of points is assigned a "1," the firm receiving the next highest number of points is assigned a "2," and so on.

The Selection Committee unanimously voted to award the project to FS&T. FS&T will be supported by several other firms, including CDM Smith and Green International Affiliates. The Selection Committee members were in agreement that FS&T and its team members will provide well-qualified personnel who have extensive and relevant experience in the analysis of alternatives, the operational requirements of MWRA's complex water transmission system, the planning and design of large-diameter pipelines, and effective community coordination and Massachusetts Environmental Protection Act (MEPA) approval. FS&T prepared MWRA's Water Transmission Redundancy Plan in 2011 and the firm fully understands the project requirements and intricacies. Selection Committee members were in unanimous agreement that the critical importance of this project – providing redundancy for approximately half of the Metropolitan Boston area's water demands, and requiring significant cost recommendations in the consideration and selection of the alternatives that could potentially include short sections of micro-tunneling through congested downtown areas – appropriately warrants the qualified and experienced staff, technical approach, and higher cost proposed by FS&T.

Although FS&T's total proposed cost was 9% higher than the cost proposed by Dewberry, most of that cost difference is attributed to expenses that will be incurred to prepare topographical maps for the pipeline route, to accurately locate existing utilities along the route, and to acquire information to support the MEPA approval process. The additional up-front expenditure proposed by FS&T for identifying and mapping utilities is expected to yield clearer design documents and reduce construction change orders, which will save significant time and money during construction. The total direct labor costs proposed by both FS&T (\$4,186,498) and Dewberry (\$4,014,775) are relatively similar but Dewberry's distribution of those costs between the various tasks was not consistent with the scope.

The Selection Committee was in agreement that FS&T's proposal represented a better understanding of the project's complexities and, thus, represented a better value for MWRA. FS&T and its team members have provided consulting services on a number of important and complex MWRA projects, including the MetroWest Tunnel, the Hultman Aqueduct Rehabilitation, the rehabilitation of WASMs 1, 2, and 4, and the Carroll Water Treatment Plant. FS&T provided a detailed technical approach, which would include developing a plan to ensure uninterrupted service to communities while the project is under construction. The Selection Committee felt that this was one key example of how the firm demonstrated its understanding of the complexities of this project. Staff believe that the qualifications and expertise proposed by FS&T will result in a more cost-effective design and better project management, resulting in overall savings to MWRA over the long term.

The Selection Committee concluded that the Dewberry team, although capable of performing the work, could not match the depth and experience offered by FS&T and its team members, and the firm was not as strong, or as qualified as FS&T to complete this very important and complex project.

Based on the ranking of the Selection Committee, staff recommend the award of this contract to Fay, Spofford & Thorndike, LLC for the proposed amount of \$15,482,625.

BUDGET/FISCAL IMPACT:

The FY13 CIP includes a budget of \$31,524,268 for Contract 6539. The recommended contract amount is \$15,482,625 based on FS&T bid. The budgeted amount was based on three separate design projects assuming Design, Contract Administration, and Resident Inspection at 20% of the estimated construction cost. As it has been the case in the past few years, this bid also reflects current favorable market conditions. Also, combining the design packages resulted in an economy of scale for overall design services, as well as more efficient turn-around of bid documents.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.18% and 5.77%, respectively. FS&T included 23% MBE and 7.57% WBE participation.

ATTACHMENT:

Map - WASM 3 Service Area

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: Gillis Pump Station Short-Term Improvements
Bay State Regional Contractors, Inc.
Contract 7260



COMMITTEE: Water Policy & Oversight

 INFORMATION

 X VOTE



Rachel C. Madden, Director
Administration and Finance

Jae R. Kim, P.E., Chief Engineer
Jorge Silva, Sr. Staff Engr., Electrical
Preparer/Title

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract 7260, Gillis Pump Station Short-Term Improvements, to the lowest responsible and eligible bidder, Bay State Regional Contractors, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$1,858,000, with a contract term of 300 calendar days from the Notice to Proceed.

DISCUSSION:

MWRA's Northern Intermediate High service area provides water to the communities of Reading, Stoneham, Wakefield, Wilmington, Winchester, and Woburn through a single 48-inch pipeline (Section 89), which is fed by the Gillis Pump Station at Spot Pond in Stoneham (pictured on the right and also shown on Attachment A).

The Gillis Pump Station was built in 1898 and was originally a steam driven pump station but was later converted to a diesel-driven pump station. The last major renovation at the station occurred in 1995 when the diesel pumps were converted to electrically driven pumps.



The Gillis Pump Station boosts water pressure from MWRA's High service area to supply average day demands of 9.4 mgd (million gallons per day) to the Northern Intermediate High service area and 2.8 mgd to the High System Fells Covered Storage service area. The pump station is also designed to pump up to 60 mgd of untreated water out of the Spot Pond Reservoir in an emergency to serve the Northern Intermediate and Northern High service areas.

Six of the existing eight pumps in the station are constant-speed pumps and the remaining two are two-speed pumps. Five of the eight pumps in the station are dedicated to serving the Bear Hill Storage Tank in Stoneham; three of the pumps are dedicated to the Fells Reservoir Storage Tank. The purpose of this project is to provide a range of constant-speed, dual-speed, and variable-frequency drive pumps to each of the service area storage tanks.

These improvements will increase water supply reliability by providing the ability to operate the pump station under emergency conditions if a water storage tank needs to be removed from service due to a water main break or other event. The improvements will also result in more efficient operation and higher energy efficiency. NSTAR has pre-approved an energy-efficiency incentive rebate in the amount of \$173,084 upon completion of this project. The standby pumps will remain constant-speed and dual-speed to reduce maintenance requirements while still providing sufficient emergency pumping needs.

Among the items of work included in this contract are:

- the replacement of one of the three existing 17-mgd, constant-speed pumps (pictured below) with a smaller, more energy-efficient 2.8-mgd to 7.1-mgd pump with a variable frequency drive, which is sized for normal operating conditions. The new pump and variable frequency drive will provide more reliable water service as mentioned above and will reduce energy consumption during normal operations, while the remaining two constant-speed 17-mgd pumps will continue to be available for emergency use;
- the addition of two more variable frequency drives on two existing pumps (see discharge lines 5 and 6 in the picture on the following page); and
- the addition of a hydraulic pressure relief system (one valve per pump) to further protect the water distribution system from water hammer resulting from a sudden and unanticipated power failure. (Water hammer is a pressure surge or wave caused when water in motion is forced to stop or change direction suddenly, potentially causing damage to pipes or equipment further along the pipeline.)



Pump 1 (constant-speed) motor to be replaced with new pump and VFD.



Discharge piping for pumps 4 through 7, left to right (VFDs will be added to Pumps 5 and 6)

Procurement Process

Contract 7260 was advertised and competitively bid in accordance with Chapter 149 of Massachusetts General Laws. General bids were received and opened on May 30, 2013; the results are presented on the following page.

<u>Bidders</u>	<u>Bid Amount</u>
<i>Engineer's Estimate</i>	<i>\$1,773,553</i>
Bay State Regional Contractors Inc.	\$1,858,000
Delta Control DBA Harding & Smith	\$2,089,000
Walsh Construction Co	\$2,108,031
William Collins Co.	\$2,115,000
RJV Construction Corp.	\$2,168,031
R. H. White Construction	\$2,170,472
MECo Environmental	\$2,198,500
Albanese D&S Inc.	\$2,323,000
WES Construction Corp.	\$2,563,831
Lydon Co. LLC	\$2,769,495

The Design Engineer, Dewberry Engineers, Inc., and MWRA staff reviewed the bids and qualifications of Bay State Regional Contractors, Inc. Bay State Regional Contractors' bid price is \$84,447 or 4.8% higher than the Engineer's Estimate. The bid price was discussed with Bay State Regional Contractors, Inc. and the firm demonstrated a complete understanding of the work

and confirmed that its bid includes the payment of prevailing wages. The Contractor indicated that it will perform all of the specified contract work with the exception of the filed sub-bid categories of HVAC and electrical. Staff believe that the Contractor carried an appropriate amount in its bid for materials and equipment leaving the general contractor's work as the competitive price component. The Contractor stated that it submitted a very competitive bid price as a business decision to win the job. Having reviewed the low bid and after discussing it with the Contractor, staff have determined that the bid price is reasonable, complete, and includes the payment of prevailing wage rates, as required.

References were checked and found to be favorable. Bay State Regional Contractors, Inc. has recently performed work on several drinking water facilities for local municipalities in Massachusetts, including one MWRA-served community. The Contractor has offices in Yarmouthport and Auburn, Massachusetts. Staff are of the opinion that Bay State Regional Contractors, Inc. possesses the skill, ability, and integrity necessary to perform the work under this contract and is qualified to do so. Therefore, staff recommend the award of Contract 7260 to Bay State Regional Contractors, Inc. as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The FY13 CIP includes funding of \$3,770,016 for Contract 7260. The cost estimate was updated in the FY14 Draft Final CIP to \$2,019,900, mostly due to updated cost estimates based on the completed design. Upon completion of this project, MWRA will receive a pre-approved energy efficiency incentive rebate from NSTAR in the amount of \$173,084.

MBE/WBE PARTICIPATION:

The Affirmative Action and Compliance Unit has determined that there are no MBE or WBE subcontracting requirements for this project as there are limited subcontracting opportunities.

ATTACHMENT A - Gillis Pump Station Locus Map

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 26, 2013
SUBJECT: Three-Year Contract to Provide Aquatic Invasive Macrophyte Control at the Wachusett Reservoir
Aquatic Control Technology, Inc.
Bid WRA-3434, Amendment 1

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

Jae Kim, P.E., Chief Engineer
John Gregoire, Program Manager, Reservoir Operations
Michele S. Gillen, Deputy Director, Administration and Finance
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Purchase Order Contract WRA-3434, a three-year contract to provide aquatic invasive macrophyte control at the Wachusett Reservoir, with Aquatic Control Technology, Inc., for an amount not to exceed \$36,290, increasing the contract amount from \$83,565 to \$119,855, and extending the contract term by four months, from July 1, 2015 to October 31, 2015.

BACKGROUND:

The Wachusett Reservoir is a major component of the drinking water supply system for greater Boston and the MetroWest communities. In August 2001, a pioneering colony of eurasian water-milfoil (*myriophyllum spicatum*) was observed for the first time in Oakdale Basin, one of three basins in the upper reaches of the reservoir system (see map on the following page). Eurasian watermilfoil is an exotic, invasive species of macrophyte known to aggressively displace native vegetation and grow to nuisance densities with associated impairments to water quality. Prior to 2001, this plant was restricted to the uppermost component of the reservoir system, Stillwater Basin, where its distribution has been monitored since 1999. The density of invasive plant infestation of Stillwater Basin is heavy and, at the time of discovery, aside from dredging, there was no viable alternative to eradicate the plants.

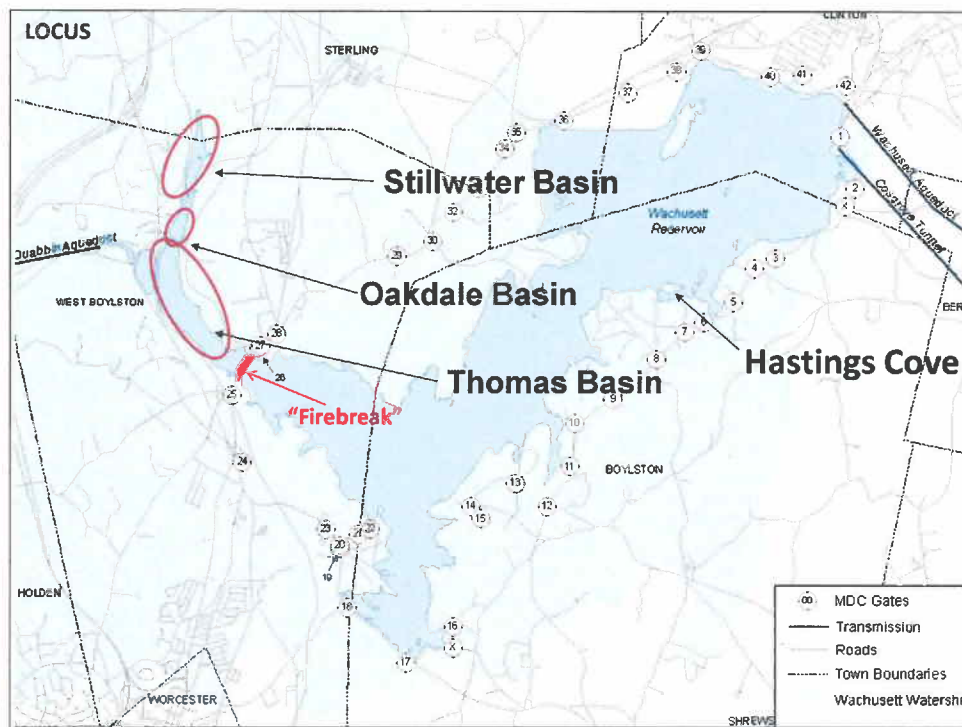
A decision was made to keep the plant in check in this basin by seasonally removing plants immediately downstream, combined with other control methods such as benthic barriers to smother plants, and the seasonal deployment of a series of floating fragment barriers to screen plant fragments.

In May 2012, the Executive Director, under delegated authority, approved the award of a three-year purchase order contract for aquatic macrophyte control at Wachusett Reservoir (under Bid WRA-3434) to Aquatic Control Technologies. MWRA has contracted these services since 2002. The contract requires two seasonal efforts of diver hand-pulling of invasive plants from the Oakdale and Thomas Basins – an initial harvesting operation and a late-season harvesting operation to address any re-growth. The contract also requires pre-season surveys to guide upcoming work.

The success of this approach since it began in 2002 was measured by the annual removal of invasive plants from the downstream basins, and the fact that these plants were kept within the basin system and did not colonize the main body of the reservoir.

However, in summer 2012, pioneering eurasian watermilfoil plants were discovered in (and removed from) the main basin of the reservoir, which led staff to revisit the options for addressing the source of the plants in the heavily infested, upstream Stillwater Basin.

One of those options involved a new method of invasive plants control, which recently has come into widespread use – Diver Assisted Suction Harvesting (DASH). Under a separate competitively bid procurement, the Board approved the award of a contract to provide a full seasonal effort with three DASH platforms to remove all the invasive plants from the Stillwater Basin. Contract WRA-3590 was awarded to Aqualogic, Inc. on March 13, 2013, in the bid amount of \$397,560. This work began on May 15, 2013 and will continue through October 15, 2013. Staff will evaluate the success of that effort and determine next steps as this program continues.



DISCUSSION:

This Amendment

Staff have identified three specific additional invasive control tasks that they are recommending be added to Aquatic Control Technologies' contract under Amendment 1 to Contract WRA-3434.

At Wachusett Reservoir, pre-season surveys prior to control work have identified the presence of a 1/3-acre patch of variable leaf milfoil in the northern basin of Wachusett Reservoir. This dense and well-established patch is located in the westernmost corner of Hastings Cove (shown on the previous map and pictured more closely on the right). This patch of milfoil must be removed to prevent its spread to other shallow areas in the northern basin.



Staff are of the opinion that the most effective approach to removing all of this isolated plant is utilizing the new DASH method described above, which has shown early promise in the Stillwater Basin. Aquatic Control Technologies, Inc. has experience in utilizing the DASH method and staff recommend that the firm perform this additional work. The total cost for this effort is \$3,920.

The second task is associated with underwater mapping utilizing a new technology ("ciBioBase") at Stillwater Basin in Wachusett Reservoir. Staff are of the opinion that this work will provide MWRA with detailed maps of the existing densities of plant coverage and biomass in the Basin relative to the current DASH contractor's removal efforts (Aqualogic, Inc. under WRA-3590). The cost for this task is \$1,500.

Because of time sensitivity, staff are recommending the inclusion of a third task into this contract under Amendment 1. This task is for the hand-harvesting treatment and control of a highly invasive plant known as "brittle naiad" (*najas minor*) at the Blue Hills Reservoir (shown in the picture on the right).

Staff are recommending the inclusion of this task under an existing invasives control contract because it is the fastest and most efficient way to



address this particular invasive plant, which has been found to be out-competing the plants that were added as part of the site restoration requirements of the Blue Hills Covered Storage project. In contrast to the Wachusett sites that are now utilizing the DASH method, this invasive plant is widely scattered in small patches across a four-acre area and as such, is better addressed with diver hand-pulling to allow for selective removal of the coverage while allowing the native plants to thrive, and ultimately for MWRA to meet the project's site restoration requirements.

If approved, beginning in July 2013, this task will occur during the next three summers and will involve both an early-season diver hand-harvesting and a late summer harvesting to address any re-growth.

The cost for this task is \$30,870. Staff are of the opinion that Aquatic Control Technologies, Inc. is very qualified and has the capacity to perform this additional work.

The total recommended amount of Amendment 1 for all three tasks is \$36,290 with no increase in contract term.

BUDGET/FISCAL IMPACT:

Field Operations' FY14 Current Expense Budget includes sufficient funding for Amendment 1.

MBE/WBE PARTICIPATION:

Aquatic Control Technologies, Inc. is not a certified Minority- or Women-owned business.



MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Frederick A. Laskey
Executive Director

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PERSONNEL & COMPENSATION COMMITTEE MEETING

Chair:
Vice-Chair: K. Cotter
Committee Members:
J. Barrera
J. Carroll
J. Foti
A. Pappastergion
J. Walsh

to be held on

Wednesday, June 26, 2013

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately following Water Comm.

A. Approvals

1. PCR Amendments – June 2013
2. Appointment of Project Manager, PIMS, Toxic Reduction and Control
3. Appointment of Senior Program Manager, OCC

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Personnel and Compensation Committee

June 5, 2013

A meeting of the Personnel and Compensation Committee was held on June 5, 2013 at the Authority headquarters in Charlestown. Vice-Chairman Cotter presided. Present from the Board were Messrs. Barrera, Carroll, Flanagan, Foti, Pappastergion, Swett, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Bob Donnelly, and Bonnie Hale. The meeting was called to order at 12:40 p.m.

Approvals

***PCR Amendments – June 2013**

The Committee recommended approval of amendments to the Position Control Register (ref. agenda item A.1).

The meeting adjourned at 12:42 p.m.

* Approved as recommended at June 5, 2013 Board of Directors meeting.

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: June PCR Amendments



COMMITTEE: Personnel and Compensation

INFORMATION

X VOTE


Robert Donnelly, Director of Human Resources
Joan C. Carroll, Manager Compensation
Preparer/Title


Rachel C. Madden
Director, Administration & Finance

RECOMMENDATION:

To approve the amendments to the Position Control Register (PCR) included in the attached chart¹.

DISCUSSION:

The PCR amendments included in this package reflect organizational changes aimed at improving the cost-effectiveness, structural soundness and staffing patterns within the Administration and Finance Division.

These amendments include:

1. Title change to a vacant position (Sr. Systems Manager to Systems Administrator III) in the MIS Department, A & F Division to address current information technology needs.
2. Title and grade change for a filled position (Messenger Courier to Mail Services Coordinator) in the Facility Maintenance Department, A & F Division, to reflect increased responsibilities.

One amendment requires approval by the Personnel and Compensation Committee. The second amendment requires Board approval after review by the Personnel and Compensation Committee.

¹ The Position Control Register lists all regular positions in this fiscal year's Current Expense Budget. Any changes to positions during the year are proposed as amendments to the PCR. The Personnel and Compensation Committee of the Board of Directors must approve all PCR amendments. In addition, any amendments resulting in an upgrade of a position by more than one grade level or increasing a position's annual cost by \$10,000 or more must be approved by the Board of Directors after review by the Personnel and Compensation Committee.

BUDGET/FISCAL IMPACT:

These PCR amendments will result in an annual salary cost of approximately \$4,996. Staff will ensure that the cost increases associated with these PCR amendments will not result in spending over the approved FY14 Wages and Salaries budget.

ATTACHMENTS:

New/Old Job Descriptions

**MASSACHUSETTS WATER RESOURCES AUTHORITY
POSITION CONTROL REGISTER AMENDMENTS
FISCAL YEAR 2013**

PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - June 26, 2013

Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary	Estimated Annual \$ Impact	Reason For Amendment
P31	Administration & Finance MIS 8610077	V	T	Sr. Systems Manager	6	12	Systems Administrator III	6	12	N/A	N/A - N/A	\$0 - \$0	To meet the information technology needs of the department
PERSONNEL & COMP COMMITTEE TOTAL =					1		TOTAL					\$0 - \$0	

PCR AMENDMENTS REQUIRING BOARD APPROVAL - June 26, 2013

Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary	Estimated Annual \$ Impact	Reason For Amendment
B27	Administration & Finance Facilities Maintenance 8740004	F	T,G	Messenger Courier	1	10	Mail Services Coordinator	1	17	\$38,934	\$43,930 - \$43,930	\$4,996 - \$4,996	To meet staffing needs in CNY facility
BOARD TOTAL =					1		SUBTOTAL:					\$4,996 - \$4,996	
GRAND TOTAL =					2		TOTAL ESTIMATED COSTS:					\$4,996 - \$4,996	

Legend:
V = Vacant position, F = Filled position
T = Title change, L = Location change; transfer to another Cost Center, G = Grade Change, SA= Salary Adjustment, E = Elimination.



MWRA
POSITION DESCRIPTION

POSITION: Senior Systems Manager

PCR#:

DEPARTMENT: MIS

DIVISION: Administration & Finance

BASIC PURPOSE:

Senior systems manager team leader for assigned to MWRA network sites. Provides technical expertise for the installation, operation, upgrading and use of Microsoft operating systems including NT and Windows 2000. Supervises the operation, support, and maintenance of assigned systems and network devices.

SUPERVISION RECEIVED:

Works under the general supervision of the Network & Systems Manager and/or Technical Operations Manager as responsibilities dictate.

SUPERVISION EXERCISED:

Exercises supervision of system managers, assigned technical support analysts, project and contract resources.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Provides MWRA Microsoft network/server operating system and network device technical leadership and support.
- Performs system management functions for assigned NT/2000 systems and network devices.
- Develops and implements standards and procedures for assigned NT/2000 systems and network devices.
- Manages assigned staff which may include systems supervisors, technical support analysts, IS Project leaders, etc.

- Develops plans and leads implementation teams for NT/2000 and network device improvements and upgrades, according to established interoperability and communications standards.
- Provides system management for MS-Exchange as assigned.
- Develop custom tools and implement solutions to facilitate administration of large NT/2000, network utilities and network devices.
- Identifies & troubleshoots NT/2000 as well as network problems, to ensure stable and healthy systems and network.
- Supports routing technology in order to efficiently use the existing network bandwidth and provide redundancy.
- Analyzes, tests and migrates applications to new servers with programming staff.
- Documents operating procedures to conform to MWRA standards.
- Optimizes available resources through management of shared resources, monitoring of system performance and reviewing system utilization.
- Participates with appropriate applications support groups and end-user community to provide and shape the assigned resources to meet the business needs.
- Leads vendor contact for certain NT/2000 products and network device support including frequent contact with a variety of vendors for new product evaluations.
- Coordinates with peers on systems and network device performance.
- Trains and supports Compute Center staff on appropriate NT/2000 products and network device functions.
- Participates in occasional off-site travel, extended hours and weekend work.
- Shares in on-call and emergency response tasks.

SECONDARY DUTIES:

Perform related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in computer science or related field. Advanced degree preferred.
- (B) Five (5) to seven (7) years experience in network support; two (2) years experience in a supervisory or project management capacity.
- (C) Any equivalent combination of education and/or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Technical knowledge of and demonstrated experience with a large network, NT network Operating System, routing, LANs, WANs, TCP/IP Protocol, NT security, Registry Editor, NT Profiles, Domain models and trusts, IIS, Intranet web server, and PCs.
- (B) Proficiency with the following required: Office 98/2000, WINS, Express 2000, Exchange security, cross platform migration, browsers, firewalls, and e-mail systems.
- (C) Experience with Nortel network devices, Intel's LANdesk, Microsoft's Performance Monitor, Network Monitor, Netshield and Sniffer network analyzer preferred.
- (D) Ability to diagnose effectively and interpret problems on a variety of NT and network devices.
- (E) Excellent technical project management, interpersonal, written and oral communication skills are required.

SPECIAL REQUIREMENTS:

MCSE.

TOOLS AND EQUIPMENT USED:

Mini-computer consoles, tape and disk storage systems, various network and peripheral devices and office equipment as normally associated with the use of telephone, personal computers including word processing and other software, copy and fax machines.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform essential functions.

While performing the duties of this job, the employee works is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee frequently is required to sit and talk or hear. The employee is occasionally required to walk; stand; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision and color vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee works in a computer center, network closets and occasionally works in various field settings. The employee regularly works near moving mechanical parts, and is occasionally exposed to risk of vibration and electromagnetic radiation. The employee is occasionally exposed to risk of electrical shock. The Computer Center also uses automatically discharging chemicals to suppress fire.

The noise level in the work environment is a moderately loud office setting.

June 2001



MWRA
POSITION DESCRIPTION

POSITION: Systems Administrator III

PCR#:

DEPARTMENT: MIS

DIVISION: Administration & Finance

BASIC PURPOSE:

Manages and integrates the organization's networks, servers and storage in a multiple platform and operating systems environment. Incorporates long-term system, operations and administration requirements in information systems planning documents. Researches vendor products and recommends purchases, development or enhancements of hardware/software that will improve the reliability and performance of system.

SUPERVISION RECEIVED:

Works under the general supervision of the Network and Systems Manager. On specific IT projects may be supervised by a team lead or project manager.

SUPERVISION EXERCISED:

Exercises supervision of assigned vendor resources and IT Project Team.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- System Administration:
 - Servers
 - Supports and performs all System Management functions for current operating systems supporting MWRA data processing environments.
 - Development of scripts to perform administrative tasks.
 - Storage
 - Responsible for support of current storage and backup systems
 - Develops and implements backup scripts and jobs for all MWRA systems
 - Conducts backups for current operating environments. Maintains onsite backup records and logs. Restores files and file systems as needed.
 - Networks
 - Provides technical support for MWRA authentication services in a heterogynous

- enterprise-wide network environment.
 - Provides proactive management of variety of local area network (LAN), wide area network (WAN) and wireless network devices.
 - Provides technical support for MWRA voice, video and data traffic
- Applications:
 - Provides application administration and technical support for MWRA's email and mobile device systems.
- Participates and prepares for Disaster Recovery planning and test activities.
- Incident and Problem Management
 - Respond to events, and reported outages to correct and resolve issues
 - Investigate root cause and determine systemic solutions for identified environment problems
- System Documentation:
 - Documents operating procedures to conform to MWRA standards
 - Develops capacity management reports for capacity planning efforts
 - Documents system configurations for networks, servers and storage environments
- System Performance Monitoring, Management and Design
 - Keeps abreast of the latest technologies and solutions, and provides expertise to the MIS Management Team in evaluating and selecting appropriate solutions.
 - Monitors networks, servers and storage for event management and coloration

OTHER DUTIES:

- Shares in on-call rotation and emergency response tasks as needed.
- Participates in occasional off-site travel, extended hours and weekend work.
- Perform related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience

- (A) A four (4) year college program in management science, engineering management, computer science or related fields; and
- (B) Five (5) to seven (7) years experience, in network and systems management, or;
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficiency with Backup technology, and entire range of functionality and configuration. Experience with one or more of Backup products, such as Data Protector, Backupexec, Netbackup and or Networker, as well as SDLT and LTO tape libraries.

- (B) Experience with Network Storage, SAN environment, HP Command View interface, virtualized environment and vSphere ESX/ESXi.
- (C) Ability to troubleshoot problems utilizing the OSI seven-layer model. Technical knowledge and experience with large networks, network switching and routing protocols, LANs, WANs, VoIP ,TCP/IP Protocol, and Cisco Networking products.
- (D) In-depth knowledge of MS Windows OS, Active Directory including Group Policy, Kerberos, and LDAP. Extensive experience with Exchange 2010, troubleshooting, management, and automation. Experience integrating BlackBerry Enterprise Server and ActiveSync with Exchange 2010 and scripting knowledge of PowerShell is desired.
- (E) Knowledge of Unix operating systems, VI editor, and shell scripts. HP-UX Itanium experience is preferred.
- (F) Understanding of Building Automation and Control systems and associated set point control, HVAC, Fire Alarm, and UPS systems as applied to the Environmental Alarm System.
- (G) Excellent technical project management, interpersonal, written and oral communication skills are required.

PREFERRED CREDENTIALS

Information Technology Infrastructure Library (ITIL) Foundation Certification, Microsoft Certified Solutions Engineer (MCSE), Cisco Certified Network Engineer (CCNE), VMware Data Center Virtualization Certifications: VCAP – Data Center Administration and VCAP – Data Center Design, and one of the current storage infrastructure certification (e.g. HP, NetApp or EMC).

TOOLS AND EQUIPMENT USED:

Mini-computer consoles, tape and disk storage systems, various network and peripheral devices and office equipment as normally associated with the use of telephone, personal computers including word processing and other software, copy and fax machines.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform essential functions.

While performing the duties of this job, the employee works is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The

employee frequently is required to sit and talk or hear. The employee is occasionally required to walk; stand; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision and color vision, and the ability to adjust focus.

WORK ENVIRONMENT:

The work characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee works in a computer center, network closets and occasionally works in various field settings. The employee regularly works near moving mechanical parts, and is occasionally exposed to risk of vibration and electromagnetic radiation. The employee is occasionally exposed to risk of electrical shock. The Computer Center also uses automatically discharging chemicals to suppress fire.

The noise level in the work environment is a moderately loud office setting.

June 2012



MWRA
POSITION DESCRIPTION

POSITION: Messenger/Courier

PCR#:

DIVISION: Support Services

DEPARTMENT: Central Support

BASIC PURPOSE:

Assists the Supervisor of Transport/Courier as assigned.

SUPERVISION RECEIVED:

Works under the general supervision of the Supervisor of Transport/Courier.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Operates shuttle services on a regular time and route schedule using various MWRA vehicles.
- Picks up and delivers packages and MWRA employees to various locations in the Metropolitan Boston area and Charlestown Navy Yard.
- Maintains vehicles such as cleaning inside and outside, checking all fluids, checking the pressure and making other small repairs if requested by the Supervisor.
- Cross-trains as backup and may fill in for one or more of the following: Reproduction Clerk, Receptionist, Secretary, Inventory Control Coordinator or Mail Clerk.
- Provides some job orientation to employees in like positions.
- Weighs mail and parcels to determine appropriate charges, prepares mail, and parcels for pickup by vendors.

- Separates and sorts all incoming US first class mail, parcels and interoffice mail on an established schedule and distributes in proper mail slots. Accepts, records and notifies recipients of all incoming parcels.
- Prepares and maintains all tracking logs and provides supervisor with monthly statistics and reports.
- Researches and appropriately dispatches all incorrectly addressed mail and parcels.
- Assists and consults with staff in preparing special mailings.
- Ships and receives procurement bids and other important documents.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Basic reading, writing, mathematical, oral communication skills as normally attained through a high school education; or
- (B) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Familiarity with courier and delivery services function including knowledge of the metropolitan Boston area.
- (B) Ability to follow written and oral instruction and work independently.
- (C) Skill in the operation of the listed tools and equipment.
- (D) Good physical condition with strength and ability to facilitate the handling of bulky and/or heavy mail containers and packages.

SPECIAL REQUIREMENTS:

A valid Massachusetts Commercial License (CDL) Class B with endorsements for air brakes or ability to obtain within 6 months of appointment.

TOOLS AND EQUIPMENT USED:

Motor vehicle, mobile and vehicle radios, handcarts, power and hand tools.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee is frequently required to stoop, kneel, crouch or crawl. The employee is occasionally required to stand, walk, talk or hear, sit, climb or balance.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 100 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee regularly works near moving parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.

The noise level in the work environment is very loud in field settings and moderately loud at other work locations.

April 2006



MWRA
POSITION DESCRIPTION

POSITION: Mail Services Coordinator

PCR#:

DIVISION: Administration & Finance

DEPARTMENT: Facilities Management

BASIC PURPOSE:

Manages the MWRA Navy Yard Motor Pool and Mailroom, and assists with dispatching responsibilities and administrative recordkeeping.

SUPERVISION RECEIVED:

Works under the general supervision of the Supervisor, Transport / Courier /Mail

SUPERVISION EXERCISED:

Assists in supervising Messenger/Couriers assigned to the Navy Yard Facility.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Provides vehicle or other transportation to staff as requested. Makes schedule changes as necessary to meet changing priorities and emergency needs.
- Maintains daily, weekly, and monthly vehicle usage tracking database and provides required reports.
- Works with vehicle maintenance to ensure all preventive maintenance requirements are met and emergency maintenance is reported and addressed in a timely and efficient manner.
- Maintains vehicles in a safe, clean, reliable condition. Checks vehicle's fuel, fluids, pressures and lights daily.

- Dispatches drivers and vehicles for delivery and pickup of packages and passengers as requested.
- Operates shuttle services on a regular time and route schedule using various MWRA vehicles.
- Picks up and delivers packages and MWRA employees to various locations in the Metropolitan Boston area and Charlestown Navy Yard.
- Picks up mail from the Charlestown Post Office and drops off mail at the end of each day.
- Processes all outgoing mail and package deliveries. Sorts and distributes all incoming mail.
- Maintains postage meter and other mail room equipment.
- Weighs mail and parcels to determine appropriate charges, prepares mail, and parcels for pickup by vendors.
- Separates and sorts all incoming US first class mail, parcels and interoffice mail on an established schedule and distributes in proper mail slots. Accepts, records and notifies recipients of all incoming parcels.
- Assists and consults with staff in preparing special mailings.
- Ships and receives procurement bids and other important documents. Notifies Procurement upon arrival of bid documents.
- Cross-trains as backup and may fill in for one or more of the following: Receptionist, Secretary and Messenger/ Courier.
- Provides some job orientation to employees in like positions.
- Prepares and maintains all tracking logs and provides supervisor with monthly statistics and reports.
- Researches and appropriately dispatches all incorrectly addressed mail and parcels.

SECONDARY DUTIES:

- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Basic reading, writing, mathematical and oral communication skills as normally acquired through a high school education or the equivalent; and
- (B) Excellent customer service skills as demonstrated by (2) to (3) years experience in a service position; and
- (C) Familiarity with courier and delivery services function including knowledge of the metropolitan Boston area as acquired through one (1) to three (3) years of related experience; or
- (D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of computers as obtained through high school or post high school education or experience.
- (B) Ability to be flexible and respond quickly to changes in customer needs.
- (C) Ability to follow written and oral instruction and work independently
- (D) Skill in the operation of the listed tools and equipment.

SPECIAL REQUIREMENTS:

Valid Massachusetts Commercial Drivers License (CDL) Class B with endorsements for air brakes.

TOOLS AND EQUIPMENT USED:

Motor vehicle, mobile and vehicle radios, handcarts, power and hand tools. Office machines as normally associated with the use of telephone, personal computer, including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee is frequently required to stoop, kneel, crouch or crawl. The employee is occasionally required to stand, walk, talk or hear, sit, climb or balance.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 100 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee regularly works near moving parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.

The noise level in the work environment is very loud in field settings and moderately loud at other work locations.

June 2013

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 26, 2013
SUBJECT: Appointment of Project Manager, PIMS, Toxic Reduction and Control



COMMITTEE: Personnel and Compensation

 INFORMATION
 X VOTE

Richard P. Trubiano, Deputy Chief Operating Officer
Carolyn M. Fiore, Director, Toxic Reduction and Control
Preparer/Title



Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Lori Paradice to the position of Project Manager, PIMS, in the Toxic Reduction and Control Department (Unit 9, Grade 25) at the recommended salary of \$90,752.09, to be effective June 29, 2013.

DISCUSSION:

The position of Project Manager, PIMS (pretreatment information management system), was created through a Position Control Register amendment approved by the Board on March 13, 2013. This position is responsible for managing all of the day-to-day projects and tasks related to information management of MWRA's EPA-approved pretreatment program.

The Project Manager, PIMS duties include: representing the TRAC Department's interests in ongoing and future development of pretreatment information systems and their associated applications; developing reports for the department and Senior Management from PIMS and the laboratory information management system (LIMS) databases; developing and implementing a PIMS QA/QC plan to insure database integrity and reliable information; developing standard operating procedures for staff interactions with PIMS; serving as the primary liaison with MWRA's MIS staff for issues related to pretreatment software and associated applications; and participating in the development and roll-out of MWRA compliance plan for EPA's Cross-Media Electronic Reporting Rule, often referred to as CROMERR.

Organizationally, the Project Manager, PIMS, reports to the Program Manager of Compliance (see the attached Organization Chart).

Selection Process

This position was posted internally and two applications were received. Managers from Operations and the Affirmative Action and Compliance Unit interviewed both candidates and determined that Lori Paradice possesses the knowledge, skills, and experience required for this position.

Ms. Paradice has 26 years of experience at MWRA working in the TRAC Department in a variety of progressively responsible positions. Prior to starting at MWRA, Ms. Paradice worked at ENSR Consulting and Engineering in its environmental laboratory. She began her MWRA career in 1986 as a chemical assistant in the Industrial Waste Program. She was promoted to the position of Sampling Associate in 1987, and in 1990, she again was promoted to the position of Industrial Waste Inspector, which was later changed to the position of Industrial Coordinator.

Through her experience, Ms. Paradice has gained a thorough knowledge of MWRA's pretreatment program. She has served as an expert on multiple software upgrades within TRAC and volunteered to serve as a "Project Champion" on the PIMS software implementation. She actively participated in the business requirements development process by proposing, reviewing, and providing relevant topic-specific feedback. She also conducted system acceptance testing, document generation development and testing, implementation testing, and post-implementation bug-fix identification and testing. Ms. Paradice has been actively engaged in PIMS software testing and improvement since the PIMS "Go-Live" in 2008. In her role in the PIMS implementation, Ms. Paradice has demonstrated strong communication skills, project management skills, and analytical skills.

Ms. Paradice earned an Associate of Science degree in Ecology and Environmental Technology in 1981 from Paul Smith's College, and a Bachelor of Science in Environmental Chemistry in 1983 from the State University of New York, College of Environmental Science and Forestry.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the Operations Division's FY13 Current Expense Budget to fund this position. The recommended salary is in accordance with guidelines established in Unit 9's current collective bargaining agreement.

ATTACHMENTS:

Resume of Lori Paradice
Position Description
Organization Chart

LORI PARADICE

Experience

Massachusetts Water Resources Authority, Chelsea, MA 1986 to present

Industrial Wastewater Inspector/Industrial Coordinator 1990 to present

- Conduct all inspection, permitting, and initial enforcement activities for industrial facilities, water treatment plants, and discharging landfills in assigned territory in the MWRA district
- Explain Pretreatment Program and associated permitting, reporting, and compliance requirements to representatives of regulated facilities
- Determine applicability of federal, state, and MWRA regulations and calculate federal categorical limits as needed
- Coordinate with industry contacts, municipal officials, and other agencies to facilitate the efficient issuance of and compliance with Sewer Use Discharge Permits
- Draft MWRA Sewer Use Discharge Permits, inspection reports, and other correspondence using current department software
- Review permitted sewer user analytical data to determine compliance with MWRA and Federal regulations
- Coordinate with department staff to provide permitted user information in support of their duties
- Prioritize workload to ensure department pretreatment goals are met
- Train new Industrial Wastewater Inspector/Industrial Coordinator staff

Sampling Associate 1987 to 1990

- Collected wastewater samples from industrial facilities, combined sewer overflows, and sewer treatment plants to assure compliance with MWRA Rules & Regulations and MWRA's NPDES permit
- Operated a variety of field equipment including autosamplers, flowmeters, and continuous pH meters
- Performed work in confined spaces using SCBA, gas meter, fall protection, and other personal protective equipment
- Trained new sampling staff

Chemical Assistant 1986 to 1987

- Conducted literature research on MWRA regulated pollutants, sampling methods, and related topics as assigned

ENSR Consulting and Engineering, Concord, MA 1984 to 1986

Inorganic Analyst 1984 to 1986

- Prepared environmental samples, conducted Atomic Absorption Spectroscopy and Inductively Coupled Plasma Spectroscopy metals analyses, conducted miscellaneous inorganic parameter analyses using a variety of laboratory tools and instruments, and reviewed and reported data

Lori Paradice

Related Experience

- Department software upgrade projects - Provided business practice and user needs information to consultants and MIS staff to aid in software development. Conducted software testing, troubleshooting, and training of staff.
 - TRACIS Upgrade: 1997-2000
 - Permit TRACking Application: 1998-2004
 - PIMS: 2007-2010 bulk, on-going assistance as needed
- Clinton Local Limits Review project - Met with consultants and MWRA staff, reviewed and commented on task order and consultant draft proposals
- TRAC's Guidance Manual update workgroup with regard to policy and business practices - Met with peers and workgroup members to recommend changes to department procedural policies

Education

State University of New York, College of Environmental Science and Forestry, Syracuse, NY 1981 to 1983
Bachelor of Science in Environmental Chemistry

Paul Smiths College, Paul Smiths, NY 1979 to 1981
Associate of Science in Ecology and Environmental Technology

Certifications and Affiliations

- 40-hour OSHA 29 CFR 1910.120 Hazardous Waste Site Operations Certified (most recent 8-hour refresher 4/12/12)
- MBCR RWP training for contractors (valid until 4/4/13)
- MBTA ROW training (valid 5/9/13)

**MWRA
POSITION DESCRIPTION**

POSITION: Project Manager, PIMs

PCR#:

DIVISION: Operations

DEPARTMENT: Toxic Reduction and Control Department

BASIC PURPOSE:

Manages the day-to-day projects related to information management of the MWRA's EPA-approved pretreatment program. Coordinates MWRA's pretreatment program database needs with MIS staff and project consultants. Represents the TRAC Department's interests in ongoing future development of pretreatment information systems and their associated software applications (LIMS, GIS, CROMERR) and successor applications.

SUPERVISION RECEIVED:

Works under the general supervision of the Program Manager of Compliance.

SUPERVISION EXERCISED:

Exercises supervision of professional and support employees.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages day-to-day issues with PIMS as they arise. Researches problems, logs bugs, proposes temporary work-arounds to enable staff to meet their short and long term pretreatment program requirements and recommends long term solutions.
- Develops reports for Department and outside use from the PIMS and LIMS databases.
- Develops and implements PIMS QA/QC plan to ensure database integrity and reliable information
- Develops standard operating procedures for TRAC staff interactions with PIMS in accordance with QA/QC plan.

- Reviews functionality of PIMS and identifies ways to leverage the existing system functionality to improve efficiency and effectiveness of TRAC staff. Recommends enhancements for improved efficiencies. Develops forms and templates and updates PIMS as necessary.
- Participates in the development and roll-out of the CROMERR compliance plan. Works closely with TRAC staff and managers to support pretreatment program objectives using PIMS and other IS resources.
- Works closely with MIS to ensure that the TRAC Department is effectively using the Authority's MIS resources.
- Serves as the primary liaison with MIS Department for issues related to pretreatment software and associated applications.

SECONDARY DUTIES:

- Provides on-going training and user support for PIMS and related systems.
- Assesses systems performance and works with users to identify system needs and determine appropriate hardware/software/training/procedural improvements.
- Prepares data requests to meet the needs of the TRAC and Legal Department or other MWRA groups.
- Provides capital and current expense budget input for computer related equipment and software purchases.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Bachelors degree in environmental or related sciences, environmental engineering, computer sciences, or related field; Masters degree preferred; and
- (B) Five (5) to seven (7) years of experience in project management, application development or database management.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of principles and practices of National Pretreatment Program or related field required.

- (B) Demonstrated proficiency in data analysis, database development, management and planning.
- (C) Demonstrated ability in a variety of computing environments, particularly Oracle Discoverer, structured query language (SQL) or Microsoft Access strongly preferred.
- (D) Knowledge of MWRA's PIMS, LIMS and geographic information systems, particularly ARC/VIEW and ARC/INFO preferred.
- (E) Excellent interpersonal, oral and written communication skills.

SPECIAL REQUIREMENTS:

A valid Massachusetts Drivers license

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee is regularly required to sit and talk or hear. The employee is frequently required to stand and walk.

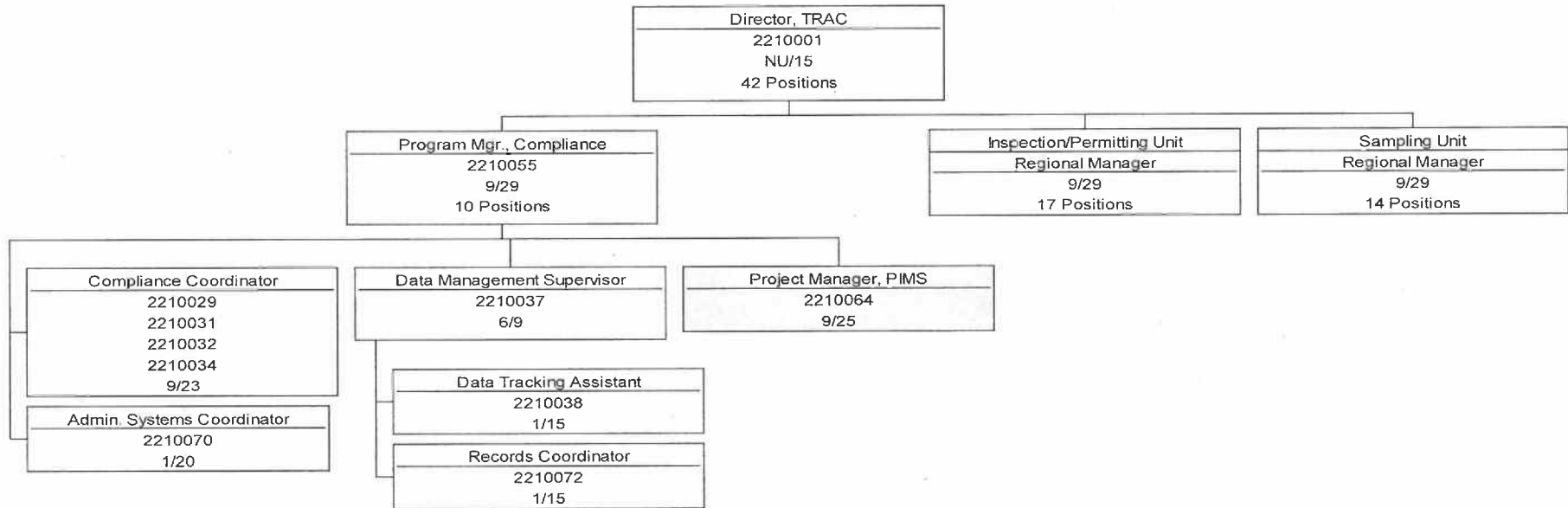
The employee must regularly lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision and the ability to adjust focus.

WORK ENVIRONMENT:

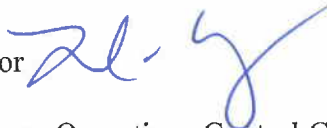
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment.

The noise level in the work environment is usually moderately quiet.

Programs, Policy & Planning TRAC




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 26, 2013
SUBJECT: Appointment of Senior Program Manager, Operations Control Center

COMMITTEE: Personnel and Compensation

 INFORMATION
 X VOTE

John P. Vetere, Deputy Chief Operating Officer
Mark H. Johnson, Director, Metropolitan Operations
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. Michael J. McCarthy to the position of Senior Program Manager, Operations Control Center (Unit 9, Grade 30), at the recommended salary of \$110,334.12, effective July 13, 2013.

DISCUSSION:

The position of Senior Program Manager, Operations Control Center (OCC) will become vacant upon the retirement of the incumbent on July 12, 2013. Organizationally, the Senior Program Manager, OCC position reports to the Director, Metropolitan Operations. The position is responsible for supervising 14 water operations staff (9 area supervisors and 5 operators) that work in the Metropolitan OCC at Chelsea on rotating shifts, 24 hours a day, 7 days a week.

The Metropolitan water system provides an average of 167 million gallons per day and serves more than 2 million people. The OCC staff operate and control 11 water pump stations and 11 water storage tanks, and monitor the numerous community water meters throughout the system for pressure and flow. The position is also responsible for the coordination of any required maintenance on the pumps, motors, electrical systems, SCADA controls, and valves at the pump stations and tanks, and is involved with water quality analysis and troubleshooting.

Selection Process

The position was posted internally as it was recognized that there were a number of qualified candidates with the requisite experience and knowledge within MWRA's existing workforce. Three candidates applied for the position, all of which were determined to have met the minimum qualifications. All three candidates were interviewed by the Deputy Chief Operating

Officer for Operations, Engineer and Construction, the Director of Human Resources, and the Director, Metropolitan Operations. Upon completion of the interviews, it was determined that Michael J. McCarthy was the best candidate to fill the position.

Mr. McCarthy has 19 years of civil engineering and water system experience. He began his career at MWRA in 1993. Between 1993 and 2001, he held positions as a senior field service technician, project engineer, and project manager. He performed leak detection surveys, developed operations plans, provided engineering support for the valve program, served as responsible person on water line and pump station operations, managed MWRA's 8(m) permits, and represented Operations for construction contracts. During his time as project engineer and project manager, Mr. McCarthy was responsible for the start-up of five rehabilitated water pump stations.

In 2001, he was promoted to the position of Work Coordination Center Manager, where he has been responsible for the development of the Operations Division's automated work order program utilizing the "Maximo" database system. As the Work Coordination Center Manager, he manages a staff of 10 planner/schedulers in the development of job plans for the various trades and programs in the department, coordinating the maintenance and repair of pumps, motors, valves, and generators.

Mr. McCarthy has always been a "hands-on" manager in the field taking an active role in contributing to the diagnosis of equipment issues, and the acquisition of new equipment when needed to provide the most efficient operation of MWRA's water facilities. He has managed numerous technical reviews of complicated 8(m) permit applications, including the recently concluded Mass DOT "FAST 14" bridge program on Interstate 93, to avoid impacts to MWRA's water system in the area.

Mr. McCarthy earned a Bachelor of Science degree in Civil Engineering from the Rochester Institute of Technology. He is a registered professional engineer in Massachusetts, and has a grade D4 water distribution license.

BUDGET/FISCAL IMPACT:

Adequate funds for this position are included in the Operations Division's FY14 CEB. The recommended salary is in accordance with guidelines established in current MWRA collective bargaining agreements.

ATTACHMENTS:

Resume of Michael J. McCarthy
Position Description, Senior Program Manager, Operations Control Center
Metropolitan Water Operations Organization Chart

Michael J. McCarthy

Objective To apply my educational and professional experience to assist in the operation and maintenance of a water/wastewater utility.

Education **Rochester Institute of Technology, Rochester, New York**
Bachelor of Science degree in Civil Engineering Received March 1993

Professional Experience **Massachusetts Water Resources Authority, Boston, MA**
Work Coordination Center Manager, Field Operations Department (July 2001 - Present)

Manage the Work Coordination Group and oversee the various activities including planning, scheduling materials acquisition and dispatch for the maintenance programs within the Field Operations Department. Manage MWRA 8(m) Permit Program, DIGSAFE Program and Trench and Excavation Safety Permit Program.

- Coordinate with other managers to ensure effective and economical use of materials and staff.
- Oversee all aspects of data quality of the Field Operation Department's database.
- Oversee the development and distribution of maintenance management reports.
- Perform QA/QC functions including inspection reporting, work order backlog monitoring, productivity and cost analysis information.
- Develop, in conjunction with other Field Operation Department managers, comprehensive work practices that ensure proper data integrity.
- Provide overall oversight for the Waterworks 8(m) permit program, which includes the management of permitting for all waterworks facilities.
- Manage DIGSAFE program for MWRA water distribution mains located in Brookline, Chelsea and Saugus.
- Provide overall oversight for the Trench and Excavation Safety permit program, which includes the management of permitting for all in house excavation sites.

Project Manager, Operations Engineering (July 1999 -- July 2001)

Managed engineering coordination efforts for design and construction activities affecting the continuous operation and quality of the water transmission and distribution facilities.

- Managed Waterworks 8(m) permit program.
- Represented Operations Department at construction kick-off and coordination meetings and coordinated Operations Department roles and responsibilities during construction and start-up.
- Coordinated detail record and record drawing review as well as maintenance of department engineering records.
- Developed Operation Plans for major operations and acted as the Responsible Person for these operations, which required making on the spot decision-making.
- Managed design reviews for both in-house and consultant designs.

Project Engineer, Distribution Section (January 1995 – July 1999)

Provided hydraulic support for all in-house Distribution Section operations and construction work completed by in-house forces and contractors. Provided engineering support for all maintenance work completed on MWRA distribution system.

- Prepared and updated valve maintenance program schedule and coordinated maintenance with Pumping Division and all MWRA service communities.
- Maintained valve database to ensure that reliable, accurate information was available on valve characteristics and conditions.
- Performed hydraulic model computer simulation runs to support maintenance work completed on the distribution system and during emergency situations.
- Completed design reviews for both in-house and consultant designs.

Senior Field Service Technician (September 1993 - January 1995)

Performed leak detection of MWRA distribution system and communities using leak correlator and sonic leak detection equipment. Conducted meter testing using pitot-type flow tests.

- Assisted in training of MWRA communities in leak detection methods.
- Assisted general construction inspectors when needed.

U.S. Naval Reserve Mobile Construction Battalion 27 (May 1996 – May 2004)

Lieutenant – Company Commander, Assistant Charlie Company Commander, Assistant Operations Officer,

Prepared Company for mobilization and embarkation readiness. Supervised and was responsible for 170 personnel.

- Maintained training in combat and construction readiness in preparation for activation.
- Managed construction project (utilizing 40 personnel) located at Kings Bay, GA, which entailed the replacement and rehabilitation of multiple support buildings.
- Completed various construction projects during weekend drills and annual activation.

Licenses	Licensed Professional Engineer (MA Lic #45124), Grade IV Water Distribution License (License #5210), Grade II Water Treatment License (License #23805), Grade IV Wastewater Collections License (License #C-4253)
Professional Affiliations	American Society of Civil Engineers, American Water Works Association, American Society of Military Engineers
Computer Skills	Excel, WordPerfect, Access, Crystal Reports, Telog, Microsoft Office Package, MAXIMO CMMS

References available upon request

**MWRA
POSITION DESCRIPTION**

POSITION: Senior Program Manager, Operations Control Center

PCR#: 3385001

DIVISION: Waterworks

DEPARTMENT: Operations

BASIC PURPOSE:

Oversees the Metropolitan Operations Control Center (OCC), which monitors and/or controls all pumping stations, storage tanks, pressure reducing valves and meters. Required to be on-call for emergencies twenty-four (24) hours a day, seven (7) days a week.

SUPERVISION RECEIVED:

Works under the general supervision of the Director of Metropolitan Operations.

SUPERVISION EXERCISED:

Supervises area supervisors and operators on 24/7 shifts.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages the water pump stations, water storage tanks, pressure reducing valves and meters in the Metropolitan water system to ensure continuous water service within the MWRA system and to the customer communities.
- Responds to alarms or hydraulic issues communicated by the OCC staff on a 24/7 basis.
- Coordinates maintenance, equipment repair, facilities maintenance, and SCADA needs with Equipment, Facilities Maintenance, and SCADA managers and staff.
- Works toward a harmonious personnel relations and positive staff morale. Performs performance reviews, investigates employee complaints, addresses employee conflicts, initiates disciplinary actions, prepares for collective bargaining and identifies and proposes organizational changes to address changing needs.
- Identifies training needs and implements appropriate in-house or consultant-led training programs.

- Manages unit budget. Assesses resources needed to effectively manage unit, prepares budget request and in-depth justification, explains budget variances and controls unit spending to ensure overall budget compliance.
- Monitors, reports and continually improves staff productivity through staff skills development, strategic planning, Standard Operating Procedures (SOPs) improvements and research and implementation of technology advances.
- Ensures that the unit's SOPs effectively communicate the unit's proper operating procedures and are being utilized by staff. Develops, documents and continually evaluates effectiveness of standard operating procedures and facility manuals.
- Ensures that all staff is properly trained. Ensures that all staff is familiar with, has been trained on, and is utilizing MWRA Safety Policy and Procedures.
- Establishes SOPs for monitoring and control of the Metropolitan water system.
- Oversees training of area supervisors and operators regarding hydraulic monitoring including use of the SCADA system, routine pump station and water tank inspections and emergency response.
- Establishes SCADA system reporting and data archival requirements for each facility.
- Conducts emergency response assessments for all major Metropolitan incidents to evaluate the effectiveness of the SCADA system and SOPs in identifying, diagnosing and responding to the incident.
- Participates in preparing for collective bargaining and hears Step-One grievances.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of principles and practices of engineering as normally attained through a four (4) year college program in civil or mechanical or electrical engineering; and
- (B) Understanding of water systems operations (e.g., water pumping stations, tanks, hydraulics, SCADA systems) as acquired by eight (8) to ten (10) years related experience, of which at least four (4) years is in a supervisory capacity; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficiency in the use of PC software for word processing, spreadsheets and databases required.
- (B) Excellent oral and written communication skills required. Demonstrated organization and coordination abilities.
- (C) Ability to manage 24/7 operations.
- (D) Maximo, equipment maintenance, and operational/maintenance data collection (i.e. Inspection Manager) experience desired.

SPECIAL REQUIREMENTS:

Grade 3D Drinking Water Supply Facilities Operator License required, with ability to obtain Grade 4D Drinking Water Supply Facilities Operator License within one year of appointment.

TOOLS AND EQUIPMENT USED:

Telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential duties.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools, or controls and reach with hands and arms. The employee is regularly required to stand and walk. The employee is frequently required to sit and talk or hear. The employee is occasionally required to climb or balance, stoop, kneel, crouch or crawl, taste or smell.

The employee must frequently lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

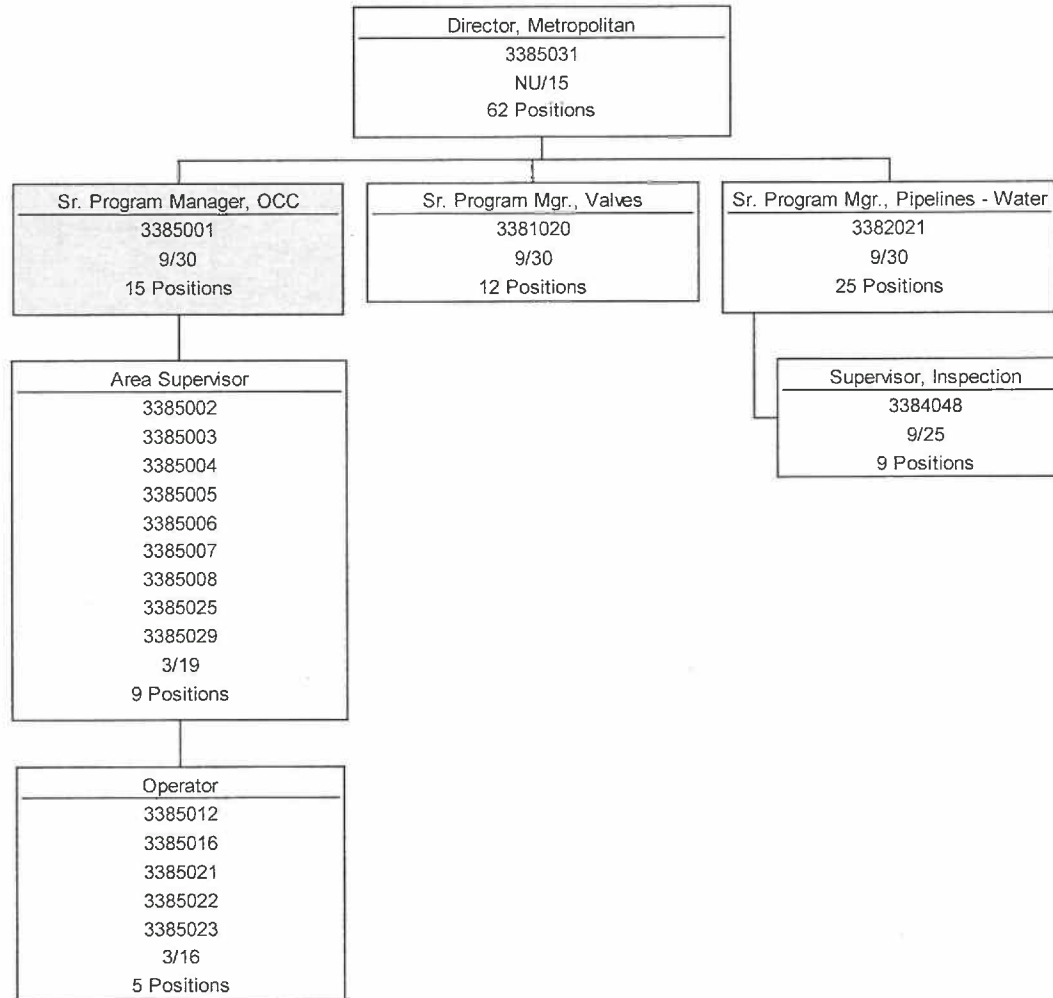
While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in

high precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.

The noise level in the work environment is usually moderately quiet, except when at pump stations, where the noise level can be similar to an industrial facility.

April, 2013

Operations - Metro Water O&M - Organization Chart





MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Frederick A. Laskey
Chairman
B. Sullivan
Executive Director
Vice-Chair: J. Carroll
Secretary: J. Foti
Board Members:
J. Barrera
K. Cotter
P. Flanagan
A. Pappastergion
B. Swett
H. Vitale
J. Walsh
J. Wolowicz

BOARD OF DIRECTORS' MEETING

Telephone: (617) 242-6000
Fax: (617) 788-4899
TTY: (617) 788-4971

to be held on

Wednesday, June 26, 2013

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: 1:00 p.m.

AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. BOARD ACTIONS

A. Approvals

1. Final FY14 Capital Improvement Program (ref. AF&A B.1)
2. Final FY14 Current Expense Budget (ref. AF&A B.2)
3. Final FY14 Water and Sewer Assessments (ref. AF&A B.3)
4. Amendment 3 to Memorandum of Understanding with the Department of Public Safety for Electrical Inspections (ref. AF&A B.4)
5. Approval of New Wastewater Advisory Committee Member (ref. WW A.1)
6. Emergency Water Supply Agreement with the Town of Hudson (ref. W B.1)
7. PCR Amendments – June 2013(ref. P&C A.1)
8. Appointment of Project Manager, PIMS, Toxic Reduction and Control (ref. P&C A.2)
9. Appointment of Senior Program Manager, OCC (ref. P&C A.3)

B. Contract Awards

1. Automated Vehicle Locator Tracking System: Location Technologies, Inc., Contract A586 (ref. AF&A C.1)
2. Nut Island Headworks Electrical and Conveyors Improvements: J.F. White Contracting Co., Contract 7313 (ref. WW B.1)
3. Weston Aqueduct Supply Main 3 - Design, Construction Administration and Resident Engineering Services: Fay, Spofford & Thorndike, LLC, Contract 6539 (ref. W C.1)
4. Gillis Pump Station Improvements: Baystate Electric, Contract 7260 (ref. W C.2)

C. Contract Amendments/Change Orders

1. Supply and Delivery of Odor and Corrosion Control Chemicals for the Framingham Extension Sewer and Framingham Extension Relief Sewer: Siemens Water Technologies, WRA 3417, Amendment 1 (ref. WW C.1)
2. Aquatic Invasive Macrophyte Control at the Wachusett Reservoir: Aquatic Control Technology, Inc., Bid WRA-3434, Amendment 1 (ref. W D.1)

V. CORRESPONDENCE TO THE BOARD

VI. OTHER BUSINESS

VII. EXECUTIVE SESSION

A. Real Estate

1. Watershed Land Acquisition Approval

VIII. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

June 5, 2013

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on June 5, 2013 at the Authority headquarters in Charlestown. Chairman Sullivan presided. Present from the Board were Barrera, Carroll, Cotter, Flanagan, Foti, Swett, Vitale and Walsh. Ms. Wolowicz and Mr. Pappastergion were absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Steven Remsberg, General Counsel, Michael Hornbrook, Chief Operating Officer, Rachel Madden, Director of Administration and Finance, and Bonnie Hale, Assistant Secretary. The meeting was called to order at 1:15 p.m.

APPROVAL OF MINUTES

Upon a motion duly made and seconded, it was

Voted to approve the revised minutes of the Board of Directors' meeting of May 15, 2013, as presented and filed with the records of the meeting.

BOARD ACTIONS

APPROVALS

MWRA FY14 Insurance Program Renewal

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to award to the lowest eligible and responsive bidders, insurance policies, bonds and contracts for services for MWRA's FY14 Insurance Program, for the period beginning July 1, 2013, through June 30, 2014, for the premiums and fees

described below, and incorporated by reference for the record, for a total program amount not to exceed \$1,709,284:

1. Workers' Compensation Excess Policy with N.Y. Marine, submitted by broker Willis of Massachusetts, with a \$25 million limit and a \$500,000 self-insured retention, for a premium of \$127,311;
2. Property Policy (including Boiler & Machinery coverage) with FM Global Insurance Co., with various limits of coverage with a \$2.5 million self-insured retention, for a premium of \$710,130;
3. General Liability Policy (including Automobile Liability, Marine Liability, Wharfingers, and Employment Practice Liability) with Lexington Insurance Company submitted by broker Richards Robinson Sheppard, with a \$25 million limit and a \$2.5 million self-insured retention, for a premium of \$420,264;
4. Excess Liability Policies with insurance companies to be determined and submitted by broker Richards Robinson Sheppard, providing a combined total of \$75 million of coverage in excess of primary coverage for a total combined premium not to exceed \$300,000;
5. Public Official's Liability Policy with Hiscox Insurance Co., submitted by broker Wells Fargo Insurance Services, with a \$5 million limit and a \$1 million deductible, for a premium of \$48,932;
6. Fiduciary Liability Policy with Chubb Insurance Co., submitted by broker Wells Fargo Insurance Services, with a \$5 million limit and a \$1 million deductible, for a premium of \$8,600;
7. Public Official's/Crime Bond with The Hartford Insurance Co., submitted by broker William Gallagher Associates, with a \$1 million limit and a \$25,000 deductible for a premium (including commission) of \$6,397;
8. Treasurer's Bond with a \$1 million limit with a vendor to be determined in an amount not to exceed \$3,300, with a one year term beginning 2/5/14; and
9. Broker contracts with Richards Robinson Sheppard for an amount of \$65,000; Willis of Massachusetts for an amount of \$10,250; and Wells Fargo Insurance Services for an amount of \$9,100, with a term beginning from notice of award through June 30, 2014.

Wastewater Advisory Committee Contract

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form presented and filed with the records of the meeting, with the Wastewater Advisory Committee for a term of one year, from July 1, 2013 to June 30, 2014, with a total contract cost of \$64,168.00.

Water Supply Citizens Advisory Committee Contract

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form presented and filed with the records of the meeting, with the Water Supply Citizens Advisory Committee for a term of one year, from July 1, 2013 to June 30, 2014, with a total contract cost of \$96,528.00.

PCR Amendments – June 2013

Upon a motion duly made and seconded, it was

Voted to approve amendments to the Position Control Register, as presented and filed with the records of the meeting.

CONTRACT AWARDS

Weston Aqueduct Supply Main 3 Design, Construction Administration and Resident Engineering Services: Fay, Spofford & Thorndike, LLC, Contract 6539

There was general discussion. Upon a motion duly made and seconded, it was

Voted to postpone consideration of the matter.

CONTRACT AMENDMENTS/CHANGE ORDERS

Crane Maintenance Service: Safeway Overhead Crane Service, Inc., Contract OP-200, Change Order 1

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order No. 1 to increase the amount of Contract No. OP-200 with Safeway Overhead Crane Service, Inc., Crane Maintenance Service, in an amount not to exceed \$68,470.20, with no increase in contract term; and to authorize the Executive Director to approve additional change orders as may be needed to Contract No. OP-200 in amounts not to exceed the aggregate of \$50,000.00, in accordance with the Management Policies of the Board of Directors.

OTHER BUSINESS

Extension of Contract for Executive Director

Upon a motion duly made and seconded, it was

Whereas, on May 15, 2013 the Board of Directors voted to rate the performance of Frederick A. Laskey, Executive Director, for Fiscal Year 2013 as Excellent, voted to extend the term of the Executive Director's employment agreement and appointment as Executive Director by one year to June 30, 2016.

Extension of Contract for Chief Operating Officer

Upon a motion duly made and seconded, it was

Voted to extend the term of the employment agreement with Michael J. Hornbrook, Chief Operating Officer, by one year to May 31, 2016.

EXECUTIVE SESSION

Upon a motion duly made and seconded, it was, upon a roll call vote in which the members were recorded as follows:

Yes

No

Abstain

Barrera
Carroll
Cotter
Flanagan
Foti
Swett
Vitale
Walsh
Sullivan

Voted to enter executive session for the purpose of discussing strategy with respect to litigation in that such discussion in open session may have a detrimental effect on the litigating position of the Authority and to discuss the deployment of security personnel or devices, or strategies with respect to security.

It was stated that the meeting would return to open session solely for the consideration of adjournment.

DRAFT
* * * *
EXECUTIVE SESSION

* * * *

The meeting returned to open session at 1:45 p.m. and adjourned.

MASSACHUSETTS WATER RESOURCES AUTHORITY



Fiscal Year 2011 CURRENT EXPENSE BUDGET

BOARD OF DIRECTORS

Ian A. Bowles, Chair

John J. Carroll, Vice Chair

Joseph C. Foti, Secretary

Joel A. Barrera

Kevin L. Cotter

Michael S. Gove

James W. Hunt III

Vincent G. Mannering

Andrew M. Pappastergion

Marie T. Turner

John J. Walsh

Prepared under the direction of

Frederick A. Laskey, Executive Director
Michael J. Hornbrook, Chief Operating Officer
Rachel C. Madden, Director, Administration & Finance

together with the participation of MWRA staff.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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September 2010

Katherine Haynes Dunphy, Chairwoman
MWRA Advisory Board
11 Beacon Street
Boston, MA 02108

Dear Chairwoman Dunphy:

This letter transmits to the Advisory Board MWRA's Current Expense Budget (CEB) for Fiscal Year 2011. The CEB was approved by the MWRA's Board of Directors at its June 30, 2010 meeting.

In light of the current economic climate, MWRA and the Advisory Board have developed a multi-year rates management strategy in order to provide our customer communities with a modest rate increase in FY2011 and moderate, predictable rate increases in FY2012 and FY2013. The community assessments reflect an average combined water and sewer rate revenue increase of 1.49% over FY2010 assessments - the lowest MWRA rate increase since 1996.

The goal of this multi-year strategy is to provide much needed rate relief in the short-term, preserve MWRA's high credit rating, and bridge the gap to FY2014 when we anticipate a sizeable release of reserves which will be available to mitigate future rate increases.

Capital financing costs total \$354.3 million and represent nearly 59% of total expenses. Debt Service remains the largest component of the budget and represents the greatest rate management challenge in the future.

MWRA is taking every opportunity to cut and control costs. Our direct expenses are level funded for three consecutive years; no wage increases are included in FY2011 for union and non-union staff. The overall increase from the FY2010 budget is \$5.6 million or 0.9%. In FY2010, MWRA defeased \$54.6 million in future debt service and restructured \$75 million of outstanding bonds which yields significant debt service savings through FY2013.

Additional budget information and a copy of this document are available online at www.mwra.com. Questions or comments on this document should be directed to the MWRA Budget Department.

Thank you for your continued support.

Sincerely,

Frederick A. Laskey
Executive Director, MWRA

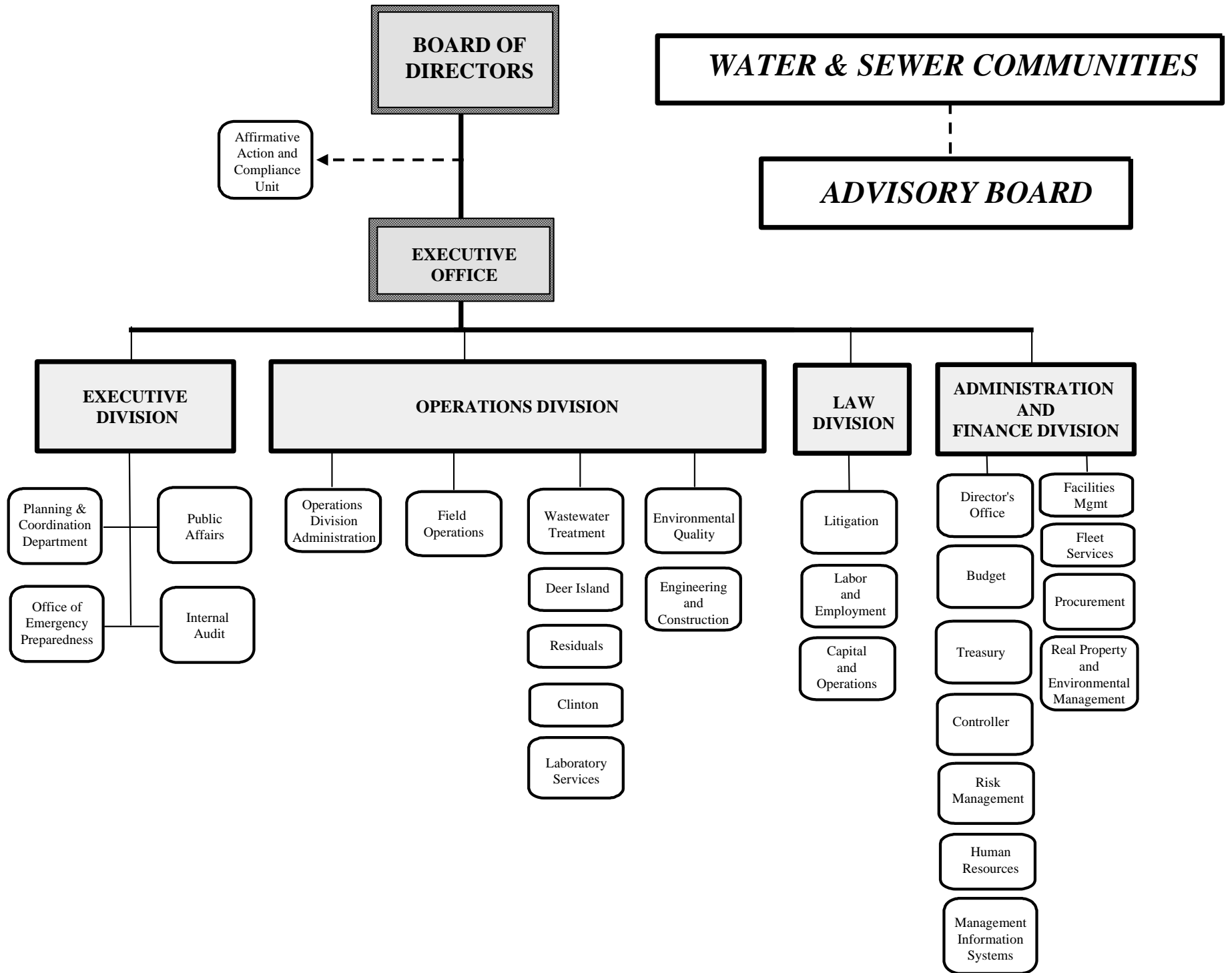


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- A. Direct Expense Budget Line Items Descriptions
- B. Budget Process and Timetable
- C. Budget and Assessment Policies and Procedures
- D. MWRA Planning Estimates FY2011 – FY2020
- E. Glossary of Financial and Operating Terms
- F. Capital Financing by Debt Series



Executive Summary

Executive Summary

MWRA Mission

The Massachusetts Water Resources Authority (MWRA) is an independent authority that provides wholesale water and sewer services to its member communities and funds its operations primarily through user assessments and charges. MWRA's mission is to provide reliable, cost-effective, high-quality water and sewer services that protect public health, promote environmental stewardship, maintain customer confidence, and support a prosperous economy. MWRA's long-term plan emphasizes improvements in service and systems and includes aggressive performance targets for operating the water and wastewater systems and maintaining new and existing facilities.

Parallel to MWRA's goal of carrying out its capital projects and operating programs is its goal of limiting rate increases by working in partnership with its member communities. The need to achieve and maintain a balance between these two goals continues to be the critical issue facing MWRA. A brief history and organizational summary of MWRA is included at the end of the Executive Summary.

During the year, MWRA measures actual performance on a monthly basis using various reporting tools. The monthly financial staff summary reports on actual spending versus the budget and provides summary explanations of the variances at the line item level. At least twice a year staff prepares projections for the year-end with a similar level of explanations. The performance indicator reports (the Orange and Yellow Notebooks) capture a variety of parameters regarding performance of each major functional area.

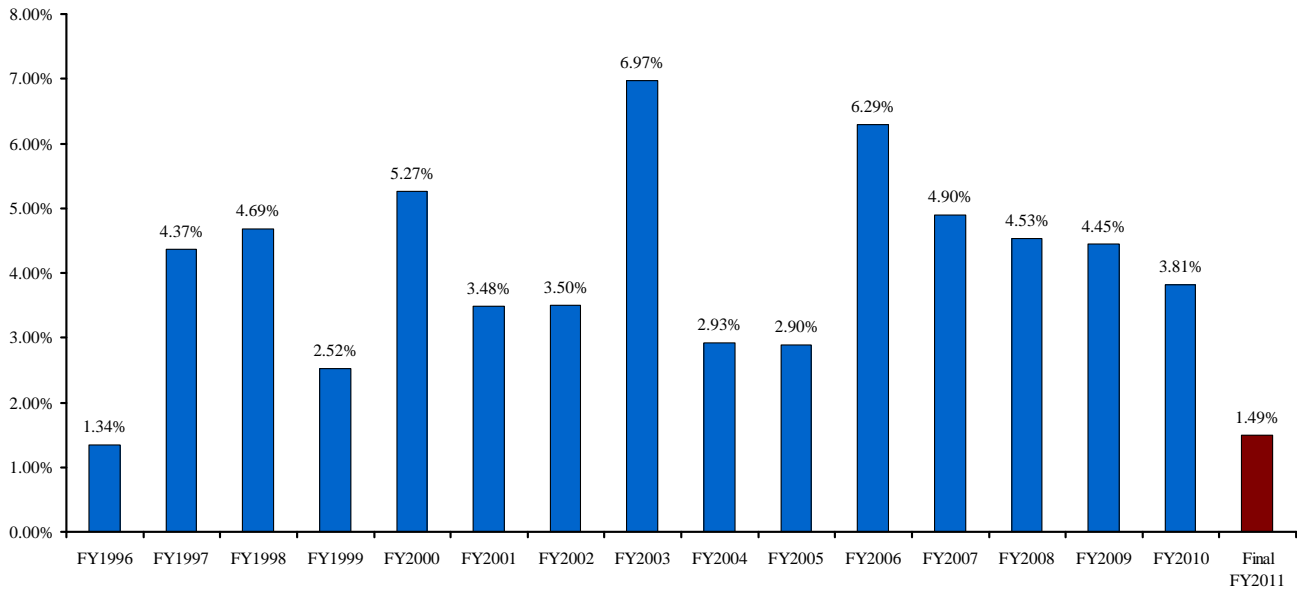
Overview

Each year, MWRA prepares a budget that reflects the best available information for anticipated expenditures and revenues. MWRA transmitted its FY11 Proposed Budget to the Advisory Board in February. The Advisory Board has sixty days to review, comment, and provide recommendations. MWRA also hosts a public hearing to solicit comments on the budget and community assessments from citizens in its service area. In June, MWRA's Board of Directors holds hearings on the budget to review recommendations by the Advisory Board and new information available since the budget was developed. Staff incorporate Board decisions from the hearings and present a final budget for approval in June.

FY11 Final Budget Summary

In recognition of the unprecedented budgetary challenges facing MWRA's member communities under the prevailing weak economy, the MWRA evaluated a variety of options to provide the lowest responsible rate increase in FY11 and moderate predictable rate increases through FY13. The FY11 Final Budget puts forth a 1.49% rate increase for FY11 which is the lowest rate increase in 15 years. As evidenced in the graph below, this is the lowest MWRA rate increase since 1996, a year in which the Authority received \$31.5 million in Debt Service Assistance (DSA) from the Commonwealth. For FY11, no Debt Service Assistance is assumed.

Historical Annual Rate Increases



Total expenses are \$601.9 million, 2.1% above FY10 actual results. Capital financing costs remain the largest component of the budget and account for 58.9% of total expenses. There are no offsets from Debt Service Assistance (DSA) assumed for FY11. Debt Service Assistance was reduced to \$350,000 in FY10 and later eliminated entirely in response to the State's fiscal crisis. While capital financing costs remain the largest component of the budget, other escalating operating expenses continue to put pressure on the operating budget.

The Authority's operations are energy intensive and rising energy costs over the past several years have put pressure on the operating budget. Utilities are the Authority's third largest and most volatile line item in the direct expense category. As a result of increased self-generation at Deer Island due to improved Steam Turbine Generator (STG) operation and new green initiatives along with efficiency improvements in Field Operations, the total spending for utilities is budgeted at \$23.3 million which is \$757,000 or 3.1% lower than FY10 budgeted levels providing that oil and other energy prices continue to trade at current levels. However, it should be noted that a return to more volatile energy markets and pricing would have a significant impact on this budget.

Total expenses include \$354.3 million for capital financing costs, 58.9% of total costs, and \$247.6 million or 41.1% for operating expenses, of which \$209.6 million is for direct expenses and \$38.0 million is for indirect expenses. Total expenses increased by \$12.6 million over FY10 actuals, \$9.1 million of which comes from increased capital financing expense and \$3.5 million for higher operating expenses.

The \$9.1 million net increase in capital financing expenses is the result of debt service associated with issuances of \$100 million in May 2010 and the projected \$100 million in April 2011 as well as new State Revolving Fund (SRF) debt of \$49.4 million which was issued in July 2010 and an estimated issuance of \$85 million in FY11. Offsetting these new issuances, are the impacts of the recent \$75 million restructuring and the \$54.6 million defeasance. These actions will result in approximate savings of \$33.9 million in FY11, \$19.2 million in FY12 and \$47.8 million in FY13.

The \$3.5 million increase in operating expenses from FY10 actuals results from higher maintenance of \$3.2 million, fringe benefits of \$2.0 million, and wages and salaries of \$1.2 million partially offset by \$2.7 million in lower projected energy costs. Wages and salaries assume a head count of 1,216, of which 1,210 are funded versus an average of 1,222 in FY10. FY10 Actual filled positions averaged 1,212 or 10 positions fewer than budgeted due to higher than planned attrition rate. Indirect expenses are essentially level funded with FY10 actuals at \$38.0 million. Higher Watershed/PILOT payments of \$1.4 million and Harbor Electric Energy Company (HEEC) of \$278,000 offset by lower Insurance related expenses of \$867,000 and lower Other Post Employment Benefits (OPEB) of \$800,000.

Total revenues of \$601.9 million are budgeted for FY11. The FY11 Final Rate Revenue Requirement is \$569.8 million, an increase of \$8.4 million or 1.49% over FY10 actual rate revenue. FY11 non-rate revenues total \$32.1 million, a decrease of \$3.3 million or 9.3% from FY10 actuals mainly due to a \$2.3 million reduction in the use of Rate Stabilization and a \$722,000 reduction in the Other User charges primarily due to a decrease for the Chicopee Valley Aqueduct (CVA) assessment reflecting a decrease in expenses and a prior period adjustment for FY09 expenses and the effect of including the Town of Wilmington in the Rate Revenue base for the first time in FY11. The FY11 Final non-rate revenue budget includes \$15.3 million for investment income, \$11.8 million in other user charges and other revenue - which includes an estimated \$1.7 million from the sale of renewable energy portfolio credits and participation in demand response programs, and the use of \$5.0 million in Rate Stabilization.

Table I-1 shows MWRA's FY11 Final Budget for revenue and expenses compared with FY10 actual spending. Changes from FY10 to FY11 are described in the Revenue and Expense section of the Executive Summary.

