

MASSACHUSETTS WATER RESOURCES AUTHORITY



Fiscal Year 2007 CURRENT EXPENSE BUDGET

BOARD OF DIRECTORS

Stephen R. Pritchard, Chair *

John J. Carroll, Vice Chair

Joseph A. MacRitchie, Secretary

Rudolph Banks

Kevin L. Cotter

Joseph C. Foti

Lucile P. Hicks

James W. Hunt III

Vincent G. Mannering

Andrew M. Pappastergion

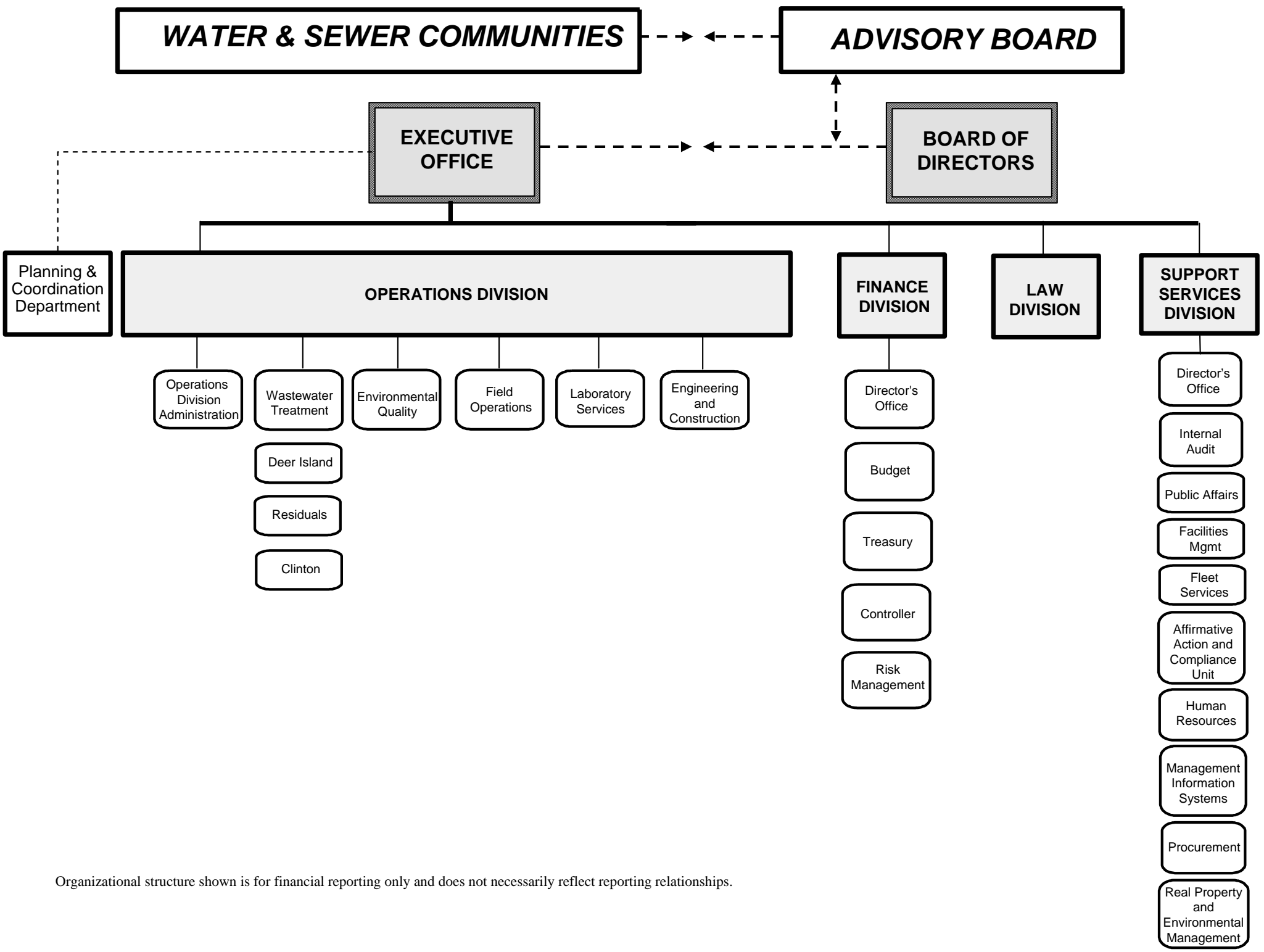
Marie T. Turner

Prepared under the direction of

Frederick A. Laskey, Executive Director
Patricia Filippone, Chief Financial Officer
Michael Hornbrook, Chief Operating Officer

together with the participation of MWRA staff.

*Robert W. Golledge, Jr., newly appointed Chair in August 2006



Organizational structure shown is for financial reporting only and does not necessarily reflect reporting relationships.



October 2006

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 Final Current Expense Budget for fiscal year 2007. The MWRA Board of Directors approved the final FY2007 Current Expense Budget (CEB) at its June 28, 2006 meeting.

The final rate revenue requirement for FY2007 is \$495.4 million, an increase of 4.9% over the FY2006 rate revenue requirement. It includes the use of \$12.6 million in Rate Stabilization funds and \$18.75 million of Debt Service Assistance, which represents MWRA's estimated share of the \$25 million statewide appropriation for FY2007. The Debt Service Assistance enabled the Authority to achieve a 4.9% rate increase for FY2007.

FY2007 expenses increased by \$29.2 million over FY2006 budget; \$14.7 million or 50% of the increase is attributable to debt service and \$14.5 million for direct and indirect operating expenses. The single largest driver of the increase in the CEB continues to be the Authority's significant debt burden from the financing of the capital program. Unexpected increases in utility prices and health insurance costs resulted in an amendment of the FY2006 budget, which was approved by the Board in May 2006. These increases pertaining to energy and health insurance are reflected in the FY2007 budget along with increased maintenance needs, higher chemical prices, and increased wages and salaries costs.

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

We appreciate your continued support, comments and recommendations to the Current Expense Budget.

Sincerely,

Frederick A. Laskey
Executive Director

TABLE OF CONTENTS

SECTION I: EXECUTIVE SUMMARY

MWRA Mission.....	I- 1
Community Profile and Assessments.....	I-13
Revenue and Expenditure Trends.....	I-16
Capital Improvement Program.....	I-18
MWRA Organization and History.....	I-22
Statement of MWRA Financial Position.....	I-24

SECTION II: EXECUTIVE DIVISION

Executive Office Budget Summary.....	II - 1
Office of Emergency Preparedness.....	II - 3
Planning and Coordination Department.....	II - 4

SECTION III: OPERATIONS DIVISION

Operations Division Budget Summary.....	III- 1
Operations Administration.....	III- 6
Wastewater Treatment.....	III- 7
Deer Island.....	III- 8
Residuals.....	III-12
Clinton.....	III- 14
Field Operations.....	III- 15
Laboratory Services.....	III- 18
Environmental Quality.....	III- 20
Engineering and Construction.....	III- 21

SECTION IV: LAW DIVISION

Law Division Budget Summary.....	IV- 1
----------------------------------	-------

SECTION V: FINANCE DIVISION

Finance Division Budget Summary.....	V-1
Division Director's Office.....	V-2
Budget.....	V-3
Treasury.....	V-4
Controller.....	V-5
Risk Management.....	V-6

SECTION VI: SUPPORT SERVICES DIVISION

Support Services Division Budget Summary.....VI- 1
Division Director.....VI- 2
Internal AuditVI- 3
Public Affairs.....VI- 4
Facilities Management.....VI- 6
Fleet Services.....VI- 8
Affirmative Action and Compliance Unit.....VI- 9
Human Resources.....VI-10
Management Information Systems.....VI-12
Procurement.....VI-15
Real Property and Environmental Management.....VI-16

APPENDICES

- A. Descriptions of Direct Expense Budget Line Items
- B. Budget Timetable
- C. Budget and Assessment Policies and Procedures
- D. Planning Estimates - Detail Presentation, FY08 - FY16
- E. Glossary of Terms



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.

MWRA measures its performance compared to prior years and current year targets in a variety of areas. Progress in achieving performance targets is reported monthly in the Yellow Notebook and quarterly in the Orange Notebook. Quarterly reports are now available on MWRA's website. A brief history and organizational summary of MWRA is included at the end of the Executive Summary.

Overview

Each year MWRA prepares a budget that reflects the best available information about anticipated expenditures and revenues. MWRA transmits its budget to its Advisory Board in March. The Advisory Board then has sixty days to review and comment on MWRA's budget. MWRA hosts public hearings to solicit comments on the Final 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 the Board's decisions from the hearings and presents a final budget for approval in June.

Like the households in its member communities, MWRA is facing higher energy and utility costs to operate its facilities which are energy intensive. In response to higher utility prices, the Authority was obligated by statute to file a budget amendment, requesting a \$5.4 million increase in the FY06 Approved budget to \$530.3 million. A \$5.6 million rise in energy costs was later partially offset by reductions in debt service due to the March 2006 bond refunding and lower than budgeted interest rates, reducing the FY06 Final Amended budget to \$527.9 million. Higher energy expenses are projected to continue and have had a significant impact on the Final FY07 budget.

MWRA's budget for fiscal year 2007 includes \$575.9 million in total expenses before debt service offsets of \$18.8 million, for a net expense total of \$557.1 million. This represents an increase of \$37.6 million over FY06 actuals. The \$18.8 million in debt service offsets represents the MWRA's projected share of Debt Service Assistance (DSA) from the Commonwealth. The MWRA, the Advisory Board, and its member communities were successful in lobbying the Legislature for a larger debt service allocation in FY07.

Total expenses include \$333.0 million or 58% for capital financing costs and \$242.9 million or 42% for operating expenses, of which \$203.7 million is for direct expenses and \$39.2 million is for indirect expenses. Total expenses increase by \$37.6 million over FY06 expenses, \$19.5 million or 52% for capital financing and \$18.1 million for operating expenses.

The \$18.1 million increase in operating expenses includes \$14.0 million for direct expenses and \$4.1 million for indirect expenses. The increase in direct expenses reflects significant increases in energy and utility costs, healthcare expenses, contractual labor agreements, maintenance, and chemicals. The increase in indirect expenses includes \$2.3 million in additional funding for the operating reserve fund in compliance with the bond resolution requirement and a \$1.6 million increase in Watershed operating costs due to higher staffing levels.

The \$19.5 million increase in capital financing expenses reflects amounts due on outstanding indebtedness in addition to \$150 million in new borrowings planned for October 2006 and \$75 million borrowed from the state revolving fund (SRF) in FY07. In addition, debt service includes a full year of funding for the 2005 Series C, D, and E and 2006 Series A and B.

The rate revenue requirement for FY07 is \$495.4 million, an increase of 4.9% over the approved FY06 rate revenue requirement. The budget uses a combined \$35.5 million of reserves (\$12.6 million in rate stabilization and \$22.9 million of bond redemption).

FY07 non-rate revenue totals \$61.8 million, a decrease of \$11.5 million from FY06 non-rate revenue actuals. The change, as indicated above, primarily results from a \$6.8 million decrease in investment income due to reduced swap receipts combined with projected reductions in other user charges and other revenues of \$2.9 million and \$3.7 million, respectively. The FY07 non-rate revenue budget includes \$37.0 million for investment income, of which \$9.9 million is from swap receipts, and \$12.2 million in other user charges, \$2.2 million in permit fees and penalties, \$1.0 million from the sale of renewable energy portfolio credits and participation in energy load reduction programs.

Table I-1 shows MWRA's FY07 budget for revenue and expenses by line item and includes a comparison with FY05 actuals, FY06 actuals, and FY06 Final Amended budget. Line item changes from FY06 to FY07 are described in the Revenue and Expense section of the Executive Summary and in more detail in the division sections of this document.

Table I-I

TOTAL MWRA	FY05 Actual	FY06 Actual	FY06 Final - Amended	FY07 Final	Change FY06 Actuals to FY07 Final	
					\$	%
EXPENSES						
WAGES AND SALARIES	\$ 79,327,695	\$ 82,135,835	\$ 81,955,743	\$ 85,564,168	\$ 3,428,333	4.2%
OVERTIME	3,730,174	3,511,461	3,520,594	3,773,468	262,007	7.5%
FRINGE BENEFITS	12,275,777	14,193,552	14,101,797	15,958,370	1,764,818	12.4%
WORKERS' COMPENSATION	1,038,298	1,823,356	809,285	1,040,000	(783,356)	-43.0%
CHEMICALS	6,579,778	6,878,847	7,107,000	8,431,208	1,552,361	22.6%
ENERGY AND UTILITIES	21,373,207	28,656,007	30,859,606	30,416,888	1,760,881	6.1%
MAINTENANCE	20,169,014	19,484,784	20,236,401	24,271,620	4,786,836	24.6%
TRAINING AND MEETINGS	237,588	162,873	189,374	234,863	71,990	44.2%
PROFESSIONAL SERVICES	6,211,464	6,603,951	6,588,688	7,500,496	896,545	13.6%
OTHER MATERIALS	4,175,229	4,203,959	3,729,914	4,345,818	141,859	3.4%
OTHER SERVICES	21,703,262	22,011,737	22,386,619	22,142,414	130,677	0.6%
TOTAL DIRECT EXPENSES	\$ 176,821,486	\$ 189,666,362	\$ 191,485,021	\$ 203,679,313	\$ 14,012,951	7.4%
INSURANCE	\$ 1,071,215	\$ 2,056,003	\$ 2,350,000	\$ 2,500,000	\$ 443,997	21.6%
WATERSHED/PILOT	20,576,892	21,816,009	23,321,135	23,461,460	1,645,451	7.5%
BECo PAYMENT	4,826,510	4,660,934	4,697,350	4,681,380	20,446	0.4%
MITIGATION	2,334,330	2,151,122	2,100,000	1,396,250	(754,872)	-35.1%
ADDITIONS TO RESERVES	1,000,000	866,000	866,000	3,118,693	2,252,693	260.1%
RETIREMENT FUND	3,407,532	3,604,106	3,578,000	4,053,207	449,101	12.5%
TOTAL INDIRECT EXPENSES	\$ 33,216,479	\$ 35,154,174	\$ 36,912,485	\$ 39,210,990	\$ 4,056,816	11.5%
CAPITAL FINANCING (before offsets) ¹	\$ 296,666,144	\$ 304,389,367	\$ 309,149,194	\$ 332,999,549	\$ 28,610,182	9.4%
VARIABLE RATE DEBT	(12,496,390)		-	-	-	
DEBT SERVICE ASSISTANCE	(8,018,697)	(9,630,649)	(9,630,651)	(18,750,000)	(9,119,351)	94.7%
TOTAL DEBT SERVICE	\$ 276,151,057	\$ 294,758,718	\$ 299,518,543	\$ 314,249,549	\$ 19,490,831	6.6%
TOTAL EXPENSES	\$ 486,189,022	\$ 519,579,254	\$ 527,916,049	\$ 557,139,852	\$ 37,560,598	7.2%
REVENUE & INCOME						
RATE REVENUE	\$ 444,268,646	\$ 472,219,800	\$ 472,219,800	\$ 495,358,764	\$ 23,138,964	4.9%
OTHER USER CHARGES	6,600,520	10,309,461	10,702,634	7,457,812	(2,851,649)	-27.7%
OTHER REVENUE	5,725,378	8,454,736	6,687,994	4,734,375	(3,720,361)	-44.0%
RATE STABILIZATION	-	10,739,948	3,027,614	12,576,631	1,836,683	17.1%
INVESTMENT INCOME	34,926,970	43,762,391	35,278,007	37,012,270	(6,750,121)	-15.4%
TOTAL REVENUE & INCOME	\$ 491,521,514	\$ 545,486,336	\$ 527,916,049	\$ 557,139,852	\$ 11,653,516	2.1%

¹Debt service before offsets in FY07 is net of use of bond redemption funds. In June 2006, \$26.2 million of future debt service payments were defeased to provide rate relief in future years.