Table I-1

TOTAL MWRA	FY09 Actual	FY10 Actual	FY11 Final	Change FY11 Final vs FY10 Actuals	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 88,624,447	\$ 89,957,003	\$ 91,151,296	\$ 1,194,293	1.3%
OVERTIME	2,990,600	3,965,999	3,310,659	(655,340)	-16.5%
FRINGE BENEFITS	16,579,652	15,995,517	17,995,660	2,000,143	12.5%
WORKERS' COMPENSATION	1,841,638	2,226,080	1,870,000	(356,080)	-16.0%
CHEMICALS	9,867,555	8,998,799	9,797,118	798,319	8.9%
ENERGY AND UTILITIES	24,428,446	25,982,266	23,314,734	(2,667,532)	-10.3%
MAINTENANCE	27,443,721	25,561,320	28,759,673	3,198,353	12.5%
TRAINING AND MEETINGS	157,515	94,865	231,783	136,918	144.3%
PROFESSIONAL SERVICES	6,357,126	6,089,889	5,961,508	(128,381)	-2.1%
OTHER MATERIALS	4,630,791	4,811,574	4,612,316	(199,258)	-4.1%
OTHER SERVICES	22,819,397	22,477,713	22,607,937	130,224	0.6%
TOTAL DIRECT EXPENSES	\$ 205,740,888	\$ 206,161,025	\$ 209,612,684	\$ 3,451,659	1.7%
INSURANCE	\$ 1,994,022	\$ 3,453,720	\$ 2,586,000	\$ (867,720)	-25.1%
WATERSHED/PILOT	22,439,393	23,349,465	24,744,921	1,395,456	6.0%
SPECIAL PAYMENT OBLIGATION	53,743,500	-	-	-	
HEEC PAYMENT	4,142,047	3,895,850	4,174,256	278,406	7.1%
MITIGATION	1,416,686	1,447,883	1,518,401	70,518	4.9%
ADDITIONS TO RESERVES	1,743,337	(653,254)	(407,581)	245,673	-37.6%
RETIREMENT FUND	8,630,339	5,621,259	5,342,856	(278,403)	-5.0%
POSTEMPLOYMENT BENEFITS	-	800,000	-	(800,000)	-100.0%
TOTAL INDIRECT EXPENSES	\$ 94,109,324	\$ 37,914,923	\$ 37,958,853	\$ 43,930	0.1%
DEBT SERVICE (before offsets)	\$ 342,130,723	\$ 363,937,694	\$ 354,326,676	\$ (9,611,018)	-2.6%
VARIABLE RATE DEBT/OTHER	(11,309,667)	(18,708,191)	-	18,708,191	-100.0%
BOND REDEMPTION	-	-	-	-	
DEBT SERVICE ASSISTANCE	-	-	-	-	
TOTAL DEBT SERVICE	\$ 330,821,056	\$ 345,229,503	\$ 354,326,676	\$ 9,097,173	2.6%
TOTAL EXPENSES	\$ 630,671,268	\$ 589,305,451	\$ 601,898,212	\$ 12,592,762	2.1%
REVENUE & INCOME					
RATE REVENUE	\$ 540,819,000	\$ 561,431,000	\$ 569,800,000	\$ 8,369,000	1.49%
OTHER USER CHARGES	7,163,518	7,786,906	7,065,350	(721,556)	-9.3%
OTHER INCOME SPECIAL PMT	53,743,500	-	-	-	
OTHER REVENUE	7,210,575	5,079,438	4,693,216	(386,222)	-7.6%
RATE STABILIZATION	5,073,365	7,312,438	5,029,744	(2,282,694)	-31.2%
INVESTMENT INCOME	19,769,035	15,222,741	15,309,902	87,161	0.6%
TOTAL REVENUE & INCOME	\$ 633,778,993	\$ 596,832,524	\$ 601,898,212	\$ 5,065,689	0.8%

FY10 Accomplishments

Operations

- MWRA's service area experienced an unprecedented rainfall total of more than 21 inches during a 36-day period between February 24 and April 1, 2010. This monthly precipitation was three-and-one-half times more than the 8-year average. During this period, Deer Island set an overall plant flow record of 726 million gallons a day. Similarly, Clinton Wastewater Treatment Plant set new treatment records with influent flow exceeding 12 mgd, four times more than normal. During this period, there were no NPDES permit violations.
- Deer Island treated 97.2% of flow through secondary and met secondary permit limits at all times.
- Processed 105.7 average tons per day of sludge at the Pelletization Plant.
- On May 1, 2010, a major water main break in Weston interrupted water service to 30 communities in MWRA's district, resulting in a boil water order for drinking water and implementation of emergency water conservation measures. Despite the catastrophic nature of the break, MWRA restored the pipe into service within 72 hours.
- Met all water quality and treatment standards in the drinking water system during FY10.
- Commenced operation of the new Blue Hills Covered Storage Tanks in August, 2009.

Energy

- Continued to leverage Deer Island's self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) resulted in net savings of \$1.5 million for FY10. Deer Island also self-generated 31% of the plant's total required power in FY10.
- Completed energy audits at Chelsea office and eight other FOD facilities and initiated energy audits at 14 more FOD facilities. Established a contract to implement energy efficiency improvements at CNY Headquarters with work scheduled to be completed during FY11.
- Entered a new power purchase contract for electric power for 25 larger, FOD accounts, including Carroll Water Treatment and Clinton plants, with fixed pricing for over 60% of the MWRA load.
- Generated revenue at two water hydroelectric facilities including \$811,000 at the Oakdale Station and \$213,000 at the Cosgrove Station.
- Commenced acceptance testing and operations of two 600 kW wind turbines at Deer Island.

Capital Improvements

Recognized substantial completion on several major projects and components including:

Water System

Blue Hills Covered Storage Design Build - \$37.7 million

NHS – Revere & Malden Pipeline Improvement Construction-Revere Section 53 – \$2.9 million

Northern Low Storage Service Rehab Sections 8, Section 97A Construction -\$2.0 million

Wastewater System

CSO South Dorchester Bay Sewer Separation Design/Commercial Pt and Fox Pt - \$28.7 million

CSO Morrissey Boulevard Drain Design - \$4.6 million

Alternative Energy Initiatives DI Wind & Photovoltaic System Phase 1 Construction - \$5.1 million

Wastewater Central Monitoring Construction 2 - \$5.1 million

Finance

- Preserved the MWRA's high credit ratings of Aa1, AA+, AA+, from Standard and Poor's, Moody's Investor Service and Fitch Ratings, respectively, during a challenging year. These ratings are critical to the \$5.8 billion in outstanding debt and ongoing borrowing programs.
- Secured \$33 million in American Recovery and Reinvestment Act of 2009 funds for water and wastewater initiatives.
- Continued to manage through historically low yields on investments particularly short-term money market positions.
- Restructured \$75 million of outstanding bonds and defeased \$54.6 million in future debt service which yields significant debt service savings through FY13.
- Managed eight permit agreements (three at Turkey Hill and five at Walnut Hill) including executing an amendment with Verizon, coordinating with the Town of Arlington, and improving the invoicing system for maintenance reimbursements. Total revenue for the eight agreements is \$412,000 of which MWRA and the host community each receive half.

Environment

- Employ environmentally friendly products wherever possible, including recycled toners, batteries, copy paper, hybrid vehicles and bio-fuels. In FY10 the MWRA recycled 81 tons of paper, 198 tons of scrap metal and 9,000 gallons of waste oil, generating \$42,000 in revenues. Added 12 alternative fuel or hybrid models.

Ethics

- Implemented the State Ethics Commission On-line Training program Authority-wide.

SOURCES AND USES OF FUNDS

MWRA funds its operations primarily through member community assessments. Funds supporting the current expense budget are not subject to appropriation with the exception of debt service assistance. Table I-2 shows MWRA's sources and uses of funds for the FY11 Final Budget.

REVENUE

Table I-2

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$7.1	1.2%
Other Revenue	4.7	0.8%
Investment Income	15.3	2.5%
Rate Revenue	569.8	94.7%
Rate Stabilization	5.0	0.8%
TOTAL REVENUE	\$601.9	100.0%
<i>Uses of Funds</i>		
Total Expenses before Debt		
Service Offsets	\$601.9	
Less:		
Debt Service Assistance	0.0	
Bond Redemption	0.0	
Sub-Total Net Expenses	601.9	
Capital Financing	354.3	58.9%
Direct Expenses	209.6	34.8%
Indirect Expenses	38.0	6.3%
TOTAL EXPENSES	\$601.9	100.0%
TOTAL EXPENSES Less Offsets	\$601.9	

*May not add up due to rounding

MWRA is required by its enabling act to balance its budget each year by establishing user assessments for water and sewer services that provide funds sufficient to recover the cost of operations (excluding depreciation), maintenance and improvements, and debt service, as well as meeting required reserve levels.

In the FY11 Final Budget, 94.7% of revenue is derived from rate revenue. The remaining 5.3% of revenue will come from interest on investments, charges to other water and sewer customers, non-recurring revenue, annual charges to sewer system users with permits issued by MWRA's Toxic Reduction and Control Department (TRAC), penalties assessed to holders of sewer use permits, and other miscellaneous sources.

Rate Revenue

Under the FY11 Final Budget, MWRA will raise \$569.8 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$569.8 million, \$389.6 million will fund the sewerage system, an increase of 1.89% as compared to FY10; and \$180.2 million will fund the water system, an increase of 0.63% as compared to FY10.

Non-Rate Revenue

Other User Charges

Other User Charges include revenues derived from the provision of water and sewer services to communities and other entities under special agreements. Other User Charges in the FY11 Final Budget total \$7.1 million and are composed of \$1.4 million in water revenue collected from sewer ratepayers to offset the cost of water used for operation at Deer Island, \$3.7 million paid by the Chicopee Valley Aqueduct communities, \$1.0 million in water revenue and \$350,000 in sewer revenue to contract communities and others, and \$651,000 in entrance fees paid by Stoughton and Wilmington.

Other Revenue

Other Revenue is budgeted at \$4.7 million, a decrease of \$386,000 from the FY10 actuals. Other Revenue includes permit fees, penalties, hydro-power revenues, other miscellaneous revenues, and revenue from energy programs.

Permit Fees and Penalties

The FY11 Final Budget includes \$2.2 million in fees charged to industries that discharge toxic materials into the MWRA sewer system. These permit fees partially offset the annual costs of permitting, inspecting, and monitoring these industries.

Miscellaneous Revenue

The FY11 Final Budget includes \$2.5 million in miscellaneous revenues of which \$1.6 million pertains to the Authority's energy programs for the sale of Renewable Portfolio Standard credits and participation in the demand response program; \$117,000 is for hydro-power generation at the MWRA's Cosgrove Intake facility, and \$800,000 in other revenue.

Investment Income

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The FY11 Final Budget includes \$15.3 million in investment income, an increase of \$87,000 from the FY10 Actual. The FY11 Final short-term interest rate is at 0.50%, 25 basis points less than the FY10 Budget rate of 0.75%, lowering investment rate offset by higher invested balances. This rate assumption may represent risk going forward, given that it is approximately 25-50 basis points higher than the current federal fund rate.

Non-Recurring Revenue

Non-Recurring Revenue is one-time revenue used in a given fiscal year to reduce assessments to member communities. In any fiscal year when annual revenues exceed expenses, MWRA may transfer the unexpended amount to the rate stabilization reserve. Within certain limits, MWRA may use this money to reduce the Rate Revenue Requirement in any subsequent year. Consistent with the requirements of its enabling act and its general bond resolution, MWRA treats transfers from the rate stabilization reserve as revenue in that fiscal year. For the FY11 Final Budget, \$5.0 million in Rate Stabilization fund usage is assumed.

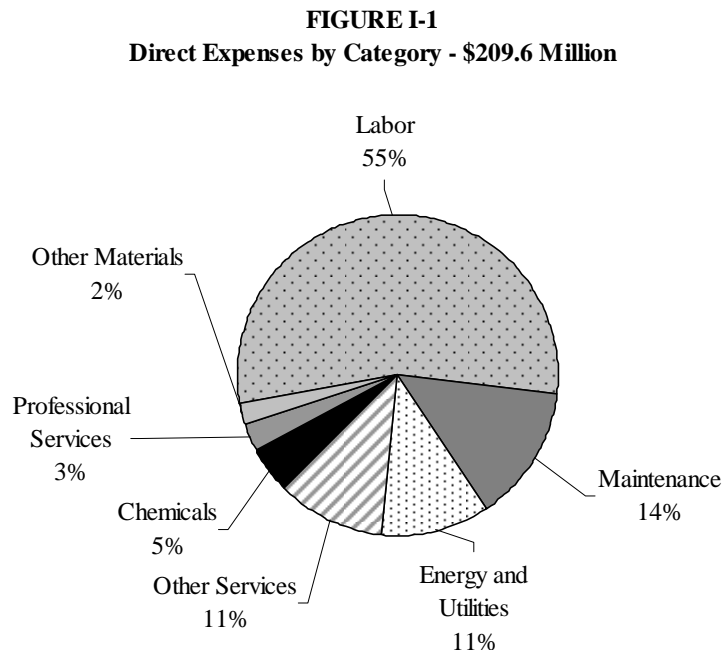
Direct Program Expenses

The FY11 Final direct program expense budget is \$209.6 million, an increase of \$3.5 million or 1.7% over FY10 actuals. Increased funding for Maintenance, Fringe Benefits due to increased health insurance costs, and Wages are the principal drivers for the increase. To address rising direct costs, the MWRA has actively moved to consolidate operation and maintenance facilities, reorganized and automated facilities, reduced leased space, sold surplus assets, negotiated competitive purchase agreements for energy and chemicals, and increased self-generation and utilization of digester gas for energy production.

Line Item Budget Summary

Figure I-1 combines related direct expense line items into general cost categories and shows that labor costs (wages and salaries, overtime, fringe benefits, workers' compensation and training and meetings) are the largest component of the direct expense budget (55%), followed then by maintenance (14%), energy and utilities (11%), and other services (11%).

Within the labor cost category, wages and salaries account for \$91.2 million, 1.3% above FY10 actual spending. Of the \$91.2 million, \$89.7 million is for regular pay. The FY11 Final Budget assumes a staffing level of 1,216, offset by a 0.5% vacancy rate for a net average funded position count of 1,210, two (2) fewer positions than the FY10 average head count. New hires and backfills of vacant positions will be managed in the aggregate and addressed on a case-by-case basis by senior management.



Filled positions at MWRA have declined by 559 positions since the peak of 1,775 in March 1997 to 1,216 for FY11.

The FY11 Final Budget includes \$23.3 million for utilities, which is \$2.7 million or 10.3% lower than the FY10 actuals. FY10 utility spending was \$1.9 million higher than budgeted due to the significant Spring wet weather events which triggered significant Combined Turbine Generator (CTG) usage and the need to replenish diesel fuel inventory at Deer Island. The FY11 Final Budget assumes funding of \$18.2 million for electricity, \$2.5 million for diesel fuel, \$1.7 million for water and \$665,000 for natural gas. The FY11 Final energy and utilities budget reflects the most recent pricing outlook based on energy futures and on the latest power purchase contracts for Deer Island, Carroll Water Treatment Plant, and other large FOD facilities. In May 2009, the Authority entered into a 2-year power purchase agreement for Deer Island where the Authority purchased a fixed 10 MW block of power and will purchase the remaining plant energy demand in the real-time market. In November 2010, the new 4 MW, 3-year, fixed block power purchase agreement goes on-line where 80% of interval demand will be fixed. With the addition of this new contract, the MWRA has fixed pricing for over 60% of its electric load, with remaining demand being purchased in the real-time market. Projected energy savings in FY11 under the new interval contract are estimated at \$500,000.

As the Authority’s major capital initiatives wind down, maintenance expenditures to preserve these operating assets and maintain its infrastructure will continue to grow. The FY11 maintenance budget is \$28.8 million, an increase of \$3.2 million or 12.5%, compared to FY10 actual spending. This demonstrates the Authority’s continued commitment to maintaining its core operation related to facilities and infrastructure.

The FY11 Final Budget includes \$22.6 million for other services, an increase of \$130,000 or 0.6% from FY10 actuals mainly due to increased Other Services of \$253,000 largely for increased water quality initiatives, Space Lease/Rentals of \$232,000 to reflect the new Marlboro warehouse space, Printing of \$111,000, and Permit Fees of \$103,000 offset by \$554,000 for reduced inflation assumptions for the sludge pelletization contract. The budget includes funding of \$14.0 million for sludge pelletization, \$3.4 million for Space Lease/Rentals mainly for the CNY and Chelsea facilities, and \$1.4 million for voice and data services.

The FY11 Final Budget includes \$9.8 million for chemicals, an increase of \$798,000 or 8.9% from FY10 actual spending. FY10 spending on chemicals were \$1.4 million or 13.2% under budget due to lower chemical prices and lower water usage and wastewater dosing as result of the significant wet weather events. The FY11 Final Budget assumes one quarter of higher sodium bisulfite and sodium hypochlorite usage for regulatory requirements of enterococcus compliance at Deer Island.

Functional Area Budget Summary

For a broader perspective on MWRA's direct expense budget, Figure I-2 presents direct expenses by MWRA functional area and shows that 46% of the FY11 Final direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution.

FIGURE I-2
Direct Expenses by Functional Area - \$209.6 Million

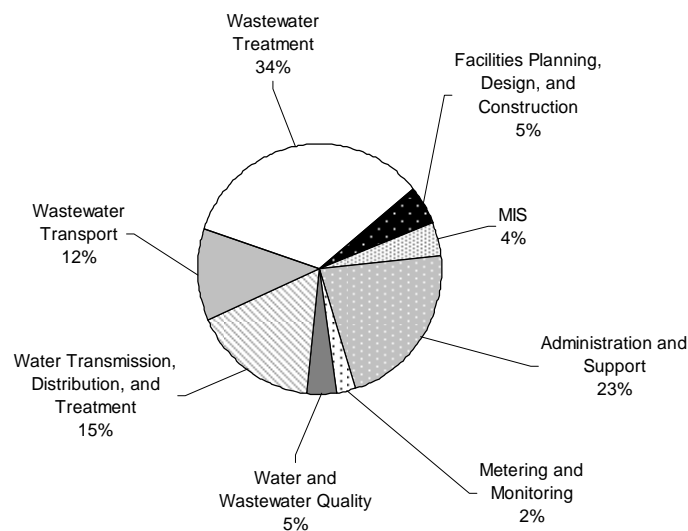
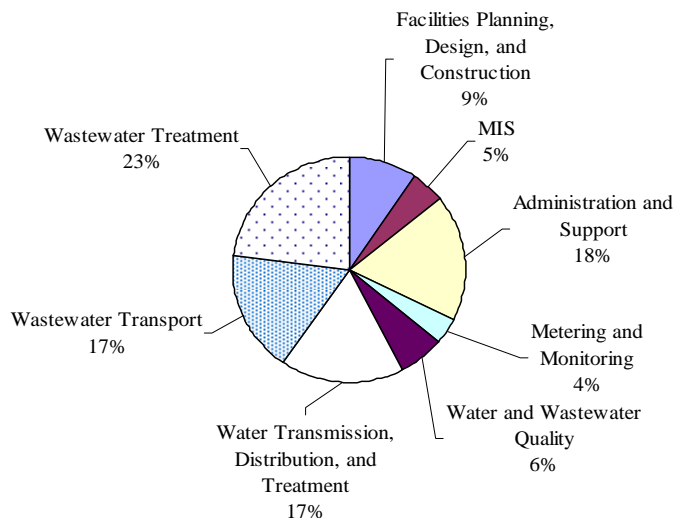


Figure I-3 illustrates staffing by Functional Area and shows the breakdown of the 1,209 filled positions as of June 2010. Of the 1,209 positions, 57% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 23% to administration and support and MIS functions, and 9% to facilities planning, design, and construction. Water and Wastewater Quality functions and Meter and Monitoring account for the remaining 10% of staff.

FIGURE I-3
Staffing by Functional Area



Capital Financing

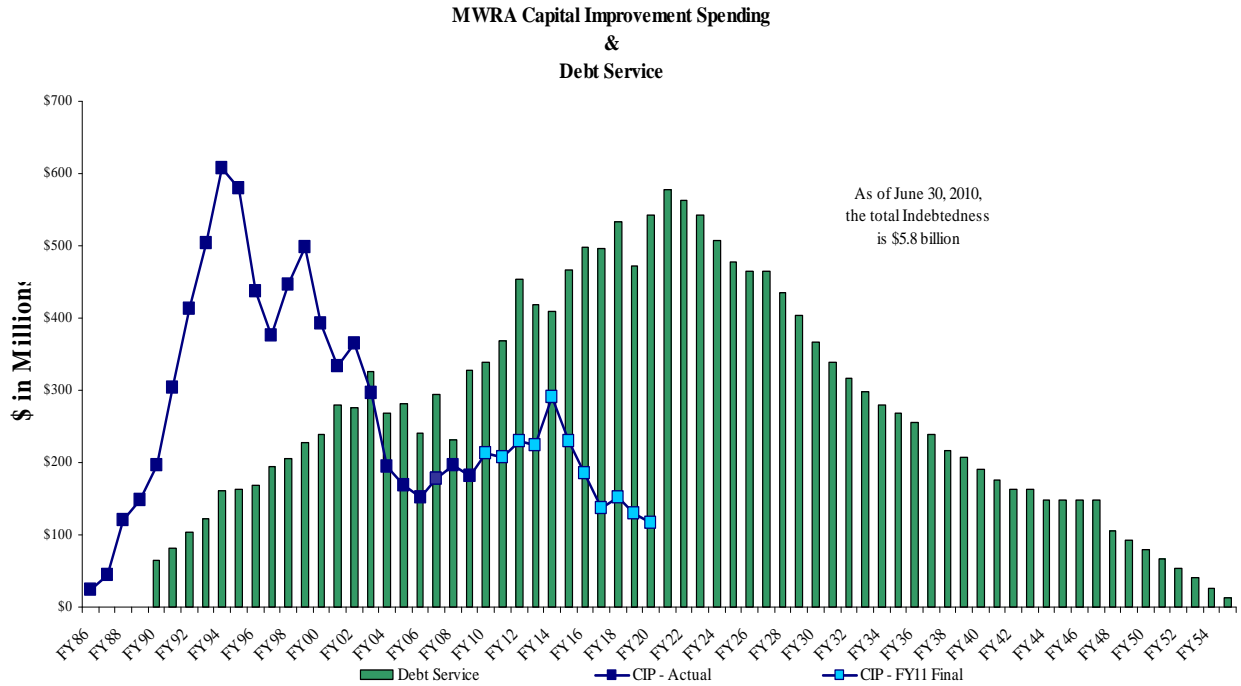
Outstanding Debt and Debt Management

The \$7.2 billion spent on MWRA’s modernization efforts to date, has relied heavily on debt financing. Total debt as of June 2010 was \$5.8 billion consisting of senior and subordinated debt, as well as Tax-Exempt Commercial Paper. The MWRA enjoys strong unenhanced senior debt ratings of Aa1, AA+, and AA+ from Moody’s, Standard & Poor, and Fitch, respectively.

The Authority’s debt service obligation as a percent of total expenses has increased from 36% in 1990 to 59% in the FY11 Final Current Expense Budget. Much of this debt service is for completed projects. MWRA’s capital spending, from its inception, has been dominated by court-mandated projects, which in total have accounted for 80% of capital spending to date. Going forward, the majority of capital spending will be geared towards asset protection and water redundancy initiatives.

The MWRA expects to finance the capital expenditures identified in the FY11 Final Capital Improvement Program (CIP) through the issuance of revenue bonds as provided for in the Enabling Act, and from the proceeds of federal and state grants and operating revenues. As of June 30, 2010, the MWRA’s indebtedness included \$3.3 billion of senior revenue bonds, approximately \$1.3 billion of subordinated revenue bonds, approximately \$1.1 billion of loans with the SRF and \$194 million of tax-exempt commercial paper notes.

The following graph illustrates the relationship between the MWRA’s CIP and outstanding debt as of June 2010.



The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates include maximizing use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, current and advanced refunding of outstanding debt, the use of surplus revenues to defease debt, and swap agreements. The MWRA also uses Tax Exempt Commercial Paper to minimize the financing cost of construction in process.

On May 6, 2010 the Authority restructured \$75.0 million and on June 17, 2010 it defeased \$54.6 million in bonds in order to decrease the FY11 through FY13 debt service requirements. These actions resulted in approximate savings of \$33.9 million in FY11, \$19.2 million in FY12 and \$47.8 million in FY13. The FY10 defeasance was accomplished by using funds made available from the 2010 Series B refunding transaction and the FY10 surplus.

The FY11 Final capital financing costs total \$354.3 million and remains the largest portion of the MWRA's budget, accounting for 58.9% of total expenses. The FY11 Final capital financing costs increased by \$9.1 million or 2.6% compared to the FY10 actuals. This increase in the MWRA's debt service requirement is the result of the new money which will be issued in FY10 and projected FY11 issuances partially offset by the impact of the restructuring and defeasance. The FY11 Final capital financing budget includes:

- \$199.7 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$1.8 million to support issuances of \$100 million of new money in April 2011.
- \$71.8 million in principal and interest payments on subordinate bonds;
- \$68.9 million in principal and interest payments on SRF loans. This amount includes \$10.2 million to support issuances of \$49 million in July 2010 and \$85 million in March 2011;
- \$7.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$3.4 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and
- \$3.2 million for the Chelsea Lease.

The debt service budget includes the impact of restructuring \$75.0 million of certain maturities of the 2008 Series D & E bonds and a defeasance of \$54.6 million. Over the FY11-13 timeframe, the combined reduction is approximately \$100.9 million.

Similarly in 2009, the Authority defeased approximately \$20 million in future debt service. The defeasance and redemption of these bonds decreased the FY10 and FY11 debt service requirements by approximately \$10.8 million and \$9.6 million, respectively. This defeasance was also accomplished using surplus funds.

The FY11 Final Budget assumes a 3.25% interest rate for variable rate debt which is 25 basis points lower than the FY10 assumption. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series, liquidity fees for the Standby Bond Purchase Agreement and Letter of Credit providers, and remarketing fees. While MWRA continues to experience unusually low interest rates, they are not reflective of historical averages and there is no guarantee that rates will stay low. The 20-year SIFMA interest rate average for variable rate debt is 3.03% and MWRA current average liquidity and remarketing costs are 67 basis points. The combination of these two costs results in an all-in average cost of approximately 3.70% which is 45 basis points higher than the budget assumption.

Table I-3 provides detail on the FY11 Final capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Nearly 70% percent of the FY11 Final capital financing is for wastewater improvements. Current and future borrowing increasingly support improvements to the water system. A complete list of the Authority's indebtedness by series is presented in Appendix F.

TABLE I-3				
FY11 Final Current Expense Budget - Capital Financing Detail (as of 6/30/10)				
\$ in Millions				
	Amount Outstanding	Total	Sewer	Water
Total SRF ¹ Debt	\$1,055	\$68.9	\$54.1	\$14.8
Total Senior Debt	3,305	199.7	129.6	70.1
Total Subordinate Debt	1,257	71.8	57.5	14.4
Total SRF and Debt Service²	\$5,618	\$340.5	\$241.2	\$99.3
Water Pipeline Commercial Paper	194	3.4	0.0	3.4
Current Revenue/Capital ³		7.2	3.9	3.3
Capital Lease		3.2	2.0	1.2
Sub-Total	\$194	\$13.9	\$5.9	\$7.9
Total Capital Financing (before Debt Service Offsets)	\$5,812	\$354.3	\$247.1	\$107.2
Debt Service Offsets:				
Debt Service Assistance		0	0	0
Total Capital Financing	\$5,812	\$354.3	\$247.1	\$107.2

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² Numbers may not add due to rounding.

³ Current Revenue/Capital is revenue used to fund ongoing capital projects.

Indirect Expenses

Indirect Expenses for FY11 total \$38.0 million, an increase of \$44,000 or 0.1% above FY10 actuals. Below are the highlights of major changes:

Insurance

MWRA purchases property and casualty insurance from external insurance carriers with a self-insured retention of \$2.5 million dollars and Worker's Compensation Excess insurance with a self-insured retention of \$500,000 per claim. The FY11 Final Budget includes \$2.6 million for premiums, fees, and self-insured claims, an \$868,000 or 25.1% decrease from FY10 actual spending. The budget includes \$1.8 million for premiums and fees and \$800,000 for the projected cost of claims made against the self-insured portion of MWRA coverage. MWRA mitigates the budgetary risk of self-insurance by maintaining an Insurance Reserve. The reserve, which was established as part of the Bond Resolution, requires that an independent insurance consultant review the funding level every three years and provide recommendations as to its adequacy. The current funding level of \$19.0 million has been determined to be acceptable and reasonable based on a FY07 Insurance Reserve Fund review performed by an outside

insurance consultant. An updated Insurance Reserve adequacy review is currently underway.

Watershed Reimbursement/PILOT

The Enabling Act directs MWRA to pay the Commonwealth of Massachusetts for several statutory obligations: Payment in Lieu of Taxes (PILOT) for Commonwealth-owned land in the watersheds, operating expenses of the Division of Water Supply Protection, and debt service costs for purchases of land around the supply reservoirs to protect the watersheds. The FY11 Final Budget includes \$24.7 million for Division of Water Supply Protection (formerly MDC Division of Watershed Management), an increase of \$1.4 million or 6.0% over FY10 actuals. The budget is comprised of \$12.2 million for reimbursement of operating expenses, \$6.9 million for Payment in Lieu of Taxes (PILOT), and \$5.6 million for debt service expenses on prior land purchases financed by the Commonwealth.

Harbor Electric Energy Company (HEEC)

The FY11 Final Budget includes \$4.2 million for the Harbor Energy Electric Company (HEEC), an increase of \$278,000 or 7.1% from FY10 actuals. This funding is for the repayment of the capital investment of the Deer Island electric cable and substation which provides electric power to the treatment plant.

Mitigation

MWRA disburses mitigation funds to communities affected by MWRA projects or facilities pursuant to MWRA's Statement of Mitigation Principles and/or specific agreements with communities. MWRA mitigation may include relieving the direct impacts of construction, meeting environmental and regulatory requirements, long-term operating agreements, or community compensation for impacts over and above those addressed by other mitigation. In rare situations, where the extent and duration of the impact of a project or facility on a community is such that restoring the area to its pre-project state is insufficient to relieve the stress of MWRA's presence during the project, MWRA funds or contributes to improvements to affected areas.

Mitigation expenses are funded in the capital budget and in the current expense budget. The FY11 Final Budget includes \$1.5 million for community compensation for impacts, including \$790,000 for the City of Quincy and \$728,000 for the Town of Winthrop, based on Memoranda of Agreement with the communities.

Retirement System Contribution

The FY11 Final Budget includes a required contribution to MWRA's retirement fund of \$5.3 million, a decrease of \$278,000 or 5.0% versus FY10 actuals. The FY11 funding of \$5.3 million is significantly lower than the minimum contribution of \$9.2 million required under the January 1, 2009 actuarial study. The FY11 Final Budget is based on a revised estimate which reflects recent market gains.

GASB 45 – Accounting and Reporting by Employers for Postemployment Benefits Other than Pensions

The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved redirection of OPEB related expenses to the pension fund in the form of optional payments. In the past two years, the MWRA has redirected approximately \$10.4 million to the pension fund. However, given the current financial climate, there are no optional payments budgeted for the pension fund in FY11 and there is no budgeted OPEB funding.

Operating Reserves

Funding for the Operating Reserve for FY11 is \$408,000 lower than FY10 actuals and reflects operating expenses. The Operating Reserve balance is in compliance with MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY11 Final Budget, the required balance is \$37.2 million versus the \$37.6 million required in FY10.

Community Profile and Assessments

MWRA provides wholesale water and sewer services to 61 communities or local bodies. Fifty one local bodies purchase water supply services, and 45 local bodies purchase wastewater transport and treatment services. Thirty four local bodies purchase both. Approximately 2.8 million people, or 42% of the population of Massachusetts, live and work in the communities that purchase water and/or wastewater services from MWRA.

MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the FY11 Final Current Expense Budget, rate revenue from BWSC will account for 31% of MWRA's total rate revenue. Table I-4, on page I-18, lists MWRA communities, the services received, and the preliminary MWRA assessments for FY11.

Each year MWRA determines preliminary wholesale water and sewer assessments in February and final assessments in June before the beginning of the new fiscal year. These assessments must satisfy the statutory requirement that MWRA fully recover its budgeted water and sewer costs by apportioning net costs among its wholesale water and sewer customers.

Table I-5 on page I-19 presents the calculation of MWRA's FY11 Final Rate Revenue Requirement. The table shows that most of MWRA's current expenses are directly attributable to either water or sewer service costs, or to investment in the water or sewer systems. Expenses that support both systems are allocated to water or sewer assessments based on generally accepted cost allocation principles. The allocation methodology used in preparing the FY11 Final Budget was revised prior to FY02 to more accurately estimate the division of support costs between the water and sewer programs. Investment income and other revenues offset water and sewer expenses. The resulting net cost of water and sewer services is the amount MWRA recovers through water and sewer assessments.

Wholesale Assessment Methodology

MWRA calculates separate user assessments for water and sewer services. Budgeted water operating and capital costs are allocated based on each community's share of total water use for the most recent calendar year. The sewer assessment methodology allocates budgeted operating and maintenance costs based on share of wastewater flow and strength parameters, and capital costs based on proportion of maximum flow, strength, and population. MWRA uses three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. Flow averaging moderates the short-term impact of year-to-year changes in community flow, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow. In April 2005, the MWRA installed a new wastewater metering system which has been used to generate sewer assessments since FY07.

Table I-4

Massachusetts Water Resources Authority
Final FY11 Water and Sewer Assessments

MWRA Fully Served Water and Sewer Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
ARLINGTON	\$3,893,299	\$3,993,340	2.6%	\$6,732,264	\$6,763,055	0.5%	\$10,625,563	\$10,756,395	1.2%
BELMONT	2,094,622	2,183,280	4.2%	4,161,876	4,234,838	1.8%	6,256,498	6,418,118	2.6%
BOSTON (BWSC)	66,256,569	67,381,413	1.7%	108,380,160	109,888,745	1.4%	174,636,729	177,270,158	1.5%
BROOKLINE	5,216,987	5,310,862	1.8%	10,824,841	11,279,012	4.2%	16,041,828	16,589,874	3.4%
CHELSEA	2,978,069	3,118,910	4.7%	5,739,883	6,157,340	7.3%	8,717,952	9,276,250	6.4%
EVERETT	4,552,198	4,152,168	-8.8%	6,530,382	6,614,319	1.3%	11,082,580	10,766,487	-2.9%
FRAMINGHAM	6,531,365	6,448,218	-1.3%	9,517,520	9,983,704	4.9%	16,048,885	16,431,922	2.4%
LEXINGTON	4,482,551	4,745,093	5.9%	6,245,946	6,405,931	2.6%	10,728,497	11,151,024	3.9%
MALDEN	5,658,857	5,494,013	-2.9%	10,367,785	10,588,739	2.1%	16,026,642	16,082,752	0.4%
MEDFORD	4,761,277	5,061,181	6.3%	10,318,684	10,350,919	0.3%	15,079,961	15,412,100	2.2%
MELROSE	2,048,045	2,093,320	2.2%	5,148,514	5,245,603	1.9%	7,196,559	7,338,923	2.0%
MILTON	2,122,571	2,290,290	7.9%	4,520,576	4,536,045	0.3%	6,643,147	6,826,335	2.8%
NEWTON	8,662,740	8,710,520	0.6%	17,548,082	18,034,955	2.8%	26,210,822	26,745,475	2.0%
NORWOOD	3,017,939	2,875,398	-4.7%	5,565,811	5,561,031	-0.1%	8,583,750	8,436,429	-1.7%
QUINCY	9,360,041	9,387,744	0.3%	16,761,810	17,150,548	2.3%	26,121,851	26,538,292	1.6%
READING	1,737,501	1,726,878	-0.6%	3,844,457	3,922,082	2.0%	5,581,958	5,648,960	1.2%
REVERE	4,039,752	4,086,484	1.2%	8,782,042	9,553,669	8.8%	12,821,794	13,640,153	6.4%
SOMERVILLE	5,889,612	5,958,943	1.2%	12,507,364	12,822,076	2.5%	18,396,976	18,781,019	2.1%
STONEHAM	2,673,786	2,710,209	1.4%	3,963,348	4,036,494	1.8%	6,637,134	6,746,703	1.7%
WALTHAM	7,149,732	7,639,702	6.9%	11,731,972	11,906,428	1.5%	18,881,704	19,546,130	3.5%
WATERTOWN	2,807,488	2,683,079	-4.4%	5,149,170	5,271,596	2.4%	7,956,658	7,954,675	0.0%
WINTHROP	1,247,329	1,239,532	-0.6%	2,999,987	2,871,107	-4.3%	4,247,316	4,110,639	-3.2%
TOTAL	\$157,182,330	\$159,290,577	1.3%	\$277,342,474	\$283,178,236	2.1%	\$434,524,804	\$442,468,813	1.8%

MWRA Sewer and Partial Water Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
CANTON	\$2,316,722	\$2,245,811	-3.1%	\$3,256,556	\$3,240,704	-0.5%	\$5,573,278	\$5,486,515	-1.6%
NEEDHAM	427,332	265,017	-38.0%	5,028,493	5,043,945	0.3%	5,455,825	5,308,962	-2.7%
STOUGHTON	485,781	560,611	15.4%	4,013,770	4,209,243	4.9%	4,499,551	4,769,854	6.0%
WAKEFIELD	1,408,297	1,519,711	7.9%	4,942,223	5,033,655	1.9%	6,350,520	6,553,366	3.2%
WELLESLEY	831,203	1,039,510	25.1%	4,743,999	4,801,042	1.2%	5,575,202	5,840,552	4.8%
WILMINGTON	0	100,782	100.0%	1,985,771	1,963,446	-1.1%	1,985,771	2,064,228	4.0%
WINCHESTER	812,945	836,681	2.9%	3,366,865	3,465,522	2.9%	4,179,810	4,302,203	2.9%
WOBURN	2,670,355	1,713,327	-35.8%	9,931,347	9,292,091	-6.4%	12,601,702	11,005,418	-12.7%
TOTAL	\$8,952,635	\$8,281,450	-7.5%	\$37,269,024	\$37,049,648	-0.6%	\$46,221,659	\$45,331,098	-1.9%

MWRA Sewer-only Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
ASHLAND				\$1,869,649	\$1,942,553	3.9%	\$1,869,649	\$1,942,553	3.9%
BEDFORD				2,929,353	2,872,853	-1.9%	2,929,353	2,872,853	-1.9%
BRAINTREE				6,880,530	7,090,129	3.0%	6,880,530	7,090,129	3.0%
BURLINGTON				4,366,388	4,447,740	1.9%	4,366,388	4,447,740	1.9%
CAMBRIDGE				21,019,359	21,622,817	2.9%	21,019,359	21,622,817	2.9%
DEDHAM				4,740,776	4,715,220	-0.5%	4,740,776	4,715,220	-0.5%
HINGHAM SEWER DISTRICT				1,368,516	1,434,012	4.8%	1,368,516	1,434,012	4.8%
HOLBROOK				1,325,371	1,379,633	4.1%	1,325,371	1,379,633	4.1%
NATICK				4,219,801	4,346,280	3.0%	4,219,801	4,346,280	3.0%
RANDOLPH				4,821,993	4,910,670	1.8%	4,821,993	4,910,670	1.8%
WALPOLE				3,104,740	3,116,054	0.4%	3,104,740	3,116,054	0.4%
WESTWOOD				2,072,034	2,158,037	4.2%	2,072,034	2,158,037	4.2%
WEYMOUTH				9,010,767	9,316,303	3.4%	9,010,767	9,316,303	3.4%
TOTAL				\$67,729,277	\$69,352,301	2.4%	\$67,729,277	\$69,352,301	2.4%

MWRA Water-only Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
LYNNFIELD WATER DISTRICT	\$456,370	\$362,005	-20.7%				\$456,370	\$362,005	-20.7%
MARBLEHEAD	1,768,433	1,805,608	2.1%				1,768,433	1,805,608	2.1%
NAHANT	340,192	303,713	-10.7%				340,192	303,713	-10.7%
SAUGUS	2,700,713	2,972,346	10.1%				2,700,713	2,972,346	10.1%
SOUTHBOROUGH	666,245	625,916	-6.1%				666,245	625,916	-6.1%
SWAMPSCOTT	1,380,309	1,462,442	6.0%				1,380,309	1,462,442	6.0%
WESTON	1,438,311	1,367,778	-4.9%				1,438,311	1,367,778	-4.9%
TOTAL	\$8,750,573	\$8,899,808	1.7%				\$8,750,573	\$8,899,808	1.7%

MWRA Partial Water-only Customers	Final FY10 Water Assessment	Final FY11 Water Assessment	Percent Change from FY10	Final FY10 Sewer Assessment	Final FY11 Sewer Assessment	Percent Change from FY10	Final FY10 Combined Assessment	Final FY11 Combined Assessment	Percent Change from FY10
DEDHAM-WESTWOOD WATER DISTRICT	\$7,234	\$781	-89.2%				\$7,234	\$781	-89.2%
LYNN (LWSC)	159,682	169,958	6.4%				159,682	169,958	6.4%
MARLBOROUGH	2,901,191	2,390,943	-17.6%				2,901,191	2,390,943	-17.6%
NORTHBOROUGH	823,787	793,981	-3.6%				823,787	793,981	-3.6%
PEABODY	312,793	392,317	25.4%				312,793	392,317	25.4%
TOTAL	\$4,204,687	\$3,747,980	-10.9%				\$4,204,687	\$3,747,980	-10.9%
SYSTEMS TOTAL	\$179,090,225	\$180,219,815	0.63%	\$382,340,775	\$389,580,185	1.89%	\$561,431,000	\$569,800,000	1.49%

Retail Charges

As noted above, MWRA provides water and sewer services to communities on a wholesale basis. Each community then re-sells services on a retail basis. As a result, household water and sewer charges include each household's share of the community's MWRA water and sewer assessments, plus the community's own charges for the provision of local water and sewer services.

Each community independently establishes retail rates. When establishing local rates, community officials consider issues related to the pricing of services, level of cost recovery, and the local rate structure or methodology. Several factors contribute to a broad range of local rate structures in the MWRA service area:

- Differences in the extent to which water and sewer costs are supported through property taxes and other sources of revenue;
- Differences in the means by which communities finance investments in their own water and sewer systems; and
- Differences in communities' retail rate methodologies.

Some communities have flat unit rates, while others have inclining block rates. Local rates may also provide for differentials among classes of users, such as higher rates for commercial or industrial users, abatements to low-income or elderly residents, and adjusted sewer rates for customers with second meters used for lawn irrigation.

Additional information on rate structure within the member communities is available on the MWRA Advisory Board website as part of its annual retail rate survey.

TABLE I-5
Calculation of the FY11 Rate Revenue Requirement
(000's)

	Sewer	Water	Total
Allocated Direct Expenses	\$147,005	\$62,608	\$209,613
Allocated Indirect Expenses	\$9,779	\$28,180	\$37,959
PLUS			
Capital Expenses:			
Debt Service (less offsets)	\$241,203	\$99,271	\$340,474
Current Revenue for Capital	\$3,917	\$3,283	\$7,200
Other Capital Expenses	\$2,007	\$4,645	\$6,653
PLUS			
Non-Rate Revenue:			
Investment Income	-\$9,922	-\$5,388	-\$15,310
Fees and Other Revenue	-\$4,409	-\$7,349	-\$11,759
Rate Stabilization	\$0	-\$5,030	-\$5,030
EQUALS			
Rate Revenue Requirement	\$389,580	\$180,220	\$569,800

Revenue and Expenditure Trends

Because MWRA is required by its enabling act to balance its budget and to establish annual assessments to cover all expenses, revenue must change in concert with the changes in expenses each year. The Rate Revenue Requirement in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and debt service assistance from the Commonwealth (which directly reduces debt service expense). For FY11, community assessments will represent 94.7% of total revenue.

MWRA also updates its estimates of anticipated revenues and expenses over a multi-year planning horizon. These estimates provide a context for budget discussions and allow MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget options.

The table below and Appendix D (in more detail) present future rate revenue requirements for FY11 through FY20.

Rates & Budget Projections										
FY11 Final CEB	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
Total Rate Revenue (\$ in 000)	\$ 569,800	\$ 592,299	\$ 615,689	\$ 663,651	\$ 715,311	\$ 763,160	\$ 814,749	\$ 791,711	\$ 853,613	\$ 942,465
Rate Revenue Change from Prior Year (\$000)	\$ 8,369	\$ 22,499	\$ 23,390	\$ 47,962	\$ 51,660	\$ 47,849	\$ 51,588	\$ (23,037)	\$ 61,902	\$ 88,852
Rate Revenue Increase	1.49%	3.9%	3.9%	7.8%	7.8%	6.7%	6.8%	-2.8%	7.8%	10.4%
Use of Reserves (\$ in 000)	\$ 6,833	\$ 2,359	\$ 1,543	\$ 32,624	\$ 16,316	\$ -	\$ 7,636	\$ -	\$ -	\$ -

Increasing debt service to finance the capital improvement program is the most important factor driving estimates of future budget increases. Over the past several years MWRA's tax-exempt commercial paper program, debt refinancing, federal grants, SRF loans, and Commonwealth debt service assistance have mitigated the impact on ratepayers of new capital spending. However, new water system improvements, for which there are fewer non-ratepayer sources of funding, and the impact of new financing will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available (e.g. refunding for savings, extended maturities on future borrowings, variable rate debt, and increased use of tax-exempt commercial paper) to help cushion and smooth the growth in capital financing expenses. Despite these initiatives, the size of the capital program will unavoidably continue to drive increases in community assessments.

The second largest budget factor is projected growth of base operating costs. The estimated \$84.3 million increase in direct expenses from FY11 to FY20 is primarily the result of an assumed inflation rate of 3.0% in FY12 and 4.0% annually thereafter. Also, over the next ten years, there will be increases in direct expenses as a result of capital improvement projects. The largest increases will be for the operation of new facilities such as the North Dorchester Bay CSO which will have incremental impacts beginning in FY12.

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. The assumptions include:

- No Debt Service Assistance is projected;
- Direct expense inflation rate of 3.0% in FY12 and 4.0% thereafter;
- CIP inflation rate of 2.5%;
- Capital spending based on 85% of the CIP expenditure forecast with 10% (two-thirds of the 15% reduction) added back three years later;
- Long-term fixed rate debt issues with 40-year terms and 5% interest rates in FY11, 40-year terms 5.5% in FY12, and 40-year terms of 5.75% in FY13-30;
- Variable rate interest projected at 3.25% in FY11, 3.75% in FY12 and 4.0% thereafter.

MWRA uses the planning estimates to present a picture of what future rate increases might be and to test the impact of changes to assumptions. The planning estimates are not predictions of rate increases; rather, they provide the context and framework for the policy decisions that actually shape future Rate Revenue Requirements and increases.

The planning estimates generally use conservative assumptions to help communities plan for future payments to MWRA.

There are several areas where differences from planning estimate assumptions may alter projected increases:

- Changes in anticipated borrowing rates or expected investment income rates;
- The planning estimates do not factor in any positive year-end variances which may be used to defease debt or reserved to offset Rate Revenue Requirements in future years;
- More opportunities for SRF borrowing than expected; a dollar borrowed through the SRF at 2% replaces the need to borrow a dollar long-term at an assumed 5% rate;
- Debt refinancing opportunities;
- Capital spending; and
- Growth in direct expenses, greater than current assumptions is an area of increased concern. Many of the savings in prior years through staffing reductions, optimization of operations, and scope revisions to professional services are already reflected in the budget. More importantly, going forward the MWRA is faced with a growing need to maintain its facilities and ensure that adequate funding is available.

Managing rate increases in the coming years may involve tradeoffs between smaller increases in the upcoming fiscal year and significantly larger increases in subsequent years.

FY11 Final Capital Improvement Program

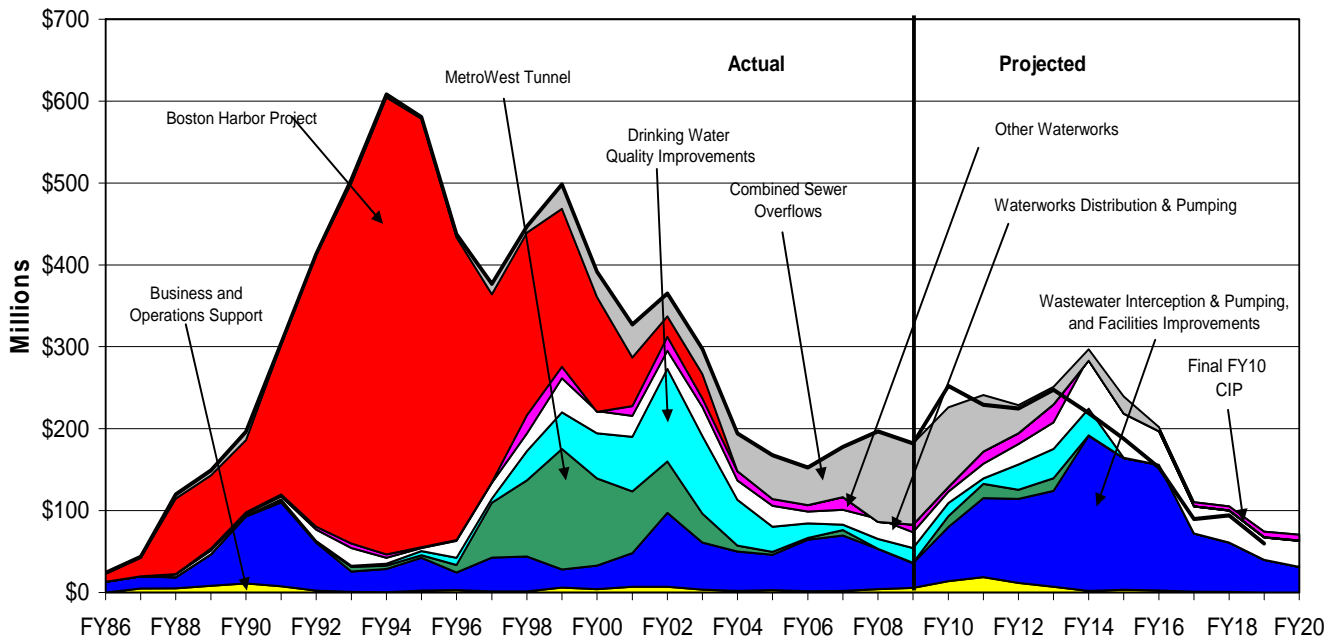
The FY11 Final Capital Improvement Program (CIP) budget totals \$5.3 billion, of which \$3.0 billion has been expended through FY09 with a balance of \$2.3 billion remaining to be expended. The CSO program is the largest remaining program initiative in terms of spending with an FY11 Final Budget of \$885.3 million of which \$621.6 million has been expended through FY09. The CSO Program accounts for \$336.6 million or 32% of Authority spending over the FY09-13 period.

The capital investment in the MWRA’s operating facilities has been primarily funded through the proceeds of \$5.8 billion in long-term borrowings, and the debt service on this indebtedness represents a significant and growing portion of the Authority’s operating budget.

As the MWRA matures as an agency, a greater proportion of its capital budget is designated for Asset Protection and Water Redundancy initiatives, absent new regulatory mandates, to preserve operating assets and insure interrupted water service to our user communities. This long-term strategy for capital work is identified in the Authority’s Master Plan which was published in 2006 and serves as a road map for inclusion of projects in the CIP in every proposed budget cycle.

The graph below highlights major capital improvement spending by program categories, both completed (actual) and remaining (projected).

MWRA CAPITAL PROGRAM FY1986-2020



MWRA's Green Initiatives

Building upon its track record in sustainable resource use – most notably dramatic system-wide reductions in water demand, 100% beneficial reuse of sludge, self-generation of approximately 25% of Deer Island's power needs, and maximizing revenue through hydropower – MWRA continues to work aggressively to use its resources efficiently and reduce the environmental impacts of its daily operations. The FY11 Final Current Expense Budget (CEB) projects that Deer Island self-generation will grow to 28% mostly due to Steam Turbine Generation (STG) operation. The MWRA is on track to meet the Governor's initiative that 30% of power demand be met by green sources. Key initiatives now underway or planned for FY11 include the following:

- Design/build to upgrade Deer Island STG generating an additional 5 million kwh/year of power from digester gas scheduled to go on-line January 2011.
- Second battery of 180 kW solar panels at Deer Island expected to go on-line March 2010.
- Installation of 1.5 MW wind turbines at Nut Island with a start up date of November 2011.
- Installation of a 1.5 MW wind turbine at the DeLauri pump station with a start up date of August 2011.
- Construction of 200 kW hydropower turbine/generator at Loring Road to generate 1.2 million kWh annually.
- Continue design/permitting of Wachusett Hydropower.
- Installation of 478 kW of solar power to be installed at Carroll Water Treatment Plant in July 2011.
- Conduct additional Wind Feasibility studies at various locations to assess if additional opportunities exist.
- Retrofit of diesel-powered vehicles and equipment and continued purchase of alternative fuel vehicles. Of the 378 vehicles in MWRA's fleet, 249 are powered by alternative fuel.
- Initial responses to comprehensive energy audits at the Carroll Water Treatment Plant, the Chelsea Facility, and Deer Island Treatment Plant facilities are already yielding energy savings.
- Conduct comprehensive energy audits of 15 MWRA pump stations and CSOs, and begin implementation of recommendations from audits of 13 pump stations and headworks completed in FY10.

MWRA will continue to assign high priority in its capital and current expense budgets to projects which demonstrate its commitment to energy efficiency and environmental sustainability and will seek to maximize grant funding to improve the economic efficiency of green energy projects.

Stimulus Funding

The MWRA was awarded \$33.0 million in stimulus funding based on the American Recovery and Reinvestment Act (ARRA) signed by President Obama on February 17, 2009. This funding was distributed through the State Revolving Fund (SRF) program and is being administered as principal forgiveness loans funding eligible drinking and clean water projects. This program is projected to save the Authority an estimated \$40.9 million in debt service payments. Of the \$33.0 million in stimulus funding, \$9.2 million will support Green Infrastructure projects, specifically the Carroll Water Treatment Plant, Deer Island photovoltaic projects, Loring Road Hydroelectric conduit, and the DeLauri Pump Station Wind Turbine initiative. To date, the MWRA has received \$23.7 million of this stimulus funding.

FY11 Final CIP

As shown in Table I-6 below, the MWRA's total capital budget is \$5.3 billion with \$3.0 billion spent through FY09 and \$2.3 billion remaining to be expended. Wastewater System Improvements represent \$1.2 billion or 53.9% of remaining spending. Budgeted spending for FY11 is \$208.0 million.

Table I-6

	Total Contract Amount	Spending Thru FY09	Remaining Balance 6/30/09	FY10	FY11	FY12	FY13	5-Year Total FY09-13	Beyond FY13
Wastewater System Improvements	\$2,574.7	\$1,341.4	\$1,233.3	\$151.4	\$130.8	\$138.5	\$100.2	\$644.6	\$712.5
Waterworks System Improvements	\$2,652.5	\$1,655.3	\$997.2	\$50.9	\$58.2	\$81.7	\$115.8	\$359.5	\$690.6
Business & Operations Support	105.6	48.6	56.9	10.0	19.0	9.7	8.6	53.1	9.5
Total MWRA	\$5,332.8	\$3,045.3	\$2,287.5	\$212.3	\$208.0	\$230.0	\$224.7	\$1,057.2	\$1,412.6

FY11 Final Capital Budget Highlights

The FY11 Final CIP is \$1.06 billion for fiscal years 2009-2013, and projected spending of \$1.41 billion beyond FY13 which is primarily driven by spending on new projects from the Master Plan. The FY14-18 spending window is \$995.1 million, but this forecast will grow in future budget cycles as additional Master Plan projects are incorporated into the CIP. The FY11 Final CIP includes 101 new projects/sub-phases from the Master Plan, nine of which were added in the FY11 CIP, with the highest priority ratings totaling \$19.7 million. A total of \$1.06 billion in new projects has been added to the CIP since the Master Plan was adopted.

Highlights of Project Changes from the FY10 Final CIP to the FY11 Final CIP

The FY11 Final CIP represents updated spending and schedules for projects contained in the FY10 Final CIP and new spending on 25 projects and sub-phases which total \$44.7 million. These additional projects and sub-phases represent those capital initiatives outside of the FY10 Final CIP that staff recommends as most essential to assure reliable service to MWRA's customers.

The FY11 Final CIP increased \$351.7 million or 7.1% above the FY10 Final CIP approved by the Board in June 2009. The majority of the capital budget increase is due to: inclusion of approximately \$221.3 for water redundancy projects, \$44.7 million for new projects related to Interceptor Renewal, Deer Island Asset Protection, and Alternative Energy initiatives. The balance reflects updated cost estimates, the largest increase being for the Headworks Upgrades of \$56.3 million, and schedule changes.

It is important to note that even with a substantial increase in the CIP between the FY10 Final and FY11 Final CIP, projected spending on projects in the FY09-13 CAP period decreased by \$32.6 million, associated with underspending in FY09 and FY10.

Table I-7 describes the dollar and percent changes by major program between the FY10 Final and FY11 Final CIP for the total project level and for the FY09-13 timeframe.

Table I-7

	Final FY10	Final FY11	\$ Change	% Change	FY09-13 \$ Change	FY09-13 % Change
Wastewater Systems Improvements	2,461.5	2,574.7	113.2	4.6%	-29.5	-4.4%
Waterworks System Improvements	2,429.6	2,652.5	222.9	9.2%	-15.4	-4.1%
Business Operations & Support	89.9	105.6	15.6	17.4%	12.3	30.3%
Total MWRA	\$4,981.0	\$5,332.8	\$351.7	7.1%	-\$32.6	-3.0%

Contingency

Contingency for each fiscal year is incorporated into the Capital Improvement Program to fund the uncertainties inherent in construction programs. MWRA uses a contingency budget to cover these costs in the event they exceed the Approved Budget. The contingency budget is calculated as a percentage of budgeted expenditure outlays. Specifically, contingency is 7% for non-tunnel projects and 15% for tunnel projects. The total contingency budget for the CIP (FY10-FY20) is \$125.1 million with \$33.7 million allocated to the FY09-13 timeframe.

	Total Budget	FY09	FY10	FY11	FY12	FY13	FY09-13	Beyond 13
Contingency	\$125.1	\$0.0	\$0.0	\$10.3	\$11.0	\$12.4	\$33.7	\$91.4

Major Planned Spending for Fiscal Year 2010

Capital spending in FY11 is estimated to be \$208.0 million. Spending will be driven by several large projects, including the ten projects listed below, which account for 76.1% of budgeted FY11 spending:

Table I-8

	Total Contract Amount	FY11 Spending	%
S.206 DI Treatment Plant Asset Protection	\$512.5	\$48.3	23.2%
S.339 North Dorchester Bay	223.3	21.0	10.1%
S.359 Reserved Channel Sewer Separation	73.7	16.6	8.0%
S.765 Local Water Pipeline Improvement Loan Program	0.0	14.5	7.0%
S.935 Alternative Energy Initiatives	25.5	12.5	6.0%
S.604 Metro West Tunnel (Hultman Aqueduct Rehabilitation)	704.0	11.9	5.7%
S.346 Cambridge Sewer Separation	64.0	10.4	5.0%
S.360 Brookline Sewer Separation	29.6	10.1	4.9%
S.721 Souther Spine Distribution Mains	69.5	7.0	3.4%
S.104 Braintree Weymouth Relief Facilities	233.6	5.9	2.8%
Top 10 Spending in FY11	\$1,935.7	\$158.2	76.1%
FY11 Spending	\$5,332.8	\$208.0	100.0%

CIP Impact on Current Expense Budget Table I-9

In addition to the annual financing costs included in the Current Expense Budget, the Capital Improvement Program affects the annual operating budget when capital facilities come on-line and require adjustments to operating budgets. In prior years, completion of the Deer Island Treatment Plant, the Carroll Water Treatment Plant, and the residuals processing facility in Quincy resulted in significant increases in operating expenses. New facilities are adding operating costs of approximately \$900,000 and MIS program related maintenance initiatives are increasing operating costs by nearly \$800,000 by FY20. These increases will be more than offset by anticipated savings for energy initiatives at Deer Island, most notably the digester gas fueled Steam Turbine Generator (STG) upgrade as well as water and wastewater Alternative Energy Initiatives including solar, wind and hydroelectric power projects which will result in energy savings. The following table summarizes projected CIP impact by project over the next 10 years.

Fiscal Year	CEB Impacts (000)									
	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	Total
DI Asset Protection	(\$608)	\$0	(\$111)	(\$275)	(\$152)	\$0	\$0	\$0	(\$169)	(\$1,315)
FERS Biofilter	0	0	0	(20)	(21)	0	0	0	0	(41)
Clinton Wastewater Treatment Plant/Aeration Efficiency Improvement	0	(48)	0	0	0	0	0	0	0	(48)
Wastewater Alternative Energy Projects	0	(1,157)	0	0	0	0	0	0	0	(1,157)
North Dorchester Bay	464	0	0	0	0	439	0	0	0	902
Total Wastewater (inflated)	(\$144)	(\$1,205)	(\$111)	(\$295)	(\$173)	\$439	\$0	\$0	(\$169)	(\$1,659)
Carroll Water Treatment Plant	\$0	\$0	\$0	\$87	\$0	\$0	\$0	\$0	\$0	\$87
Quabbin Water Treatment Plant	0	40	14	0	0	0	0	0	0	54
Wachusett Algae Treatment Facility	0	0	0	0	24	25	0	0	0	49
Alternative Energy	(210)	(48)	0	0	(158)	0	0	0	0	(416)
Total Water (inflated)	(\$210)	(\$8)	\$14	\$87	(\$134)	\$25	\$0	\$0	\$0	(\$226)
Phase II: TRAC Replacement	\$61	\$0	\$167	\$0	\$0	\$0	\$0	\$0	\$0	\$228
Phase V: LIMS Replacement, GIS & OMS	0	0	208	0	0	0	0	0	0	208
SAN II	0	0	0	116	0	0	0	0	0	116
SAN III	0	0	0	0	0	0	0	136	0	136
NET 2020	0	0	56	0	0	0	0	0	0	56
Telecommunications	0	0	0	0	0	0	0	34	0	34
Total Business and Operations Support (inflated)	\$61	\$0	\$431	\$116	\$0	\$0	\$0	\$169	\$0	\$777
TOTAL MWRA	(\$294)	(\$1,213)	\$333	(\$92)	(\$307)	\$464	\$0	\$169	(\$169)	(\$1,109)

Capital Financing and Grant Revenues

In the past, MWRA has been able to finance approximately 20 percent of its capital spending with grant receipts, totaling approximately \$1.1 billion through FY03. In addition to participating in federal and state grant programs, the MWRA will also benefit from the American Recovery and Reinvestment Act of 2009 which is projected to forgive approximately \$33 million in State Revolving Fund loan principal. The Authority will continue to pursue grant funding and take advantage of any possible program available to maximize grant funding opportunities.

MWRA expects to borrow the majority of funds necessary for future capital spending. Borrowing will include the issuance of fixed and variable rate revenue bonds; borrowing from the Commonwealth's

Water Pollution Abatement Trust (also known as the State Revolving Loan Fund or SRF), and a tax-exempt commercial paper program.

MWRA Organization and History

The MWRA Enabling Act

MWRA was created by legislative act in 1984, and inherited the Sewerage and Waterworks Divisions of the Commonwealth of Massachusetts Metropolitan District Commission (MDC). In July 1985, MWRA assumed control of the water and sewer systems, including facilities, properties, and the right to utilize water withdrawn from system reservoirs. The Commonwealth, under the management of the MDC Watershed Management Division (now the Department of Conservation and Recreation – Division of Watershed Management), retained ownership of real property, including the reservoirs and watersheds.

The Enabling Act also established the MWRA Advisory Board to represent the cities and towns in the service area. The Advisory Board appoints three members of the MWRA Board of Directors, approves the extension of water and sewer services to additional communities, and reviews and makes recommendations on MWRA's annual Current Expense Budget and Capital Improvement Program.

In 1987, the legislature transferred responsibility to operate and maintain the Clinton Wastewater Treatment Plant from the Commonwealth to MWRA.

History and Accomplishments

In 1985, the U.S. District Court for Massachusetts found MDC in violation of numerous aspects of the federal Clean Water Act, and the responsibility for those violations passed to MWRA as successor to MDC. The court issued a detailed compliance schedule for actions to be taken by MWRA to achieve and maintain compliance with the Clean Water Act.

MWRA achieved all of the milestones in the schedule related to the construction of treatment facilities on Deer Island, and is working to achieve milestones with respect to implementation of its long-term Combined Sewer Overflow (CSO) control plan. These achievements have made noticeable, measurable improvements in the quality of Boston Harbor and its beaches.

MWRA is also working to achieve compliance with an extensive consent order issued by the Massachusetts Department of Environmental Protection (DEP) mandating the steps necessary to achieve required improvements to the MWRA water system.

Since taking over operation and maintenance of the water and sewer systems from MDC, MWRA has increased annual investment in the system infrastructure from an average of \$11 million per year to an average of more than \$350 million per year between (FY90 to FY08). This investment has greatly improved the operating efficiency of the existing water and sewer systems, protecting fresh water sources and improving the water quality in Boston Harbor.

MWRA Rates Management

Between FY96 and FY02 the MWRA limited rate revenue increases to an average of 3.6% annually as a result of debt service assistance from the Commonwealth, federal grants to support the Boston Harbor Project, lower borrowing costs, use of financing tools that delayed costs to later years, a favorable bid climate for construction projects, and aggressive efforts to control capital and operating costs.

As debt service costs resulting from mandated capital investment have steadily increased, MWRA's dependence on rising debt service assistance (DSA) allocations have similarly increased. DSA reached a high of \$52.9 million in FY02. In FY03, in response to a state-wide recession, debt service assistance was eliminated and as a result, MWRA was forced to have an unprecedented mid-year rate adjustment, increasing the rate increase from 2.9% to 6.9% as part of an overall strategy in response to cover the loss. The Authority cut \$420 million from its capital improvement program and \$47.2 million from the current expense budget through various budget cuts including layoffs. Reductions in debt service assistance result in greater reliance on reserves, budget cuts or a combination of these two elements. In response to a strengthening local economy, debt service assistance was restored in FY05 at the level of \$8 million. In the following three years, the debt service allocation increased to \$9.6 million in FY06, \$19.0 million in FY07, and \$17.0 million in FY08. In light of the economic downturn in FY09, the Commonwealth was forced to eliminate the \$15.0 million appropriation in October 2008. The MWRA, after an aggressive budget cutting process, combined with favorable spending trends, was able to make-up this shortfall without a mid-year rate increase. For the FY11 Final Budget, no Debt Service Assistance is assumed.

Planning estimates for 2011 through 2020 forecast rate revenue requirement increases of 3.9% annually for the next two years, 7.9%, 7.9%, 6.7%, 6.7%, -3.4%, 10.0%, and 8.8% in years 2014, 2015, 2016, 2017, 2018, 2019, and 2020 respectively.

In FY06, the MWRA formed a Rates Management Committee to evaluate the Authority's debt portfolio and credit structure to propose recommendations that deliver responsible short-term solutions for mitigating imminent rate spikes and long-term strategies for achieving predictable and sustainable rates. In line with the Board of Directors' strategy to deliver long-term predictable and sustainable rates for our 61 ratepayer communities, the MWRA initially preserved the scheduled use of its reserves for future years when projected rate increases are more significant.

In recognition of the unprecedented economic climate affecting MWRA's member communities and ratepayers is a multi-year problem, staff evaluated a variety of options to provide the lowest responsible rate increase in FY11 and moderate predictable rate increases through FY13.

The FY11 Final Budget:

- Refines planning estimates assumptions to provide greater predictability of future assessments for member communities;
- Judiciously uses reserves to lower rate increases, but maintain adequate balances;
- Responsibly restructures debt for relief; and
- Employs a multi-year strategy to mitigate rate increases in the following three years without potentially jeopardizing the Authority's high credit rating.

MWRA Organization

MWRA has historically had seven divisions. Based on the October 2009 Board approval, a new division was formed called Administration and Finance which includes the Finance units, Human Resources, MIS and the majority of the Support Division.

Each division provides operations or support services to carry out MWRA's activities under the direction of the Executive Office. MWRA's organizational structure is included in the document before the Table of Contents.

The **Executive Office** provides centralized MWRA management, direction, and policy development. The budget includes funds for the Office of the Executive Director, the Board of Directors, the Advisory Board, and other advisory committees.

The MWRA created the **Office of Emergency Preparedness** in November 2005 by consolidating its security and emergency response functions throughout the agency. The Department is responsible for oversight of the security and emergency response policies and procedures, implementation of the Emergency Response Plan, and training of the Site Characterization Team.

The **Affirmative Action and Compliance Unit (AACU) Department** develops, administers and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority/Women Business Enterprises (MBE/WBE) in Authority Procurement activities.

The **Public Affairs Department** is the institutional link to all MWRA constituencies. The department works for passage of legislation necessary to carry out MWRA's mission, monitors legislation, responds to inquiries by elected and appointed officials, and pursues funding from the state legislature for MWRA projects. Additionally, the Public Affairs Department deals directly with cities and towns in the service area, responds to inquiries about MWRA, proactively incorporates community concerns into MWRA project work, coordinates outreach and education initiatives to highlight MWRA programs, and provides technical expertise for specific projects and initiatives.

The **Internal Audit Department** monitors the efficiency and integrity of MWRA operations by auditing financial and program operations; reviewing compliance with accounting and management control systems, laws and regulations; and coordinates the formulation and revisions to MWRA policies and procedures. Internal Audit also monitors MWRA contracts through its contract audit program, including approval of provisional consultant indirect cost rates and subsequent audit of consultant billings; performs labor burden reviews, construction change orders and claim audits, and vendor and other contract audits.

The **Planning and Coordination Department** provides decision support on planning, policy and operations matters. It provides regulatory, public policy and public health advocacy for MWRA's drinking water and wastewater programs and administers financial assistance programs to improve the infrastructure of member communities.

The **Operations Division** operates the water and wastewater treatment systems; the water transmission and distribution system; the wastewater collection, transport, and combined sewer overflow (CSO) systems; and the residuals processing facility. It also provides laboratory and engineering and construction services; enforces sewer use regulations and seeks to limit the discharges of toxic materials; manages environmental studies of Boston Harbor and Massachusetts Bay; and monitors water quality.

The **Administration and Finance Division** was created in 2009 and is responsible for managing the finance and support service functions necessary to support daily operations of the Authority and insure the implementation of the Authority's long-term goals and strategies.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director's Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

The **Law Division** provides legal counsel to all divisions on compliance with federal and state law, real estate matters, labor and employment law, litigation, and construction issues. Division attorneys provide or supervise through outside counsel the representation of MWRA in all litigation.

Statement of Financial Position

In accordance with its enabling act, each year MWRA submits annual reports to the Governor, the President of the State Senate, the House of Representatives, the Advisory Board, and the Chairs of the State Senate and House Committees on Ways and Means containing financial statements relating to its operations maintained in accordance with Generally Accepted Accounting Principles in the United States of America (GAAP) and, commencing with the annual reports for 1986, audited by independent certified public accountants. MWRA's audited financial statements at June 30, 2009 and 2008 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE OFFICE

Final FY11 Current Expense Budget EXECUTIVE DIVISION by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 388,759	\$ 395,729	\$ 412,602	\$ 406,699	\$ (5,903)	-1.4%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	985	0	0	700	700	-
PROFESSIONAL SERVICES	163,537	165,949	160,031	163,587	3,556	2.2%
OTHER MATERIALS	3,546	3,474	4,575	3,585	(990)	-21.6%
OTHER SERVICES	436,813	452,881	457,955	457,824	(131)	0.0%
TOTAL	\$ 993,640	\$ 1,018,033	\$ 1,035,163	\$ 1,032,395	\$ (2,768)	-0.3%

Final FY11 Current Expense Budget EXECUTIVE DIVISION by Department						
DEPARTMENT	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 396,195	\$ 402,381	\$ 420,339	\$ 413,996	\$ (6,343)	-1.5%
ADVISORY BOARD / OTHER COMMITTEES	597,445	615,652	614,824	618,399	3,575	0.6%
TOTAL	\$ 993,640	\$ 1,018,033	\$ 1,035,163	\$ 1,032,395	\$ (2,768)	-0.3%

The **Executive Office** provides executive management and guides the implementation of MWRA policies established by the Board of Directors. It is responsible for developing and implementing specific goals and programs to achieve MWRA's primary mission of providing reliable and efficient water and sewer services, improving water quality, and for creating a framework within which all divisions can operate effectively. The Executive Office oversees a centralized MWRA-wide security program to preserve and protect MWRA facilities, systems and employees.

The Executive Office has direct oversight of the Office of Emergency Preparedness, Planning and Coordination Department, Internal Audit, Public Affairs and Affirmative Action and Compliance Unit (AACU) Department.

FY11 Goals:

- Ensure delivery of reliable and cost-effective water and sewer services to customer communities.
- Ensure that water supply and wastewater collection and treatment preserve public health and protect natural resources.
- Continue to aggressively pursue renewable and sustainable energy resources to reduce the environmental impacts of daily operations, increase energy efficiencies and reduce overall operating costs.
- Garner support from key constituents for MWRA programs.

The Executive Office budget supports the Executive Director's Office (which includes the Board of Directors cost center), the MWRA Advisory Board and Advisory Committees cost centers. The Board of Directors formulates policies to guide MWRA actions and is responsible for major policy and fiscal decision-making. The MWRA Advisory Board was established by the Enabling Act to serve as a “watchdog” for MWRA’s customer

communities. The Advisory Board makes recommendations to MWRA on annual expense budgets and capital improvement programs. In addition, the Advisory Board reviews and comments on MWRA reports hold hearings on related matters, and makes recommendations to the Governor and the Legislature. The other advisory committees supported by this budget are the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee. The Executive Office budget accounts for less than 1% of the FY11 Final Budget.

Budget Highlights:

- Total FY11 Final Budget of \$1,000,000, a decrease of \$3,000 or 0.3% from FY10 Actual.
- \$406,500 for **Wages and Salaries** represents 39% of the Executive Office budget. The final budget includes funding for four positions.
- \$453,000 or 44% of the Executive Office final budget is for the MWRA Advisory Board staff. The final budget supports its operating expenses, including wages and salaries, space rental and general administrative office materials and supplies and is level funded to the FY10 Actual.
- \$164,000 or 16% of the Executive Office final budget is for **Professional Services** to fund the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee.

OFFICE OF EMERGENCY PREPAREDNESS

Final FY11 Current Expense Budget						
OFFICE OF EMERGENCY PREPAREDNESS						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 240,963	\$ 335,281	\$ 401,615	\$ 441,264	\$ 39,649	9.9%
MAINTENANCE	216,872	425,531	412,907	383,883	(29,024)	-7.0%
TRAINING & MEETINGS	(1,177)	-	1,989	-	(1,989)	-100.0%
PROFESSIONAL SERVICES	1,812,091	1,838,392	1,526,557	1,616,610	90,053	5.9%
OTHER MATERIALS	191,274	39,583	64,892	51,317	(13,575)	-20.9%
OTHER SERVICES	8,232	9,305	13,477	21,252	7,775	57.7%
TOTAL	\$ 2,468,255	\$ 2,648,092	\$ 2,421,437	\$ 2,514,326	\$ 92,889	3.8%

The **Office of Emergency Preparedness (OEP)** was created in November 2005 to consolidate Authority-wide security and emergency response functions. It is responsible for oversight of the MWRA’s security and emergency response plans, policies and procedures; implementation and training for the Emergency Response Plan; and management, training, and outfitting of the Emergency Service Unit, which will respond to any intentional or accidental contamination of the water supply.

The Director of Emergency Preparedness reports directly to the Executive Director with a matrix reporting relationship to the Chief Operating Officer. In addition, the Safety/Security Manager for Deer Island will continue to report to the Deer Island Director with a matrix reporting relationship to the Director of Emergency Preparedness to include this major facility in all Authority-wide emergency-planning efforts.

FY11 Goals:

- Develop and implement policies and programs to provide security, critical infrastructure protection and emergency planning for the MWRA’s water and wastewater systems.
- Equip, train and command the Emergency Service Unit (ESU).
- Develop and exercise emergency plans and procedures.
- Manage and direct contract security guard and system maintenance contracts.

FY11 Initiatives:

- Continue the building of new Emergency Response Plans for all Water and Wastewater facilities.
- Complete the procurement process for the new security services contract.
- Increase the ESU and FOD capabilities to respond to spills inside Water and Wastewater facilities by outfitting a spill control truck and expanding the Metro Boom Deployment teams.
- Continue work on changing the MWRA radio system to new frequencies as part of the national frequency reallocation program.
- Continue the process of ensuring that new construction and rehabilitation of facilities include an integrated security and surveillance system improvement component. This will affect the Gillis Pump Station, the new Stoneham tank, Ward Street and Columbus Park Headworks projects.

FY10 Accomplishments:

- Completed new security gates at DITP and Chelsea facilities.
- Using one of two Department of Homeland Security (DHS) grants, built and fielded a mobile emergency laboratory, equipped with a Gas Chromatography/Mass Spectrometer Unit in order to support field water quality incident response and fielded new multi gas monitors, funded with a separate DHS grant that will replace current gas meters.
- Completed the procurement process for a new security systems maintenance contract.
- Completed the security system installations at the Chelsea Headworks and Blue Hills Covered Storage Facilities.

Budget Highlights:

- Total FY11 Final Budget of \$2.5 million, is an increase of \$93,000 or 3.8% from FY10 Actual.
- \$441,000 for **Wages and Salaries**, an increase of \$40,000 or 9.9% from FY10 Actual, primarily due to the addition of one position through transfer, which is offset by the reduction in funding for the Temporary Employee. The Final Budget includes funding for five positions.
- \$384,000 for **Ongoing Maintenance**, a decrease of \$29,000 or 7.0% from FY10 Actual, mainly due to lower than projected use of security systems maintenance service contracts in FY10. The final budget includes funding of \$259,000 to cover the MWRA-wide security systems preventative maintenance and repair service, \$104,000 for MWRA-wide Security systems maintenance materials and equipment, including cameras, intrusion detection, card readers, and \$22,000 for the Intrusion alarm annual and semi-annual monitoring services contracts.
- \$1.6 million for **Professional Services**, an increase of \$90,000 or 5.9% from FY10 Actual, primarily due to underspending in professional services security line item at DITP and CNY facilities. The FY11 Final Budget includes \$536,000 for security services contract for the Chelsea facility, \$574,000 for DITP facility, \$330,000 for the Carroll Water Treatment Plant, and \$29,000 for the CNY facility.
- \$51,000 for **Other Materials**, a decrease of \$14,000 or 21.0% from FY10 Actual. The final budget includes \$27,000 for Health and Safety equipment needs and \$19,000 for the annual operation and maintenance of equipment assigned to the Mobile Emergency Laboratory.
- \$21,000 for **Other Services**, an increase of \$7,800 over FY10 Actual. The final budget includes \$20,000 for mandatory monthly testing and inspection of Self-Contained Breathing Apparatus (SCBA).

PLANNING AND COORDINATION DEPARTMENT

Final FY11 Current Expense Budget PLANNING AND COORDINATION by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 1,927,749	\$ 1,997,711	\$ 1,967,082	\$ 1,934,297	\$ (32,785)	-1.7%
OVERTIME	601	-	211	-	(211)	-100.0%
FRINGE BENEFITS	6	-	-	-	-	-
TRAINING & MEETINGS	10,812	11,046	4,841	6,175	1,334	27.6%
PROFESSIONAL SERVICES	600	44,790	1,975	600	(1,375)	-69.6%
OTHER MATERIALS	136,269	139,285	152,250	152,425	175	0.1%
OTHER SERVICES	169,474	181,344	77,336	141,984	64,648	83.6%
TOTAL	\$ 2,245,511	\$ 2,374,176	\$ 2,203,695	\$ 2,235,481	\$ 31,786	1.4%

The **Planning and Coordination Department** provides regulatory, public policy and public health advocacy for MWRA’s drinking water and wastewater programs. It provides decision support on planning, policy and operations matters, using a range of technical and analytical tools. Staff administers financial assistance programs to improve the infrastructure of member communities and to promote water conservation. The Department integrates staff efforts and coordinates MWRA activities related to system and capital planning, infrastructure renewal, and watershed management (in conjunction with the Commonwealth’s Department of Conservation and Recreation, (DCR); strategic business planning; agency-wide performance measurement; and industry research. The following functions comprise the Department’s primary responsibilities:

Mapping, Modeling, and Data Analysis - Technical staff develops and maintains the Geographic Information Systems (GIS) for the water and wastewater systems, including integration of field and engineering records into GIS for access by planning, engineering, and operations staff. Provides demand analysis and forecasting of water and wastewater flows for master planning and system operations; model reservoir operations, performs drought forecasting and planning; evaluates system expansion requests; and develops and maintains water and wastewater system models in support of master planning, system operations, and optimization.

System Planning and Renewal - Staff with expertise in engineering and planning is responsible for water and wastewater system master planning; infrastructure needs assessment, and capital project development. This work is done in coordination with staff across MWRA. Planning and Coordination staff reviews water and wastewater system expansion requests, water supply agreements, and emergency withdrawal requests. Staff also assists the Operations Division on project siting, environmental reviews, and permitting, including impacts on MWRA facilities from other agency projects, and assists in the development of strategies for long-term emergency risk reduction and preparation for MWRA facilities and systems.

Regulatory and Policy Matters - Staff work with various regulatory entities to promote cost-effective rule setting that protects the environment and promotes public health. Senior staff members actively work with industry associations and other groups with interests and agendas consistent with MWRA’s to advance water and wastewater regulations that make environmental and economic sense. Senior staff conducts strategic policy research on a broad range of topics and staff conducts public health research, including outreach and water quality reporting and the annual Consumer Confidence Report (CCR). Staff also coordinates with DCR to ensure water protection.

Community Support Program - Staff are responsible for inflow/infiltration (I/I) and sanitary sewer overflows (SSO) policy development, implementation, and reporting, provide oversight of and reporting on MWRA leak detection regulations and demand management programs, and report on the portions of MWRA’s NPDES permit related to demand management and flow limitation activities. Staff administers community assistance programs including sewer inflow/infiltration financial and technical assistance, water pipeline rehabilitation financial

assistance, water distribution systems Best Management Practices technical assistance, water leak detection technical assistance, and water conservation grant programs.

FY11 Goals:

- Begin planning for the next iteration of the MWRA Master Plan and MWRA Business Plan.
- Continue to oversee the Loring Road hydro facility now in construction, advance other hydro projects toward design, and seek appropriate agreements and certifications to maximize revenue for existing hydro facilities.
- Continue work on implementing a MWRA water system expansion strategy.
- In conjunction with Engineering and Operations staff, continue to advance concept planning and design for capital projects, including storage, treatment and pipeline projects and development of long-term transmission and system redundancy options.
- Effectively communicate water quality information to customers and health officials.
- Implement the new \$200 million Local Water System Assistance Program, and continue to implement the existing water Local Pipeline Assistance Program to provide interest-free loans for local water projects. Continue outreach assistance for water conservation and water system leak detection and repair programs. Continue implementation of the Infiltration/Inflow (I/I) Local Financial Assistance Program to provide grants and interest-free loans for local I/I reduction and sewer system rehabilitation projects.

FY10 Accomplishments:

- Advanced the Loring Road hydroelectric project to construction award.
- Provided information and worked with communities expressing interest in joining the Authority.
- With Engineering and Operations staff, developed a strategic concept for a pumping station alternative to provide redundancy for the Cosgrove Tunnel, and advance the concept plan for Northern Intermediate High (NIH) redundancy into the MEPA review process.
- Distributed \$13.6 million (grants and loans) for local sewer rehabilitation projects under the I/I Local Financial Assistance Program and \$21.9 million (loans) for local water quality projects under the Local Pipeline Assistance Program. A new phase of the Local Water Pipeline Assistance Improvement Program was included in the FY11 CIP.
- With MWRA Operations and DCR staff, developed a successful 2010 Quabbin Boat Program in response to the discovery of zebra mussels in Laurel Lake.
- Continued to assist local communities to advance water conservation education and water system leak detection and repair. A total of 28 member sewer communities or housing authorities participated in a \$100,000 program (EPA SEP) to install low-flow toilet retrofits in municipal building or local housing authority properties.
- Effectively communicated water quality information to customers and health officials.
- In conjunction with Public Affairs, kicked off the Five Year Report process.

Budget Highlights:

- \$1.9 million is for **Wages and Salaries**, a decrease of \$33,000 or 1.7% from the FY10 Actual, primarily due to the transfer of one position to Public Affairs department. The FY11 Final Budget includes funding for 23 positions.
- \$6,000 is for **Training and Meetings**, an increase of \$1, 300 from FY10 Actual.
- \$600 is for **Professional Services**, a decrease of \$1,400 from FY10 Actual.
- \$152,000 is for **Other Materials**, level funded to FY10 Actual, mainly to fund the postage costs associated with the Consumer Confidence Report (CCR). The FY11 Final Budget includes \$124,500 for postage and mailing of the CCR, \$15,000 for water conservation kits, and \$10,000 for mapping supplies.
- \$142,000 is for **Other Services**, an increase of \$65,000 from the FY10 Actual. The FY11 Final Budget includes \$117,000 for printing the CCR, \$10,000 for printing Lead in tap water brochures, and \$10,000 for reprinting water conservation bill stuffers.

AFFIRMATIVE ACTION and COMPLIANCE

Final FY11 Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 569,845	\$ 591,924	\$ 605,065	\$ 602,684	\$ (2,381)	-0.4%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	2,384	180	-	2,000	2,000	-
OTHER MATERIALS	2,079	1,176	1,018	1,500	482	47.3%
OTHER SERVICES	471	397	387	632	245	63.3%
TOTAL	\$ 574,779	\$ 593,677	\$ 606,470	\$ 606,816	\$ 346	0.1%

The **Affirmative Action and Compliance Unit (AACU)** develops, administers, and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority/Women Business Enterprises (MBE/WBE) in Authority procurement activities.

FY11 Goals:

- Assist divisions and departments in the implementation of MWRA's affirmative action program and promote MWRA's policy of non-discrimination for all persons in or recruited into its work force.
- Maintain internal audit and reporting systems adequate to monitor MWRA's accomplishments of goal attainment in identified underutilized job groups for minorities and female representation.
- Communicate to managers and supervisors MWRA's commitment to its equal opportunity policies and affirmative action programs.
- Provide for the equitable participation of minority and women-owned businesses in procurement opportunities and ensure that minorities and women are represented in the labor force on construction contracts, and coordinate with other public entities regarding state and federal requirements.
- Assist divisions and departments in the understanding and implementation of MBE/WBE program policies and practices and monitor and report on contractor compliance and expenditures.

FY10 Accomplishments:

- Provided management guidance for all personnel selection committee hiring processes as part of a proactive strategy to ensure adherence to the Authority's fair employment practices.
- Conducted numerous compliance audits on MWRA construction projects and assisted Administration and Finance in securing an additional \$735,000 in funding via the American Recovery and Reinvestment Act (ARRA) to support Alternative Energy Professional Services.

Budget Highlights:

- Total FY11 Final Budget is \$607,000 of which \$603,000 is for **Wages and Salaries**. The wages and salaries line is \$2,400 or 0.4% less than the FY10 Actual and includes funding for eight positions.

INTERNAL AUDIT

Final FY11 Current Expense Budget INTERNAL AUDIT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 569,213	\$ 581,055	\$ 579,202	\$ 619,583	\$ 40,381	7.0%
OVERTIME	7	-	-	-	-	-
TRAINING & MEETINGS	10,092	3,306	3,872	7,738	3,866	99.8%
OTHER MATERIALS	2,501	2,050	2,157	2,400	243	11.3%
OTHER SERVICES	1,818	1,105	789	1,168	379	48.0%
TOTAL	\$ 583,631	\$ 587,516	\$ 586,020	\$ 630,889	\$ 44,869	7.7%

The **Internal Audit Department** monitors the efficiency and integrity of MWRA operations by auditing financial and program operations; reviewing compliance with accounting and management control systems, laws and regulations; and coordinates the formulation and revisions to MWRA policies and procedures. Internal Audit also monitors MWRA contracts through its contract audit program, including approval of provisional consultant indirect cost rates and subsequent audit of consultant billings; performs labor burden reviews, construction change orders and claim audits, and vendor and other contract audits.

FY11 Goals:

- Encourage more economical and efficient operations, adhere to sound management procedures, and use controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and to provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have adequate accounting and billing systems to provide current, complete, and accurate cost and price information and project invoicing.

FY10 Accomplishments:

- Identified \$1 million in savings related to: contractor and vendor assignments \$313,000; construction labor burden reviews \$287,000; management advisory services \$206,000 and consultant audits \$194,000.
- Issued final audit reports on the review of Fixed Asset and Work In Process Accounting, the Bay State Fertilizer Program, BWSC CSO Financial Assistance Agreement (FAA) Eligible and Force Account Costs, Construction Change Order Pricing, and completed four incurred cost assignments, twelve preliminary construction reviews, two vendor audits, a prevailing wage review, a true-up of CY2008 billings by Harbor Energy Electric Company (HEEC) and validation of fee payments by the Fore River Transportation Company.

Budget Highlights:

- Total Final FY11 Budget of \$631,000, an increase of \$45,000 or 7.7% over the FY10 Actual.
- \$620,000 for **Wages and Salaries**, an increase of \$40,000 or 7.0% over the FY10 Actual, mostly due to reclassification of four positions. The budget includes funding for eight positions.
- \$7,700 for **Training and Meetings**, an increase of \$4,000 over FY10 Actual due to rescheduling of out of state consulting audits.

PUBLIC AFFAIRS

Final FY11 Current Expense Budget PUBLIC AFFAIRS							
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11		
WAGES & SALARIES	\$ 1,207,344	\$ 1,024,857	\$ 1,098,755	\$ 1,205,243	\$ 106,488		9.7%
OVERTIME	128	-	27	-	(27)		(1)
TRAINING & MEETINGS	2,409	1,747	1,226	315	(911)		-74.3%
PROFESSIONAL SERVICES	1,113	1,630	3,085	1,050	(2,035)		-66.0%
OTHER MATERIALS	26,672	37,585	20,784	20,550	(234)		-1.1%
OTHER SERVICES	34,834	51,796	35,323	59,831	24,508		69.4%
TOTAL	\$ 1,272,500	\$ 1,117,615	\$ 1,159,200	\$ 1,286,989	\$ 127,789		11.0%

The **Public Affairs Department** is the institutional link to all MWRA constituencies. The **Intergovernmental Affairs Section** works for passage of legislation necessary to carry out MWRA's mission, monitors legislation, responds to inquiries by elected and appointed officials, and pursues funding from the state legislature for MWRA projects.

The **Community Relations Section** deals directly with cities and towns in the service area, responds to inquiries about MWRA, proactively incorporates community concerns into MWRA project work, coordinates outreach and education initiatives to highlight MWRA programs, and provides technical expertise for specific projects and initiatives. Community Relations staff also work in conjunction with Planning and Coordination Department staff to ensure compliance with state and local regulations and restrictions.

The **Communications Section** manages media relations, issues press releases and responds to information requests, oversees the design and distribution of MWRA publications, manages the web site, and provides design, editorial, and graphics services for other sections of MWRA.

The **Education Section** is responsible for curriculum development, teacher training workshops, as well as providing school education materials on water quality, water conservation, wastewater topics, and environmental issues.

FY11 Goals:

- Enhance overall public understanding of MWRA's mission, goals, and benefits to the public through extensive outreach and effective communication.
- Develop and implement proactive strategies for educating and informing key MWRA constituencies and the public at large about MWRA's mission, projects and progress, and promote understanding for associated costs.
- Gain public support for MWRA programs and projects, and respond to the needs and concerns of elected and appointed public officials.
- Provide support to MWRA staff to ensure that MWRA projects meet regulatory requirements, and provide input to regulatory agencies in order to ensure MWRA interests are recognized during the development of regulations.

Budget Highlights:

- Total FY11 Final Budget of \$1.3 million, an increase of \$128,000 or 11.0% from the FY10 Actual, is primarily due to transfer of position into the department resulting from reorganization approved by the Board of Directors during their June meeting.
- \$1.2 million for **Wages and Salaries**, an increase of \$106,000 or 9.7% from the FY10 Actual due to the transfer of a position from the Planning Department. The final budget includes funding for 14 positions.
- \$80,000 for **Other Materials** and **Other Services**, an increase of \$24,000 from the FY10 Actual, includes funds associated with the publication of MWRA's Annual Report, production of materials to inform the public about MWRA activities and to educate school children, teachers and environmental organizations about the importance of MWRA's programs to public health and the environment.



Operations Division
Budget

OPERATIONS DIVISION

Final FY11 Current Expense Budget OPERATIONS DIVISION by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 64,939,674	\$ 66,546,039	\$ 67,744,764	\$ 68,724,406	\$ 979,642	1.4%
OVERTIME	3,695,290	2,932,713	3,893,234	3,252,181	(641,053)	-16.5%
FRINGE BENEFITS	73,923	51,742	69,620	65,945	(3,675)	-5.3%
WORKERS' COMPENSATION	-	-	-	-	-	-
CHEMICALS	8,642,802	9,867,555	8,998,799	9,797,118	798,319	8.9%
UTILITIES	25,768,591	24,294,274	25,855,089	23,164,142	(2,690,947)	-10.4%
MAINTENANCE	21,965,418	23,025,086	22,575,229	24,655,400	2,080,171	9.2%
TRAINING & MEETINGS	159,750	106,025	48,987	172,000	123,013	251.1%
PROFESSIONAL SERVICES	3,604,540	3,401,480	3,451,755	2,843,883	(607,872)	-17.6%
OTHER MATERIALS	3,875,200	3,303,935	3,250,608	3,174,508	(76,100)	-2.3%
OTHER SERVICES	18,692,193	19,162,518	19,006,986	18,859,027	(147,959)	-0.8%
TOTAL	\$ 151,417,382	\$ 152,691,367	\$ 154,895,071	\$ 154,708,610	\$ (186,461)	-0.1%

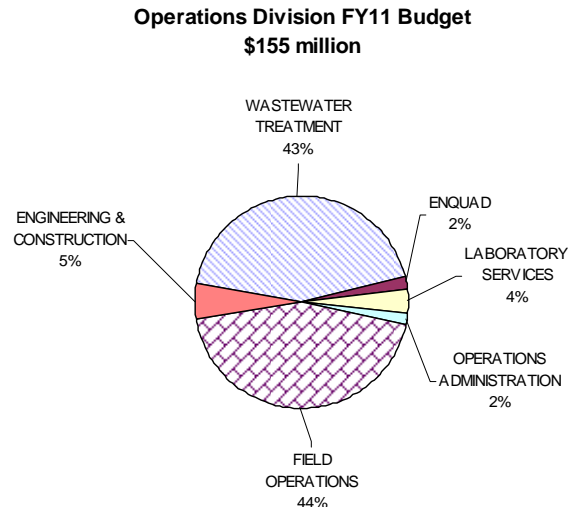
Final FY11 Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
OPERATIONS ADMINISTRATION	\$ 3,508,180	\$ 3,338,066	\$ 2,729,340	\$ 2,693,439	\$ (35,901)	-1.3%
CSO PROGRAMS/ENERGY	(802)	-	-	-	-	-
WASTEWATER TREATMENT	66,740,246	67,870,719	68,821,838	67,116,198	(1,705,640)	-2.5%
FIELD OPERATIONS	63,727,381	64,484,723	65,926,123	68,259,262	2,333,139	3.5%
LABORATORY SERVICES	5,040,457	5,094,203	5,272,058	5,531,010	258,952	4.9%
ENQUAD	4,152,300	3,805,918	3,822,093	3,001,051	(821,042)	-21.5%
ENGINEERING & CONSTRUCTION	8,249,705	8,097,741	8,323,619	8,107,651	(215,968)	-2.6%
CAPITAL ENG & CONSTR.	(85)	-	-	-	-	-
TOTAL	\$ 151,417,382	\$ 152,691,367	\$ 154,895,071	\$ 154,708,611	\$ (186,460)	-0.1%

The **Operations Division** integrates wastewater and water system operations and maintenance, treatment, laboratory services, and engineering and construction functions, including implementation of the Combined Sewer Overflow (CSO) plan.

The FY11 Current Expense Budget (CEB) and existing structure of the Operations Division is shown in the pie chart to the right and described below.

The **Wastewater Treatment Department**, which accounts for 43% of the Operations Division budget, operates and maintains the Deer Island (DITP) and Clinton wastewater treatment plants and the Residuals Processing Facility at Fore River Staging Area (FRSA).

The **Field Operations Department (FOD)**, which accounts for 44% of the Operations Division budget, is responsible for operating, maintaining, and metering the water and wastewater transport systems. The department also manages the water treatment and wastewater pretreatment functions, including the Carroll Water Treatment Plant (CWTP).



The **Engineering and Construction Department** provides in-house engineering, consultant management, drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems.

The **Environmental Quality Department (EnQuad)** manages the monitoring of Boston Harbor and Massachusetts Bay water quality and oversees MWRA's compliance with its National Pollutant Discharge Elimination System (NPDES) permits.

The **Laboratory Services Department** supports various client groups in the Operations Division, in the Department of Conservation and Recreation (DCR), and in MWRA member communities, providing field sampling, laboratory testing and reporting services. Most of the testing is required to meet the strict guidelines of regulatory programs and permits including the Safe Drinking Water Act (SDWA) and MWRA's NPDES permits.

The **Operations Administration Department** provides oversight and general management support in the areas of finance, contract administration, and personnel. The Administration Department budget also includes funds for MWRA vehicle purchases and division-wide memberships.

FY11 Goals:

- Plan, develop, implement, and operate efficient, reliable, and economical water treatment/delivery and wastewater transport/treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the Safe Drinking Water Act (SDWA), the Clean Water Act, and NPDES permits.
- Plan and implement rehabilitation of existing facilities and construction of new facilities including pipelines, pump stations, storage facilities, and treatment facilities on schedules that allow for sufficient system capacity and performance.
- Dispose of wastewater treatment by-products in a cost-effective and environmentally sound manner.

Major FY10 Accomplishments:

Emergencies

- *Spring 2010 Storms* - MWRA's service area experienced an unprecedented rainfall total of more than 21 inches during a 36-day period between February 24 and April 1, 2010. Overall monthly precipitation was approximately three-and-one-half times more than the 8-year average. Highlights of MWRA's performance during the event are as follows:
 - *DITP* - Overall total plant flow set a new record and was 68% more than target (726 actual vs. 432 expected mgd) during the period. Pumping and treatment operations continued without incident and DITP remained in compliance with its NPDES permit limitations throughout the storm events.
 - *Wastewater System* – Staff performed continuous monitoring and maintenance throughout the storm events and managed to keep all pumping stations, CSOs facilities, and four headworks facilities operating at their design capacities. No major facility problems occurred during these storms. Staff also continued to operate temporary pumps at the Braintree-Weymouth Pump Station and several other places in the system. Post-storm work included sweeping, tree removal, fence repair, and Sanitary Sewer Overflow (SSO) clean-up in numerous locations.
 - *Squantum Force Main/Quincy* - Damaged as a result of the storm and was subsequently repaired via emergency contract.

- *Nut Island Headworks* - MWRA opened gates to the emergency outfalls to allow discharge to Quincy Bay for two short periods to protect the facility from damage that would potentially render it inoperable for an extended period of time. This also prevented backups of sewage into the Houghs Neck Pump Station, streets, homes, and businesses.
- *Clinton Wastewater Treatment Plant* – Also set new treatment records during the storms. Influent flow exceeded 12 mgd, four times more than normal plant flow of 2.8 mgd. Staff also successfully protected plant assets during a period of significant flooding from the Nashua River.
- *Water System* - The Quabbin Reservoir, Wachusett Reservoir, and all four reservoirs in the Sudbury System crested. Staff made frequent gate changes during and after the event to minimize flooding.
- **Water Main Break** – On May 1, 2010, a major water main break in Weston interrupted water service to 30 communities in MWRA’s district, resulting in a boil water order for drinking water and implementation of emergency water conservation measures. Despite the catastrophic nature of the break, MWRA successfully handled the situation and swiftly restored the pipe into service within 72 hours. Work included the following:
 - Implemented an emergency plan involving public communication and extensive water quality testing in conjunction with numerous state and local government agencies and other organizations.
 - Provided continuous water service throughout the period by activating emergency water supplies including the Sudbury Aqueduct, Chestnut Hill Reservoir, and Spot Pond Reservoir.
 - Stopped leak by the evening of May 1 and hired a contractor to repair the pipe.
 - Developed and launched a plan to recover the failed coupling.
 - Established an independent panel to review and investigate the circumstances and causes leading to the water main break.

Operations, Energy, and New Facilities Start-ups:

- Commenced operation of the new Blue Hills Covered Storage Tanks in August, 2009.
- Continued to monitor and modify operations of newer facilities including the Union Park CSO Detention Treatment Facility (start-up in Q3 FY07, operated in conjunction with BWSC) and Braintree-Weymouth Replacement Pump Station (start-up in Q4 FY08).
- Completed Phase I HVAC audit at MWRA’s Chelsea office building and energy audits at eight other FOD facilities. Staff continued to evaluate the audit reports and commence implementation of recommendations. Also, MWRA commenced energy audits of 14 more facilities in FOD.
- Assisted the Procurement Department with the procurement of contracts to supply and deliver chemicals including sodium hypochlorite and sodium bisulfite at numerous facilities; aqua ammonia, soda ash, carbon dioxide, sodium hypochlorite, and hydrofluorosilicic acid for the CWTP; and hydrogen peroxide, activated carbon, sodium hydroxide, and ferric chloride for DITP.
- Completed the installation of upgraded pumps and metering for sodium hypochlorite and sodium bisulfite chemical feed systems at the Framingham Pump Station to allow for more precise dosage control at lower levels. This will result in approximately 10% savings in chemical use for disinfection and dechlorination.
- Generated revenue at two water hydroelectric facilities including \$811,000 at the Oakdale Station and \$213,000 at the Cosgrove Station.
- Continued to leverage Deer Island’s self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) resulted in net savings of \$1.5 million for FY10. Deer Island also self-generated 31% of the plant’s total required power during FY10.

- Procured new contract for the purchase and supply of electric power for 25 large facilities in Field Operations including the Carroll Water Treatment Plant (CWTP) and the Clinton Treatment Plant.
- Commenced acceptance testing and operations of two 600 kW wind turbines at DITP.
- Processed 105.7 average tons per day of sludge at the Pelletization Plant during FY10.

Maintenance:

- The Operations Division spent \$22.6 million on maintenance of which \$10.8 million was for materials and \$11.8 million for services.
- Completed numerous major maintenance projects including the following:
 - o Procured and implemented numerous contracts or change orders for maintenance services including: Fuel Storage Tank Maintenance; Boiler and Water Heater Maintenance; Fire Alarm and Fire Sprinkler System Service; Crane Maintenance; Laser and Belt Alignment Training and Support (DITP); Oxygen Generation Facility Maintenance (DITP); Combustion Turbine Generators Service (DITP); Overhead Door Maintenance (DITP); Steam and Hydro Turbine Generator Maintenance (DITP); Instrumentation Maintenance for water and wastewater facilities; Electrical Systems Maintenance (CWTP); Ozone Generator Repair (CWTP); and Diesel Generator Maintenance.
 - o In conjunction with the Boston Water and Sewer Commission, procured a two year contract extension for management, operation, and maintenance of Union Park Pump Station/CSO facility.
 - o Rehabilitated the gas flares at the Deer Island digester complex. The flares provide better operational control and system feedback.
 - o Improved ferric/ferrous feed piping to the Deer Island digesters. The new piping configuration allows for the dosing of individual digesters instead of feeding all of the digesters with the same dosage. Staff anticipates a reduction in overall usage, while providing the maximum dosage to each individual digester thus reducing the potential for the formation of struvite.
 - o Significant progress on facility painting and coating repair at Deer Island.
 - o Continued to work with SCADA and Process Control to field-test automatic influent gate control via SCADA at three remote headwork facilities.
 - o Completed maintenance tasks for dam maintenance at the Norumbega Reservoir to continue to protect integrity of the structures.
 - o Rewired the electrical feed at the Lexington Street Pump Station after an external bus duct failure.
 - o Installed total chlorine residual samplers at the Somerville Marginal CSO and Sampling building. These samplers will improve chemical dosage control for sodium hypochlorite and sodium bisulfite.
 - o Cleared water and wastewater easements in addition to clearing grounds at numerous MWRA facilities.
 - o At the Clinton Wastewater Treatment Plant, commenced review of consultant's report on condition of major plant components. Management will use this report to prioritize Clinton's maintenance and capital projects for at least the next decade.
- In the water system, exercised 427 and replaced 9 mainline valves; exercised 279 blow-off valves; and surveyed 283 miles of water mains for leaks.
- In the wastewater system, inspected 33 miles and cleaned 43 miles of pipeline. Also inspected 682 structures and rehabilitated 128 manholes.

Engineering, Construction, and Planning:

- Award of contracts or Notice to Proceed for numerous contracts including the following major projects:
 - Water System
 - MetroWest Tunnel Lower Hultman Rehab CP6A
 - Southern Spine Distribution Mains Section 107 Phase 2 Construction
 - New Connecting Mains Northeast Segment CP5
 - Weston Aqueduct Supply Mains (WASM) Section 28
 - CWTP Photovoltaic System Construction
 - Loring Road Hydroelectric Project construction
 - Dam Projects Safety Modifications Design CA/RI
 - Wastewater System
 - North Dorchester Bay Ventilation Building Construction
 - Alternative Energy Initiatives Delauri Pump Station Wind Construction
 - DITP Asset Protection DI Digester Sludge Pump Replacement Construction
 - DITP Facility Asset Protection STG System Modifications Construction
 - Clinton Wastewater Treatment Plant Digester Cleaning and Rehab
 - Alternative Energy Initiatives DI Photovoltaic System Phase 1 Construction
- Substantially completed numerous projects including the following:
 - Water System
 - Blue Hills Covered Storage Design Build
 - NHS – Revere & Malden Pipeline Improvement Construction-Revere Section 53
 - Northern Low Storage Service Rehab Sections 8, Section 97A Construction
 - Wachusett Reservoir Spillway Impr/Winsor Dam Repairs Design and Rehab Equipment Pre-Purchase
 - Weston Aqueduct Supply Main Arlington Pipe Work
 - Winsor Dam Hydroelectric/Pipeline Replacement Valve Repair
 - Wastewater System
 - CSO North Dorchester Bay Tunnel Construction, Rescue, and Emergency Response
 - CSO Dorchester Bay Sewer Separation Design/Commercial Pt and Fox Pt
 - CSO Morrissey Boulevard Drain Design
 - DITP Asset Protection As-needed Design Phase 5-1 and 5-2
 - Alternative Energy Initiatives DI Wind, Photovoltaic System Phase 1 Construction
 - Wastewater Central Monitoring Construction 2
 - I&P Facility Asset Protection Remote Headworks Concept Plan

Environmental:

- The TRAC Department completed the following EPA-required work for significant industrial users: 275 inspections, 1,255 monitoring events, and 372 sampling of connections. This department also issued or renewed 332 permits (significant industrial users SIU and non-SIU).
- The TRAC Department submitted the Industrial Pretreatment Program Annual Report to the EPA for FY09.
- Continued to trouble-shoot implementation issues for new TRAC Pre-treatment Information Management System (PIMS).
- Authorized and published amendments to MWRA's regulations regarding adjudicatory proceedings, enforcement and administrative penalties, and sewer use.

- At DITP, treated 97.2% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations during FY10.
- EnQuad carried out required environmental monitoring of Boston Harbor and Massachusetts Bay water column, sediments, fish and shellfish, and CSO receiving water quality, finalizing numerous technical reports in FY10 and presenting results to the Outfall Monitoring Science Advisory Panel (OMSAP) and public.
- EnQuad staff continued to prepare reports, analyses, and presentations of MWRA's proposed monitoring revisions and also participated in numerous meetings with regulators and reviewers to discuss the proposal. The MWRA Board of Directors voted in June 2010 to authorize staff to submit the Ambient Monitoring Plan for the MWRA Effluent Outfall, Revision 2 to the Environmental Monitor for public comment.
- Awarded and implemented four contracts associated with the Harbor and Outfall Monitoring Program to provide environmental monitoring of outfall effects as required by MWRA's discharge permit for Deer Island Treatment Plant (DITP).
- Met all water quality and treatment standards in the drinking water system during FY10.
- In conjunction with the Department of Conservation and Recreation (DCR), developed and implemented program for preventing spread of zebra mussels in the Authority's drinking water source supplies.
- The Department of Lab Services (DLS) provided routine laboratory services and analysis for approximately 243,000 tests and also provided as-needed analytical support for numerous projects including the following: CWTP half-plant operation, Harbor and Outfall Monitoring fish and shellfish testing, DITP polymer vendor selection, and Somerville Marginal CSO facility special project.
- The Lab received DEP drinking water microbiology certification at the three water quality labs for a newly required Total Coliform Rule confirmation procedure and for Enterococcus bacteria that is now required for the Groundwater Monitoring Rule for communities using groundwater.

Budget Highlights:

- Total FY11 CEB is \$154.7 million, which is \$190,000 or .1% less than FY10 spending. The FY11 Budget continues to reflect an intentional effort by MWRA management to contain rate increases through several strategies including curtailing spending on less critical items or services wherever possible and implementing efficiency improvements that will result in long-term, sustainable reductions to the Operations Division's budget.
- Significant increases from FY10 spending include:
 - Net increase of \$2.1 million or 9.2% for **Maintenance** primarily due to new service contracts; increases in the price and/or scope of several contracts to be re-bid during FY11; additional projects required to rehabilitate aging facilities; and the accounting treatment of more than \$1.0 million of emergency repair work in FY10 which shifted charges from Maintenance to Insurance claims under indirect expenses.
 - Net increase of \$976,000 or 1.4% for **Wages and Salaries** primarily due to step increases for eligible positions; leave balance adjustments to account for more earned time for long-term employees; an additional temporary position to assist with implementation of the flagger program; and the full-year cost of several higher level positions filled in FY10. The Operations Division's FY11 CEB includes 939 funded permanent positions on average during the year, discounted by a .5% vacancy rate (approximately 5 positions) to reflect attrition, for a net funded position level of 934 positions. This is consistent with the average number of filled positions in FY10.
 - Net increase of \$798,000 or 8.9% for **Chemicals** primarily due to additional chemicals for enterococcus treatment at Deer Island associated with expected commencement of the new NPDES Permit during the fourth quarter of FY11. Also, in comparison, FY10 usage was lower than expected due to greater than

average rainfall. The FY11 CEB usage assumptions are based on multi-year averages in operating facilities adjusted for the full-year effects of optimization initiatives implemented in FY10.

- **Training and Meetings** increased by \$123,000 primarily for training in the Field Operations Department on diagnostic equipment associated with MWRA's asset management program and on spill prevention and control procedures at operating facilities as required by regulation. Also, FY10 spending was significantly less than budget because it was difficult for employees to attend planned trainings and conferences for four months due to the workload associated with the spring storms and water pipe break.
- Significant decreases from FY10 spending include:
 - Net decrease of \$641,000 or 16.5% for **Overtime** due to significantly greater than budgeted use in FY10 for the spring storms and water pipe break plus the continued reduction in FY11 of coverage overtime based on revised labor contracts and increased use of SCADA. Management also will continue to limit use of unplanned overtime for critical work and emergencies.
 - Net decrease of \$608,000 or 17.6% for **Professional Services** primarily due to continued reductions to the Harbor and Outfall Monitoring (HOM) Program. MWRA has formally requested that EPA revise the scope of required outfall and harbor monitoring requirements and has reflected the estimated full year impact (approximately \$800,000) in the FY11 Budget.
 - Net decrease of \$148,000 or .8% for **Other Services** primarily for inflation adjustments for the Residuals processing contract as compared to FY10 levels. The FY11 Budget is based on an average of 106 tons of sludge per day (TPD) which is consistent with historical averages since the start-up of the Braintree-Weymouth Tunnel. This decrease is partially offset by increases for the Chelsea Facility lease due to inflation adjustments, new funding for a baseline survey of invasive species in the water reservoirs, and new funding for Global Positioning System (GPS) service fees to support use of this system in managing operations
 - Net decrease of \$76,000 or 2.3% for **Other Materials** due to fewer vehicles replacements in FY11 than in FY10, offset by increased spending for laboratory equipment replacements. MWRA deferred replacement of laboratory equipment in FY09 and FY10 as part of cost-curtailment efforts. The FY11 Budget restores spending to a level which allows for replacement of several pieces of equipment each year that have reached or exceeded their useful lives.
- The \$23.2 million FY11 **Utilities** budget, which is 15% of the Operations Division's total budget, includes \$18.1 million for electricity, \$2.5 million for diesel fuel, and \$1.7 million for water. The FY11 Budget is \$2.7 million or 10.4% less than FY10 spending due to decreases in electricity and diesel fuel. FY10 spending was significantly greater than budget as a result of the extensive spring storms whereas the FY11 Budget is based on multi-year historical averages, excluding the unusual situation in FY10 when Deer Island operated the Combined Turbine Generators (CTGs) for more than 20 days. CTG use resulted in large purchases of diesel fuel to replenish inventory, offset by decreases in purchased electricity when DI was self-generating power.

Electricity decreases by \$387,000 or 2.0% from FY10 spending primarily due to lower prices, offset by net increases for purchased power at Deer Island. The budgets for both the Deer Island and Field Operations departments incorporate projected savings from the implementation of additional conservation and self-generation projects. Diesel Fuel decreases by \$2.4 million or 49.0% primarily due to lower planned purchases at Deer Island in FY11.

- The FY11 Budget is subject to risk in the following areas: scope of the HOM Program (pending EPA approval), timing of the implementation of Deer Island's new NPDES permit, chemical and utility usage and prices, potential impacts of the Deer Island cable relocation project, sludge quantities, and more than expected emergency-related maintenance and overtime needs.

FY11 Initiatives:

Operations, Energy, and New Facilities Start-ups:

- Plan for start-up of the North Dorchester Bay odor control facility and decommissioning of Fox and Commercial Point CSO facilities.
- Continue to implement and optimize SCADA in Wastewater Operations facilities.
- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system. This includes completion of the construction and the use of additional wind and solar power at MWRA facilities and the implementation of recommendations from energy audits. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.
- Self-generate 26% of Deer Island's required power through optimization of power generation assets, including the recently installed wind turbines and the STG back pressure system modifications.
- Procure new electricity supply contract for Deer Island.
- In conjunction with MIS, implement and optimize use of a Global Positioning System (GPS) in MWRA vehicles.

Engineering & Construction:

- Award numerous contracts and/or issue Notice To Proceeds including the following major contracts:
 - Water System
 - Cosgrove Tunnel Redundancy PS Design
 - Long Term Redundancy Remote Vehicle Inspection of Quabbin Aqueduct
 - Lynnfield Pipeline Construction Phase 2
 - NIH Redundancy & Storage Section 89/29 Redundancy Design
 - Valve Replacement Construction 7
 - Weston Aqueduct Supply Mains Design, Sec 36 Waltham Connection
 - Wastewater System
 - Alternative Energy Initiatives DI Wind Phase II
 - Braintree-Weymouth Relief Facilities Rehab Section 624
 - DITP Asset Protection: NMPS VFD Replacement Construction, Digester Mod 1 & 2 Pipe Replacement, North Main Pump Station Motor Control Ctr Construction, Cryogenics Plant – Equipment Replacement Construction, Electrical Equipment Upgrade Construction 4, HVAC Equipment Replacement Design/ESDC, South System Pump Station Lube System Replacement, Centrifuge Backdrive Replacement
 - I&P Facility Asset Protection: Headworks Upgrade Design, NI Mechanical & Electrical Replacements, Prison Point HVAC Upgrades
 - Business and Operations Support
 - Laboratory Services Central Lab Fume Hood Replacements
- Substantially complete the following Capital Improvement Program design and construction phases
 - Water System
 - Alternative Energy Initiatives Loring Road Hydro Construction
 - Long Term Redundancy: Water Transmission Plan, Remote Vehicle Inspection of Quabbin Aqueduct
 - Rehab of Other Pumping Stations Design 2
 - Wachusett Reservoir Spillway Improvements/Winsor Dam Repairs Ph2 PCB Material Remediation

- WASM Section 28 Arlington CP1
- o Wastewater System
 - Alternative Energy Initiatives Delauri Pump Station Wind Construction
 - Braintree-Weymouth Relief Facilities Rehab Section 624
 - CSO Program East Boston Branch Sewer Relief: Construction, Sections 38 & 207 Replacement
 - CSO Program North Dorchester Bay: Dewater/Pump Station and Sewers, Design ESDC/Tunnel, Ventilation Building Construction
 - CSO Program Fort Point Channel Sewer Separation Design and Construction
 - CSO Program Bullfinch Triangle Sewer Separation Construction
 - DITP Asset Protection: Electrical Equipment Upgrade Constr 3, Heat Loop Pipeline Replacement Constr 3, Roof Replacements, Misc VFD Replacements, STG System Modifications Construction
 - Residuals Asset Protection Condition Assessment
 - Wastewater Central Monitoring Design and Integration Services
- Support work of expert panel charged with investigating the cause of the major water main break that occurred in Weston on May 1, 2010.

Maintenance:

- Optimize staff resources, overtime, service contract scopes and use, and use of as-needed design contracts to complete routine and major maintenance projects.
- Continue work on numerous major projects at Deer Island including facility repainting and coating repairs, lighting equipment retrofits, Zurn boiler maintenance and repairs, electrical system maintenance, carbon absorber replacements, and critical equipment maintenance.
- Work on numerous projects in Field Operations including meter inspection and repairs, ozone generator rebuild, lighting efficiency upgrades in metro facilities, dam appurtenances inspections, and back-up pump control panel installations at wastewater pump stations.
- Continue work on multi-year initiative of replacing surge valves in water pump station facilities.
- Continue expanding use of Maximo (maintenance tracking software) in Field Operations Department facilities.
- Wherever appropriate, continue transition to use of flaggers versus police details on maintenance projects requiring traffic control.

Environmental:

- Pending approval by regulators, implement requirements of new NPDES Permits for DITP and Clinton Wastewater Treatment Plant.
- Pending approval by regulators, implement revised harbor and outfall monitoring plan to reflect reduced scope. Carry out the required outfall, harbor, and river monitoring, implement additional in-house data management tasks, implement in-house preparation of interpretive reports, and deploy continuous monitoring instrumentation on the National Oceanic and Atmospheric Administration (NOAA) buoy.
- Ensure the permit-required outfall monitoring meets NPDES requirements, is scientifically credible, and is cost-effective.
- Continue to implement and optimize the new environmental information systems in TRAC and the Central Laboratory.

- Plan and implement the new round of NPDES-required Local Limit testing in TRAC to reassess industrial discharge limits. This work can commence after EPA issues the new NPDES permits.
- In conjunction with the DCR, continue to monitor, revise, and implement program for preventing spread of zebra mussels in the Authority's drinking water source supplies.
- Conduct periodic baseline invasive species monitoring at water reservoirs.
- Design and implement Spill Prevention Control and Countermeasure (SPCC) program at various operating facilities.

OPERATIONS ADMINISTRATION

Final FY11 Current Expense Budget OPERATIONS ADMINISTRATION						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 1,842,292	\$ 1,798,240	\$ 1,789,319	\$ 1,779,117	\$ (10,202)	-0.6%
OVERTIME	277	526	798	-	(798)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
WORKERS' COMPENSATION	-	-	-	-	-	-
MAINTENANCE	-	171	-	-	-	-
TRAINING & MEETINGS	1,814	-	468	2,200	1,732	370.1%
PROFESSIONAL SERVICES	-	23,844	6,500	215,453	208,953	3214.7%
OTHER MATERIALS	1,386,092	1,238,916	831,973	602,001	(229,972)	-27.6%
OTHER SERVICES	277,705	276,369	100,282	94,668	(5,614)	-5.6%
TOTAL	\$ 3,508,180	\$ 3,338,066	\$ 2,729,340	\$ 2,693,439	\$ (35,901)	-1.3%

The **Operations Administration Department** is comprised of the Office of the Chief Operating Officer and Division level support staff. The department goal is to oversee, manage, and implement MWRA policies and procedures pertaining to the following functions: labor relations, finance, contract administration and general administration.

Budget Highlights:

- \$1.8 million for **Wages and Salaries**, which represents 66% of the FY11 Current Expense Budget (CEB). The budget includes funding for 23 positions and a temporary employee to provide support for the expert panel reviewing the May 2010 water pipeline break.
- \$215,000 for **Professional Services** which includes \$150,000 for services that may be required to support the expert panel in their review of the May 2010 water pipeline break and \$65,000 for energy consulting services to support energy procurements and evaluation of energy projects.
- \$602,000 for **Other Materials**, of which \$600,000 is for replacement of aged vehicles in MWRA’s fleet. This funding level continues to reflect efforts to contain rate increases by curtailing purchases. The FY11 vehicle budget of \$600,000 will allow MWRA to replace only the high priority vehicles that meet the eligibility criteria. Actual spending for vehicle purchases for FY02-FY10 is as follows:

FY02:	\$ 622,000	FY06:	\$ 717,381	FY10:	\$826,513
FY03:	\$ 120,000	FY07:	\$1,846,396		
FY04:	\$1,580,000	FY08:	\$1,425,758		
FY05:	\$1,237,289	FY09:	\$1,134,779		

From FY00 to FY03, MWRA limited replacement of vehicles pending completion of an extensive fleet review. In FY03 MWRA reduced the active fleet by more than 10% (from 561 to 496 vehicles) as a result of this initiative. For example, staff identified opportunities to meet the needs of the new waterworks system facilities through redeployment of existing vehicles rather than adding to the fleet. More than 40% of MWRA’s active, operable fleet was seven years or older at the end of FY10.

- \$95,000 is for **Other Services** of which the majority is for Authority-wide memberships including the National Association of Clean Water Agencies, Association of Metropolitan Water Agencies, American Waterworks Association, and the Boston Harbor Association marine debris program. The significant decrease from FY09 spending is due to the discontinuation of numerous memberships, including the American Waterworks Research Foundation, as part of MWRA’s decision to curtail non-essential spending.

WASTEWATER TREATMENT

Final FY11 Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 16,764,551	\$ 17,114,724	\$ 17,553,076	\$ 17,725,978	\$ 172,902	1.0%
OVERTIME	1,214,864	798,752	1,379,720	1,057,873	(321,847)	-23.3%
FRINGE BENEFITS	27,028	15,664	28,799	19,300	(9,499)	-33.0%
CHEMICALS	2,828,939	3,280,345	2,887,823	3,215,286	327,463	11.3%
UTILITIES	15,531,352	14,946,585	16,184,157	13,432,758	(2,751,399)	-17.0%
MAINTENANCE	14,118,592	14,459,802	13,737,428	14,915,376	1,177,948	8.6%
TRAINING & MEETINGS	39,675	55,088	23,581	41,600	18,019	76.4%
PROFESSIONAL SERVICES	104,988	387,342	353,516	484,700	131,184	37.1%
OTHER MATERIALS	665,675	403,706	515,596	552,962	37,366	7.2%
OTHER SERVICES	15,444,582	16,408,711	16,158,142	15,670,365	(487,777)	-3.0%
TOTAL	\$ 66,740,246	\$ 67,870,719	\$ 68,821,838	\$ 67,116,198	\$ (1,705,640)	-2.5%

Final FY11 Current Expense Budget WASTEWATER TREATMENT by Facility						
FACILITY	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
DEER ISLAND	\$ 48,776,729	\$ 49,020,875	\$ 50,400,723	\$ 49,584,988	\$ (815,735)	-1.6%
RESIDUALS	16,494,003	17,315,292	16,918,753	15,982,671	(936,082)	-5.5%
CLINTON	1,469,514	1,534,552	1,502,362	1,548,538	46,176	3.1%
TOTAL	\$ 66,740,246	\$ 67,870,719	\$ 68,821,838	\$ 67,116,197	\$ (1,705,640)	-2.5%

The **Deer Island Treatment Plant**, the **Residuals Management Program**, and the **Clinton Treatment Plant** comprise the Wastewater Treatment Department. Together, the budgets for these programs represent 43% of the Operations Division's FY11 Current Expense Budget (CEB) and 32% of MWRA's FY11 CEB.

Incoming wastewater from MWRA customer communities is piped to several headworks facilities where bricks, logs, and other large objects are screened out before the influent is transmitted to Deer Island through underground tunnels. At Deer Island, wastewater from the north system is pumped through chambers that remove grit and detritus for disposal in an off-island landfill. South system flows undergo preliminary treatment at the Nut Island headworks and are then pumped directly into the primary treatment facility, bypassing the grit removal chambers. The primary treatment facility consists of stacked clarifiers where scum rises to the top and the sludge settles to the bottom. Secondary reactors and clarifiers remove organic matter through biological and gravity treatment. Primary and secondary sludge and scum are thickened, anaerobically digested, and further thickened to reduce the volume of sludge before it is pumped through the Braintree-Weymouth tunnel to MWRA's Residuals Processing Facility at Fore River. Methane, a byproduct of anaerobic digestion, is used to fuel the plant's boilers, which produce steam to provide heat and generate electricity.

DEER ISLAND TREATMENT PLANT

Final FY11 Current Expense Budget DEER ISLAND TREATMENT PLANT by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 16,135,014	\$ 16,446,940	\$ 16,854,157	\$ 17,050,860	\$ 196,703	1.2%
OVERTIME	1,136,768	751,401	1,316,066	992,873	(323,193)	-24.6%
FRINGE BENEFITS	25,951	15,028	27,911	18,300	(9,611)	-34.4%
CHEMICALS	2,618,952	3,042,991	2,710,193	2,974,594	264,401	9.8%
UTILITIES	15,245,426	14,618,424	15,887,447	13,126,804	(2,760,643)	-17.4%
MAINTENANCE	12,280,634	12,854,386	12,300,411	13,881,053	1,580,642	12.9%
TRAINING & MEETINGS	37,527	55,088	22,999	40,000	17,001	73.9%
PROFESSIONAL SERVICES	100,942	362,425	263,157	470,500	207,343	78.8%
OTHER MATERIALS	535,205	296,823	450,148	419,079	(31,069)	-6.9%
OTHER SERVICES	660,310	577,369	568,234	610,925	42,691	7.5%
TOTAL	\$ 48,776,729	\$ 49,020,875	\$ 50,400,723	\$ 49,584,988	\$ (815,735)	-1.6%

Program Description and Goals:

The **Deer Island Treatment Plant** budget accounts for 32% of the Operations Division’s FY11 Current Expense Budget (CEB). DITP has a primary treatment peak capacity of 1.27 billion gallons per day (bgd) and secondary treatment peak capacity of 700 million gallons per day (mgd).

Wastewater "influent" from MWRA customer communities arrives at the plant through four underground tunnels. Pumps then lift the influent 80 to 150 feet, depending on the tunnel, to the head of the plant. There are three pump stations. The pumping capacity at the Deer Island plant has dramatically increased the volume of wastewater that can be taken into the plant from the conveyance tunnels. This reduces back-ups and overflows throughout the system when wet weather causes peaking of system flows.

North system flows pass through grit channels and bar screens at the Headworks that remove grit and screenings for disposal in an off-island landfill. South system flows are pre-treated for grit at Nut Island and the Braintree-Weymouth Intermediate Pump Station. Flow is routed to primary treatment clarifiers, which remove about half of the pollutants brought to the plant in typical wastewater (removes 50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants). In the clarifiers, gravity separates sludge and scum from the wastewater.

In secondary treatment, reactors and clarifiers remove non-settleable solids through biological and gravity treatment. The biological process is a pure oxygen-activated sludge system, using microorganisms to consume organic matter that remains in the wastewater flow. Secondary treatment raises the level of pollution removal to over 85%. More than 150 tons of pure oxygen is manufactured each day at Deer Island's cryogenic facility to support the biological treatment process.

Sludge and scum from primary treatment are thickened in gravity thickeners. Sludge and scum from secondary treatment are thickened in centrifuges. Polymer is used in the secondary thickening process to increase its efficiency. Digestion occurs in 12 egg-shaped anaerobic digesters, each 90 feet in diameter and approximately 130 feet tall. Microorganisms naturally present in the sludge work to break sludge and scum down into methane gas, carbon dioxide, solid organic byproducts, and water. Digestion significantly reduces sludge quantity. The methane gas produced in the digesters is used in the plant's on-site power generating facility to save operating costs by reducing consumption of purchased energy. Digested sludge is pumped through the inter-island Braintree-Weymouth tunnel directly to the MWRA’s Pelletizing Facility at Fore River, where it is further processed into a fertilizer product.

Organizational Structure:

The Deer Island Plant has six major functional areas: Operations, Thermal Power Plant, Process Control, Maintenance, Capital Engineering, and Operations and Maintenance (O&M) Support.

- Operations manages the day-to-day operation of plant processing units, perform minor preventative maintenance activities, and oversee plant functions 24 hours per day, seven days per week.
- Thermal Power Plant staff manage and operate the Deer Island generation and thermal systems. Power Plant personnel provide 24 hour operation of the high-pressure, high temperature steam power plant. This facility is capable of producing up to 70 emergency megawatts of electrical power.
- Process Control manages and maintains the following programs in support of plant operations; real-time process instrumentation and control system (PICS), operational data system (OMS), plant performance monitoring and reporting programs, regulatory compliance programs including all plant permits, water quality, and air quality. The Process Control Unit provides the technical expertise for plant unit operations and routinely performs process optimization studies to help increase performance and reduce operating costs.
- Maintenance performs preventive and predictive maintenance and corrective repairs on all equipment, utilizing a computerized maintenance management system (CMMS) to coordinate scheduling with Operations. Staff has developed the Reliability Centered Maintenance (RCM) program, which has improved plant performance by applying maintenance resources where they are most effective. RCM analyzes the operating systems with the objective of ensuring critical functions operate as required. Implementation of a preventive maintenance program using RCM helps reduce the cost of maintaining the plant and improve efficiency by anticipating when maintenance will be required. An on-island warehouse, managed by Procurement Department staff, ensures there is adequate stock for maintenance repairs and plant operations.
- Capital Engineering provides technical support services for both the Operations and Maintenance Units. Staff is responsible for all aspects of plant engineering including developing, procuring, and implementing all service contracts, consultant designs, and capital improvement projects at Deer Island. This group also manages the on-island Technical Information Center, which provides services to the DITP community and external constituents, and ensures quick access to plant drawings and technical information for operational and maintenance needs.
- O&M Support Section is responsible for supporting the business needs of the plant. The Administration and Finance Unit provides financial and administrative support to meet daily operational needs of the plant. The Safety/Security Unit is responsible for ensuring a safe and healthful work environment for employees and minimizing MWRA's exposure to liability and property loss or damage.

The Deer Island Director's Office provides overall policy direction and support in the areas of public access and community agreements.

Operating Assumptions

Deer Island's FY11 CEB assumes treatment of an average flow of 362.3 mgd based on eight years of historical data. Sludge production is projected to be an average of 106 TPD of digested sludge pumped to FRSA (TSS basis) through the Braintree-Weymouth tunnel. This estimate is based on seven years of historical data adjusted to account for the discontinuation of the DSL centrifuges after start-up of the Braintree-Weymouth tunnel.

Deer Island's FY11 CEB accounts for the impact of self-generation of electricity from the steam turbine generator, combustion turbine generators, hydroelectric generators, wind turbine generators, and photovoltaic panels. In total, these assets will meet approximately 25.6% of the total energy requirements resulting in an avoided cost savings of approximately \$3.7 million.

Deer Island continues to comply with the conditions of the current NPDES Permit which expired in FY06. Given the uncertainty regarding the timing of the permit renewal from EPA, Deer Island's FY11 CEB assumes the new permit will not go into effect until the fourth quarter of FY11. When the new permit is issued, Deer Island's treatment process will be required to kill enterococcus in addition to fecal coliform to comply with revised regulatory requirements.

Budget Highlights:

- \$17.1 million for **Wages and Salaries**, a \$197,000 or 1.2% increase from FY10 spending. The FY11 CEB funds on average 237 filled, permanent positions plus one temporary employee in engineering support. The CEB also include \$99,000 for stand-by pay to support operational and maintenance needs primarily during storms and emergencies.
- \$993,000 for **Overtime** for operational coverage, critical maintenance projects, and regulatory requirements (i.e. inspections). The FY11 CEB is (\$323,000) or (25%) less than FY10 spending primarily due to more than typical overtime use in FY10 associated with numerous emergency wet weather events and extended periods of unusually high plant flows.
- \$3.0 million for **Chemicals**, which is \$264,000 or 9.8% more than FY10 spending. The FY11 CEB reflects management's expectation that the new NPDES permit will be in effect for DI sometime early in the fourth quarter of FY11. The budget includes approximately \$423,000 for additional sodium bisulfite and sodium hypochlorite required to treat enterococcus when the new permit is in effect. This increase is partially offset by price decreases for sodium hypochlorite and polymer due to market conditions.
- \$13.1 million for **Utilities**, a (\$2.8 million) or (17.4%) decrease from FY10 spending. The FY11 CEB includes \$10.7 million for electricity, \$1.4 million for water, and \$1.0 million for diesel fuel. The (\$2.5 million) decrease from FY10 spending for diesel fuel is due to the unusually extensive operation of the CTGs during the wet weather/high plant flows period experienced from late February through early April 2010.

The (\$220,000) decrease in electricity is primarily due to a projected price decrease of (\$0.006) per kWh offset by increases in purchased power from FY10 to FY11. The FY11 CEB assumes a full year of electricity unit pricing through a combination of spot market and fixed block pricing. It also reflects several years of history of required power usage offset by self-generation. The FY11 CEB includes expected increases in self-generation resulting from the operation of the new wind turbines, additional solar panels and the addition of a back pressure STG. Even with these self-generation improvements, the FY11 usage estimate is more than FY10 actuals due to reduced electricity purchases during the extensive use of the CTGS in the spring 2010 storm events.

- \$13.9 million for **Maintenance**, which is \$1.6M or 12.9% more than FY10 spending. The FY11 CEB includes \$4.8 million for materials and \$9.1 million for services. Of the total, 57% or \$8.0 million is for plant and

machinery services and materials, \$3.3 million is for electrical system maintenance, and \$1.5 million is for building and grounds work.

- \$471,000 for **Professional Services**, which is \$207,000 more than FY10 spending primarily due to expected increases in the use of as-needed design contracts to support the development of major maintenance projects. The FY11 CEB includes \$400,000 for as-needed engineering services to support CEB projects and \$50,000 for a beach nourishment study per regulatory requirements.
- \$419,000 for **Other Materials**, which is \$31,100 or 6.9% less than FY10 spending. The FY11 CEB includes \$114,000 for work clothes, \$110,000 for health and safety materials and \$62,000 for vehicles expenses (tolls, mileage, and gas).
- \$611,000 for **Other Services** which is \$43,000 or 7.5% more than FY10 spending. The FY11 CEB includes the ambulance service contract \$260,000, permit fees \$105,000, HAZmat/safety services \$90,000, fax/copier leasing and servicing \$68,000, telephones \$48,000, and freight charges \$20,000.

RESIDUALS MANAGEMENT

Final FY11 Current Expense Budget RESIDUALS by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 102,663	\$ 103,200	\$ 119,702	\$ 109,532	\$ (10,170)	-8.5%
OVERTIME	-	-	-	-	-	-
MAINTENANCE	1,633,243	1,398,552	1,226,841	822,968	(403,873)	-32.9%
TRAINING & MEETINGS	2,147	-	582	1,500	918	157.7%
PROFESSIONAL SERVICES	1,459	-	-	7,500	7,500	-
OTHER MATERIALS	250	-	-	300	300	-
OTHER SERVICES	14,754,241	15,813,540	15,571,628	15,040,871	(530,757)	-3.4%
TOTAL	\$ 16,494,003	\$ 17,315,292	\$ 16,918,753	\$ 15,982,671	\$ (936,082)	-5.5%

Program Description and Goals:

The **Residuals Management Program** manages the processing and disposal of approximately 106 dry tons per day (TSS) of sludge from the anaerobic digestion process at Deer Island, as well as the disposal of grit and screenings from all MWRA facilities. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

- MWRA contracts with the New England Fertilizer Company (NEFCo) to operate the sludge processing facility, and to market and distribute sludge products. A 15-year contract with NEFCo became effective March 1, 2001 and will expire on December 31, 2015. Liquid sludge from Deer Island is pumped through the Braintree-Weymouth cross-harbor tunnel to the Fore River processing facility where it is dewatered, dried, and shipped by either rail or truck for use as fertilizer or to other appropriate disposal. MWRA is committed to the beneficial reuse of biosolids to the greatest extent practicable.

In FY05, major operational changes occurred regarding sludge processing at Deer Island. The Braintree-Weymouth cross-harbor tunnel came on-line in April 2005. The previous practice of thickening and barging sludge from Deer Island to Fore River ceased. Deer Island began pumping a much lower concentration of sludge (2.0% to 2.5% average total suspended solids) to the Residuals Processing Facility.

- MWRA is presently in the process of finishing a third-party independent condition assessment of the NEFCo facility. Management will use the information from this report to identify possible areas for additional maintenance and capital repair for funding in future budgets.
- The budget is based on 106 tons per day (TPD based on TSS), consistent with historical actual annual tonnage since the start-up of the Braintree-Weymouth Tunnel.
- Grit and screenings (minor residuals) from MWRA's headworks and certain pump stations are collected and disposed of in landfills. MWRA contracts with a third party operator for this service. Minor residuals are by-products of wastewater pre-treatment and primary/secondary treatment processes and include grit, screenings and scum screenings. A two year contract with a new vendor started in May 2009.

Budget Highlights:

- \$110,000 for **Wages and Salaries**, which funds one position. This department also receives on-going management oversight and staff support from other departments of the MWRA including Deer Island, Treasury, and Operations Administration.

- \$823,000 is for **Maintenance**, the capital repair, replacement and improvement component of the NEFCo contract, which includes a specific level per year adjusted to account for inflation. The change from FY10 spending to the FY11 CEB is due to a lower contractual amount for calendar year 2011 and also reductions in inflation based on market indices. The maintenance budget also includes a small amount for FRSA repairs.
- \$14.0 million or 88% of the FY11 Budget is for the **Sludge Pelletization** portion of the NEFCo contract. The FY11 Budget is \$554,000 or 4% less than FY10 spending due to inflation decreases, primarily for natural gas. The FY11 Budget is based on an average of 106 tons per day (TPD) which is level funded with the FY10 Budget and is consistent with historical trends since the start-up of the Braintree-Weymouth Tunnel.
- \$932,000 of the FY11 Budget is for **Grit and Screenings** disposal, a decrease of \$28,000 or 2.9% from FY10 spending.
- \$38,000 of the budget is for **Permit Fees**, which includes \$35,000 for bi-annual sludge dryer stack testing as required by DEP.

CLINTON WASTEWATER TREATMENT PLANT

Final FY11 Current Expense Budget CLINTON WASTEWATER TREATMENT PLANT by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 526,875	\$ 564,583	\$ 579,218	\$ 565,586	\$ (13,632)	-2.4%
OVERTIME	78,096	47,352	63,654	65,000	1,346	2.1%
FRINGE BENEFITS	1,077	636	888	1,000	112	12.6%
CHEMICALS	209,987	237,353	177,630	240,692	63,062	35.5%
UTILITIES	285,925	328,161	296,710	305,954	9,244	3.1%
MAINTENANCE	204,715	206,865	210,176	211,355	1,179	0.6%
TRAINING & MEETINGS	-	-	-	100	100	-
PROFESSIONAL SERVICES	2,588	24,917	90,358	6,700	(83,658)	-92.6%
OTHER MATERIALS	130,220	106,884	65,448	133,582	68,134	104.1%
OTHER SERVICES	30,031	17,801	18,280	18,569	289	1.6%
TOTAL	\$ 1,469,514	\$ 1,534,552	\$ 1,502,362	\$ 1,548,538	\$ 46,176	3.1%

Program Description and Goals:

The **Clinton Wastewater Treatment Program** provides advanced sewage treatment services to the Town of Clinton and the Lancaster Sewer District. MWRA assumed formal operational responsibility for the Clinton plant in 1987. Since then MWRA has designed and constructed new primary, secondary, and advanced treatment facilities which incorporated rehabilitated portions of the existing plant with new construction. The new facilities, designed to meet all current and projected National Pollutant Discharge Elimination System (NPDES) discharge standards, was completed in 1992.

The plant provides secondary treatment using an activated sludge process in combination with advanced nutrient removal and dechlorination. The major facilities include a headworks, primary settling tanks, digesters, sludge processes, trickling filters, aeration tanks, secondary tanks, and a chemical addition building. The plant discharges its effluent into the South Nashua River in accordance with the discharge limits of the facility's NPDES permit which limits effluent flow to 3.01 mgd. The plant has a potential peak flow rate of 12 mgd and a 6 mgd peak 24 hour rate. Residual materials are pressed and transported to an MWRA-owned landfill for disposal. Staff also performs regular monitoring of the landfill site.

Budget Highlights:

- \$566,000 for **Wages and Salaries** represents 37% of the FY11 Budget. This funds seven positions and one part-time temporary contract clerical position.
- \$65,000 for **Overtime**, which is used to meet the 24 hour, 7 day per week emergency coverage requirement and to provide increased maintenance resulting from an aging facility.
- \$241,000 for **Chemicals** of which \$127,000 is used for sludge processing and disposal and \$114,000 is used for wastewater treatment.
- \$306,000 for **Utilities** represents 20% of the FY11 Budget. This includes \$252,000 for electricity, \$29,000 for fuel oil, and \$25,000 for water.
- \$211,000 for **Maintenance** represents 14% of the FY11 Budget. The budget includes \$65,000 for major projects and the remainder for routine services and maintenance.

- \$134,000 for **Other Materials**, including \$121,000 for clean fill for the landfill operation. Per regulatory directive, Clinton suspended the sludge reuse program for landfill coverage in FY09 thus requiring purchase of more fill.

FIELD OPERATIONS

Final FY11 Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 33,397,317	\$ 34,567,080	\$ 34,959,350	\$ 35,900,759	\$ 941,409	2.7%
OVERTIME	2,275,528	2,001,173	2,333,975	2,058,432	(275,543)	-11.8%
FRINGE BENEFITS	45,366	35,498	39,919	44,945	5,026	12.6%
CHEMICALS	5,813,864	6,587,210	6,110,976	6,581,832	470,856	7.7%
UTILITIES	10,216,796	9,327,360	9,654,098	9,708,200	54,102	0.6%
MAINTENANCE	7,637,475	8,341,580	8,606,906	9,416,260	809,354	9.4%
TRAINING & MEETINGS	76,299	35,326	23,160	116,800	93,640	404.3%
PROFESSIONAL SERVICES	625,450	458,458	618,254	487,060	(131,194)	-21.2%
OTHER MATERIALS	932,189	767,292	943,143	975,254	32,111	3.4%
OTHER SERVICES	2,707,097	2,363,746	2,636,342	2,969,720	333,378	12.6%
TOTAL	\$ 63,727,381	\$ 64,484,723	\$ 65,926,123	\$ 68,259,262	\$ 2,333,139	3.5%

Final FY11 Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
TRAC	\$ 3,381,274	\$ 3,410,288	\$ 3,436,145	\$ 3,533,818	\$ 97,673	2.8%
WASTEWATER OPERATIONS	11,439,765	11,399,949	11,624,424	11,452,944	(171,480)	-1.5%
WATER OPERATIONS & MAINT	20,669,390	21,527,413	21,110,594	26,542,430	5,431,836	25.7%
METRO MAINTENANCE	16,719,487	16,765,543	17,732,922	13,770,795	(3,962,127)	-22.3%
OPERATIONS SUPPORT	7,364,414	7,235,436	7,803,765	8,216,071	412,306	5.3%
FOD ADMIN	4,153,051	4,146,094	4,218,273	4,743,203	524,930	12.4%
TOTAL	\$ 63,727,381	\$ 64,484,723	\$ 65,926,123	\$ 68,259,261	\$ 2,333,139	3.5%

The primary goal of the **Field Operations Department (FOD)** is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring program. FOD consists of six operating units: Toxic Reduction and Control, Wastewater Operations, Metropolitan Maintenance, Water Operations and Maintenance, Operations Support, and Administration.

The Toxic Reduction and Control (TRAC) Department operates a multi-faceted program to minimize and control the inflow of hazardous or toxic materials into the MWRA sewer system. TRAC operates MWRA's EPA approved Industrial Pretreatment Program and is responsible for all associated activities which include conducting inspections (approximately 700 annually), issuing permits (300 annually), conducting sampling (more than 2,000 events annually), and carrying out enforcement activities (approximately 400 annually). The program tracks more than 1,400 permitted facilities and 4,000 gas/oil separators. TRAC uses a software application, PIMS, to manage an extensive amount of industrial data on analytical test results, compliance status, and facility sampling and permitting requirements.

Wastewater Operations operates MWRA's wastewater transport facilities, including four continuously staffed Headworks facilities; 12 fully automated pumping stations; and seven CSO facilities which are similarly un-staffed. The wastewater system is monitored and controlled from the operations control center (OCC) in Chelsea.

Water Operations and Maintenance is responsible for the treatment and delivery of approximately 207 mgd (three year average) of water from the Quabbin and Wachusett reservoirs to the community water systems. The

water system encompasses a service area from Chicopee in the western part of the state to Lynnfield, Wakefield, Marblehead, Norwood and Canton in the metropolitan area. This unit operates and maintains MWRA's western waterworks facilities, including the Carroll Water Treatment Plant, the MetroWest Tunnel, the Ware Water Treatment Plant, the Cosgrove Intake Facility, the Norumbega Reservoir, and the covered storage facilities. There are two operations centers that provide for monitoring and control of the water system on a 24-hour per day basis. The Metropolitan Operations and Control Center (OCC) is located at MWRA's Chelsea facility and the Western Operations Center is located at the Carroll Water Treatment Plant.

Metropolitan Maintenance is responsible for maintenance of MWRA's wastewater and water systems and facilities within the Route 128 area. Staff maintain pipelines, valves, interceptors, pumps, facility equipment, buildings, and grounds. Metropolitan Maintenance staff maintain a waterworks network of approximately 300 miles of water mains, 4,900 valves, 18 miles of deep rock tunnels, ten pump stations, eight tunnel shafts, eleven distribution storage tanks; and a wastewater network of 240 miles of wastewater interceptors and appurtenances, 12 pump stations, four headworks, and five CSO facilities. In addition, this unit performs TV inspections of the wastewater interceptor system and leak detection.

Operations Support provides technical support to FOD in the areas of engineering, quality assurance, data management, metering, and monitoring. Engineering staff coordinates all engineering issues related to the operation of the water and wastewater systems. The Quality Assurance Unit monitors water treatment effectiveness, identifies treatment issues, and develops recommendations for water treatment improvements. Data management activities include performance reporting on water quality, development and maintenance of water quality treatment and optimization models, and tracking and analyzing chemical and hydraulic flow data. The Metering and Monitoring unit maintains 179 revenue water meters, 26 master water meters, 187 revenue wastewater meters and 35 other wastewater monitoring sites. This unit collects meter data for operational and revenue generating purposes from the water and wastewater systems. It is also responsible for the maintenance of the water and wastewater Supervisory Control and Data Acquisition (SCADA) systems.

FOD Administration provides financial, administrative, planning, and policy oversight functions for the entire Field Operations Department.

Budget Highlights:

- \$35.9 million or 53% of the FY11 Current Expense Budget (CEB) is for **Wages and Salaries** of which \$35.2 million or 98% is for regular pay to fund 512 positions. The budget also includes a .5% vacancy rate to reflect the impact of attrition. Of the remaining budget, \$322,000 is for stand-by pay to support operational and maintenance needs; \$109,000 for temporary employees including a temporary SCADA Tech, a Traffic Planner to assist with development of community traffic safety plans, and a MAXIMO technician, and \$33,000 for interns for water quality analysis, grounds maintenance, and engineering assistance to augment engineering staff;.
- \$2.1 million or 3% of the FY11 CEB is for **Overtime**, which includes \$654,000 for operational coverage needs, \$826,000 for emergency related overtime, and \$578,000 for planned overtime for scheduled maintenance and training. The FY11 Overtime budget is less than FY10 spending primarily due to greater than budgeted emergency use in FY10 during the extensive spring storms.
- \$6.6 million or 9.6% of the FY11 Budget is for **Chemicals**, of which \$6.2 million is for water treatment and \$333,000 is for wastewater treatment. The budget includes \$3.1 million for soda ash for alkalinity control, \$938,000 for sodium hypochlorite and \$197,000 for aqua ammonia for disinfection, \$1.0 million for hydrofluosilicic acid for fluoridation, \$599,000 for liquid oxygen for the CWTP ozone generation, \$289,000 for carbon dioxide to control water pH, \$217,000 for sodium bisulfite for dechlorination, and \$159,000 for

Nitrazyme and VX-456 for Framingham Extension Relief Sewer odor and corrosion control. The FY11 Chemicals budget is \$471,000 or 7.7% more than FY10 spending primarily due to lower than expected water system flows in FY10 which resulted in less use of chemicals.

- \$9.7 million or 14.2% of the FY11 Budget is for **Utilities**, including \$7.1 million for electricity, \$1.5 million for diesel fuel, \$665,000 for natural gas, and \$353,000 for water. The FY11 utility budget is \$54,000 or .6% more than FY10 spending primarily due to expected increases in pricing for electricity, diesel fuel and natural gas offset by reduced usage estimates based on actual history of relatively new facilities and partial year benefits of energy conservation projects.
- \$9.4 million or 13.7% of the FY11 Final Budget is for **Maintenance**, including \$2.4 million in major projects, \$3.3 million in day-to-day projects, and \$3.3 million for services, and \$283,000 for energy initiatives. The FY11 Maintenance budget is \$809,000 or 9.4% due to higher than FY10 spending due mainly to a significant increase in planned maintenance projects and improved capacity to complete the work as a result of a reorganization of the Metro Maintenance Department. Some of the major projects planned for FY11 include rebuilding the CWTP ozone generator, \$500,000, replacing electrical breakers and transfer switches at Hayes, Caruso, and Prison Point, \$175,000, backup pump control panels at IPS, Squantum, and Quincy Pump Stations, \$125,000, and replacing surge valves at Lexington Street Pump Station, \$100,000. The budget also includes approximately \$283,000 for energy efficiency initiatives such as replacing pump station motors with variable frequency drives, and implementation of recommended HVAC and lighting efficiencies at various facilities.
- \$117,000 for **Training and Meetings** primarily to cover training required for job duties, health and safety compliance, and job-related licensures and certifications. The FY11 Budget is \$94,000 more than FY10 spending due to spill prevention training and also the inclusion of training on diagnostic equipment as part of FOD's continuing efforts to implement Facility Asset Management Programs (FAMP) in all facilities.
- \$487,000 or 0.7% of the FY11 Budget is for **Professional Services**, including \$448,000 for engineering, which is made up of \$280,000 for as-needed engineering services; \$40,000 for the NPDES related Local Limits Study expected to be underway in FY11; \$100,000 for dam inspection and engineering work related to dam repairs; and \$28,000 for spill prevention training evaluation. The budget also includes \$25,000 for the final phase of energy audits at metropolitan facilities; \$11,000 for lab and testing services related to water quality; and \$4,000 for the Dig Safe program. Professional Services decreases by \$131,000 or 21% from FY10 spending primarily due to the inclusion in FY10 of one-time costs associated with site remediation at the Cottage Farm Headworks.
- \$975,000 or 1.4% is for **Other Materials**, including \$330,000 for vehicle expenses for gas, mileage reimbursements and tolls; \$230,000 for health and safety supplies; \$190,000 for work clothes; and \$130,000 for lab and testing supplies.
- \$3.0 million or 4.3% is for **Other Services**, including \$1.6 million for annual lease payments for the Chelsea office building, \$554,000 for telephone and SCADA needs at various facilities, \$319,000 for police details, and \$319,000 for Other Services of which the majority support Invasives control. The FY11 Budget for Other Services is \$333,000 or 12.6% more than FY10 spending primarily due to increases in the Chelsea rent and taxes, the addition of a non-recurring \$125,000 for invasives species baseline monitoring at the water reservoirs, and \$100,000 for the implementation of a Global Positioning monitoring system.

LABORATORY SERVICES

Final FY11 Current Expense Budget LABORATORY SERVICES						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 3,691,792	\$ 3,853,465	\$ 4,000,086	\$ 4,021,138	\$ 21,052	0.5%
OVERTIME	73,240	51,864	64,595	70,242	5,647	8.7%
FRINGE BENEFITS	808	387	423	1,200	777	183.7%
UTILITIES	20,444	20,329	16,834	23,184	6,350	37.7%
MAINTENANCE	200,812	209,999	222,466	313,295	90,829	40.8%
TRAINING & MEETINGS	4,381	832	989	2,000	1,011	102.2%
PROFESSIONAL SERVICES	181,003	112,729	118,528	96,670	(21,858)	-18.4%
OTHER MATERIALS	764,766	762,158	771,432	910,947	139,515	18.1%
OTHER SERVICES	103,211	82,440	76,705	92,334	15,629	20.4%
TOTAL	\$ 5,040,457	\$ 5,094,203	\$ 5,272,058	\$ 5,531,010	\$ 258,952	4.9%

The **Department of Laboratory Services (DLS)** goals are to provide high quality and responsive laboratory services to MWRA's water and wastewater treatment programs, including the Department of Conservation and Recreation (DCR) and the MWRA member water and wastewater communities. This includes timely and cost-effective laboratory tests to meet the strict testing guidelines required by all regulatory programs and permits, including the Safe Drinking Water Act (SDWA), Clean Water Act, and NPDES permits. The Department supports these functions at five locations: Chelsea, Southborough, Quabbin, the Central Laboratory at Deer Island, and the Clinton Wastewater Treatment Plant. Testing supports drinking water transmission and treatment processes, wastewater operations and Process Control at Deer Island and Clinton, NPDES compliance, Massachusetts Bay outfall monitoring, TRAC, and wastewater residuals. DLS also conducts the Boston Harbor monitoring program, which involves regular sampling for nutrients, bacteria, and water quality parameters throughout Boston Harbor. Laboratory staff track and analyze results for submission to the Environmental Protection Agency and the Massachusetts Department of Environmental Protection.

Most MWRA laboratory testing is done in-house. Certain highly specialized or low volume tests are outsourced, such as tests for dioxins and radioactivity. In January 2004, MWRA brought most of the laboratory testing for the Harbor and Outfall Monitoring (HOM) in-house including the water column laboratory work and the monthly boat sampling of Massachusetts Bay to collect bacteria samples. In July 2004, MWRA brought laboratory testing of Quabbin and Wachusett Reservoirs and their tributaries for the Department of Conservation and Recreation in-house, including operation of the Quabbin Laboratory. MWRA anticipates additional significant changes to the Laboratory's work before the start of FY11 if regulators approve proposed reductions to the Harbor and Outfall Monitoring (HOM) program. Management assumes the reduced HOM program as proposed to EPA and DEP by MWRA will include no fish/shellfish samples, a limited number of benthic sediments samples, and fewer stations and test parameters in the water column task.

Budget Highlights:

- \$4.0 million or 73% of the FY11 Current Expense Budget (CEB) is for **Wages and Salaries**, of which \$3.8 million covers regular pay for 54 positions. The FY11 Budget also includes \$120,000 for up to three temporary employee positions primarily to cover peak workload and Harbor and Outfall Monitoring and Carroll Water Treatment Plant special testing.
- \$23,000 is for **Utilities**, which consists of gases and cryogenic liquids used for various lab instruments.

- \$313,000 is for **Maintenance** which includes \$192,000 for equipment service contracts, \$90,000 for Laboratory modifications, and \$9,350 for HVAC services to annually certify the fume hoods. No lab modifications took place in FY10.
- The **Professional Services** budget of \$97,000 covers lab and testing analysis services. The Lab contracts out a variety of complex and/or low volume tests. Outside labs are used for emergencies, “second opinions”, capacity constraints, and unavailability of specialized equipment or economic justification.
- \$911,000 is for **Other Materials** which includes \$564,000 for laboratory and testing supplies and \$295,000 for replacement of obsolete or older equipment. Funding in this line item increases by \$140,000 from FY10 spending to FY11 primarily because MWRA deferred purchase of Lab equipment replacements in FY09 and FY10 as part of cost containment efforts.
- The \$92,000 budget for **Other Services** primarily covers boat rental service on an as-needed basis, boat dockage for two boats, removing hazardous waste and courier service for shipping samples between laboratories.

ENVIRONMENTAL QUALITY

Final FY11 Current Expense Budget ENVIRONMENTAL QUALITY						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 1,328,722	\$ 1,371,796	\$ 1,451,658	\$ 1,418,188	\$ (33,470)	-2.3%
OVERTIME	3,044	2,400	1,233	2,633	1,400	113.5%
FRINGE BENEFITS	-	-	-	-	-	-
MAINTENANCE	23	951	390	-	(390)	-100.0%
TRAINING & MEETINGS	5,804	1,668	43	1,000	957	2225.6%
PROFESSIONAL SERVICES	2,692,210	2,418,808	2,354,958	1,560,000	(794,958)	-33.8%
OTHER MATERIALS	3,047	4,002	9,951	15,030	5,079	51.0%
OTHER SERVICES	119,450	6,293	3,860	4,200	340	8.8%
TOTAL	\$ 4,152,300	\$ 3,805,918	\$ 3,822,093	\$ 3,001,051	\$ (821,042)	-21.5%

The **Environmental Quality Department (ENQUAD)** reports on environmental findings that may be linked to MWRA operations and projects. The department's main activities are monitoring sewage influent and effluent quality; monitoring the water quality of Boston Harbor, its tributary rivers, and Massachusetts Bay; managing data and entering quality data; and complying with the reporting requirements of MWRA's NPDES permits. MWRA submits these permit reports to state and federal regulators, the Outfall Monitoring Science Advisory Panel and its subcommittees, and several libraries; and, as required by the permits, MWRA posts many of these reports on its website. All technical reports and several reports on water quality in the harbor and the bay are also posted on the website.

Budget Highlights:

- \$1.4 million or 47% of the FY11 Current Expense Budget (CEB) is for **Wages and Salaries** for 17 positions.
- \$1.6 million or 52% of the FY11 CEB is for **Professional Services** for outside laboratory testing and analysis associated with the Harbor and Outfall Monitoring (HOM) Program. This includes \$1.3 million for the HOM6, HOM7, and HOM8 contracts, which will be completed by several vendors. The balance of the budget covers the following contracts, most of which are partially funded through cost-sharing arrangements with other organizations:
 - o National Oceanic and Atmospheric Administration's National Data Buoy Center for required continuous monitoring
 - o Northeast Regional Assoc. of Coastal Ocean Observing Systems for buoy off Cape Ann
 - o Algae monitoring off Cape Ann on buoy
 - o Cape Cod Bay water quality monitoring
 - o Bays Eutrophication Model
 - o Biototoxicity testing for Deer Island Treatment Plant, Clinton Treatment Plant, and CSO facilities.

The significant decrease from FY10 spending to the FY11 Budget reflects MWRA's proposal to regulators to reduce the scope of HOM monitoring based on the favorable findings of nine years of monitoring data. Regulatory approval is pending and if it is granted, MWRA will save approximately \$800,000 per year in monitoring costs due to the changes.

ENGINEERING AND CONSTRUCTION

Final FY11 Current Expense Budget ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 7,915,000	\$ 7,840,735	\$ 7,991,274	\$ 7,879,227	\$ (112,047)	-1.4%
OVERTIME	128,337	77,998	112,912	63,000	(49,912)	-44.2%
FRINGE BENEFITS	721	193	479	500	21	4.4%
MAINTENANCE	8,515	12,583	8,039	10,468	2,429	30.2%
TRAINING & MEETINGS	31,778	13,110	745	8,400	7,655	1027.5%
PROFESSIONAL SERVICES	889	300	-	-	-	-
OTHER MATERIALS	124,318	127,861	178,514	118,316	(60,198)	-33.7%
OTHER SERVICES	40,147	24,961	31,656	27,740	(3,916)	-12.4%
TOTAL	\$ 8,249,705	\$ 8,097,741	\$ 8,323,619	\$ 8,107,651	\$ (215,968)	-2.6%

The **Engineering and Construction Department (ECD)** manages and coordinates the planning, design, and construction of system improvements that ensure a safe and adequate water supply and a reliable wastewater collection and treatment. Staff is organized into three units including Wastewater Engineering, Water Engineering, and Construction.

The department provides in-house engineering, consultant management (during the facilities planning, environmental review, design, and engineering services during construction stages of capital projects), drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems. The Wastewater Engineering Unit manages all wastewater design and engineering projects including CSO engineering activities. The unit also maintains the Design Information Services Center (DISC), which provides computer-aided design and drafting (CADD) and services. The Water Engineering Unit manages all water design and engineering projects as well as specialized technical services in electrical, structural, mechanical, and civil engineering disciplines. The Construction Unit provides contract management and resident inspection on all MWRA water and wastewater construction and rehabilitation projects, with the exception of Deer Island.

Budget Highlights:

- \$7.9 million for **Wages and Salaries** represents 97% of the FY11 Budget and includes funding for 88 positions (includes vacancy adjustment).
- \$63,000 for **Overtime** to cover resident inspection at construction sites after regular work hours to ensure monitoring of construction projects. Overtime is also used for unplanned design or survey needs, attendance at evening public meetings, and meeting deadlines.
- \$10,000 for **Maintenance** which covers service contracts for the DISC Unit's specialized printers and plotters.
- \$118,000 for **Other Materials**, which includes \$99,000 for vehicle expense for staff traveling to construction sites, \$11,000 for office supplies, and \$5,000 for work clothes.
- \$28,000 for **Other Services** which includes \$6,000 for memberships and dues, \$10,000 for printing of in-house design plans and specifications, \$8,000 for telephone expenses, and \$1,500 for police details.



Law Division
Budget

LAW DIVISION

Final FY11 Current Expense Budget LAW DIVISION by Line Item							
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11		
WAGES & SALARIES	\$ 1,687,100	\$ 1,657,976	\$ 1,653,543	\$ 1,621,412	\$ (32,131)		-1.9%
OVERTIME	1	-	-	-	-		-
TRAINING & MEETINGS	2,344	570	221	2,000	1,779		805.0%
PROFESSIONAL SERVICES	99,340	126,256	23,882	146,000	122,118		511.3%
OTHER MATERIALS	9,021	7,952	4,301	9,314	5,013		116.6%
OTHER SERVICES	26,334	22,294	26,042	29,147	3,105		11.9%
TOTAL	\$ 1,824,140	\$ 1,815,048	\$ 1,707,989	\$ 1,807,873	\$ 99,884		5.8%

The Law Division provides legal counsel to the Board of Directors, the Executive Director and staff on compliance with federal and state laws, regulations, court cases and administrative orders. Staff also handle and provide assistance with respect to litigation matters, real estate matters, labor/employment issues, and procurement and construction issues. The General Counsel interprets the MWRA Enabling Act and provides advice on conflict of interest and Code of Conduct issues. Division attorneys monitor the work of outside counsel when it is necessary to retain such services. The budget for the Division accounts for less than 1% of MWRA's FY11 Proposed Budget.

Law Division staff, though usually representing MWRA in a defensive posture, also work with Operations Division staff to effectuate cost recovery claims for design errors and omissions by MWRA design professionals. In addition, the Law Division assists in the early resolution of contractor and vendor claims prior to litigation so as to resolve them as favorably and early as possible thereby reducing or eliminating litigation costs and interest payable upon such claims were they to be litigated.

FY11 Goals:

- Timely and cost effective resolution of legal disputes involving MWRA, through litigation or alternative means of dispute resolution.
- High quality legal services to support the business and operational needs of MWRA in the areas of real estate, labor and employment, regulatory compliance, litigation, construction and business law.
- Advocacy of MWRA interests in new and developing regulatory issues.
- Continues to exhaust all opportunities to shift cost of legal representation to insurers and indemnitors and to litigate insurance coverage disputes as they arise, all in the interest of cost savings.

FY10 Accomplishments:

- Implemented State Ethics Commission Reform Legislation: Oversaw non-employee portion of required distribution of summary of ethics law and on-line training exercise, including WSCAC, WAC, WSPT, Advisory Board staff, and MWRA Board members, outside legal consultants and experts, and consultants from all other MWRA divisions.
- Overdue Payments: Successful resolution of past due payment of O&M charges for MWRA work on Rutland-Holden sewer trunk lines.

- Bid Protests Denied/Resolved
 - Grove Construction
 - Methuen Construction

- Completed Litigation
 - Comfort Sit and Sleep d/b/a Chair Fair v. MWRA and P. Gioioso & Sons, Inc. – Summary Judgment in favor of MWRA was granted on all claims brought by furniture store located on VFW Parkway, West Roxbury, alleging that construction of MWRA’s Upper Neponset Valley Replacement Sewer caused loss of access by customers and employees to its store, loss of business and other damage. No appeal was taken by plaintiff.
 - Seaver Electric Company v. J.F. White, et al. – Summary Judgment was granted in favor of MWRA and other defendants on all claims brought by plaintiff, the filed electrical sub-bidder on the Braintree/Weymouth Intermediate Pumping Station project. Plaintiff alleged \$565,670.36 in direct contract damages, the loss of which Seaver alleged caused it to go out of business, for which it sought to recover additional damages estimated at \$5,000,000. Plaintiff has appealed this decision.
 - Chutehall Construction Co., Ltd v. MWRA: et al. – Both the Superior Court and the Massachusetts Appeals Court previously upheld MWRA’s adjudicatory claims hearing procedure for TRAC appeals against a claim of lack of due process, and upheld TRAC’s imposition of a \$10,000 penalty upon Chutehall for discharging ground and storm water from a construction site dewatering operation into a combined sewer without the required MWRA permit. This past year, both the Massachusetts Supreme Judicial Court and the U.S Supreme Court denied Chutehall’s requests for further appellate review. MWRA is pursuing collection of the penalty.

- Legislative Assistance
 - Lynn/Saugus Design Build – Route 107/Saugus River Bridge Project
 - CVA System Expansion
 - Tort Claims Act Protection
 - Quality-Based Selection Process for Procurement of Design Services

- Regulatory Assistance
 - Zebra Mussels/Invasives – MWRA/DCR Shared Jurisdiction
 - DEP 2 Year Extension for UV Disinfection (LT2SWTR)
 - EPA Mandate for TRAC Permittees’ Electronic Reporting (CROMERR)
 - Amended TRAC Regulations – Fee Revisions and Technical Changes
 - Prevailing Wage Issues – DITP Clarifiers Contract
 - City of Boston Fire Department – Hazardous Materials/Emergency Planning Updates (EPCRA)
 - Transport of Hazardous Materials: State Ban on Use of Tunnels

- Project Assistance
 - Low Service Storage Facility - Spot Pond: Provided support through negotiations and document drafting and review for the acquisition of parcel in Stoneham needed for the Northern Low Service Storage Facility.

- Memorandum Of Agreement (MOA): Drafted MOA to support the Arlington Water Main, Lynnfield/Saugus Pipeline, and Saugus Water Main projects.
- Hultman Aqueduct Interconnections Project: Negotiated an MOA with Mass. Turnpike Authority for permanent and temporary easements necessary for the Hultman Aqueduct Interconnection project.
- Deer Island/CWTP Solar Projects: Provided support in drafting the contract terms and conditions for twenty year Power Purchase Agreements.
- TRAC Decisions
 - Massachusetts General Hospital – upheld penalty imposed and clarified “negligence” standard in MWRA regulations.

Budget Highlights:

- \$1.6 million for **Wages and Salaries**, a decrease of \$32,000 or -1.9% from FY10 Actual.
- \$146,000 for **Professional Services**, an increase of \$122,000 from FY10 Actual spending. FY10 spending was lower than normal due to the settlement of cases before going to trial.
- \$29,147 for **Other Services**, an increase of \$3,100 or 11.9% from the FY10 Actual.



Administration & Finance Division
Budget

ADMINISTRATION AND FINANCE DIVISION

Final FY11 Current Expense Budget Administration and Finance by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 14,921,762	\$ 15,493,876	\$ 15,494,376	\$ 15,595,709	\$ 101,333	0.7%
OVERTIME	74,633	57,887	72,528	58,478	(14,050)	-19.4%
FRINGE BENEFITS	15,520,254	16,527,910	15,925,897	17,929,715	2,003,818	12.6%
WORKERS' COMPENSATION	1,159,464	1,841,638	2,226,080	1,870,000	(356,080)	-16.0%
UTILITIES	206,427	134,173	127,177	150,592	23,415	18.4%
MAINTENANCE	4,226,525	3,993,104	2,573,184	3,720,390	1,147,206	44.6%
TRAINING & MEETINGS	38,396	34,641	33,728	40,855	7,127	21.1%
PROFESSIONAL SERVICES	989,040	778,629	922,605	1,189,778	267,173	29.0%
OTHER MATERIALS	1,180,900	1,095,752	1,310,988	1,196,717	(114,271)	-8.7%
OTHER SERVICES	2,722,045	2,937,757	2,859,423	3,037,072	177,649	6.2%
TOTAL	\$ 41,039,446	\$ 42,895,367	\$ 41,545,986	\$ 44,789,306	\$ 3,243,320	7.8%

Final FY11 Current Expense Budget Administration and Finance by Department						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
DIR OFFICE (FINANCE)	\$ 195,349	\$ 204,016	\$ 233,549	\$ 332,091	\$ 98,542	42.2%
BUDGET	658,073	698,082	746,583	744,216	(2,367)	-0.3%
TREASURY	1,040,754	986,388	1,099,772	939,981	(159,791)	-14.5%
CONTROLLER	1,425,457	1,488,219	1,533,605	1,542,811	9,206	0.6%
RISK MANAGEMENT	303,003	344,036	395,661	388,570	(7,091)	-1.8%
DIVISION DIR (SUPP SER)	230,558	238,307	174,139	-	(174,139)	-100.0%
HUMAN RESOURCES	18,678,844	20,372,111	20,142,550	22,077,649	1,935,099	9.6%
MIS	8,940,974	9,059,021	8,810,394	9,694,376	883,982	10.0%
FACILITIES MANAGEMENT	2,279,898	2,514,224	2,438,927	2,684,390	245,463	10.1%
FLEET SERVICES	1,918,209	1,883,705	1,770,528	1,948,107	177,579	10.0%
PROCUREMENT	4,621,381	4,415,886	3,435,590	3,800,189	364,599	10.6%
REAL PROPERTY / ENVIRONMENTAL MGMT	746,946	691,372	764,688	636,926	(127,762)	-16.7%
TOTAL	\$ 41,039,446	\$ 42,895,367	\$ 41,545,986	\$ 44,789,306	\$ 3,243,320	7.8%

The **Administration and Finance Division** is responsible for managing the finance and support service functions of the Authority.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director's Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division performs a multitude of functions that support the daily operations and ensure the implementation of the Authority's long term goals and strategies.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

FY11 Goals:

- Ensure the fiscal strength of MWRA through judicious, informed, and farsighted allocation of resources.
- Develop strategies for minimizing increases in community assessments and charges.
- Ensure uniform contract language, standard safeguards, and competitive bids for the MWRA.
- Maintain favorable credit ratings for MWRA's revenue bonds.
- Provide upgrades and enhancements to the integrated management information systems to ensure efficiency.
- Ensure effective, coordinated operating and capital budget planning throughout MWRA.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility.

FY11 Initiatives

- Continue implementation of new computer application to support the Capital Improvement Program.
- Continue close monitoring of financial markets to better position the Authority to take advantage of any opportunities to maximize investment income and reduce debt financing obligations.
- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Continue to streamline administrative and payroll related processes.
- Commence an agency wide staffing study that will provide an independent review of how MWRA staffing levels and trends compare to comparable water and/or wastewater utilities; to provide MWRA with an approach for evaluating staffing levels; and to recommend a multi-year level targets.
- Initiate the development of a detailed Strategic Information Technology Plan to assess the MWRA's current business environment, system architecture, and strategic direction.

FY10 Accomplishments

- Continued to manage through historically low yields on investments particularly short-term money market positions.
- Continued to hold high credit ratings from Standard and Poor's, Moody's Investor Service and Fitch Ratings.
- Continued providing more up-to-date, streamlined financial information to the Board of Directors and external constituencies on both the Current Expense Budget and Capital Improvement Program.
- Continued to manage FY10 budgetary spending to allow for an estimated \$54.6 million defeasance reducing future Rate Revenue Requirements.