FY07 Initiatives and Highlights

- Continue start-up operations and establish optimal operating parameters for the major new facilities: John J. Carroll Water Treatment Plant, (July 2005) Braintree- Weymouth Intermediate Pump Station, (December 2004) and Braintree-Weymouth Tunnel (April 2005).
- Finalize construction, commence testing of the new Braintree-Weymouth Replacement Pump Station and prepare for start-up (July 2007).
- Complete start-up operation of Union Park CSO facility in conjunction with the Boston Water and Sewer Commission as stipulated in the joint operating agreement.
- Competitively procure electricity for MWRA facilities, including the Deer Island Treatment Plant and John J. Carroll Water Treatment Plant.
- Renegotiate a new Deer Island Treatment Plant discharge permit to replace the permit that expired in August 2005.
- Year-end FY07 staffing target of 1,255 filled positions, fifteen less than the overall Black and Veatch target for FY06. New hires and backfills of vacant positions will be managed in the aggregate and addressed on a case-by-case basis by senior management at MWRA. The staffing level of 1,255 represents a decrease of more than 500 filled positions (or 29%) from peak staffing in 1997.

SOURCES AND USES OF FUNDS

MWRA funds its operations primarily through member community assessments. No funds supporting the current expense budget are subject to appropriation, except debt service assistance from the Commonwealth of Massachusetts and minor reimbursements from the Commonwealth. MWRA has only one operating fund. All operating fund expenses and revenues are allocated to water and sewer customers.

Table I-2 shows MWRA's sources and uses of funds for the FY07 Final budget.

Table I-2

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$ 7.5	1.3%
Other Revenue	4.7	0.8%
Investment Income	37.0	6.6%
Rate Revenue	495.4	88.9%
Rate Stabilization	12.6	2.3%
TOTAL REVENUE	\$ 557.1	100.0%
<i>Uses of Funds</i>		
Total Expenses		
before Debt Service Offsets	\$ 575.9	
Less:		
Debt Service Assistance	(18.8)	
Sub-Total Net Expenses	\$ 557.1	
Capital Financing	333.0	57.8%
Direct Expenses	203.7	35.4%
Indirect Expenses	39.2	6.8%
TOTAL EXPENSES	\$ 575.9	100.0%
TOTAL EXPENSES Less Offsets	\$557.1	

*May not add 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, debt service, and reserves.

In the FY07 Final budget, 91% of the revenue (including rate stabilization) is derived from rate revenue. The remaining 9% of revenue comes 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, reimbursements from the Commonwealth, penalties assessed to holders of sewer use permits, and other miscellaneous sources.

Rate Revenue

In the FY07 Final budget, MWRA will raise \$495.4 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$495.4 million, \$332.2 million will fund the sewerage system, an increase of 5.2% as compared to FY06 actuals; and \$163.1 million will fund the water system, an increase of 4.2% as compared to FY06 actuals. The increase in the wastewater rate revenue requirement reflects increased debt service attributable to the Deer Island Treatment Plant.

Non-Rate Revenue

Other User Charges

Other User Charges include revenues derived from the provision of water services to communities under special agreements. Other User Charges in FY07 Final budget totals \$7.5 million and is composed of \$1.9 million in water revenue collected from sewer ratepayers to offset the cost

of water used for operation of the DI Treatment Plant, \$3.6 million paid by the CVA communities, \$1.4 million in water sales to contract communities, and \$805,000 in entrance fees paid by Stoughton, and the Dedham-Westwood Water District.

Other Revenue

Other Revenue is budgeted at \$4.7 million. This includes permit fees, penalties, hydro-power revenues, State reimbursement, and other miscellaneous revenues.

Permit Fees

The FY07 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.

Reimbursements from the Commonwealth of Massachusetts

The budget includes \$867,000 from the Commonwealth that MWRA is entitled to receive by statute as reimbursement for the cost of chemicals used in the wastewater treatment process.

Miscellaneous Revenue

The FY07 Final budget includes \$1.9 million in miscellaneous revenue: \$266,000 from hydropower generation at MWRA's Cosgrove facility; \$1.0 million from the sale of renewable portfolio credits from the use of digester gas to generate power on Deer Island.

Investment Income

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The FY07 Final budget includes \$37.0 million in investment income, \$6.8 million below FY06 actuals, which reflects a reduction in swap revenues which were partially offset by higher interest rate assumptions combined with higher fund balances.

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 transfers 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 rate stabilization as revenue in that fiscal year. The FY07 Final budget includes a withdrawal of \$12.6 million from MWRA's rate stabilization fund.

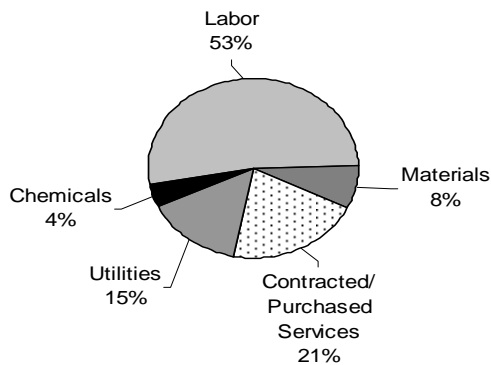
Direct Program Expenses

The Final FY07 direct program expense budget is \$203.7 million, an increase of \$14.0 million or 7.4% over FY06 actuals. The increase includes higher costs for energy and utilities, health insurance, maintenance, and chemicals. 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, increased self-generation and utilization of digester gas for energy production. Generally, the budget presents expenses by line item and program. The division sections of this document discuss program budget changes in greater detail.

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, and Workers' Compensation) are the largest component of the direct expense budget (53%), followed by purchased services (21%) and then by energy and utilities (15%).

FIGURE I-1
Direct Expenses by Category - \$203.7 Million

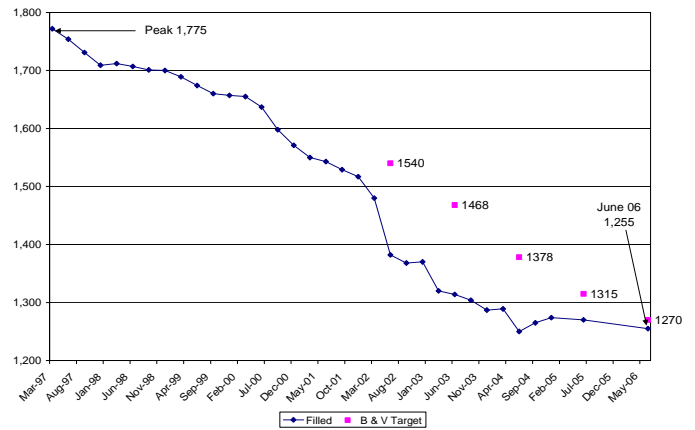


- Within the labor cost category, wages and salaries account for \$85.6 million, 4.2% higher

than the FY06 budget. Of the \$85.6 million, \$84.4 million is for regular pay. MWRA estimates that the regular pay budget of \$84.4 million will support the FY07 target of 1,255 filled positions. A staffing level of 1,255 in effect represents no net increase in the number of filled positions as of December 2005.

Figure I-2 shows how filled positions at MWRA have declined from a peak of 1,775 in March 1997 to the target staffing level of 1,255 for FY07. As shown in the figure below, the number of filled positions achieves the target levels recommended in the Black & Veatch study.

Figure I-2
MWRA Filled Positions
March 1997 - June 2006



Contracted and purchased services, the second largest direct expense cost category, includes professional, maintenance, and other services. The FY07 Final budget for contracted and purchased services is \$42.6 million, 15.2% above FY06 actuals.

Major components of this cost category include \$13.3 million for MWRA's residuals processing contract, \$3.3 million for lease payments, (consisting of \$2.1 million for the Charlestown Navy Yard facilities and \$1.2 million for the Chelsea facilities), \$13.0 million for maintenance services, \$3.5 million for harbor and outfall monitoring, \$1.3 million for telephone and lease line services, \$1.9 million for security, and \$1.1 million for grit and screenings removal.

The FY07 Final budget for energy and utilities is \$30.4 million, \$1.8 million above FY06 actuals, but \$5.1 million above the original FY06 Approved Budget, reflecting high electricity and diesel prices which were \$3.1 million and \$1.0 million over their original budgets, respectively. The increase is primarily due to higher energy and utility prices.