- In recognition of the unprecedented budgetary challenges facing MWRA's member communities under the prevailing weak economy, MWRA evaluated a variety of options to provide the lowest responsible rate increase in FY11 and moderate predictable rate increases through FY13. In February, the FY11 Proposed Current Expense Budget was released with a 1.49% rate increase for FY11 - the lowest rate increase in 15 years.
- The Authority aggressively pursued stimulus funding opportunities and obtained \$33 million of Federal stimulus funding for water and wastewater initiatives.
- Successfully supported Authority's efforts in defending itself in several personnel arbitration hearings.
- Performed the training, design, testing and data conversion activities needed to implement a new module in the Lawson System which allowed for a reduction in customization.
- Implemented the State Ethics Commission On-line Training program Authority-wide.
- Successfully completed Lawson Upgrade migration, testing, and revisions to nearly all MWRA customized objects and Lawson Absence Management Module, which enhances Payroll accruals.
- Developed and implemented various web applications such as Employee Acknowledgement Application for Conflict of Interest Law and Employee Availability Tracking for pandemic occurrence.
- Awarded the following major CIP contracts in FY10: WASM3 (CP-5); Hultman Aqueduct Interconnections (CP-6A); Section 28 Brattle Court; Immediate Dam Repairs Design; North Dorchester Bay CSO Ventilation Building; Quabbin/Winsor Power Station Upgrade Design; Oakdale Electrical Upgrade Design; Financial Advisor; Southern Spine Distribution (Sec. 107); Loring Road Hydroelectric; Harbor & Outfall Monitoring; DeLauri Pump Station Wind Turbine; CWTP Solar; CWTP UV Equipment Pre-selection; DITP Lighting Efficiency; Spot Pond Owner's Representative; Alewife Brook Pump Station Rehab Design; Remote Headworks Design; DITP Solar Power Purchase; Security Equipment Maintenance; Audit Services; Investment Banking Services; Braintree-Weymouth Pipeline Rehabilitation Sec. 624; Melrose Sections 50-51 Sewer Connection; DITP Roof Replacements; DITP STG Design Build; Emergency Repair of Shaft 5 Water Pipe; and numerous current expense contracts for maintenance, Energy Audit Services for FOD and Chelsea; and Purchase of Electricity for Interval Accounts, etc.
- The Purchasing Unit, working with the Materials Management Unit, created a bid package combining 190 safety supply items resulting in a fixed price contract with no cost increases over the next three years.

ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE

Final FY11 Current Expense Budget						
ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 194,163	\$ 203,243	\$ 229,685	\$ 322,712	\$ 93,027	40.5%
TRAINING & MEETINGS	785	75	2,227	2,344	117	5.3%
OTHER MATERIALS	201	465	1,204	5,500	4,296	356.8%
OTHER SERVICES	201	233	433	1,535	1,102	254.5%
TOTAL	\$ 195,350	\$ 204,016	\$ 233,549	\$ 332,091	\$ 98,542	42.2%

The **Administration and Finance (A&F) Division Director's Office** oversees a multitude of functions that support the daily operations and ensure the implementation of the Authority's long-term goals and strategies.

The Director's Office is responsible for the centralized financial functions of rates development, revenue collection, budgeting, capital financing, debt and investment management, accounting, payroll processing, and risk management as well as the support functions of procurement, human resources, management information systems, fleet services, facilities management, and real property and environmental management. Additionally, the Director's Office ensures that transactions comply with all rules, regulations, Authority policies and procedures, and contract terms. The Director's Office manages the development and implementation of policies to uphold the efficient utilization of resources and control of all monies. The Director's Office provides advice and analysis to the Executive Director and the Board of Directors on all administrative and financial issues.

The division's continuing challenge in FY11 will be maintaining agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services.

FY11 Goals:

- Manage and coordinate the Authority's finance and support service functions.
- Guide and coordinate division activities to support MWRA's goals and objectives.
- Continuously improve processes and performance for greater efficiency.
- Develop and implement long-term strategies to ensure reasonable rate increases to MWRA's communities.

Budget Highlights:

- FY11 Final Budget includes \$322,000 for **Wages and Salaries**, an increase of \$93,000 from FY10 Actual spending due to the promotion of the Director of Finance to the Director of Administration and Finance as well as the transfer-in of the Deputy Director of Administration and Finance from Real Property. The final budget funds three positions.

BUDGET

Final FY11 Current Expense Budget BUDGET by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 639,818	\$ 690,966	\$ 744,737	\$ 741,916	\$ (2,821)	-0.4%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	3,563	-	-	-	-	-
OTHER MATERIALS	923	589	447	400	(47)	-10.5%
OTHER SERVICES	13,768	6,527	1,400	1,900	500	35.7%
TOTAL	\$ 658,072	\$ 698,082	\$ 746,584	\$ 744,216	\$ (2,368)	-0.3%

The **Budget Department** provides the financial analysis that allows MWRA to translate its goals, and legal and financial commitments into cost-effective annual and multi-year programs and budgets. Department staff works closely with divisional staff to coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to projected schedules and budgeted spending. Staff also coordinates development of MWRA's annual Current Expense Budget (CEB) and monitors spending compared to budget throughout the year. The Budget Department also manages the annual process of establishing water and sewer assessments to be paid by MWRA's member communities and develops planning estimates of future rate projections.

FY11 Goals:

- Continually enhance processes and the management of resources to deliver the final CIP and CEB timely and accurately.
- Adhere to all MWRA policies, procedures and administrative practices as well as all relevant statutory and regulatory authority and accounting and budgeting principles.
- Improve the quality and presentation of budget documents and regularly required reports while working to develop new reports that will aid the Authority's Board of Directors, Management, and the MWRA Advisory Board.

FY11 Initiatives:

- Continue to develop staff skills for cross functionality between CIP and CEB.
- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.

FY10 Accomplishments:

- Implemented the lowest responsible rate increase to our member communities in fifteen years, in the FY11 Budget.
- Developed more refined planning estimates in the FY11 Final Budget.
- First phase implementation of a new computer system application to support the CIP.

- Realized savings due to limited hard copy distribution of the CIP and CEB documents and production in-house versus outside printing.
- Realized savings by using available construction cost indexes on the Internet versus using outside services.
- In line with the Division's paperless initiative, switched to PDF file distribution for monthly variance reports and Advisory Board briefing materials.

Budget Highlights:

- FY11 Final Budget includes \$742,000 for **Wages and Salaries**, a decrease of \$3,000 or 0.38% from FY10 Actual spending. The final budget funds eight positions.
- \$1,900 is for **Other Services**, an increase of \$500 from FY10 Actual spending.

TREASURY

Final FY11 Current Expense Budget TREASURY by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 692,696	\$ 748,751	\$ 725,927	\$ 731,106	\$ 5,179	0.7%
OVERTIME	38	197	122	-	(122)	-100.0%
MAINTENANCE	85	-	-	-	-	-
TRAINING & MEETINGS	128	33	-	-	-	-
PROFESSIONAL SERVICES	326,450	228,793	366,400	199,413	(166,987)	-45.6%
OTHER MATERIALS	4,813	2,175	614	300	(314)	-51.1%
OTHER SERVICES	16,544	6,439	6,709	9,162	2,453	36.6%
TOTAL	\$ 1,040,754	\$ 986,388	\$ 1,099,772	\$ 939,981	\$ (159,791)	-14.5%

The **Treasury Department** secures funds for ongoing operations and capital programs in addition to processing cash disbursements. Department staff collects revenue, disburses funds, and manages grant and loan programs in addition to debt issuance and investments.

FY11 Goals:

- Manage MWRA's debt portfolio to achieve sustainable and predictable rate increases.
- Maximize investment return while maintaining compliance with the General Revenue Bond Resolution, security and liquidity.

FY10 Accomplishments:

- Treasury has managed through historically low yields on investments particularly short-term money market positions. In response, Treasury has identified those funds that can be invested longer-term without disrupting liquidity needs and rebate-arbitrage considerations. Investing longer has curtailed the loss of investment income due to these extraordinary low interest rates.
- The Finance Division applied for and received approval of Federal Stimulus funding of \$33 million. Treasury will continue to comply with the newly established procedures for receipt of funds and the forgiveness of repayment including specific reporting requirements.
- Successfully concluded the sale of \$283.6 million of new money and refunding bonds. The sale was met with strong demand from all investors, particularly retail which resulted in an All-in True Interest Cost (TIC) 4.14%. This All-in TIC is the lowest MWRA has ever achieved on any of its fixed rate debt issuances. The refunding for savings netted \$6.4 million in present value savings or 5.01%, which is well above the traditional threshold of 4%.
- Maintained MWRA's strong credit ratings from Standard & Poors, Moody's Investors Service and Fitch Ratings. By maintaining its ratings with Moody's and Fitch, MWRA was able to benefit from both firms' global ratings recalibration resulting in upgrades to Aa1 from Aa2 and AA+ from AA from Moody's and Fitch respectively. MWRA's credit ratings from all three major agencies are now only one ratings step below the highest rating of AAA.

Budget Highlights:

- \$731,000 for **Wages and Salaries**, an increase of \$5,000 or 0.71% from FY10 Actual spending. The final budget funds ten positions.
- \$199,000 for **Professional Services**, a decrease of \$167,000 or 45.6% from FY10 Actual spending due to lower projected legal and financial advisory services.

CONTROLLER

Final FY11 Current Expense Budget CONTROLLER by Line Item							
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11		
WAGES & SALARIES	\$ 1,227,866	\$ 1,285,844	\$ 1,343,518	\$ 1,351,661	\$ 8,143	0.6%	
OVERTIME	-	-	-	-	-	-	
ONGOING MAINTENANCE	-	14	-	-	-	-	
TRAINING & MEETINGS	-	350	10	-	(10)	-100.0%	
PROFESSIONAL SERVICES	195,500	198,124	189,211	189,000	(211)	-0.1%	
OTHER MATERIALS	596	2,809	79	300	221	279.7%	
OTHER SERVICES	1,495	1,078	787	1,850	1,063	135.1%	
TOTAL	\$ 1,425,457	\$ 1,488,219	\$ 1,533,605	\$ 1,542,811	\$ 9,206	0.6%	

The **Controller Department** consists of the Accounting, Accounts Payable, and Payroll units. The department has the responsibility for ensuring integrity within the financial accounting system and integration among the three functions. The department is also responsible for the appropriate treatment, classification and reporting of the MWRA's assets, liabilities, revenues and expenditures in accordance with accounting principles generally accepted in the United States of America.

FY11 Goals:

- Implement process efficiencies in all department units.
- Enhance controls to safeguard Authority assets and ensure accurate and timely reporting.

FY11 Initiatives:

- Implement electronic timesheet approval to continue paperless initiative.
- Replace manually prepared employee leave calendar with automated product.

FY10 Accomplishments:

- Supported implementation of Lawson Absence Management software enhancement for employee leave tracking and reporting.
- Developed new Fixed Asset Capitalization Form to better capture new asset components and asset retirements.

Budget Highlights:

- \$1.4 million for **Wages and Salaries**, an increase of \$8,000 or 0.61% from FY10 Actual spending mostly due to step increases. The final budget funds 19 positions which is level funded from the FY10 Budget.
- \$189,000 for **Professional Services**, a decrease of \$200 or 0.11% from FY10 Actual spending. The final FY11 Budget reflects anticipated costs associated with the annual financial statement audit, the A-133 Single Audit related to the receipt of federal funds, and the actuarial services related to GASB 45 Other Post Employment Benefits.

RISK MANAGEMENT

Final FY11 Current Expense Budget RISK MANAGEMENT by Line Item						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 277,312	\$ 315,369	\$ 338,558	\$ 358,120	\$ 19,562	5.8%
OVERTIME	-	-	147	-	(147)	-100.0%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	25,178	28,145	56,032	30,000	(26,032)	-46.5%
OTHER MATERIALS	63	53	21	-	(21)	-100.0%
OTHER SERVICES	450	469	903	450	(453)	-50.2%
TOTAL	\$ 303,003	\$ 344,036	\$ 395,661	\$ 388,570	\$ (7,091)	-1.8%

The **Risk Management Department** is responsible for all MWRA insurance and risk management functions. Department staff manages all administrative functions relating to the initial reporting, processing and resolution of construction contract claims and self-insured auto, general liability, and property damage claims. Department staff is responsible for annual procurement, renewals and maintenance of all Authority-wide insurance policies and programs and also for managing all aspects of MWRA's Contractor Insurance Certificate program. Department staff serves as a liaison to insurance industry participants including brokers, insurers, insurance consultants, attorneys and all MWRA departments.

FY11 Goals:

- Process self-insured automobile, general liability, property damage and construction contract claims in an efficient and timely manner.
- Secure the timely, cost effective renewal of Authority-wide insurance contracts.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by establishing insurance requirements and monitoring compliance.

Budget Highlights:

- FY11 Final Budget is \$389,000 of which \$358,000 is for **Wages & Salaries**. The final budget funds four positions.
- \$30,000 for **Professional Services** includes funds for an insurance consultant, a decrease of \$26,000 or 46.5% from FY10 Actual spending. FY10 actual spending included funding of \$15,000 for the insurance reserve audit which is performed very third year.

HUMAN RESOURCES

Final FY11 Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 1,521,409	\$ 1,640,764	\$ 1,654,665	\$ 1,667,388	\$ 12,723	0.8%
OVERTIME	607	298	-	-	-	-
FRINGE BENEFITS	15,518,599	16,526,977	15,924,991	17,928,715	2,003,724	12.6%
WORKERS' COMPENSATION	1,159,464	1,841,638	2,226,080	1,870,000	(356,080)	-16.0%
MAINTENANCE	6	-	-	-	-	-
TRAINING & MEETINGS	3,972	4,886	2,692	3,963	1,271	47.2%
PROFESSIONAL SERVICES	438,349	323,568	310,962	570,865	259,903	83.6%
OTHER MATERIALS	16,922	13,802	14,489	15,420	931	6.4%
OTHER SERVICES	19,516	20,179	8,670	21,298	12,628	145.7%
TOTAL	\$ 18,678,844	\$ 20,372,112	\$ 20,142,549	\$ 22,077,649	\$ 1,935,100	9.6%

Final FY11 Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
EMPLOYEE/COMP/BEN	\$ 599,015	\$ 593,013	\$ 628,993	\$ 806,055	\$ 177,062	28.2%
LABOR RELATIONS	899,147	992,591	995,472	1,010,728	15,256	1.5%
TRAINING	469,511	389,848	329,468	423,106	93,638	28.4%
CENTRALIZED FRINGE BENEFITS	16,711,171	18,396,660	18,188,616	19,837,760	1,649,144	9.1%
TOTAL	\$ 18,678,844	\$ 20,372,112	\$ 20,142,549	\$ 22,077,649	\$ 1,935,100	9.6%

The **Human Resources Department** is comprised of the following three units:

The Employment, Compensation, Benefits and HRIS Unit coordinates and oversees all external recruitment and selection activities including hiring, lateral transfers and promotions to meet the business needs of MWRA; develops and coordinates MWRA compensation and benefits strategies and programs; and ensures the proper processing and recording of personnel actions. The compensation function also ensures that all MWRA employees possess the necessary licenses and certifications required by their positions. The Labor Relations Unit is responsible for fulfilling MWRA's collective bargaining and contract administration obligations under Massachusetts' public sector collective bargaining law, its workers' compensation responsibilities, and its responsibilities for employee occupational safety and health. The Training Unit develops, coordinates, delivers, and evaluates MWRA technical and professional development training programs and other programs designed to improve employee knowledge, skills, productivity, and the quality of workplace interaction. It is responsible for oversight and tracking of MWRA performance evaluation programs, Employee Assistance, and Tuition Reimbursement programs. In addition, the Human Resources Department includes the Centralized Fringe Benefits cost center, which includes the budget for fringe benefits for all MWRA employees as well as for mandatory payments for unemployment expenses and Medicare.

FY11 Goals:

- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation package (salary and benefits) to all employees.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility. Ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment that fosters safety consciousness and productive work, maximize the number of early returns to work by employees

who have incurred on-the-job injuries or illnesses, and aggressively manage the Workers' Compensation Program to reduce costs.

FY11 Initiatives:

- Manage the process for negotiating and implementing successor collective bargaining agreements with all five unions.
- Support the collective bargaining negotiation process with data analysis, costing analysis, and wage and benefit survey data collection and analysis.
- Upon Board ratification, implement collective bargaining agreements.
- Support the procurement, selection, and execution of the consultant contract for an agency-wide staffing assessment study.
- Provide additional training for Unit 3 Supervisory, Administrative Certificate Program (ACP), and Productivity Improvement Program (PIP) training.
- Continue to develop a certification training program for Medium Voltage Electrical staff.
- Continue to automate and streamline human resources processes including recruitment and hiring processes.
- Renew the International Association for Continuing Education and Training (IACET) certification for continued authorization to offer official Continuing Education Units (CEU's).

FY10 Accomplishments:

- Successfully supported the Authority's efforts in defending itself in several arbitration hearings.
- Communicated and administered the Healthcare Contribution Program which resulted in several retirements and a corresponding reduction in Authority headcount.
- Performed the training, design, testing and data conversion activities needed to implement a new module in the Lawson System which allowed for a reduction in customization.
- Implemented mid-year changes to the Health Insurance rates.
- Negotiated a one year extension of the MWRA Dental Program.
- Worked with Procurement in procuring and selecting a vendor for workers' compensation third-party administration.
- Implemented the State Ethics Commission On-line Training program Authority-wide.
- Conducted Authority-wide Harassment Prevention Training.
- Delivered Administrative Certification Program (ACP) training and Productivity Improvement Program (PIP) training.

- Successfully implemented changes to State's Healthcare Saving Account Flex spending program.
- Worked with MIS to develop an electronic process for employees to provide a required acknowledgement of the State Ethics Commission's Summary of the Conflict of Interest Law.

Budget Highlights:

- \$1.7 million for **Wages and Salaries**, an increase of \$12,000 or 0.7% from FY10 actual spending. Funding supports 21 positions.
- \$17.9 million for **Fringe Benefits**, an increase of \$2.0 million or 12.6% as compared to FY10 actual spending. The budget includes \$15.6 million for health insurance costs, \$1.2 million for Medicare taxes, \$995,000 for dental insurance costs and union health and welfare fund contributions, \$150,000 for unemployment insurance payments, and \$31,000 for tuition reimbursement.
- In FY11 the Authority saw significant price increases in Health and Dental Insurance costs. Health Insurance alone rose 14.2% over FY10 actual spending mainly due to Group Insurance Commission (GIC) increases particularly for the Tufts and Harvard Pilgrim plans.
- \$1.9 million for **Workers' Compensation** budget reflects a decrease of \$356,000 or -16.0% as compared to FY10 actual spending due to the severity of medical claims and higher than prior year's average Accidental Disability Retirement (ADR) cases. The Human Resource Department is responsible for the management of this program as well as coordination with the third-party administrator.
- \$571,000 for **Professional Services**, an increase of \$260,000 as compared to FY10 actual spending. The FY11 Budget includes \$180,000 for professional development and technical training, \$175,000 for MWRA's staffing study, as requested by the Board of Directors, \$98,000 for workers' compensation claims administration and legal services, \$55,000 for arbitrators and arbitration expenses, \$39,000 for medical evaluation services, \$12,000 for the Employee Assistance Program, and \$12,000 for Specialized Investigation Services.

MANAGEMENT INFORMATION SYSTEMS (MIS)

Final FY11 Current Expense Budget MANAGEMENT INFORMATION SYSTEMS						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 5,112,092	\$ 5,072,951	\$ 5,052,192	\$ 5,192,676	\$ 140,484	2.8%
OVERTIME	2,207	2,704	4,968	2,678	(2,290)	-46.1%
FRINGE BENEFITS	-	-	6	-	(6)	(1)
MAINTENANCE	2,536,201	2,736,556	2,201,339	2,915,240	713,901	32.4%
TRAINING & MEETINGS	29,046	19,403	24,348	23,823	(525)	-2.2%
PROFESSIONAL SERVICES	-	-	-	200,000	200,000	-
OTHER MATERIALS	386,998	395,277	687,062	512,484	(174,578)	-25.4%
OTHER SERVICES	874,429	832,130	840,478	847,476	6,998	0.8%
TOTAL	\$ 8,940,973	\$ 9,059,021	\$ 8,810,393	\$ 9,694,377	\$ 883,984	10.0%

The **MIS Department** provides MWRA with the information processing capacity necessary to carry out its mission. Applications in use range from financial to operational, and enhance MWRA’s ability to access data and improve internal controls, reporting, and management performance. In addition to computing systems, the department also provides library and records management services.

FY11 Goals:

The goal of MIS is to support more than 1,000 MWRA users, including those at the Charlestown Navy Yard (CNY), Chelsea, Deer Island, Southboro, Carroll Water Treatment Plant and other remote sites, by ensuring that:

- Existing applications, hardware, and network resources are cost-effectively maintained, supported, upgraded, and replaced.
- Information system development efforts are consistent with the MWRA Master Plan, reflecting management priorities.
- System security and integrity are maintained.
- Flexible tools and system capabilities are provided consistent with industry standards and norms.

FY11 Initiatives:

- Continue to explore and implement new technologies for security of desktop and mobile devices; network infrastructure, operating systems and cyber security
- Implement Lawson Mobile Supply Chain Module (MSCM). MSCM will be used by warehouse personnel to scan inventory items when they are received into and issued out of the warehouse, increasing staff efficiency.
- Implement “green computing” initiatives including server consolidations through server virtualization and Storage Area Network (SAN) technology.
- Explore new technologies and evaluate for future implementation including new networking technologies for upcoming network upgrade, Web platforms for business and information services and Voice Over IP (VOIP) for communications.

- Implement upgrades for existing applications including Contract Management System, Data Resource Management and Pre-treatment Information Management System (PIMS).
- Replace InfoStar Legacy System with state of the art document management system.
- Upgrade PC's to Microsoft Office 2007.

FY10 Accomplishments:

- **Infrastructure:**
 - Special ruggedized laptops for the FOD group were configured for enhanced security protection and equipped with the ability to allow user access to GIS Data such as pipe and valve information.
 - In FY10, MIS replaced all 7+ year old PCs with energy efficient rated PCs contributing to the green computing model.
 - Completed Phase I of the server consolidation project.
 - Enhanced telephone setup to support staff absentee calls during a pandemic emergency.
 - Nextel/Sprint completed an installation of Bi-directional amplifiers (BDA's) at the Deer Island Treatment Plant. This enhancement will provide more reliable cellular, direct connect and e-mail communications.
- **Applications:**
 - Completed Lawson Upgrade and implemented Lawson Absence Management Module, which enhances the Payroll accrual process.
 - MIS and Budget completed the move of our current CIP budget users from Oracle Financial Analyzer (OFA) to Hyperion Pillar (Oracle's replacement application).
 - Developed and implemented various web applications such as Employee Acknowledgement Application for Conflict of Interest Law and Employee Availability Tracking for pandemic occurrence.
 - GIS/PIMS integration enables TRAC to perform GIS inquiries from PIMS showing upstream and downstream contaminant monitoring and results; the project is nearing completion.
 - TRAC completed their Annual Report to EPA for the Industrial Pretreatment Program using the PIMS application; also completed generation of annual fees & submitted permits to industries.

Budget Highlights:

- The FY11 Final Budget of \$9.7 million reflects an increase of \$884,000 or 10% as compared to FY10 actual spending.
- \$5.2 million for **Wages and Salaries** an increase of \$140,000 or 2.8% as compared to FY10 actual spending. The FY11 Final Budget includes funds for 60 positions, one position higher than year-end actual.
- \$2.9 million for **Ongoing Maintenance** an increase of \$714,000 or 32.4% as compared to FY10 actual spending. Maintenance spending is for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff. The increase is mainly due to new computer software and licenses to support MS Exchange 2007 implementation, GIS and OMS replacements, SAN CPU's, and MS Server 2008.
- \$24,000 for **Training and Meetings** is level funded with FY10.

- \$200,000 is budgeted for **Professional Services** for development of an MIS Strategic Plan. This is a new item and was requested by the Board of Directors.
- \$512,000 for **Other Materials** a decrease of \$175,000 or 25.4% as compared to FY10 actual spending primarily due to reduction of PC replacements which were accelerated into FY10.
- \$850,000 for **Other Services** includes an increase of \$7,000 or 0.8% as compared to FY10 actual spending.

FACILITIES MANAGEMENT

Final FY11 Current Expense Budget FACILITIES MANAGEMENT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 393,292	\$ 391,067	\$ 426,137	\$ 517,348	\$ 91,211	21.4%
OVERTIME	25,262	21,347	20,268	23,000	2,732	13.5%
FRINGE BENEFITS	303	301	162	-	(162)	-100.0%
UTILITIES	203,714	132,126	125,725	147,592	21,867	17.4%
MAINTENANCE	25,602	15,549	23,377	39,400	16,023	68.5%
TRAINING & MEETINGS	-	67	-	-	-	-
PROFESSIONAL SERVICES	-	-	-	-	-	-
OTHER MATERIALS	135,569	108,177	118,851	113,933	(4,918)	-4.1%
OTHER SERVICES	1,496,157	1,845,590	1,724,406	1,843,117	118,711	6.9%
TOTAL	\$ 2,279,899	\$ 2,514,224	\$ 2,438,926	\$ 2,684,390	\$ 245,464	10.1%

Final FY11 Current Expense Budget FACILITIES MANAGEMENT SUPPORT by Area						
AREA	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
FRSA	\$ 70,618	\$ -	\$ -	\$ -	\$ -	-
FACILITIES MANAGEMENT	1,792,100	2,097,649	1,992,825	2,141,934	149,109	7.5%
ADMINISTRATIVE SERVICES	417,181	416,575	446,101	542,456	96,355	21.6%
TOTAL	\$ 2,279,899	\$ 2,514,224	\$ 2,438,926	\$ 2,684,390	\$ 245,464	10.1%

The **Facilities Management Department** provides a range of support services to MWRA staff located at the Charlestown Navy Yard (CNY).

Facilities Management is responsible for coordinating site management activities at CNY. Staff institute maintenance procedures, respond to facilities requests from building occupants, coordinate workspace planning, provide office furnishings, and develop and implement appropriate measures to ensure the safety of MWRA staff and protect and preserve MWRA assets.

In addition, staff provides administrative and office support services that facilitate efficient use of MWRA resources. These responsibilities include providing and managing the motor pools at Chelsea and CNY, general office equipment repairs, transportation, mail, and courier services. Staff coordinates MWRA parking programs and corporate MBTA pass programs.

FY11 Goals:

- Complete implementation of energy efficiency improvements at CNY headquarters resulting from NSTAR energy audit recommendations.
- Provide a safe and well-maintained working environment for all MWRA staff at CNY and provide appropriate space for staff by coordinating workspace planning, design, and furniture acquisitions.
- Maintain the CNY facilities to prevent loss or deterioration of MWRA assets.
- Implement facility programs in conjunction with MWRA recycling and resource conservation efforts.

- Support efforts to limit the fleet size while meeting operational needs by providing reliable motor pool and transportation services.
- Manage the lease for the Records Center and Warehouse space in Marlboro. The Records Center provides records storage and record management services agency wide. The Warehouse space supports the Carroll Water Treatment Plant (CWTP) facility.

FY10 Accomplishments:

- Worked with Procurement to establish a contract to implement energy efficiency improvements at CNY Headquarters with work scheduled to be completed during FY11.
- Continued work with the landlord to implement facility improvements as provided in our lease contract. Improvements in FY10 included bathroom and kitchen updates.
- Worked with departments to implement savings in our mail program by utilizing the most efficient shipping methods for large mailings in order to offset rising postal and shipping rates.
- Continued work with MIS and equipment providers to implement multi-function technology for copiers and printers which are due for replacement. By utilizing this technology it is possible to replace up to four individual units (printer, copier, scanner and fax) with one piece of equipment that performs all of these functions providing savings in floor space, power, equipment maintenance, and production costs (cost per page).

Budget Highlights:

- The FY11 Budget of \$2.7 million reflects an increase of \$245,000 or 10% as compared to FY10 actual spending.
- \$520,000 for **Wages and Salaries** reflects an increase of \$91,000 or 21.0% as compared to FY10 actual spending due to staffing reassignments and inclusion of funding for temporary employees. The budget supports eight positions.
- \$23,000 for **Overtime** for coverage of facility maintenance and support services reflects an increase of \$3,000 or 13.5% as compared to FY10 actual spending.
- \$148,000 for **Utilities** reflects an increase of \$22,000 or 17.4% as compared to FY10 actual spending for electricity price increases.
- \$39,000 for **Ongoing Maintenance** reflects an increase of \$16,000 as compared to FY10 actual spending. This line item includes funding for facility and equipment maintenance and services including HVAC, plumbing and electrical services.
- \$114,000 for **Other Materials** reflects a decrease of \$5,000 or 4.1% as compared to FY10 actual spending. This line item includes funding for postage, supplies, furniture and equipment required to respond to Americans with Disabilities Act (ADA) requests and other medically required accommodations.
- \$1.8 million for **Other Services** reflects an increase of \$119,000 or 6.9%, as compared to FY10 actual spending. This item includes funding for rental and operating costs for CNY headquarters facility and the Marlboro Records Center and Warehouse space.

FLEET SERVICES

Final FY11 Current Expense Budget							
FLEET SERVICES							
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11		
WAGES & SALARIES	\$ 658,619	\$ 682,909	\$ 692,150	\$ 694,216	\$ 2,066	0.3%	
OVERTIME	18,773	19,718	14,321	17,800	3,479	24.3%	
FRINGE BENEFITS	911	401	136	1,000	864	635.3%	
UTILITIES	2,316	1,857	1,337	3,000	1,663	124.4%	
MAINTENANCE	703,892	724,540	687,044	765,750	78,706	11.5%	
TRAINING & MEETINGS	-	-	-	-	-	-	
OTHER MATERIALS	530,164	451,210	374,876	461,802	86,926	23.19%	
OTHER SERVICES	3,534	3,069	664	4,539	3,875	583.6%	
TOTAL	\$ 1,918,209	\$ 1,883,704	\$ 1,770,528	\$ 1,948,107	\$ 177,579	10.0%	

The **Fleet Services Department** manages and maintains MWRA's motor vehicle and equipment fleet. The goal of the Fleet Services Department is to maintain MWRA's vehicle and equipment fleet to minimize downtime and extend the life of the assets. Fleet Services also manages the Chelsea fuel facility, the gas card program and the development and processing of specifications for new vehicles and equipment.

FY11 Goals:

- Continue to cost effectively maintain Authority fleet of vehicles or pieces of equipment.

FY10 Accomplishments:

- Developed specifications for 26 new replacement vehicles or pieces of equipment. Twelve (12) of these units are alternative fuel or hybrid models, consistent with the Authority's goal of purchasing environmentally friendly products. One emergency service vehicle was outfitted with equipment as part of a grant from the Department of Homeland Security.
- As part of the Authority's environmental goals, eight large diesel powered units were retrofitted with Diesel Oxidation Catalyst (DOC) devices which reduce greenhouse gas emissions.
- MWRA is rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition (MAFC). The Authority continues to fuel diesel powered vehicles/equipment with bio-diesel.
- Prepared the documentation for the surplus sale of 65 vehicles and pieces of equipment and worked with the Procurement Department for the auction and disposal of the vehicles.
- Worked with MIS staff on the implementation of a Maximo system upgrade which includes a transportation module specifically designed for a fleet environment.
- Developed and implemented Federal Communications Commission (FCC) mandated frequency re-banding project with Motorola and Nextel.

Budget Highlights:

- The FY11 Budget of \$1.9 million reflects an increase of \$178,000 or 10.0% as compared to FY10 actual spending.
- \$694,000 for **Wages & Salaries**, an increase of \$2,000 or 0.3% as compared to FY10 actual spending, which supports 11 positions.
- **Ongoing Maintenance** budget of \$766,000 reflects an increase of \$79,000 or 11.5% as compared to FY10 actual spending. The budget includes funds for automotive materials and services to maintain MWRA's vehicle fleet. The increase supports costs of maintaining specialty equipment delayed during FY10 and increased support required for emergency response vehicles and equipment.
- \$462,000 for **Other Materials** an increase of \$87,000 or 23.2% as compared to FY10 actual spending. The FY11 Final Budget includes funds for vehicle/equipment fueling which is based on FY08, FY09, and FY10 fuel usage and recent fuel costs. Fleet Services procures bulk fuels from state contracts while continuing to meet all governmental alternative fuel directives.

PROCUREMENT

Final FY11 Current Expense Budget						
PROCUREMENT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 3,450,924	\$ 3,695,123	\$ 3,563,732	\$ 3,619,486	\$ 55,754	1.6%
OVERTIME	27,347	13,597	32,689	15,000	(17,689)	-54.1%
FRINGE BENEFITS	441	231	602	-	(602)	-100.0%
UTILITIES	398	189	116	-	(116)	-100.0%
MAINTENANCE	960,738	516,446	(338,576)	-	338,576	-100.0%
TRAINING & MEETINGS	3,096	7,184	3,066	7,725	4,659	152.0%
OTHER MATERIALS	103,050	118,932	112,590	84,608	(27,982)	-24.9%
OTHER SERVICES	75,387	64,184	61,373	73,370	11,997	19.5%
TOTAL	\$ 4,621,381	\$ 4,415,886	\$ 3,435,592	\$ 3,800,189	\$ 364,597	10.6%

The **Procurement Department** includes three units. The Purchasing Unit operates a competitive purchasing system for the procurement of materials, goods, and non-professional services in accordance with MWRA policies and procedures. The Contract Management Unit reviews, drafts, and negotiates contracts, amendments, and change orders for all professional, non-professional, and construction services contracts. Staff directs the bid, review, and selection process, and maintains a contracts database. The Materials Management Unit manages an Authority-wide inventory control and management system for better control, storage, distribution, and accounting of MWRA's inventory. The unit manages three regional warehouses/distribution centers that support all MWRA activities.

FY11 Goals:

- Procure materials, equipment, supplies, construction, professional, and non-professional services in a timely, efficient, and openly competitive process in accordance with MWRA policies and procedures, including those related to meeting affirmative action goals.
- Maintain centralized, efficient, cost-effective management of spare parts and operating supplies inventory.
- Provide timely and high quality services to initiating divisions to enable MWRA programs to meet their public, production, and schedule responsibilities.
- Maintain a recycling program in order to contain MWRA operating costs by removing recyclable materials from the waste stream.

FY10 Accomplishments

- Competitively bid CY09 Renewable Portfolio Standard certificates which resulted in FY10 revenue of \$523,579.
- Awarded the following major contracts in FY10 to date: WASM3 (CP-5); Hultman Aqueduct Interconnections (CP-6A); Section 28 Brattle Court; Immediate Dam Repairs Design; North Dorchester Bay CSO Ventilation Building; Quabbin/Winsor Power Station Upgrade Design; Oakdale Electrical Upgrade Design; Financial Advisor; Southern Spine Distribution (Sec. 107); Loring Road Hydroelectric; Harbor & Outfall Monitoring; DeLauri Pump Station Wind Turbine; CWTP Solar; CWTP UV Equipment Pre-selection; DITP Lighting Efficiency; Spot Pond Owner's Representative; Alewife Brook Pump Station Rehab Design; Remote Headworks Design; DITP Solar Power Purchase; Security Equipment Maintenance; Audit Services; Investment Banking Services; Braintree-Weymouth Pipeline Rehabilitation Sec. 624; Melrose Sections 50-51 Sewer

Connection; DITP Roof Replacements; DITP STG Design Build; Emergency Repair of Shaft 5 Water Pipe; Energy Audit Services for FOD and Chelsea; and Purchase of Electricity for Interval Accounts.

- Advertised or received bids/proposals for the following: Residuals Technology Options; DITP Thermal Power Plant Dump Condenser; Site Work and Excavation Shaft 5; and Prison Point CSO HVAC and Odor Control.
- Revised Authority's standard contractual terms which are included in construction contracts.
- Worked across divisions to implement federal stimulus compliance, including obtaining waivers.
- Began posting professional service and energy procurement opportunities on Comm-PASS, the state's internet-based procurement system. In addition, all bids for goods and services are posted on Comm-PASS. These changes have largely contributed to a reduction in mailing expenses of \$53,000 during FY10 as compared with FY09.
- Procured Authority's vehicle purchases at the beginning of Fiscal Year 2010, allowing for ample production and on-time delivery of vehicles.
- The Purchasing Unit, working with the Materials Management Unit, created a bid package combining 190 safety supply items resulting in a fixed price contract with no cost increases over the next three years.
- The Purchasing Unit, along with Internal Audit staff worked with both the new safety supply vendor and the office supply vendor to set up the vendor's computerized invoicing system to accurately reflect discounted contract pricing.
- Encouraged vendors to offer Prompt Payment Discounts (PPD), has inserted PPD language into all Purchasing bids, including a form for the vendor to enter the PPD.
- Purchasing staff worked with Accounts Payable staff to encourage the use of Electronics Funds Transfer (EFT). EFT language is now located in the header section of all purchase orders.
- Bid the annual copy paper contract and received a more favorable cost than that listed on the State Blanket contract.
- Competitively bid the supply of bituminous concrete after the expiration of the State Blanket contract. Previously, MWRA had been paying an average of \$66.00 per ton for bituminous concrete under the State contract. The new MWRA contract price of \$57.89 per ton is a decrease of \$8.11 per ton (with a projected savings over the term of the contract of \$16,220). It can be noted that Mass DOT is currently paying a per-ton price ranging from a high of \$74.00 per ton to a low of \$66.00 per ton, depending on location for bituminous concrete. The new contract also includes a prompt payment discount.
- The Materials Management and Purchasing units worked with the Office of Emergency Preparedness (OEP) to update the Authority's Emergency Plan as it pertains to a possible H1N1 outbreak to ensure that materials will be on hand and available in case of an emergency event.
- Working with the Recycling committee, Purchasing staff continues to seek out environmentally friendly products, among them recycled toners, batteries, copy paper, hybrid vehicles and bio-fuels.
- Recycled 81 tons of papers, 198 tons of scrap metal and 9,000 gallons of waste oil, generating \$42,000 in revenues.

Budget Highlights:

- The FY11 Budget of \$3.8 million reflects a \$366,000 or 10.7% increase as compared to FY10 actual spending.
- **Wages and Salaries** funding includes \$3.6 million an increase of \$56,000 or 1.6% as compared to FY10 actual spending. The funding support 48 positions.
- **Other Materials** budget of \$85,000 reflects a decrease of \$28,000 or 24.9% as compared to FY10 actual spending. This funding mainly supports centralized office supply purchases.
- **Other Services** budget of \$73,000 reflects an increase of \$12,000 or 19.6% as compared to FY10 actual spending. This funding supports Advertising and Printing/Duplicating for contract documents and specifications.

REAL PROPERTY and ENVIRONMENTAL MANAGEMENT

Final FY11 Current Expense Budget REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY08 Actual	FY09 Actual	FY10 Actual	FY11 Final	Change FY10 to FY11	
WAGES & SALARIES	\$ 523,474	\$ 529,345	\$ 549,584	\$ 399,080	\$ (150,504)	-27.4%
OVERTIME	399	26	13	-	(13)	-100.0%
TRAINING & MEETINGS	1,370	2,643	1,385	3,000	1,615	116.6%
PROFESSIONAL SERVICES	-	-	-	500	500	-
OTHER MATERIALS	1,534	2,264	691	1,970	1,279	185.1%
OTHER SERVICES	220,169	157,094	213,014	232,376	19,362	9.1%
TOTAL	\$ 746,946	\$ 691,372	\$ 764,687	\$ 636,926	\$ (127,761)	-16.7%

The **Real Property and Environmental Management Department** negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects and operations and manages the disposition of surplus real property. Staff participate in site selection, and negotiate acquisitions or easements. In addition, staff has developed and is maintaining the Real Property database, the compilation of more than 100 years of easements and land rights for the water and sewer systems. Department staff manages environmental regulatory compliance at MWRA facilities and also provide special expertise and assistance to MWRA staff regarding air quality and hazardous material issues. Assistance includes management of oil and hazardous materials site assessment and remediation, and air emission permits negotiation and preparation and submittal of quarterly/annual monitoring reports.

FY11 Goals:

- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner; manage the disposition of surplus real property in an efficient manner; and provide staff and others with current information regarding MWRA's real property rights.
- Manage the centralized environmental management program, providing technical assistance regarding hazardous waste management, air quality compliance, and related issues during all phases of MWRA projects; monitor and provide assistance in maintaining environmental regulatory compliance at MWRA facilities.

FY11 Initiatives

- Establish data collection procedures for greenhouse gas emissions and prepare and submit greenhouse gas emissions reports for DITP and the Biosolids Processing Facility in accordance with 310 CMR 7.71.
- Complete updates of spill prevention, control and countermeasure plans for eight MWRA facilities and conduct associated training.
- Coordinate with DITP staff and DEP to complete the permit renewal process for the DITP Clean Air Act Operating Permit.

FY10 Accomplishments

- Staff acquired land and easements for the Northern Low Service Storage near Spot Pond.
- Managed nine (9) permit agreements (three at Turkey Hill and six at Walnut Hill) including executing a new agreement with Clear Wireless, LLC and an amendment with Verizon, coordinating with the Town of Arlington, and improving invoicing system for maintenance reimbursements. Total revenue for the eight agreements is \$462,000 of which MWRA and the host community each receive half.
- Managing fee assessment for 8M permits on MWRA fee controlled land. Currently collecting approximately \$35,000 per year.
- Staff acquired easements and negotiated licenses to support projects such as the North Dorchester Bay, Rehabilitation of Braintree-Weymouth Interceptor, Lynnfield-Saugus Pipeline, and Southern Spine Distribution System.
- Provided real estate support services including deed research and coordination with GIS to develop comprehensive property maps for the Cochituate, Sudbury and Weston Aqueducts.
- Continued to provide technical support, including regulatory liaison, for the remediation of PCBs at the Wachusett Dam. The Dam Face and Soil Remediation contract was awarded January 14, 2009. Remediation is complete and closeout documentation was submitted to EPA on June 24, 2010.
- A successor contract to the MWRA Underground Storage Tank Maintenance and Inspection contract was awarded on December 1, 2009 , with the addition of third party inspections in accordance with 527 CMR 9.00.
- Submitted emergency generator certifications for new units at Brattle Court Pump Station (PS), Blue Hills Covered Storage, Chelsea Screen House, Spring Street PS, and Hyde Park PS.
- Submitted Notices of Intent for the Cosgrove Power Station and Oakdale Power Station under the Hydroelectric Generating Facilities General Permit to discharge wastewater. Prepared and submitted Carroll WTP surface water discharge permit application.
- Provided technical and environmental regulatory support regarding contaminated soil and groundwater issues on various design and construction projects, including Stoneham Low Service Covered Storage, DeLauri Pump Station Wind Turbine, Water Pump Station and Remote Headworks Rehabilitation, East Boston Branch Sewer, North Dorchester Bay CSO Tunnel and Section 53 and 97A Water Main Replacement projects, Deer Island Wind Turbines, Southern Spine Distribution Mains, West Roxbury Tunnel, Northern Intermediate High Short Term Improvements, DITP Underground Storage Tank (UST) Removals, Oakdale Power Station Electrical Upgrade, DITP Heat Loop Project, East Boston Branch Sewer, Phase VII Valve Replacements, Lynnfield/Saugus Pipeline, Sudbury Aqueduct Short Term Repairs, Cosgrove Transformer Replacement, Asbestos Abatements at Shaft 9 Somerville and Hingham Pumping Station Isolation Gate, and Cottage Farm Oil Spill Remediation.
- Completed air emissions source testing on Deer Island West Odor Control facility. Received approval from Department of Environmental Protection (DEP) on December 8, 2009 for an increase in sludge processing rate at the Biosolids Processing Facility. Completed Source Registration/Emission Statement reporting to DEP for 11 MWRA facilities and completed Greenhouse Gas Emission Reports to DEP for Deer Island and the Biosolids Processing Facility.

Budget Highlights:

- The FY11 Final Budget of \$637,000 represents a decrease of \$128,000 or 16.7% as compared to FY10 actual spending.
- **Wages and Salaries** of \$399,000 includes funding for five positions, a decrease of \$150,000 or 27.3% as compared to FY10 actual spending due to the transfer of the Deputy Director of Administration and Finance position to the Administration and Finance Division Director's Office.
- \$232,000 for **Other Services** is an increase of \$19,000 or 9.0% as compared to FY10 actual spending. This increase is due to a decrease in FY10 spending as a result of a delay in installation of FRSA monitoring and oil recovery wells. This work will be completed in FY11.



Appendices

APPENDIX A

DIRECT EXPENSE BUDGET LINE ITEM DESCRIPTIONS

Introduction

MWRA's direct expense budget funds the annual expenses of its operating and support divisions. Though the direct expense budget constitutes less than half of MWRA's total budget, it is these expenses which directly support the provision of water and sewer services to MWRA's customers. The direct expense budget includes the annual costs of operating the water and sewer systems, and funds the policy direction, administrative, financial, and legal support services for MWRA's ongoing operations. The direct expense budget also includes the personnel costs for management and oversight of MWRA's extensive capital programs.

There are 11 line items in the division budgets. The line items are:

Wages and Salaries - This line item includes funds for regular pay, shift differential, holiday pay, and standby pay for MWRA staff, as well as funds for interns and temporary staff.

Overtime - This line item includes funds for overtime related to operations, maintenance, emergencies, and training.

Fringe Benefits - This line item includes funds for health and dental insurance, unemployment compensation, Medicare, and overtime meals.

Workers' Compensation - This line item includes funds for compensation payments, medical payments, and settlements of compensation claims.

Chemicals - This line item includes funds for the chemicals used in water and wastewater treatment, such as chlorine, sodium hypochlorite, soda ash, sodium bisulfite, and hydrofluosilicic acid.

Utilities - This line item includes funds for electricity, diesel fuel, and other utilities such as water and sewer services paid by MWRA to the towns in which it operates facilities.

Maintenance - This line item includes funds to purchase materials and services for the maintenance of MWRA's plants and machinery, water and sewer pipelines, grounds, and buildings.

Training and Meetings - This line item covers the costs of staff training, meetings, and professional seminars.

Professional Services - This line item funds outside consultants supporting MWRA activities, including engineering and construction services, laboratory and testing contracts, computer system consultants, and legal and audit services.

Other Materials - This line item includes funds for office materials, equipment, postage, laboratory supplies, MWRA vehicles, work clothes, and computer hardware and software.

Other Services - This line item includes funds for space leasing, health and safety initiatives, removal of grit and screenings from the sewerage system, and the contracted operation of MWRA's residuals processing plant.

Sections II – V present summaries of the MWRA's budgets with a detailed description of program budgets and highlights within each divisional section. Based on the October 2009 Board approval, a new division was formed called Administration and Finance which includes the Finance units, Human Resources, MIS and the majority of the Support Division. This organization change is reflected in the FY11 Final CEB.

APPENDIX B

BUDGET PROCESS AND TIMETABLE

MWRA operates on a fiscal year that starts July 1. The Current Expense Budget development process begins in September and, as described below, continues through a series of interactive reviews and revisions until June, when the Board of Directors approves the final budget. Throughout the formal budget process, MWRA staff maintain an ongoing dialogue with the Board of Directors and Advisory Board to discuss issues, the status of budget development, and other concerns.

MONTH	ACTIVITY
September	Divisions receive budget targets, guidelines, and manuals for the development of budget requests, and can begin to access MWRA's interactive budgeting system.
December	After the divisions return their budget requests, the Rates and Budget Department consolidates the authority-wide budgets, develops briefing materials for senior management, and identifies major budget issues.
January	The Executive Director determines proposed funding levels required to meet operational and financial objectives. Staff may seek appropriate policy direction from the Board.
February	MWRA transmits the Proposed Current Expense Budget to the Advisory Board for a 60-day review, during which time MWRA staff meet with Advisory Board staff, respond to questions, and provide updated information on plans and prices.
March – May	MWRA hosts public hearings to solicit comments on the proposed budget and community assessments from citizens in its service area. The Advisory Board reviews the proposed budget and transmits comments and recommendations to the MWRA.
June	The Board of Directors holds a hearing on the proposed budget and the Advisory Board's comments and recommendations. The Board of Directors adopts a final Current Expense Budget and a schedule of final wholesale water and sewer assessments.

APPENDIX C

MASSACHUSETTS WATER RESOURCES AUTHORITY BUDGET AND ASSESSMENT POLICIES AND PROCEDURES

**(Revised August 2003 to incorporate changes to capital budget section of Management
Policies adopted by the Board of Directors June 11, 2003)**

These policies and procedures govern certain budget, assessment, and rates management practices at the Massachusetts Water Resources Authority (MWRA). Policies and procedures may be amended from time to time, provided that changes in provisions governing reporting to or approvals by the Board of Directors or the Advisory Board must be approved by the Board of Directors. If any sections of these policies and procedures are at variance with requirements of MWRA's financing agreements, the latter shall govern.

ASSESSMENT POLICIES AND PROCEDURES

Basis of MWRA Assessments

MWRA is required by its Enabling Act to establish assessments which, with other revenues, provide sufficient funds each year to pay all current expenses, debt service, and obligations to the Commonwealth; to pay all costs of maintenance, replacement, improvements, extension, and enlargement of the sewer and waterworks systems; to create and maintain reserve funds; and to provide amounts required by financing agreements. These assessments are adopted by MWRA based on the rate revenue requirements set forth in the Current Expense Budget.

Costs Recovered

MWRA capitalizes certain of its asset costs in accordance with its capitalization policy. Capital expenditures are planned as set forth in the Capital Improvement Program and are recovered through assessments in accordance with MWRA financing agreements. The Current Expense Budget provides detailed information on capital and debt costs, additions to reserves, and all operations and maintenance costs to be recovered with current revenue.

Sources of Current Revenue

MWRA recovers most of its current expenses from users of the services it provides. In addition to rate revenue requirements, budgeted current revenue includes anticipated fines, fees, investment income on certain fund balances, and payments for contracted services. MWRA is committed to seeking additional sources of current revenue.

Coverage Requirements

MWRA's financing agreements include coverage requirements which provide that each year revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds. The primary bond coverage requirement is that net revenue must be 120 percent of required debt service fund deposits for bonds outstanding excluding subordinated bonds. The secondary coverage requirement is that net revenue must be 110 percent of required debt service fund deposits for all bonds outstanding, including subordinated bonds. Revenue must be raised annually to meet the primary and secondary bond coverage requirements and may be used for additions to reserves or for payment of obligations to the Commonwealth. Amounts remaining after these uses are used to pay capital costs in order to reduce the need for future borrowing or to reduce current debt service costs. In addition, MWRA has a supplemental bond coverage requirement that amounts contained in its Community Obligation and Revenue Enhancement (CORE) Fund shall equal 10 percent of required debt service fund deposits for bonds outstanding, excluding subordinated bonds. Amounts required to be on deposit in the CORE Fund are recovered through assessments as necessary.

Budget Surpluses

In any year in which current revenue exceeds both current expenses on a budget basis and amounts required to meet bond coverage tests, the amount of over-recovery is deposited first to reserve funds, if any, which are below the level specified in any financing agreements, and second into MWRA's rate stabilization fund or bond redemption fund. Amounts deposited in these funds are used to offset rate requirements in subsequent years and such, to provide rate relief for our communities. MWRA consults with the Advisory Board regarding the yearly use of these funds.

Budgeting and Assessment Objectives

MWRA intends to follow prudent budgeting practices, and has the following objectives in developing budgets and community assessments:

1. To minimize total costs, consistent with MWRA's statutory responsibilities to provide effective, environmentally sound wholesale water delivery and wastewater collection and treatment services;
2. To minimize the cost of debt;
3. To avoid single year assessment spikes by prudent management of cost and assessment increases, and
4. To support inter-generational equity by avoiding unfair assessment burdens on either current or future ratepayers.

Allocation of Costs and Revenue to Systems

Most of MWRA's current expenses are directly attributable to either water or sewerage service costs or to investment in either the water or sewerage systems. Expenses which support both systems (indirect system costs) are allocated to the water or sewer system based on generally accepted cost allocation principles. Investment, contract, and other income offsets water and sewerage expenses on either a direct or allocated, indirect basis. The resulting net cost of water and sewerage services is the amount to be recovered through water and sewer assessments.

Allocation of Rate Revenue Requirements to User Assessments

Users of MWRA wholesale water and sewerage services are assessed for those services according to MWRA's water and sewer assessment methodologies. Assessments for water services are computed by MWRA based on metered water use for the immediately preceding calendar year. The total assessment is allocated based on each community's share of water delivered in the immediately preceding calendar year.

Assessments for sewer services are computed on the basis of a combination of metered wastewater flow and loads, and population.

- O&M costs are allocated based on total annual metered wastewater flow, and total annual average strength, septage, and high strength flow loads.
- Capital (or debt service) costs are allocated based on a combination of metered wastewater flow and loads, and population. One-quarter of capital costs are allocated based on maximum month flow, and total annual average strength, septage, and high strength flow loads. The remaining three-quarters of capital costs are allocated based on population. Half of the population allocation is based on census population and half is based on contributing population.

Schedule and Procedure for Adoption of Assessments

During the preparation of the proposed Current Expense Budget, required water and sewer rate revenue is determined, and a preliminary calculation of the allocation of costs to user-specific assessments is made. This information is provided to MWRA customers to assist them in their own fiscal planning. As provided in the Enabling Act, the proposed Current Expense Budget and preliminary assessments undergo statutory review, including public hearings and review by MWRA's Advisory Board. Further refinements of projected expenses and revenues also occur during this period. If review and analysis of the proposed Current Expense Budget results in lower projected expenses or higher projected revenue, some or all of such savings from preliminary estimates of assessments can be included in the adopted budget as additions to the rate stabilization fund and used to reduce rate revenue requirements in subsequent years. Alternatively, some or all of such savings can be used to reduce final assessments to customers below preliminary estimates.

The Current Expense Budget and final water and sewer assessments are adopted in June for the fiscal year beginning in July. The budget adopted in June may differ from the proposed budget as a result of review and further refinement of the proposed budget, although final assessments adopted by MWRA must be sufficient to recover water and sewer rate revenue requirements specified in the adopted budget. Final water and sewer rate requirements and their allocation to users may thus change from preliminary estimates. In addition, any individual community's final assessment may be higher or lower than the preliminary estimate, both because of changes in the factors which affect the allocation of assessments among wholesale customers, and because of differences between MWRA's proposed and final budgets as approved by the Board of Directors.

Review and Dispute Resolution Process

MWRA annually determines preliminary and final assessments for water and sewer services in February and June prior to the beginning of the new fiscal year. These assessments must satisfy the requirement that MWRA fully recover its water and sewer costs by apportioning total costs as assessments among its wholesale water and sewer customers pursuant to its water and sewer rate methodologies and to certain specified data including:

- Calendar year metered water volume and metered wastewater flow obtained from MWRA's water and wastewater metering systems;
- Federal and state community census statistics, and sewer population estimates and other information supplied on Customer Service Update forms and Municipal Discharge Permits; and
- High strength user monitoring data and estimates of community septage volumes as obtained by MWRA's Toxic Reduction and Control Department.

The review and dispute resolution process provides MWRA's wholesale customers with the opportunity to review and comment on the reasonableness of the data used to calculate preliminary water and sewer assessments. During the year, MWRA provides its customers with monthly summaries of water and wastewater flow data distributed, at a minimum, on a bimonthly basis. Because annual metered water and wastewater flows are major components for establishing water and sewer charges for each community, customers are strongly encouraged to review this data closely upon receipt and raise questions with MWRA staff concerning the data. MWRA expects that prompt customer review and comment on meter data will result in the resolution of most water and wastewater metering questions and assure the most consistency between preliminary assessments in February and final assessments announced in June. Community contributions of high strength flow and septage, and population data are made available with the release of preliminary assessments in February.

If after an initial review a community believes that specific data used to calculate assessments should be reevaluated, a community may submit a written objection to the Executive Director with a copy to the Rates Manager or their designee. The objection must be signed by the local

official on record with MWRA as responsible for water or sewer services in the city, town, or district. The objection should state the community's concern with the data used to calculate community assessments, and should also include information and technical data to support the community's objection.

In order for any data adjustments to be incorporated into the allocation of final fiscal year assessments, all objections to data used to calculate preliminary assessments must be received no later than the date of the final public hearing on the proposed budget and preliminary assessments, held pursuant to Section 10 of the MWRA Enabling Act. MWRA staff will review and evaluate the merits of all written objections. Customers are notified in writing of the results of this review prior to the release of final assessments.

Adjustments to preliminary data, if any, are not retroactive beyond the applicable calendar year for proposed assessments. Final fiscal year assessments are calculated incorporating adjustments, if any, resulting from the review and objection process, and final rate revenue requirements as adopted by the Board of Directors.

Written objection(s) may also be submitted following the adoption of final fiscal year assessments, but no later than the end of the fiscal year for which the assessments are applicable. Objections submitted in this manner must also be directed to the Executive Director with a copy to the Rates Manager or their designee.

Following MWRA staff review, adjustments to assessments resulting from the challenge of rate basis data that are submitted following the adoption of final fiscal year assessments will be applied to the subsequent year's assessments. Customers are notified in writing of the results of this review and any assessment adjustments prior to the release of the subsequent year's assessments.

Water and Sewer Assessment Payment Schedule

MWRA adopts a schedule of assessments and a schedule of payments annually. Any adjustments for prior years resulting from the review and objection process are apportioned to each of the scheduled payment amounts. No interest is paid or billed by MWRA for previous year's adjustments.

Assessments are payable to MWRA in ten equal installments due on the first day of August, September, October, November, December, February, March, April, May, and June.

Interest Charge on Delinquent Payments

For payments received after a payment due date MWRA levies an interest charge of one percent per month or 0.033 percent per day. Interest charges do not accrue until 30 days after the bills are mailed to MWRA's customer communities. Interest charges are added to subsequent regular billings.

Retail Rates

MWRA assessments are for MWRA's provision of wholesale services. Local bodies which receive wholesale services in turn provide retail services to their users at the local level.

MWRA encourages its customers to establish retail rates which:

1. Recover the full cost of providing local water and/or sewerage services, including both direct costs and an allocation or estimate of indirect costs,
2. Charge users of local water and/or sewerage services in a manner which demonstrates to customers that increased use of services results in increased user costs,
3. Comply with MWRA policies directed to conservation of water; elimination of infiltration and inflow of surface water and ground water into the sewage collection, treatment, and disposal system; and removal or pretreatment of industrial wastes, and
4. To the extent consistent with #1 and #2, provide assistance to low income users through lifeline rates.

CAPITALIZATION POLICY

It is the policy of MWRA that capitalization of expenditures conform with generally accepted accounting principles. Under such guidelines, MWRA has adopted the provisions of the Financial Accounting Standards Board's Statement No. 71, "Accounting for the Effects of Certain Types of Regulation," which is intended to assure that utility revenues are appropriately matched with incurred costs. Capital expenditures create assets or extend their useful lives. Assets are valued at their cost and provide benefits over an extended period of time. Sources of funds for capital expenditures include grants, proceeds of MWRA borrowing, loans, and current revenue.

Asset value created by MWRA is of two kinds. One is the value of tangible assets either created or increased through MWRA capital investments. Such assets include land, buildings, plant, equipment, and the system infrastructure for water and wastewater. The cost of such fixed asset investment includes not only purchase, rehabilitation, and construction cost, but also ancillary expenses necessary to make productive use of the asset. Ancillary costs can include, but are not limited to, costs for planning studies, professional fees, transportation charges, site preparation expenditures, and legal fees and claims directly attributable to the asset.

The second kind of asset value created by MWRA investment is the value of intangible assets. While such investment does not result in tangible MWRA assets, it does create a benefit to MWRA and its users over several years. Such assets include the cost of MWRA efforts to establish base-line leak detection information for the water systems of MWRA customers. The cost of providing water consumption-limiting devices to households is another example.

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 though their cost may exceed \$100,000. Examples of such maintenance expenditures include replacement of vehicles or computers, replacement of inoperable valves or other equipment before the anticipated useful life has been reached, and pipeline or interceptor repairs that do not add significant life to the underlying asset.

RESERVES FUNDED FROM CURRENT REVENUE

Operating Reserve

The operating reserve has been established to provide a source of funds to be used to pay operating expenses of the sewer or water systems should there not be sufficient funds otherwise available for that purpose. Bond agreements specify that the fund level shall not be less than one-sixth of MWRA's annual operating expenses.

Insurance Reserve

The insurance reserve has been established to provide funds to restore, replace, or reconstruct lost or damaged property or facilities of the water or sewer system. It provides funds reserved against risks for which MWRA does not currently maintain insurance. This self-insurance reduces the cost MWRA might otherwise incur for purchased insurance policies. MWRA periodically evaluates the level of its insurance reserve and every three years a consulting engineer or an insurance consultant recommends an appropriate insurance reserve fund requirement. Between FY2005 and FY2007, the budget included an increase of \$1 million to increase the reserve to \$19 million. The current funding level of \$19.0 million has been determined to be acceptable and reasonable based on a FY07 Insurance Reserve Fund review performed by an outside insurance consultant. The next Insurance Reserve Fund review is expected to be done in February 2011.

Renewal and Replacement Reserve

The renewal and replacement reserve has been established to fund a required capital improvement which is not provided for by moneys otherwise available. Amounts may not be withdrawn until MWRA has specified the project to which the amount will be applied and its estimated cost and estimated completion date. It must also certify that such expenditure is reasonably required for the continued operation of the systems or for maintenance of revenues and that other provisions have not been made for funding such expenditures. Every three years, MWRA receives recommendations from a consulting engineer as to the adequacy of the renewal and replacement reserve fund requirement. During FY2000, based on the recommendation of its consulting engineer, MWRA reduced the size of the renewal and replacement reserve to \$35 million from \$50 million. The most recent review by the consulting engineer was prepared in December 2005. The recommended reserve remained at \$35 million.

CURRENT EXPENSE BUDGET MANAGEMENT POLICIES AND PROCEDURES

A. Budget Allocations

Budget Contingency Holdbacks

After the Board of Directors adopts the Current Expense Budget each year, the Executive Director, the Chief Operating Officer, or a division director may reserve between two percent and four percent of a division's approved budget as a budget contingency to be expended only upon approval of the Executive Director. The contingency holdback may be from any line item or cost center or combinations thereof, and any amount reserved as a budget contingency is not to be included in the monthly budget allocation process described below. The Administration and Finance Committee will be notified of all budget contingency holdback amounts.

Monthly Allocation of the Annual Current Expense Budget

Initial monthly allocations are made for purposes of adopting and filing an operating budget in accordance with MWRA's financing agreements. Before the end of the first reporting period of the fiscal year, divisions, with the assistance of the Rates and Budget Department, allocate the approved budget, less any holdbacks, by month. The allocations set forth planned expenditures and accruals for each of the 12 months of the year to be compared to actual expenditures and accruals as reported in MWRA's monthly variance reports.

B. Budget Variance Monitoring and Analysis

At the close of each monthly accounting period, the Treasury Department prepares MWRA financial statements. The Rates and Budget Department then prepares monthly variance reports that compare planned to actual revenues and expenses.

Variance Analysis

Division directors and staff review variance reports and explain variances between planned and actual expenditures as requested by the Rates and Budget Department. Variance explanations are prepared as needed, usually at the end of each quarter of the fiscal year. At least twice each year MWRA staff prepare forecasts of year-end expenditures and revenue. Barring extraordinary circumstances, division directors are responsible for controlling spending within the overall division budget. The Rates and Budget Department reviews all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA's budget.

Variance explanations are submitted to the Rates and Budget Department in accordance with the schedule developed by the Rates and Budget Department. Each month the Rates and Budget Department prepares a summary of budget variances for inclusion in the Management Indicators Report (Yellow Notebook). The Rates and Budget Department also prepares a monthly staff summary (except for July and August) to the Board of Directors describing major budget

variances and a quarterly budget variance report for inclusion in the Board of Directors Report on Key Indicators of MWRA Performance (Orange Notebook). At least twice a year, the Rates and Budget Department prepares a staff summary to the Board of Directors on year-end projections of revenue and expenses.

C. Budget Amendments

An amendment to an MWRA Current Expense Budget is defined as follows:

A proposed change in an adopted budget or a proposed budget transmitted to the MWRA Advisory Board in accordance with Section 8(b) of Chapter 372 of the Acts of 1984 which meets any of the following criteria:

1. Any increase in total current expenses.
2. An increase of five percent or more in total division expenses.
3. An increase in any expense line item (subsidiary account) of 15 percent or more if that line item is at least 2.5 percent of total current expenses.
4. An addition or deletion of a specific new program or initiative, the cost of which is greater than one percent of total current expenses, unless the addition or deletion has been specifically recommended by the Advisory Board.

The Executive Director, with the concurrence of the Chairman of the Board of Directors and the Chairman of the Administration and Finance Committee of the Board of Directors, submits proposed amendments to the Advisory Board for comment and recommendation. At the end of the Advisory Board 30-day review period, the Board of Directors may take action on the amendment.

CAPITAL BUDGET MANAGEMENT POLICIES AND PROCEDURES

General Guidelines

The Authority shall periodically adopt and revise capital facility programs for the Waterworks and Sewer Systems and capital budgets based on these programs. The Authority shall consult in the preparation of its capital facility programs for the Sewer and Waterworks Systems with the Authority's Advisory Board and the Executive Office of Environmental Affairs, and may consult with other agencies of federal, state and local government concerned with the programs of the Authority. Proposed capital facility programs and capital expenditure budgets for said systems shall be submitted to the Advisory Board for such consultation no less than sixty days prior to adoption or revision by the Authority. The Authority shall prepare a written response to reports submitted to it by the Advisory Board, which response shall state the basis for any substantial divergence between the actions of the Authority and the recommendations contained in such reports of the Advisory Board. The Authority shall capitalize expenditures in accordance with

generally accepted accounting principles. Capital expenditures will be planned in accordance with Authority financing agreements and policies for amortization of capital costs.

Capital Budget Contingency

A contingency for each fiscal year is incorporated into the Capital Improvement Program for the purpose of providing for unanticipated or unpredictable expenditures under the CIP spending cap.

Capital Budget Monitoring and Reporting

The Authority shall continually monitor the progress of capital projects for purposes of managerial control and decision-making and for financial planning and management. Two capital budget variance analysis reports will be provided to the Board of Directors, one for the first six months of a year and one at year-end. The reports will include planned project schedules and budgets compared to actual performance. The reports will highlight any major changes, either in scope or budget, of any project. Based on these reports, staff may recommend to the Board of Directors revisions, if appropriate, to the annual and five-year caps based upon said changes. In addition, capital budget progress reports shall be provided to the Board of Directors on a regular basis, both as project specific updates and in Quarterly Orange Notebook reports that shall include discussions of project progress compared to schedules. Monthly Financial Summary reports shall include discussions of capital expenditures compared to budget.

Capital Budget Spending Cap

Beginning in June 2003, the Board of Directors established a five-year Capital Budget Spending cap and annual caps for each year within the cap period. Spending for any year in the cap period may, with Board approval, vary within plus or minus 20% of the annual cap, as long as total spending for the five-year period does not exceed the five-year cap. Before the end of each five-year cap period, the Board will adopt a cap for the next five-year period and annual caps for each year in the period. The Board established the second five-year cap for the FY09-13 period at its June 2008 meeting.

Expenditures in Excess of the Spending Cap

In the event of unanticipated spending requirements, the Executive Director may recommend to the Board of Directors that annual expenditures exceed an annual cap by more than 20% or that five-year expenditures exceed the current five-year CIP spending cap. In such an event, a proposed plan to adjust the five-year cap or any of the annual caps will be presented to the Board. Any such proposed plan will be submitted to the MWRA Advisory Board for review and comment for a period of thirty days. At the end of the thirty-day period, the Board of Directors may take action on the proposed plan.

APPENDIX D

MWRA Planning Estimates FY2011 to FY2020

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
COMBINED UTILITIES										
EXPENSES										
Direct Expenses	\$209,613	\$215,608	\$223,019	\$232,273	\$241,471	\$250,823	\$261,320	\$271,773	\$282,813	\$293,956
Indirect Expenses	37,959	39,744	45,957	48,374	48,590	47,910	51,706	51,170	53,254	55,844
Capital Financing (before offsets)	<u>354,327</u>	<u>369,808</u>	<u>380,961</u>	<u>453,072</u>	<u>484,838</u>	<u>508,406</u>	<u>556,473</u>	<u>509,024</u>	<u>576,539</u>	<u>640,583</u>
Sub-Total Expenses	\$601,898	\$625,160	\$649,936	\$733,718	\$774,899	\$807,138	\$869,499	\$831,968	\$912,606	\$990,383
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	(24,883)	(7,971)	0	0	0	0	0
Variable Rate Savings	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Expenses	\$601,898	\$625,160	\$649,936	\$708,836	\$766,929	\$807,138	\$869,499	\$831,968	\$912,606	\$990,383
REVENUE & INCOME										
Non-Member and Other Revenue	\$11,759	\$12,872	\$13,234	\$13,525	\$13,943	\$14,442	\$14,702	\$15,046	\$15,503	\$15,990
Interest Income	15,310	16,428	20,578	26,722	27,286	28,126	29,312	29,464	30,734	32,149
Rate Stabilization	<u>5,030</u>	<u>3,703</u>	<u>730</u>	<u>4,602</u>	<u>9,312</u>	<u>508</u>	<u>10,573</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$32,098	\$33,004	\$34,542	\$44,849	\$50,541	\$43,076	\$54,587	\$44,510	\$46,237	\$48,139
Total Rate Revenue	\$569,800	\$592,156	\$615,395	\$663,987	\$716,388	\$764,062	\$814,913	\$787,457	\$866,369	\$942,244
Rate Revenue Increase	1.49%	3.9%	3.9%	7.9%	7.9%	6.7%	6.7%	-3.4%	10.0%	8.8%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$839	\$876	\$917	\$971	\$1,034	\$1,100	\$1,156	\$1,182	\$1,268	\$1,357
Based on water use of 90k gpy (weighted)	\$1,238	\$1,293	\$1,353	\$1,433	\$1,526	\$1,624	\$1,706	\$1,744	\$1,872	\$2,002
WASTEWATER UTILITY										
EXPENSES										
Direct Expenses	\$147,005	\$151,310	\$156,177	\$162,602	\$168,893	\$175,479	\$182,930	\$190,247	\$197,970	\$205,722
Indirect Expenses	9,779	11,585	15,618	16,478	15,964	14,567	17,554	15,195	16,411	18,126
Capital Financing (before offsets)	<u>247,128</u>	<u>258,812</u>	<u>265,652</u>	<u>308,311</u>	<u>327,726</u>	<u>338,802</u>	<u>381,162</u>	<u>330,294</u>	<u>368,562</u>	<u>399,024</u>
Sub-Total Wastewater Expenses	\$403,912	\$421,708	\$437,447	\$487,391	\$512,583	\$528,848	\$581,646	\$535,736	\$582,943	\$622,872
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	(5,783)	0	0	0	0	0	0
Variable Rate Savings	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Wastewater Expenses	\$403,912	\$421,708	\$437,447	\$481,609	\$512,583	\$528,848	\$581,646	\$535,736	\$582,943	\$622,872
REVENUE & INCOME										
Non-Member and Other Revenue	\$4,409	\$4,513	\$4,616	\$4,748	\$4,875	\$4,994	\$5,149	\$5,222	\$5,383	\$5,543
Interest Income	9,922	9,981	12,557	16,119	16,679	17,250	18,082	17,829	18,294	18,959
Rate Stabilization	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$14,332	\$14,493	\$17,173	\$20,867	\$21,554	\$22,243	\$23,231	\$23,051	\$23,678	\$24,502
Wastewater Rate Revenue	\$389,580	\$407,215	\$420,274	\$460,742	\$491,029	\$506,605	\$558,415	\$512,685	\$559,266	\$598,371
Rate Revenue Increase	1.89%	4.5%	3.2%	9.6%	6.6%	3.2%	10.2%	-8.2%	9.1%	7.0%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$502	\$526	\$549	\$586	\$619	\$645	\$691	\$689	\$733	\$776
Based on water use of 90k gpy (weighted)	\$740	\$776	\$810	\$864	\$913	\$952	\$1,019	\$1,016	\$1,082	\$1,144
WATER UTILITY										
EXPENSES										
Direct Expenses	\$62,608	\$64,297	\$66,841	\$69,671	\$72,578	\$75,344	\$78,390	\$81,526	\$84,843	\$88,234
Indirect Expenses	28,180	28,158	30,339	31,895	32,626	33,342	34,152	35,976	36,843	37,718
Capital Financing (before offsets)	<u>107,199</u>	<u>110,996</u>	<u>115,309</u>	<u>144,761</u>	<u>157,112</u>	<u>169,604</u>	<u>175,311</u>	<u>178,730</u>	<u>207,977</u>	<u>241,559</u>
Sub-Total Water Expenses	\$197,986	\$203,452	\$212,489	\$246,327	\$262,316	\$278,290	\$287,853	\$296,232	\$329,663	\$367,511
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	(19,100)	(7,971)	0	0	0	0	0
Variable Rate Savings	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Water Expenses	\$197,986	\$203,452	\$212,489	\$227,227	\$254,346	\$278,290	\$287,853	\$296,232	\$329,663	\$367,511
REVENUE & INCOME										
Non-Member and Other Revenue	\$7,349	\$8,360	\$8,618	\$8,777	\$9,068	\$9,448	\$9,552	\$9,824	\$10,120	\$10,447
Interest Income	5,388	6,448	8,021	10,603	10,607	10,876	11,230	11,635	12,440	13,190
Rate Stabilization	<u>5,030</u>	<u>3,703</u>	<u>730</u>	<u>4,602</u>	<u>9,312</u>	<u>508</u>	<u>10,573</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$17,767	\$18,511	\$17,369	\$23,982	\$28,987	\$20,833	\$31,355	\$21,459	\$22,559	\$23,637
Water Rate Revenue	\$180,220	\$184,941	\$195,121	\$203,245	\$225,359	\$257,458	\$256,498	\$274,772	\$307,103	\$343,874
Rate Revenue Increase	0.63%	2.6%	5.5%	4.2%	10.9%	14.2%	-0.4%	7.1%	11.8%	12.0%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$337	\$350	\$369	\$386	\$416	\$455	\$465	\$494	\$535	\$581
Based on water use of 90k gpy (weighted)	\$498	\$517	\$544	\$569	\$613	\$672	\$687	\$728	\$790	\$857

** Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Based on community responses to the MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey dated December 2009.

APPENDIX E

GLOSSARY OF FINANCIAL AND OPERATING TERMS

8M permit: Permission granted by MWRA to persons who wish to construct property improvements on land either adjoining or overlapping MWRA property interests. Permission may be conditioned on various operational and/or engineering concerns.

Accrued Costs: Adjustments to paid expenditures to account for materials or services received but for which payment has not been made.

Activated Sludge: The sludge that results when primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment.

Advanced Waste Treatment: Wastewater treatment beyond the secondary or biological stage that includes the removal of nutrients such as phosphorus and nitrogen and the removal of a higher percentage of suspended solids and organic matter than primary treatment.

Advisory Board: The agency that represents the interests of MWRA's 61 user communities to the Board of Directors in an advisory capacity in accordance with the provisions of MWRA's Enabling Act. The Advisory Board elects three members of the Board of Directors, reviews and comments on MWRA's CIP and CEB, and approves the addition of new communities to the wastewater and water systems.

Aerobic: In the presence of free oxygen.

Anaerobic: Life or processes such as bacteria that digest sludge that require, or are not destroyed by, the absence of free oxygen.

AOOC: Assimilable Organic Carbon - One measure of the "food" available to bacteria within a water system. More complex carbon compounds can become assimilable when oxidized by strong disinfectants.

ARRA: American Recovery and Reinvestment Act of 2009 – principal forgiveness loans distributed based on the Department of Environmental Protection's Intended Use Plan.

Ash: The inert material remaining after the combustion of wastewater sludge. Ash is either wet or dry depending on combustion system design.

Bacteria: One-celled microscopic organisms commonly found in the environment. Bacteria can be harmful, such as pathogens, or helpful and perform a variety of biological treatment processes.

BDOC: Biologically Degradable Organic Carbon - Another, more precise, measure of the "food" available to bacteria within a water system.

BGD: Billion gallons per day.

Biofilm: Growth of various bacteria within a water distribution system on the pipe walls. Biofilm growth can contribute to iron corrosion, colored water, poor taste, excessive chlorine demand, and complications with coliform testing.

Blow-off valves: Valves operated during pipeline repair to de-water (drain) a portion of a pipeline.

BOD: Biochemical Oxygen Demand - An indicator of the amount of biodegradable contaminants in wastewater.

Board of Directors: The 11-member governing board of MWRA.

Bond Resolution: A document adopted by the Board of Directors that governs MWRA's issuance of revenue bonds and sets forth its obligations to bondholders.

Boston Harbor Project: An extensive plan of activities which MWRA developed and implemented to construct new wastewater treatment facilities in response to a federal court order to comply with the provisions of the U.S. Clean Water Act.

Business Systems Plan (BSP): The strategic planning framework for MWRA's management information systems. The BSP is updated annually to reflect ongoing business requirements, new opportunities identified by ongoing MWRA strategic planning efforts, technology changes, and user requests.

BWSC: Boston Water and Sewer Commission - The agency responsible for providing water and sewer services to the City of Boston, MWRA's largest customer.

CADD: Computer aided drafting and design.

Capital Improvement Program (CIP): A plan which identifies and estimates the nature, schedule, cost, and financing of long-term assets that MWRA intends to build or acquire during a specific period.

Capital Investment: Development of a facility or other asset that adds to the long-term value of an organization.

CDF: Cosgrove Disinfection Facility

Cathodic Protection: A form of corrosion protection that is particularly effective against galvanic corrosion. Galvanic corrosion occurs when pipe metal is in the presence of other metals while immersed in water. The interaction of these elements causes an electric current to flow away from the pipe, taking electrons with it and pitting the pipe as a result. Cathodic protection reverses the current, thereby stopping the corrosion.

Centrifuge: A machine that uses centrifugal force to separate substances of different densities and remove moisture. MWRA uses centrifuges at the Deer Island Wastewater Treatment Plant to de-water sludge.

CFM: Cubic Feet per Minute - A measure of the quantity of a material flowing through a pipe.

Chloramination: The process of adding chloramine to drinking water. Chloramine, a form of chlorine and ammonia, is used as a residual disinfectant because it lasts longer in the water distribution system than primary disinfectants.

Chloramine: A long lasting residual disinfectant created by combining measured amounts of chlorine and ammonia. Chloramine forms fewer disinfection by-products than chlorine.

Chlorination: The process of adding chlorine to drinking water to inactivate pathogens.

Chlorine: A relatively strong primary disinfectant, effective against bacteria, *giardia*, and viruses, but not *cryptosporidium*. Concerns exist about the health effects of its by-products, some of which are or will be regulated.

Clarifiers: Settling tanks or basins in which wastewater is held for a period of time, during which heavier solids settle to the bottom and lighter materials float to the surface.

Clean Water Act: A law passed by Congress in 1972, and subsequently amended, which sets national standards for pollution reduction, permits discharges from wastewater treatment plants, and promotes achievement of the national goal that all surface waters be "fishable and swimmable."

Cleaning and Lining: Cleaning and cement lining of unlined cast iron water mains to improve hydraulic capacity and extend useful life.

CMMS (Computerized Maintenance Management System): *Maximo* is the computerized maintenance management system which is an essential component of successful asset management. This system is an important tool used in refining the long term maintenance strategy to ensure proper maintenance and replacement of plant assets.

Coliform bacteria: A group of lactose fermenting bacteria, which while not of direct health concern, are used as a first line indicator of potential problems. See fecal coliform and *E.coli*.

Comminutor - A machine or process that pulverizes and reduces solids to minute particles.

Commonwealth Debt Service Assistance (DSA): Funds appropriated by the Commonwealth to offset MWRA capital financing expenses.

Commonwealth Reimbursements: Income received from the Commonwealth of Massachusetts as reimbursement for certain chemical and operational costs in accordance with prevailing legislation.

Community Obligation and Revenue Enhancement (CORE) Fund: A fund established by MWRA's bond resolution that is used to provide insurance against delays by communities in paying charges due to MWRA.

Composting: The process of converting wastewater treatment residuals to a soil-like humus material often used in the horticultural industry. The process involves the aerobic breakdown of the residuals and the addition of sawdust or wood chips.

Corrosion Control: Adjustments to the chemistry of treated water to reduce its ability to dissolve lead, copper, other metals, or form hydrogen sulfide. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates or oxidizers.

Coverage Requirement: Requirement of MWRA's bond resolution which provides that each year, revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds.

CP (Construction Package): Major construction projects such as the Carroll Water Treatment Plant or the North Dorchester Bay CSO project will group areas of work into individual construction contracts.

Cross-Connection: A point at which potable water piping is connected to a non-potable water source creating an opportunity for the introduction of pollutants into the potable water.

Cryogenic oxygen plant: MWRA operates a cryogenic oxygen-based facility as part of its secondary wastewater treatment program at Deer Island.

Cryptosporidium: A protozoan parasite that can cause severe gastrointestinal disease in healthy individuals, and may be fatal to people with compromised immune systems. Cryptosporidia exist in the environment as hard walled oocysts that are very resistant to chlorination, but can be inactivated by disinfection with ozone or ultraviolet light.

CSO: Combined Sewer Overflow – An overflow point in a combined sewer system that collects both sewage and storm water runoff for wastewater treatment. During rainstorms, systems can become overloaded, with the excess discharged directly into surface waters from CSO pipes. In the metropolitan Boston area there are approximately 57 CSOs that currently discharge into rivers or Boston Harbor.

CSO Facilities: MWRA has five facilities that intercept the flow from CSO pipes and provide wastewater treatment and/or storage prior to discharge. The CSO facilities have some capacity to store flow and pump it to the Deer Island plant after rainstorms end.

CT: Concentration x Contact Time - A measure of disinfection effectiveness established under the Surface Water Treatment Rule. CT is the product of the concentration of disinfectant [C] and

the time it has been in contact with the water [T]. Required CT varies by type of disinfectant, organism, temperature, and pH.

CTG (Combustion Turbine Generator): CTGs are used to generate electricity during planned cable outages, wet weather operations and for participation in price response events.

Current Expense Budget: A financial plan that estimates the revenues and expenses associated with MWRA's operations for a fiscal year.

C-Value: The carrying capacity of a water main for a specified length and pressure drop that is determined by its diameter and resistance to flow. The friction coefficient "C" of the main is often used as a measure of flow resistance. C-values for new pipe are about 120 for water mains that are 6 to 16-inches in diameter, and 130 and 140 for larger diameter mains.

DAF: Dissolved Air Flotation - A process of adding super saturated air into water to cause coagulated solids to rise to the top to be skimmed off. DAF replaces conventional gravity sedimentation (clarification) and is particularly cost-effective for low turbidity waters subject to periodic algae blooms.

DBP: Disinfection By-products - Complex compounds formed by the use of oxidizing agents such as chlorine or ozone in waters containing organic matter.

D/DBP Stage 1: Disinfectants/Disinfection By-products, Stage 1 Rule – Promulgated 11/1998, and effective 1/2002, this rule set DBP limits at 80 parts per billion for Trihalomethanes and 60 parts per billion for Haloacetic Acids, averaging all samples over four quarters.

D/DBP Stage 2: Disinfectants/Disinfection By-products Stage 2 Rule-. The rule further regulates the amount of DBPs allowed in water. The 80/60 values set in Stage 1 will now apply to each individual sample location in a "Locational Running Annual Average".

Debt Service: In a given fiscal year, the amount of money necessary to pay interest and principal on outstanding notes and revenue bonds.

DEP: Department of Environmental Protection - The Massachusetts agency that regulates water pollution control, water supplies, and waterways and dispenses federal and state grant funds to support these activities.

Department: A sub-unit of an MWRA division.

Department of Conservation and Recreation (DCR): Created in 2003 through the merger of the Metropolitan District Commission and the Department of Environmental Management, DCR manages the Commonwealth's diverse parks system and protects and enhances natural resources and outdoor recreational opportunities throughout Massachusetts.

De-watering: The process of removing water from wastewater treatment residuals. De-watered sludge has the appearance of mud or wet soil material.

Diffusers: A system of shafts, rising from the end of MWRA’s effluent outfall tunnel to the seabed, which disperses treated wastewater over a large area. Technically, the diffusers are the “sprinkler heads” mounted on top of the riser shafts that lead from the outfall tunnel and disperse wastewater into Massachusetts Bay.

Digesters: Tanks for the storage and anaerobic or aerobic decomposition of organic matter present in sludge.

Direct Program Expenses: Costs directly associated with providing services or performing activities.

Disinfection, Primary: The inactivation (killing) of pathogenic organisms in a water system by the use of chemical or other disinfection agents.

Disinfection, Residual: The presence of a measurable residual of disinfectant within a water distribution system to help control bacterial re-growth and guard against contamination.

Dissolved Oxygen (DO): A measure of the amount of oxygen in a given amount of water. Adequate levels of DO are needed to support aquatic life. Low dissolved oxygen concentrations can result from inadequate wastewater treatment.

Division: A major organizational unit within MWRA, encompassing the activities and resources for providing a major service or function.

DLS (Department of Laboratory Services): Laboratory Services is a full service analytical testing and consulting group within the MWRA that primarily serves client groups primarily within the Operations Division. The analytical services that Laboratory Services provides include wet chemistry, metals, organics, and microbiology testing. Related services include field sampling, technical consultation, and contract laboratory management.

DMR (Discharge Monitoring Report): Monthly reports submitted to federal and state regulators. MWRA monitors the effluent (treated sewage) that is discharged into Massachusetts Bay, to ensure that it meets the standards set out in the NPDES permit. Analytical support to the effluent monitoring program is provided by the Department of Laboratory Services.

E.coli: A normal inhabitant of the digestive tract of mammals. The presence of *E.coli* indicates probable contamination by fecal matter.

Effluent: Treated wastewater discharged from a treatment plant.

EIR: Environmental Impact Report – A document prepared in adherence with the Massachusetts Environmental Policy Act (MEPA) to review the environmental impact of projects and ensure opportunities for public review and comment.

EIS: Environmental Impact Statement – A document prepared in adherence with the National Environmental Policy Act to review the environmental impact of projects and ensure opportunities for public review and comment.

Enabling Act: Legislation (Chapter 372 of the Acts of 1984) that established MWRA and define its purpose and authority as of January 1, 1985.

ENF: Environmental Notification Form - The first step in the MEPA process.

EOC: Emergency Operations Center

EOEA: Executive Office of Environmental Affairs - The Massachusetts cabinet office that oversees state environmental agencies.

EPA: Environmental Protection Agency - The federal government agency responsible for environmental enforcement and investigation.

ESWTR: Enhanced Surface Water Treatment Rule - A federal rule is being promulgated in three stages:

1) Interim Enhanced Surface Water Treatment Rule (IESWTR): The IESWTR was promulgated in 1998 and tightened the requirements for the operation of water filtration plants in large systems to take a first step toward controlling *cryptosporidium* in source waters. IESWTR also added *cryptosporidium* to the list of issues considered within watershed protection plans for unfiltered systems.

2) LT1ESWTR primarily extends the IESWTR to smaller systems

3) LT2ESWTR: further tightens the standards for the operation of filtration plants and add requirements for 99% inactivation of *cryptosporidium* and the use of two primary disinfectants for unfiltered systems. The concept of proportional treatment, with less treatment required for cleaner sources, will be implemented as part of the rule.

Eutrophication: Nutrient enrichment of a lake or other water body typically characterized by increased growth of planktonic algae and rooted plants. Eutrophication can be accelerated by wastewater discharges and polluted runoff.

Expenditures: Payments for goods and services received.

Expenses: Costs associated with the operating activities of a period, including expenditures and accrued costs.

Facility Information System (FIS): The management information system at the Deer Island Treatment Plant.

Fecal coliform bacteria: A group of bacteria used as a primary indicator organism for potential contamination from human or animal waste. Also called thermo-tolerant bacteria. Specific organisms in the group may or may not be of health concern (see *E.coli*).

Filtration: A water treatment process involving the removal of suspended particulate matter by passing the water through a porous medium such as sand or carbon.

Fiscal Year: The 12-month financial period used by MWRA that begins July 1 and ends June 30 of the following calendar year. MWRA's fiscal year is numbered according to the calendar year in which it ends.

Flash coat: A light coat of shotcrete used to cover minor blemishes on a concrete surface.

FOD (Field Operations Department): Department within the Operations Division created to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring programs.

Force Main: A pressure pipe joining the pump discharge at a water or wastewater pumping station with a point of gravity flow.

FRSA (Fore River Staging Area): The site of the Sludge Pelletization Plant.

Giardia: A protozoan parasite that can cause severe gastrointestinal disease, although there is medical treatment available. *Giardia* exist in the environment as hard-walled cysts, and are moderately resistant to chlorine disinfection.

Goal: A statement in general terms of a desired condition, state of affairs, or situation. Goals, which are long-term in nature and not usually directly measurable, provide general direction for the activities of operating units.

Graphitization: A corrosion mechanism that alters the molecular structure of the carbon/iron matrix of cast iron pipe. During the process, iron atoms are forced away from the metal leaving behind an unstable carbon matrix. The result is a weakened pipe, easily susceptible to ruptures. High frequency in the number of breaks causes leakage to be a major problem of graphitized pipe.

Grit: Sand-like materials that quickly settle out of wastewater.

Groundwater: A body of water beneath the surface of the ground. Groundwater is made up primarily of water that has seeped down from the surface.

HAA: Haloacetic Acids - A class of disinfection by-products related to chlorine disinfection. HAAs are regulated under D/DBP Stage 1 Rule at 60 ppb.

Harbor Electric Energy Company (HEEC): A subsidiary of NStar which installed a cross harbor power cable and built a sub-station to provide power for construction and operation of the new Deer Island Treatment Plant.

Head House: A structure containing the control gates to a conduit such as a sewer pipeline.

Headworks: A preliminary treatment structure or device, usually including a screening and de-gritting operation, that removes large or heavy materials such as logs and sand from wastewater prior to primary treatment.

Heavy Metals: Metals such as lead, silver, gold, mercury, bismuth, and copper that can be precipitated by hydrogen sulfide in an acid solution.

HOM (Harbor and Outfall Monitoring): A comprehensive program to provide environmental data that helps to predict and measure the effect of Deer Island outfall discharge on the marine ecosystem.

Incentives and Other Charges: A fee system designed to help recover permitting, inspecting, and monitoring costs incurred by MWRA's TRAC Program and provide incentives to permitted users to reduce discharges.

Indirect Expenses: Costs not directly associated with providing services or performing activities.

Infiltration/Inflow (I/I): The problem of clean water flows entering sewers resulting in diminished pipe capacity for sanitary flows and in costly pumping and treatment of unnecessarily large wastewater volumes. Infiltration is groundwater that leaks into the sewerage system through pipe joints and defects. Inflow, primarily a wet-weather phenomenon, refers to water that enters sewers from improperly connected catch basins, sump pumps, land and basement drains, and defective manholes. Inflow also enters through improperly closed or defective tidegates during high tides.

Influent: The flow of water that enters the wastewater treatment process.

Insurance Reserve: A fund established to adequately reserve against risks for which MWRA does not currently maintain insurance.

Interceptors: The large pipes that convey wastewater from collection systems to treatment plants.

Investment Income: Income derived by investing certain operating and reserve fund balances in interest-yielding securities in accordance with the provisions of MWRA's bond resolution.

ISO - NE (Independent System Operator of New England): Non-profit wholesale operator of the regional grid system. The MWRA receives payment from ISO-NE when Deer Island and Carroll Water Treatment Plant remove themselves from the grid. Both plants participate in load response programs offered by ISO-NE which pays larger commercial and industrial electricity consumers to “shed load” during grid peaks. There are several programs available such as price, demand response and load response. MWRA constantly evaluates the options and participates in the most advantageous program.

Carroll Water Treatment Plant (CWTP): Water treatment facility for waters from Quabbin and Wachusett Reservoirs with capacity of 405 mgd using ozonation as a primary disinfectant.

Labor Costs: Direct costs of employing permanent and temporary personnel, including wages, salaries, overtime pay, fringe benefits, and workers' compensation.

Land Application: The use of wastewater treatment residuals on land for agricultural benefits.

Landfilling: The disposal of residuals by burial. Modern landfills have double liners, leachate collection systems, and other design features to protect against groundwater contamination.

LCR: Lead and Copper Rule – A federal rule that set an action level for lead and copper at “worst case” consumer taps. Optimized corrosion control, notification, education, and lead service replacements are all components of compliance plans.

Leachate: Water that drains from a landfill after having been in contact with, and potentially contaminated by, buried residuals. Modern landfills are designed to collect leachate for subsequent treatment.

Limnology: The scientific study of physical, chemical, meteorological, and biological conditions in fresh waters.

LIMS: Laboratory Information and Management System – An automated database system used to transfer information between MWRA’s Central Laboratory to its client groups and to process information obtained by the Central Laboratory to monitor substances that enter and leave the MWRA wastewater system. Use of LIMS removes the potential for human error in the sampling process by bar coding samples, eliminating the need to transcribe sample data, producing pre-printed project-specific sample check-off forms for field crews, and automating testing through pre-set test codes and project-specific parameters.

LOX (Liquid Oxygen): Liquid oxygen is used together with electrical energy to generate ozone at the Carroll Water Treatment Plant.

Mapping Protocols: Sets of specifications defining the content and format of data to be collected.

MCL: Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available control technology.

MCLG: Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Massachusetts Environmental Policy Act (MEPA) Unit: A unit of the Commonwealth's Executive Office of Environmental Affairs responsible for implementation of the state environmental review process.

Methane: A colorless, nonpoisonous, flammable gas produced as a by-product of anaerobic sludge processing. At Deer Island, MWRA uses methane as fuel to provide heat and hot water and to generate electricity.

MGD: Million gallons per day.

MIS: Management Information Systems

Mission: A description of the fundamental purposes and major activities of an operating unit or program.

Mitigation: Financial remuneration or non-financial considerations that MWRA provides to communities to alleviate the negative effects of major construction projects.

Molybdenum (Mo): A metallic element that resembles chromium and tungsten in many properties, and is used in strengthening and hardening steel. Mo is a trace element in plant and animal metabolism. The concentration of molybdenum in sludge products is strictly regulated.

NACWA (Nation Association of Clean Water Agencies): NACWA represents the interests of publicly owned wastewater treatment plants. NACWA is involved in all areas of water quality protection including the development of environmental legislation and assisting federal regulatory agencies in the implementation of environmental programs.

NEFCo: New England Fertilizer Company - The contractor responsible for the operation of processing sludge into fertilizer pellets at MWRA's residuals processing plant located in Quincy. NEFCo is also responsible for marketing and distributing the pellets and disposing of any product that is not marketable.

National Pollutant Discharge Elimination System (NPDES) Permit: A permit issued by EPA in conjunction with DEP that governs wastewater discharges into surface waters.

NHS (Northern High Service): Project that involves a series of water system pipeline improvements in the MWRA's Northern High Service Area.

Nitrification: An aerobic process in which bacteria changes the ammonia and organic nitrogen in wastewater into oxidized nitrogen (usually nitrate). Second-stage BOD is sometimes referred to as the nitrification stage (first-stage BOD is called the carbonaceous stage). Also, a similar process in the water distribution system, where ammonia from chloramine can be used by nitrifying bacteria, resulting in a reduced chlorine residual, and the potential for additional bacteria growth.

OCC: Metropolitan Operations Control Center, located at MWRA's Chelsea Facility.

OEP (Office of Emergency Preparedness): The Office of Emergency Preparedness has oversight over security, exercises, emergency operations, planning, the Emergency Services Unit and critical infrastructure protection.

OMS (Operations Management Systems): OMS correlates PICS data with laboratory analysis to track and analyze DITP's process performance with regard to the plant's discharge permit from EPA and DEP and with respect to cost effective operation.

Operating Reserve: A fund established to adequately reserve for operating contingencies, required by MWRA's bond resolution to be not less than one-sixth of the its annual operating expenses.

Organic Matter: Material containing carbon, the cornerstone of plant and animal life. It originates from domestic and industrial sources.

Other User Charges: Revenue received per agreements MWRA has for provision of water, sewer, and other services to entities other than communities which are charged assessments.

Outfall: The pipe or structure where effluent is discharged into receiving waters.

Ozonation: The application of ozone to water, wastewater, or air, generally for the purposes of disinfection or odor control. The Carroll Water Treatment Plant (CWTP) employs the ozonation process to inactivate pathogens, including *cryptosporidium*, with lower levels of DBPs.

Ozone: A strong disinfectant made from oxygen and electrical energy. Ozone is effective against *cryptosporidium*.

Pathogens: Harmful organisms, often called germs that can cause disease. Waterborne pathogens (or the diseases they cause) include *giardia*, *cryptosporidium*, cholera, typhoid, *E.coli*, Hepatitis A, *legionella*, and MAC.

Payments in Lieu of Taxes (PILOT): Amounts which MWRA pays each fiscal year to cities and towns for land owned by the Commonwealth in the Quabbin, Ware River, Wachusett, and Sudbury watersheds. Consistent with the provisions of MWRA's Enabling Act, these payments are based on the past commitments of the Commonwealth of Massachusetts.

Penalty Revenue: Revenue derived from penalties assessed by MWRA to violators of its sewer use regulations.

Performance Measure: An indicator of the work and/or service provided, defined by output, work or service quality, efficiency, effectiveness, or productivity.

Performance Objective: A statement of proposed accomplishments or attainments that is short-term in nature and measurable.

PICS (Process Instrumentation and Control System): PICS provides real-time operations data from systems throughout Deer Island (including system status, flow, etc.).

Plume: The rising discharge of treated wastewater effluent from a treatment plant outfall pipe.

Preliminary Treatment: The process of removing large solid objects, sticks, gravel, and grit from wastewater.

Pretreatment: The reduction or elimination of pollutant properties in wastewater prior to discharge into a sewer system.

Primacy: Primary enforcement authority for Federal Safe Drinking Water Act regulations delegated to a state by the Environmental Protection Agency (EPA).

Primary Treatment: A wastewater treatment process that takes place in a rectangular or circular tank and allows substances in wastewater that readily settle or float to be separated from the water being treated. Primary treatment results in 50-60% removal of suspended solids and 30-34% removal of BOD.

Program: An organized group of activities and the resources to carry them out, aimed at achieving one or more related objectives.

Rate Revenue: Revenue received from annual assessments of communities within MWRA's service area for water and sewer services.

Rate Stabilization Reserve: A fund established by the Board of Directors that is used to reduce rate revenue requirements. MWRA finances this reserve with unexpended or surplus funds available from the Current Expense Budget at the end of each fiscal year.

RCM (Reliability Centered Maintenance): A maintenance strategy adopted at Deer Island in FY00 for critical systems. RCM is a failure modes and effects process that involves maintenance, operations and engineering staff in the development of preventative maintenance and operation plans for plant systems.

Relief Sewer: A sewer built to carry flows in excess of the capacity of an existing sewer.

RGGI: The Regional Greenhouse Gas Initiative is a mandatory, market-based program in the United States to reduce greenhouse gas emissions. The program involves selling emission allowances through auctions and investing the proceeds in demand-side management and clean energy technology projects.

Remote Headworks: The initial structures and devices of a treatment plant set apart by some distance from the plant site.

Renewal and Replacement Reserve: A fund established to adequately reserve for the cost of capital improvements not provided for by funds available through the Capital Improvement Program or the Current Expense Budget.

Residuals: The by-products of the wastewater treatment process, including scum (floatables), grit and screenings, primary sludge, and secondary sludge.

Revenue Bonds: Bonds payable from a specific source of revenue and which do not pledge the full faith and credit of the issuer.

RPS (Renewable Portfolio Standards): State policies which mandate a state to generate a percent of its electricity from renewable resources. The MWRA enrolled the steam turbine generator (STG) in the Massachusetts RPS program. The electricity produced is derived from digester gas burned in the boilers. The MWRA is issued electronic certificates for each megawatt hour of electricity produced from the digester gas, which is considered renewable energy. RPS credits are a source of revenue for the MWRA.

Safe Yield Model: The equation used to determine the maximum dependable draft that can be made continuously on a water supply source during a period of years during which the probable driest period or period of greatest deficiency in water supply is likely to occur.

SAMS: Sewerage Analysis and Management System – A database which contains specifications of the location, size, and condition of MWRA wastewater interceptors and appurtenances and which produces maps for use by MWRA and outside parties.

Sanitary Sewers: In a separate system, pipes that carry only domestic wastewater.

SCADA: Supervisory Control and Data Acquisition - Equipment for monitoring and controlling water or wastewater facilities remotely.

SCBA: Self-contained breathing apparatus.

Screenings: Large items such as wood and rags that are collected from wastewater in coarse screens prior to primary treatment.

Scum: Floatable materials such as grease, oil, and plastics that are skimmed from the surface of wastewater as it flows through large settling tanks.

SDWA: Safe Drinking Water Act - A Federal law enacted in 1986 and amended in 1996 that requires EPA to establish national primary drinking water regulations for water suppliers which consist of MCLs or treatment techniques.

Secondary Treatment: Usually following primary treatment, secondary treatment employs microorganisms to reduce the level of BOD and suspended solids in wastewater.

Sedimentation Tanks: Settling tanks where solids are removed from sewage. Wastewater is pumped to the tanks where the solids settle to the bottom or float on the top as scum. The scum is skimmed off the top, and solids on the bottom are pumped out for further treatment and/or final disposal.

Seeding: The initial filling of sludge into digesters.

Sensitive user: A member of a group within the general population likely to be at greater risk than the general population of adverse health effects due to exposure to contaminants in drinking water. Sensitive users include infants, children, pregnant women, the elderly, and individuals with histories of serious illness.

Septic Tanks: Tanks used for domestic wastes when a sewer line is not available to carry them to a treatment plant. Periodically, the septage is pumped out of the tanks, usually by commercial firms, and released into a wastewater treatment system.

Shotcrete: Mortar or concrete conveyed through a hose and projected at high velocity onto a surface; also known as air-blown mortar, pneumatically applied sprayed mortar, or gunned concrete.

Siphon: A closed conduit, a portion of which lies above the hydraulic grade line, resulting in a pressure less than atmospheric and requiring a vacuum within the conduit to start flow. A siphon utilizes atmospheric pressure to effect or increase the flow of water through the conduit.

Slip Lining: Insertion by pushing or pulling of lines fabricated of plastic, concrete cylinder pipe, reinforced concrete, or steel through existing conduits from access pits.

Sludge: Material removed by sedimentation during primary and secondary treatment. Sludge includes both settled particulate matter and microorganisms and is the single largest component of wastewater residuals. At the time sludge is removed during the treatment process, it contains only 0.5% to 5% solid content by weight. It has the appearance of muddy water.

Sodium Hypochlorite (NaOCl): A liquid form of chlorine that MWRA uses in the disinfection and/or odor processes at the Deer Island Treatment Plant, various other Wastewater facilities, and the Carroll Water Treatment Plant (CWTP).

Storm Sewers: Separate systems of pipes that carry only water runoffs from roofs, streets, and parking lots during storms.

Surcharging: Loads on a system beyond those normally anticipated; also, the height of wastewater in a sewer manhole above the crown of the sewer when the sewer is flowing completely full.

Suspended Solids: The particulate matter contained in wastewater.

SWTR: Surface Water Treatment Rule – A Federal rule promulgated in 1989 that affects all utilities using surface waters or waters under the influence of surface waters. SWTR requires filtration unless certain criteria on source water quality, watershed control, and disinfection effectiveness can be met (see also ESWTR).

Telemetry: Remote measuring or monitoring devices connected to a central monitoring station via telephone lines.

TCR: Total Coliform Rule – A federal rule that requires monitoring of water distribution systems for coliform bacteria and chlorine residual. No more than 5% of the coliform samples in a month can be positive.

TOC: Total Organic Carbon - A measure of the amount of organic material in water. Often used as a surrogate for disinfectant demand or DBP precursors.

Transition: A short section of conduit used as a conversion section to unite two conduits having different hydraulic elements.

TTHM: Total Trihalomethanes - A class of disinfection by-products, related to primarily chlorine disinfection (see D/DBP Rule).

TRAC: Toxic Reduction and Control – The department responsible for MWRA's industrial pretreatment program.

TSS (Total Suspended Solids): A measure of the settleable solids and non-settleable solids in wastewater. During the primary treatment process, flows are routed to primary treatment clarifiers that remove about half of the pollutants brought to the plant in typical wastewater (50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants are removed).

United States Geological Survey (USGS): The federal agency that collects Geographic Information System (GIS) data for developing mapping protocols.

Vector Jet Truck: A vehicle used to clean and/or remove blockages from sewer lines by pushing and/or pulling fluids in the sewer.

VMM: Vehicle Management and Maintenance – The program responsible for management and maintenance of MWRA's vehicles and heavy equipment.

WASM (Weston Aqueduct Supply Mains): Project involving the rehabilitation of the four Weston Aqueduct Supply Mains that carry potable water to MWRA's service area. When complete, they will transmit about one-third of the water to MWRA's service area and the City tunnel will carry the remaining two-thirds.

Wastewater: The water carried by sewers serving residences and businesses that enters wastewater facilities for treatment. Wastewater is any water that has been adversely affected in quality by anthropogenic influence. It comprises liquid waste discharged by domestic residences, commercial properties, and/or agricultural and can encompass a wide range of potential contaminants and concentrations.

Wastewater Treatment Plant (WTP): A facility containing a series of tanks, screens, filters, and other equipment and processes for removing pollutants from wastewater.

Watershed Reimbursement: An amount that MWRA pays to the Department of Conservation and Recreation (DCR) each fiscal year for maintaining and managing the primary sources of MWRA's water supply (watersheds) in accordance with the laws of the Commonwealth of Massachusetts. The amount of the reimbursement is determined by prevailing legislation.

Wholesale Water and Sewer Services: Potable water and wastewater collection, transport, delivery, and treatment services that MWRA provides to communities. Communities provide the same services directly to retail customers or end users.

WOCC: Western Operations Control Center, located at the Carroll Water Treatment Plant.

APPENDIX F
FY11 Final Current Expense Budget - Capital Financing Detail (as of 6/30/2010)

	Outstanding as of 6/30/10	Total	Sewer	Water
SRF¹				
Unrefunded (93A, 93D, 95A,98C)	\$ 13,115,000	\$ 30,001	\$ 30,001	
1999E Sewer	15,140,141	\$ 384,520	384,520	-
1999E Water		\$ 572,085	-	572,085
1999F	306,800,000	\$ 15,250,219	15,250,219	-
2000E Sewer	68,452,108	\$ 2,845,247	2,845,247	-
2000E Water		\$ 570,301	-	570,301
2001C Water	3,956,831	\$ 251,431	-	251,431
2001D Sewer	5,581,743	\$ 377,758	377,758	-
2001D Water		\$ 81,139	-	81,139
2002H Sewer	101,175,000	\$ 3,108,232	3,108,232	-
2002H Water		\$ 1,534,201	-	1,534,201
2002I Sewer	2,216,803	\$ 104,715	104,715	-
2002I Water		\$ 1,503	-	1,503
2003A	1,095,636	\$ 71,344	-	71,344
2003B	3,098,355	\$ 225,686	-	225,686
2003C Sewer	44,035,638	\$ 1,491,749	1,491,749	-
2003C Water		\$ 965,362	-	965,362
2004C Sewer	10,711,849	\$ 542,235	542,235	-
2004C Water		\$ 92,375	-	92,375
2004D Sewer	65,614,045	\$ 3,840,372	3,840,372	-
2004D Water		\$ 642,724	-	642,724
2005C Sewer	7,281,780	\$ 420,043	420,043	-
2005C Water		\$ 69,382	-	69,382
2005D Sewer	71,730,278	\$ 3,396,042	3,396,042	-
2005D Water		\$ 808,032	-	808,032
2005E Sewer	398,196	\$ 24,961	24,961	-
2005E Water		\$ 5,479	-	5,479
2006C Sewer	7,913,323	\$ 489,067	489,067	-
2006D Sewer	86,057,575	\$ 3,747,168	3,747,168	-
2006D Water		\$ 1,620,269	-	1,620,269
2006E Sewer	473,977	\$ 22,883	22,883	-
2006E Water		\$ 10,281	-	10,281
2007C Sewer	6,668,045	\$ 312,297	312,297	-
2007C Water		\$ 197,935	-	197,935
2007D Sewer	22,387,065	\$ 1,153,047	1,153,047	-
2007E Sewer	75,644,312	\$ 3,303,093	3,303,093	-
2007E Water		\$ 1,267,061	-	1,267,061
2008G Sewer	6,719,278	\$ 408,859	408,859	-
2008G Water		\$ 82,602	-	82,602
2009C Sewer	116,852,780	\$ 5,771,560	5,771,560	-
2009C Water		\$ 1,895,870	-	1,895,870
2009D Sewer	12,266,005	\$ 651,418	651,418	-
2009D Water		\$ 86,114	-	86,114
2010 D Sewer		\$ 2,228,814	2,228,814	-
2010 D Water		\$ 2,344,392	-	2,344,392
2011 SRF (FY11) Sewer		\$ 4,205,034	4,205,034	-
2011 SRF (FY11) Water		\$ 1,435,000	-	1,435,000
Total SRF Debt²	\$ 1,055,385,763	\$ 68,939,902	\$ 54,109,334	\$ 14,830,568

APPENDIX F
FY11 Final Current Expense Budget - Capital Financing Detail (as of 6/30/2010)

	Outstanding as of 6/30/10	Total	Sewer	Water
MWRA Senior Debt				
1993C New/Refunding	36,095,000	5,538,679	4,846,344	692,335
1997D Refunding	7,310,000	438,600	412,284	26,316
1998B Refunding	24,240,000	1,063,150	1,020,624	42,526
2002J Refunding	329,295,000	41,521,263	37,369,136	4,152,126
2002J New	200,000,000	10,000,000	5,000,000	5,000,000
2003D New	113,340,000	5,510,288	1,836,579	3,673,709
2004A New	104,870,000	5,249,419	393,706	4,855,712
2004B Refunding	49,390,000	2,469,500	2,160,813	308,688
2005A Refunding	380,350,000	19,088,488	8,589,819	10,498,668
2005B Refunding	80,290,000	4,014,500	1,338,033	2,676,467
2006A New	200,000,000	9,376,800	-	9,376,800
2006B Refunding	264,945,000	12,755,300	9,566,475	3,188,825
2007A New	200,000,000	9,033,188	1,535,642	7,497,546
2007B Refunding	647,950,000	34,017,375	28,574,595	5,442,780
2009A New	98,000,000	7,647,150	5,735,363	1,911,788
2009B Refunding	285,200,000	16,175,194	11,646,140	4,529,054
2010A	100,000,000	4,790,200	3,353,140	1,437,060
2010B	183,570,000	9,178,500	5,323,530	3,854,970
FY11 New Money (May 2011)		1,825,000	912,500	912,500
Total Senior	\$ 3,304,845,000	\$ 199,692,592	\$ 129,614,722	\$ 70,077,869
Subordinate Debt				
1999B (variable)	72,600,000	2,252,250	1,351,350	900,900
2002C Refunding (variable)	70,575,000	2,293,688	764,486	1,529,202
2002D Refunding (variable)	56,450,000	2,832,766	2,832,766	-
2008A Refunding	337,675,000	14,701,446	12,937,272	1,764,174
2008B Refunding	123,130,000	4,001,725	840,362	3,161,363
2008C Refunding	189,200,000	15,196,114	14,588,269	607,845
2008D Refunding	12,240,000	12,925,685	12,925,685	-
2008E Refunding	210,670,000	11,628,109	10,697,860	930,249
2008F Refunding	184,910,000	6,009,575	540,862	5,468,713
Total Subordinate Debt	\$ 1,257,450,000	\$ 71,841,357	\$ 57,478,913	\$ 14,362,445
Total SRF & MWRA Debt Service³	\$ 5,617,680,763	\$ 340,473,852	\$ 241,202,969	\$ 99,270,882
Water Pipeline Payment		\$ 3,435,765	\$ -	\$ 3,435,765
Current Revenue/Capital ⁴		\$ 7,200,000	\$ 3,917,224	\$ 3,282,776
Capital Lease		\$ 3,217,060	\$ 2,007,386	\$ 1,209,674
Sub-Total	\$ -	\$ 13,852,825	\$ 5,924,610	\$ 7,928,215
Commercial Paper	\$ 194,000,000	\$ -	\$ -	\$ -
Total Capital Financing (before Debt Service Offsets)	\$ 5,811,680,763	\$ 354,326,677	\$ 247,127,579	\$ 107,199,097
Debt Service Offsets				
Debt Service Assistance		-	-	-
Total Capital Financing	\$ 5,811,680,763	\$ 354,326,677	\$ 247,127,579	\$ 107,199,097

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² SRF total outstanding does not include 2010D par amount of \$49.4 million issued in July 2010 and \$33 million of ARRA funding

³ Numbers may not add due to rounding.

⁴ Current Revenue/Capital is revenue used to fund ongoing capital projects.

MASSACHUSETTS WATER RESOURCES AUTHORITY



Fiscal Year 2014 CURRENT EXPENSE BUDGET

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Kevin L. Cotter

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Prepared under the direction of

Frederick A. Laskey, Executive Director
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together with the participation of MWRA staff.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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September 2013

Katherine Haynes Dunphy, Chairwoman
MWRA Advisory Board
100 First Avenue
Boston, MA 02129

Dear Chairwoman Dunphy:

This letter transmits to the Advisory Board MWRA's Current Expense Budget (CEB) for Fiscal Year 2014. The CEB was approved by the MWRA's Board of Directors at its June 26, 2013 meeting.

The Final FY2014 budget resulted in a 3.49% combined assessment increase in line with the MWRA Advisory Board recommendation. MWRA was able to reduce the rate revenue requirement in the Final budget by \$1.3 million by reducing direct expenses and the optional pension funding related to the new mortality table increases. It is important to note that MWRA level funded direct expenses, which represent approximately 33% of the total expenses, five times in the past six years through cost control, efficiency improvement initiatives, and self-generation of energy.

The FY2014 total expenses are \$658.4 million, of which 60% or \$392.2 million is for capital financing costs, \$214.4 million for direct expenses, and \$46.8 million for indirect expenses. Debt Service remains the largest component of the budget and represents the greatest rate management challenge in the future, as significant debt obligations come due. However, it is encouraging that FY14 begins a new era in that, for the first time, MWRA will be reducing its total bonded indebtedness over the FY14-18 period by paying more principal than spending for capital projects.

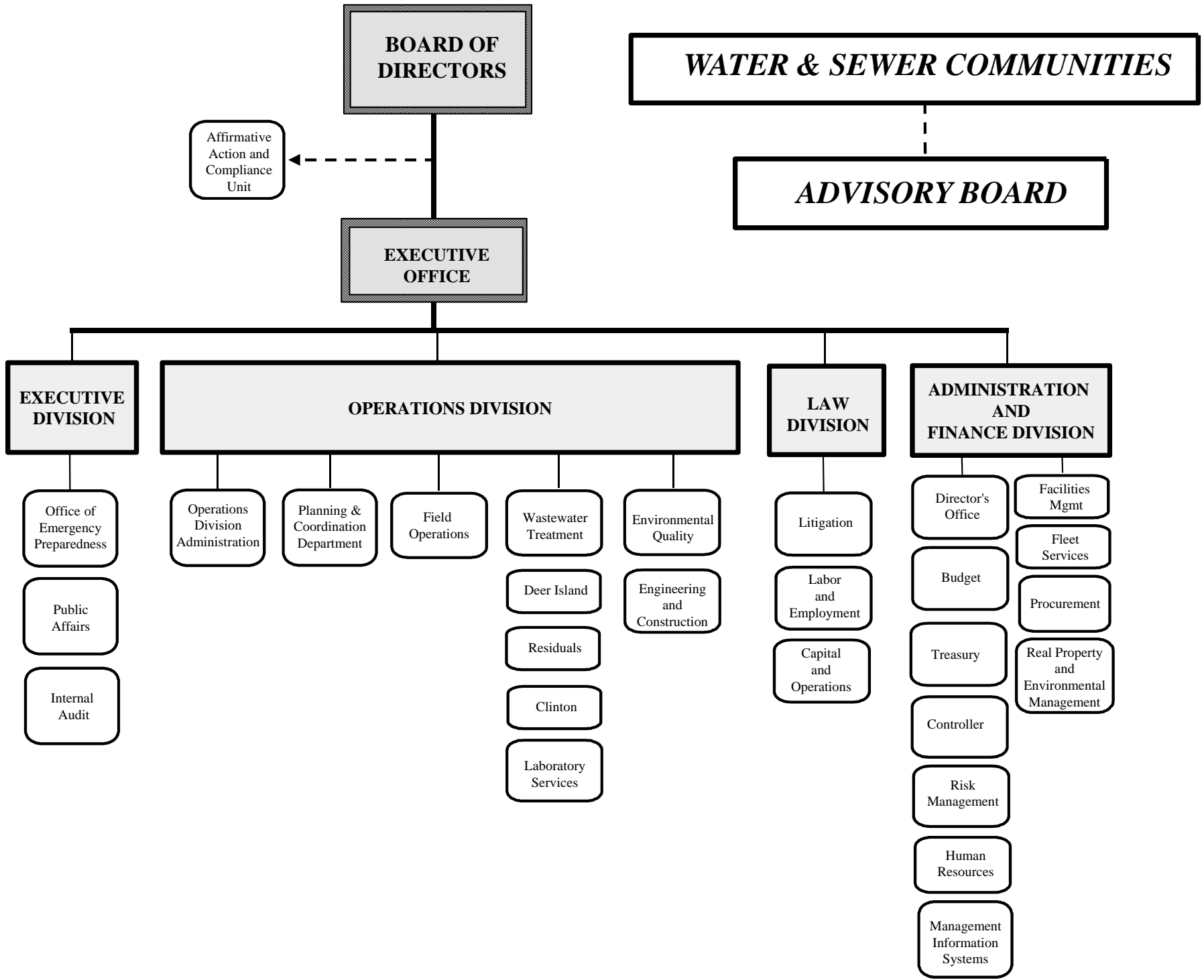
The overall increase from the FY2013 budget is \$22.6 million or 3.5%. In line with MWRA's multi-year rates strategy and past practice, the Authority used the available surplus funds from FY13 to defease debt and thus to achieve targeted rate relief in the most challenging future years.

Additional budget information and a copy of this document are available online at www.mwra.com. Questions or comments on this document should be directed to the MWRA Budget Department at (617) 788-2268.

Thank you for your continued support.

Sincerely,

Frederick A. Laskey
Executive Director



BOARD OF DIRECTORS

WATER & SEWER COMMUNITIES

Affirmative Action and Compliance Unit

ADVISORY BOARD

EXECUTIVE OFFICE

EXECUTIVE DIVISION

OPERATIONS DIVISION

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Internal Audit

Operations Division Administration

Planning & Coordination Department

Field Operations

Wastewater Treatment

Deer Island

Residuals

Clinton

Laboratory Services

Environmental Quality

Engineering and Construction

Litigation

Labor and Employment

Capital and Operations

Director's Office

Budget

Treasury

Controller

Risk Management

Human Resources

Facilities Mgmt

Fleet Services

Procurement

Real Property and Environmental Management

Management Information Systems

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Executive Summary

Executive Summary

MWRA Mission

The Massachusetts Water Resources Authority (MWRA) is an independent authority that provides wholesale water and sewer services to its member communities and funds its operations primarily through user assessments and charges. MWRA's mission is to provide reliable, cost-effective, high-quality water and sewer services that protect public health, promote environmental stewardship, maintain customer confidence, and support a prosperous economy. MWRA's long-term plan emphasizes improvements in service and systems and includes aggressive performance targets for operating the water and wastewater systems and maintaining new and existing facilities.

Parallel to MWRA's goal of carrying out its capital projects and operating programs is its goal of limiting rate increases by working in partnership with its member communities. The need to achieve and maintain a balance between these two goals continues to be the critical issue facing the MWRA.

During the year, MWRA measures actual performance on a monthly basis using various reporting tools. The monthly financial staff summary reports on actual spending versus the budget and provides summary explanations of the variances at the line item level. At least twice a year staff prepares projections for the year-end with a similar level of explanations. The performance indicator reports (the Orange and Yellow Notebooks) capture a variety of parameters regarding performance of each major functional area, on a monthly and quarterly basis.

Overview

Each year, MWRA prepares a budget that reflects the best available information for anticipated expenditures and revenues. MWRA transmitted its FY14 Proposed Budget to the Advisory Board in February. The Advisory Board then has sixty days to review, comment, and provide recommendations. MWRA also hosts a public hearing to solicit comments on the budget and community assessments from citizens in its service area. In June, MWRA's Board of Directors holds hearings on the budget to review recommendations by the Advisory Board and new information available since the budget was developed. Staff incorporates Board decisions from the hearings and presents a final budget for approval in June.

FY14 Final Budget Summary

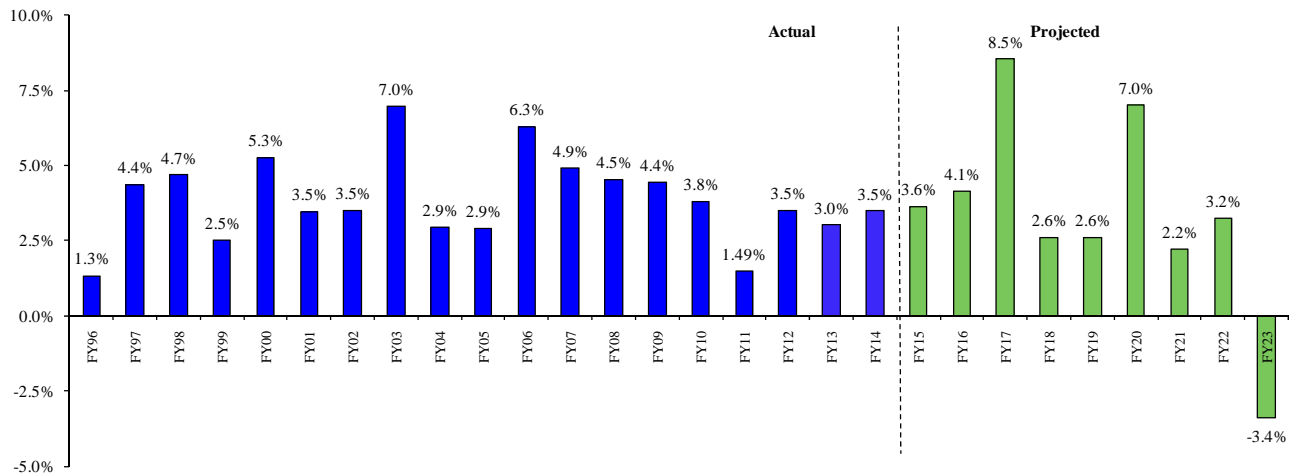
The FY14 Final Budget resulted in a 3.5% final assessment increase versus the 3.9% increase put forth in the FY14 Proposed CEB. MWRA was able to further reduce Indirect Expenses by \$884,000 mainly by cutting the optional Pension payment for the change in mortality tables, lowering Debt Service by \$784,000 to reflect increased defeasance and the latest State Revolving Fund (SRF) structure, and lowering Direct Expenses by \$472,000 mainly to recognize the lower than projected sludge quantities, lower diesel fuel requirements, and updated assumptions for maintenance projects.

However, these measures may not be sustainable in future years.

As MWRA continues to pursue a rate management strategy which promotes predictable and reasonable assessments, many challenges remain, mostly related to Other Post Employment Benefits (OPEB) and Pension related liabilities, and the significant increases projected in FY17 and FY20, mostly driven by the current debt structure.

Based on the FY14 Final Budget, projected future rate changes are depicted in the following chart:

Historical and Projected Rate Revenue Changes



Total expenses of \$658.4 million, \$24.4 million or 3.9% above FY13 Actual Spending. Capital financing costs remain the largest component of the budget and account for 60.3% of total expenses. No Debt Service Assistance (DSA) is assumed for FY14.

Total expenses include \$397.2 million for capital financing costs, 60.3% of total costs, and \$261.2 million or 39.7% for operating expenses, of which \$214.4 million is for direct expenses and \$46.8 million is for indirect expenses. Total expenses increased \$24.4 million or 3.9% from the FY13 actuals, \$17.0 million which comes from increased capital financing expenses and \$7.4 million which comes from higher operating expenses.

The \$17.0 million or 4.5% increase in capital financing expenses before offsets reflects debt service associated with the projected issuances of \$100.0 million in new money in June of 2014 as well as new State Revolving Fund (SRF) debt of \$53.8 million to be issued in FY14. Offsetting these issuances, are the impacts of the FY13 defeasance of \$25.4 million, which is estimated to yield savings of approximately \$1.0 million in FY14, \$10.2 million in FY15, and \$15.1 million in FY16.

The \$7.5 million or 2.9% increase in operating expenses from FY13 Actual Spending is mainly due to wages and salaries of \$4.2 million for negotiated cost of living adjustments (COLA), the decision to make an additional \$1.9 million contribution towards the Authority's Pension liability, Watershed of \$1.2 million mainly for increased Payment in Lieu of Taxes (PILOT) expense and increased operating costs, and higher professional services, maintenance, chemicals, and fringe benefits.

Total Revenues of \$658.4 are budgeted for FY14. The FY14 Final Rate Revenue Requirement is \$628.7 million, an increase of \$21.2 million or 3.5% over the FY13 Rate Revenue Requirement. FY14 non-rate revenues total \$29.7 million, an increase of \$231,000 or 0.8% from FY13 Actual Spending mainly due to a higher use of Rate Stabilization funding and higher Other User Charges of \$420,000 mainly for Chicopee Valley Aqueduct (CVA) adjustments offset by lower Investment Income and lower Other Revenue mainly due to lower energy revenue. The FY14 non-rate revenue budget includes \$11.6 million for Investment Income and \$18.1 million in Other User Charges and Other Revenue –

which includes an estimated \$2.6 million from the sale of renewable energy portfolio credits and participation in demand response programs and \$707,000 in energy revenue from wind, hydroelectric, and solar production.

Table I-1 shows MWRA's FY14 Final Budget for revenue and expenses compared with the FY13 Actual and FY12 Actual. Changes from FY13 to FY14 are described in the Revenue and Expense section of the Executive Summary.

Table I-1

TOTAL MWRA	FY12 Actual	FY13 Actual	FY14 Final	Change	
				FY14 Final vs FY13 Actual	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 89,887,813	\$ 90,658,806	\$ 94,874,284	\$ 4,215,478	4.6%
OVERTIME	3,086,175	3,542,871	3,580,025	37,154	1.0%
FRINGE BENEFITS	17,662,544	17,536,480	18,063,825	527,345	3.0%
WORKERS' COMPENSATION	1,600,726	2,114,701	2,000,000	(114,701)	-5.4%
CHEMICALS	9,271,528	10,139,257	10,671,225	531,968	5.2%
ENERGY AND UTILITIES	22,766,837	23,057,581	22,760,588	(296,993)	-1.3%
MAINTENANCE	26,776,012	26,956,073	27,761,580	805,507	3.0%
TRAINING AND MEETINGS	184,229	320,596	330,917	10,321	3.2%
PROFESSIONAL SERVICES	5,099,517	5,002,664	6,083,402	1,080,738	21.6%
OTHER MATERIALS	5,513,699	6,955,029	5,969,470	(985,559)	-14.2%
OTHER SERVICES	22,985,817	22,323,327	22,278,699	(44,628)	-0.2%
TOTAL DIRECT EXPENSES	\$ 204,834,898	\$ 208,607,384	\$ 214,374,017	\$ 5,766,633	2.8%
INSURANCE	\$ 2,076,962	\$ 2,220,704	\$ 2,093,618	\$ (127,086)	-5.7%
WATERSHED/PILOT	25,629,604	26,004,694	27,214,833	1,210,139	4.7%
HEEC PAYMENT	3,561,130	3,492,064	3,346,854	(145,210)	-4.2%
MITIGATION	1,744,579	1,517,791	1,566,797	49,006	3.2%
ADDITIONS TO RESERVES	195,467	1,398,329	169,304	(1,229,025)	-87.9%
RETIREMENT FUND	5,488,792	10,490,247	7,455,103	(3,035,144)	-28.9%
POSTEMPLOYMENT BENEFITS/ ADDITIONAL PENSION DEPOSIT	1,874,378	-	4,976,411	4,976,411	
TOTAL INDIRECT EXPENSES	\$ 40,570,912	\$ 45,123,829	\$ 46,822,920	\$ 1,699,090	3.8%
DEBT SERVICE (before offsets)	\$ 365,136,323	\$ 380,244,437	\$ 397,226,267	\$ 16,981,830	4.5%
VARIABLE RATE DEBT				-	
BOND REDEMPTION				-	
DEBT SERVICE ASSISTANCE	(384,323)	-	-	-	
TOTAL DEBT SERVICE	\$ 364,752,000	\$ 380,244,437	\$ 397,226,267	\$ 16,981,830	4.5%
TOTAL EXPENSES	\$ 610,157,810	\$ 633,975,651	\$ 658,423,205	\$ 24,447,553	3.9%
REVENUE & INCOME					
RATE REVENUE	\$ 589,700,000	\$ 607,512,000	\$ 628,721,001	\$ 21,209,001	3.49%
OTHER USER CHARGES	7,264,794	7,707,031	8,127,379	420,348	5.5%
OTHER REVENUE	5,655,582	8,173,785	6,444,291	(1,729,494)	-21.2%
RATE STABILIZATION	1,091,780		3,500,000	3,500,000	
INVESTMENT INCOME	16,267,462	13,590,492	11,630,534	(1,959,958)	-14.4%
TOTAL REVENUE & INCOME	\$ 619,979,621	\$ 636,983,308	\$ 658,423,205	\$ 21,439,896	3.4%

FY14 Goals:

- Ensure delivery of reliable and cost-effective water and sewer services to customer communities.
- Continue close monitoring of financial markets to maximize investment income and reduce debt financing obligations while managing overall risk exposure to preserve MWRA's strong credit ratings.
- Continue the Authority's long-term assessment management strategy of providing reasonable and predictable rate increases to MWRA's communities.
- Ensure that water supply and wastewater collection and treatment preserve public health and protect natural resources.
- Provide overall management of the agency and ensure adherence to all applicable policies and regulations.
- Continue to aggressively pursue renewable and sustainable energy resources to reduce the environmental impacts of daily operations, increase energy efficiencies and reduce overall operating costs.
- Plan, develop, implement, and operate efficient, reliable, and economical water treatment/delivery and wastewater transport/treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the Safe Drinking Water Act (SDWA), the Clean Water Act, and National Pollutant Discharge Elimination System (NPDES) permits.
- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner; manage the disposition of surplus real property in an efficient manner; and provide staff and others with current information regarding MWRA's real property rights.
- Timely and cost effective resolution of legal disputes involving MWRA, through litigation or alternative means of dispute resolution.
- Advocacy of MWRA interests in new and developing regulatory issues.
- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation package (salary and benefits) to all employees.

FY14 Initiatives:

- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Develop options and recommendations to ensure predictable, sustainable, and reasonable assessments and charges to our communities.
- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.
- Identify and implement strategies for workforce succession in preparation for expected retirement of many MWRA employees in the upcoming five to ten years.
- Manage the process for negotiating successor collective bargaining agreement with all five collective bargaining unions of the MWRA.

- Continue the implementation of the Strategic IT Study.
- Continue implementation of the electronic procurement (e-procurement) process.

FY13 Accomplishments:

- At DITP, treated 98.9% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations during FY13.
- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively. MWRA's credit ratings from all three major agencies are only one ratings step below the highest rating of AAA. These high credit ratings enable MWRA to borrow at very advantageous interest rates helping to minimize debt service expenses.
- Continued the new construction and rehabilitation of facilities including integrated security and surveillance system improvements.
- Completed the Massachusetts Water Pollution Abatement Trust Pool 17 borrowing. This \$40.6 million borrowing is made at subsidized interest rates contributing to a lower overall cost of debt for the Authority.
- Completed the 2012 Series E, F, and G transaction. These three bond series of \$62.8 million, \$60.3 million, and \$57.8 million respectively replaced the 2008B and 2008C1 variable rate bond series. These bonds were issued as direct competitive placement variable rate bonds. This mode provides additional diversification from liquidity bank risk.
- Completed pricing the 2013A \$170.6 million Refunding for savings transaction for an All-In-True Interest Cost of 2.45%, the lowest in MWRA history to that point. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of \$13.1 million.
- Provided information and worked with communities expressing interest in joining the Authority.
- Distributed a total of \$27.4 million in grants and interest free loans (\$12.3 million in grants and \$15.1 million in loans) to member sewer communities through the Infiltration/Inflow (I/I) Local Financial Assistance Program and \$37.3 million in 10-year interest free loans to member communities as part of the Local Pipeline and Water System Assistance Loan Program.
- Received revenue for energy generated at numerous facilities including the following: hydroelectric \$281,000 from Oakdale Station, \$204,000 from Cosgrove Station, and \$33,000 from the Loring Road Pump Station; solar \$92,000 from CWTP; wind \$344,000 from Charlestown Pump Station.
- Competitively bid Renewable Energy Portfolio Standard certificates which resulted in FY13 revenues of \$486,000 (Class II). In addition, received FY13 revenues of \$1.4 million from forward marketing of CY12 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates.
- Continued to leverage MWRA's self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) credits resulted in \$2.4 million in revenue for FY13. Deer Island also self-generated ~26% of the plant's total required power during that period.

- Awarded the following major contracts in FY13: DITP Expansion Joint Repair Construction 2; Sudbury Aqueduct Pressurization and Connections; Letters of Credit, Liquidity Facilities or Direct Purchases; Nut Island Switchgear Modifications; Caruso Pump Station Improvements Design; Wachusett Aqueduct Emergency Interconnection Valves; DITP Concrete Steel Restoration and Coating, Phase IV; North Dike Tree Removal at Wachusett Reservoir; and DITP Replacement of Four Gravity Thickener Center Columns; Disclosure Counsel Services; DITP North Main Pump Station ESDC/REI; Quabbin UV Disinfection; Security Improvements at Various Facilities Design; Quabbin UV Disinfection Facilities; DITP Waste Sludge Centrifuges Power and Control Systems Upgrade; Roof Replacement Bellevue and New Neponset Pump Station; DITP Electrical Equipment Upgrade Construction 4; Rehab of WASM 3 Design; and Audit Services; Automatic Vehicle Locator Tracking System; Gillis Pump Station Short Term Improvements; and Nut Island Electrical Improvements.

Advertised or received bids/proposals/statements for the following: DITP Pipe Supports for Sludge Pipelines; DITP Roofing Replacement; Clinton WTP Phosphorus Reduction Design; DITP Replacement of Scum Skimmers; Storm Pump Gear Box and Diesel Engine Upgrade; and Webster Avenue Pipe Replacement Design.

- Directed the development of the next five-year CIP cap which is significantly lower than the prior two (2) caps, reflecting the changing nature of the capital program from mandated projects to asset protection and water redundancy initiatives.
- Procured Energy Management System for Southborough facility and LED outdoor lighting retrofits for numerous water and wastewater facilities. Completed indoor lighting retrofits at the Cottage Farm and Prison Point wastewater facilities. Completed energy audits at six MWRA facilities in the southern system.
- Commenced implementation of the IT Study recommendations.
- Procured the Authority's vehicle purchases at the beginning of Fiscal Year 2013 including 33 vehicles procured through the use of a "Reverse Auction" format.
- Began preparation for development and implementation of an electronic procurement (e-procurement) process for construction contracting based upon Lawson Strategic Sourcing.
- Successfully negotiated and implemented an agreement with all five collective bargaining units regarding the use of an Automated Vehicle Locator Tracking System at MWRA.
- Managed nine (9) permit agreements (six at Turkey Hill and three at Walnut Hill). Coordinated with Operations for approval of the equipment changes and improving the invoicing system for maintenance reimbursements. Total revenue for the nine agreements is \$490,700 of which MWRA and the host community each receive half. Currently renegotiating five of the nine permit agreements which are due for renewal.
- Identified \$3.1 million in savings related to: internal audits, management advisory services, consultant audits, construction labor burden reviews, a construction claim settlement, review of three CSO financial assistance agreements, the early termination of two janitorial services contracts, and the true-up of CY 2011 and 2012 HEEC billings.
- Recycled 36.61 tons of paper, 222.60 tons of scrap metal, and 5777.36 pounds of brass, copper, stainless steel and aluminum, generating \$62,767 in revenues.
- The TRAC Department completed the following Environmental Protection Agency (EPA)-required work for significant industrial users: 122 inspections, 23 monitoring events, and 284 sampling of connections. This department also issued or renewed 101 permits to Significant Industrial Users (SIUs) and non-SIUs.

- Met all water quality and treatment standards for giardia in the drinking water system during the first six months of FY13. Also, maximum turbidity results at Quabbin and Wachusett were within DEP standards.
- Successfully negotiated a successor lease agreements for Charlestown Navy Yard (CNY) headquarters which resulted in budgetary savings.
- In the wastewater system, inspected 32.25 miles and cleaned 28.7 miles of MWRA pipeline. Also inspected 1,168 structures and rehabilitated 132 manholes.
- In the water system, exercised 988 and replaced 23 mainline valves and exercised 521 and replaced 15 blow-off valves.

SOURCES AND USES OF FUNDS

MWRA funds its operations primarily through member community assessments. Funds supporting the current expense budget are not subject to appropriation with the exception of debt service assistance. Table I-2 shows MWRA's sources and uses of funds for the FY14 Final Budget.

Table I-2

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$8.1	1.2%
Other Revenue	6.4	1.0%
Investment Income	11.6	1.8%
Rate Revenue	628.7	95.5%
Rate Stabilization	3.5	0.5%
TOTAL REVENUE	\$658.4	100.0%
<i>Uses of Funds</i>		
Total Expenses before Debt		
Service Offsets	\$658.4	
Less:		
Debt Service Assistance	0.0	
Bond Redemption	0.0	
Sub-Total Net Expenses	658.4	
Capital Financing	397.2	60.3%
Direct Expenses	214.4	32.6%
Indirect Expenses	46.8	7.1%
TOTAL EXPENSES	\$658.4	100.0%
TOTAL EXPENSES Less Offsets	\$658.4	

*May not add up due to rounding

Revenue

MWRA is required by its enabling act to balance its budget each year by establishing user assessments for water and sewer services that provide funds sufficient to recover the cost of operations (excluding depreciation), maintenance and improvements, and debt service, as well as meeting required reserve levels.

In the FY14 Final Budget, 95.5% of revenue is derived from rate revenue. The remaining 4.5% of revenue will come from interest on investments, charges to other water and sewer customers, non-recurring revenue, annual charges to sewer system users with permits issued by MWRA's Toxic Reduction and Control Department (TRAC), penalties assessed to holders of sewer use permits, and other miscellaneous sources.

Rate Revenue

Under the FY14 Final Budget, the MWRA will raise \$628.7 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$628.7 million, \$425.5 million will fund the sewerage system, an increase of 3.4% as compared to FY13; and \$203.2 million will fund the water system, an increase of 3.7% as compared to FY13.

Non-Rate Revenue

Other User Charges

Other User Charges include revenues derived from the provision of water and sewer services to communities and other entities under special agreements. Other User Charges in the FY14 Final Budget total \$8.1 million, an increase of \$420,000 or 5.5% from FY13 Actual Spending and includes \$4.6 million paid by the Chicopee Valley Aqueduct communities, \$1.5 million for the transfer of the water used at Deer Island, \$651,000 in entrance fees paid by Stoughton and Wilmington, \$500,000 for the Commonwealth's partial reimbursement for Clinton Wastewater Treatment Plant expenses, \$474,000 in water revenue, and \$339,000 in sewer revenue to contract communities.

Other Revenue

Other Revenue is budgeted at \$6.4 million, a decrease of \$1.7 million or 21.2% from the FY13 Actual Spending, reflecting unplanned revenues totaling over \$2.0 million recorded in FY13 including, \$724,000 for sale of land in Chelsea and surplus vehicles and equipment, \$712,000 for Miscellaneous Revenue (including NSTAR and a variety of other vendor rebates and other smaller items), \$433,000 for Federal Emergency Management Agency (FEMA) reimbursements, and \$239,000 for higher net energy related revenue mostly for Charlestown Wind and Renewable Portfolio Standard (RPS) sales.

Other Revenue includes \$3.3 million for the sale of Renewable Portfolio Credits, sale of generated power, and revenues for demand response programs, in addition to \$2.3 million in permit fees and penalties.

Permit Fees and Penalties

The FY14 Final Budget includes \$2.3 million in fees charged to industries that discharge toxic materials into the MWRA sewer system. These permit fees partially offset the annual costs of permitting, inspecting, and monitoring these industries.

Miscellaneous Revenue

The FY14 Final Budget includes \$4.1 million in miscellaneous revenues of which \$3.3 million pertains to the Authority's energy programs for the sale of Renewable Portfolio Standard credits, participation in the demand response program, and the sale of power including hydro, wind, and solar generated at various MWRA's facilities as well as large number of miscellaneous revenue items.

Investment Income

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The FY14 Budget includes \$11.6 million in investment income, a decrease of \$2.0 million or 14.4% from FY13 Actual Spending due lower average fund balances and lower short-term interest rate projections. The FY14 short-term interest rate is 0.20%, 20 basis points less than the FY13 Budget of 0.40%.

Non-Recurring Revenue

Non-Recurring Revenue is one-time revenue used in a given fiscal year to reduce assessments to member communities. In any fiscal year when annual revenues exceed expenses, MWRA may transfer the unexpended amount to the rate stabilization reserve. Within certain limits, MWRA may use this money to reduce the Rate Revenue Requirement in any subsequent year. Consistent with the requirements of its enabling act and its general bond resolution, MWRA treats transfers from the rate stabilization reserve as revenue in that fiscal year. For the FY14 Final Budget, \$3.5 million in Rate Stabilization fund usage is projected.

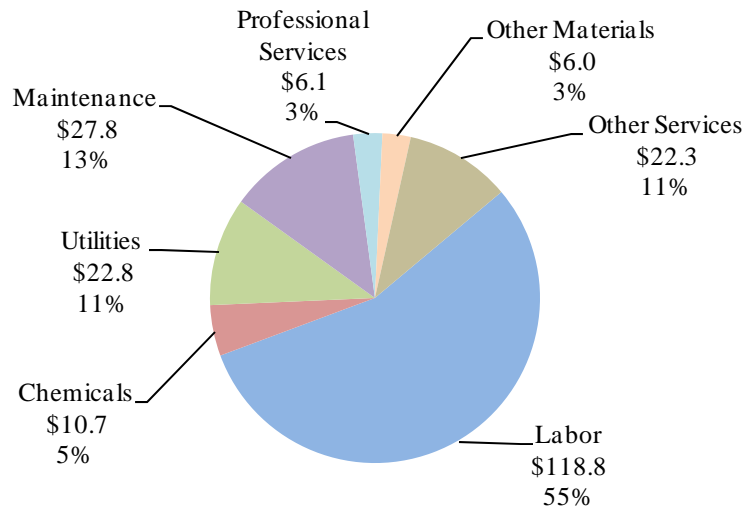
Direct Program Expenses

The FY14 Final Direct Expense Budget is \$214.4 million, \$5.8 million or 2.8% above FY13 Actual Spending. The principal drivers for the increase are wages and salaries due to wage increases, professional services due to lower than projected need in FY13 and newly identified initiatives for FY14, maintenance due to increased projects, chemicals due to pricing, and fringe benefits due to increased rates offset by lower headcount funding, other materials due to FY13 one-time purchase of radios, and lower electricity due to FY13 congestion pricing during the winter heating season. MWRA continues to manage direct expenses through implementing cost improvement initiatives, such as cross-training staff, competitive purchase of energy and chemicals, lease space reductions, and increased self-generation of electricity.

Line Item Budget Summary

Figure I-1 combines related direct expense line items into general cost categories and shows that labor costs (wages and salaries, overtime, fringe benefits, workers' compensation and training and meetings) are the largest component of the direct expense budget 55%, followed then by maintenance 13%, other services 11%, and utilities 11%.

FIGURE I-1
Direct Expenses by Category
(in millions)



- Wages and Salaries** – The FY14 Final Budget includes \$94.9 million for wages and salaries as compared to \$90.7 million, an increase of \$4.2 million or 4.6% over FY13 Actual Spending largely due to contractual agreements, lower than budgeted headcount in FY13, and the mix effect of salaries of those retiring being generally higher than new hires. Of the \$94.9 million, \$93.0 million is for regular pay. The final budget assumes a headcount of 1,175 funded positions, 20 positions lower than the FY13 Budget. As always, new hires and backfills of vacant positions will be managed at the senior management level and addressed on a case-by-case basis.
- Overtime** – The FY14 Final Budget includes \$3.6 million for overtime, essentially level funded with the FY13 Actual Spending. The FY14 Budget assumes overtime will be limited to coverage, emergencies, and critical maintenance projects.
- Fringe Benefits** – The FY14 Final Budget includes \$18.1 million for fringe benefits, an increase of \$527,000 or 3.0% from FY13 Actual Spending mainly due to increased healthcare and dental costs.
- Workers' Compensation** – The FY14 Final Budget includes \$2.0 million for workers' compensation, a decrease of \$115,000 or 5.4% from FY13 Actual Spending. The FY14 Final Budget is based on the average actual spending for FY10-12.
- Chemicals** – The FY14 Final Budget includes \$10.7 million for chemicals, an increase of \$532,000 or 5.2% from FY13 Actual Spending. The majority of the increase in the budget is due to projected chemical cost increases and increased usage of several chemicals based on historical trends and dosing changes.

- **Utilities** – The FY14 Final Budget includes \$22.8 million for utilities, a decrease of \$297,000 or 1.3% from FY13 Actual Spending mainly due to lower projected pricing for electricity in FY14 than in FY13 offset by higher costs for natural gas and diesel fuel. The budget assumes funding of \$16.3 million for electricity, \$3.6 million for diesel fuel, \$2.0 million for water and \$628,000 for natural gas. The FY14 Final energy and utilities budget reflects the most recent pricing outlook based on energy futures and the latest bids for contracts and updated assumptions for self-generation at Deer Island, green energy initiatives, along with efficiency improvements in Field Operations.
- **Maintenance** – The FY14 Final Budget includes \$27.8 million for maintenance projects, an increase of \$806,000 or 3.0% from FY13 Actual Spending. FY13 Actual Spending was lower than projected due to the large number of capital maintenance projects that were underway in FY13 to the large number of capital projects that were being addressed.
- **Training and Meetings** – The FY14 Final Budget includes \$331,000 for training initiatives, and is primarily level funded with FY13 Actual Spending.
- **Professional Services** – The FY14 Final Budget \$6.1 million for professional services, an increase of \$1.1 million or 21.6% from FY13 Actual Spending mainly due to lower than projected need in FY13 and new initiatives identified for FY14. The budget reflects funding for Security of \$1.8 million, regulatory monitoring of \$1.7 million, and Other professional services funding of \$1.2 million to support items such as the Authority-wide MIS initiatives, Treasury outside consulting support services, and energy audits.
- **Other Materials** – The FY14 Final Budget includes \$6.0 million for other materials, a decrease of \$986,000 or 14.2% from FY13 Actual Spending mainly due to the FY13 purchase of radios. The budget includes funding of \$1.7 million for vehicle purchases, \$1.1 million for vehicle expenses mostly for gasoline purchases, \$808,000 for lab and testing supplies, \$540,000 for equipment and furniture, and \$437,000 for computer hardware needs.
- **Other Services** – The FY14 Final Budget includes \$22.3 million for other services, which is level funded with FY13 Actual Spending. The budget includes funding of \$13.8 million for sludge pelletization, \$3.3 million for Space/Lease Rentals and related expenses for the CNY and Chelsea facilities, and \$1.4 million for voice and data costs. The largest decrease, or \$350,000, is related to Space Lease/Rentals due to the favorable negotiation of the Charlestown Navy Yard facility lease.

Functional Area Budget Summary

For a broader perspective on MWRA's direct expense budget, Figure I-2 presents direct expenses by MWRA functional area and shows that 46% of the FY14 direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution.

FIGURE I-2
Direct Expenses by Functional Area

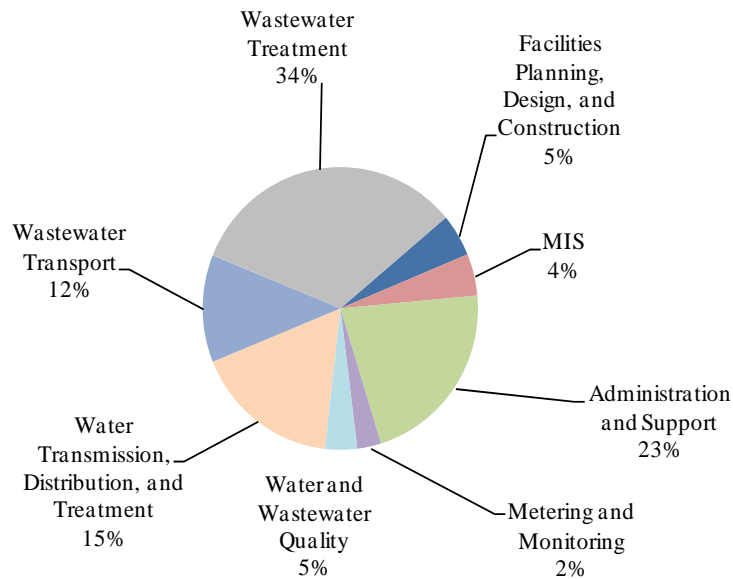
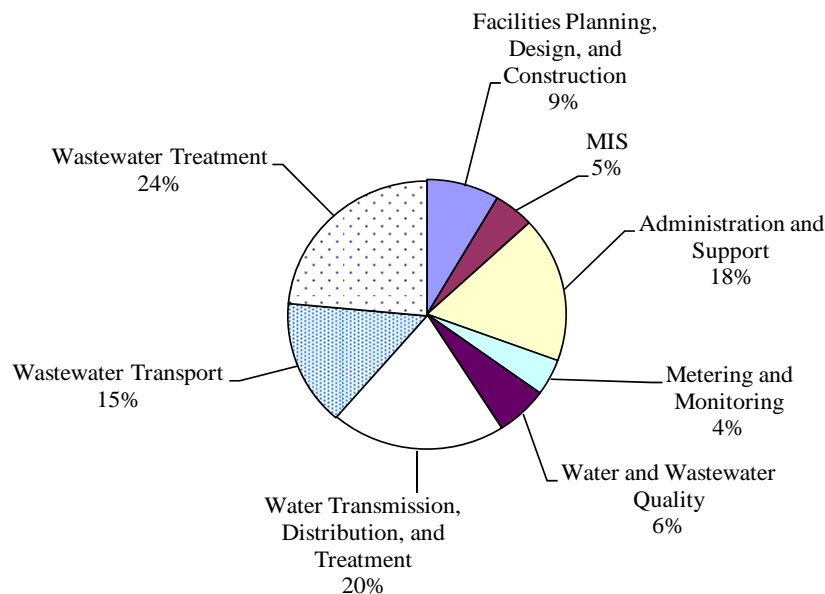


Figure I-3 on the following page illustrates staffing by Functional Area and shows the breakdown of the 1,172 filled positions as of June 2013. Of the 1,175 funded positions, 58% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 23% to administration and support and MIS functions, and 9% to facilities planning, design, and construction. Water and Wastewater Quality functions and Meter and Monitoring account for the remaining 10% of staff.

FIGURE I-3
Staffing by Functional Area



Indirect Expenses

The FY14 Budget Indirect Expenses total \$46.8 million, an increase of \$1.7 million or 3.8% above FY13 Actual Spending. Below are the highlights of major changes:

- The FY14 Final Budget includes \$27.2 million for the Department of Conservation and Recreation (DCR) Office of Watershed Management, an increase of \$1.2 million or 4.7% over FY13 Actual Spending mainly due to increased Payment in Lieu of Taxes (PILOT) payments and operating expenses. The budget is comprised of \$13.4 million for reimbursement of operating expenses net of revenues, \$8.2 million for Payment in Lieu of Taxes (PILOT), and \$5.6 million for debt service expenses on prior land purchases financed by the Commonwealth.
- The FY14 Final Budget includes \$12.4 million for the Pension Fund, an increase of \$1.9 million or 18.5% over the FY13 contribution. Of the \$12.4 million contribution, \$5.9 million represents the minimum required contribution for FY14 based on the most recent actuarial evaluation of January 1, 2011, \$1.6 million reflects recognition of the projected increases associated with the revised mortality tables, and \$5.0 million represents the redirection of Other Post Employment Benefit (OPEB) funding included in the FY14 Proposed Budget to the Pension Fund.
- The FY14 Final Budget includes \$3.3 million for the Harbor Energy Electric Company (HEEC), a decrease of \$145,000 or 4.2% from FY13 Actual Spending primarily due to lower than projected maintenance costs. The majority of funding is for the contractual repayment of the capital investment of the Deer Island electric cable and substation which provides electric power to the treatment plant.
- The FY14 Final Budget includes \$2.1 million for Insurance, a decrease of \$127,000 or 5.7% from FY13 Actual Spending primarily due to lower than projected premiums in FY13. The FY14 Final Budget was based on actual average spending for the past five years, FY08-12.
- The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved a strategy to aggressively pay down our pension liability and upon reaching full funding, move to address the OPEB obligation. This strategy was employed in the FY08, FY09, FY10, FY12, and FY13 Budgets. It was temporarily halted in FY11 to achieve a 1.5% rate increase. In an effort to restore the Authority's long-term commitment for its liabilities, \$5.0 million of the estimated OPEB liability, has been included as an optional payment to the Pension Fund in the FY14 Budget.

Capital Financing

Outstanding Debt and Debt Management

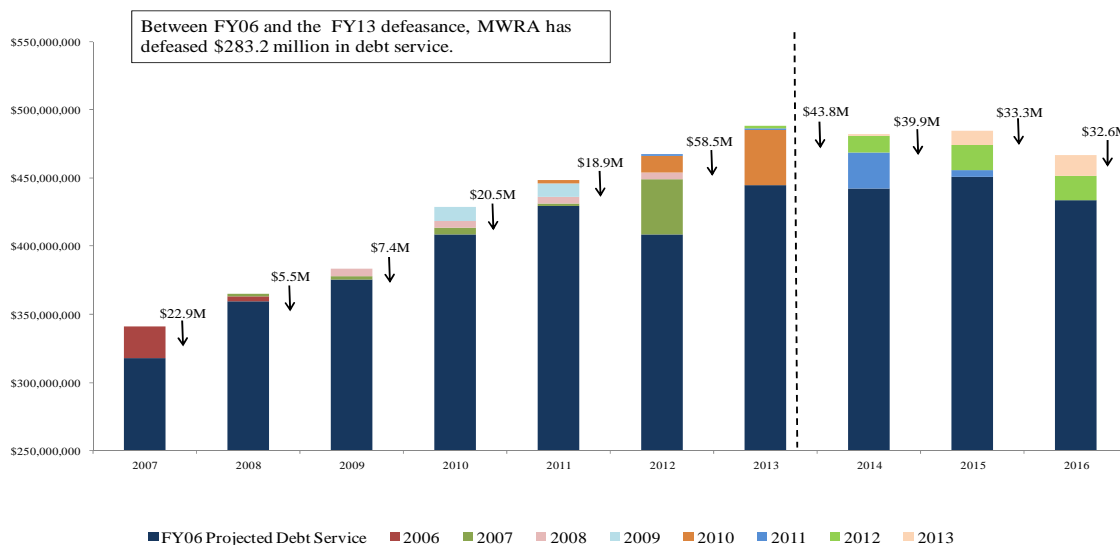
The \$7.6 billion spent on MWRA's modernization efforts to date, has relied heavily on debt financing. Total debt as of June 30, 2013 was \$5.8 billion consisting of senior and subordinated debt, as well as Tax-Exempt Commercial Paper. The MWRA enjoys strong unenhanced senior debt ratings of Aa1, AA+, and AA+ from Moody's, Standard & Poor, and Fitch, respectively.

As a result of the Authority's Capital Improvement Program, debt service as a percentage of total expenses (before offsets) has increased steadily from 36% in 1990 to 60% in the FY14 Final Budget. Much of this debt service is for completed projects, primarily the Boston Harbor Project and the Integrated Water Supply Improvement Program. The MWRA's capital spending, from its inception, has been dominated by projects mandated by court order or regulatory requirements, which in total have accounted for 80% of capital spending to date. Going forward, and as the Combined Sewer Overflow (CSO) project winds down, greater emphasis and spending will be focused on asset protection and water redundancy initiatives.

The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates include current and advanced refunding of outstanding debt, maximizing the use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, swap agreements, and the use of surplus revenues to defease debt. The MWRA also uses Tax Exempt Commercial Paper to minimize the financing cost of construction in process.

In June 2013, MWRA executed a \$25.4 million defeasance to achieve debt service reductions through the use of FY13 surplus funds. These actions will result in debt service reductions of \$1.0 million in FY14, \$10.2 million in FY15, and \$15.1 million in FY16.

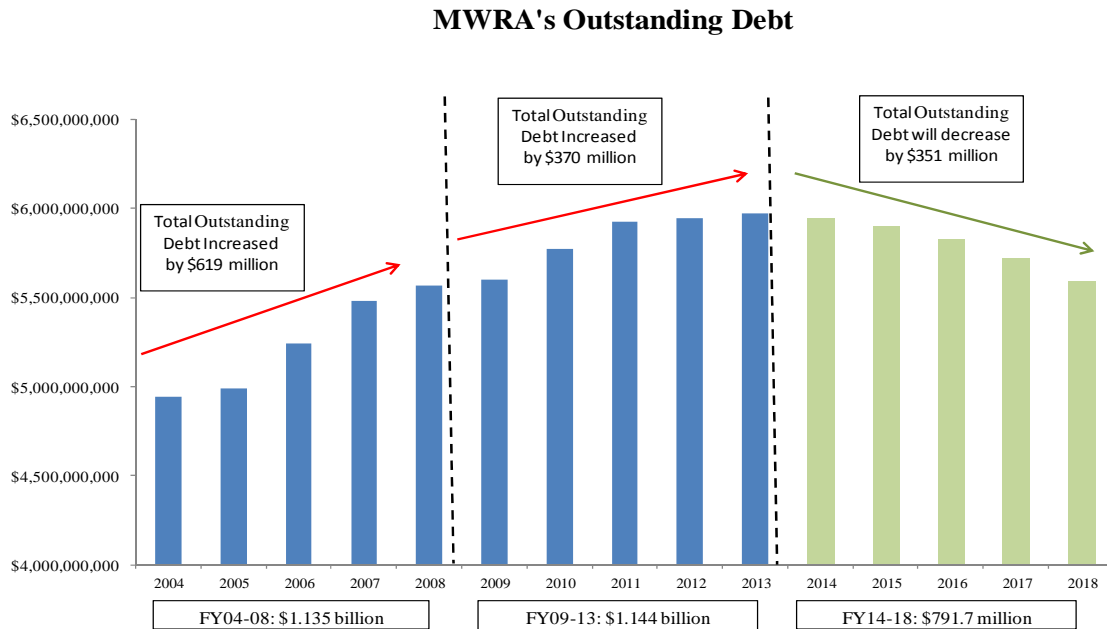
**Impact of Defeasances
FY06 - FY13**



As shown on the chart above, since 2006 the Authority has used defeasances to reduce future year's debt service requirements by \$283.2 million.

As presented in the FY14 CIP staff summary, FY14 represents a significant milestone in that the Authority established the lowest five-year spending cap for the FY14-18 period since 1990, resulting in lower borrowing requirements in future years.

Most importantly, MWRA will be reducing its total bonded indebtedness over the next five years as illustrated in the graph below.



The FY14 Final capital financing costs total \$397.2 million and remain the largest portion of the MWRA's budget, accounting for 60.3% of total expenses. No Debt Service Assistance (DSA) has been included in the FY14 Final Budget.

The FY14 Final capital financing costs increased by \$17.0 million or 4.5% compared to the FY13 Actual Spending.

The FY14 Final capital financing budget includes:

- \$204.5 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$1.1 million to support issuance of \$100 million in June 2014;
- \$100.1 million in principal and interest payments on subordinate bonds;
- \$76.0 million in principal and interest payments on State Revolving Fund (SRF) loans. This amount includes \$3.7 million to support issuances of \$53.8 million in FY14;

- \$9.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$4.1 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and
- \$3.2 million for the Chelsea Lease.

The FY14 Final Budget assumes a 3.25% interest rate for variable rate debt which is the same level as in FY13. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series, liquidity fees for the Standby Bond Purchase Agreement or Letter of Credit providers, and remarketing fees. While MWRA continues to experience unusually low interest rates, they are not reflective of historical averages and there is no guarantee that rates will stay low.

Table I-3 on the following page provides detail on the FY14 Final Budget capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Over 70% of the FY14 capital financing is for wastewater improvements. Current and future borrowings increasingly support improvements to the water system. A complete list of the Authority's indebtedness by series is presented in Appendix F.

	Amount Outstanding	Total FY14 Capital Costs	Sewer	Water
Total SRF ¹ Debt	\$1,109.6	\$76.0	\$60.6	\$15.4
Total Senior Debt	\$3,522.7	204.5	128.2	76.2
Total Subordinate Debt	\$1,071.5	100.1	81.6	18.6
Total SRF and Debt Service²	\$5,703.9	\$380.5	\$270.4	\$110.2
Water Pipeline Commercial Paper	144.0	4.1	0.0	4.1
Current Revenue/Capital ³		9.2	8.4	0.8
Capital Lease		3.2	2.0	1.3
CORE Fund Deposit ⁴		0.1	-4.6	4.7
Sub-Total	144.0	\$16.7	\$5.7	\$10.9
Total Capital Financing (before Debt Service Offsets)	5,847.9	\$397.2	\$276.1	\$121.1
Debt Service Offsets:				
Debt Service Assistance	0.0	0.0	0.0	0.0
Total Capital Financing	5,847.9	\$397.2	\$276.1	\$121.1

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² Numbers may not add due to rounding.

³ Current Revenue/Capital is revenue used to fund ongoing capital projects.

⁴ CORE Fund Deposit sewer/water split reflects the balancing of the account required whenever new deposits are made. Last deposit was in 2002.

Community Profile and Assessments

MWRA provides wholesale water and sewer services to 61 communities or local bodies. Fifty-one local bodies purchase water supply services, and 45 local bodies purchase wastewater transport and treatment services. Thirty-five local bodies purchase both. Approximately 2.8 million people, or 43% of the population of Massachusetts, live and work in the communities that purchase water and/or wastewater services from MWRA.

MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the FY14 Final Budget, rate revenue from BWSC will account for 31% of MWRA's total rate revenue. Table I-4, on page I-18, lists MWRA communities, the services received, and the MWRA assessments for FY14.

Each year MWRA determines preliminary wholesale water and sewer assessments in February and final assessments in June before the beginning of the new fiscal year. These assessments must satisfy the statutory requirement that MWRA fully recover its budgeted water and sewer costs by apportioning net costs among its wholesale water and sewer customers.

Table I-5 on page I-19 presents the calculation of MWRA's FY14 Rate Revenue Requirement. The table shows that most of MWRA's current expenses are directly attributable to either water or sewer service costs, or to investment in the water or sewer systems. Expenses that support both systems are allocated to water or sewer assessments based on generally accepted cost allocation principles. The allocation methodology used in preparing the FY14 Final Budget was revised prior to FY02 to more accurately estimate the division of support costs between the water and sewer programs. Investment Income and Other Revenues offset water and sewer expenses. The resulting net cost of water and sewer services is the amount MWRA recovers through water and sewer assessments.

Wholesale Assessment Methodology

MWRA calculates separate user assessments for water and sewer services. Budgeted water operating and capital costs are allocated based on each community's share of total water use for the most recent calendar year. The sewer assessment methodology allocates budgeted operating and maintenance costs based on share of wastewater flow and strength parameters, and capital costs based on proportion of maximum flow, strength, and population. MWRA uses three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. Flow averaging moderates the short-term impact of year-to-year changes in community flow, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.

Table I-4

**Massachusetts Water Resources Authority
Final FY14 Water and Sewer Assessments**

25-Jun-13

MWRA Fully Served Water and Sewer Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
ARLINGTON	\$4,706,235	\$4,553,819	-3.2%	\$7,404,065	\$7,661,286	3.5%	\$12,110,300	\$12,215,105	\$104,805	0.9%
BELMONT	2,263,350	2,516,559	11.2%	4,593,647	4,652,803	1.3%	6,856,997	7,169,362	312,365	4.6%
BOSTON (BWSC)	71,651,462	73,408,095	2.5%	116,347,350	122,165,554	5.0%	187,998,812	195,573,649	7,574,837	4.0%
BROOKLINE	5,656,061	5,906,771	4.4%	12,401,739	12,675,295	2.2%	18,057,800	18,582,066	524,266	2.9%
CHELSEA	3,406,236	3,524,702	3.5%	6,451,121	6,833,214	5.9%	9,857,357	10,357,916	500,559	5.1%
EVERETT	4,334,567	4,486,488	3.5%	7,243,065	7,612,435	5.1%	11,577,632	12,098,923	521,291	4.5%
FRAMINGHAM	7,355,228	7,645,878	4.0%	10,385,748	10,691,353	2.9%	17,740,976	18,337,231	596,255	3.4%
LEXINGTON	5,145,927	5,555,065	8.0%	6,954,177	7,014,300	0.9%	12,100,104	12,569,365	469,261	3.9%
MALDEN	6,053,825	6,264,071	3.5%	11,319,673	11,761,795	3.9%	17,373,498	18,025,866	652,368	3.8%
MEDFORD	5,534,818	5,520,265	-0.3%	10,766,699	10,943,641	1.6%	16,301,517	16,463,906	162,389	1.0%
MELROSE	2,405,858	2,519,249	4.7%	5,437,804	5,648,906	3.9%	7,843,662	8,168,155	324,493	4.1%
MILTON	2,718,549	2,834,490	4.3%	4,985,169	4,999,997	0.3%	7,703,718	7,834,487	130,769	1.7%
NEWTON	9,695,370	10,333,024	6.6%	19,917,866	20,152,363	1.2%	29,613,236	30,485,387	872,151	2.9%
NORWOOD	3,372,954	3,133,277	-7.1%	5,967,178	6,147,982	3.0%	9,340,132	9,281,259	(58,873)	-0.6%
QUINCY	9,889,803	10,147,276	2.6%	18,073,247	18,635,986	3.1%	27,963,050	28,783,262	820,212	2.9%
READING	1,811,212	1,854,203	2.4%	4,326,182	4,499,328	4.0%	6,137,394	6,353,531	216,137	3.5%
REVERE	4,362,470	4,353,201	-0.2%	9,486,795	9,920,985	4.6%	13,849,265	14,274,186	424,921	3.1%
SOMERVILLE	6,167,896	6,440,071	4.4%	13,887,278	14,595,600	5.1%	20,055,174	21,030,676	980,497	4.9%
STONEHAM	3,104,419	3,262,031	5.1%	4,357,938	4,452,189	2.2%	7,462,357	7,714,220	251,863	3.4%
WALTHAM	7,792,300	7,809,194	0.2%	12,485,924	12,759,248	2.2%	20,278,224	20,568,442	290,218	1.4%
WATERTOWN	2,925,467	2,945,405	0.7%	5,471,720	5,654,172	3.3%	8,397,187	8,599,577	202,390	2.4%
WINTHROP	1,387,397	1,429,691	3.0%	3,036,088	3,161,934	4.1%	4,423,485	4,591,625	168,140	3.8%
TOTAL	\$171,741,404	\$176,442,825	2.7%	\$301,300,473	\$312,640,366	3.8%	\$473,041,877	\$489,083,191	\$16,041,314	3.4%

MWRA Sewer and Partial Water Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
CANTON	\$2,138,489	\$1,414,000	-33.9%	\$3,313,092	\$3,460,713	4.5%	\$5,451,581	\$4,874,713	(\$576,868)	-10.6%
NEEDHAM	964,345	1,271,018	31.8%	5,381,187	5,423,810	0.8%	6,345,532	6,694,828	349,296	5.5%
STOUGHTON	700,394	758,402	8.3%	4,420,052	4,364,713	-1.3%	5,120,446	5,123,115	2,669	0.1%
WAKEFIELD	1,617,772	1,604,779	-0.8%	5,512,303	5,549,601	0.7%	7,130,075	7,154,380	24,305	0.3%
WELLESLEY	854,839	1,423,735	66.6%	5,078,134	5,246,821	3.3%	5,932,973	6,670,556	737,583	12.4%
WILMINGTON	296,556	125,176	-57.8%	2,241,570	2,408,266	7.4%	2,538,126	2,533,442	(4,684)	-0.2%
WINCHESTER	974,666	1,127,860	15.7%	3,634,180	3,718,082	2.3%	4,608,846	4,845,942	237,096	5.1%
WOBURN	2,535,816	3,549,339	40.0%	8,959,770	9,134,120	1.9%	11,495,586	12,683,459	1,187,873	10.3%
TOTAL	\$10,082,877	\$11,274,309	11.8%	\$38,540,288	\$39,306,126	2.0%	\$48,623,165	\$50,580,435	\$1,957,270	4.0%

MWRA Sewer-only Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
ASHLAND				\$2,081,319	\$2,175,735	4.5%	\$2,081,319	\$2,175,735	\$94,416	4.5%
BEDFORD				2,909,153	2,968,529	2.0%	2,909,153	2,968,529	59,376	2.0%
BRAINTREE				7,597,309	7,759,278	2.1%	7,597,309	7,759,278	161,969	2.1%
BURLINGTON				4,723,848	4,846,498	2.6%	4,723,848	4,846,498	122,650	2.6%
CAMBRIDGE				20,768,232	21,224,419	2.2%	20,768,232	21,224,419	456,187	2.2%
DEDHAM				4,864,300	4,924,268	1.2%	4,864,300	4,924,268	59,968	1.2%
HINGHAM SEWER DISTRICT				1,513,205	1,562,020	3.2%	1,513,205	1,562,020	48,815	3.2%
HOLBROOK				1,434,900	1,495,280	4.2%	1,434,900	1,495,280	60,380	4.2%
NATICK				4,634,401	4,903,457	5.8%	4,634,401	4,903,457	269,056	5.8%
RANDOLPH				5,393,673	5,561,761	3.1%	5,393,673	5,561,761	168,088	3.1%
WALPOLE				3,300,822	3,373,364	2.2%	3,300,822	3,373,364	72,542	2.2%
WESTWOOD				2,317,405	2,362,136	1.9%	2,317,405	2,362,136	44,731	1.9%
WEYMOUTH				10,131,271	10,400,989	2.7%	10,131,271	10,400,989	269,718	2.7%
TOTAL				\$71,669,838	\$73,557,734	2.6%	\$71,669,838	\$73,557,734	\$1,887,896	2.6%

MWRA Water-only Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
LYNNFIELD WATER DISTRICT	\$401,149	\$467,594	16.6%				\$401,149	\$467,594	\$66,445	16.6%
MARBLEHEAD	1,825,752	1,990,555	9.0%				1,825,752	1,990,555	164,803	9.0%
NAHANT	309,977	349,194	12.7%				309,977	349,194	39,217	12.7%
SAUGUS	3,151,506	2,963,455	-6.0%				3,151,506	2,963,455	(188,051)	-6.0%
SOUTHBOROUGH	595,717	695,113	16.7%				595,717	695,113	99,396	16.7%
SWAMPSCOTT	1,661,956	1,781,628	7.2%				1,661,956	1,781,628	119,672	7.2%
WESTON	1,684,844	1,898,881	12.7%				1,684,844	1,898,881	214,037	12.7%
TOTAL	\$9,630,901	\$10,146,420	5.4%				\$9,630,901	\$10,146,420	\$515,519	5.4%

MWRA Partial Water-only Customers	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
DEDHAM-WESTWOOD WATER DISTRICT	\$28,781	\$124,703	333.3%				\$28,781	\$124,703	\$95,922	333.3%
LYNN (LWSC)	259,592	242,626	-6.5%				259,592	242,626	(16,966)	-6.5%
MARLBOROUGH	2,753,457	3,184,761	15.7%				2,753,457	3,184,761	431,304	15.7%
NORTHBOROUGH	883,118	1,022,003	15.7%				883,118	1,022,003	138,885	15.7%
PEABODY	621,271	779,127	25.4%				621,271	779,127	157,856	25.4%
TOTAL	\$4,546,219	\$5,353,220	17.8%				\$4,546,219	\$5,353,220	\$807,001	17.8%

SYSTEMS TOTAL	Final FY13 Water Assessment	Final FY14 Water Assessment	Percent Change from FY13	Final FY13 Sewer Assessment	Final FY14 Sewer Assessment	Percent Change from FY13	Final FY13 Combined Assessment	Final FY14 Combined Assessment	Dollar Change from FY13	Percent Change from FY13
SYSTEMS TOTAL	\$196,001,401	\$203,216,774	3.7%	\$411,510,599	\$425,504,226	3.4%	\$607,512,000	\$628,721,000	\$21,209,000	3.5%

Retail Charges

As noted above, MWRA provides water and sewer services to communities on a wholesale basis. Each community then re-sells services on a retail basis. As a result, household water and sewer charges include each household's share of the community's MWRA water and sewer assessments, plus the community's own charges for the provision of local water and sewer services.