The FY07 Final budget for chemicals is \$8.4 million, \$1.6 more than FY06 actuals, primarily due to new disinfection requirements to comply with new receiving water standards and higher chemical prices.

The FY07 Final budget for materials, which includes maintenance materials, laboratory equipment, vehicles, and computer hardware items is \$15.6 million, \$0.3 million more than FY06 actuals. While the overall material budget does not differ materially from FY05, noteworthy and offsetting changes in the FY07 budget include increases for materials to maintain Authority facilities, and contractual maintenance expenditures relating to the pelletization plant lease, partially offset by decreases for electrical pipeline, and computer materials.

Functional Area Budget Summary

For a broader perspective on MWRA's direct expense budget, Figure I-3 presents direct expenses by MWRA functional area and shows that 46% of the FY07 direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution. Appendix A describes each MWRA functional area.

Figure I-4, Staffing by Functional Area as of June 2006 shows that of 1,255 filled positions, 56% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 24% to administration and support and MIS functions, and 10% to facilities planning, design, and construction. Water and Wastewater Quality functions, and metering and monitoring, particularly Boston Harbor and Massachusetts Bay monitoring activities and industrial discharge and enforcement programs, account for 10% of all staff.

Capital Financing

The FY07 capital financing budget, before debt service offsets, is \$333.0 million or 58% of the total \$575.9 million budget. This budget reflects that in June 2006, the MWRA utilized a portion of its reserves to defease debt service obligations due in FY07 and FY08. This action reduced FY07 debt service budget by \$22.9 million in FY07 and \$3.3 million in FY08. In addition, the offset of \$18.8 million for Debt Service Assistance from the Commonwealth results in a net capital financing budget of \$314.2 million. The budget assumes approximately a 4.75% interest rate for variable rate debt. If interest rates are less than budgeted in FY07, MWRA will use the savings to reduce rate revenue requirements in future years.

MWRA finances its capital improvement program primarily by issuing fixed rate 30- or 40-year revenue bonds. MWRA has also issued variable rate debt through a tax-exempt commercial paper program and a multi-modal (one, seven, and 35-day) borrowing program. MWRA's revenue bonds outstanding totaled \$5.5 billion as of June 30, 2006, including \$544 million in variable rate debt. MWRA also borrows from the Commonwealth's Water Pollution Abatement Trust, also known as the State Revolving Loan (SRF) Fund. The gross amount of outstanding SRF debt is \$858 million as of the end of FY06, with outstanding commercial paper totaling approximately \$164 million.

The three principal credit agencies have affirmed MWRA's ratings in connection with its March 1, 2006 General Revenue bond sales. The current ratings are: Fitch Ratings "AA", Standard and Poor's "AA", and Moody's Investors Service "Aa2." Moody's also upgraded the subordinate debt rating to "Aa3" from "A1." The firms all rated MWRA's outlook as Stable. According to Fitch, "The 'AA' rating is based on MWRA's sound financial operations and operating track record." They added that "Effective financial management is demonstrated by the Authority's ability to achieve favorable operating results despite significant declines in Commonwealth debt service assistance." The agencies each noted that the Authority's conservative financial management and long-term planning contribute to MWRA's strong financial position.

The FY07 capital financing budget, before offsets, increases by \$23.9 million or 7.7% compared to the Amended FY06 budget. The budget includes:

- \$322.0 million in principal and interest payments on outstanding MWRA debt and SRF loans.
- \$11.0 million to fund ongoing capital projects with current revenue, interest on local water pipeline assistance loans, and Chelsea lease payments.

The Final FY07 debt service budget does not include any savings realized from the refinancing of existing debt. Staff will continue to monitor the municipal bond market throughout FY07 for any refunding opportunities. If MWRA is able to take advantage of any additional opportunities to refund outstanding debt during FY07, any savings will be used to reduce rate revenue requirements in future years.

Table I-3 provides detail on the FY07 capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Sixty-eight percent of the FY07 capital financing costs (before debt service offsets) are for wastewater improvements. Current and future borrowing increasingly supports improvements to the water system.

**TABLE I-3
FY07 Current Expense Budget - Capital Financing Detail (as of 6/30/06)**

	Amount Outstanding (\$ millions)	Interest Rate	Total	Water	Sewer
SRF¹					
Unrefunded	\$ 27	-	42,412	\$ -	\$ 42,412
1999E Pool Sewer	9	-	388,774	-	388,774
1999E Pool Water	9	-	575,821	575,821	-
1999F	351	-	15,734,730	-	15,734,730
2000E Pool Sewer	67	-	2,740,053	-	2,740,053
2000E Pool Water	10	-	563,557	563,557	-
2001C SRF Water	4	-	247,184	247,184	-
2001D SRF Sewer	7	-	381,183	-	381,183
2001D SRF Water	1	-	81,152	81,152	-
2002H Sewer	86	-	3,130,152	-	3,130,152
2002H Water	29	-	1,539,629	1,539,629	-
2002I Sewer	2	-	100,813	-	100,813
2002I Water	0	-	1,460	1,460	-
2003A SRF Water	1	-	71,507	71,507	-
2003B SRF Water	4	-	222,003	222,003	-
2003C SRF Sewer	31	-	1,396,396	-	1,396,396
2003C SRF Water	20	-	974,659	974,659	-
2004C Sewer	10	-	559,029	-	559,029
2004C Water	2	-	92,538	92,538	-
2004D Sewer	63	-	3,934,576	-	3,934,576
2004D Water	13	-	656,052	656,052	-
2005C Sewer	7	-	484,179	-	484,179
2005C Water	1	-	70,917	70,917	-
2005D Sewer	67	-	3,405,348	-	3,405,348
2005D Water	15	-	812,217	812,217	-
2005E Sewer	0.4	-	24,872	-	24,872
2005E Water	0.1	-	5,569	5,569	-
FY07 New SRF Sewer	60	-	2,662,310	-	2,662,310
FY07 New SRF Water	15	-	517,134	517,134	-
Interest on Pool 12 Interim Loan	20	-	86,000	-	86,000
Total SRF Debt	\$ 932		\$ 41,502,226	\$ 6,431,399	\$ 35,070,827
MWRA Senior Debt					
1992A (fixed)	388	6.98%	50,229,817	2,511,491	47,718,326
1993C Refunding/New (fixed)	145	5.66%	11,793,842	1,474,230	10,319,611
1995B (fixed)	52	5.34%	4,585,425	-	4,585,425
1996A (fixed)	3	5.78%	904,975	-	904,975
1997D Refunding (fixed)	130	5.40%	6,584,069	395,044	6,189,025
1998A (fixed)	153	5.04%	7,370,550	2,456,825	4,913,725
1998B Refunding (fixed)	104	5.04%	4,965,800	198,632	4,767,168
2000A Refunding/New (fixed)	27	6.11%	1,447,283	964,903	482,379
2002B (fixed)	87	5.23%	4,376,556	3,938,901	437,656
2002J Refunding (fixed)	391	4.71%	20,848,400	2,084,840	18,763,560
2002J New (fixed)	200	4.71%	10,000,000	5,000,000	5,000,000
2003D (FY04 New #1)	142	4.63%	6,626,919	4,418,167	2,208,752
2004A	118	5.00%	5,720,694	5,291,642	429,052
2004B	65	4.17%	3,262,750	407,844	2,854,906
2005A	414	4.49%	20,819,713	11,450,842	9,368,871
2005B	80	5.00%	4,014,500	2,676,467	1,338,033
2006A	200	4.61%	9,376,800	9,376,800	-
2006B	286	4.61%	13,824,050	3,456,013	10,368,038
FY07 New Fixed (\$150M)	-	5.00%	7,808,333	5,205,816	2,602,517
Total MWRA Senior Debt	\$ 2,985		\$ 194,560,474	\$ 61,308,456	\$ 133,252,018
MWRA Subordinate Debt					
1997A (variable)	\$ 78	-	5,346,333	-	5,346,333
1997B (variable)	78	-	5,346,333	5,346,333	-
1998D Refunding (variable to fixed)	199	-	8,470,938	338,838	8,132,100
1999A (variable to fixed)	89	-	5,150,292	2,060,117	3,090,175
1999B (variable to fixed)	89	-	5,265,294	2,106,118	3,159,176
1999C (variable)	69	-	4,290,250	2,574,150	1,716,100
1999D (variable)	69	-	4,290,250	2,574,150	1,716,100
2000B Refunding (variable to fixed)	133	-	6,265,100	877,114	5,387,986
2000C Refunding (variable to fixed)	133	-	6,265,100	877,114	5,387,986
2001A (variable)	87	-	6,332,750	4,242,943	2,089,808
2001B (variable)	85	-	4,037,500	4,037,500	-
2002C Refunding (variable)	78	-	9,444,250	6,296,481	3,147,769
2002D-G Refunding (variable to fixed)	350	-	15,395,319	-	15,395,319
Total Subordinate Debt	\$ 1,537		\$ 85,899,709	\$ 31,330,857	\$ 54,568,852
Total SRF & MWRA Debt Service²	\$ 5,455		\$ 321,962,409	\$ 99,070,712	\$ 222,891,697
Water Pipeline Commercial Paper			\$ 3,725,000	\$ 3,725,000	\$ -
Current Revenue/Capital ³			1,465,980	1,465,963	2,629,117
Capital Lease			3,217,060	1,158,142	2,058,918
Sub-Total			\$ 11,037,140	\$ 6,349,105	\$ 4,688,035
Total Capital Financing (before Debt Service Offsets)			\$ 332,999,549	\$ 105,419,817	\$ 227,579,733
Debt Service Offsets					
Bond Redemption Savings			\$ -	\$ -	\$ -
Debt Service Assistance			(18,750,000)	(2,818,822)	(15,931,178)
Total Capital Financing			\$ 314,249,549	\$ 102,600,995	\$ 211,648,555