Each community independently establishes retail rates. When establishing local rates, community officials consider issues related to the pricing of services, level of cost recovery, and the local rate structure or methodology. Several factors contribute to a broad range of local rate structures in the MWRA service area:

- Differences in the extent to which water and sewer costs are supported through property taxes and other sources of revenue;
- Differences in the means by which communities finance investments in their own water and sewer systems; and
- Differences in communities' retail rate methodologies.

Some communities have flat unit rates, while others have inclining block rates. Local rates may also provide for differentials among classes of users, such as higher rates for commercial or industrial users, abatements to low-income or elderly residents, and adjusted sewer rates for customers with second meters used for lawn irrigation.

Additional information on rate structure within the member communities is available on the MWRA Advisory Board website as part of its annual retail rate survey.

TABLE I-5
Calculation of the FY14 Rate Revenue Requirement
(000's)

	Sewer	Water	Total
Allocated Direct Expenses	\$146,911	\$67,463	\$214,374
Allocated Indirect Expenses	\$14,412	\$32,411	\$46,823
PLUS			
Capital Expenses:			
Debt Service (less offsets)	\$270,358	\$110,191	\$380,549
Current Revenue for Capital	\$8,372	\$828	\$9,200
Other Capital Expenses	-\$2,625	\$10,102	\$7,477
PLUS			
Non-Rate Revenue:			
Investment Income	-\$7,703	-\$3,928	-\$11,631
Fees and Other Revenue	-\$4,221	-\$10,351	-\$14,572
Rate Stabilization	\$0	-\$3,500	-\$3,500
EQUALS			
Rate Revenue Requirement	\$425,504	\$203,217	\$628,721

Revenue and Expenditure Trends

Because MWRA is required by its enabling act to balance its budget and to establish annual assessments to cover all expenses, revenue must change in concert with the changes in expenses each year. The Rate Revenue Requirement in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and debt service assistance from the Commonwealth (which directly reduces debt service expense). For FY14, community assessments will represent 95.5% of total revenue.

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. MWRA uses the planning estimates to model and project what future rate increases might be based upon these assumptions, as well as to test the impact of changes to assumptions on future rate increases. The planning estimates are not predictions of what rate increases will be but rather they provide the context and framework for guiding MWRA financial policy and management decision making that ultimately determine the level of actual rate increases on an annual basis. Conservative projections of future rate increases benefit the MWRA by providing assurance to the rating agencies that MWRA anticipates to raise revenues sufficient to pay for its operations and outstanding debt obligations now and over the long-term. Additionally, conservative forecasts of rate revenue increases enable member communities to adequately plan and budget for future payments to MWRA. However, in FY14 the Authority tightened certain planning estimate assumptions for future years and limited annual capital spending to \$160 million.

MWRA also updates its estimates of anticipated revenues and expenses over a multi-year planning horizon. These estimates provide a context for budget discussions and allow MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget options.

The table below and Appendix D (in more detail) present future rate revenue requirements for FY14 through FY23. The planning estimates shown below assume no Debt Service Assistance from the Commonwealth and use of Rate Stabilization and Bond Redemption reserves through FY2022 to manage the rate increases. For planning purposes, the yearly use of combined reserves is currently limited to a maximum of \$12 million. Over \$75 million of Debt Service Reserve release is included in the FY14 planning estimates for the first time.

Rates & Budget Projections										
FY14 Final CEB	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
Total Rate Revenue (\$000)	\$ 628,721	\$ 651,551	\$ 678,509	\$ 736,413	\$ 755,600	\$ 775,286	\$ 829,570	\$ 847,999	\$ 875,457	\$ 845,784
Rate Revenue Change from Prior Year (\$000)	\$ 21,209	\$ 22,830	\$ 26,959	\$ 57,904	\$ 19,187	\$ 19,686	\$ 54,284	\$ 18,429	\$ 27,458	\$ (29,673)
Rate Revenue Increase	3.5%	3.6%	4.1%	8.5%	2.6%	2.6%	7.0%	2.2%	3.2%	-3.4%
Use of Reserves (\$000)	\$ 3,500	\$ 12,000	\$ 12,000	\$ 12,000	\$ 4,900	\$ 4,466	\$ 12,000	\$ -	\$ 12,000	\$ -

Estimated Household Bill

Based on annual water usage of 61,000 gallons	\$ 970	\$ 1,014	\$ 1,065	\$ 1,133	\$ 1,184	\$ 1,227	\$ 1,295	\$ 1,352	\$ 1,412	\$ 1,448
Based on annual water usage of 90,000 gallons	\$ 1,432	\$ 1,497	\$ 1,571	\$ 1,672	\$ 1,747	\$ 1,810	\$ 1,911	\$ 1,994	\$ 2,084	\$ 2,136

Increasing debt service to finance the capital improvement program is the most important factor driving estimates of future budget increases. Over the past several years MWRA's tax-exempt commercial paper program, debt refinancing, federal grants, SRF loans, and Commonwealth debt service assistance have mitigated the impact on ratepayers of new capital spending. However, new

water system improvements, for which there are fewer non-ratepayer sources of funding, and the impact of new financing will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available (e.g. refunding for savings, extended maturities on future borrowings, variable rate debt, and increased use of tax-exempt commercial paper) to help cushion and smooth the growth in capital financing expenses. Despite these initiatives, the size of the capital program will unavoidably continue to drive increases in community assessments.

The second largest budget factor is projected growth of base operating costs. The estimated \$58.9 million increase in direct expenses from FY14 to FY23 is primarily the result of an assumed annual inflation rate of 2.5% for salaries and 3.0% for all other direct expenses. Also, over the next ten years, there will be increases in direct expenses as a result of capital improvement projects.

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. The assumptions include:

- Direct expense inflation rate of 2.5% for salaries and 3.0% for other direct expenses starting in FY14;
- CIP inflation rate of 2.5%;
- Capital spending based on 85% of the CIP expenditure forecast with 10% (two-thirds of the 15% reduction) added back three years later with a \$160 million maximum cap per year;
- Long-term fixed rate debt issues with 30-year terms and 5.0% interest rates in FY14, 5.5% rates in FY15, 5.75% rates in FY16 and 40-year terms and 6.00% rates from FY17 and beyond;
- Variable rate interest projected at 3.25% in FY14, 3.50% in FY15, 3.75% in FY16, and 4.0% thereafter.

The planning estimates generally use conservative assumptions to help communities plan for future payments to MWRA.

There are several areas where differences from planning estimate assumptions may alter projected increases:

- Changes in anticipated borrowing rates or expected investment income rates;
- The planning estimates do not factor in any positive year-end variances which may be used to defease debt or reserved to offset Rate Revenue Requirements in future years;
- Fewer opportunities for SRF borrowing than expected due to Federal Budget cuts; a dollar borrowed through the SRF at 2% replaces the need to borrow a dollar long-term at an assumed 5% rate;
- Overall inflationary pressures;
- Debt refinancing opportunities;
- Capital spending; and
- Growth in direct expenses, greater than current assumptions is an area of increased concern. Many of the savings in prior years through staffing reductions, optimization of operations, and scope

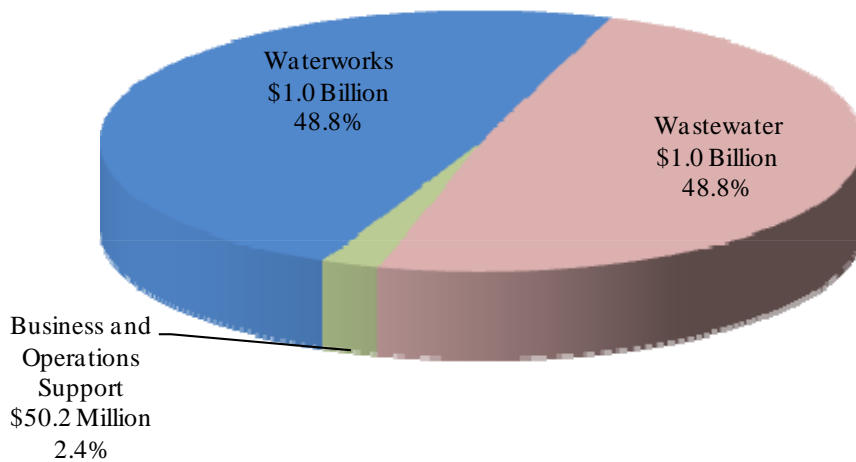
revisions to professional services are already reflected in the budget. More importantly, going forward the MWRA is faced with a growing need to maintain its facilities and ensure that adequate funding is available.

As in the past, there are peak years on the next ten-year horizon regarding rates, mostly driven by the current debt structure. FY17 and FY20 represent significant challenges for the Authority from a long-term rates management perspective.

FY14 Final Capital Improvement Program

The FY14 Final Capital Improvement Program (CIP) budget totals \$5.6 billion, of which approximately \$3.5 billion has been expended through FY12 with a remaining balance of \$2.1 billion. It is important to note that the totals represented above do not include the Boston Harbor Project and some other smaller projects removed from the CIP upon completion. These projects totaled approximately \$4.1 billion dollars. As such, the overall Authority CIP budget since inception totals more than \$9.7 billion dollars of which \$7.7 billion has been spent through FY13.

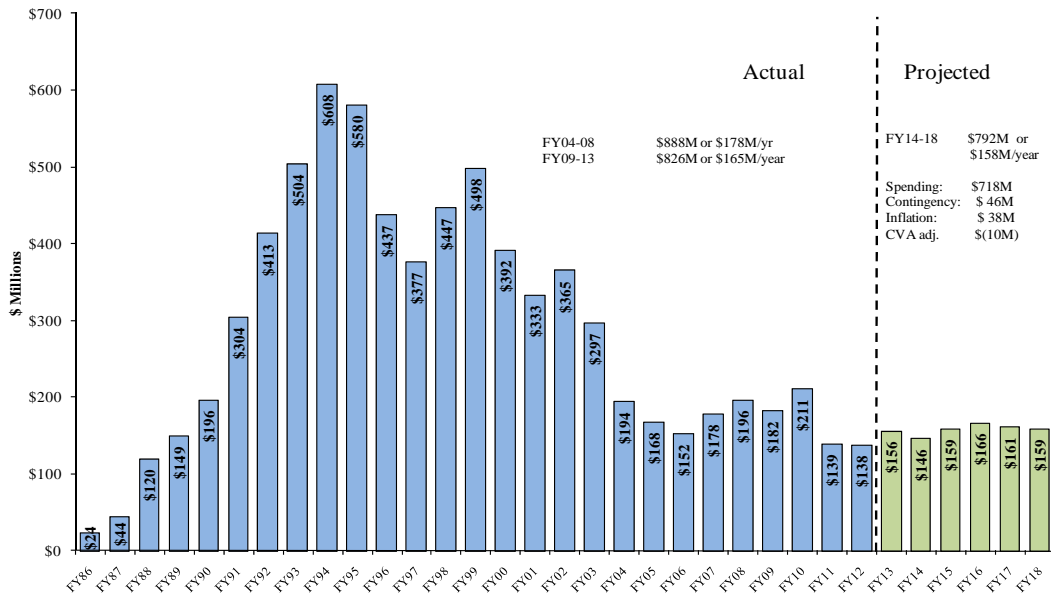
Of the remaining spending, Wastewater System Improvements and Waterworks System Improvements both represent \$1.0 billion or 48.8%, and Business and Operations Support are \$50.2 million or 2.4%.



It is interesting to note that for the first time, the Waterworks and Wastewater project spending are at about the same level.

Historical Spending

The chart below captures the historical CIP spending through FY12 and projected spending with contingency to FY18 based on the FY14 Final CIP.



The average spending for FY04-13 was \$171 million per year and based on the FY14 Final CIP, we are currently projecting average annual spending during the FY14-18 Cap period will be just over \$158 million per year.

The Shift from Mandated Projects

Since 1985, nearly 80% of the Authority's spending has been on court-mandated projects. Going forward, Asset Protection and Water System Redundancy projects will dominate future spending. The Pipeline Replacement and Rehabilitation, Energy program initiatives, and IT infrastructure updates will also be a continuing effort.

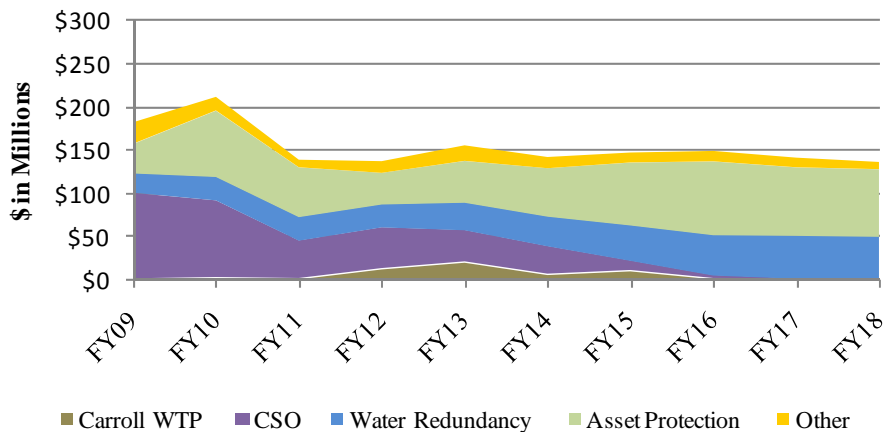
The table below captures the changing nature of the program in the future.

	Total Contract	FY09-13	FY14-18	Beyond 18
Asset Protection	\$ 1,944.0	\$ 252.0	\$ 370.1	\$ 686.4
Carroll WTP	\$ 433.3	\$ 39.4	\$ 21.0	\$ 0.1
Water Redundancy	\$ 1,851.2	\$ 138.4	\$ 223.1	\$ 627.0
CSO	\$ 863.4	\$ 316.5	\$ 48.1	\$ 1.3
Other	\$ 536.7	\$ 80.1	\$ 55.6	\$ (93.7)
Total	\$5,628.5	\$ 826.4	\$ 718.0	\$1,221.2
Asset Protection	34.5%	30.5%	51.6%	56.2%
Carroll WTP	7.7%	4.8%	2.9%	0.0%
Water Redundancy	32.9%	16.7%	31.1%	51.3%
CSO	15.3%	38.3%	6.7%	0.1%
Other	9.5%	9.7%	7.7%	-7.7%
Total	100.0%	100.0%	100.0%	100.0%

As presented above, Asset Protection and Water Redundancy initiatives account for 30.5% and 16.7% of FY09-13 spending. These percentages will grow substantially to 51.6% and 31.1% respectively for the FY14-18 timeframe.

The graph below displays the projected trend of expenditures by major category for the FY09-18 time period.

FY14 Final Expenditure Forecast by Major Category



FY14 Final CIP Expenditures

The FY14 Final CIP contains future spending estimated at \$2.1 billion. The FY14 Final CIP (without contingency) includes planned expenditures of \$142.5 million for FY14 and total projected expenditures of \$718.0 million for the FY14-18 timeframe.

The table below represents the projected spending by the major categories:

	Total Contract Amount	Payments Thru FY12	Remaining Balance	FY13	Total FY09-13	FY14	FY15	FY16	FY17	FY18	Total FY14-18	Beyond 18
Wastewater System Improvements	\$2,685.1	\$1,661.8	\$1,023.3	\$79.9	\$524.0	\$84.3	\$77.8	\$79.8	\$64.8	\$62.3	\$368.9	\$574.5
Interception & Pumping	846.5	518.6	327.9	2.3	32.7	13.1	22.2	28.9	28.8	25.3	118.4	207.3
Treatment	659.6	168.7	490.9	19.7	136.6	39.4	44.4	46.6	34.8	33.9	199.1	272.0
Residuals	168.0	64.2	103.9	0.4	0.8	0.4	0.3	0.2	0.2	0.5	1.5	101.9
CSO	888.1	802.3	85.8	36.4	316.5	32.3	11.3	3.6	0.1	0.8	48.1	1.3
Other Wastewater	122.9	108.1	14.8	21.0	37.4	(0.9)	(0.5)	0.5	1.0	1.7	1.8	(8.0)
Waterworks System Improvements	\$2,821.0	\$1,799.6	\$1,021.4	\$71.6	\$268.7	\$49.8	\$61.0	\$58.6	\$68.0	\$69.7	\$307.1	\$642.7
Drinking Water Quality Improvements	657.2	559.7	97.4	40.0	91.2	32.3	20.6	2.3	1.4	0.6	57.3	0.1
Transmission	1,186.0	737.9	448.1	18.0	83.0	6.4	25.6	23.6	18.9	5.6	80.0	350.1
Distribution & Pumping	948.4	384.1	564.3	4.5	67.5	10.7	13.4	29.3	43.9	57.3	154.6	405.2
Other Waterworks	29.4	117.9	(88.5)	9.0	27.0	0.5	1.4	3.4	3.8	6.2	15.2	(112.7)
Business & Operations Support	122.4	72.2	50.2	4.3	\$33.6	8.4	8.8	10.9	8.9	4.9	\$41.9	4.0
Total MWRA	\$5,628.5	\$3,533.6	\$2,094.9	\$155.8	\$826.4	\$142.5	\$147.6	\$149.3	\$141.8	\$136.8	\$718.0	\$1,221.2

CIP Impact on Current Expense Budget

In addition to the annual financing costs included in the Current Expense Budget, the Capital Improvement Program affects the annual operating budget when capital facilities come on-line and require adjustments to operating budgets. In prior years, completion of the Deer Island Treatment Plant, the Carroll Water Treatment Plant, and the residuals processing facility in Quincy resulted in significant increases in operating expenses. New facilities are adding operating costs of approximately \$906,000 and MIS program related maintenance initiatives are increasing operating costs by nearly \$735,000 by FY24. These increases are offset by anticipated savings for chemicals at Framingham Extension Relief Sewer and energy initiatives at Deer Island as well as water and wastewater Alternative Energy Initiatives including solar, wind, and hydroelectric power projects which will result in energy savings of approximately \$1.6 million over the next 10 years. The following table summarizes projected CIP impact by project over the next ten years, beginning in FY15 on the operating budget.

Fiscal Year	CEB Impacts (000)										
	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	Total
DI Treatment Plant Asset Protection	\$0	(\$198)	(\$164)	\$0	\$0	(\$150)	(\$74)	(\$76)	\$0	\$0	(\$663)
FERS Biofilter	0	0	0	0	0	0	(123)	0	0	0	(123)
Clinton Phosphorous Removal Project	0	0	30	93	0	0	0	0	0	0	123
Wastewater Alternative Energy Projects	0	0	0	(136)	0	0	0	(431)	0	0	(567)
North Dorchester Bay	0	0	382	0	0	0	0	0	0	0	382
Total Wastewater (inflated)	\$0	(\$198)	\$249	(\$43)	\$0	(\$150)	(\$197)	(\$507)	\$0	\$0	(\$847)
Carroll Water Treatment Plant	\$155	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$155
Quabbin Water Treatment Plant	21	4	0	0	0	0	0	0	0	0	26
Wachusett Algae Treatment Facility	0	0	0	31	32	0	0	0	0	0	63
Spot Pond Storage Facility	77	80	0	0	0	0	0	0	0	0	157
Water Energy Projects	0	0	0	(225)	0	0	0	0	0	0	(225)
Total Water (inflated)	\$253	\$84	\$0	(\$194)	\$32	\$0	\$0	\$0	\$0	\$0	\$175
Maximo Upgrades & Lawson Enhancements	\$0	\$53	\$0	\$113	\$0	\$0	\$0	\$0	\$0	\$0	\$166
Storage Upgrades	0	0	0	113	116	0	0	0	0	0	228
Telecommunications	0	0	0	0	29	0	0	0	0	0	29
NET 2020 DIIP & Southborough	0	80	0	0	0	0	0	0	0	0	80
Information Security Program	0	0	0	34	0	0	0	0	0	0	34
Information Technology Management Program	0	0	76	0	0	0	0	0	0	0	76
Information Technology Management Program	0	32	0	0	0	0	0	0	0	0	32
IT Infrastructure Program	0	90	0	0	0	0	0	0	0	0	90
Total Business and Operations Support (inflated)	\$0	\$255	\$76	\$259	\$145	\$0	\$0	\$0	\$0	\$0	\$735
TOTAL MWRA	\$253	\$140	\$325	\$21	\$177	(\$150)	(\$197)	(\$507)	\$0	\$0	\$63

Capital Financing and Grant Revenues

In the past, MWRA has been able to finance approximately 20 percent of its capital spending with grant receipts, totaling approximately \$1.1 billion through FY03. However, since FY03, the MWRA has only received \$4.9 million in capital grants. In addition to participating in federal and state grant programs, the MWRA benefitted from the American Recovery and Reinvestment Act of 2009 which is projected to forgive approximately \$33.0 million in State Revolving Fund loan principal. The Authority continues to pursue grant funding and take advantage of any possible program available to maximize grant funding opportunities.

MWRA expects to borrow the majority of funds necessary for future capital spending. Borrowing will include the issuance of fixed and variable rate revenue bonds; borrowing from the Commonwealth's Water Pollution Abatement Trust (also known as the State Revolving Loan Fund or SRF), and a tax-exempt commercial paper program.

MWRA Organization and History

The MWRA Enabling Act

MWRA was created by legislative act in 1984, and inherited the Sewerage and Waterworks Divisions of the Commonwealth of Massachusetts Metropolitan District Commission (MDC). In July 1985, MWRA assumed control of the water and sewer systems, including facilities, properties, and the right to utilize water withdrawn from system reservoirs. The Commonwealth, under the management of the MDC Watershed Management Division (now the Department of Conservation and Recreation – Division of Watershed Management), retained ownership of real property, including the reservoirs and watersheds.

The Enabling Act also established the MWRA Advisory Board to represent the cities and towns in the service area. The Advisory Board appoints three members of the MWRA Board of Directors, approves the extension of water and sewer services to additional communities, and reviews and makes recommendations on MWRA's annual Current Expense Budget and Capital Improvement Program.

In 1987, the legislature transferred responsibility to operate and maintain the Clinton Wastewater Treatment Plant from the Commonwealth to the MWRA.

History and Accomplishments

In 1985, the U.S. District Court for Massachusetts found MDC in violation of numerous aspects of the federal Clean Water Act, and the responsibility for those violations passed to MWRA as successor to MDC. The court issued a detailed compliance schedule for actions to be taken by MWRA to achieve and maintain compliance with the Clean Water Act.

MWRA achieved all of the milestones in the schedule related to the construction of treatment facilities on Deer Island, and is working to achieve milestones with respect to implementation of its long-term Combined Sewer Overflow (CSO) control plan. These achievements have made noticeable, measurable improvements in the quality of Boston Harbor and its beaches.

MWRA is also working to achieve compliance with an extensive consent order issued by the Massachusetts Department of Environmental Protection (MassDEP) mandating the steps necessary to

achieve required improvements to the MWRA water system.

MWRA Rates Management

Between FY96 and FY02 the MWRA limited rate revenue increases to an average of 3.6% annually as a result of debt service assistance from the Commonwealth, federal grants to support the Boston Harbor Project, lower borrowing costs, use of financing tools that delayed costs to later years, a favorable bid climate for construction projects, and aggressive efforts to control capital and operating costs.

As debt service costs resulting from mandated capital investment have steadily increased, MWRA's dependence on rising debt service assistance (DSA) allocations have similarly increased. DSA reached a high of \$52.9 million in FY02. In FY03, in response to a state-wide recession, debt service assistance was eliminated and as a result, MWRA was forced to have an unprecedented mid-year rate adjustment, increasing the rate increase from 2.9% to 6.9% as part of an overall strategy in response to cover the loss. Additionally, the Authority made substantial cuts to both its capital improvement program and current expense budgets. Reductions in debt service assistance result in greater reliance on reserves, budget cuts or a combination of the two. In response to a strengthening local economy, debt service assistance was restored in FY04 at the level of \$4.1 million. In the following four years, the debt service allocation increased to \$8.0 million in FY05, \$9.6 million in FY06, \$19.0 million in FY07, and \$17.0 million in FY08. In light of the economic downturn in the ensuing years, no Debt Service Assistance was received in FY09-11. In FY12, it once again restored at a reduced level of \$384,000 but was once again eliminated in FY13 through 9C cuts. For the FY14 Budget, no Debt Service Assistance is assumed as none is included in the Governor's budget. Although not budgeted in FY14, MWRA's projected share of Conference Committee Funding is estimated at \$800,000 in FY14.

Planning estimates for 2014 through 2023 forecast rate revenue requirement increases of 3.5% in FY14, 3.6% in FY15, 4.1% in FY16, 8.5% in FY17, 2.6% in FY18 and FY19, 7.0% in FY20, and 2.2%, 3.2%, and -3.4% in years FY20, FY21, FY22, and FY23 respectively.

In FY06, the MWRA formed a Rates Management Committee to evaluate the Authority's debt portfolio and credit structure to propose recommendations that deliver responsible short-term solutions for mitigating imminent rate spikes and long-term strategies for achieving predictable and sustainable rates. In line with the Board of Directors' strategy to deliver long-term predictable and sustainable rates for our 61 ratepayer communities, the MWRA initially preserved the scheduled use of its reserves for future years when projected rate increases are more significant. The changes to the indenture will release more than \$100.0 million in reserves that can be used to mitigate future rate increases, but the release date is now projected to occur in FY16 based on current borrowing projections. While this is a sizable release, it is not the panacea that will address an average Rate Revenue Requirement increase of \$23.8 million over the next ten years.

FY14 marks the first year when debt repayment exceeds new debt issues and thus marking the first year where leverage will decline. This is expected to continue for the foreseeable future and debt levels are projected to decline steadily. This will have a favorable influence on future rate increases.

The FY14 Budget:

- Continues to refine planning estimates assumptions to provide greater predictability of future assessments;
- Judiciously uses reserves to lower rate increases, but maintain adequate balances; and
- Continues the Authority's multi-year rates management strategy of providing predictable and reasonable rate increases to our member communities.

MWRA Organization

MWRA has four separate divisions and the Affirmative Action and Compliance Unit Department (AACU).

Each division provides operations or support services to carry out MWRA's activities under the direction of the Executive Office. MWRA's organizational structure is included in the document before the Table of Contents.

The **Executive Office** provides centralized MWRA management, direction, and policy development. The budget includes funds for the Office of the Executive Director, the Board of Directors, the Advisory Board, and other advisory committees. It includes the following departments: Office of Emergency Preparedness; Public Affairs; and Internal Audit.

The **Operations Division** operates the water and wastewater treatment systems; the water transmission and distribution system; the wastewater collection, transport, and combined sewer overflow (CSO) systems; and the residuals processing facility. It also provides laboratory and engineering and construction services; enforces sewer use regulations and seeks to limit the discharges of toxic materials; manages environmental studies of Boston Harbor and Massachusetts Bay; monitors water quality; and includes Planning and Coordination Department.

The **Administration and Finance Division** was created in 2009 and is responsible for managing the finance and support service functions necessary to support daily operations of the Authority and insure the implementation of the Authority's long-term goals and strategies.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director's Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

The **Law Division** provides legal counsel to all divisions on compliance with federal and state law, real estate matters, labor and employment law, litigation, and construction issues. Division attorneys provide or supervise through outside counsel the representation of MWRA in all litigation.

The **Affirmative Action and Compliance Unit (AACU) Department** develops, administers and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority/Women Business Enterprises (MBE/WBE) in Authority Procurement activities.

Statement of Financial Position

In accordance with its enabling act, each year MWRA submits annual reports to the Governor, the President of the State Senate, the House of Representatives, the Advisory Board, and the Chairs of the State Senate and House Committees on Ways and Means containing financial statements relating to its operations maintained in accordance with Generally Accepted Accounting Principles in the United States of America (GAAP) and, commencing with the annual reports for 1986, audited by independent certified public accountants. MWRA's audited financial statements at June 30, 2011 and 2010 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE OFFICE

FY14 Final Current Expense Budget EXECUTIVE DIVISION						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 422,374	\$ 483,283	\$ 534,191	\$ 542,963	\$ 8,772	1.6%
OVERTIME	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	695	-	900	900	-
PROFESSIONAL SERVICES	154,323	142,888	145,098	160,696	15,598	10.7%
OTHER MATERIALS	4,231	1,187	5,105	3,585	(1,520)	-29.8%
OTHER SERVICES	454,552	439,108	455,588	469,973	14,385	3.2%
TOTAL	\$ 1,035,480	\$ 1,067,161	\$ 1,139,982	\$ 1,178,117	\$ 38,135	3.3%

FY14 Final Current Expense Budget EXECUTIVE DIVISION by Department						
DEPARTMENT	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 430,528	\$ 489,399	\$ 542,799	\$ 551,812	\$ 9,013	1.7%
ADVISORY BOARD / OTHER COMMITTEES	604,952	577,762	597,183	626,305	29,122	4.9%
TOTAL	\$ 1,035,480	\$ 1,067,161	\$ 1,139,982	\$ 1,178,117	\$ 38,135	3.3%

The **Executive Office** provides executive management and guides the implementation of MWRA policies established by the Board of Directors. It is responsible for developing and implementing specific goals and programs to achieve MWRA's primary mission of providing reliable and efficient water and sewer services, improving water quality, and for creating a framework within which all divisions can operate effectively. The Executive Office oversees a centralized MWRA-wide security program to preserve and protect MWRA facilities, systems and employees.

The Executive Office has direct oversight of the Office of Emergency Preparedness, Internal Audit, Public Affairs, and the Affirmative Action and Compliance Unit (AACU) Departments.

FY14 Goals:

- Ensure delivery of reliable and cost-effective water and sewer services to customer communities.
- Ensure that water supply and wastewater collection and treatment preserve public health and protect natural resources.
- Provide overall management of the agency and ensure adherence to all applicable policies and regulations.
- Continue to aggressively pursue renewable and sustainable energy resources to reduce the environmental impacts of daily operations, increase energy efficiencies and reduce overall operating costs.
- Manage communication and garner support from key constituents for MWRA programs.

The Executive Office budget supports the Executive Director's Office (which includes the Board of Directors' cost center), the MWRA Advisory Board, and Advisory Committees' cost centers. The Board of Directors formulates policies to guide MWRA actions and is responsible for major policy and fiscal decision-making. The MWRA Advisory Board was established by the Enabling Act to serve as "watchdog" for MWRA's customer communities. The Advisory Board makes recommendations to MWRA on annual expense budgets and capital improvement programs. In addition, the Advisory Board reviews and comments on MWRA reports, holds hearings on related matters, and makes recommendations to the Governor and the Legislature. The other advisory committees supported by this budget are the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee. The Executive Office budget accounts for less than 1% of the MWRA FY14 Final Direct Expense Budget.

Budget Highlights:

- The FY14 Final Budget is \$1.2 million, an increase of \$38,000 or 3.3% from FY13 Actual Spending mostly due to increases in the MWRA Advisory Board and Advisory Committees budgets.
- \$543,000 for **Wages and Salaries**, an increase of \$9,000 or 1.6% as compared to FY13 Actual Spending. The Final budget includes funding for five positions.
- \$161,000 for **Professional Services**, an increase of \$16,000 or 10.7% from FY13 Actual Spending. This budget funds the Water Supply Citizens' Advisory Committee (WSCAC) and the Wastewater Advisory Committee (WAC) budgets. The Advisory group budgets increased due to cost of living adjustments and higher health insurance cost.
- \$470,000 for **Other Services**, an increase of \$14,000 or 3.2% from FY13 Actual Spending. This budget funds the MWRA Advisory Board staff and operating expenses, including wages and salaries, space rental, and general administrative office expenses.

OFFICE OF EMERGENCY PREPAREDNESS

FY14 Final Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 476,285	\$ 357,479	\$ 390,132	\$ 425,859	\$ 35,727	9.2%
OVERTIME	-	-	12	-	(12)	-100.0%
ONGOING MAINTENANCE	223,758	235,838	399,123	358,500	(40,623)	-10.2%
TRAINING & MEETINGS	-	2,117	1,652	-	(1,652)	-100.0%
PROFESSIONAL SERVICES	1,473,337	1,476,020	1,587,698	1,908,295	320,597	20.2%
OTHER MATERIALS	42,642	50,343	31,311	35,535	4,224	13.5%
OTHER SERVICES	20,563	21,000	10,774	122,100	111,326	1033.3%
TOTAL	\$ 2,236,585	\$ 2,142,797	\$ 2,420,702	\$ 2,850,289	\$ 429,587	17.7%

The **Office of Emergency Preparedness (OEP)** was created in November 2005 to consolidate Authority-wide security and emergency response functions. It is responsible for oversight of the MWRA’s security and emergency response plans, policies and procedures; implementation and training for the Emergency Response Plan; and management, training, and outfitting of the Emergency Service Unit (ESU), which will respond to any intentional or accidental contamination of the water supply. The Director of Operations Support & Emergency Preparedness reports directly to the Executive Director on Emergency Preparedness matters.

FY14 Goals:

- Develop and implement policies and programs to provide security, critical infrastructure protection, and emergency planning for the MWRA’s water and wastewater systems.
- Equip, train, and command the Emergency Service Unit (ESU).
- Develop and exercise emergency plans and procedures.
- Manage and direct contract security guard and security maintenance contracts.

FY14 Initiatives:

- Continue to enhance Emergency Response Plans for all water and wastewater facilities. Update Emergency Action Plans (EAPs) as needed, including Dam EAPs and spill control EAPs.
- Procure a new Guard Services contract by November 2013 and a new Security Equipment Maintenance contract by March 2014 to replace expiring existing contracts.
- Continue the process of ensuring that new construction and rehabilitation of facilities includes an integrated security and surveillance system improvement component. Continue task order security enhancement designs for selected water and wastewater critical sites, fencing installation, and other facility hardening initiatives. Continue planning for updating the security monitoring system to replace obsolete equipment.
- Implement notification drills, tabletop exercises, and field training exercises (including at least one major field drill). Continue the community emergency response training program and tabletop exercise series for critical service areas with community staff.

FY13 Accomplishments:

- Updated spill control Emergency Action Plans to all water and wastewater facilities subject to spill regulations. Provided refresher training to all operations staff on spill control procedures.
- Continued updating Dam Emergency Action Plans with drafts of Western Section plans with detailed inundation mapping completed. All Western facilities are completed and Metro facilities will be done in FY14.
- Completed a total of 74 training events or drills for Calendar 2012 as compared to 54 events or drills in 2011.
- Commenced deployment of new digital transmission vehicle, base, and handheld radios to support DCR's planned transition from analog equipment to digital equipment.
- Received a Department of Homeland Security (DHS) grant for \$257,000 for implementation of hardening improvements from the 2010 DHS Regional Resiliency review and completed procurement of related items.
- Continued the process of ensuring that new construction and rehabilitation of facilities including an integrated security and surveillance system improvement component.
- Continued to provide an emergency response training program and a tabletop exercise series for critical service areas for MWRA community staff.

Budget Highlights:

- The FY14 Final Budget is \$2.8 million, an increase of \$430,000 or 17.7% from FY13 Actual Spending.
- \$426,000 for **Wages and Salaries**, an increase of \$36,000 or 9.2% from FY13 Actual Spending mainly due to contractual agreements and promotional increase for newly created position. The final budget includes funding for five positions.
- \$359,000 for **Ongoing Maintenance**, a decrease of \$41,000 or 10.2% from FY13 Actual Spending primarily due to MWRA-wide security systems maintenance services and materials being lower than anticipated. The final budget includes funding of \$230,000 to cover the MWRA-wide security systems preventative maintenance and repair service, \$100,000 for MWRA-wide Security systems maintenance materials and equipment, including cameras, intrusion detection, card readers, and \$28,500 for the intrusion alarm annual and semi-annual monitoring services contracts.
- \$1.9 million for **Professional Services**, an increase of \$321,000 or 20.2% from FY13 Actual Spending, primarily due to increased costs for security guard services to reflect the SEIU standard wage rates at the various MWRA facilities. The FY14 Final Budget includes \$607,000 for security services for the DITP facility, \$567,000 for the Chelsea facility, \$348,000 for the Carroll Water Treatment Plant, \$40,000 for Charlestown Navy Yard (CNY) facility, \$87,000 for the Account Manager, \$59,000 for the Roving guard, and \$50,000 for the Patrol vehicle and equipment. In addition, the budget includes funding for the update of the Dam Emergency Plans in compliance with National and State regulations was included.
- \$36,000 for **Other Materials**, an increase of \$4,000 or 13.5% from FY13 Actual Spending primarily due to increased need for Health and Safety materials for the Emergency Safety Unit (ESU) Team expanded training program. The final budget includes \$30,000 for the purchase of Health and Safety materials for the ESU Team.
- \$122,000 for **Other Services**, an increase of \$111,000 from FY13 Actual Spending due to the inclusion of potential Department of Conservation and Recreation (DCR) licensing costs for two-way radios. The final budget also includes \$20,000 for mandatory monthly testing and inspection of the Self-Contained Breathing Apparatus (SCBA).

AFFIRMATIVE ACTION and COMPLIANCE

FY14 Final Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 550,862	\$ 548,888	\$ 513,749	\$ 575,001	\$ 61,252	11.9%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	2,420	1,620	-	2,000	2,000	-
OTHER MATERIALS	1,347	1,260	1,393	1,510	117	8.4%
OTHER SERVICES	308	580	309	632	323	104.5%
TOTAL	\$ 554,937	\$ 552,348	\$ 515,451	\$ 579,143	\$ 63,692	12.4%

The **Affirmative Action and Compliance Unit (AACU)** develops, administers, and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority Business Enterprises (MBE), Women Business Enterprises (WBE), and Disadvantaged Business Enterprises (DBE) in Authority procurement activities.

FY14 Goals:

- Assist divisions and departments in the implementation of MWRA’s affirmative action program and promote MWRA’s policy of non-discrimination for all persons in or recruited into its work force.
- Maintain adequate internal audit and reporting systems to monitor MWRA’s accomplishments of goal attainment in identified underutilized job groups for female and minority representation.
- Communicate to managers and supervisors MWRA's commitment to its equal opportunity policies and affirmative action programs.
- Assist the Human Resources department in the coordination and oversight of all external/internal recruitment and selection activities including interviewing, hiring, transfers, and promotions of protected class candidates.
- Provide for the equitable participation of minority/women and disadvantaged-owned businesses in procurement opportunities, ensure that minorities and women are represented in the labor force on construction contracts, and coordinate with other public entities regarding state and federal requirements.
- Assist divisions and departments in the understanding and implementation of MBE/WBE/DBE program policies and practices and monitor and report on contractor compliance and expenditures.

FY13 Accomplishments:

- Provided management guidance and participated in 60 position(s) selection committee interviews, sourced two outreach contacts, and referred 14 qualified candidates to Human Resources for underutilized positions.
- Conducted oversight of 77 construction and professional projects including 37 site visits and one compliance audit to ensure contractor compliance with the MWRA’s MBE/WBE/DBE Program. All MBE/WBE targets have been achieved except, WBE Professional Services.

Budget Highlights:

- The FY14 Final Budget is \$579,000, an increase of \$64,000 or 12.4% from FY13 Actual Spending.
- \$575,000 for **Wages and Salaries**, an increase of \$61,000 or 11.9% from FY13 Actual Spending due to the staff vacancies during FY13 which has since been backfilled and increases for contractual agreements. The final budget includes funding for seven positions.

INTERNAL AUDIT

FY14 Final Current Expense Budget INTERNAL AUDIT							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14		
WAGES & SALARIES	\$ 615,777	\$ 632,155	\$ 651,971	\$ 671,181	\$ 19,210	2.9%	
OVERTIME	-	-	11	-	(11)	-100.0%	
TRAINING & MEETINGS	6,267	5,065	4,596	7,238	2,642	57.5%	
OTHER MATERIALS	1,880	1,394	1,764	2,020	256	14.5%	
OTHER SERVICES	1,126	1,306	1,100	1,062	(38)	-3.5%	
TOTAL	\$ 625,050	\$ 639,920	\$ 659,442	\$ 681,501	\$ 22,059	3.3%	

The **Internal Audit Department** monitors the efficiency and integrity of MWRA operations by auditing financial and program operations; reviewing compliance with accounting and management control systems, laws, and regulations; and coordinates the formulation and revisions to MWRA policies and procedures. Internal Audit also monitors MWRA contracts through its contract audit program, including approval of provisional consultant indirect cost rates and subsequent audit of consultant billings; performs labor burden reviews, construction change orders and claim audits, and vendor and other contract audits.

FY14 Goals:

- Encourage more economical and efficient operations, adhere to sound management procedures, and use controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and to provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have adequate accounting and billing systems to provide current, complete, and accurate cost and price information and project invoicing.

FY13 Accomplishments:

- Identified \$3.1 million in savings related to: internal audits, management advisory services, consultant audits, construction labor burden reviews, a construction claim settlement, review of three CSO financial assistance agreements, the early termination of two janitorial services contracts, and the true-up of CY 2011 and 2012 HEEC billings.
- Issued final audit reports on MIS Equipment Management, Chelsea Facility Physical Security, and the Purchase Card Program. Issued eight incurred cost audits, three preliminary construction reviews, seven preliminary construction reviews, and several contract reviews.
- Provided management advisory and data analysis services for a number of management initiatives, including CNY lease negotiations.

Budget Highlights:

- The FY14 Final Budget is \$682,000, an increase of \$22,000 or 3.3% from FY13 Actual Spending.
- \$671,000 for **Wages and Salaries**, an increase of \$19,000 or 2.9% from FY13 Actual Spending, primarily due to contractual wages increases. The final budget includes funding for eight positions.

PUBLIC AFFAIRS

FY14 Final Current Expense Budget PUBLIC AFFAIRS						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 1,080,485	\$ 1,036,558	\$ 1,085,187	\$ 1,133,107	\$ 47,920	4.4%
OVERTIME	67	-	-	-	-	-
TRAINING & MEETINGS	5,327	(463)	4,410	3,365	(1,045)	-23.7%
PROFESSIONAL SERVICES	2,328	1,050	3,187	1,050	(2,137)	-67.1%
OTHER MATERIALS	29,453	22,391	25,505	21,625	(3,880)	-15.2%
OTHER SERVICES	16,974	41,861	33,815	48,967	15,152	44.8%
TOTAL	\$ 1,134,634	\$ 1,101,397	\$ 1,152,104	\$ 1,208,114	\$ 56,010	4.9%

The **Public Affairs Department** is the institutional link to all MWRA constituencies. The department works for passage of legislation necessary to carry out MWRA’s mission, monitors legislation, responds to inquiries by elected and appointed officials, and pursues funding from the state legislature for MWRA projects.

The **Community Relations Section** deals directly with cities and towns in the service area, responds to inquiries about MWRA, proactively incorporates community concerns into MWRA project work, coordinates outreach and education initiatives to highlight MWRA programs, and provides technical expertise for specific projects and initiatives. Community Relations staff also work in conjunction with Planning and Coordination Department staff to ensure compliance with state and local regulations and restrictions.

The **Communications Section** manages media relations, issues press releases and responds to information requests, oversees the design and distribution of MWRA publications, manages the web site, and provides design, editorial, and graphics services for other sections of MWRA. The section is lead by the Special Assistant to the Executive Director, located in the Executive Office.

The **Education Section** is responsible for curriculum development, teacher training workshops, as well as providing school education materials on water quality, water conservation, wastewater topics, and environmental issues.

FY14 Goals:

- Enhance overall public understanding of MWRA’s mission, goals, and benefits to the public through extensive outreach and effective communication.
- Monitor and analyze legislation and regulations that affect the Authority, formulating appropriate responses in concert with the Office of the Executive Director (OED).
- Develop and implement proactive strategies for educating and informing key MWRA constituencies and the public at large about MWRA’s mission, projects and progress, and promote understanding for associated costs.
- Gain public support for MWRA programs and projects, and respond to the needs and concerns of elected and appointed public officials.
- Provide support to MWRA staff to ensure that MWRA projects meet regulatory requirements, and provide input to regulatory agencies in order to ensure MWRA interests are recognized during the development of regulations.

- Maintain and update MWRA's Community Contact Database. This Community Contacts tracking application is used to notify MWRA's communities of any emergencies affecting them or surrounding communities.
- Continuing to work with the public and public officials on MWRA Aqueduct Trail Initiative.

Budget Highlights:

- The FY14 Final Budget is \$1.2 million, an increase of \$56,000 or 4.9% from FY13 Actual Spending.
- \$1.1 million for **Wages and Salaries**, an increase of \$48,000 or 4.4% from FY13 Actual Spending. The increase is due to contractual wages increases. The final budget includes funding for 13 positions.
- \$22,000 for **Other Materials**, a decrease of \$4,000 or 15.2% as compared to FY13 Actual Spending primarily due to revised needs assessment.
- \$49,000 for **Other Services**, an increase of \$15,000 or 44.8% as compared to FY13 Actual Spending. This increase is mainly due to lower than projected spending for printing/duplicating services during FY13. This budget supports the printing of the Annual Report and other printing needs of the department.



Operations Division
Budget

OPERATIONS DIVISION

FY14 Final Current Expense Budget OPERATIONS DIVISION						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 68,581,180	\$ 69,926,817	\$ 70,614,655	\$ 73,963,889	\$ 3,349,234	4.7%
OVERTIME	3,850,564	3,046,845	3,473,493	3,522,621	49,128	1.4%
FRINGE BENEFITS	67,373	54,278	58,593	61,135	2,542	4.3%
CHEMICALS	8,697,048	9,271,529	10,139,257	10,671,224	531,967	5.2%
UTILITIES	21,839,172	22,666,107	22,960,065	22,653,178	(306,887)	-1.3%
ONGOING MAINTENANCE	24,604,384	23,609,567	23,407,709	23,913,315	505,606	2.2%
TRAINING & MEETINGS	75,746	84,048	107,585	122,900	15,315	14.2%
PROFESSIONAL SERVICES	3,081,740	2,135,541	2,160,077	2,723,673	563,596	26.1%
OTHER MATERIALS	3,384,996	4,478,030	5,766,978	4,699,047	(1,067,931)	-18.5%
OTHER SERVICES	18,322,402	19,437,633	18,629,542	18,511,528	(118,014)	-0.6%
TOTAL	\$ 152,504,605	\$ 154,710,395	\$ 157,317,954	\$ 160,842,510	\$ 3,524,556	2.2%

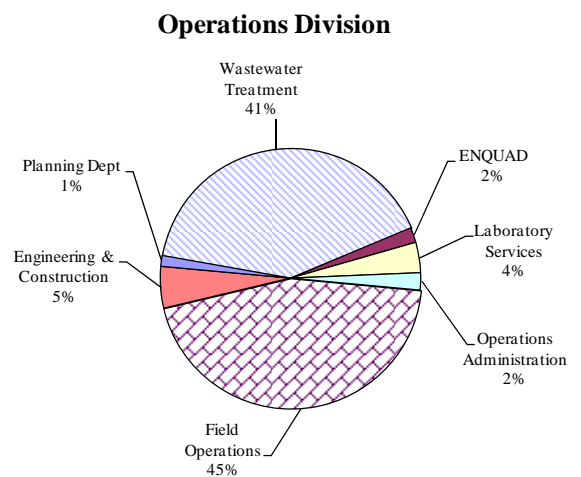
FY14 Final Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
OPERATIONS ADMINISTRATION	\$ 2,692,130	\$ 2,880,949	\$ 3,749,217	\$ 3,450,500	\$ (298,717)	-8.0%
WASTEWATER TREATMENT	61,246,914	64,934,921	65,225,080	65,820,139	595,059	0.9%
FIELD OPERATIONS	69,613,770	69,117,279	70,781,719	72,090,881	1,309,162	1.8%
LABORATORY SERVICES	5,400,095	5,312,800	5,563,606	6,057,337	493,731	8.9%
ENQUAD	3,637,549	2,860,161	2,660,834	3,000,790	339,956	12.8%
ENGINEERING & CONSTRUCTION	7,881,547	7,569,131	7,273,287	8,283,008	1,009,721	13.9%
PLANNING DEPARTMENT	2,032,600	2,035,154	2,064,211	2,139,855	75,644	3.7%
TOTAL	\$ 152,504,605	\$ 154,710,395	\$ 157,317,954	\$ 160,842,510	\$ 3,524,556	2.2%

The **Operations Division** provides wastewater and water system services including operations, maintenance, and treatment; environmental monitoring and laboratory testing and analyses; and engineering, construction, planning, and administration. The Operations Division’s departments are described below:

The **Wastewater Treatment Department** is 41% of the division’s budget. The department operates and maintains the Deer Island Treatment Plant (DITP), Clinton Wastewater Treatment Plant, and Residuals Processing Facility (pelletization plant) at Fore River Staging Area (FRSA).

The **Field Operations Department (FOD)** is 45% of the division’s budget. The department manages the wastewater pretreatment, water treatment, and wastewater and water distribution functions, including the Carroll Water Treatment Plant (CWTP). This department is responsible for operating, maintaining, and metering both systems.

The **Planning and Coordination Department** provides planning, advocacy, and decision support services on policy, public health, regulatory, and operations matters regarding MWRA’s potable and wastewater systems.



The **Engineering and Construction Department** provides the following services to support the maintenance, repair, and rehabilitation of the wastewater and water systems: in-house engineering, consultant management, drafting, surveying, construction management, and other technical assistance. The department also oversees implementation of the Combined Sewer Overflow (CSO) plan.

The **Environmental Quality Department (EnQuad)** manages and reports on the monitoring of Boston Harbor and Massachusetts Bay water quality. The department also oversees MWRA's compliance with its National Pollutant Discharge Elimination System (NPDES) permits.

The **Laboratory Services Department** supports various client groups in the Operations Division, the Department of Conservation and Recreation (DCR), and the MWRA member communities, providing field sampling, laboratory testing, and reporting services. Most of the testing is required to meet the strict guidelines of regulatory programs and permits including the Safe Drinking Water Act (SDWA) and MWRA's NPDES permits.

The **Operations Administration Department** provides oversight and general management support in the areas of finance, contract administration, and personnel. The Operations Administration Department budget also includes funds for MWRA vehicle purchases and division-wide memberships.

FY14 Goals:

- Plan, develop, implement, and operate efficient, reliable, and economical water treatment/delivery and wastewater transport/treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the Safe Drinking Water Act (SDWA), the Clean Water Act, and National Pollutant Discharge Elimination System (NPDES) permits.
- Plan and implement rehabilitation of existing facilities and construction of new facilities including pipelines, pump stations, storage facilities, and treatment facilities on schedules that allow for sufficient system capacity and performance.
- Dispose of wastewater treatment by-products in a cost-effective and environmentally sound manner.

FY14 Initiatives:

Operations, Energy, and New Facilities Start-ups:

- Continue to implement and optimize Supervisory Control and Data Acquisition (SCADA) in Wastewater Operations facilities.
- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.
- Self-generate ~28% of Deer Island Treatment Plant's (DITP) required power through optimization of power generation assets, including the wind turbines and the Steam Turbine Generation (STG) back pressure system modifications.
- Identify and implement strategies for workforce succession in preparation for expected retirement of many MWRA employees in the upcoming five to ten years.

Engineering & Construction:

- Notice to Proceed for numerous contracts including the following major projects:
 - Water System
 - Long-Term Redundancy Wachusett Aqueduct Construction
 - Carroll Water Treatment Plant Existing Facilities Modifications CP 7
 - Carroll Water Treatment Plant Storage Tank Roof Drainage System
 - Southern Extra High System Redundancy and Storage Phase I Final Design
 - Wastewater System
 - DITP Asset Protection Gravity Thickener Rehabilitation
 - DITP Asset Protection DSL Pump Replacement Phase 2
 - DITP Asset Protection Winthrop Terminal Facility (WTF) VFD Replacement – Construction
 - DITP Asset Protection Digester and Storage Tank Rehabilitation Design
 - DITP HVAC Equipment Replacement Design
 - DITP Clarifier Phase 2 Design
 - Facility Asset Protection Rehabilitation of Sections 186 and 4 Construction
 - Facility Asset Protection Prison Point and Cottage Farm Facilities
- Substantially complete numerous CIP design and construction phases including the following:
 - Water System
 - CWTP Ultraviolet Disinfection Construction
 - Northern Intermediate High Gillis Pump Station Improvements
 - Weston Aqueduct Supply Mains Watertown Section Rehabilitation
 - Quabbin Transmission System Oakdale Phase 1A Electrical Construction
 - Dam Projects Safety Modification and Repair Design
 - Central Monitoring System Winsor Dam High Line Replacement
 - Wastewater System
 - DITP Miscellaneous VFD Replacements
 - DITP Expansion Joint Repair Construction 2
 - DITP Digester Sludge Pump Replacement Construction
 - DITP Primary and Secondary Clarifier Rehab Design
 - DITP Roof Replacement Phase 3
 - DITP Clarifier Flush System
 - Residuals Condition Assessment/Technology and Regulatory Review
 - DITP Asset Protection NMPS and WTF Butterfly Valve Replacement
 - DITP Scum Skimmer Replacement

Maintenance:

- Optimize staff resources, overtime, service contracts, and as-needed design contracts to complete routine and major maintenance projects.
- Continue work on numerous major projects at Deer Island including facility repainting and coating repairs, Zurn boiler maintenance and repairs, electrical system maintenance, motor bearing overhauls, digester mixer replacement, reactor gearbox rebuilds, and critical equipment maintenance.
- Work on numerous projects in Field Operations including meter inspection and repairs, manhole rehabilitation, HVAC and lighting efficiency upgrades, dam inspections, grinder repairs, and water tank inspections.

Environmental:

- Plan for implementation of requirements of the new National Pollutant Discharge Elimination System (NPDES) Permits for DITP (assume new permit is issued after FY14) and Clinton Wastewater Treatment Plant (assume new permit as of July 2013).
- Continue work on other harbor and outfall monitoring initiatives including: calculating revised thresholds, working with the Department of Conservation and Recreation to implement appropriate beach management practices in South Boston, and improving instrumentation on National Oceanic and Atmospheric Administration's (NOAA's) weather buoy.
- Review and revise the TRAC permit fee structure.
- Plan for the new round of NPDES-required Local Limit testing in TRAC to reassess industrial discharge limits. This work can commence after the Environmental Protection Agency (EPA) issues the new NPDES permits.
- Continue to prepare for the start-up of ultra-violet (UV) treatment at the Carroll Water Treatment Plant and Quabbin facility.
- Conduct invasive species removal and monitoring at water reservoirs.

FY13 Accomplishments:

Emergencies

- Successfully operated both systems during hurricane Sandy in late October 2012. Cleared more than 100 downed trees on the aqueduct right of ways and at reservoirs and facilities.

Operations, Energy, and New Facilities Start-ups:

- Procured Energy Management System for Southborough facility and LED outdoor lighting retrofits for numerous water and wastewater facilities. Completed indoor lighting retrofits at the Cottage Farm and Prison Point wastewater facilities. Completed energy audits at six MWRA facilities in the southern system.
- Assisted the Procurement Department with the procurement of contracts to supply and deliver chemicals for the water and wastewater system facilities. Chemicals procured included aqua ammonia, soda ash, sodium hypochlorite, hydrofluosilicic acid, ferric chloride, carbon dioxide, sodium bisulfite, nitrazyme, VX456, and polymer.
- Received revenue for energy generated at numerous facilities including the following: hydroelectric \$281,000 from Oakdale Station, \$204,000 from Cosgrove Station, and \$33,000 from the Loring Road Pump Station; solar \$92,000 from CWTP; wind \$344,000 from Charlestown Pump Station.
- Continued to leverage MWRA's self-generation assets and participation in the competitive energy market to offset operating costs. The combined impact of participation in the Independent System Operators of New England (ISO-NE) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) credits resulted in \$2.4 million in revenue for FY13. Deer Island also self-generated ~26% of the plant's total required power during that period.
- Processed 101 average tons per day of sludge at the Pelletization Plant and disposed of 7,057 tons of grit and screenings through a contracted vendor

Maintenance:

- The Operations Division spent \$23.4 million on maintenance of which \$13.1 million was for materials and \$10.3 million was for services.
- Procured and implemented numerous contracts for maintenance services including: DITP thermal and hydro power plant maintenance; DITP wind turbine maintenance; DITP CTG maintenance; DITP janitorial services; metro operations paving and electrical testing; crane maintenance; boiler and water heating service at numerous facilities; fuel storage tank maintenance; and DITP concrete/steel restoration and coating repair.
- Procured and implemented numerous contracts for maintenance projects including: dam repairs; dewatering pump replacements at headworks facilities; invasive species removal at the Wachusett reservoir; and rebuilding a grinder at the Braintree-Weymouth Pump Station.
- Completed numerous maintenance projects including winter maintenance on treatment train B at the CWTP; leak repair of a water main in Dorchester; pump vibration analysis at selected wastewater pump stations; scrubber inspection and cleaning at Nut Island; and building repairs and painting at numerous facilities.
- In the water system, exercised 988 and replaced 23 mainline valves and exercised 521 and replaced 15 blow-off valves.
- In the wastewater system, inspected 32.25 miles and cleaned 28.7 miles of MWRA pipeline. Also inspected 1,168 structures and rehabilitated 132 manholes.

Engineering, Construction, and Planning:

- Notice to Proceed for numerous contracts including the following major projects:
 - Water System
 - Weston Aqueduct Supply Mains WASM3 – MEPA/ Design/ CA/ RI
 - Weston Aqueduct Supply Mains Watertown Section Rehabilitation
 - Quabbin Water Treatment Plant - UVWTP – Construction
 - NIH Redundancy & Storage – Gillis Pump Station Improvements
 - Long-Term Redundancy – Sudbury Aqueduct MEPA Review
 - Wastewater System
 - DITP Centrifuge Backdrive Replacements
 - DITP Electric Equipment Upgrade – Construction 4
 - Facility Asset Protection NI Electric & Grit/Screenings Conveyance
- Substantially completed numerous projects including the following:
 - Water System
 - MetroWest Tunnel Lower Hultman Rehabilitation – Construction 6A
 - MetroWest Tunnel Upper Hultman Rehabilitation – Construction 6B
 - Southern Spine Distribution Mains Sections 21, 22, 43 Design
 - Northern Intermediate High Redundancy and Storage – Interconnections
 - Valve Replacement Construction 7
 - Lynnfield Pipeline Construction Phase 2
 - Dam Safety Modifications and Repairs, Construction

- Wastewater System
 - CSO Program North Dorchester Bay Tunnel - Design/ESDC
 - CSO Program North Dorchester Bay Tunnel and Facilities – CM Services
 - CSO Program North Dorchester Bay Facilities Design
 - CSO Program Brookline Sewer Separation project
 - CSO Program Morrissey Boulevard Drain Design
 - Clinton Aeration Efficiency Improvements

Environmental:

- The TRAC Department completed the following Environmental Protection Agency (EPA)-required work for significant industrial users: 212 inspections, 183 monitoring events, and 381 sampling of connections. This department also issued or renewed 274 permits to Significant Industrial Users (SIUs) and non-SIUs.
- The TRAC Department submitted the Industrial Pretreatment Program Annual Report to the EPA for FY12 in October 2012.
- The TRAC Department continued work on the review of local limits at the Clinton Wastewater Treatment Plant as required under the NPDES permit renewal process.
- At DITP, treated 98.9% of flow through secondary and met secondary permit limits at all times. Operated DITP without any NPDES Permit violations during FY13.
- EnQuad carried out permit-required environmental monitoring of Boston Harbor and Massachusetts Bay water column, sediments, fish and shellfish and CSO receiving water quality. The department finalized 17 technical reports, made monitoring results available on its website, and sent reports to government regulators, the Outfall Monitoring Science Advisory Panel and interested members of the public.
- Met all water quality and treatment standards for giardia in the drinking water system during FY13. Also, maximum turbidity results at Quabbin and Wachusett were within DEP standards.
- During FY13, the Department of Laboratory Services performed 254,736 tests including the annual Lead and Copper Rule testing and fish and shellfish testing for the Harbor and Outfall Monitoring program.

Budget Highlights:

- The FY14 Budget is \$160.8 million, which is \$3.5 million or 2.2%, more than FY13 Actual Spending.
- Increases from FY13 Actual Spending include:
 - The FY14 Budget of \$74.0 million for **Wages and Salaries** is an increase of \$3.3 million or 4.7 % from FY13 Actual Spending, primarily due to contractual wage increases; lower salaries for new hires as compared to their predecessors; and the expansion of the internship program in conjunction with the Authority’s succession planning and workforce development initiative. The FY14 Budget funds 933 filled positions on average during the year, approximately the same as were filled in FY13. The budget also includes \$783,500 for Stand-by Pay to ensure staffing availability and response during emergencies, \$241,000 for Temporary Employees, and \$283,000 for Interns to assist with peak workload and special initiatives.
 - The FY14 Budget for **Professional Services** is \$2.7 million, a net increase of \$564,000 or 26.1% from FY13 Actual Spending primarily due to the inclusion of funds for test-pit drillings; additional work on dam inspections and repairs; a periodic, comprehensive reservoir-wide plant population survey; a water system

leak detection survey; and projected spending for Harbor and Outfall Monitoring (HOM) contracts based on scheduled work. The FY14 Budget includes \$1.5 million for the HOM Program; \$460,000 for as-needed engineering support for CEB maintenance projects; \$203,500 for dam analysis, design, and inspection services; \$153,000 for outsourcing laboratory testing for peak and non-routine work; \$150,000 for utility test-pit borings for capital and maintenance projects; \$70,000 for energy services to support facility audits and energy procurements; \$60,000 for a reservoir-wide plant population survey; and \$50,000 for a water system leak detection survey.

- The \$10.7 million FY14 Budget for **Chemicals** is a net increase of \$532,000 or 5.2% from FY13 Actual Spending primarily due to price increases for soda ash, ferric chloride, sodium bisulfite, aqua ammonia, and other chemicals. Also, the budget for liquid oxygen at the Carroll Water Treatment Plant is more in FY14 than spent in FY13 primarily because of lower use in the Spring of 2013 due to better water quality. The FY14 Budget includes \$6.7 million for disinfection and treatment in the water system and \$4.0 million for disinfection, treatment, and odor control in the wastewater system. The FY14 Budget assumes reduced fluoride usage at the Carroll Water Treatment Plant will not be in effect in FY14 due to uncertainty regarding the commencement of the new regulations. The FY13 Final Budget included a partial year reduction in use based on expectations of regulatory approval in FY13.
- The FY14 Budget for **Maintenance** is \$23.9 million, a net increase of \$506,000 or 2.2% from FY13 Actual Spending primarily due to changes in project priorities from year to year (+\$844,000) offset by the varying annual contractual amounts for maintenance at the pelletization plant (-\$348,000). The FY14 Budget includes \$10.7 million for materials and \$13.3 million for services. By maintenance area, the largest categories of spending for materials and services include \$11.0 million for plant and machinery; \$4.7 million for building and grounds; \$2.7 million for specialized equipment; \$2.4 million for electrical, \$1.5 million for pipeline; and \$1.4 million for HVAC systems. The budget also funds special initiatives including \$500,000 for energy conservation projects in the Field Operations Department facilities; \$384,000 for invasive plant control in the water reservoirs; and \$320,000 for easement clearing. .
- The FY14 Budget of \$3.5 million for **Overtime** is a net increase of \$49,000 or 1.4% from FY13 Actual Spending. The FY14 Budget is sized based on multi-year spending patterns and includes adjustments for wage increases. The components of the budget include \$1.8 million for emergencies and wet weather staffing; \$943,000 for operational coverage; and \$705,000 for planned maintenance and other initiatives that must be completed at night or on weekends. The budget continues to incorporate reductions in overtime for coverage due to changes in staffing requirements and it also reflects managements' successful efforts to date to control spending for non-emergency overtime.
- The \$123,000 FY14 Budget for **Training and Meetings** covers specialized training, attendance at industry conferences, and site visits to other plants. The major training funded in the FY14 Budget includes \$15,000 for site visits to other water treatment plants that use ultra-violet technology, \$9,000 for annual boom deployment, \$8,000 for belt laser alignment, \$8,000 for cyber security, \$7,000 for electrical medium voltage, \$5,000 for SCADA, and \$5,000 for hydraulic equipment.
- Decreases from FY13 Actual Spending include:
 - The \$4.7 million FY14 Budget for **Other Materials**, a net decrease of \$1.1 million or 18.5% from FY13 Actual Spending. The FY14 Budget includes \$1.7 million for Vehicle Replacements; \$808,000 for Lab and Testing Supplies; \$524,000 for Equipment and Furniture; \$506,000 for Vehicle Expenses (gas, tolls); \$412,000 for Health and Safety Supplies; and \$318,000 for Work Clothes. The decrease is due to spending of \$1.7 million for radio replacements in FY13 that are not budgeted in FY14. This decrease is offset by increases for furniture replacement at the Chelsea office building and additional vehicle replacements associated with the aging fleet pool. Approximately 50% of the active fleet will be seven years or older at

the beginning of FY14. The FY14 Budget funds replacement of approximately 52 vehicles, or approximately 10.5% of the active fleet.

- The FY14 Budget of \$22.7 million for **Utilities** includes \$16.2 million for electricity, \$3.6 million for diesel fuel, \$2.0 million for water, and \$628,000 for natural gas. The utility budget by department is \$13.0 million for DITP, \$5.1 million for Wastewater Operations, \$3.7 million for Water Operations, \$571,000 for the Chelsea Office facilities, and \$241,000 for the Clinton Wastewater Treatment Plant.

The Division's FY14 Budget is a net decrease of \$307,000 or 1.3% from FY13 Actual Spending due to a decrease of \$781,000 for electricity; offset by increases of \$185,000 for diesel fuel, \$177,000 for natural gas, and \$50,000 for water. The electricity decrease is due to projected lower prices in FY14 than in FY13 of \$1.2 million offset by slightly higher purchased quantity estimates based on historical averages of \$380,000. The diesel fuel increase is due to projected higher prices for FY14 versus FY13 of \$680,000 offset by lower purchased quantities primarily because of heating system conversions from diesel fuel to natural gas at the Braintree-Weymouth Intermediate Pump Station and the Chelsea Headworks facility. The increase for natural gas is also due to the heating system conversion, although the net annual impact of the project on overall utilities spending is projected to result in savings in FY14.

- The FY14 Budget for **Other Services** is \$18.5 million and it funds \$13.8 million for sludge pelletization services; \$1.8 million for the Chelsea Office Building lease; \$903,000 for grit and screenings removal and disposal; \$607,000 for telephones; and \$403,000 for police details. The net decrease of \$118,000 or less than 1% from FY13 Actual Spending is primarily due to a shift in funding for invasive plant control to maintenance to reflect the on-going nature of the work. The FY14 Budget for sludge pelletization is essentially level-funded as compared to FY13 spending due to the net effect of lower projected inflation rates for natural gas in FY14 versus FY13, offset by higher projected tonnage (104 tpd) in FY14 versus FY13 spending (101 tpd) based on historical averages.
- The FY14 Budget is subject to risk in the following areas: timing of the new NPDES permits for Clinton and Deer Island; chemical and utility usage and prices; sludge quantities; impacts of co-digestion at DITP; timing of changes in fluoride regulations; and more than expected emergency-related maintenance, stand-by pay, and overtime needs.

OPERATIONS ADMINISTRATION

FY14 Final Current Expense Budget OPERATIONS ADMINISTRATION							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14		
WAGES & SALARIES	\$ 1,865,867	\$ 1,905,682	\$ 1,915,020	\$ 1,514,411	\$ (400,609)	-20.9%	
OVERTIME	238	101	-	-	-	-	
FRINGE BENEFITS	-	-	-	-	-	-	
ONGOING MAINTENANCE	-	(342)	-	-	-	-	
TRAINING & MEETINGS	2,284	6,812	1,010	5,200	4,190	414.9%	
PROFESSIONAL SERVICES	5,467	9,740	166,309	30,000	(136,309)	-82.0%	
OTHER MATERIALS	713,187	761,668	1,450,594	1,702,250	251,656	17.3%	
OTHER SERVICES	105,087	197,288	216,284	198,639	(17,645)	-8.2%	
TOTAL	\$ 2,692,130	\$ 2,880,949	\$ 3,749,217	\$ 3,450,500	\$ (298,717)	-8.0%	

The **Operations Administration Department** is comprised of the Office of the Chief Operating Officer; the Office of the Deputy Chief Operating Officer of Program, Policy and Planning; and division-level support staff. The department's primary goal is to oversee, manage, and implement MWRA policies and procedures pertaining to the following functions: administration, labor relations, finance, contract administration, and general management.

Budget Highlights:

- The FY14 Budget is \$3.5 million, a decrease of \$300,000 or 8.0% from FY13 Actual Spending.
- \$1.5 million for **Wages and Salaries**, a decrease of \$400,000 or 20.9% from FY13 Actual Spending. The funding supports 25 filled positions in the department offset by a division-wide vacancy adjustment equivalent to 7 positions.
- \$5,000 for Training & Meetings, an increase of \$ 4,000 or 414.9% from FY13 Actual Spending. The increase supports the Deputy Chief Operating Officer's training and meeting expenses, which were previously charged to the Field Operations Department.
- \$30,000 for **Professional Services**, a decrease of \$136,000 or 82.0%, from FY13 Actual Spending. Funding covers energy consulting services to support procurements and evaluation of projects. The decrease from FY13 to FY14 is primarily due to the unbudgeted spending in FY13 for preparation of the Massachusetts Emergency Management Agency (MEMA)/Federal Emergency Managements Agency (FEMA) Hazard Mitigation Grant Program applications.
- \$1.7 million for **Other Materials**, an increase of \$252,000 or 17.3%, from FY13 Actual Spending. The budget includes \$1.7 million for the replacement of aged vehicles in MWRA's fleet, which is \$200,000 more than FY13 spending due to the need to replace numerous older vehicles. The FY14 Budget will allow MWRA to replace approximately 52 vehicles which is ~10.5% of the active fleet. Actual spending for vehicle purchases for FY02-FY13 is as follows:

FY02: \$ 622,000	FY07:\$1,846,396	FY12: \$ 757,946
FY03: \$ 120,000	FY08:\$1,425,758	FY13: \$1,466,672
FY04: \$1,580,000	FY09:\$1,134,779	
FY05: \$1,237,289	FY10:\$ 826,513	
FY06: \$ 717,381	FY11:\$ 706,368	

From FY00 to FY03, MWRA limited replacement of vehicles pending completion of an extensive fleet review. In FY03 MWRA reduced the active fleet by more than 11% (from 561 to 496 vehicles) as a result of this initiative. For example, staff identified opportunities to meet the needs of the new waterworks system facilities through redeployment of existing vehicles rather than adding to the fleet. Approximately 50% of MWRA's active, operable fleet is seven years or older.

- \$199,000 for **Other Services** which is a decrease of \$18,000 or 8.2% from FY13 Actual Spending. Of this amount, \$198,000 is for Authority-wide memberships including the American Waterworks Association Research Foundation (AWWARF), National Association of Clean Water Agencies (NACWA), Association of Metropolitan Water Agencies (AMWA), American Waterworks Association (AWWA), and the Boston Harbor Association (BHA) marine debris program. The FY14 Budget continues to include partial funding for MWRA's membership in AWWARF.

WASTEWATER TREATMENT

FY14 Final Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 16,976,936	\$ 17,557,331	\$ 17,825,908	\$ 18,733,596	\$ 907,688	5.1%
OVERTIME	950,891	764,150	866,545	1,064,133	197,588	22.8%
FRINGE BENEFITS	19,075	15,150	16,082	15,330	(752)	-4.7%
CHEMICALS	2,271,711	2,773,772	3,397,825	3,481,960	84,135	2.5%
UTILITIES	12,296,072	13,537,849	13,673,883	13,206,619	(467,264)	-3.4%
ONGOING MAINTENANCE	12,772,381	13,672,935	13,774,496	13,453,529	(320,967)	-2.3%
TRAINING & MEETINGS	1,787	5,439	7,907	13,500	5,593	70.7%
PROFESSIONAL SERVICES	346,189	111,911	76,076	173,200	97,124	127.7%
OTHER MATERIALS	504,686	525,659	541,990	558,640	16,650	3.1%
OTHER SERVICES	15,107,186	15,970,725	15,044,368	15,119,632	75,264	0.5%
TOTAL	\$ 61,246,914	\$ 64,934,921	\$ 65,225,080	\$ 65,820,139	\$ 595,059	0.9%

FY14 Final Current Expense Budget WASTEWATER TREATMENT						
FACILITY	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
DEER ISLAND	\$ 44,246,489	\$ 46,886,554	\$ 47,795,291	\$ 48,614,549	\$ 819,258	1.7%
RESIDUALS	15,539,049	16,531,865	15,906,759	15,574,057	(332,702)	-2.1%
CLINTON	1,461,376	1,516,502	1,523,030	1,631,533	108,503	7.1%
TOTAL	\$ 61,246,914	\$ 64,934,921	\$ 65,225,080	\$ 65,820,139	\$ 595,059	0.9%

The **Deer Island Treatment Plant**, the **Residuals Management Program**, and the **Clinton Treatment Plant** comprise the Wastewater Treatment Department. Together, the budgets for these programs represent 41% of the Operations Division’s FY14 Budget and 31% of MWRA’s FY14 Direct Expense Budget.

Incoming wastewater from MWRA customer communities is piped to several headworks facilities where large objects are screened out before the influent is transmitted to Deer Island Treatment Plant through underground tunnels. At Deer Island, wastewater from the north system is pumped through chambers that remove grit and detritus for disposal in an off-island landfill. South system flows undergo preliminary treatment at the Nut Island headworks and are then pumped directly into the primary treatment facility, bypassing the grit removal chambers. The primary treatment facility consists of stacked clarifiers where scum rises to the top and the sludge settles to the bottom. Secondary reactors and clarifiers remove organic matter through biological and gravity treatment. Primary and secondary sludge and scum are thickened, anaerobically digested, and further thickened to reduce the volume of sludge before it is pumped through the Braintree-Weymouth tunnel to MWRA's Residuals Processing Facility at Fore River Staging Area (FRSA). Methane, a byproduct of anaerobic digestion, is used to fuel the plant's boilers, which produce steam to provide heat and generate electricity.

DEER ISLAND TREATMENT PLANT

FY14 Final Current Expense Budget DEER ISLAND TREATMENT PLANT						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 16,278,877	\$ 16,822,253	\$ 17,105,459	\$ 17,947,200	\$ 841,741	4.9%
OVERTIME	916,406	717,421	809,580	1,011,633	202,053	25.0%
FRINGE BENEFITS	18,716	14,465	15,300	14,330	(970)	-6.3%
CHEMICALS	2,066,352	2,559,694	3,107,477	3,190,008	82,531	2.7%
UTILITIES	11,985,464	13,270,049	13,452,849	12,966,045	(486,804)	-3.6%
ONGOING MAINTENANCE	11,736,526	12,504,338	12,567,714	12,577,743	10,029	0.1%
TRAINING & MEETINGS	1,127	5,439	7,907	9,800	1,893	23.9%
PROFESSIONAL SERVICES	344,215	110,273	74,510	170,500	95,990	128.8%
OTHER MATERIALS	397,774	385,968	382,007	409,900	27,893	7.3%
OTHER SERVICES	501,032	496,654	272,488	317,390	44,902	16.5%
TOTAL	\$ 44,246,489	\$ 46,886,554	\$ 47,795,291	\$ 48,614,549	\$ 819,258	1.7%

Program Description and Goals:

The **Deer Island Treatment Plant** budget accounts for 30% of the Operations Division’s FY14 Budget. DITP has a peak primary treatment capacity of 1.27 billion gallons per day (bgd) and peak secondary treatment capacity of 700 million gallons per day (mgd).

Wastewater "influent" from MWRA customer communities arrives at the plant through four underground tunnels. Pumps then lift the influent 80 to 150 feet, depending on the tunnel, to the head of the plant.

North system flows pass through grit channels and bar screens at the Headworks that remove grit and screenings for disposal in an off-island landfill. South system flows are pre-treated for grit at Nut Island and the Braintree-Weymouth Intermediate Pump Station. Flow is routed to primary treatment clarifiers, which remove about half of the pollutants brought to the plant in typical wastewater (removes 50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants). In the clarifiers, gravity separates sludge and scum from the wastewater.

In secondary treatment, reactors and clarifiers remove non-settleable solids through biological and gravity treatment. The biological process is a pure oxygen-activated sludge system, using microorganisms to consume organic matter that remain in the wastewater flow. Secondary treatment raises the level of pollution removal to over 85%. Approximately 130 tons of pure oxygen is manufactured each day at Deer Island's cryogenic facility to support the biological treatment process.

Sludge from primary and scum from both primary and secondary treatment are thickened in gravity thickeners. Sludge from secondary treatment is thickened in centrifuges. Polymer is used in the secondary sludge thickening process to increase its efficiency. Digestion occurs in the egg-shaped anaerobic digesters at the Deer Island Treatment Plant. There are a total of 12 digesters, each 90 feet in diameter and approximately 140 feet tall (128 ft liquid level). Microorganisms naturally present in the sludge work to break sludge and scum down into methane gas, carbon dioxide, solid organic byproducts, and water. Digestion significantly reduces sludge quantity. The methane gas produced in the digesters is used in the plant's on-site power generating facility to save operating costs by reducing consumption of fuel oil for heating and purchased energy. Digested sludge is pumped through the Nut Island inter-island tunnel and Braintree-Weymouth extension tunnel directly to the MWRA’s Pelletizing Facility at Fore River, where it is further processed into a fertilizer product.

Organizational Structure:

The Deer Island Plant has six major functional areas: Operations, Thermal Power Plant, Process Control, Maintenance, Capital Engineering, and Operations and Maintenance (O&M) Support.

- Operations staff manages the day-to-day operation of plant processing units, performs minor preventative maintenance activities, and oversees plant functions 24 hours per day, seven days per week.
- Thermal Power Plant staff manages and operates the Deer Island generation and thermal systems. Power Plant personnel provide 24 hour operation of the high-pressure, high temperature steam power plant. This facility is capable of producing up to 70 megawatts of emergency electrical power.
- Process Control manages and maintains the following programs in support of plant operations; real-time process instrumentation and control system (PICS), operational data system (OMS), plant performance monitoring and reporting programs, and regulatory compliance programs including all plant permits, water quality, and air quality. The Process Control Unit provides the technical expertise for plant unit operations and routinely performs process optimization studies to help increase performance and reduce operating costs.
- Maintenance performs preventive and predictive maintenance and corrective repairs on all equipment, utilizing a computerized maintenance management system (CMMS) to coordinate scheduling with Operations. Staff has developed the Reliability Centered Maintenance (RCM) program, which has improved plant performance by applying maintenance resources where they are most effective. RCM analyzes the operating systems with the objective of ensuring critical functions operate as required. Implementation of a preventive maintenance program using RCM helps reduce the cost of maintaining the plant and improves the efficiency by anticipating when maintenance will be required. An on-island warehouse, managed by Procurement Department staff, ensures there is adequate stock for maintenance repairs and plant operations.
- Capital Engineering provides technical support services for both the Operations and Maintenance Units. Staff is responsible for all aspects of plant engineering including developing, procuring, and implementing all service contracts, consultant designs, and capital improvement projects at Deer Island. This group also manages the on-island Technical Information Center, which provides services to the Deer Island Treatment Plant (DITP) community and external constituents, and ensures quick access to plant drawings and technical information for operational and maintenance needs.
- O&M Support Section is responsible for supporting the business needs of the plant. The Administration and Finance Unit provides financial and administrative support to meet daily operational needs of the plant. The Safety/Security Unit is responsible for ensuring a safe and healthful work environment for employees and minimizing MWRA's exposure to liability and property loss or damage.

The Deer Island Director's Office provides overall policy direction and support in the areas of public access and community agreements.

Operating Assumptions

Deer Island's FY14 Budget assumes treatment of an average flow of 360 mgd based on twelve years of historical data. The projected quantity of digested sludge to be pumped to FRSA (TSS basis) is 104 TPD. This is based on data from the seven years after the discontinuation of the DSL centrifuges and the start-up of the Braintree-Weymouth tunnel. It also accounts for recent improvements to digestion rates as a result of equipment modifications.

Deer Island's FY14 Budget accounts for the impact of self-generation of electricity from the steam turbine generators, combustion turbine generators, hydroelectric generators, wind turbine generators, and photovoltaic panels. In total, these assets will provide approximately 28% of the total energy requirements.

Deer Island continues to comply with the conditions of the current National Pollutant Discharge Elimination System (NPDES) Permit which expired in FY06. Given the uncertainty regarding the timing of the permit renewal from the Environmental Protection Agency (EPA), Deer Island's FY14 Budget does not assume the new permit will be in effect for FY14. When the new permit is issued, it is anticipated that Deer Island's treatment process will be required to kill enterococcus in addition to fecal coliform to comply with the new regulations.

Budget Highlights:

- The FY14 Budget is \$48.6 million, an increase of \$819,000 or 1.7%, from FY13 Actual Spending.
- \$17.9 million for **Wages and Salaries**, an increase of \$842,000 or 4.9%, from FY13 Actual Spending primarily due to wage increases. The FY14 Budget funds on average 230 filled permanent positions, three less than budgeted in FY13. The FY14 Budget also includes \$194,000 for stand-by pay to support operational and maintenance needs primarily during storms and emergencies.
- \$1.0 million for **Overtime**, which is \$202,000 or 25.0% more than FY13 Actual Spending. The increase is mainly due to the FY14 Budget having a higher estimate for wet weather/storm overtime than what was actually spent in FY13. The FY14 budget is based on historical spending whereas FY13 was lower than anticipated due to a relatively mild winter. Overtime supports operational coverage, critical maintenance projects, and regulatory requirements (i.e. inspections).
- \$3.2 million for **Chemicals**, an increase of \$83,000 or 2.7%, from FY13 Actual Spending. The FY14 Budget reflects management's expectation that a new NPDES permit will not be in effect for Deer Island for FY14. The budget includes \$1.2 million for sodium hypochlorite, \$810,000 for ferric chloride, \$309,000 for polymer, \$273,000 for activated carbon, and \$148,000 for sodium bisulfite. The increase from FY13 to FY14 is primarily due to a projected net increase in chemical prices.
- \$13.0 million for **Utilities**, a decrease of \$487,000 or 3.6% from FY13 Actual Spending mainly due to lower projected Electricity pricing offset by diesel fuel for higher projected quantity and pricing than that in FY13. The FY14 Budget includes \$9.6 million for electricity, \$1.8 million for diesel fuel, and \$1.5 million for water. The FY14 Budget reflects the average of several years of actual data for power usage and self-generation. The FY14 Budget also reflects revised self-generation estimates for the new back pressure steam turbine generator (STG), based on limited FY13 actual output.
- \$12.6 million for **Maintenance**, which is essentially level-funded with FY13 Actual Spending. The FY14 Budget includes \$5.6 million for materials and \$7.0 million for services. Of the total, \$8.0 million or 64% is for plant and machinery services and materials, \$1.8 million is for electrical system maintenance, and \$1.2 million is for building and grounds work.
- \$171,000 for **Professional Services**, an increase of \$96,000 or 128.8%, from FY13 Actual Spending. The increase is due to funding for 'as-needed' design contracts to support the development of major CEB-funded

maintenance projects. The budget reflects the level of support expected for the priority projects in FY14. Spending for these services in FY13 was less than expected due to shifts in project priorities.

- \$410,000 for **Other Materials**, an increase of \$28,000 or 7.3%, from FY13 Actual Spending. The FY14 Budget includes \$150,000 for health and safety materials, \$98,000 for work clothes, and \$68,000 for vehicles expenses (tolls, mileage, and gas).
- \$317,000 for **Other Services**, an increase of \$45,000 or 16.5% from FY13 Actual Spending. The FY14 Budget includes \$101,000 for permit fees, \$50,000 for fax and copier leasing and servicing, \$62,000 for hazardous safety services, \$36,000 for telephones, and \$12,000 for freight charges.

RESIDUALS MANAGEMENT

FY14 Final Current Expense Budget RESIDUALS MANAGEMENT PROGRAM						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 107,382	\$ 113,188	\$ 116,333	\$ 116,915	\$ 582	0.5%
OVERTIME	-	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
UTILITIES	-	-	-	-	-	-
ONGOING MAINTENANCE	843,858	965,977	1,021,639	673,847	(347,792)	-34.0%
TRAINING & MEETINGS	-	-	-	3,400	3,400	-
PROFESSIONAL SERVICES	-	-	-	1,000	1,000	-
OTHER MATERIALS	-	-	12,079	100	(11,979)	-99.2%
OTHER SERVICES	14,587,809	15,452,700	14,756,708	14,778,795	22,087	0.1%
TOTAL	\$ 15,539,049	\$ 16,531,865	\$ 15,906,759	\$ 15,574,057	\$ (332,702)	-2.1%

Program Description and Goals:

The **Residuals Management Program** manages the processing and disposal of approximately 101-110 dry tons per day (on average per year) total suspended solids (TSS) of sludge from the anaerobic digestion process at Deer Island Treatment Plant, as well as the disposal of grit and screenings from all MWRA facilities. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

- MWRA contracts with the New England Fertilizer Company (NEFCo) to operate the sludge processing facility, and to market and distribute sludge products. A 15-year contract with NEFCo became effective March 1, 2001 and will expire on December 31, 2015. Liquid sludge from Deer Island is pumped through the Braintree-Weymouth cross-harbor tunnel to the Fore River processing facility where it is dewatered, dried, and shipped by either rail or truck for use as fertilizer or to other appropriate disposal. MWRA is committed to the beneficial reuse of biosolids to the greatest extent practicable.

In FY11, MWRA completed a third-party independent condition assessment of the NEFCo facility. The consultants noted the facility was in excellent condition and recommended only minor modifications to several control system devices.

- The budget is based on 104 tons per day (TPD based on TSS), consistent with historical actual annual tonnage since the start-up of the Braintree-Weymouth tunnel through FY13, discounted to reflect recent improvements in digestion as a result of equipment modifications.
- Grit and screenings (minor residuals) from MWRA's headworks and certain pump stations are collected and disposed of in landfills. MWRA contracts with a third party operator for this service. Minor residuals are by-products of wastewater pre-treatment and primary/secondary treatment processes and include grit, screenings, and scum screenings. .

Budget Highlights:

- The FY14 Budget is \$15.6 million, a decrease of \$333,000 or 2.1%, from FY13 Actual Spending.
- \$117,000 for **Wages and Salaries**, which is primarily level funded with FY13 Actual Spending and funds one position. This department also receives on-going management oversight and staff support from other departments of the MWRA including Deer Island, Treasury, and Operations Administration.

- \$674,000 for **Maintenance**, a decrease of \$348,000 or 34.0%, from FY13 Actual Spending. The funding supports the capital repair, replacement, and improvement component of the NEFCo contract, which includes a specific level per year adjusted to account for inflation. The change from FY13 to FY14 is based on an approved replacement schedule established at the time of the contract award.
- \$14.8 million for **Other Services**, an increase of \$22,000 or 0.1% from FY13 Actual Spending. The FY14 Budget primarily funds the **Sludge Pelletization** portion of the NEFCo contract. The FY14 Budget includes \$13.8 million for sludge is essentially level-funded as compared to FY13 spending due to the net effect of lower projected inflation rates for natural gas in FY14 versus FY13, offset by higher projected tonnage (104 tpd) in FY14 versus FY13 actuals (101 tpd) based on historical averages. In addition, this line item also covers Grit and Screenings disposal of \$903,000 and Printing of \$20,000.

CLINTON WASTEWATER TREATMENT PLANT

FY14 Final Current Expense Budget CLINTON WASTEWATER TREATMENT PROGRAM						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 590,677	\$ 621,889	\$ 604,116	\$ 669,480	\$ 65,364	10.8%
OVERTIME	34,485	46,728	56,965	52,500	(4,465)	-7.8%
FRINGE BENEFITS	359	685	782	1,000	218	27.9%
CHEMICALS	205,359	214,078	290,347	291,951	1,604	0.6%
UTILITIES	310,608	267,800	221,034	240,574	19,540	8.8%
ONGOING MAINTENANCE	191,997	202,620	185,143	201,940	16,797	9.1%
TRAINING & MEETINGS	660	-	-	300	300	-
PROFESSIONAL SERVICES	1,973	1,638	1,566	1,700	134	8.6%
OTHER MATERIALS	106,913	139,691	147,904	148,640	736	0.5%
OTHER SERVICES	18,345	21,373	15,173	23,448	8,275	54.5%
TOTAL	\$ 1,461,376	\$ 1,516,502	\$ 1,523,030	\$ 1,631,533	\$ 108,503	7.1%

Program Description and Goals:

The **Clinton Wastewater Treatment Program** provides advanced sewage treatment services to the Town of Clinton and the Lancaster Sewer District. MWRA assumed formal operational responsibility for the Clinton plant in 1987. Since then MWRA has designed and constructed new primary, secondary, and advanced treatment facilities which incorporated rehabilitated portions of the existing plant with new construction. The new facilities, designed to meet all current and projected National Pollutant Discharge Elimination System (NPDES) discharge standards, was completed in 1992.

The plant provides secondary treatment using an activated sludge process in combination with advanced nutrient removal and dechlorination. The major facilities include a headworks, primary settling tanks, digesters, sludge processes, trickling filters, aeration tanks, secondary tanks, and a chemical addition building. The plant discharges its effluent into the South Nashua River in accordance with the discharge limits of the facility's NPDES permit which limits effluent flow to 3.01 mgd. The plant has a potential peak flow rate of 12 mgd and a 6 mgd peak 24 hour rate. Residual materials are pressed and transported to an MWRA-owned landfill for disposal. Staff also performs regular monitoring of the landfill site.

The FY14 Budget reflects the first full year of operation of the Clinton aeration system efficiency improvements and redundant pumping at the influent and intermediate lift stations. These improvements were completed in the calendar year 2013. Staff commenced the projects based on a consultant study that recommended installing fine bubble diffusers in three of the six secondary aeration tanks and removing the existing mechanical mixers to obtain a better oxygen transfer rate while reducing electricity consumption. In FY12, the project scope was expanded to include the installation of four permanent submersible auxiliary pumps to increase pumping capacity during high flow conditions in the plant and also the installation of SCADA to control the system, collect and store data, and visually monitor the processes. The redundant pumps also enable MWRA to avoid the cost of renting additional pumps which were required four times in the past two years. Further, the new submersible pumps are energy efficient and will significantly reduce the plant's energy consumption (approximate savings of \$35,000 per year). National Grid allotted a grant for \$177,000 for this work which became available at completion in early 2013.

Budget Highlights:

- The FY14 Budget is \$1.6 million, an increase of \$109,000 or 7.1% from FY13 Actual Spending.

- \$669,000 for **Wages and Salaries**, an increase of \$65,000 or 10.8% from FY13 Actual Spending. This funds eight positions and one part-time contract clerical position. FY14 spending is higher than FY13 due to wage increases and lower than budgeted headcount in FY13. Wages and Salaries represent 41% of the FY14 budget.
- \$53,000 for **Overtime**, a decrease of \$4,000 or 7.8% from FY13 Actual Spending. Overtime is used for critical maintenance work and to meet the 24 hour, 7 day per week emergency coverage requirement.
- \$292,000 for **Chemicals**, essentially level funded with FY13 Actual Spending. Chemicals are used for sludge processing and disposal and wastewater treatment. The FY14 Final Budget assumes the new NPDES permit will be in effect for the full year. Chemicals represent 17.9% of the budget.
- \$241,000 for **Utilities**, an increase of \$20,000 or 8.8% from FY13 Actual Spending. The budget includes \$166,000 for electricity, \$62,000 for fuel oil, and \$12,000 for water. The increase in FY14 is mainly due to lower than projected electricity spending in FY13 due to efficiency initiatives. Utilities represent 14.7% of the FY14 budget.
- \$202,000 for **Maintenance**, a \$17,000 or 9.1% increase from FY13 Actual Spending. The FY14 Budget includes \$61,000 for major projects based on the most current rolling priority list. The remainder of the budget is for routine materials and services. Maintenance represents 12.4% of the FY14 budget.
- \$149,000 for **Other Materials**, essentially level funded with the FY13 Actual Spending. The Other Materials budget includes \$136,000 for clean fill for the landfill operation.
- \$23,000 for **Other Services**, an \$8,000 or 54.5% increase from FY13 Actual Spending. The budget includes \$11,000 for permit fees, \$5,000 for telephones, and \$3,000 for railroad easement expenses.

FIELD OPERATIONS

FY14 Final Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 34,976,521	\$ 35,927,958	\$ 36,361,523	\$ 37,921,216	\$ 1,559,693	4.3%
OVERTIME	2,655,359	2,102,678	2,460,544	2,335,282	(125,262)	-5.1%
FRINGE BENEFITS	47,180	38,114	41,658	44,105	2,447	5.9%
CHEMICALS	6,425,336	6,497,757	6,741,432	7,189,265	447,833	6.6%
UTILITIES	9,526,403	9,111,793	9,263,150	9,426,655	163,505	1.8%
ONGOING MAINTENANCE	11,596,068	9,743,801	9,374,057	10,135,603	761,546	8.1%
TRAINING & MEETINGS	62,590	62,671	83,335	86,800	3,465	4.2%
PROFESSIONAL SERVICES	405,450	507,936	556,814	683,500	126,686	22.8%
OTHER MATERIALS	1,020,851	2,022,727	2,708,894	1,258,830	(1,450,064)	-53.5%
OTHER SERVICES	2,898,012	3,101,844	3,190,312	3,009,625	(180,687)	-5.7%
TOTAL	\$ 69,613,770	\$ 69,117,279	\$ 70,781,719	\$ 72,090,881	\$ 1,309,162	1.8%

FY14 Final Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
TOXIC REDUCTION & CONTROL	\$ 3,504,134	\$ 3,524,789	\$ 3,344,030	\$ 3,500,740	\$ 156,710	4.7%
WASTEWATER OPERATIONS	12,120,182	11,877,271	12,223,167	12,530,698	307,531	2.5%
WATER OPERATIONS & MAINT	26,266,747	25,685,781	26,424,382	27,762,546	1,338,164	5.1%
METRO MAINTENANCE	14,402,761	14,586,284	13,354,828	13,996,658	641,830	4.8%
OPERATIONS SUPPORT	8,617,057	8,201,808	8,599,003	8,960,713	361,710	4.2%
FOD ADMIN	4,702,889	5,241,346	6,836,309	5,339,526	(1,496,783)	-21.9%
TOTAL	\$ 69,613,770	\$ 69,117,279	\$ 70,781,719	\$ 72,090,881	\$ 1,309,162	1.8%

The primary goal of the **Field Operations Department (FOD)** is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring program. FOD consists of six operating units: Toxic Reduction and Control, Wastewater Operations, Metropolitan Maintenance, Water Operations and Maintenance, Operations Support, and Administration.

The Toxic Reduction and Control (TRAC) Department operates a multi-faceted program to minimize and control the inflow of hazardous or toxic materials into the MWRA sewer system. TRAC operates MWRA's Environmental Protection Agency (EPA) approved Industrial Pretreatment Program and is responsible for all associated activities which include conducting inspections (approximately 700 annually), issuing permits (300 annually), conducting sampling (more than 2,000 events annually), and carrying out enforcement activities (approximately 400 annually). The program tracks more than 1,400 permitted facilities and 4,000 gas/oil separators. TRAC uses a software application, Pre-treatment Information Management System (PIMS), to manage an extensive amount of industrial data on analytical test results, compliance status, and facility sampling and permitting requirements.

Wastewater Operations operates MWRA's wastewater transport facilities, including four continuously staffed Headworks facilities; 12 fully automated pumping stations; and seven Combined Sewer Overflow (CSO) facilities which are similarly unstaffed. FY13 was the first full-year of operation of the South Boston CSO facilities. The wastewater system is monitored and controlled from the operations control center (OCC) in Chelsea.

Water Operations and Maintenance is responsible for the treatment and delivery of approximately 207 million gallons per day (mgd) (three year average) of water from the Quabbin and Wachusett reservoirs to the community water systems. The water system encompasses a service area from Chicopee in the western part of the state to Lynnfield, Wakefield, Marblehead, Norwood and Canton in the metropolitan area. This unit operates and maintains MWRA's western waterworks facilities, including the Carroll Water Treatment Plant, the MetroWest Tunnel, the Ware Water Treatment Plant, the Cosgrove Intake Facility, the Norumbega Reservoir, and the covered storage facilities. There are two operations centers that provide for monitoring and control of the water system on a 24-hour per day basis. The Metropolitan Operations and Control Center (OCC) is located at MWRA's Chelsea facility and the Western Operations Center is located at the Carroll Water Treatment Plant.

Metropolitan Maintenance is responsible for the maintenance of MWRA's wastewater and water systems and facilities within the Route 128 area. Staff maintains pipelines, valves, interceptors, pumps, facility equipment, buildings, and grounds. Metropolitan Maintenance staff maintains a waterworks network of approximately 300 miles of water mains, 4,900 valves, 18 miles of deep rock tunnels, ten pump stations, eight tunnel shafts, eleven distribution storage tanks, a wastewater network of 240 miles of wastewater interceptors and appurtenances, 12 pump stations, four headworks, and six CSO facilities. In addition, this unit performs TV inspections of the wastewater interceptor system and leak detection.

Operations Support provides technical support to the Field Operations Department (FOD) in the areas of engineering, quality assurance, data management, metering, and monitoring. Engineering staff coordinates all engineering issues related to the operation of the water and wastewater systems. The Quality Assurance Unit monitors water treatment effectiveness, identifies treatment issues, and develops recommendations for water treatment improvements. Data management activities include performance reporting on water quality, development and maintenance of water quality treatment and optimization models, and tracking and analyzing chemical and hydraulic flow data. The Metering and Monitoring unit maintains 179 revenue water meters, 26 master water meters, 187 revenue wastewater meters, and 35 other wastewater monitoring sites. This unit collects meter data for operational and revenue generating purposes from the water and wastewater systems. It is also responsible for the maintenance of the water and wastewater Supervisory Control and Data Acquisition (SCADA) systems.

FOD Administration provides financial, administrative, planning, and policy oversight functions for the entire Field Operations Department.

Budget Highlights:

- The FY14 Budget is \$72.1 million, an increase of \$1.3 million or 1.8% from FY13 Actual Spending.
- \$37.9 million for **Wages and Salaries**, which is \$1.6 million or 4.3% more than FY13 Actual Spending mainly due to wage increases and fewer than budgeted positions in FY13. The Wages and Salaries line item accounts for 53% of the FY14 Budget and funds 502 positions, ten fewer than budgeted in FY13. Of the remaining budget, \$543,000 is for stand-by pay to ensure support for operational and maintenance needs during wet weather and emergencies. The budget also includes \$84,000 for interns and \$40,000 for temporary employees to provide support in several areas including operations engineering, SCADA, and TRAC.
- \$2.3 million for **Overtime**, a decrease of \$125,000 or 5.1% from FY13 Actual Spending due to higher emergency overtime due to storm events in FY13. The budget includes \$1.2 million for emergency related overtime, \$571,000 for planned overtime covering scheduled maintenance and training, and \$564,000 for operational coverage needs.

- \$7.2 million for **Chemicals**, of which \$6.7 million is for water treatment and \$516,000 is for wastewater treatment. The FY14 Budget is \$448,000 or 6.6% more than FY13 Actual Spending due to price and volume increases for water chemicals, including soda ash and liquid oxygen. The budget also reflects price increases for wastewater chemicals, including Nitrazyme and V/X. The FY14 Budget includes \$3.4 million for soda ash for alkalinity control, \$1.1 million for sodium hypochlorite for disinfection, \$762,000 for hydrofluosilicic acid for fluoridation, \$726,000 for liquid oxygen for ozone generation, \$290,000 for carbon dioxide to control water pH, \$218,000 for sodium bisulfite for dechlorination, \$273,000 for aqua ammonia for disinfection, \$264,000 for Nitrazyme and VX-456 for Framingham Extension Relief Sewer odor and corrosion control, and \$37,000 for sodium hydroxide for pH and odor control.
- \$9.4 million for **Utilities**, an increase of \$164,000 or 1.8% from FY13 Actual Spending. The FY14 Budget includes \$6.4 million for electricity, \$1.8 million for diesel fuel, \$628,000 for natural gas, and \$454,000 for water. The increase from FY13 to FY14 is the net effect of price increases for electricity, offset by lower quantities for diesel due to the conversion of heating systems at two headworks facilities from diesel to natural gas.
- \$10.1 million for **Maintenance**, an increase of \$762,000 or 8.1% from FY13 Actual Spending. The increase is due to project priorities planned for FY14 and also less than budgeted spending in FY13 resulting from project delays and reconfigurations. The FY14 Budget includes \$4.1 million in day-to-day needs, \$3.5 million for services, \$2.0 million in major projects, and \$507,000 for energy initiatives. Some of the major projects planned for FY14 include:

Easement Clearing	\$320,000
Carpet Replacement - Chelsea Facility	\$275,000
Invasives Control - Stillwater Basin	\$250,000
Manhole Rehabilitation Contract	\$180,000
Bellevue Roof Replacement	\$131,000
Replace 10 WW Flow Meters	\$125,000
- \$87,000 for **Training and Meetings**, an increase of \$3,000 or 4.2% from FY13 Actual Spending which covers training required for job duties, health and safety compliance, and job-related licensures and certifications.
- \$684,000 for **Professional Services**, an increase of \$127,000 or 22.8% from FY13 Actual Spending primarily due to the inclusion of a comprehensive reservoir-wide plant population survey and a leak-detection survey for the water system. The budget also includes additional funds for dam inspection and repair based on identified work. The FY14 Budget includes \$579,000 for engineering services, which is made up of \$310,000 for as-needed engineering services to support CEB-funded maintenance projects; \$204,000 for a multi-year dam safety contract; \$50,000 for a leak detection survey of the water system; and \$15,000 for evaluation of spill prevention, control, and countermeasure plans. The Professional Services budget also includes \$60,000 for a triennial macrophyte survey at the reservoirs and \$40,000 for energy audits at various south system facilities.
- \$1.3 million for **Other Materials**, a decrease of \$1.5 million or 53.5% from FY13 Actual Spending due to a \$1.7 million unbudgeted charge in FY13 for replacement of portable radios. The FY14 Budget includes \$389,000 for vehicle expenses for gas, mileage reimbursements, and tolls; \$240,000 for health and safety supplies, \$216,000 for equipment/furniture to replace aging furniture and work stations at the Chelsea facility, \$210,000 for work clothes; and \$145,000 for lab and testing supplies.
- \$3.0 million for **Other Services**, a decrease of \$181,000 or 5.7% from FY13 Actual Spending due to lower than anticipated costs for the new contaminant monitoring system and a shift in the funding for invasives control to the maintenance budget to reflect the on-going nature of that work. The FY14 Budget includes \$1.8 million for annual lease payments for the Chelsea office building, \$549,000 for telecommunications equipment and services and SCADA needs at various facilities, and \$392,000 for police details.

LABORATORY SERVICES

FY14 Final Current Expense Budget LABORATORY SERVICES							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14		
WAGES & SALARIES	\$ 4,029,511	\$ 3,983,943	\$ 4,113,753	\$ 4,466,765	\$ 353,012	8.6%	
OVERTIME	61,556	67,731	71,746	56,706	(15,040)	-21.0%	
FRINGE BENEFITS	405	445	512	1,200	688	134.4%	
UTILITIES	16,697	16,464	23,032	19,903	(3,129)	-13.6%	
ONGOING MAINTENANCE	233,054	186,431	252,330	314,818	62,488	24.8%	
TRAINING & MEETINGS	206	773	141	2,000	1,859	1318.4%	
PROFESSIONAL SERVICES	97,446	68,265	130,607	153,423	22,816	17.5%	
OTHER MATERIALS	870,872	921,303	889,095	965,556	76,461	8.6%	
OTHER SERVICES	90,348	67,445	82,390	76,966	(5,424)	-6.6%	
TOTAL	\$ 5,400,095	\$ 5,312,800	\$ 5,563,606	\$ 6,057,337	\$ 493,731	8.9%	

The **Department of Laboratory Services (DLS)** goal is to provide high quality and responsive laboratory services to MWRA's water and wastewater treatment programs, including the Department of Conservation and Recreation (DCR) and the MWRA member water and wastewater communities. This includes timely and cost-effective laboratory tests to meet the strict testing guidelines required by all regulatory programs and permits, including the Safe Drinking Water Act (SDWA), Clean Water Act, and National Pollutant Discharge Elimination System (NPDES) permits. The Department supports these functions at five locations: Chelsea, Southboro, Quabbin, the Central Laboratory at the Deer Island Treatment Plant (DITP), and the Clinton Wastewater Treatment Plant. Testing supports drinking water transmission and treatment processes, wastewater operations and process control at Deer Island and Clinton, NPDES compliance, Massachusetts Bay outfall monitoring, Toxic Reduction and Control (TRAC), and wastewater residuals. DLS also conducts the Boston Harbor monitoring program that involves regular sampling for nutrients, bacteria, and water quality parameters throughout Boston Harbor. Laboratory staff track and analyze results for submission to the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MDEP).

Most MWRA laboratory testing is done in-house. Certain highly specialized or low volume tests are outsourced, such as tests for dioxins and radioactivity.

Budget Highlights:

- The FY14 Budget is \$6.1 million, an increase of \$494,000 or 8.9% from FY13 Actual Spending.
- \$4.5 million for **Wages and Salaries**, an increase of \$353,000 or 8.6%, from FY13 Actual Spending. The FY14 Budget funds 55 positions. The increase from FY13 is due to wage increases and the addition of a permanent position to manage the new, mobile laboratory. The FY14 Budget also includes \$124,000 for up to four temporary employee positions to cover peak workload, Harbor and Outfall Monitoring, the Carroll Water Treatment Plant special testing, and summer beach testing.
- \$20,000 for **Utilities**, a decrease of \$3,000 or 13.6% from FY13 Actual Spending. The FY14 Budget includes the purchase of gases and cryogenic liquids used for various laboratory instruments.

- \$315,000 for **Maintenance**, an increase of \$62,000 or 24.8%, from FY13 Actual Spending due to current project priorities. The FY14 Budget includes \$211,000 for equipment service contracts, \$40,000 for Laboratory modifications, \$33,000 for harbor monitoring field equipment replacements, and \$30,000 for Heating Ventilation Air Conditioning (HVAC) services to annually maintain and certify the fume hoods.
- \$153,000 for **Professional Services**, an increase of \$23,000 or 17.5% from FY13 Actual Spending. The budget funds laboratory and testing analysis services that the department uses to contract out a variety of complex and/or low volume tests. Outside laboratories are used for emergencies, second opinions, capacity constraints, and unavailability of specialized equipment or economic justification. This includes \$48,000 of outside testing for the EPA mandated (UCMR3) unregulated contaminant monitoring rule 3 program (UCMR3). The increase for FY14 is due to lower than projected need for these services in FY13.
- \$966,000 for **Other Materials**, an increase of \$76,000 or 8.6%, from FY13 Actual Spending. The FY14 Budget includes \$649,000 for laboratory and testing supplies. The cost of laboratory supplies has increased from FY13 due to the inclusion of additional supplies for the mobile laboratory. The budget also includes \$275,000 for replacement of obsolete or older equipment.
- \$77,000 for **Other Services**, a decrease of \$5,400 or 6.6%, from FY13 Actual Spending. The FY14 Budget primarily covers boat rental service on an as-needed basis, boat dockage for two boats, removal of hazardous waste, and courier service for shipping samples between laboratories.

ENVIRONMENTAL QUALITY

FY14 Final Current Expense Budget ENVIRONMENTAL QUALITY						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 1,405,236	\$ 1,465,986	\$ 1,422,607	\$ 1,446,560	\$ 23,953	1.7%
OVERTIME	465	985	1,922	2,000	78	4.1%
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	142	(905)	-	-	-	-
TRAINING & MEETINGS	1,644	1,405	2,925	3,000	75	2.6%
PROFESSIONAL SERVICES	2,225,388	1,369,550	1,221,137	1,530,450	309,313	25.3%
OTHER MATERIALS	2,104	18,157	6,012	14,580	8,568	142.5%
OTHER SERVICES	2,570	4,983	6,231	4,200	(2,031)	-32.6%
TOTAL	\$ 3,637,549	\$ 2,860,161	\$ 2,660,834	\$ 3,000,790	\$ 339,956	12.8%

The **Environmental Quality Department (EnQuad)** manages and reports on environmental findings that may be linked to MWRA operations and projects. EnQuad monitors sewage influent and effluent quality; monitors the water quality of Boston Harbor, its tributary rivers, and Massachusetts Bay; manages and enters data; and complies with the reporting requirements of MWRA's National Pollutant Discharge Elimination System permits. MWRA submits permit reports to state and federal regulators, the Outfall Monitoring Science Advisory Panel and its subcommittees, and several libraries; and, as required by the permits, EnQuad posts many of these reports on MWRA's website, as well as a list of technical reports and other water quality information.

Budget Highlights:

- The FY14 Budget is \$3.0 million, an increase of \$340,000 or 12.8%, from FY13 Actual Spending.
- \$1.4 million for **Wages & Salaries**, which is \$24,000 or 1.7% more than FY13 Actual Spending. The FY14 Budget includes funding for 15 positions.
- \$1.5 million for **Professional Services**, an increase of \$310,000 or 25.3% compared to FY13 Actual Spending. Of this amount, \$1.2 million is for laboratory testing and analysis in support of MWRA's Harbor and Outfall Monitoring (HOM) Program. The increase from FY13 spending is due to a hard-bottom survey that is done every third year, a new contract for continuous monitoring near the outfall, and estimated costs of Red Tide monitoring which is higher than FY13 due to lower spending for monitoring in FY13 as levels of *Alexandrium* remained low throughout the season. The balance covers the following contracts which, except for biotoxicity testing, are co-funded through cost-sharing arrangements.
 - o Biotoxicity testing for Deer Island and Clinton treatment plants, and Combined Sewer Overflow facilities
 - o A new contract for required continuous monitoring
 - o University of Maine's buoy off Cape Ann, with instruments measuring algae and other water quality indicators
 - o Cape Cod Bay water quality monitoring
 - o Bays Eutrophication Model
 - o Sea Grant study of trace organic chemicals (personal care products, pharmaceuticals, endocrine disruptors).

The FY14 Budget continues to reflect the reduction in scope of HOM monitoring that began in CY2011 based on the favorable findings of nine years of monitoring data and regulatory approval. MWRA is saving approximately \$800,000 per year in monitoring costs due to these changes. In addition, in FY13 MWRA was successful in achieving regulatory approval to discontinue the ambient monitoring plan requirement to measure floatables, for estimated savings of \$40,000 per year.

ENGINEERING AND CONSTRUCTION

FY14 Final Current Expense Budget ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 7,540,258	\$ 7,290,274	\$ 7,120,388	\$ 7,982,392	\$ 862,004	12.1%
OVERTIME	182,036	111,200	72,736	64,500	(8,236)	-11.3%
FRINGE BENEFITS	713	569	341	500	159	46.6%
ONGOING MAINTENANCE	2,739	7,647	6,825	9,366	2,541	37.2%
TRAINING & MEETINGS	5,757	7,017	4,677	6,400	1,723	36.8%
PROFESSIONAL SERVICES	-	65,112	7,503	150,000	142,497	1899.2%
OTHER MATERIALS	125,635	66,557	37,261	46,650	9,389	25.2%
OTHER SERVICES	24,409	20,755	23,556	23,200	(356)	-1.5%
TOTAL	\$ 7,881,547	\$ 7,569,131	\$ 7,273,287	\$ 8,283,008	\$ 1,009,721	13.9%

The **Engineering and Construction Department (ECD)** manages and coordinates the planning, design, and construction of system improvements that ensure a safe and adequate water supply and a reliable wastewater collection and treatment. Staff is organized into three units including Wastewater Engineering, Water Engineering, and Construction.

The department provides in-house engineering, consultant management (during the facilities planning, environmental review, design, and engineering services during construction stages of capital projects), drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems. The **Wastewater Engineering Unit** manages all wastewater design and engineering projects including Combined Sewer Overflow (CSO) engineering activities. The unit also maintains the Design Information Services Center (DISC), which provides computer-aided design and drafting (CADD) services. The **Water Engineering Unit** manages all water design and engineering projects as well as specialized technical services in electrical, structural, mechanical, and civil engineering disciplines. The **Construction Unit** provides contract management and resident inspection on all MWRA water and wastewater construction and rehabilitation projects, with the exception of Deer Island Treatment Plant.

Budget Highlights:

- The FY14 Budget is \$8.3 million, an increase of \$1.0 million or 13.9%, from FY13 Actual Spending primarily due to wage increases and the large number of vacant positions in FY13.
- \$8.0 million for **Wages and Salaries**, an increase of \$860,000 or 12.1%, from FY13 Actual Spending. Wages and Salaries represent 96% of the FY14 Budget and includes funding for 83 positions, three positions fewer than included in the FY13 CEB. In FY13, the average number of filled positions was 77, which is six fewer positions than budgeted for FY14.
- \$65,000 for **Overtime**, a decrease of \$8,000 or 11.3%, from FY13 Actual Spending. Overtime covers resident inspection at construction sites after regular work hours to ensure monitoring of construction projects. Overtime is also used for unplanned design or survey needs, attendance at evening public meetings, and meeting deadlines. Overtime spending in FY13 was high due to one-time additional coverage on the Upper Hultman, Carroll Water Treatment Plant UV and the Lynnfield/Saugus Pipeline construction projects.

- \$9,000 for **Maintenance**, an increase of \$2,500 or 37.2% from FY13 Actual Spending. Maintenance covers two service contracts for the DISC Unit's specialized printers and plotters. Warranty coverage on a new copier resulted in maintenance service contract savings in FY13.
- \$6,000 for **Training & Meetings**, an increase of \$2,000 or 36.8% from FY13 Actual Spending. Training funding covers attendance at conferences and technical seminars.
- \$150,000 for **Professional Service**, an increase of \$143,000 from FY13 Actual Spending. The FY14 Budget includes the addition of an As-needed Utility Borings/Test Pit contract to support construction activities. This contract will help avoid situations where contractors have utility conflicts while working on MWRA construction projects.
- \$47,000 for **Other Materials**, an increase of \$9,000 or 25.2% from FY13 Actual Spending primarily due to less than budgeted need in FY13. The budget covers vehicle expenses, office supplies, health and safety supplies, and survey equipment. Vehicle expense fluctuates from year to year depending on the location of active construction projects in relation to MWRA facilities.
- The \$23,000 for **Other Services** which is primarily level funded with FY13 Actual Spending. The FY14 Budget includes funding for printing/duplicating, telephone expenses, memberships and dues, and police details.

PLANNING AND COORDINATION DEPARTMENT

FY14 Final Current Expense Budget PLANNING AND COORDINATION						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	1,786,851	1,795,643	1,855,456	1,898,950	\$ 43,494	2.3%
OVERTIME	18	0	0	0	-	-
FRINGE BENEFITS	-	-	-	-	-	-
TRAINING & MEETINGS	1,478	(69)	7,590	6,000	(1,590)	-20.9%
PROFESSIONAL SERVICES	1,800	3,028	1,631	3,100	1,469	90.1%
OTHER MATERIALS	147,660	161,963	133,132	152,541	19,409	14.6%
OTHER SERVICES	94,793	74,589	66,402	79,264	12,862	19.4%
TOTAL	\$ 2,032,600	\$ 2,035,154	\$ 2,064,211	\$ 2,139,855	\$ 75,644	3.7%

The **Planning and Coordination Department** provides regulatory, public policy and public health advocacy for MWRA’s drinking water and wastewater programs. It provides decision support on planning, policy and operations matters, using a range of technical and analytical tools. Staff administers financial assistance programs to improve the infrastructure of member communities and to promote water conservation. The Department integrates staff efforts and coordinates MWRA activities related to system and capital planning, infrastructure renewal, and watershed management (in conjunction with the Commonwealth’s Department of Conservation and Recreation, (DCR); strategic business planning; agency-wide performance measurement; and industry research. The following functions comprise the Department’s primary responsibilities:

Mapping, Modeling, and Data Analysis - Technical staff develops and maintains the Geographic Information Systems (GIS) for the water and wastewater systems, including integration of field and engineering records into GIS for access by planning, engineering, and operations staff. Provides demand analysis and forecasting of water and wastewater flows for master planning and system operations; model reservoir operations, performs drought forecasting and planning; evaluates system expansion requests; and develops and maintains water and wastewater system models in support of master planning, system operations, and optimization.

System Planning and Renewal - Staff with expertise in engineering and planning is responsible for water and wastewater system master planning; infrastructure needs assessment, and capital project development. This work is done in coordination with staff across MWRA. Planning and Coordination staff reviews water and wastewater system expansion requests, water supply agreements, and emergency withdrawal requests. Staff also assists the Operations Division on project siting, environmental reviews, and permitting, including impacts on MWRA facilities from other agency projects, and assists in the development of strategies for long-term emergency risk reduction and preparation for MWRA facilities and systems.

Regulatory and Policy Matters - Staff work with various regulatory entities to promote cost-effective rule setting that protects the environment and promotes public health. Senior staff members actively work with industry associations and other groups with interests and agendas consistent with MWRA’s to advance water and wastewater regulations that make environmental and economic sense. Senior staff conducts strategic policy research on a broad range of topics and staff conducts public health research, including outreach and water quality reporting and the annual Consumer Confidence Report (CCR). Staff also coordinates with DCR on watershed protection initiatives.

Community Support Program - Staff are responsible for inflow/infiltration (I/I) reduction policy development,

implementation, and reporting, provide oversight of and reporting on MWRA leak detection and demand management programs, and report on the portions of MWRA's NPDES permit related to demand management and flow limitation activities. Staff administers community assistance programs including sewer inflow/infiltration financial and technical assistance, water pipeline rehabilitation financial assistance, water distribution systems technical assistance, water leak detection technical assistance, and water conservation programs.

Budget Highlights:

- The FY14 Budget is \$2.1 million, an increase of \$76,000 or 3.7% from FY13 Actual Spending.
- \$1.9 million for **Wages and Salaries**, an increase of \$43,000 or 2.3% from FY13 Actual Spending primarily due to wage increases. The FY14 Budget includes funding for 21 positions.
- \$6,000 for **Training and Meetings**, a decrease of \$2,000 or 20.9% from FY13 Actual Spending. The FY14 Budget covers participation in training and conferences primarily focused on water quality regulations and geographic information systems (GIS).
- \$3,000 for **Professional Services**, an increase of \$1,000 or 90.1% from FY13 Actual Spending. The FY14 Budget covers costs associated with the translation of the Consumer Confidence Report and also programming of the GIS user interface.
- \$153,000 for **Other Materials**, an increase of \$19,000 or 14.6% from FY13 Actual Spending. The FY14 Budget includes funding of \$134,000 for postage and mailing of the Consumer Confidence Report, \$15,000 for water conservation kits, \$10,000 for mapping supplies, \$2,000 for office supplies, and \$1,000 for vehicle expenses. The increase in FY14 is due to lower than projected need for these supplies in FY13.
- \$79,000 for **Other Services**, an increase of \$13,000 or 19.4% from FY13 Actual Spending. The FY14 Budget includes \$55,000 for printing the Consumer Confidence Report, \$10,000 for printing the Lead in Tap Water brochures, and \$10,000 for reprinting the water conservation bill stuffers. The increase in FY14 is due to lower than projected printing costs in FY13.



Law Division
Budget

LAW DIVISION

FY14 Final Current Expense Budget LAW DIVISION							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14		
WAGES & SALARIES	\$ 1,612,193	\$ 1,556,666	\$ 1,541,984	\$ 1,547,618	\$ 5,634	0.4%	
OVERTIME	-	99	-	-	-	-	
TRAINING & MEETINGS	845	535	890	1,000	110	12.4%	
PROFESSIONAL SERVICES	67,544	110,886	60,014	121,000	60,986	101.6%	
OTHER MATERIALS	4,095	3,707	3,656	5,964	2,308	63.1%	
OTHER SERVICES	25,702	25,512	24,400	28,147	3,747	15.4%	
TOTAL	\$ 1,710,379	\$ 1,697,405	\$ 1,630,944	\$ 1,703,729	\$ 72,785	4.5%	

The Law Division provides legal counsel to the Board of Directors, the Executive Director, and staff on compliance with federal and state laws, regulations, court cases, and administrative orders. Staff also handle and provide assistance with respect to litigation matters, real estate matters, labor/employment issues, procurement, and construction issues. The General Counsel interprets the MWRA Enabling Act and provides advice on conflict of interest and Code of Conduct issues. Division attorneys monitor the work of outside counsel when it is necessary to retain such services.

Law Division staff, though usually representing MWRA in a defensive posture, also work with Operations Division staff to effectuate cost recovery claims for design errors and omissions. In addition, the Law Division assists in the early resolution of contractor and vendor claims prior to litigation so as to resolve them as favorably and early as possible thereby reducing or eliminating litigation costs and interest payable upon such claims were they to be litigated.

FY14 Goals:

- Timely and cost effective resolution of legal disputes involving MWRA, through litigation or alternative means of dispute resolution.
- High quality legal services to support the business and operational needs of MWRA in the areas of real estate, labor and employment, regulatory compliance, litigation, construction, and business law.
- Advocacy of MWRA interests in new and developing regulatory issues.
- Continue to exhaust all opportunities to shift cost of legal representation to insurers and indemnitors and to litigate insurance coverage disputes as they arise, all in the interest of cost savings.

Budget Highlights:

- The FY14 Final Budget is \$1.7 million, an increase of \$73,000 or 4.5% from FY13 Actual Spending.
- \$1.5 million for **Wages and Salaries**, an increase of \$6,000 or 0.4% from FY13 Actual Spending. The budget funds 16 positions.
- \$121,000 for **Professional Services**, an increase of \$61,000 or 101.6% from FY13 Actual Spending due to lower than projected need for outside legal services during FY13.
- \$28,000 for **Other Services**, an increase of \$4,000 or 15.4% from FY13 Actual Spending. Funding in this line item supports legal database administrative fees and professional membership and dues for the legal staff.



Administration & Finance Division
Budget

ADMINISTRATION AND FINANCE DIVISION

FY14 Final Current Expense Budget ADMINISTRATION AND FINANCE						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 15,166,542	\$ 15,345,968	\$ 15,326,937	\$ 16,014,666	\$ 687,729	4.5%
OVERTIME	48,666	39,230	69,354	57,404	(11,950)	-17.2%
FRINGE BENEFITS	17,289,695	17,608,265	17,477,887	18,002,690	524,803	3.0%
WORKERS' COMPENSATION	2,228,175	1,600,726	2,114,701	2,000,000	(114,701)	-5.4%
UTILITIES	138,122	100,731	97,516	107,410	9,894	10.1%
ONGOING MAINTENANCE	3,135,984	2,930,602	3,149,241	3,489,765	340,524	10.8%
TRAINING & MEETINGS	36,965	90,611	201,463	193,514	(7,949)	-3.9%
PROFESSIONAL SERVICES	859,070	1,233,132	1,046,589	1,168,688	122,099	11.7%
OTHER MATERIALS	858,895	955,387	1,119,319	1,200,184	80,865	7.2%
OTHER SERVICES	4,709,833	3,018,818	3,167,800	3,096,293	(71,507)	-2.3%
TOTAL	\$ 44,471,947	\$ 42,923,470	\$ 43,770,807	\$ 45,330,614	\$ 1,559,807	3.6%

FY14 Final Current Expense Budget ADMINISTRATION AND FINANCE						
DEPARTMENT	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
DIR OFFICE (FINANCE)	\$ 322,759	\$ 341,067	\$ 349,834	\$ 363,795	\$ 13,961	4.0%
RATES AND BUDGET	741,029	761,977	773,302	795,600	22,298	2.9%
TREASURY	904,827	868,222	974,700	981,493	6,793	0.7%
CONTROLLER	1,538,224	1,492,769	1,487,530	1,553,391	65,861	4.4%
RISK MANAGEMENT	393,035	406,198	395,442	431,745	36,303	9.2%
DIVISION DIR (SUPP SER)	-	-	-	-	-	-
HUMAN RESOURCES	21,606,094	21,490,738	21,805,555	22,279,953	474,398	2.2%
MIS	8,532,999	8,900,651	9,115,523	10,247,261	1,131,738	12.4%
FACILITIES MANAGEMENT	2,551,180	2,370,827	2,395,648	2,162,670	(232,978)	-9.7%
FLEET SERVICES	1,872,739	1,824,489	1,929,142	2,035,814	106,672	5.5%
PROCUREMENT	3,516,243	3,873,820	3,783,562	3,767,175	(16,387)	-0.4%
REAL PROPERTY / ENVIRONMENTAL MGMT	2,492,818	592,712	760,569	711,717	(48,852)	-6.4%
TOTAL	\$ 44,471,947	\$ 42,923,470	\$ 43,770,807	\$ 45,330,614	\$ 1,559,807	3.6%

The **Administration and Finance Division** is responsible for managing the finance and support service functions of the Authority.

The Administration and Finance (A&F) Division is comprised of eleven departments: Director’s Office; Rates and Budget; Treasury; Controller; Risk Management; Human Resources; Management Information Systems (MIS); Facilities Management; Fleet Services; Procurement; and Real Property and Environmental Management.

The Administration and Finance Division performs a multitude of functions that support the daily operations and ensure the implementation of the Authority’s long term goals and strategies.

The Administration and Finance Division ensures that a variety of fiscal management systems are in place to monitor and control the Current Expense Budget (CEB) and Capital Improvement Program (CIP).

FY14 Goals:

- Manage and coordinate the Authority's finance and support service functions.
- Develop and implement long-term strategies to ensure reasonable rate increases to MWRA's communities.
- Manage MWRA's debt portfolio to contribute to the achievement of sustainable and predictable rate increases.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by reviewing risk exposure and establishing contract insurance requirements and monitoring contractors for compliance.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility. Ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment that fosters safety consciousness and productive work, maximize the number of early returns to work by employees who have incurred on-the-job injuries or illnesses, and aggressively manage the Workers' Compensation Program to reduce costs.
- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner; manage the disposition of surplus real property in an efficient manner; and provide staff and others with current information regarding MWRA's real property rights.
- Improve the quality and presentation of budget documents and regularly required reports while working to develop new reports that will aid the Authority's Board of Directors, Management, and the MWRA Advisory Board.

FY14 Initiatives

- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Develop options and recommendations to ensure predictable, sustainable, and reasonable assessments and charges to our communities.
- Manage the process for negotiating successor collective bargaining agreement with all five collective bargaining unions of the MWRA.
- Continue the implementation of the Strategic IT Study.
- Continue and expand the electronic procurement (e-procurement) process for construction contracting based upon Lawson Strategic Sourcing.

FY13 Accomplishments:

- Directed the development of the next five-year CIP cap which is significantly lower than the prior two (2) caps, reflecting the changing nature of the capital program from mandated projects to asset protection and water redundancy initiatives.
- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively. MWRA's credit ratings from all three major agencies are only one ratings step below the highest

rating of AAA. These high credit ratings enable MWRA to borrow at very advantageous interest rates helping to minimize debt service expenses.

- Completed the Massachusetts Water Pollution Abatement Trust Pool 17 borrowing. This \$40.6 million borrowing is made at subsidized interest rates contributing to a lower overall cost of debt for the Authority.
- Completed the 2012 Series E, F, and G transaction. These three bond series of \$62.8 million, \$60.3 million, and \$57.8 million respectively replaced the 2008B and 2008C1 variable rate bond series. These bonds were issued as direct competitive placement variable rate bonds. This mode provides additional diversification from liquidity bank risk.
- Completed pricing the 2013A \$170.6 million Refunding for savings transaction for an All-In-True Interest Cost of 2.45%, the lowest in MWRA history to that point. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of \$13.1 million or 7.46%
- Successfully negotiated a 10-year successor lease agreement for the Charlestown Navy Yard (CNY) Headquarters which resulted in budgetary savings.
- Evaluated options for potential water-system expansion opportunities based on long-term strategic budgeting.
- Developed specifications in Fleet Services for 41 new replacement vehicles or pieces of equipment of which the majority of these units will utilize alternative fuel, consistent with the Authority's goal of purchasing environmentally friendly products.
- Successfully negotiated and implemented an agreement with all five collective bargaining units regarding the use of an Automated Vehicle Locator Tracking System at MWRA.
- Completed a variety of technical training to MWRA employees including Confined Space Entry, Wind Turbine Tower Climbing Safety, Spill Containment, Practical Project Management, Signal Person Training and OSHA 8-Hour Annual Refresher training.
- Developed a pilot program and RFP, working with Operations, Finance and Law, for co-digestion of organic waste at DITP.
- Competitively bid Renewable Energy Portfolio Standard certificates which resulted in FY13 revenues of \$486,000 (Class II). In addition, received FY13 revenues of \$1,430,000 from forward marketing of CY12 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates.
- Awarded the following major contracts in FY13: DITP Expansion Joint Repair Construction 2; Sudbury Aqueduct Pressurization and Connections; Letters of Credit, Liquidity Facilities or Direct Purchases; Nut Island Switchgear Modifications; Caruso Pump Station Improvements Design; Wachusett Aqueduct Emergency Interconnection Valves; DITP Concrete Steel Restoration and Coating, Phase IV; North Dike Tree Removal at Wachusett Reservoir; and DITP Replacement of Four Gravity Thickener Center Columns; Disclosure Counsel Services; DITP North Main Pump Station ESDC/REI; Quabbin UV Disinfection; Security Improvements at Various Facilities Design; Quabbin UV Disinfection Facilities; DITP Waste Sludge Centrifuges Power and Control Systems Upgrade; Roof Replacement Bellevue and New Neponset Pump Station; DITP Electrical Equipment Upgrade Construction 4; Rehab of WASM 3 Design; and Audit Services; Automatic Vehicle Locator Tracking System; Gillis Pump Station Short Term Improvements; and Nut Island Electrical Improvements.

Advertised or received bids/proposals/statements for the following: DITP Pipe Supports for Sludge Pipelines; DITP Roofing Replacement; Clinton WTP Phosphorus Reduction Design; DITP Replacement of Scum Skimmers; Storm Pump Gear Box and Diesel Engine Upgrade; and Webster Avenue Pipe Replacement Design.

- Recycled 36.61 tons of paper, 222.60 tons of scrap metal, and 5777.36 pounds of brass, copper, stainless steel and aluminum, generating \$62,767 in revenues.

ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE

FY14 Final Current Expense Budget						
ADMINISTRATION AND FINANCE DIVISION DIRECTOR'S OFFICE						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 316,476	\$ 333,417	\$ 337,251	\$ 356,202	\$ 18,951	5.6%
TRAINING & MEETINGS	1,764	2,214	4,352	2,093	(2,259)	-51.9%
OTHER MATERIALS	3,922	4,355	7,597	4,200	(3,397)	-44.7%
OTHER SERVICES	597	1,081	634	1,300	666	105.0%
TOTAL	\$ 322,759	\$ 341,067	\$ 349,834	\$ 363,795	\$ 13,961	4.0%

The **Administration and Finance (A&F) Division Director's Office** oversees a multitude of functions that support the daily operations and ensure the implementation of the Authority's long-term goals and strategies.

The Director's Office is responsible for the centralized financial functions of rates development, revenue collection, budgeting, capital financing, debt and investment management, accounting, payroll processing, and risk management as well as the support functions of procurement, human resources, management information systems, fleet services, facilities management, and real property and environmental management. Additionally, the Director's Office ensures that transactions comply with all rules, regulations, Authority policies and procedures, and contract terms. The Director's Office manages the development and implementation of policies to uphold the efficient utilization of resources and control of all monies. The Director's Office provides advice and analysis to the Executive Director and the Board of Directors on all administrative and financial issues.

The division's continuing challenge in FY14 will be maintaining an agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services.

FY14 Goals:

- Manage and coordinate the Authority's finance and support service functions.
- Guide and coordinate division activities to support MWRA's goals and objectives.
- Continuously improve processes and performance for greater efficiency.
- Develop and implement long-term strategies to ensure reasonable rate increases to MWRA's communities.

Budget Highlights:

- The FY14 Final Budget is \$364,000, an increase of \$14,000 or 4.0% from the FY13 Actual Spending.
- \$356,000 for **Wages and Salaries**, an increase of \$19,000 or 5.6% from the FY13 Actual Spending mainly due to contractual increases. The FY14 Final Budget funds three positions.

RATES & BUDGET

FY14 Final Current Expense Budget RATES AND BUDGET							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14		
WAGES & SALARIES	\$ 739,705	\$ 760,849	\$ 772,530	\$ 795,000	\$ 22,470	2.9%	
TRAINING & MEETINGS	-	-	-	-	-	-	
PROFESSIONAL SERVICES	-	-	-	-	-	-	
OTHER MATERIALS	468	158	240	200	(40)	-16.7%	
OTHER SERVICES	856	970	532	400	(132)	-24.8%	
TOTAL	\$ 741,029	\$ 761,977	\$ 773,302	\$ 795,600	\$ 22,298	2.9%	

The **Rates & Budget Department** provides the financial analysis that allows MWRA to translate its goals, and legal and financial commitments into cost-effective annual and multi-year programs and budgets. Department staff work closely with divisional staff to coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to projected schedules and budgeted spending. Staff also coordinates the development of MWRA's annual Current Expense Budget (CEB) and monitors spending compared to the budget throughout the year. The Budget Department also manages the annual process of establishing water and sewer assessments to be paid by MWRA's member communities and develops planning estimates of future rate projections.

FY14 Goals:

- Continually enhance processes and the management of resources to deliver the final CIP and CEB timely and accurately.
- Adhere to all MWRA policies, procedures, and administrative practices as well as all relevant statutory and regulatory authority, accounting, and budgeting principles.
- Improve the quality and presentation of budget documents and regularly required reports while working to develop new reports that will aid the Authority's Board of Directors, Management, and the MWRA Advisory Board.

FY14 Initiatives:

- Continue to develop staff skills for cross functionality between CIP and CEB.
- Continue assessment and evaluation of sustainable cost savings opportunities throughout the organization.
- Develop options and recommendations to ensure predictable, sustainable, and reasonable assessments and charges to our communities.

FY13 Accomplishments:

- Developed the FY14 Final Budget consistent with the FY13 planning estimates, for both the Current Expense Budget and the Capital Improvement Program.

- Directed the development of the next five-year CIP cap which is significantly lower than the prior two (2) caps, reflecting the changing nature of the capital program from mandated projects to asset protection and water redundancy initiatives.
- Evaluated options for potential water-system expansion opportunities based on long-term strategic budgeting.
- Undertook an initiative to save all CEB and CIP documents electronically and coordinated with the Central Library to ensure proper records retention.

Budget Highlights:

- The FY14 Final Budget is \$796,000, an increase of \$22,000 or 2.9% from the FY13 Actual Spending.
- \$795,000 for **Wages and Salaries**, an increase of \$22,000 or 2.9%, from the FY13 Actual Spending mainly due to contractual increases. The FY14 Final Budget funds eight positions.

TREASURY

FY14 Final Current Expense Budget TREASURY						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 641,248	\$ 677,941	\$ 736,271	\$ 725,923	\$ (10,348)	-1.4%
OVERTIME	309	124	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	-	90	-	(90)	-100.0%
PROFESSIONAL SERVICES	257,329	183,909	229,309	248,050	18,741	8.2%
OTHER MATERIALS	1,041	52	584	300	(284)	-48.6%
OTHER SERVICES	4,900	6,196	8,446	7,220	(1,226)	-14.5%
TOTAL	\$ 904,827	\$ 868,222	\$ 974,700	\$ 981,493	\$ 6,793	0.7%

The **Treasury Department** secures funds for ongoing operations and capital programs in addition to processing cash disbursements. Department staff collect revenue, disburse funds, and manage grant and loan programs in addition to debt issuance and investments.

FY14 Goals:

- Manage MWRA's debt portfolio to contribute to the achievement of sustainable and predictable rate increases.
- Maximize investment return while maintaining compliance with the General Revenue Bond Resolution requirements regarding security and liquidity.

FY13 Accomplishments:

- Maintained MWRA's strong credit ratings, Aa1, AA+, AA+ from Moody's, Standard & Poor's and Fitch respectively. MWRA's credit ratings from all three major agencies are only one ratings step below the highest rating of AAA. These high credit ratings enable MWRA to borrow at very advantageous interest rates helping to minimize debt service expenses.
- Completed the Massachusetts Water Pollution Abatement Trust Pool 17 borrowing. This \$40.6 million borrowing is made at subsidized interest rates contributing to a lower overall cost of debt for the Authority.
- Completed the 2012 Series E, F, and G transaction. These three bond series of \$62.8 million, \$60.3 million, and \$57.8 million respectively replaced the 2008B and 2008C1 variable rate bond series. These bonds were issued as direct competitive placement variable rate bonds. This mode provides additional diversification from liquidity bank risk.
- Completed the \$170.6 million Refunding for savings transaction series 2013A for an All-In-True Interest Cost of 2.45%, the lowest in MWRA history to that point. Taking advantage of the low interest rates, the refunding resulted in a net present value savings of \$13.1 million or 7.46%

Budget Highlights:

- The FY14 Final Budget is \$981,000, an increase of \$7,000 or 0.7% as compared with the FY13 Actual Spending.
- \$726,000 for **Wages and Salaries**, a decrease of \$10,000 or 1.4% from the FY13 Actual Spending. The final budget funds nine positions, one less position than in the FY13 Final Budget.
- \$248,000 for **Professional Services**, an increase of \$19,000 or 8.2% as compared with the FY13 Actual Spending.

CONTROLLER

FY14 Final Current Expense Budget CONTROLLER						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 1,348,206	\$ 1,331,607	\$ 1,325,287	\$ 1,390,941	\$ 65,654	5.0%
OVERTIME	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	189,000	160,000	160,491	160,000	(491)	-0.3%
OTHER MATERIALS	109	193	87	300	213	244.8%
OTHER SERVICES	909	969	1,665	2,150	485	29.1%
TOTAL	\$ 1,538,224	\$ 1,492,769	\$ 1,487,530	\$ 1,553,391	\$ 65,861	4.4%

The **Controller Department** consists of the Accounting, Accounts Payable, and Payroll units. The department has the responsibility for ensuring integrity within the financial accounting system and integration among the three functions. The department is also responsible for the appropriate treatment, classification and reporting of the MWRA's assets, liabilities, revenues and expenditures in accordance with accounting principles generally accepted in the United States of America.

FY14 Goals:

- Implement process efficiencies in all department units.
- Enhance controls to safeguard Authority assets and ensure accurate and timely reporting.

FY14 Initiatives:

- Integrate new contract accounting software module with existing accounting software.
- Complete implementation of electronic vendor remittances.

FY13 Accomplishments:

- Rolled out electronic time sheet approval to two additional Authority departments.
- Collaborated with Procurement and MIS Departments to substantially complete testing Strategic Sourcing and e-Procurement for FY13 implementation.

Budget Highlights:

- The FY14 Final Budget is \$1.6 million, an increase of \$66,000 or 4.4% as compared to the FY13 Actual Spending.
- \$1.4 million for **Wages and Salaries**, an increase of \$66,000 or 5.0% as compared with the FY13 Actual Spending mainly due to contractual increases and lower than budgeted spending in FY13. The FY14 Final Budget funds 18 positions.
- \$160,000 for **Professional Services**, which is level funded with the FY13 Actual Spending. The contract for audit services expires in March, 2013. The FY14 Final Budget reflects anticipated costs associated with the annual financial statement audit, the A-133 Single Audit related to the receipt of federal funds, and the actuarial services related to GASB 45 Other Post Employment Benefits.

RISK MANAGEMENT

FY14 Final Current Expense Budget RISK MANAGEMENT						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 351,829	\$ 357,568	\$ 364,317	\$ 386,295	\$ 21,978	6.0%
OVERTIME	566	-	23	-	(23)	-100.0%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	40,134	48,173	30,757	45,000	14,243	46.3%
OTHER MATERIALS	(214)	7	12	-	(12)	-100.0%
OTHER SERVICES	720	450	333	450	117	35.1%
TOTAL	\$ 393,035	\$ 406,198	\$ 395,442	\$ 431,745	\$ 36,303	9.2%

The **Risk Management Department** is responsible for all MWRA insurance and risk management functions. Department staff manage all administrative functions relating to the initial reporting, processing, and resolution of construction contract claims and self-insured auto, general liability, and property damage claims. Department staff is responsible for the annual procurement, renewals, and maintenance of all Authority-wide insurance policies and programs and for managing all aspects of MWRA's Contractor Insurance Certificate program. Department staff serve as liaisons to insurance industry participants including brokers, insurers, insurance consultants, and attorneys as well as provides support to all MWRA departments.

FY14 Goals:

- Process self-insured automobile, general liability, property damage and construction contract claims in an efficient and timely manner.
- Secure the timely, cost effective renewal of Authority-wide insurance policies and contracts.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by reviewing risk exposure and establishing contract insurance requirements and monitoring contractors for compliance.

Budget Highlights:

- The FY14 Final Budget is \$432,000, an increase of \$36,000 or 9.2% from the FY13 Actual Spending.
- \$386,000 for **Wages & Salaries**, an increase of \$22,000 or 6.0% from the FY13 Actual Spending mainly due to contractual increases. The final budget funds four positions.
- \$45,000 for **Professional Services**, an increase of \$14,000 or 46.3% from the FY13 Actual Spending relating to review and preparation of MWRA's triennial Insurance Reserve Fund review.

FACILITIES MANAGEMENT

FY14 Final Current Expense Budget FACILITIES MANAGEMENT						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 477,655	\$ 412,641	\$ 409,142	\$ 427,710	\$ 18,568	4.5%
OVERTIME	16,019	16,527	23,481	24,154	673	2.9%
FRINGE BENEFITS	42	34	18	-	(18)	-100.0%
UTILITIES	136,412	98,749	95,858	104,410	8,552	8.9%
ONGOING MAINTENANCE	69,965	12,107	13,087	35,900	22,813	174.3%
TRAINING & MEETINGS	60	-	-	-	-	-
PROFESSIONAL SERVICES	-	3,200	9,350	-	(9,350)	-100.0%
OTHER MATERIALS	74,792	7,463	15,271	57,733	42,462	278.1%
OTHER SERVICES	1,776,235	1,820,106	1,829,441	1,512,763	(316,678)	-17.3%
TOTAL	\$ 2,551,180	\$ 2,370,827	\$ 2,395,648	\$ 2,162,670	\$ (232,978)	-9.7%

The **Facilities Management Department** provides a range of support services to MWRA staff located at the Charlestown Navy Yard (CNY).

Facilities Management is responsible for coordinating site management activities at CNY. Staff institute maintenance procedures, respond to facilities requests from building occupants, coordinate workspace planning, provide office furnishings, and develop and implement appropriate measures to ensure the safety of MWRA staff and protect and preserve MWRA assets.

In addition, staff provides administrative and office support services that facilitate the efficient use of MWRA resources. These responsibilities include providing and managing the motor pools at Chelsea and CNY, general office equipment repairs, transportation, mail, and courier services. Staff coordinates MWRA parking programs and corporate Massachusetts Bay Transportation Authority (MBTA) pass programs.

FY14 Goals:

- Provide a safe and well-maintained working environment for all MWRA staff at CNY and provide appropriate space for staff by coordinating workspace planning, design, and furniture acquisitions.
- Maintain the CNY facility to prevent loss or deterioration of MWRA assets.
- Implement facility programs in conjunction with MWRA recycling and resource conservation efforts.
- Support efforts to limit the fleet size while meeting operational needs by providing reliable motor pool and transportation services.

FY13 Accomplishments:

- Successfully negotiated a successor lease agreements for Charlestown Navy Yard (CNY) headquarters which resulted in budgetary savings.
- Continued to work with the landlord to implement facility improvements as provided in our lease agreements for CNY headquarters.

- In conjunction with MIS, implemented multi-function technology for copiers and printers. By utilizing this technology it was possible to replace up to four individual units (printer, copier, scanner and fax) with one piece of equipment that performs all of these functions providing savings in floor space, power, equipment maintenance, and production costs (cost per page).

Budget Highlights:

- The FY14 Final Budget is \$2.2 million, a decrease of \$233,000 or 9.7%, as compared with FY13 Actual Spending.
- \$428,000 for **Wages and Salaries**, an increase of \$19,000 or 4.5%, as compared to FY13 Actual Spending mainly due to increased contractual agreements. The budget supports seven positions.
- \$24,000 for **Overtime**, which is level funded to FY13 Actual Spending.
- \$104,000 for **Utilities**, an increase of \$9,000 or 8.93% as compared to FY13 Actual Spending mainly due to lower than projected electricity pricing in FY13.
- \$36,000 for **Ongoing Maintenance**, an increase of \$23,000 or 174.3% as compared with FY13 Actual Spending mainly due to lower than projected need for maintenance services in FY13. This line item includes funding for facility and equipment maintenance and services including heating, ventilation and air conditioning (HVAC), plumbing and electrical services for the CNY headquarters and the Marlboro Records Center and Warehouse.
- \$58,000 for **Other Materials**, an increase of \$42,000 or 278.1% as compared with FY13 Actual Spending mainly due to lower than budgeted need for postage in FY13. This line item includes funding for postage, supplies, furniture and equipment.
- \$1.5 million for **Other Services**, a decrease of \$317,000 or 17.3% as compared with FY13 Actual Spending mainly due to the renegotiated lease for the Charlestown Navy Yard facility which will show budgetary savings in FY14. This item includes funding for rental and operating costs for CNY headquarters facility and the Marlboro Records Center and Warehouse space.

FLEET SERVICES

FY14 Final Current Expense Budget FLEET SERVICES						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 669,965	\$ 624,570	\$ 716,386	\$ 734,429	\$ 18,043	2.5%
OVERTIME	14,157	2,078	11,952	14,690	2,738	22.9%
FRINGE BENEFITS	110	15	158	1,000	842	532.9%
UTILITIES	1,582	1,981	1,658	3,000	1,342	80.9%
ONGOING MAINTENANCE	684,807	650,070	647,629	683,750	36,121	5.6%
TRAINING & MEETINGS	-	-	-	25,205	25,205	-
OTHER MATERIALS	501,346	544,983	550,563	570,201	19,638	3.6%
OTHER SERVICES	772	792	796	3,539	2,743	344.6%
TOTAL	\$ 1,872,739	\$ 1,824,489	\$ 1,929,142	\$ 2,035,814	\$ 106,672	5.5%

The **Fleet Services Department** manages and maintains MWRA's motor vehicle and equipment fleet. The goal of the Fleet Services Department is to maintain MWRA's vehicle and equipment fleet to minimize downtime and extend the life of the assets. Fleet Services also manages the Chelsea fuel facility, the gas card program and the development and processing of specifications for new vehicles and equipment.

FY14 Goals:

- Continue to cost effectively maintain the Authority's fleet of vehicles and pieces of equipment.
- Continue the Authority-wide 2-way radio communications re-banding project, and coordinate distribution and installation of all 2-way radio equipment.
- Install Automatic Vehicle Locators(AVL) devices in all authority vehicles.

FY13 Accomplishments:

- Developed specifications for 41 new replacement vehicles or pieces of equipment of which the majority of these units will utilize alternative fuel, consistent with the Authority's goal of purchasing environmentally friendly products.
- Assisted the MWRA in being rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition (MAFC). The Authority continues to fuel diesel powered vehicles/equipment with bio-diesel.
- Prepared documentation for the surplus sale of 58 vehicles and pieces of equipment and worked with the Procurement Department for the auction and disposal of the vehicles/equipment.
- Continued to work with MIS & Operations staff on the Maximo system upgrade which includes a transportation module specifically designed for a fleet environment.
- Developed and continued implementing the Federal Communications Commission (FCC) mandated frequency re-banding project for Motorola and Nextel.

Budget Highlights:

- The FY14 Final Budget is \$2.0 million, an increase of \$107,000 or 5.5% as compared to FY13 Actual Spending.
- \$734,000 for **Wages & Salaries**, an increase of \$18,000 or 2.5% as compared to FY13 Actual Spending mainly due to contractual increases. The final budget supports 11 positions.
- \$684,000 for **Ongoing Maintenance**, an increase of \$36,000 or 5.6% as compared to FY13 Actual Spending mainly due to lower than projected need for maintenance materials in FY13. The final budget includes funds for automotive materials and services to maintain MWRA's vehicle fleet.
- \$570,000 for **Other Materials**, an increase of \$20,000 or 3.6% as compared to FY13 Actual Spending mainly due to lower than projected vehicle fuel pricing in FY13. The FY14 Final Budget includes funds for vehicle/equipment fueling which is based on historical fuel usage. Fleet Services procures bulk fuels from state contracts while continuing to meet all governmental alternative fuel directives. It should be noted that the volatility of fuel pricing could impact this line item.

HUMAN RESOURCES

FY14 Final Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 1,686,848	\$ 1,740,651	\$ 1,808,014	\$ 1,823,952	\$ 15,938	0.9%
OVERTIME	-	-	21	-	(21)	-100.0%
FRINGE BENEFITS	17,289,376	17,608,031	17,477,396	18,001,690	524,294	3.0%
WORKERS' COMPENSATION	2,228,175	1,600,726	2,114,701	2,000,000	(114,701)	-5.4%
ONGOING MAINTENANCE	18	-	-	-	-	-
TRAINING & MEETINGS	2,323	1,685	2,097	3,963	1,866	89.0%
PROFESSIONAL SERVICES	372,608	512,618	374,418	415,638	41,220	11.0%
OTHER MATERIALS	15,099	13,465	15,944	15,170	(774)	-4.9%
OTHER SERVICES	11,647	13,562	12,964	19,540	6,576	50.7%
TOTAL	\$ 21,606,094	\$ 21,490,738	\$ 21,805,555	\$ 22,279,953	\$ 474,398	2.2%

FY14 Final Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
EMPLOYEE/COMP/BEN	\$ 657,772	\$ 798,093	\$ 685,095	\$ 690,223	\$ 5,128	0.7%
LABOR RELATIONS	1,035,454	1,041,023	1,063,685	1,101,110	37,425	3.5%
TRAINING	361,950	402,137	419,145	442,545	23,400	5.6%
CENTRALIZED FRINGE BENEFITS	19,550,918	19,249,485	19,637,630	20,046,075	408,445	2.1%
TOTAL	\$ 21,606,094	\$ 21,490,738	\$ 21,805,555	\$ 22,279,953	\$ 474,398	2.2%

The **Human Resources Department** is comprised of three units:

The **Employment, Compensation, Benefits and HRIS Unit** coordinates and oversees all external recruitment and selection activities including hiring, lateral transfers, and promotions to meet the business needs of MWRA; develops and coordinates MWRA compensation and benefits strategies and programs; and ensures the proper processing and recording of personnel actions. The compensation function also ensures that all MWRA employees possess the necessary licenses and certifications required for their positions. The **Labor Relations Unit** is responsible for fulfilling MWRA's collective bargaining and contract administration obligations under Massachusetts' public sector collective bargaining law, its workers' compensation responsibilities, and its responsibilities for employee occupational safety and health. The **Training Unit** develops, coordinates, delivers, and evaluates MWRA technical and professional development training programs and other programs designed to improve employee knowledge, skills, productivity, and the quality of workplace interaction. It is responsible for the oversight and tracking of MWRA performance evaluation programs, Employee Assistance, and Tuition Reimbursement programs. In addition, the Human Resources Department includes the Centralized Fringe Benefits cost center, which includes the budget for fringe benefits for all MWRA employees as well as for mandatory payments for unemployment expenses and Medicare.

FY14 Goals:

- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation package (salary and benefits) to all employees.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and

enhancing management flexibility. Ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment that fosters safety consciousness and productive work, maximize the number of early returns to work by employees who have incurred on-the-job injuries or illnesses, and aggressively manage the Workers' Compensation Program to reduce costs.

FY14 Initiatives:

- Manage the process for negotiating successor collective bargaining agreement with all five collective bargaining unions of the MWRA.
- Support the collective bargaining negotiation process with data analysis, costing analysis and wage and benefit survey data collection and analysis.
- Lead procurement efforts for contracts associated with workers' compensation administrative and legal services and the MWRA Dental Plan.
- Provide training and guidance to MWRA managers in the areas of leave management, time and attendance issues, and matters of employee conduct issues.
- Investigate complaints of violations of MWRA policies and Code of Conduct as necessary.
- Review, document, and streamline Human Resources processes through automation and procedure documentation.
- Provide additional training for Administrative Certificate Program (ACP), Productivity Improvement Program (PIP), and Authority-wide Harassment Prevention Training.
- Support the agency's efforts in developing and implementing succession plan activities in anticipation of an increase in retirements over the next several years.

FY13 Accomplishments:

- Successfully negotiated and implemented an agreement with all five collective bargaining units regarding the use of an Automated Vehicle Locator Tracking System at MWRA.
- Successfully supported the Authority's efforts in defending itself in several arbitration hearings.
- Successfully negotiated a three year extension contract for the MWRA Employee Assistance Program (EAP) and Blue Cross Blue Shield dental program.
- Successfully delivered Administrative Certification Program (ACP) training, Supervisory Development, Productivity Improvement Program (PIP) and Performance Management training.
- Completed and collected the required acknowledgement of the State Ethics Commission's Summary of the Conflict of Interest Law from all employees.

- Completed a variety of technical training to MWRA employees including Confined Space Entry, Wind Turbine Tower Climbing Safety, Spill Containment, Practical Project Management, Signal Person Training and OSHA 8-Hour Annual Refresher training.
- Organized compliance with the bi-annual online State Ethics Training for all employees and maintained training compliance documentation as required by the State Ethics Commission.
- Successfully procured and selected vendor for MWRA's Workers' Compensation Third-Party Administration Services and successfully transferred records and claims to the new vendor.

Budget Highlights:

- \$1.8 million for **Wages and Salaries**, an increase of \$16,000 or 0.9% over the FY13 Actual Spending. The FY14 Budget includes funding for 21 positions.
- \$18.0 million for **Fringe Benefits**, an increase of \$524,000 or 3.0% over the FY13 Actual Spending. The budget includes \$15.5 million for health insurance, \$1.3 million for Medicare, \$1.0 million for dental insurance, \$161,000 for unemployment insurance, and \$31,000 for tuition reimbursement.

Health and Dental Insurance budgets are 2.3% and 2.7% higher than FY13 Actual Spending mainly due to increased rates.

- \$2.0 million for **Workers' Compensation**, a decrease of \$115,000 or 5.4% as compared to the FY13 Actual Spending. The Human Resources Department is responsible for the management of this program and the coordination with the third-party administrator and legal counsel.
- \$416,000 for **Professional Services**, an increase of \$41,000 or 11.0% over FY13 Actual Spending. The FY14 Budget includes \$155,000 for Professional Development and Technical Training, \$119,000 for Workers' Compensation Claims Administration and Legal Services, \$56,000 for Arbitrators and Arbitration Expenses, \$44,000 for Medical Evaluation Services, \$25,000 for the Employee Assistance Program, and \$15,000 for Specialized Investigation Services.

MANAGEMENT INFORMATION SYSTEMS (MIS)

FY14 Final Current Expense Budget MANAGEMENT INFORMATION SYSTEM						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 4,972,127	\$ 5,148,842	\$ 5,004,036	\$ 5,353,921	\$ 349,885	7.0%
OVERTIME	3,510	3,518	4,220	2,810	(1,410)	-33.4%
FRINGE BENEFITS	-	-	37	-	(37)	-100.0%
ONGOING MAINTENANCE	2,581,022	2,078,922	2,326,564	2,770,115	443,551	19.1%
TRAINING & MEETINGS	26,311	80,043	155,470	146,528	(8,942)	-5.8%
PROFESSIONAL SERVICES	-	325,233	230,717	300,000	69,283	30.0%
OTHER MATERIALS	141,503	277,135	413,172	466,322	53,150	12.9%
OTHER SERVICES	808,526	986,958	981,307	1,207,565	226,258	23.1%
TOTAL	\$ 8,532,999	\$ 8,900,651	\$ 9,115,523	\$ 10,247,261	\$ 1,131,738	12.4%

The **MIS Department** provides MWRA with the information processing services necessary to carry out its mission. Applications in use range from financial to operational, and enhance MWRA’s ability to access data and improve internal controls, reporting, and management performance. In addition to computing systems, the department also provides library and records management services.

FY14 Goals:

The goal of the MIS department is to support more than 1,000 MWRA users, including those at the Charlestown Navy Yard (CNY), Chelsea, Deer Island, Southboro, Carroll Water Treatment Plant and other remote sites, by ensuring that:

- The automated business services delivered increase the efficiency of MWRA’s business processes and improve the effectiveness of the staff while maintaining system security and integrity;
- Existing applications, operating systems, hardware, and network resources are cost-effectively maintained, supported, upgraded, and replaced;
- Future changes for Information System reflect management priorities and are consistent with the MWRA Master Plan and the five-year IT Strategic Plan; and
- Information Technology Service Management is implemented to improve customer satisfaction and improved efficiencies in delivering services.

FY14 Initiatives:

- **Information Technology Management Program**

This program is intended to improve the organization of Information Technology (IT) and the oversight processes for selecting, implementing and operating IT solutions throughout the MWRA. The FY14 initiatives are as follows:

- Establishment of an Information Technology Task Force (ITTF) to recommend and prioritize projects, policies and standards.
- Establishment of a MWRA Software Development Life Cycle (SDLC) with the appropriate policies, procedures, standards, tools and techniques to efficiently deliver development efforts on time and within budget.

- Implement a set of policies, procedures, standards, tools, and techniques which employs the best practices for Information Technology Service Management (ITSM). This will be put in place with the MAXIMO 7.5 upgrade effort through the use of the Smart Cloud Control Desk Module.
- In parallel with the ITSM effort, MIS will be re-organizing to better deliver services. This will include updating Job Descriptions to reflect the changing technologies and the methods of delivery, re-aligning the organization to match the ITSM and SDLC best practices, and focusing on how technology can be used to increase efficiency of staff and improve the effectiveness of the Authority's business processes.

- **Application Improvement Program**

This program along with associated projects continue MWRA's efforts to update and enhance a wide range of applications to improve efficiencies of business processes and effectiveness of the staff while ensuring the availability, and integrity of the MWRA's data resources. This program relates to 123 applications with 227 modules that support various business functions across the Authority. Seventy-seven, or 63%, of these applications are commercially available off the shelf packages.

Major initiatives for FY2014 area as follows:

- **Administration and Finance Initiatives**

- ***Enterprise Document/Records Management Implementation*** The objective of this project is to identify and define the requirements as they relate to electronic content management at the MWRA and to solicit and procure a technical solution in preparation of a department-by-department implementation set of projects.
- ***e-Procurement Implementation*** This project is focused on the implementation of the Contract Management modules from Infor Global Solutions.

- **Compliance Management Initiatives**

- ***Laboratory Information System (LIMS) v6 Upgrade*** The objective of this project is to upgrade LIMS to the most current version (version 6) that LabWare supports.
- ***Pretreatment Information Management System (PIMS) Business Cycle Enhancements:*** The objective of this project is to update the existing application and deliver new functionality in PIMS well in advance of the next TRAC business cycle for the MWRA's Pretreatment Program.

- **System Integration and Data Warehousing Initiatives**

- ***Geographic Information System (GIS) Integration*** The purpose of the GIS Integration projects are to integrate the GIS spatial technology into business and operational applications and to determine an overall strategy of delivering a special real-time dashboard for managing the MWRA.
- ***Water Quality Reporting System*** The Southborough Water Quality group procured a data analysis tool that is capable of correlating water quality testing results with other relevant data residing in spreadsheets, MS Access databases, comma delimited files, and other databases. This new data analysis tool will be used to identify trends and other information not readily available with these stand-alone systems. The Aquarius Water Quality data analysis tool will be capable of generating compliance reports that are currently being done manually.
- ***Management Dashboards & Reporting:*** These projects consolidate administrative management dashboards and reporting tools to assist in management of the day-to-day operations and to provide data to assist in Authority-wide decision making.

- **Operations Management Initiative**

- **Computerized Maintenance Management System (CMMS) Enhancements** - The MWRA is running Maximo version 5.2 which is no longer supported by IBM. Maximo must be upgraded to 7.5 in order to become supported by IBM. This effort includes:
 - Completing the upgrade
 - Implementing the Calibration Module.
 - Implementing Smart Cloud Control Desk Module
- **Tiscor Inspection System:** InspectNTrack product, a web based application with a SQL back-end, which could be used to consolidate multiple standalone departmental TISCOR databases as reviewed and chosen by users. Staff worked with the vendor on data mapping and migration of the existing four standalone databases into a new centralized database. Standardized facility names exported from GIS being used and new or revised inspection routes were established. Data scrubbing and production server installation is complete.

- **Information Security Program**

This program focuses on the resiliency and sustainability of the MWRA's data security practices. The projects associated with this program will establish policies, procedures and an information security awareness program for all of the MWRA. Furthermore, it will review each IT system and make recommendations to improve its security profile. The following are the FY2014 projects under this program:

- **Information Security Plan Design and Implementation**
- **Firewall Upgrade**
- **Authority Mobile Device Management Implementation**
- **Secure File Delivery**
- **Security Infrastructure Upgrades**
- **Secure Media Destruction Program**

- **Technology Infrastructure Improvement Program**

The MWRA currently owns and operates 1,238 desktops, 160 laptops, 108 servers, 20 Wide Area Network Circuits and associated equipment. It also manages in excess of 18 Terabytes (TB) of data of which 7 TBs are stored in 148 database schemes and an additional 11 Terabytes of unstructured data are stored on file shares. This program will assess and implement consolidated and optimized versions of these core IT infrastructure elements as utility-like services and commodities. Furthermore, it will look to improve and optimize data management practices including: storage, backup, and archive and purge processes and technologies. The following FY2014 projects are currently under way:

- **IT System Architecture Development:** Establish cross-department standards for the following domains: Access, Information, Application, Integration, Management and Security.
- **Exchange 2010 email system:** Complete the migration of all MWRA email users to the new Exchange 2010 email system. The mailbox size for all users will be increased.
- **Distributed Antenna Systems (DAS):** Implement wireless infrastructure of Distributed Antenna Systems (DAS) at key MWRA locations to provide in-building cell phone coverage signal improvement for service providers. This will allow the migration to the new wireless service provider to be completed.

- ***Server Consolidation and Virtualization:*** Continuation of “Green Data Center” initiatives, including virtualizing more physical servers and reducing the variety of application infrastructure component versions and manufacturers (like web servers, application servers, and database servers).
- ***Network Convergence:*** Explore new technologies for future implementation considerations including new networking technologies for upcoming network upgrade, web and mobile platforms for business and information services, and Voice-Over-IP (VOIP) for communications.
- ***Core Switches:*** Implement Core Switches for Phase 2 of Net2020
- ***Network Storage Improvements:*** Plan for the migration and implementation for consolidation of new storage requirements for archiving, and implement e-discovery services.

FY13 Accomplishments:

- **Application Improvement Program**

- **Administration and Finance Initiatives**

- ***Historic Photo Digitization Project:***

The Library and Records Center unit is supporting a Public Affairs/Executive Office initiative to digitally capture historical images of the MWRA and MDC construction projects. Staff, with input from the Executive Office, evaluated services provided by the Digital Commonwealth (DigiCom) and decided to have them scan the MWRA assets including glass negatives, largely housed at State Archives, and MWRA photo albums. The first five boxes of glass negatives were delivered to the Digital Commonwealth (DigiCom) Team for free scanning and in Q2, initial scans from the pilot project were received. DigiCom returned the pilot glass negatives to the State Archives and picked up additional scanning work (10 boxes) from the State Archives. Pilot images were delivered to Public Affairs for digital asset management catalog development. Library staff sent metadata to Public Affairs staff to add to the Cumulus digital asset management database and is working on generating the metadata for the future batches. This process will be ongoing for several years until all the images are scanned, cataloged and published.

- ***Enterprise Resource Planning (ERP) System Enhancements***

Lawson 9.0.1 Upgrade: Assisted the Payroll department with a parallel payroll run on the upgraded development system. Staff reviewed the results with the Payroll department who were satisfied with the outcome. Staff assisted Procurement and HR/Payroll staff with user tests and completed roll-out of 9.0.1 application to the production server over the weekend of Sept 22nd/23rd. Program code was brought over from development server and staff validated system functions, updated custom database fields, recompiled programs, etc. Minor problems with the 9.0.1 upgrade such as Oracle grants, synonyms, and permission updates, Mobile Supply Chain Management printing and a couple minor screen issues were fixed. Go Live occurred with minimal impact to the users.

- ***Strategic Sourcing Supplier Portal:***

The Strategic Sourcing Supplier Portal went live with Supplier/Vendor registration in March and was followed with purchasing event posting, bidding and award functionality in April. Presentations were given to the Utility Contractors of New England (UCANE) and the Construction Industries of Massachusetts who requested a parallel test of the system which is scheduled for the Fall of FY14. Contracts Management application training for core team was held in May and the application configuration and development is underway.

- ***Asset Management Systems Consolidation:***

Through the Inventory Control Task force a recommendation was made to consolidate nine asset tracking systems into two. MIS prepared and presented a business solution proposal at the Inventory Control Task Committee meeting to use MAXIMO 7.5, which offers new functionality that will suit the needs of the Authority

- ***OrgPlus Upgrade:***

This upgrade brought the version current and corrected defects in the chart display functionality. (Note: Recent organization change to Planning will have an impact to this application, Employee Directory, e-forms etc.).

- **System Integration and Data Warehousing Initiatives**

- Updated the Community OMMS Website to be compatible with non-Microsoft web browsers.
- Waste Water Quality (WQ) Oracle Upgrade

- **Operations Management Initiative**

- ***Guard One Plus:***

The Guard One facility tour management system was upgraded from a PC based system to client server. The facilities that are using the new system are CNY, DITP, Chelsea and CWTP. The new Guard One Plus provides better upload capability, more robust reporting and has been centralized in the MIS Chelsea Data Center.

- **Information Security Program**

- Bid award for the design and development of the Information Security Plan was approved on April 10, 2013.

- **Technology Infrastructure Improvement Program**

- ***Office Automation Improvement and Refresh Efforts***

- ***Print, Fax, Scan and Copy:*** Installed 13 new multi-function devices (MFDs) throughout MWRA facilities consolidating services (Print, FAX, Scan, Copier) onto one platform. The rollout has replaced 47 pieces of aged equipment for better than a 2:1 equipment reduction.
- ***Smart Boards*** – Five Smart Boards were procured and installed at CNY, DITP, Southborough, CWTP and Chelsea Muster Room.

- ***Contaminate Warning System (CWS):*** Continue to support efforts to execute the Contaminate Warning System (CWS) with the implementation of a private wireless network at 18 locations that allow the sampling devices to communicate with the application server located in the Chelsea Data Center.

- ***Email Domain: @mwra.com:*** Completed implementation of Email Domain: @mwra.com as primary email domain suffix. Change went into effect as expected without any impact to mail functionality.

- ***Telog and IIS Server Support:*** Staff completed a project plan to upgrade the Telog server. Additionally, staff completed the following: (1) Installation and configuration of anti-virus, new software, service pack and Windows security patches on two virtual machines; (2) Set up of the required databases and login

accounts on the SQL server; (3) Configuration of IIS web server; (4) Daily tape backup on SQL databases from Monday through Friday; and (5) New SQL maintenance plans to perform database backup during the weekends.

- **SQL Server 2012 Upgrade:** Upgrade SQL server 2005 to SQL server 2012.

Budget Highlights:

- The FY14 Final Budget is \$10.2 million, an increase of \$1.1 million or 12.4%, as compared to FY13 Actual Spending.
- \$5.4 million for **Wages and Salaries**, an increase of \$350,000 or 7.0%, as compared to FY13 Actual Spending mainly due to contractual increases. The budget includes funding for 57 positions, 3 positions less than in FY13.
- \$2.8 million for **Ongoing Maintenance**, an increase of \$444,000 or 19.1%, as compared to FY13 Actual Spending. Maintenance spending is for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff.
- \$147,000 for **Training and Meetings**, a decrease of \$9,000 or 5.8%, as compared to FY13 Actual Spending mainly due to FY13 one-time training request. Funding will support staff training in various computer applications as part of the MIS IT Strategic Plan.
- \$300,000 for **Professional Services**, an increase of \$69,000 or 30.0%, as compared to FY13 Actual Spending. Funding will support the continued development of an MIS Strategic Plan and implementation services.
- \$466,000 for **Other Materials**, an increase of \$53,000 or 12.9%, as compared to FY13 Actual Spending primarily due to increased specialized hardware requests.
- \$1.2 million for **Other Services**, an increase of \$226,000 or 23.1%, as compared to FY13 Actual Spending.