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. The amount is partly determined by MWRA's bond covenant requirements.

Indirect Expenses

The FY07 Final budget includes \$39.2 million for indirect expenses, an increase of \$4.1 million or 6.2% over FY06 actuals. The increase includes a \$2.3 million rise in payments to the operating reserve to meet bond resolution requirements and a \$1.6 million rise in Watershed/PILOT funding.

Insurance

MWRA purchases property and casualty insurance from external insurance carriers and self-insures for the first \$2.5 million of property and general liability loss per occurrence. The FY07 Final budget includes \$2.5 million for premiums and fees, an increase of \$150,000 based on an insurance renewal program similar to the existing program. New policies were procured in FY06 for coverage in FY07. The budget includes \$1.8 million for premiums and \$700,000 for the projected costs 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. In December 2003, MWRA's consultant reviewed the level of the reserve and recommended that it be increased from \$18 million to \$21 million by FY07. In FY05, the reserve was increased by a recommended \$1 million, but in FY06, the MWRA deferred the next installment pending the triennial recommendation due in early FY07. In light of budgetary pressures, the Authority has deferred the FY07 installment.

Watershed Reimbursement/PILOT

The Enabling Act directs MWRA to pay the Commonwealth of Massachusetts for several statutory obligations: payments 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 FY07 Final budget includes \$6.0 million, \$11.9 million, and \$5.6 million respectively for these items. Collectively these represent a net increase of \$1.6 million over FY06 actuals. Watershed operating expenses increased \$1.6 million, reflecting higher staffing levels.

Harbor Electric Energy Company (HEECo)

Harbor Electric Energy Company (HEECo), a subsidiary of NStar, installed the cross harbor power cable and built the power substation to supply electric power for construction and operation of the Deer Island Treatment Plant. MWRA is repaying HEECo's capital investment on a 25-year schedule. The budget includes \$4.7 million for the estimated FY07 payment, comprised of \$3.8 million for capacity charges and \$840,000 for maintenance expenses.

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 Final FY07 CEB includes \$1.4 million for community compensation for impacts, including \$720,000 for the City of Quincy and \$666,000 for the Town of Winthrop, based on Memoranda of Agreement with the communities.

Retirement System Contribution

The Final FY07 budget includes a \$4.1 million contribution to MWRA's retirement fund commensurate with the goal to maintain a fully funded retirement system for employees, including approved cost-of-living increases. The contribution is based on the most recent (January 2005) actuarial valuation report and is \$0.5 million greater than the FY06 budget contribution.

Community Profile and Assessments

MWRA provides wholesale water and sewer services to 61 communities or local bodies. Forty-nine local bodies purchase water supply services, and 45 local bodies purchase wastewater transport and treatment services. Thirty communities purchase both. FY07 Assessments include new members Dedham-Westwood Water District and the Town of Reading. Approximately 2.6 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 Final FY07 CEB, rate revenue from BWSC will account for 32% of MWRA's total rate revenue. Table I-4, on page I-15, lists MWRA communities, the services received, and MWRA preliminary assessments for FY07.

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 presents the calculation of MWRA's FY07 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 FY07 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 flow, strength, and population. MWRA uses three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. This averaging moderates year-to-year swings in individual community assessments. Beginning in FY07, MWRA sewer assessments will be allocated in part on flow data from the Authority's new wastewater metering system. MWRA began using flow data from the new metering system in April 2005.

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.
- 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.

Calculation of the FY07 Rate Revenue Requirement
(\$000)

	Sewer	Water	Total
Expenses:			
Operations and Maintenance Costs:	\$89,777	\$20,980	\$110,757
PLUS			
Other Costs:			
Allocated Direct Expenses	\$59,068	\$33,855	\$92,923
Allocated Indirect Expenses	\$12,799	\$26,412	\$39,211
PLUS			
Capital Costs:			
Debt Service (Less: Debt Offsets)	\$209,116	\$101,039	\$310,154
Current Revenue/Capital	\$1,863	\$2,232	\$4,095
PLUS			
Non-Rate Revenue:			
Investment Income	-\$23,012	-\$14,000	-\$37,012
Fees and Other Revenue	-\$4,800	-\$7,392	-\$12,192
Non-Recurring Revenue	-\$12,577	\$0	-\$12,577
EQUALS			
Rate Revenue Requirement	\$332,234	\$163,125	\$495,359

Table I-4

Massachusetts Water Resources Authority
Final FY07 Water and Sewer Assessments

28-Jun-06

MWRA Combined Water and Sewer Customers	Final FY06 Water Assessment	Final FY07 Water Assessment	Percent Change from FY06	Final FY06 Sewer Assessment	Final FY07 Sewer Assessment	Percent Change from FY06	Final FY06 Combined Assessment	Final FY07 Combined Assessment	Percent Change from FY06
ARLINGTON	\$3,389,266	\$3,527,387	4.1%	\$5,863,185	\$6,143,299	4.8%	\$9,252,451	\$9,670,686	4.5%
BELMONT	1,697,163	1,821,894	7.3%	3,502,437	3,705,621	5.8%	5,199,599	5,527,515	6.3%
BOSTON	60,867,841	62,704,517	3.0%	90,597,554	94,101,847	3.9%	151,465,394	156,806,364	3.5%
BROOKLINE	4,557,527	4,692,491	3.0%	9,083,147	9,606,833	5.8%	13,640,674	14,299,324	4.8%
CHELSEA	2,713,184	2,657,451	-2.1%	4,364,162	4,439,053	1.7%	7,077,346	7,096,504	0.3%
EVERETT	3,698,994	3,668,354	-0.8%	5,616,895	5,815,528	3.5%	9,315,889	9,483,882	1.8%
FRAMINGHAM	5,988,784	6,108,149	2.0%	7,969,891	8,427,956	5.7%	13,958,675	14,536,105	4.1%
LEXINGTON	3,775,505	4,032,517	6.8%	5,257,126	5,633,833	7.2%	9,032,631	9,666,350	7.0%
MALDEN	4,894,929	4,933,009	0.8%	8,407,046	8,710,730	3.6%	13,301,975	13,643,739	2.6%
MEDFORD	4,267,816	4,382,521	2.7%	8,394,421	8,648,228	3.0%	12,662,237	13,030,749	2.9%
MELROSE	1,750,441	2,017,068	15.2%	4,244,637	4,515,809	6.4%	5,995,078	6,532,877	9.0%
MILTON	2,010,574	2,263,683	12.6%	3,912,142	4,154,293	6.2%	5,922,716	6,417,976	8.4%
NEWTON	7,383,431	7,606,834	3.0%	13,884,034	15,154,185	9.1%	21,267,465	22,761,019	7.0%
NORWOOD	2,493,692	2,580,986	3.5%	5,011,913	5,303,808	5.8%	7,505,605	7,884,794	5.1%
QUINCY	7,599,337	8,052,624	6.0%	13,214,808	14,186,030	7.3%	20,814,145	22,238,654	6.8%
REVERE	3,471,732	3,497,276	0.7%	6,801,118	6,922,399	1.8%	10,272,850	10,419,675	1.4%
SOMERVILLE	4,961,259	5,179,472	4.4%	10,325,026	10,830,035	4.9%	15,286,285	16,009,507	4.7%
STONEHAM	2,397,052	2,517,547	5.0%	3,206,627	3,386,652	5.6%	5,603,678	5,904,199	5.4%
WALTHAM	5,826,373	6,287,763	7.9%	9,260,965	9,867,844	6.6%	15,087,338	16,155,608	7.1%
WATERTOWN	2,565,976	2,448,358	-4.6%	4,185,181	4,412,383	5.4%	6,751,157	6,860,741	1.6%
WINTHROP	1,182,037	1,249,283	5.7%	2,231,158	2,261,718	1.4%	3,413,195	3,511,064	2.9%
TOTAL	\$137,492,914	\$142,229,183	3.4%	\$225,333,471	\$236,228,150	4.8%	\$362,826,386	\$378,457,332	4.3%

MWRA Sewer and Partial Water Customers	Final FY06 Water Assessment	Final FY07 Water Assessment	Percent Change from FY06	Final FY06 Sewer Assessment	Final FY07 Sewer Assessment	Percent Change from FY06	Final FY06 Combined Assessment	Final FY07 Combined Assessment	Percent Change from FY06
CANTON	\$1,667,312	\$1,622,912	-2.7%	\$2,881,231	\$3,073,080	6.7%	\$4,548,542	\$4,695,992	3.2%
NEEDHAM	351,877	804,107	128.5%	4,640,239	4,878,286	5.1%	4,992,116	5,682,394	13.8%
READING ¹	0	0	0.0%	2,980,493	3,171,403	6.4%	2,980,493	3,171,403	6.4%
STOUGHTON	312,178	400,150	28.2%	3,311,405	3,521,058	6.3%	3,623,583	3,921,208	8.2%
WAKEFIELD	1,438,399	1,534,817	6.7%	4,095,541	4,358,332	6.4%	5,533,940	5,893,149	6.5%
WELLESLEY	382,538	678,369	77.3%	4,006,430	4,341,937	8.4%	4,388,968	5,020,306	14.4%
WINCHESTER	827,854	890,279	7.5%	2,973,549	3,071,919	3.3%	3,801,403	3,962,198	4.2%
WOBURN	1,767,015	2,093,459	18.5%	7,814,649	8,426,290	7.8%	9,581,664	10,519,749	9.8%
TOTAL	\$6,747,174	\$8,024,094	18.9%	\$32,703,536	\$34,842,306	6.5%	\$39,450,710	\$42,866,400	8.7%

MWRA Sewer-only Customers	Final FY06 Water Assessment	Final FY07 Water Assessment	Percent Change from FY06	Final FY06 Sewer Assessment	Final FY07 Sewer Assessment	Percent Change from FY06	Final FY06 Combined Assessment	Final FY07 Combined Assessment	Percent Change from FY06
ASHLAND				\$1,505,621	\$1,618,656	7.5%	\$1,505,621	\$1,618,656	7.5%
BEDFORD				2,379,363	2,565,613	7.8%	2,379,363	2,565,613	7.8%
BRAINTREE				5,890,315	6,234,886	5.8%	5,890,315	6,234,886	5.8%
BURLINGTON				3,440,952	3,650,224	6.1%	3,440,952	3,650,224	6.1%
CAMBRIDGE				15,774,594	16,822,068	6.6%	15,774,594	16,822,068	6.6%
DEDHAM				4,348,563	4,681,204	7.6%	4,348,563	4,681,204	7.6%
HINGHAM SEWER DISTRICT				1,155,018	1,263,977	9.4%	1,155,018	1,263,977	9.4%
HOLBROOK				1,119,106	1,164,235	4.0%	1,119,106	1,164,235	4.0%
NATICK				3,895,604	4,006,468	2.8%	3,895,604	4,006,468	2.8%
RANDOLPH				3,976,809	4,268,513	7.3%	3,976,809	4,268,513	7.3%
WALPOLE				2,396,186	2,586,581	7.9%	2,396,186	2,586,581	7.9%
WESTWOOD				1,872,424	1,973,685	5.4%	1,872,424	1,973,685	5.4%
WEYMOUTH				8,063,924	8,556,370	6.1%	8,063,924	8,556,370	6.1%
WILMINGTON				1,828,634	1,770,873	-3.2%	1,828,634	1,770,873	-3.2%
TOTAL				\$57,647,112	\$61,163,355	6.1%	\$57,647,112	\$61,163,355	6.1%

MWRA Water-only Customers	Final FY06 Water Assessment	Final FY07 Water Assessment	Percent Change from FY06	Final FY06 Sewer Assessment	Final FY07 Sewer Assessment	Percent Change from FY06	Final FY06 Combined Assessment	Final FY07 Combined Assessment	Percent Change from FY06
LYNNFIELD WATER DISTRICT	\$357,721	\$364,527	1.9%				\$357,721	\$364,527	1.9%
MARBLEHEAD	1,525,030	1,631,484	7.0%				1,525,030	1,631,484	7.0%
NAHANT	295,158	313,556	6.2%				295,158	313,556	6.2%
SAUGUS	2,606,493	2,590,216	-0.6%				2,606,493	2,590,216	-0.6%
SOUTHBOROUGH	562,422	689,683	22.6%				562,422	689,683	22.6%
SWAMPSCOTT	1,501,614	1,633,133	8.8%				1,501,614	1,633,133	8.8%
WESTON	1,246,761	1,377,593	10.5%				1,246,761	1,377,593	10.5%
TOTAL	\$8,095,198	\$8,600,193	6.2%				\$8,095,198	\$8,600,193	6.2%

MWRA Partial Water-only Customers	Final FY06 Water Assessment	Final FY07 Water Assessment	Percent Change from FY06	Final FY06 Sewer Assessment	Final FY07 Sewer Assessment	Percent Change from FY06	Final FY06 Combined Assessment	Final FY07 Combined Assessment	Percent Change from FY06
DEDHAM-WESTWOOD WATER DISTRICT ¹	\$0	\$0	0.0%				\$0	\$0	0.0%
LYNN	173,718	194,583	12.0%				173,718	194,583	12.0%
MARLBOROUGH	2,832,771	2,386,661	-15.7%				2,832,771	2,386,661	-15.7%
NORTHBOROUGH	691,108	762,171	10.3%				691,108	762,171	10.3%
PEABODY	502,797	928,069	84.6%				502,797	928,069	84.6%
TOTAL	\$4,200,395	\$4,271,484	1.7%				\$4,200,395	\$4,271,484	1.7%
SYSTEMS TOTAL	\$156,535,681	\$163,124,954	4.2%	\$315,684,120	\$332,233,810	5.2%	\$472,219,801	\$495,358,764	4.9%

¹ Effective August 1, 2006, Reading is a fully served MWRA water community. Reading's FY07 water charge will be based on applying the wholesale rate to actual water consumption.

² The Dedham-Westwood Water District has not used MWRA water since October 2004. Therefore, its FY2007 assessment is \$0.

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 increase in concert with the growth in expenses each year. Member community assessments are the largest source of funds; the amount required in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and previously debt service assistance from the Commonwealth (which directly reduced debt service expense).