PROCUREMENT

FY14 Final Current Expense Budget PROCUREMENT							
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14		
WAGES & SALARIES	\$ 3,513,516	\$ 3,497,314	\$ 3,434,479	\$ 3,594,221	\$ 159,742	4.7%	
OVERTIME	14,105	16,983	29,657	15,750	(13,907)	-46.9%	
FRINGE BENEFITS	167	185	278	-	(278)	-100.0%	
UTILITIES	129	-	-	-	-	-	
ONGOING MAINTENANCE	(199,828)	189,502	161,962	-	(161,962)	-100.0%	
TRAINING & MEETINGS	4,462	5,435	2,553	7,725	5,172	202.6%	
OTHER MATERIALS	120,162	106,745	115,051	84,608	(30,443)	-26.5%	
OTHER SERVICES	63,530	57,656	39,582	64,871	25,289	63.9%	
TOTAL	\$ 3,516,243	\$ 3,873,820	\$ 3,783,562	\$ 3,767,175	\$ (16,387)	-0.4%	

The **Procurement Department** includes three units. The **Purchasing Unit** operates a competitive purchasing system for the procurement of materials, goods, and non-professional services in accordance with MWRA policies and procedures. The **Contract Management Unit** reviews, drafts, and negotiates contracts, amendments, and change orders for all professional, non-professional, and construction services contracts. Staff directs the bid, review, and selection process, and maintains a contracts database. The **Materials Management Unit** manages an Authority-wide inventory control and management system for better control, storage, distribution, and accounting of MWRA’s inventory. The unit manages three regional warehouses/distribution centers that support all MWRA activities.

FY14 Goals:

- Procure materials, equipment, supplies, construction, professional, and non-professional services in a timely, efficient, and openly competitive process in accordance with MWRA policies and procedures, including those related to meeting affirmative action goals.
- Maintain centralized, efficient, and cost-effective management of spare parts and operating supplies inventory.
- Provide timely and high quality services to initiating divisions to enable MWRA programs to meet their public, production, and schedule responsibilities.
- Maintain a recycling program in order to contain MWRA operating costs by removing recyclable materials from the waste stream.
- Implement electronic procurement for Contract bids, which will significantly reduce the amount of paper processing.
- Continue staff procurement training.

FY13 Accomplishments:

- Competitively bid Renewable Energy Portfolio Standard certificates which resulted in FY13 revenues of \$486,000 (Class II). In addition, received FY13 revenues of \$1.4 million from forward marketing of CY12 (Class I and Solar) Renewable Portfolio Standards (RPS) certificates.

- Awarded the following major contracts in FY13: DITP Expansion Joint Repair Construction 2; Sudbury Aqueduct Pressurization and Connections; Letters of Credit, Liquidity Facilities or Direct Purchases; Nut Island Switchgear Modifications; Caruso Pump Station Improvements Design; Wachusett Aqueduct Emergency Interconnection Valves; DITP Concrete Steel Restoration and Coating, Phase IV; North Dike Tree Removal at Wachusett Reservoir; and DITP Replacement of Four Gravity Thickener Center Columns; Disclosure Counsel Services; DITP North Main Pump Station ESDC/REI; Quabbin UV Disinfection; Security Improvements at Various Facilities Design; Quabbin UV Disinfection Facilities; DITP Waste Sludge Centrifuges Power and Control Systems Upgrade; Roof Replacement Bellevue and New Neponset Pump Station; DITP Electrical Equipment Upgrade Construction 4; Rehab of WASM 3 Design; and Audit Services; Automatic Vehicle Locator Tracking System; Gillis Pump Station Short Term Improvements; and Nut Island Electrical Improvements.

Advertised or received bids/proposals/statements for the following: DITP Pipe Supports for Sludge Pipelines; DITP Roofing Replacement; Clinton WTP Phosphorus Reduction Design; DITP Replacement of Scum Skimmers; Storm Pump Gear Box and Diesel Engine Upgrade; and Webster Avenue Pipe Replacement Design.

- Continued to work with the Field Operations Department (FOD) and utility companies to establish energy conservation programs at FOD facilities, using the Green Communities Act, the utilities' municipal programs, and other programs.
- Worked with Operations and MIS to issue an RFP for an Automated Vehicle Locator Tracking System procurement; received bids and awarded a contract in June.
- Developed a pilot program and RFP, working with Operations, Finance and Law, for co-digestion of organic waste at DITP.
- Continued development of an electronic procurement bidding process for construction contracting based upon Lawson Strategic Sourcing. Met with contractor associations and provided demonstrations for contractors and the Inspector General. Began training for Lawson Contract Management.
- Participated in planning for, and developed contract documents for, a program to combat invasive species at Wachusett reservoir.
- Implemented the Lawson electronic purchasing system for goods and services valued over \$2,000.
- Procured the Authority's vehicle purchases at the beginning of Fiscal Year 2013 including 33 vehicles procured through the use of a "Reverse Auction" format.
- Bid the annual copy paper contract and received more favorable pricing than that listed on the State Blanket contract.
- Developed a list of approved tools and constructed and bid a contract for the purchase of the approved tools.
- Continued to work with Operations to review and update if necessary, sole source procedures.
- Continued work Operations on a Quality of Materials Sub-Committee. The subcommittee's goal is to examine a number of similar inventory items to determine if what is currently being stocked in inventory is the appropriate quality to adequately perform the intended function. The sub-committee is comprised of Purchasing, Materials Management and Operations staff.

- Held two successful training sessions in the fall of 2012 on purchasing procedures. The first was conducted by the Inspector General’s Office on the subject of “Bidding Basics”. The second was an Operational Services Division (OSD) conducted training session for MWRA staff on how to use the State’s procurement website Comm-Pass. Both training sessions were held at MWRA headquarters in Charlestown.
- Processed 10,147 purchase orders in FY13 for a total of \$50,933,331.
- FY13: processed 118 competitive bids, 10 State Blanket contracts, 11 contract amendments, 4 critical need, and 12 sole source purchases for items and services valued over \$25,000.
- Updated and reassigned buyer commodity assignments and distributed the revised list to Authority staff.
- Continued to seek out environmentally friendly products, among them recycled toners, batteries, copy paper, hybrid vehicles, and bio-fuels.
- Set up an online vehicle and equipment auction process and brought in \$249,627 in revenue in FY 13.
- Recycled 36.61 tons of paper, 222.60 tons of scrap metal, and 5777.36 pounds of brass, copper, stainless steel and aluminum, generating \$62,767 in revenues.

Budget Highlights:

- The FY14 Final Budget is \$3.8 million, a decrease of \$16,000 or 0.4% from FY13 Actual Spending.
- \$3.6 million for **Wages and Salaries**, an increase of \$160,000 or 4.7% from FY13 Actual Spending mainly due to contractual agreements. The funding supports 46 positions, the same level as in FY13.
- \$85,000 for **Other Materials**, a decrease of \$30,000 or 26.5% from FY13 Actual Spending. Reduction of the amount for centralized office supply purchases accounts for most of the change.
- \$65,000 for **Other Services**, an increase of \$25,000 or 63.9% from FY13 Actual Spending. This funding supports Advertising and Printing/Duplicating for contract documents and specifications. Advertising was below historical trends because a number of projects were rescheduled for later years.

REAL PROPERTY and ENVIRONMENTAL MANAGEMENT

FY14 Final Current Expense Budget REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Final	Change FY13 to FY14	
WAGES & SALARIES	\$ 448,967	\$ 460,569	\$ 419,225	\$ 426,071	\$ 6,846	1.6%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	2,045	1,234	36,900	8,000	(28,900)	-78.3%
PROFESSIONAL SERVICES	-	-	11,546	-	(11,546)	-100.0%
OTHER MATERIALS	668	835	797	1,150	353	44.3%
OTHER SERVICES	2,041,138	130,074	292,101	276,496	(15,605)	-5.3%
TOTAL	\$ 2,492,818	\$ 592,712	\$ 760,569	\$ 711,717	\$ (48,852)	-6.4%

The **Real Property and Environmental Management Department** negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects and operations and manages the disposition of surplus real property. Staff participates in site selection and negotiates acquisitions or easements. In addition, staff has developed and is maintaining the Real Property database, the compilation of more than 100 years of easements and land rights for the water and sewer systems. Department staff manage environmental regulatory compliance at MWRA facilities and also provides special expertise and assistance to MWRA staff regarding air quality and hazardous material issues. Assistance includes management of oil and hazardous materials site assessment and remediation, air emission permit negotiations, and preparation and submittal of quarterly/annual monitoring reports.

FY14 Goals:

- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner; manage the disposition of surplus real property in an efficient manner; and provide staff and others with current information regarding MWRA's real property rights.
- Manage the centralized environmental management program, providing technical assistance regarding hazardous waste management, air quality compliance, and related issues during all phases of MWRA projects; monitor and provide assistance in maintaining environmental regulatory compliance at MWRA facilities.

FY14 Initiatives:

- Monitor progress of upcoming underground storage tank regulation amendments.
- Coordinate implementation of boiler and emergency generator air emissions regulation amendments including monitoring, maintenance, pollution control retrofits, and recordkeeping requirements.

FY13 Accomplishments:

- Provided ongoing real estate services, including appraisal and negotiation, on projects such as the Fore River Railroad track relocation project, Charlestown Navy Yard lease, Chelsea lease, Marlboro lease, and the surplus of land adjacent to Chelsea Headworks.
- Provided real estate services on surplus of Waban Reservoir (Newton), Fox Point (Dorchester), and Commercial Point (Dorchester) and evaluation of property needs at Deer Island.

- Managed nine (9) permit agreements (six at Turkey Hill and three at Walnut Hill). Coordinated with Operations for approval of the equipment changes and improving the invoicing system for maintenance reimbursements. Total revenue for the nine agreements is \$490,700 of which MWRA and the host community each receive half. Currently renegotiating five of the nine permit agreements which are due for renewal.
- Managed fee assessment for long-term 8M permits on MWRA fee controlled land. 8M fees for these agreements total \$49,900 per year. Also provided assistance to Operations on short-term 8M permit agreements in which fees are assessed.
- Staff acquired easements and negotiated licenses and extensions to support projects such as the Hultman Aqueduct Interconnections and Ward Street Headworks (license with Wentworth Institute of Technology). Began work on acquisitions for Section 36, New W11C, and Shaft 9A in Waltham and Carroll Water Treatment Plant (CWTP) entrance renovations. Additionally, provided real estate support on projects such as disposition of property at the former East Boston Steam and Pump Stations to the Department of Capital Asset Management (DCAM) and evaluating long-term real estate needs for Weston Aqueduct Supply Mains (WASM) 3 Rehabilitation. Working to acquire additional land from DCAM for Ware Disinfection Facility related uses and Massachusetts Department of Transportation (MassDOT) for acquisition of land for Shaft 5/5A.
- Provided real estate support services including deed research and coordination with Planning's Geographic Information System (GIS) group and Law to develop/improve comprehensive property maps for the Cochituate, Sudbury, Weston, and Wachusett Aqueducts, and other projects, such as Shafts 5 and 5A, as they arise, to support projects such as the aqueduct trail initiative. Provided real estate research to begin developing a comprehensive facility database which supported feasibility assessment for solar panel sites. Provided daily assistance in concert with Law and GIS to ongoing inquiries regarding MWRA real estate rights and ownership.
- Continued with remediation and assessment of oil contamination at the FRSA facility.
- Continued with the assessment of the oil contamination resulting from the February 2010 spill at the Cottage Farm Combined Sewer Overflow (CSO) facility. Submitted a Class C RAO to the DEP marking the first step in final site closure with DEP.
- Completed the Polychlorinated biphenyl (PCB) Abatement at the Chicopee Valley Aqueduct Intake Facility and submitted the completion report to the Environmental Protection Agency (EPA).
- Completed the assessment, finalized and obtained approval from EPA of the PCB Abatement Plan for the Alewife Brook Pump Station.
- Provided technical support for the assessment and abatement design for PCBs at the Cottage Farm CSO Facility and Remote Headworks facilities in conjunction with on-going design of facility upgrades. Submitted a risk-based PCB abatement plan for Chelsea Creek Headworks to EPA for approval.
- Evaluated sub-surface soil and groundwater investigation program results from the Chelsea Creek Headworks facility and established MassDEP reporting requirements for newly-discovered contamination. Coordinated with design staff to determine future assessment and remediation requirements.
- Provided input to the design of a replacement fuel tank system at the Weston Reservoir facility.

- Completed site assessment and submitted final close-out report to MassDEP for groundwater contamination at the Newton Street Pump Station in Brookline discovered during an in-house valve replacement project.
- Continued to provide technical and regulatory coordination of the fuel tank maintenance contract. Completed fuel tank piping system upgrades at two facilities and general monitoring system repair and upgrades at other facilities. Coordinated with Supervisory Control and Data Acquisition (SCADA) support staff to provide real-time fuel tank system monitoring at wastewater and water Operations Control Center (OCC). Initiated the new MassDEP-required monthly inspection requirement for all underground fuel storage tank systems. Completed DEP-required triennial third party inspections at all underground fuel storage facilities.
- Completed new underground storage tank operator training for Operations staff. Real Property staff became certified as ClassA/B Operators by the Massachusetts Department of Environmental Protection (MassDEP).
- Provided technical support and regulatory liaison for review of the draft National Pollutant Discharge Elimination System (NPDES) permit for annual maintenance discharges for the Carroll Water Treatment Plant. Received the final NPDES permit for this facility from EPA.
- Coordinated with Operations staff to complete significant spill containment improvements at the Southboro facility. Completed updates to the Spill Prevention, Control, and Countermeasure (SPCC) Plans for the MWRA Southboro facility. Coordinated with MWRA construction staff to complete spill containment improvements at the Oakdale Power Station.
- Continued with MassDEP-required periodic groundwater monitoring around the former wastewater holding tank at Clinton.
- Continued to coordinate the periodic sampling requirements and quarterly reporting to the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for Hydroelectric General permits at the Cosgrove Intake Facility and Oakdale Power Station.
- Provided technical and environmental regulatory support regarding contaminated soil and groundwater issues on various design and construction projects, including:
 - Stoneham Low Service Covered Storage,
 - Charlestown Wind Turbine,
 - Remote Headworks Rehabilitation,
 - Northern Intermediate Redundancy project,
 - Section 36 Watertown-Waltham Connection,
 - Oakdale Power Station Electrical Upgrade,
 - Phase VII Valve Replacements including cleanout of a mercury-contaminated meter chamber,
 - Lynnfield/Saugus Pipeline,
 - Cottage Farm Oil fuel system upgrade project,
 - Alewife Brook Pump Station facility upgrades,
 - MWR003 Gate, Siphon and Floatables Control project
- Completed third party verification of the greenhouse gas report for the Bio-solids Processing Facility. Coordinated with MassDEP and Deer Island staff on establishing new startup limits for the Deer Island boilers, completed in March 2013. Worked with EPA and Operations staff on defining and implementing diesel engine emission controls for Cottage Farm, Prison Point, and CWTP. Worked with Operations staff to implement new maintenance and recordkeeping requirements for emergency generators.

- Provided technical and environmental regulatory support for upgrades at the Ware Disinfection Facility including a new potable water supply for the facility, a new onsite septic system, a new industrial waste water holding tank, and a new wastewater dry well.

Budget Highlights:

- The FY14 Final Budget is \$712,000, a decrease of \$49,000 or 6.4%, as compared to the FY13 Actual Spending.
- \$426,000 for **Wages and Salaries**, an increase of \$7,000 or 1.6%, as compared to the FY13 Actual Spending. The budget supports four positions. The increase is due to salary increases.
- \$8,000 for **Training and Meetings**, a decrease of \$29,000 or 78.3% as compared to the FY13 Actual Spending. The decrease is due to a one-time underground storage tank operator training program conducted in FY13.
- \$276,000 for **Other Services**, a decrease of \$16,000 or 5.3%, as compared to the FY13 Actual Spending. The decrease is due to a 10% reduction in the underground storage tank budget based on projected usage.



Appendices

APPENDIX A

DIRECT EXPENSE BUDGET LINE ITEM DESCRIPTIONS

Introduction

MWRA's direct expense budget funds the annual expenses of its operating and support divisions. Though the direct expense budget constitutes less than half of MWRA's total budget, it is these expenses which directly support the provision of water and sewer services to MWRA's customers. The direct expense budget includes the annual costs of operating the water and sewer systems, and funds the policy direction, administrative, financial, and legal support services for MWRA's ongoing operations. The direct expense budget also includes the personnel costs for management and oversight of MWRA's extensive capital programs.

There are 11 line items in the division budgets. The line items are:

Wages and Salaries - This line item includes funds for regular pay, shift differential, holiday pay, and standby pay for MWRA staff, as well as funds for interns and temporary staff.

Overtime - This line item includes funds for overtime related to operations, maintenance, emergencies, and training.

Fringe Benefits - This line item includes funds for health and dental insurance, unemployment compensation, Medicare, and overtime meals.

Workers' Compensation - This line item includes funds for compensation payments, medical payments, and settlements of compensation claims.

Chemicals - This line item includes funds for the chemicals used in water and wastewater treatment, such as chlorine, sodium hypochlorite, soda ash, sodium bisulfite, and hydrofluosilicic acid.

Utilities - This line item includes funds for electricity, diesel fuel, and other utilities such as water and sewer services paid by MWRA to the towns in which it operates facilities.

Maintenance - This line item includes funds to purchase materials and services for the maintenance of MWRA's plants and machinery, water and sewer pipelines, grounds, and buildings.

Training and Meetings - This line item covers the costs of staff training, meetings, and professional seminars.

Professional Services - This line item funds outside consultants supporting MWRA activities, including engineering and construction services, laboratory and testing contracts, computer system consultants, and legal and audit services.

Other Materials - This line item includes funds for office materials, equipment, postage, laboratory supplies, MWRA vehicles, work clothes, and computer hardware and software.

Other Services - This line item includes funds for space leasing, health and safety initiatives, removal of grit and screenings from the sewerage system, and the contracted operation of MWRA's residuals processing plant.

Sections II – V present summaries of the MWRA's budgets with a detailed description of program budgets and highlights within each divisional section.

APPENDIX B

BUDGET PROCESS AND TIMETABLE

MWRA operates on a fiscal year that starts July 1. The Current Expense Budget development process begins in September and, as described below, continues through a series of interactive reviews and revisions until June, when the Board of Directors approves the final budget. Throughout the formal budget process, MWRA staff maintains an ongoing dialogue with the Board of Directors and Advisory Board to discuss issues, the status of budget development, and other concerns.

MONTH	ACTIVITY
September	Divisions receive budget targets, guidelines, and manuals for the development of budget requests, and can begin to access MWRA's interactive budgeting system.
December	After the divisions return their budget requests, the Rates and Budget Department consolidates the authority-wide budgets, develops briefing materials for senior management, and identifies major budget issues.
January	The Executive Director determines proposed funding levels required to meet operational and financial objectives. Staff may seek appropriate policy direction from the Board.
February	MWRA transmits the Proposed Current Expense Budget to the Advisory Board for a 60-day review, during which time MWRA staff meet with Advisory Board staff, respond to questions, and provide updated information on plans and prices.
March – May	MWRA hosts public hearings to solicit comments on the proposed budget and community assessments from citizens in its service area. The Advisory Board reviews the proposed budget and transmits comments and recommendations to the MWRA.
June	The Board of Directors holds a hearing on the proposed budget and the Advisory Board's comments and recommendations. The Board of Directors adopts a final Current Expense Budget and a schedule of final wholesale water and sewer assessments.

APPENDIX C

MASSACHUSETTS WATER RESOURCES AUTHORITY BUDGET AND ASSESSMENT POLICIES AND PROCEDURES

**(Revised August 2003 to incorporate changes to capital budget section of Management
Policies adopted by the Board of Directors June 11, 2003)**

These policies and procedures govern certain budget, assessment, and rates management practices at the Massachusetts Water Resources Authority (MWRA). Policies and procedures may be amended from time to time, provided that changes in provisions governing reporting to or approvals by the Board of Directors or the Advisory Board must be approved by the Board of Directors. If any sections of these policies and procedures are at variance with requirements of MWRA's financing agreements, the latter shall govern.

ASSESSMENT POLICIES AND PROCEDURES

Basis of MWRA Assessments

MWRA is required by its Enabling Act to establish assessments which, with other revenues, provide sufficient funds each year to pay all current expenses, debt service, and obligations to the Commonwealth; to pay all costs of maintenance, replacement, improvements, extension, and enlargement of the sewer and waterworks systems; to create and maintain reserve funds; and to provide amounts required by financing agreements. These assessments are adopted by MWRA based on the rate revenue requirements set forth in the Current Expense Budget.

Costs Recovered

MWRA capitalizes certain of its asset costs in accordance with its capitalization policy. Capital expenditures are planned as set forth in the Capital Improvement Program and are recovered through assessments in accordance with MWRA financing agreements. The Current Expense Budget provides detailed information on capital and debt costs, additions to reserves, and all operations and maintenance costs to be recovered with current revenue.

Sources of Current Revenue

MWRA recovers most of its current expenses from users of the services it provides. In addition to rate revenue requirements, budgeted current revenue includes anticipated fines, fees, investment income on certain fund balances, and payments for contracted services. MWRA is committed to seeking additional sources of current revenue.

Coverage Requirements

MWRA's financing agreements include coverage requirements which provide that each year revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds. The primary bond coverage requirement is that net revenue must be 120 percent of required debt service fund deposits for bonds outstanding excluding subordinated bonds. The secondary coverage requirement is that net revenue must be 110 percent of required debt service fund deposits for all bonds outstanding, including subordinated bonds. Revenue must be raised annually to meet the primary and secondary bond coverage requirements and may be used for additions to reserves or for payment of obligations to the Commonwealth. Amounts remaining after these uses are used to pay capital costs in order to reduce the need for future borrowing or to reduce current debt service costs. In addition, MWRA has a supplemental bond coverage requirement that amounts contained in its Community Obligation and Revenue Enhancement (CORE) Fund shall equal 10 percent of required debt service fund deposits for bonds outstanding, excluding subordinated bonds. Amounts required to be on deposit in the CORE Fund are recovered through assessments as necessary.

Budget Surpluses

In any year in which current revenue exceeds both current expenses on a budget basis and amounts required to meet bond coverage tests, the amount of over-recovery is deposited first to reserve funds, if any, which are below the level specified in any financing agreements, and second into MWRA's rate stabilization fund or bond redemption fund. Amounts deposited in these funds are used to offset rate requirements in subsequent years and such, to provide rate relief for our communities. With Board approval, surplus funds can also be used for targeted defeasance in future years and/or to reduce future liabilities, as part of a multi-year rate strategy. MWRA consults with the Advisory Board regarding the yearly use of these funds.

Budgeting and Assessment Objectives

MWRA follows conservative budgeting practices, and has the following objectives in developing budgets and community assessments:

1. To minimize total costs, consistent with MWRA's statutory responsibilities to provide effective, environmentally sound wholesale water delivery and wastewater collection and treatment services;
2. To minimize the cost of debt;
3. To avoid single year assessment spikes by prudent management of cost and assessment increases, and
4. To support inter-generational equity by avoiding unfair assessment burdens on either current or future ratepayers.

Allocation of Costs and Revenue to Systems

Most of MWRA's current expenses are directly attributable to either water or sewerage service costs or to investment in either the water or sewerage systems. Expenses which support both systems (indirect system costs) are allocated to the water or sewer system based on generally accepted cost allocation principles. Investment, contract, and other income offsets water and sewerage expenses on either a direct or allocated, indirect basis. The resulting net cost of water and sewerage services is the amount to be recovered through water and sewer assessments.

Allocation of Rate Revenue Requirements to User Assessments

Users of MWRA wholesale water and sewerage services are assessed for those services according to MWRA's water and sewer assessment methodologies. Assessments for water services are computed by MWRA based on metered water use for the preceding calendar year. The total assessment is allocated based on each community's share of water delivered in the immediately preceding calendar year.

Assessments for sewer services are computed on the basis of a combination of metered wastewater flow and loads, and population.

- Operations and Maintenance (O&M) costs are allocated based on total annual metered wastewater flow, and total annual average strength, septage, and high strength flow loads.
- Capital (or debt service) costs are allocated based on a combination of metered wastewater flow and loads, and population. One-quarter of capital costs are allocated based on maximum month flow, and total annual average strength, septage, and high strength flow loads. The remaining three-quarters of capital costs are allocated based on population. Half of the population allocation is based on census population and half is based on contributing population.

Schedule and Procedure for Adoption of Assessments

During the preparation of the proposed Current Expense Budget, required water and sewer rate revenue is determined, and a preliminary calculation of the allocation of costs to user-specific assessments is made. This information is provided to MWRA customers to assist them in their own fiscal planning. As provided in the Enabling Act, the proposed Current Expense Budget and preliminary assessments undergo statutory review, including public hearings and review by MWRA's Advisory Board. Further refinements of projected expenses and revenues also occur during this period. If review and analysis of the proposed Current Expense Budget results in lower projected expenses or higher projected revenue, some or all of such savings from preliminary estimates of assessments can be included in the adopted budget as additions to the rate stabilization fund and used to reduce rate revenue requirements in subsequent years. Alternatively, some or all of such savings can be used to reduce final assessments to customers below preliminary estimates.

The Current Expense Budget and final water and sewer assessments are adopted in June for the fiscal year beginning in July. The budget adopted in June may differ from the proposed budget as a result of review and further refinement of the proposed budget, although final assessments adopted by MWRA must be sufficient to recover water and sewer rate revenue requirements specified in the adopted budget. Final water and sewer rate requirements and their allocation to users may thus change from preliminary estimates. In addition, any individual community's final assessment may be higher or lower than the preliminary estimate, both because of changes in the factors which affect the allocation of assessments among wholesale customers, and because of differences between MWRA's proposed and final budgets as approved by the Board of Directors.

Review and Dispute Resolution Process

MWRA annually determines preliminary and final assessments for water and sewer services in February and June prior to the beginning of the new fiscal year. These assessments must satisfy the requirement that MWRA fully recover its water and sewer costs by apportioning total costs as assessments among its wholesale water and sewer customers pursuant to its water and sewer rate methodologies and to certain specified data including:

- Calendar year metered water volume and metered wastewater flow obtained from MWRA's water and wastewater metering systems;
- Federal and state community census statistics, and sewer population estimates and other information supplied on Customer Service Update forms and Municipal Discharge Permits; and
- High strength user monitoring data and estimates of community septage volumes as obtained by MWRA's Toxic Reduction and Control Department.

The review and dispute resolution process provides MWRA's wholesale customers with the opportunity to review and comment on the reasonableness of the data used to calculate preliminary water and sewer assessments. During the year, MWRA provides its customers with monthly summaries of water and wastewater flow data distributed, at a minimum, on a bimonthly basis. Because annual metered water and wastewater flows are major components for establishing water and sewer charges for each community, customers are strongly encouraged to review this data closely upon receipt and raise questions with MWRA staff concerning the data. MWRA expects that prompt customer review and comment on meter data will result in the resolution of most water and wastewater metering questions and assure the most consistency between preliminary assessments in February and final assessments announced in June. Community contributions of high strength flow and septage, and population data are made available with the release of preliminary assessments in February.

If after an initial review a community believes that specific data used to calculate assessments should be reevaluated, a community may submit a written objection to the Executive Director with a copy to the Rates Manager or their designee. The objection must be signed by the local official on record with MWRA as responsible for water or sewer services in the city, town, or

district. The objection should state the community's concern with the data used to calculate community assessments, and should also include information and technical data to support the community's objection.

In order for any data adjustments to be incorporated into the allocation of final fiscal year assessments, all objections to data used to calculate preliminary assessments must be received no later than the date of the final public hearing on the proposed budget and preliminary assessments, held pursuant to Section 10 of the MWRA Enabling Act. MWRA staff will review and evaluate the merits of all written objections. Customers are notified in writing of the results of this review prior to the release of final assessments.

Adjustments to preliminary data, if any, are not retroactive beyond the applicable calendar year for proposed assessments. Final fiscal year assessments are calculated incorporating adjustments, if any, resulting from the review and objection process, and final rate revenue requirements as adopted by the Board of Directors.

Written objection(s) may also be submitted following the adoption of final fiscal year assessments, but no later than the end of the fiscal year for which the assessments are applicable. Objections submitted in this manner must also be directed to the Executive Director with a copy to the Rates Manager or their designee.

Following MWRA staff review, adjustments to assessments resulting from the challenge of rate basis data that are submitted following the adoption of final fiscal year assessments will be applied to the subsequent year's assessments. Customers are notified in writing of the results of this review and any assessment adjustments prior to the release of the subsequent year's assessments.

Water and Sewer Assessment Payment Schedule

MWRA adopts a schedule of assessments and a schedule of payments annually. Any adjustments for prior years resulting from the review and objection process are apportioned to each of the scheduled payment amounts. No interest is paid or billed by MWRA for previous year's adjustments.

Assessments are payable to MWRA in ten equal installments due on the first day of August, September, October, November, December, February, March, April, May, and June.

Interest Charge on Delinquent Payments

For payments received after a payment due date MWRA levies an interest charge of one percent per month or 0.033 percent per day. Interest charges do not accrue until 30 days after the bills are mailed to MWRA's customer communities. Interest charges are added to subsequent regular billings.

Retail Rates

MWRA assessments are for MWRA's provision of wholesale services. Local bodies which receive wholesale services in turn provide retail services to their users at the local level.

MWRA encourages its customers to establish retail rates which:

1. Recover the full cost of providing local water and/or sewerage services, including both direct costs and an allocation or estimate of indirect costs,
2. Charge users of local water and/or sewerage services in a manner which demonstrates to customers that increased use of services results in increased user costs,
3. Comply with MWRA policies directed to conservation of water; elimination of infiltration and inflow of surface water and ground water into the sewage collection, treatment, and disposal system; and removal or pretreatment of industrial wastes, and
4. To the extent consistent with #1 and #2, provide assistance to low income users through lifeline rates.

CAPITALIZATION POLICY

It is the policy of the MWRA that capitalization of expenditures conforms to generally accepted accounting principles. Under such guidelines, MWRA has adopted the provisions of the Financial Accounting Standards Board's Statement No. 71, "Accounting for the Effects of Certain Types of Regulation," which is intended to assure that utility revenues are appropriately matched with incurred costs. Capital expenditures create assets or extend their useful lives. Assets are valued at their cost and provide benefits over an extended period of time. Sources of funds for capital expenditures include grants, proceeds of MWRA borrowing, loans, and current revenue.

Asset value created by MWRA is of two kinds. One is the value of tangible assets either created or increased through MWRA capital investments. Such assets include land, buildings, plant, equipment, and the system infrastructure for water and wastewater. The cost of such fixed asset investment includes not only purchase, rehabilitation, and construction cost, but also ancillary expenses necessary to make productive use of the asset. Ancillary costs can include, but are not limited to, costs for planning studies, professional fees, transportation charges, site preparation expenditures, and legal fees and claims directly attributable to the asset.

The second kind of asset value created by MWRA investment is the value of intangible assets. While such investment does not result in tangible MWRA assets, it does create a benefit to MWRA and its users over several years. Such assets include the cost of MWRA efforts to establish base-line leak detection information for the water systems of MWRA customers. The cost of providing water consumption-limiting devices to households is another example.

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 though their cost may exceed \$100,000. Examples of such maintenance expenditures include replacement of vehicles or computers, replacement of inoperable valves or other equipment before the anticipated useful life has been reached, and pipeline or interceptor repairs that do not add significant life to the underlying asset.

RESERVES FUNDED FROM CURRENT REVENUE

Operating Reserve

The Operating Reserve has been established to provide a source of funds to be used to pay operating expenses of the sewer or water systems should there not be sufficient funds otherwise available for that purpose. Bond agreements specify that the fund level shall not be less than one-sixth of MWRA's annual operating expenses.

Insurance Reserve

The Insurance Reserve has been established to provide funds to restore, replace, or reconstruct lost or damaged property or facilities of the water or sewer system. It provides funds reserved against risks for which MWRA does not currently maintain insurance. This self-insurance reduces the cost MWRA might otherwise incur for purchased insurance policies. MWRA periodically evaluates the level of its insurance reserve and every three years a consulting engineer or an insurance consultant recommends an appropriate insurance reserve fund requirement. The current funding level of \$14.0 million has been determined to be acceptable and reasonable based on a FY11 Insurance Reserve Fund review performed by an outside insurance consultant who estimated the required fund level in the range of \$12 to \$16 million. The next Insurance Reserve Fund review is expected to be finalized in February 2014.

Renewal and Replacement Reserve

The Renewal and Replacement Reserve has been established to pay the costs of emergency repairs or capital improvements to the system when funds are not available in either the Construction Fund or the Operating Fund. Amounts may not be withdrawn until MWRA has specified the project to which the amount will be applied, its estimated cost, and estimated completion date. It must also certify that such expenditures are reasonably required for the continued operation of the systems, or for maintenance of revenues, or that other provisions have not been made for funding such expenditures. Every three years, MWRA receives recommendations from a consulting engineer as to the adequacy of the renewal and replacement reserve fund requirement. The Renewal and Replacement Reserve Fund requirement is presently established at \$35 million. The adequacy of the funding requirements for the Operating Reserve Fund and the Replacement Reserve Fund have been confirmed by the Consulting Engineer in its most recent triennial report dated October 2011, prepared and delivered in accordance with the General Resolution. The next Triennial Report is scheduled for October 2014.

CURRENT EXPENSE BUDGET MANAGEMENT POLICIES AND PROCEDURES

A. Budget Allocations

Budget Contingency Holdbacks

After the Board of Directors adopts the Current Expense Budget each year, the Executive Director, the Chief Operating Officer, or a division director may reserve between two percent and four percent of a division's approved budget as a budget contingency to be expended only upon approval of the Executive Director. The contingency holdback may be from any line item or cost center or combinations thereof, and any amount reserved as a budget contingency is not to be included in the monthly budget allocation process described below. The Administration and Finance Committee will be notified of all budget contingency holdback amounts.

Monthly Allocation of the Annual Current Expense Budget

Initial monthly allocations are made for purposes of adopting and filing an operating budget in accordance with MWRA's financing agreements. Before the end of the first reporting period of the fiscal year, divisions, with the assistance of the Rates and Budget Department, allocate the approved budget, less any holdbacks, by month. The allocations set forth planned expenditures and accruals for each of the 12 months of the year to be compared to actual expenditures and accruals as reported in MWRA's monthly variance reports.

B. Budget Variance Monitoring and Analysis

At the close of each monthly accounting period, the Treasury Department prepares MWRA financial statements. The Rates and Budget Department then prepares monthly variance reports that compare planned to actual revenues and expenses.

Variance Analysis

Division directors and staff review variance reports and explain variances between planned and actual expenditures as requested by the Rates and Budget Department. Variance explanations are prepared as needed, usually at the end of each quarter of the fiscal year. At least twice each year MWRA staff prepares forecasts of year-end expenditures and revenue. Barring extraordinary circumstances, division directors are responsible for controlling spending within the overall division budget. The Rates and Budget Department reviews all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA's budget.

Variance explanations are submitted to the Rates and Budget Department in accordance with the schedule developed by the Rates and Budget Department. Each month the Rates and Budget Department prepares a summary of budget variances for inclusion in the Management Indicators Report (Yellow Notebook). The Rates and Budget Department also prepares a monthly staff summary (except for July and August) to the Board of Directors describing major budget

variances and a quarterly budget variance report for inclusion in the Board of Directors Report on Key Indicators of MWRA Performance (Orange Notebook). At least twice a year, the Rates and Budget Department prepares a staff summary to the Board of Directors on year-end projections of revenue and expenses.

C. Budget Amendments

An amendment to an MWRA Current Expense Budget is defined as follows:

A proposed change in an adopted budget or a proposed budget transmitted to the MWRA Advisory Board in accordance with Section 8(b) of Chapter 372 of the Acts of 1984 which meets any of the following criteria:

1. Any increase in total current expenses.
2. An increase of five percent or more in total division expenses.
3. An increase in any expense line item (subsidiary account) of 15 percent or more if that line item is at least 2.5 percent of total current expenses.
4. An addition or deletion of a specific new program or initiative, the cost of which is greater than one percent of total current expenses, unless the addition or deletion has been specifically recommended by the Advisory Board.

The Executive Director, with the concurrence of the Chairman of the Board of Directors and the Chairman of the Administration, Finance, & Audit Committee of the Board of Directors, submits proposed amendments to the Advisory Board for comment and recommendation. At the end of the Advisory Board 30-day review period, the Board of Directors may take action on the amendment.

CAPITAL BUDGET MANAGEMENT POLICIES AND PROCEDURES

General Guidelines

The Authority shall periodically adopt and revise capital facility programs for the Waterworks and Sewer Systems and capital budgets based on these programs. The Authority shall consult in the preparation of its capital facility programs for the Sewer and Waterworks Systems with the Authority's Advisory Board and the Executive Office of Environmental Affairs, and may consult with other agencies of federal, state and local government concerned with the programs of the Authority. Proposed capital facility programs and capital expenditure budgets for said systems shall be submitted to the Advisory Board for such consultation no less than sixty days prior to adoption or revision by the Authority. The Authority shall prepare a written response to reports submitted to it by the Advisory Board, which response shall state the basis for any substantial divergence between the actions of the Authority and the recommendations contained in such reports of the Advisory Board. The Authority shall capitalize expenditures in accordance with

generally accepted accounting principles. Capital expenditures will be planned in accordance with Authority financing agreements and policies for amortization of capital costs.

Capital Budget Contingency

A contingency for each fiscal year is incorporated into the Capital Improvement Program for the purpose of providing for unanticipated or unpredictable expenditures under the CIP spending cap.

Capital Budget Monitoring and Reporting

The Authority shall continually monitor the progress of capital projects for purposes of managerial control and decision-making and for financial planning and management. Two capital budget variance analysis reports will be provided to the Board of Directors, one for the first six months of a year and one at year-end. The reports will include planned project schedules and budgets compared to actual performance. The reports will highlight any major changes, either in scope or budget, of any project. Based on these reports, staff may recommend to the Board of Directors revisions, if appropriate, to the annual and five-year caps based upon said changes. In addition, capital budget progress reports shall be provided to the Board of Directors on a regular basis, both as project specific updates and in Quarterly Orange Notebook reports that shall include discussions of project progress compared to schedules. Monthly Financial Summary reports shall include discussions of capital expenditures compared to budget.

Capital Budget Spending Cap

Beginning in June 2003, the Board of Directors established a five-year Capital Budget Spending cap and annual caps for each year within the cap period. Spending for any year in the cap period may vary within plus or minus 20% of the annual cap, as long as total spending for the five-year period does not exceed the five-year cap. Before the end of each five-year cap period, the Board will adopt a cap for the next five-year period and annual caps for each year in the period. The Board established the third five-year cap for the FY14-18 period at its June 2013 meeting.

Expenditures in Excess of the Spending Cap

In the event of unanticipated spending requirements, the Executive Director may recommend to the Board of Directors that annual expenditures exceed an annual cap by more than 20% or that five-year expenditures exceed the current five-year CIP spending cap. In such an event, a proposed plan to adjust the five-year cap or any of the annual caps will be presented to the Board. Any such proposed plan will be submitted to the MWRA Advisory Board for review and comment for a period of thirty days. At the end of the thirty-day period, the Board of Directors may take action on the proposed plan.

APPENDIX D

MWRA Planning Estimates FY2014 to FY2023

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
COMBINED UTILITIES										
EXPENSES										
Direct Expenses	\$214,374	\$220,466	\$226,613	\$233,113	\$239,490	\$246,197	\$252,762	\$259,461	\$266,034	\$273,293
Indirect Expenses	46,823	49,959	49,543	50,193	52,604	54,023	55,412	56,913	59,681	55,775
Capital Financing (before offsets)	<u>397,226</u>	<u>417,519</u>	<u>440,460</u>	<u>491,778</u>	<u>495,445</u>	<u>506,895</u>	<u>561,341</u>	<u>560,066</u>	<u>590,687</u>	<u>545,427</u>
Sub-Total Expenses	\$658,423	\$687,944	\$716,616	\$775,085	\$787,539	\$807,115	\$869,515	\$876,440	\$916,402	\$874,494
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	(4,138)	(2,527)	(5,783)	(4,900)	(3,125)	(3,574)	0	(8,806)	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Expenses	\$658,423	\$683,806	\$714,089	\$769,302	\$782,639	\$803,990	\$865,941	\$876,440	\$907,596	\$874,494
REVENUE & INCOME										
Non-Member and Other Revenue	\$14,572	\$14,985	\$15,237	\$15,541	\$15,803	\$15,918	\$16,175	\$16,480	\$16,759	\$16,582
Interest Income	11,631	9,409	10,869	11,131	11,236	11,445	11,770	11,961	12,186	12,128
Rate Stabilization	<u>3,500</u>	<u>7,862</u>	<u>9,473</u>	<u>6,217</u>	<u>0</u>	<u>1,341</u>	<u>8,426</u>	<u>0</u>	<u>3,194</u>	<u>0</u>
Total Other Revenue	\$29,702	\$32,255	\$35,580	\$32,889	\$27,039	\$28,704	\$36,371	\$28,441	\$32,138	\$28,710
Total Rate Revenue	\$628,721	\$651,551	\$678,509	\$736,413	\$755,600	\$775,286	\$829,570	\$847,999	\$875,457	\$845,784
Rate Revenue Increase	3.49%	3.6%	4.1%	8.5%	2.6%	2.6%	7.0%	2.2%	3.2%	-3.4%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$970	\$1,014	\$1,065	\$1,134	\$1,184	\$1,227	\$1,295	\$1,352	\$1,413	\$1,448
Based on water use of 90k gpy (weighted)	\$1,431	\$1,496	\$1,571	\$1,672	\$1,747	\$1,810	\$1,911	\$1,994	\$2,084	\$2,136
WASTEWATER UTILITY										
EXPENSES										
Direct Expenses	\$146,911	\$150,929	\$155,030	\$159,569	\$164,064	\$168,653	\$173,128	\$177,681	\$182,055	\$187,046
Indirect Expenses	14,412	16,560	15,429	15,314	15,922	16,450	16,966	17,553	18,134	18,833
Capital Financing (before offsets)	<u>276,105</u>	<u>281,642</u>	<u>289,820</u>	<u>330,891</u>	<u>320,225</u>	<u>338,663</u>	<u>376,184</u>	<u>368,399</u>	<u>375,098</u>	<u>321,412</u>
Sub-Total Wastewater Expenses	\$437,428	\$449,131	\$460,279	\$505,774	\$500,211	\$523,765	\$566,278	\$563,633	\$575,287	\$527,291
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	(5,783)	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Wastewater Expenses	\$437,428	\$449,131	\$460,279	\$499,992	\$500,211	\$523,765	\$566,278	\$563,633	\$575,287	\$527,291
REVENUE & INCOME										
Non-Member and Other Revenue	\$5,587	\$5,691	\$5,798	\$5,932	\$6,041	\$6,172	\$6,323	\$6,444	\$6,582	\$6,678
Interest Income	7,703	5,723	6,616	6,521	6,548	6,767	7,066	7,169	7,269	7,164
Rate Stabilization	0	0	0	1,454	0	489	0	0	0	0
Prior Year Utility Surplus/Deficit Transfer	<u>(1,366)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$11,923	\$11,414	\$12,414	\$13,907	\$12,589	\$13,428	\$13,390	\$13,613	\$13,851	\$13,842
Wastewater Rate Revenue	\$425,504	\$437,717	\$447,864	\$486,084	\$487,622	\$510,337	\$552,888	\$550,020	\$561,436	\$513,449
Rate Revenue Increase	3.40%	2.9%	2.3%	8.5%	0.3%	4.7%	8.3%	-0.5%	2.1%	-8.5%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$578	\$603	\$627	\$666	\$688	\$722	\$766	\$790	\$821	\$825
Based on water use of 90k gpy (weighted)	\$853	\$889	\$925	\$983	\$1,016	\$1,065	\$1,131	\$1,165	\$1,212	\$1,217
WATER UTILITY										
EXPENSES										
Direct Expenses	\$67,463	\$69,537	\$71,583	\$73,545	\$75,426	\$77,544	\$79,634	\$81,780	\$83,979	\$86,246
Indirect Expenses	32,411	33,399	34,114	34,879	36,683	37,574	38,446	39,360	41,547	36,942
Capital Financing (before offsets)	<u>121,121</u>	<u>135,878</u>	<u>150,640</u>	<u>160,887</u>	<u>175,220</u>	<u>168,232</u>	<u>185,157</u>	<u>191,667</u>	<u>215,589</u>	<u>224,015</u>
Sub-Total Water Expenses	\$220,995	\$238,813	\$256,337	\$269,310	\$287,328	\$283,350	\$303,237	\$312,807	\$341,115	\$347,203
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	(4,138)	(2,527)	0	(4,900)	(3,125)	(3,574)	0	(8,806)	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Water Expenses	\$220,995	\$234,675	\$253,810	\$269,310	\$282,428	\$280,225	\$299,663	\$312,807	\$332,309	\$347,203
REVENUE & INCOME										
Non-Member and Other Revenue	\$8,985	\$9,293	\$9,439	\$9,609	\$9,762	\$9,746	\$9,852	\$10,036	\$10,177	\$9,904
Interest Income	3,928	3,686	4,253	4,609	4,688	4,677	4,703	4,792	4,917	4,964
Rate Stabilization	<u>3,500</u>	<u>7,862</u>	<u>9,473</u>	<u>4,763</u>	<u>0</u>	<u>852</u>	<u>8,426</u>	<u>0</u>	<u>3,194</u>	<u>0</u>
Prior Year Utility Surplus/Deficit Transfer	<u>1,366</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Other Revenue	\$17,779	\$20,841	\$23,165	\$18,981	\$14,450	\$15,276	\$22,981	\$14,828	\$18,287	\$14,868
Water Rate Revenue	\$203,217	\$213,834	\$230,645	\$250,329	\$267,978	\$264,949	\$276,682	\$297,979	\$314,022	\$332,335
Rate Revenue Increase	3.68%	5.2%	7.9%	8.5%	7.1%	-1.1%	4.4%	7.7%	5.4%	5.8%
Estimated Annual Household Charge **										
Based on water use of 61k gpy (weighted)	\$391	\$411	\$438	\$467	\$496	\$505	\$529	\$562	\$591	\$623
Based on water use of 90k gpy (weighted)	\$578	\$607	\$646	\$690	\$731	\$745	\$780	\$829	\$872	\$920

** Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Based on community responses to the 2012 MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey.

APPENDIX E

GLOSSARY OF FINANCIAL AND OPERATING TERMS

8M permit: Permission granted by MWRA to persons who wish to construct property improvements on land either adjoining or overlapping MWRA property interests. Permission may be conditioned on various operational and/or engineering concerns.

Accrued Costs: Adjustments to paid expenditures to account for materials or services received but for which payment has not been made.

Activated Sludge: The sludge that results when primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment.

Advanced Waste Treatment: Wastewater treatment beyond the secondary or biological stage that includes the removal of nutrients such as phosphorus and nitrogen and the removal of a higher percentage of suspended solids and organic matter than primary treatment.

Advisory Board: The agency that represents the interests of MWRA's 61 user communities to the Board of Directors in an advisory capacity in accordance with the provisions of MWRA's Enabling Act. The Advisory Board elects three members of the Board of Directors, reviews and comments on MWRA's CIP and CEB, and approves the addition of new communities to the wastewater and water systems.

Aerobic: In the presence of free oxygen.

Anaerobic: Life or processes such as bacteria that digest sludge that require, or are not destroyed by, the absence of free oxygen.

AOOC: Assimilable Organic Carbon - One measure of the "food" available to bacteria within a water system. More complex carbon compounds can become assimilable when oxidized by strong disinfectants.

ARRA: American Recovery and Reinvestment Act of 2009 – principal forgiveness loans distributed based on the Department of Environmental Protection's Intended Use Plan.

Ash: The inert material remaining after the combustion of wastewater sludge. Ash is either wet or dry depending on combustion system design.

Bacteria: One-celled microscopic organisms commonly found in the environment. Bacteria can be harmful, such as pathogens, or helpful and perform a variety of biological treatment processes.

BDOC: Biologically Degradable Organic Carbon - Another, more precise, measure of the "food" available to bacteria within a water system.

BGD: Billion gallons per day.

Biofilm: Growth of various bacteria within a water distribution system on the pipe walls. Biofilm growth can contribute to iron corrosion, colored water, poor taste, excessive chlorine demand, and complications with coliform testing.

Blow-off valves: Valves operated during pipeline repair to de-water (drain) a portion of a pipeline.

BOD: Biochemical Oxygen Demand - An indicator of the amount of biodegradable contaminants in wastewater.

Board of Directors: The 11-member governing board of MWRA.

Bond Resolution: A document adopted by the Board of Directors that governs MWRA's issuance of revenue bonds and sets forth its obligations to bondholders.

Boston Harbor Project: An extensive plan of activities which MWRA developed and implemented to construct new wastewater treatment facilities in response to a federal court order to comply with the provisions of the U.S. Clean Water Act.

Business Systems Plan (BSP): The strategic planning framework for MWRA's management information systems. The BSP is updated annually to reflect ongoing business requirements, new opportunities identified by ongoing MWRA strategic planning efforts, technology changes, and user requests.

BWSC: Boston Water and Sewer Commission - The agency responsible for providing water and sewer services to the City of Boston, MWRA's largest customer.

CADD: Computer aided drafting and design.

Capital Improvement Program (CIP): A plan which identifies and estimates the nature, schedule, cost, and financing of long-term assets that MWRA intends to build or acquire during a specific period.

Capital Investment: Development of a facility or other asset that adds to the long-term value of an organization.

CDF: Cosgrove Disinfection Facility

Cathodic Protection: A form of corrosion protection that is particularly effective against galvanic corrosion. Galvanic corrosion occurs when pipe metal is in the presence of other metals while immersed in water. The interaction of these elements causes an electric current to flow away from the pipe, taking electrons with it and pitting the pipe as a result. Cathodic protection reverses the current, thereby stopping the corrosion.

Centrifuge: A machine that uses centrifugal force to separate substances of different densities and remove moisture. MWRA uses centrifuges at the Deer Island Wastewater Treatment Plant to de-water sludge.

CFM: Cubic Feet per Minute - A measure of the quantity of a material flowing through a pipe.

Chloramination: The process of adding chloramine to drinking water. Chloramine, a form of chlorine and ammonia, is used as a residual disinfectant because it lasts longer in the water distribution system than primary disinfectants.

Chloramine: A long lasting residual disinfectant created by combining measured amounts of chlorine and ammonia. Chloramine forms fewer disinfection by-products than chlorine.

Chlorination: The process of adding chlorine to drinking water to inactivate pathogens.

Chlorine: A relatively strong primary disinfectant, effective against bacteria, *giardia*, and viruses, but not *cryptosporidium*. Concerns exist about the health effects of its by-products, some of which are or will be regulated.

Clarifiers: Settling tanks or basins in which wastewater is held for a period of time, during which heavier solids settle to the bottom and lighter materials float to the surface.

Clean Water Act: A law passed by Congress in 1972, and subsequently amended, which sets national standards for pollution reduction, permits discharges from wastewater treatment plants, and promotes achievement of the national goal that all surface waters be "fishable and swimmable."

Cleaning and Lining: Cleaning and cement lining of unlined cast iron water mains to improve hydraulic capacity and extend useful life.

CMMS (Computerized Maintenance Management System): *Maximo* is the computerized maintenance management system which is an essential component of successful asset management. This system is an important tool used in refining the long-term maintenance strategy to ensure proper maintenance and replacement of plant assets.

Coliform bacteria: A group of lactose fermenting bacteria, which while not of direct health concern, are used as a first line indicator of potential problems. See fecal coliform and *E.coli*.

Comminutor - A machine or process that pulverizes and reduces solids to minute particles.

Commonwealth Debt Service Assistance (DSA): Funds appropriated by the Commonwealth to offset MWRA capital financing expenses.

Community Obligation and Revenue Enhancement (CORE) Fund: A fund established by MWRA's bond resolution that is used to provide insurance against delays by communities in paying charges due to MWRA.

Composting: The process of converting wastewater treatment residuals to a soil-like humus material often used in the horticultural industry. The process involves the aerobic breakdown of the residuals and the addition of sawdust or wood chips.

Corrosion Control: Adjustments to the chemistry of treated water to reduce its ability to dissolve lead, copper, other metals, or form hydrogen sulfide. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates or oxidizers.

Coverage Requirement: Requirement of MWRA's bond resolution which provides that each year, revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds.

CP (Construction Package): Major construction projects such as the Carroll Water Treatment Plant or the North Dorchester Bay CSO project will group areas of work into individual construction contracts.

Cross-Connection: A point at which potable water piping is connected to a non-potable water source creating an opportunity for the introduction of pollutants into the potable water.

Cryogenic oxygen plant: MWRA operates a cryogenic oxygen-based facility as part of its secondary wastewater treatment program at Deer Island.

Cryptosporidium: A protozoan parasite that can cause severe gastrointestinal disease in healthy individuals, and may be fatal to people with compromised immune systems. Cryptosporidia exist in the environment as hard walled oocysts that are very resistant to chlorination, but can be inactivated by disinfection with ozone or ultraviolet light.

CSO: Combined Sewer Overflow – An overflow point and the discharged flow from a combined sewer system intended to provide hydraulic relief to avoid system flooding and backups during large wet weather events. During large rainstorms, systems can become overloaded, with the excess discharged directly into surface waters. The discharged flow and the discharge location are called CSOs. In the metropolitan Boston area there are approximately 47 active, permitted CSOs that currently discharge into rivers or Boston Harbor.

CSO Facilities: MWRA has six facilities that intercept the flow from CSO pipes. Four of these facilities provide treatment and two provide storage prior to discharge. The CSO facilities have some capacity to store flow and pump it to the Deer Island plant after rainstorms end.

CT: Concentration x Contact Time - A measure of disinfection effectiveness established under the Surface Water Treatment Rule. CT is the product of the concentration of disinfectant [C] and the time it has been in contact with the water [T]. Required CT varies by type of disinfectant, organism, temperature, and pH.

CTG (Combustion Turbine Generator): CTGs are used to generate electricity during planned cable outages, wet weather operations and for participation in price response events.

Current Expense Budget: A financial plan that estimates the revenues and expenses associated with MWRA's operations for a fiscal year.

C-Value: The carrying capacity of a water main for a specified length and pressure drop that is determined by its diameter and resistance to flow. The friction coefficient "C" of the main is often used as a measure of flow resistance. C-values for new pipe are about 120 for water mains that are 6 to 16-inches in diameter, and 130 and 140 for larger diameter mains.

DAF: Dissolved Air Flotation - A process of adding super saturated air into water to cause coagulated solids to rise to the top to be skimmed off. DAF replaces conventional gravity sedimentation (clarification) and is particularly cost-effective for low turbidity waters subject to periodic algae blooms.

DBP: Disinfection By-products - Complex compounds formed by the use of oxidizing agents such as chlorine or ozone in waters containing organic matter.

D/DBP Stage 1: Disinfectants/Disinfection By-products, Stage 1 Rule - Promulgated 11/1998, and effective 1/2002, this rule set DBP limits at 80 parts per billion for Trihalomethanes and 60 parts per billion for Haloacetic Acids, averaging all samples over four quarters.

D/DBP Stage 2: Disinfectants/Disinfection By-products Stage 2 Rule - The rule further regulates the amount of DBPs allowed in water. The 80/60 values set in Stage 1 will now apply to each individual sample location in a "Locational Running Annual Average".

Debt Service: In a given fiscal year, the amount of money necessary to pay interest and principal on outstanding notes and revenue bonds.

DEP: Department of Environmental Protection - The Massachusetts agency that regulates water pollution control, water supplies, and waterways and dispenses federal and state grant funds to support these activities.

Department: A sub-unit of an MWRA division.

Department of Conservation and Recreation (DCR): Created in 2003 through the merger of the Metropolitan District Commission and the Department of Environmental Management, DCR manages the Commonwealth's diverse parks system and protects and enhances natural resources and outdoor recreational opportunities throughout Massachusetts.

De-watering: The process of removing water from wastewater treatment residuals. De-watered sludge has the appearance of mud or wet soil material.

Diffusers: A system of shafts, rising from the end of MWRA's effluent outfall tunnel to the seabed, which disperses treated wastewater over a large area. Technically, the diffusers are the "sprinkler heads" mounted on top of the riser shafts that lead from the outfall tunnel and disperse wastewater into Massachusetts Bay.

Digesters: Tanks for the storage and anaerobic or aerobic decomposition of organic matter present in sludge.

Direct Program Expenses: Costs directly associated with providing services or performing activities.

Disinfection, Primary: The inactivation (killing) of pathogenic organisms in a water system by the use of chemical or other disinfection agents.

Disinfection, Residual: The presence of a measurable residual of disinfectant within a water distribution system to help control bacterial re-growth and guard against contamination.

Dissolved Oxygen (DO): A measure of the amount of oxygen in a given amount of water. Adequate levels of DO are needed to support aquatic life. Low dissolved oxygen concentrations can result from inadequate wastewater treatment.

Division: A major organizational unit within MWRA, encompassing the activities and resources for providing a major service or function.

DLS (Department of Laboratory Services): Laboratory Services is a full service analytical testing and consulting group within the MWRA that primarily serves client groups primarily within the Operations Division. The analytical services that Laboratory Services provides include wet chemistry, metals, organics, and microbiology testing. Related services include field sampling, technical consultation, and contract laboratory management.

DMR (Discharge Monitoring Report): Monthly reports that are submitted to federal and state regulators. MWRA monitors the effluent (treated sewage) that is discharged into Massachusetts Bay, to ensure that it meets the standards set out in the NPDES permit. Analytical support to the effluent monitoring program is provided by the Department of Laboratory Services.

E.coli: A normal inhabitant of the digestive tract of mammals. The presence of *E.coli* indicates probable contamination by fecal matter.

Effluent: Treated wastewater discharged from a treatment plant.

EIR: Environmental Impact Report – A document prepared in adherence with the Massachusetts Environmental Policy Act (MEPA) to review the environmental impact of projects and ensure opportunities for public review and comment.

EIS: Environmental Impact Statement – A document prepared in adherence with the National Environmental Policy Act to review the environmental impact of projects and ensure opportunities for public review and comment.

Enabling Act: Legislation (Chapter 372 of the Acts of 1984) that established MWRA and define its purpose and authority as of January 1, 1985.

ENF: Environmental Notification Form - The first step in the MEPA process.

EOC: Emergency Operations Center

EOEA: Executive Office of Environmental Affairs - The Massachusetts cabinet office that oversees state environmental agencies.

EPA: Environmental Protection Agency - The federal government agency responsible for environmental enforcement and investigation.

ESWTR: Enhanced Surface Water Treatment Rule - A federal rule that is promulgated in three stages:

1) Interim Enhanced Surface Water Treatment Rule (IESWTR): The IESWTR was promulgated in 1998 and tightened the requirements for the operation of water filtration plants in large systems to take a first step toward controlling *cryptosporidium* in source waters. IESWTR also added *cryptosporidium* to the list of issues considered within watershed protection plans for unfiltered systems.

2) LT1ESWTR primarily extends the IESWTR to smaller systems

3) LT2ESWTR: further tightens the standards for the operation of filtration plants and adds requirements for 99% inactivation of *cryptosporidium* and the use of two primary disinfectants for unfiltered systems. The concept of proportional treatment, with less treatment required for cleaner sources, will be implemented as part of the rule.

Enterococcus: A pathogen indicator, similar to fecal coliform, that is used in the Massachusetts Water Quality Standards for marine waters, consistent with the Federal Clean Water Act requirements, which indicates potential contamination from human or animal waste.

Eutrophication: Nutrient enrichment of a lake or other water body typically characterized by increased growth of planktonic algae and rooted plants. Eutrophication can be accelerated by wastewater discharges and polluted runoff.

Expenditures: Payments for goods and services received.

Expenses: Costs associated with the operating activities of a period, including expenditures and accrued costs.

Facility Information System (FIS): The management information system at the Deer Island Treatment Plant.

Fecal coliform bacteria: A group of bacteria used as a primary indicator organism for potential contamination from human or animal waste. Also called thermo-tolerant bacteria. Specific organisms in the group may or may not be of health concern (see *E.coli*).

Filtration: A water treatment process involving the removal of suspended particulate matter by passing the water through a porous medium such as sand or carbon.

Fiscal Year: The 12-month financial period used by MWRA that begins July 1 and ends June 30 of the following calendar year. MWRA's fiscal year is numbered according to the calendar year in which it ends.

Flash coat: A light coat of shotcrete used to cover minor blemishes on a concrete surface.

FOD (Field Operations Department): Department within the Operations Division created to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring programs.

Force Main: A pressure pipe joining the pump discharge at a water or wastewater pumping station with a point of gravity flow.

FRSA (Fore River Staging Area): The site of the Sludge Pelletization Plant.

Giardia: A protozoan parasite that can cause severe gastrointestinal disease, although there is medical treatment available. *Giardia* exist in the environment as hard-walled cysts, and are moderately resistant to chlorine disinfection.

Goal: A statement in general terms of a desired condition, state of affairs, or situation. Goals, which are long-term in nature and not usually directly measurable, provide general direction for the activities of operating units.

Global Positioning System (GPS): Also known as an Automatic Vehicle Location system (GPS/AVL), this tool provides real-time transmission alerts utilizing a cell phone/satellite communication system and a web-based mapping system to track vehicles and operator-driven mobile equipment in MWRA's service area. The system allows MWRA to respond more quickly to emergencies, enhance driver and vehicle safety, reduce fuel costs, track mileage electronically, monitor unauthorized vehicle usage, and improve efficiency.

Graphitization: A corrosion mechanism that alters the molecular structure of the carbon/iron matrix of cast iron pipe. During the process, iron atoms are forced away from the metal leaving behind an unstable carbon matrix. The result is a weakened pipe, easily susceptible to ruptures. High frequency in the number of breaks causes leakage to be a major problem of graphitized pipe.

Grit: Sand-like materials that quickly settle out of wastewater.

Groundwater: A body of water beneath the surface of the ground. Groundwater is made up primarily of water that has seeped down from the surface.

HAA: Haloacetic Acids - A class of disinfection by-products related to chlorine disinfection. HAAs are regulated under D/DBP Stage 1 Rule at 60 ppb.

Harbor Electric Energy Company (HEEC): A subsidiary of NStar which installed a cross harbor power cable and built a sub-station to provide power for construction and operation of the new Deer Island Treatment Plant.

Head House: A structure containing the control gates to a conduit such as a sewer pipeline.

Headworks: A preliminary treatment structure or device, usually including a screening and de-gritting operation, that removes large or heavy materials such as logs and sand from wastewater prior to primary treatment.

Heavy Metals: Metals such as lead, silver, gold, mercury, bismuth, and copper that can be precipitated by hydrogen sulfide in an acid solution.

HOM (Harbor and Outfall Monitoring): A comprehensive program to provide environmental data that helps to predict and measure the effect of Deer Island outfall discharge on the marine ecosystem.

Incentives and Other Charges: A fee system designed to help recover permitting, inspecting, and monitoring costs incurred by MWRA's TRAC Program and provide incentives to permitted users to reduce discharges.

Indirect Expenses: Costs not directly associated with providing services or performing activities.

Infiltration/Inflow (I/I): The problem of clean water flows entering sewers resulting in diminished pipe capacity for sanitary flows and in costly pumping and treatment of unnecessarily large wastewater volumes. Infiltration is groundwater that leaks into the sewerage system through pipe joints and defects. Inflow, primarily a wet-weather phenomenon, refers to water that enters sewers from improperly connected catch basins, sump pumps, land and basement drains, and defective manholes. Inflow also enters through improperly closed or defective tidegates during high tides.

Influent: The flow of water that enters the wastewater treatment process.

Insurance Reserve: A fund established to adequately reserve against risks for which MWRA does not currently maintain insurance.

Interceptors: The large pipes that convey wastewater from collection systems to treatment plants.

Investment Income: Income derived by investing certain operating and reserve fund balances in interest-yielding securities in accordance with the provisions of MWRA's bond resolution.

ISO - NE (Independent System Operator of New England): Non-profit wholesale operator of the regional grid system. The MWRA receives payment from ISO-NE when Deer Island and Carroll Water Treatment Plant remove themselves from the grid. Both plants participate in load response programs offered by ISO-NE which pays larger commercial and industrial electricity consumers to “shed load” during grid peaks. There are several programs available such as price, demand response and load response. MWRA constantly evaluates the options and participates in the most advantageous program.

Carroll Water Treatment Plant (CWTP): Water treatment facility for waters from Quabbin and Wachusett Reservoirs with capacity of 405 mgd using ozonation as a primary disinfectant.

Labor Costs: Direct costs of employing permanent and temporary personnel, including wages, salaries, overtime pay, fringe benefits, and workers' compensation.

Land Application: The use of wastewater treatment residuals on land for agricultural benefits.

Landfilling: The disposal of residuals by burial. Modern landfills have double liners, leachate collection systems, and other design features to protect against groundwater contamination.

LCR: Lead and Copper Rule – A federal rule that set an action level for lead and copper at “worst case” consumer taps. Optimized corrosion control, notification, education, and lead service replacements are all components of compliance plans.

Leachate: Water that drains from a landfill after having been in contact with, and potentially contaminated by, buried residuals. Modern landfills are designed to collect leachate for subsequent treatment.

Limnology: The scientific study of physical, chemical, meteorological, and biological conditions in fresh waters.

LIMS: Laboratory Information and Management System – An automated database system used to transfer information between MWRA’s Central Laboratory to its client groups and to process information obtained by the Central Laboratory to monitor substances that enter and leave the MWRA wastewater system. Use of LIMS removes the potential for human error in the sampling process by bar coding samples, eliminating the need to transcribe sample data, producing pre-

printed project-specific sample check-off forms for field crews, and automating testing through pre-set test codes and project-specific parameters.

LOX (Liquid Oxygen): Liquid oxygen is used together with electrical energy to generate ozone at the Carroll Water Treatment Plant.

Mapping Protocols: Sets of specifications defining the content and format of data to be collected.

MCL: Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available control technology.

MCLG: Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Massachusetts Environmental Policy Act (MEPA) Unit: A unit of the Commonwealth's Executive Office of Environmental Affairs responsible for implementation of the state environmental review process.

Methane: A colorless, nonpoisonous, flammable gas produced as a by-product of anaerobic sludge processing. At Deer Island, MWRA uses methane as fuel to provide heat and hot water and to generate electricity.

MGD: Million gallons per day.

MIS: Management Information Systems

Mission: A description of the fundamental purposes and major activities of an operating unit or program.

Mitigation: Financial remuneration or non-financial considerations that MWRA provides to communities to alleviate the negative effects of major construction projects.

Molybdenum (Mo): A metallic element that resembles chromium and tungsten in many properties, and is used in strengthening and hardening steel. Mo is a trace element in plant and animal metabolism. The concentration of molybdenum in sludge products is strictly regulated.

NACWA (Nation Association of Clean Water Agencies): NACWA represents the interests of publicly owned wastewater treatment plants. NACWA is involved in all areas of water quality protection including the development of environmental legislation and assisting federal regulatory agencies in the implementation of environmental programs.

NEFCo: New England Fertilizer Company - The contractor responsible for the operation of processing sludge into fertilizer pellets at MWRA's residuals processing plant located in Quincy. NEFCo is also responsible for marketing and distributing the pellets and disposing of any product that is not marketable.

National Pollutant Discharge Elimination System (NPDES) Permit: A permit issued by EPA in conjunction with DEP that governs wastewater discharges into surface waters.

NHS (Northern High Service): Project that involves a series of water system pipeline improvements in the MWRA's Northern High Service Area.

Nitrification: An aerobic process in which bacteria changes the ammonia and organic nitrogen in wastewater into oxidized nitrogen (usually nitrate). Second-stage BOD is sometimes referred to as the nitrification stage (first-stage BOD is called the carbonaceous stage). Also, a similar process in the water distribution system, where ammonia from chloramine can be used by nitrifying bacteria, resulting in a reduced chlorine residual, and the potential for additional bacteria growth.

OCC: Metropolitan Operations Control Center, located at MWRA's Chelsea Facility.

OEP (Office of Emergency Preparedness): The Office of Emergency Preparedness has oversight over security, exercises, emergency operations, planning, the Emergency Services Unit and critical infrastructure protection.

OMS (Operations Management Systems): OMS correlates PICS data with laboratory analysis to track and analyze DITP's process performance with regard to the plant's discharge permit from EPA and DEP and with respect to cost effective operation.

Operating Reserve: A fund established to adequately reserve for operating contingencies, required by MWRA's bond resolution to be not less than one-sixth of its annual operating expenses.

Organic Matter: Material containing carbon, the cornerstone of plant and animal life. It originates from domestic and industrial sources.

Other User Charges: Revenue received per agreements MWRA has for provision of water, sewer, and other services to entities other than communities which are charged assessments.

Outfall: The pipe or structure where effluent is discharged into receiving waters.

Ozonation: The application of ozone to water, wastewater, or air, generally for the purposes of disinfection or odor control. The Carroll Water Treatment Plant (CWTP) employs the ozonation process to inactivate pathogens, including *cryptosporidium*, with lower levels of DBPs.

Ozone: A strong disinfectant made from oxygen and electrical energy. Ozone is effective against *cryptosporidium*.

Pathogens: Harmful organisms, often called germs that can cause disease. Waterborne pathogens (or the diseases they cause) include *giardia*, *cryptosporidium*, cholera, typhoid, *E.coli*, Hepatitis A, *legionella*, and MAC.

Payments in Lieu of Taxes (PILOT): Amounts which MWRA pays each fiscal year to cities and towns for land owned by the Commonwealth in the Quabbin, Ware River, Wachusett, and Sudbury watersheds. Consistent with the provisions of MWRA's Enabling Act, these payments are based on the past commitments of the Commonwealth of Massachusetts.

Penalty Revenue: Revenue derived from penalties assessed by MWRA to violators of its sewer use regulations.

Performance Measure: An indicator of the work and/or service provided, defined by output, work or service quality, efficiency, effectiveness, or productivity.

Performance Objective: A statement of proposed accomplishments or attainments that is short-term in nature and measurable.

PICS (Process Instrumentation and Control System): PICS provides real-time operations data from systems throughout Deer Island (including system status, flow, etc.).

Plume: The rising discharge of treated wastewater effluent from a treatment plant outfall pipe.

Preliminary Treatment: The process of removing large solid objects, sticks, gravel, and grit from wastewater.

Pretreatment: The reduction or elimination of pollutant properties in wastewater prior to discharge into a sewer system.

Primacy: Primary enforcement authority for Federal Safe Drinking Water Act regulations delegated to a state by the Environmental Protection Agency (EPA).

Primary Treatment: A wastewater treatment process that takes place in a rectangular or circular tank and allows substances in wastewater that readily settle or float to be separated from the water being treated. Primary treatment results in 50-60% removal of suspended solids and 30-34% removal of BOD.

Program: An organized group of activities and the resources to carry them out aimed at achieving one or more related objectives.

Rate Revenue: Revenue received from annual assessments of communities within MWRA's service area for water and sewer services.

Rate Stabilization Reserve: A fund established by the Board of Directors that is used to reduce rate revenue requirements. MWRA finances this reserve with unexpended or surplus funds available from the Current Expense Budget at the end of each fiscal year.

RCM (Reliability Centered Maintenance): A maintenance strategy adopted at Deer Island in FY00 for critical systems. RCM is a failure modes and effects process that involves maintenance, operations and engineering staff in the development of preventative maintenance and operation plans for plant systems.

Relief Sewer: A sewer built to carry flows in excess of the capacity of an existing sewer.

RGGI: The Regional Greenhouse Gas Initiative is a mandatory, market-based program in the United States to reduce greenhouse gas emissions. The program involves selling emission allowances through auctions and investing the proceeds in demand-side management and clean energy technology projects.

Remote Headworks: The initial structures and devices of a treatment plant set apart by some distance from the plant site.

Renewal and Replacement Reserve: A fund established to adequately reserve for the cost of capital improvements not provided for by funds available through the Capital Improvement Program or the Current Expense Budget.

Residuals: The by-products of the wastewater treatment process, including scum (floatables), grit and screenings, primary sludge, and secondary sludge.

Revenue Bonds: Bonds payable from a specific source of revenue and which do not pledge the full faith and credit of the issuer.

RPS (Renewable Portfolio Standards): State policies which mandate a state to generate a percent of its electricity from renewable resources. Qualified renewable generation facilities for the MWRA include: the Steam Turbine Generator (STG) and a variety of Hydroelectric, Wind and Solar units. The MWRA is issued electronic certificates for each megawatt hour of electricity produced from the digester gas, which is considered renewable energy. RPS credits are a source of revenue for the MWRA.

Safe Yield Model: The equation used to determine the maximum dependable draft that can be made continuously on a water supply source during a period of years during which the probable driest period or period of greatest deficiency in water supply is likely to occur.

SAMS: Sewerage Analysis and Management System – A database which contains specifications of the location, size, and condition of MWRA wastewater interceptors and appurtenances and which produces maps for use by MWRA and outside parties.

Sanitary Sewers: In a separate system, pipes that carry only domestic wastewater.

SCADA: Supervisory Control and Data Acquisition - Equipment for monitoring and controlling water or wastewater facilities remotely.

SCBA: Self-contained breathing apparatus.

Screenings: Large items such as wood and rags that are collected from wastewater in coarse screens prior to primary treatment.

Scum: Floatable materials such as grease, oil, and plastics that are skimmed from the surface of wastewater as it flows through large settling tanks.

SDWA: Safe Drinking Water Act - A Federal law enacted in 1986 and amended in 1996 that requires EPA to establish national primary drinking water regulations for water suppliers which consist of MCLs or treatment techniques.

Secondary Treatment: Usually following primary treatment, secondary treatment employs microorganisms to reduce the level of BOD and suspended solids in wastewater.

Sedimentation Tanks: Settling tanks where solids are removed from sewage. Wastewater is pumped to the tanks where the solids settle to the bottom or float on the top as scum. The scum is skimmed off the top, and solids on the bottom are pumped out for further treatment and/or final disposal.

Seeding: The initial filling of sludge into digesters.

Sensitive user: A member of a group within the general population likely to be at greater risk than the general population of adverse health effects due to exposure to contaminants in drinking water. Sensitive users include infants, children, pregnant women, the elderly, and individuals with histories of serious illness.

Septic Tanks: Tanks used for domestic wastes when a sewer line is not available to carry them to a treatment plant. Periodically, the septage is pumped out of the tanks, usually by commercial firms, and released into a wastewater treatment system.

Shotcrete: Mortar or concrete conveyed through a hose and projected at high velocity onto a surface; also known as air-blown mortar, pneumatically applied sprayed mortar, or gunned concrete.

Siphon: A closed conduit, a portion of which lies above the hydraulic grade line, resulting in a pressure less than atmospheric and requiring a vacuum within the conduit to start flow. A siphon utilizes atmospheric pressure to effect or increase the flow of water through the conduit.

Slip Lining: Insertion by pushing or pulling of lines fabricated of plastic, concrete cylinder pipe, reinforced concrete, or steel through existing conduits from access pits.

Sludge: Material removed by sedimentation during primary and secondary treatment. Sludge includes both settled particulate matter and microorganisms and is the single largest component of wastewater residuals. At the time sludge is removed during the treatment process, it contains only 0.5% to 5% solid content by weight. It has the appearance of muddy water.

Sodium Hypochlorite (NaOCl): A liquid form of chlorine that MWRA uses in the disinfection and/or odor processes at the Deer Island Treatment Plant, various other Wastewater facilities, and the Carroll Water Treatment Plant (CWTP).

Storm Sewers: Separate systems of pipes that carry only water runoffs from roofs, streets, and parking lots during storms.

Surcharging: Loads on a system beyond those normally anticipated; also, the height of wastewater in a sewer manhole above the crown of the sewer when the sewer is flowing completely full.

Suspended Solids: The particulate matter contained in wastewater.

SWTR: Surface Water Treatment Rule – A Federal rule promulgated in 1989 that affects all utilities using surface waters or waters under the influence of surface waters. SWTR requires filtration unless certain criteria on source water quality, watershed control, and disinfection effectiveness can be met (see also ESWTR).

Telemetry: Remote measuring or monitoring devices connected to a central monitoring station via telephone lines.

TCR: Total Coliform Rule – A federal rule that requires monitoring of water distribution systems for coliform bacteria and chlorine residual. No more than 5% of the coliform samples in a month can be positive.

TOC: Total Organic Carbon - A measure of the amount of organic material in water. Often used as a surrogate for disinfectant demand or DBP precursors.

Transition: A short section of conduit used as a conversion section to unite two conduits having different hydraulic elements.

TTHM: Total Trihalomethanes - A class of disinfection by-products, related to primarily chlorine disinfection (see D/DBP Rule).

TRAC: Toxic Reduction and Control – The department responsible for MWRA’s industrial pretreatment program.

TSS (Total Suspended Solids): A measure of the settleable solids and non-settleable solids in wastewater. During the primary treatment process, flows are routed to primary treatment clarifiers that remove about half of the pollutants brought to the plant in typical wastewater (50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants are removed).

United States Geological Survey (USGS): The federal agency that collects Geographic Information System (GIS) data for developing mapping protocols.

Vactor Jet Truck: A vehicle used to clean and/or remove blockages from sewer lines by pushing and/or pulling fluids in the sewer.

VMM: Vehicle Management and Maintenance – The program responsible for management and maintenance of MWRA’s vehicles and heavy equipment.

WASM (Weston Aqueduct Supply Mains): Project involving the rehabilitation of the four Weston Aqueduct Supply Mains that carry potable water to MWRA’s service area. When complete, they will transmit about one-third of the water to MWRA’s service area and the City tunnel will carry the remaining two-thirds.

Wastewater: The water carried by sewers serving residences and businesses that enters wastewater facilities for treatment. Wastewater is any water that has been adversely affected in quality by anthropogenic influence. It comprises liquid waste discharged by domestic residences, commercial properties, and/or agricultural and can encompass a wide range of potential contaminants and concentrations.

Wastewater Treatment Plant (WTP): A facility containing a series of tanks, screens, filters, and other equipment and processes for removing pollutants from wastewater.

Watershed Reimbursement: An amount that MWRA pays to the Department of Conservation and Recreation (DCR) each fiscal year for maintaining and managing the primary sources of MWRA's water supply (watersheds) in accordance with the laws of the Commonwealth of Massachusetts. The amount of the reimbursement is determined by prevailing legislation.

Wholesale Water and Sewer Services: Potable water and wastewater collection, transport, delivery, and treatment services that MWRA provides to communities. Communities provide the same services directly to retail customers or end users.

WOCC: Western Operations Control Center, located at the Carroll Water Treatment Plant.

APPENDIX F
FY14 Current Expense Budget - Capital Financing Detail (as of 6/30/2013)

	Outstanding as of 6/30/2013	Total	Sewer	Water
SRF ¹				
Unrefunded (93A, 93D, 95A,98C)	\$ 5,340,000	12,659	12,659	
1999E Sewer		399,982	399,982	-
1999E Water	\$ 12,399,577	581,810	-	581,810
1999F	\$ 264,940,000	18,281,335	18,281,335	-
2000E Sewer		2,822,376	2,822,376	-
2000E Water	\$ 60,769,388	569,096	-	569,096
2001C Water	\$ 2,620,000	249,081	-	249,081
2001D Sewer		388,258	388,258	-
2001D Water	\$ 4,594,682	82,136	-	82,136
2002H Sewer		3,140,737	3,140,737	-
2002H Water	\$ 89,580,000	1,546,651	-	1,546,651
2002I Sewer		103,471	103,471	-
2002I Water	\$ 1,986,328	1,485	-	1,485
2003A	\$ 881,768	69,599	-	69,599
2003B	\$ 2,367,899	224,280	-	224,280
2003C Sewer		1,361,292	1,361,292	-
2003C Water	\$ 38,801,625	968,117	-	968,117
2004C Sewer		543,782	543,782	-
2004C Water	\$ 9,625,193	92,983	-	92,983
2004D Sewer		3,825,415	3,825,415	-
2004D Water	\$ 57,137,545	643,364	-	643,364
2005C Sewer		420,427	420,427	-
2005C Water	\$ 6,442,560	69,217	-	69,217
2005D Sewer		3,388,490	3,388,490	-
2005D Water	\$ 63,593,747	804,846	-	804,846
2005E Sewer		24,961	24,961	-
2005E Water	\$ 345,449	5,479	-	5,479
2006C Sewer		487,659	487,659	-
2006D Sewer		3,738,286	3,738,286	-
2006D Water	\$ 74,753,334	1,613,908	-	1,613,908
2006E Sewer		22,883	22,883	-
2006E Water	\$ 401,494	10,281	-	10,281
2007C Sewer		309,703	309,703	-
2007C Water	\$ 5,493,006	189,486	-	189,486
2007D Sewer		1,150,701	1,150,701	-
2007E Sewer		3,296,001	3,296,001	-
2007E Water	\$ 67,453,738	1,263,536	-	1,263,536
2008G Sewer		405,692	405,692	-
2008G Water	\$ 5,655,419	82,367	-	82,367
2009C Sewer		5,757,305	5,757,305	-
2009C Water	\$ 101,878,601	1,890,704	-	1,890,704
2009D Sewer		649,614	649,614	-
2009D Water	\$ 10,887,273	85,874	-	85,874
2010C Sewer				
2010C Water	\$ 33,035,745			
2010D Sewer		1,426,292	1,426,292	-
2010D Water	\$ 45,937,219	1,440,860	-	1,440,860
2011A Sewer		384,214	384,214	-
2011A Water	\$ 10,347,920	371,419	-	371,419
2012C Sewer		524,090	524,090	-
2012C Water	\$ 11,473,683	254,618	-	254,618
2012D Sewer		2,855,898	2,855,898	-
2012D Water	\$ 52,637,872	532,162	-	532,162
2013B Sewer		2,161,800	2,161,800	-
2013B Water	\$ 40,557,005	729,035	-	729,035
Pool 18 Sewer		2,692,833	2,692,833	-
Pool 18 Water		1,012,067	-	1,012,067
Total SRF Debt	\$ 1,109,586,561	\$ 75,960,617	\$ 60,576,155	\$ 15,384,461

APPENDIX F
FY14 Current Expense Budget - Capital Financing Detail (as of 6/30/2013)

	Outstanding as of 6/30/2013	Total	Sewer	Water
MWRA Senior Debt				
1993C New/Refunding	\$ 28,705,000	10,589,212	9,265,561	1,323,652
2002J New	\$ 1,000,000	24,489,025	22,040,123	2,448,903
2002J Refunding	\$ 296,300,000	50,000	25,000	25,000
2004B Refunding	\$ 48,950,000	2,447,500	2,141,563	305,938
2005A Refunding	\$ 344,830,000	17,697,525	7,963,886	9,733,639
2005B Refunding	\$ 80,290,000	4,014,500	1,338,033	2,676,467
2006A New	\$ 149,990,000	6,876,300	-	6,876,300
2006B Refunding	\$ 216,935,000	10,354,800	7,766,100	2,588,700
2007A New	\$ 198,000,000	8,933,188	1,518,642	7,414,546
2007B Refunding	\$ 647,950,000	34,017,375	28,574,595	5,442,780
2009A New	\$ 80,280,000	3,822,250	2,866,688	955,563
2009B Refunding	\$ 274,100,000	13,321,794	9,591,691	3,730,102
2010A New	\$ 97,740,000	4,722,400	3,305,680	1,416,720
2010B Refunding	\$ 183,570,000	17,778,500	10,311,530	7,466,970
2011B New	\$ 144,840,000	6,900,925	4,830,648	2,070,278
2011C Refunding	\$ 327,160,000	16,064,275	6,265,067	9,799,208
2012A New	\$ 144,675,000	9,679,425	4,839,713	4,839,713
2012B Refunding	\$ 86,775,000	4,027,325	845,738	3,181,587
2013A Refunding	\$ 170,635,000	7,551,650	4,228,924	3,322,726
FY14 New Money (2014)		1,133,333	512,602	620,731
Potential Defeasance/Restructuring				
Total Senior	\$ 3,522,725,000	\$ 204,471,301	\$ 128,231,782	\$ 76,239,520
Subordinate Debt				
1999B	\$ 62,300,000	1,904,500	1,142,700	761,800
2002C Refunding	\$ 35,120,000	1,141,400	380,429	760,971
2008A Refunding	\$ 337,675,000	64,435,800	56,703,504	7,732,296
2008C Refunding	\$ 117,680,000	9,309,865	8,937,470	372,395
2008E Refunding	\$ 173,060,000	8,663,709	7,970,612	693,097
2008F Refunding	\$ 164,755,000	5,354,538	481,908	4,872,630
2012E Refunding	\$ 62,830,000	2,041,975	428,815	1,613,160
2012F Refunding	\$ 60,300,000	1,959,750	411,548	1,548,203
2012G Refunding	\$ 57,820,000	5,305,704	5,093,476	212,228
Potential Defeasanc/Restructuring				
Total Subordinate Debt	\$ 1,071,540,000	\$ 100,117,241	\$ 81,550,462	\$ 18,566,779
Total SRF & MWRA Debt Service²	\$ 5,703,851,561	\$ 380,549,159	\$ 270,358,400	\$ 110,190,760
Water Pipeline Commercial Paper	\$ 144,000,000	4,127,811	-	4,127,811
Current Revenue/Capital ³		9,200,000	8,372,000	828,000
Capital Lease		3,217,060	1,952,196	1,264,864
CORE Fund Deposit ⁴		132,238	(4,577,351)	4,709,589
Sub-Total	\$ 144,000,000	\$ 16,677,109	\$ 5,746,845	\$ 10,930,264
Total Capital Financing (before Debt Service Offsets)	\$ 5,847,851,561	\$ 397,226,269	\$ 276,105,245	\$ 121,121,025
Debt Service Offsets				
Debt Service Assistance				
Total Capital Financing	\$ 5,847,851,561	\$ 397,226,269	\$ 276,105,245	\$ 121,121,025

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² Numbers may not add due to rounding.

³ Current Revenue/Capital is revenue used to fund ongoing capital projects.

⁴ CORE Fund Deposit sewer/water split reflects the balancing of the account required whenever new deposits are made. Last deposit was in 2007.