MWRA regularly updates its estimates of anticipated revenues and expenses over a multi-year planning horizon. These planning estimates provide a context for budget discussions and a planning tool for MWRA and those affected by its rate revenue requirements and also allows MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget decisions.

The table below and Appendix E (in more detail) present future rate revenue requirements for FY08 through FY16.

	Estimates of Future Rate Revenue Requirements (millions)									
	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16
Rate Revenue	\$495.4	\$541.7	\$591.8	\$646.6	\$684.4	\$715.0	\$745.8	\$749.1	\$757.9	\$763.8
Rate Revenue Change %	4.9%	9.3%	9.3%	9.3%	5.8%	4.5%	4.3%	0.4%	1.2%	0.8%

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 refinancings, 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

recent financing strategies (i.e. restructuring debt to defer the repayment of principal) will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available (e.g. 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 \$60.7 million increase in direct expenses from FY07 to FY16 is primarily the result of an assumed inflation rate of 2.5% annually. In addition, in order to account for anticipated increases in expenses for FY08, labor and fringe is projected to grow by 5.0%, while chemicals and maintenance and materials are forecast to rise by 8.3% and by 9.5%, respectively. Also, over the next ten years there will be an increase in direct expenses as a result of capital improvement projects. The largest increases will be for operation of new facilities.

Start-up and operation of the Union Park Detention and Treatment facility and the Braintree-Weymouth Relief Facilities will have incremental impacts between FY08 and FY12. The anticipated increases and decreases in costs associated with these capital improvements are shown on Page I-20.

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% (except as noted above).
- 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 6% interest rates.

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.
- 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 6%.
- Debt refinancing opportunities.
- Capital spending.
- Growth in direct expenses, greater than current assumptions of 2.5% is an area of increased concern. Increases in utilities, chemicals, maintenance and health care are reflected in the Final FY07 budget as well as projected FY08 expenses. 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.

Capital Improvement Program

Each year MWRA prepares a ten-year plan for capital spending with a 5-year spending cap. After review and comment by the Advisory Board, the Board approves the budget, which remains in effect for one year. MWRA divides the CIP into three program areas: Wastewater, Waterworks, and Business and Operations Support. Program categories are presented in greater detail within this document. MWRA's capital budget, including detailed expenditure forecasts and program descriptions, is available online at www.mwra.com.

Background

MWRA was created by the Massachusetts legislature in 1985 and since that time has invested over \$6.3 billion to modernize and improve the wastewater and waterworks systems serving its member communities. Of the total expenditures to date, nearly three-fourths have supported improvements to the wastewater treatment, interceptor, pumping, and combined sewer overflow systems. The remaining fourth has supported waterworks treatment, transmission, distribution, and water supply protection improvements.

MWRA's wastewater treatment system has undergone a nearly complete transformation under the federally mandated, 11-year, \$3.8 billion Boston Harbor Project. The project, now complete, included: a new Deer Island Treatment Plant with primary and secondary treatment capabilities; a new 5-mile Inter-Island Tunnel that combined two separate sewer systems (North and South) into one; a new sludge-to-fertilizer facility; and a new

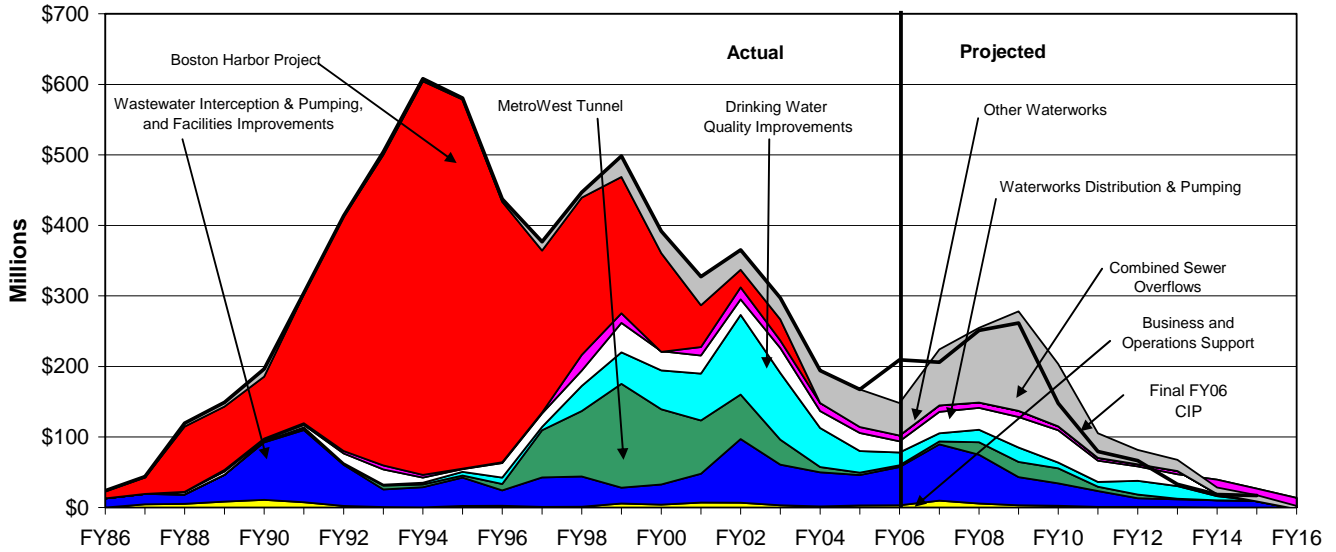
9.5-mile Effluent Outfall Tunnel to discharge treated wastewater away from shallow Boston Harbor waters into deeper waters and the stronger currents of Massachusetts Bay.

MWRA's Integrated Water Supply Improvement program is a 10-year, \$1.7 billion series of projects that consists of aggressive watershed protection, modernized water treatment facilities and distribution system improvements that include construction of covered storage facilities and pipeline rehabilitation projects. This program includes the \$429 million John J. Carroll Water Treatment Plant, a state-of-the-art ozonation facility with capacity to treat 405 mgd of drinking water, which was completed in 2005 pursuant to the Safe Drinking Water Act (SDWA). The plant treats water delivered from the Wachusett Reservoir (including water transferred to the Wachusett Reservoir from the Quabbin Reservoir) with ozonation and chloramination.

The FY07 CIP includes 92 ongoing and new projects with estimated costs of approximately \$3.7 billion in FY07 dollars, of which approximately \$2.5 billion was expended through the end of FY06 leaving a balance of \$1.2 billion. Remaining CSO spending of \$461.0 million accounts for 38.5% of future spending followed by Distribution and Pumping projects total \$253.0 million and 21.1%, respectively. Many of the CSO projects are federally mandated. Projected future expenditures are estimated to be approximately: \$224.3 million and \$254.9 million in 2007 and 2008, respectively, and \$736 million for Fiscal Years 2009 through 2013.

The graph and table below highlight major capital improvement spending, both completed (actual) and remaining (projected).

MWRA CAPITAL PROGRAM FY86-16



FINAL FY07 CAPITAL IMPROVEMENT PROGRAM Actual and Projected Expenditures

	Total Contract Amount	FY04 Actual	FY05 Actual	FY2006 Estimate	Total \$ Thru FY06	Balance 6/30/06	FY2007	FY2008	Sub-Total 5-Year FY04-08	Sub-Total 5-Year FY09-13	Sub-Total 10-Year FY04-13
Wastewater System Improvements¹	1,618,891	92,163	88,615	93,672	943,295	675,597	129,053	146,337	549,840	372,144	921,984
Interception & Pumping	514,887	31,853	21,843	31,073	427,259	87,628	42,543	32,983	160,295	10,902	171,197
Treatment	141,528	3,978	9,240	13,482	36,853	104,675	10,492	14,839	52,031	64,527	116,558
Residuals	63,848	8,930	-1,700	0	63,848	0	0	0	7,230	0	7,230
CSO	811,753	45,867	53,663	45,851	350,721	461,033	71,978	94,558	311,917	273,485	585,402
Other	86,875	1,535	10,069	3,266	64,614	22,261	4,040	3,957	22,867	23,230	46,097
Waterworks System Improvements	1,889,915	100,093	76,276	51,142	1,503,140	386,775	67,771	79,527	374,809	294,158	668,967
Drinking Water Quality Improvements	588,445	55,706	30,579	18,255	490,794	97,651	10,637	15,888	131,065	65,714	196,779
Transmission	754,557	9,221	7,360	8,866	644,887	109,670	20,209	28,044	73,700	61,348	135,048
Distribution And Pumping	516,928	23,819	25,472	15,985	263,887	253,041	27,941	28,320	121,538	142,249	263,787
Other	29,985	11,347	12,864	8,036	103,572	-73,587	8,984	7,275	48,506	24,847	73,353
Business & Operations Support	60,522	1,761	2,798	3,134	38,293	22,228	9,009	5,266	21,968	7,953	29,921
SUB-TOTAL	3,569,328	194,016	167,689		2,484,728	1,084,600	205,833	231,130	946,617	674,255	1,620,872
Contingency	113,469					113,469	18,467	23,733	42,199	62,162	104,361
Total MWRA w/ Contingency	3,682,797	194,016	167,689		2,484,728	1,198,069	224,300	254,863	988,816	736,417	1,725,233

¹ FY05 Total includes \$4.5 Million BHP credit

CAP Overview

In June 2003, the Board of Directors adopted the Final FY04 Capital Improvement Program (CIP), which established a capital spending cap of \$1.1 billion for FY04-08 and identified planned spending of \$530 million for FY09-13. As seen in Table 1, for the 5-year cap period FY04-08, the FY07 CIP complies with both the total spending cap limit of \$1.1 billion, and the annual spending limits.

Table 1

Final FY07 CIP						
	FY04 Actual	FY05 Actual	FY06	FY07	FY08	Total FY04-08
Projected Expenditures ¹	\$194.0	\$167.7	\$148.0	\$205.8	\$231.1	\$946.6
Contingency	0.0	0.0	0.0	18.5	23.7	42.2
Inflation on Unawarded Construction	0.0	0.0	0.0	0.0	0.9	0.9
Less: Chicopee Valley Aqueduct	(0.4)	(0.5)	(2.7)	(5.0)	(1.0)	(9.6)
FY04-08 CAP	\$193.6	\$167.2	\$145.3	\$219.3	\$254.8	\$980.2
Change (Baseline to Final FY07)						
FY04-08 CAP (\$ Change)	(\$57.4)	(\$36.3)	(\$69.9)	(\$30.8)	\$40.0	(\$154.3)
FY04-08 CAP (% Change)	-23%	-18%	-32%	-12%	19%	-14%

¹Includes \$4.5 million credit to BHP in FY05.

The FY07 cap, including contingency and inflation, totals \$980 million for FY04-08. This spending is based on a total CIP of \$3.7 billion, including contingency, of which \$2.5 billion has been spent through FY06. Proposed spending for the ten fiscal years 2004-2013 is \$1.74 billion, \$78.2 million greater than the spending forecasted in the Final FY04 CIP.

This is due primarily to increased spending of \$56.0 million for Combined Sewer Overflow initiatives, including the court-mandated Charles River Combined Sewer Overflow (CSO) projects that were added at a cost of \$21.6 million, revised cost estimates for the North Dorchester Tunnel \$17.3 million, and \$11.3 million increase in the MWRA's share of the Cambridge Sewer Separation project. Other increases include an \$18 million rise in I/I spending and increased spending of \$11 million for Watershed Land purchases.

CIP Impact on the 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. From FY95-06, completion of the Deer Island Wastewater Treatment Plant, the Residuals Processing Facility in Quincy, and the John J. Carroll Water Treatment Plant resulted in significant increases to MWRA's operating

expenses. Going forward, MWRA is projecting the addition of approximately \$1.2 million in operating costs for FY08-FY17 for capital projects scheduled to be completed during that period.

The table below summarizes, by program area, the estimated incremental costs and savings in MWRA's Current Expense Budget from FY08 through FY17 as a result of the capital program.

The capital projects with the largest projected impact (in FY07 \$) on operating costs are as follows:

- *Braintree-Weymouth Replacement Pump Station* – After start-up in FY08, the annual operating costs for this facility will increase by \$390,000 primarily for utilities and maintenance.

- *CSO Program* – In total, the completion of the CSO program will add a net \$439,000 in costs to the operating budget. The decommissioning of the Fox Point and Commercial Point facilities will result in annual cost reductions of \$74,000 by FY09. Start-up of the Union Park Pump Station in FY07 will result in \$447,000 in operating costs in FY08. Start-up of the dewatering pump station and remote odor control facilities associated with the North Dorchester Bay projects will add \$400,000 in operating costs in FY12.

Incremental Costs and Savings from CIP Projects											
\$ in thousands											
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	Cumulative
Wastewater	\$417	(\$63)	\$6	\$5	\$450	(\$52)	(\$6)	\$0	\$0	\$0	\$757
Waterworks	0	0	14	64	(44)	20	0	0	0	0	53
Business Operations & Support	141	141	82	0	0	0	0	0	0	0	364
Total (excluding inflation)	\$558	\$78	\$101	\$69	\$407	(\$33)	(\$6)	\$0	\$0	\$0	\$1,174
Inflation ¹	14	4	8	7	53	(5)	(1)	0	0	0	80
Total (including inflation)	\$572	\$82	\$109	\$76	\$460	(\$38)	(\$7)	\$0	\$0	\$0	\$1,254

- *Water Projects* – Projections assume that start-up in FY10 of the automated chemical dispensing system for algae control at the Wachusett Reservoir will add \$18,000 in annual costs and implementation in FY12 of ultraviolet technology at the Quabbin Disinfection Facility will add \$50,000 to the annual CEB. UV licensing fee at JJCWTP begins in FY13 and adds \$1.3 million to annual operating costs.

Capital Financing and Grant Revenues

MWRA has used two primary sources of funds to finance its capital program: proceeds from borrowing and grant funds. Borrowing includes the issuance of fixed and variable rate revenue bonds; borrowing from the Massachusetts Water Pollution Abatement Trust (also known as the State Revolving Loan Fund or SRF), and a tax-exempt commercial paper program.

In the past, federal and state grant receipts were a significant source of funds, totaling approximately \$1.1 billion through FY05. Grant receipts have

diminished in recent years with MWRA receiving \$1.1 million in FY05, zero dollars in FY06, and \$1.2 million expected in FY07. MWRA does not anticipate receiving grant funds thereafter as funds have not been available for major drinking water and sewer construction projects which represents to bulk of the remaining projects.

Over the next three fiscal years, MWRA expects to fund \$721 million in capital projects in the following way: \$699 million will be financed using a combination of long-term debt, SRF loans, and commercial paper, and \$22 million will be funded with current revenues.

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 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 \$375 million per year between (FY90 to FY05). 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 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. In FY03, with the elimination of debt service assistance, MWRA was forced to have an unprecedented mid-year rate increase bringing the year's total to 6.9% as part of an overall strategy in response to the loss. The FY04 rate increase was 3.9% and the rate increase for FY05 was 3.9% (Subsequent to MWRA's approval of its budget for FY05, the Legislature overrode the veto for debt service

assistance. MWRA's share of the statewide appropriation was \$8.0 million, which reduced the FY05 rate increase from 3.9% to 1.9% compared to the FY04 budget.). The FY06 rate increase was 4.2%, including the assumption of the receipt of \$10 million of debt service assistance that was approved by the legislature and which the MWRA expects to receive in March 2006. Assuming a DSA allocation of \$18.75 million which was included in the Capital Supplemental Budget signed by the Governor and approved by the Legislature, the FY07 rate revenue requirement increases to 4.9% and the planning estimates through 2012 forecast rate revenue requirement increases of 9.3% annually for the next three years, and 5.8% and 4.5% in 2011 and 2012, respectively. The MWRA, the Advisory Board, and its member communities have aggressively pursued rate relief in the form of a larger debt service assistance payments from the State Legislature and will continue this effort to secure future rate relief.

With the prospect of higher rate increases in the future, MWRA must ensure that its operating and capital costs are kept to a minimum, and that every dollar adds to the value of water and sewer services. MWRA has taken several steps toward this end.

- MWRA continues to limit increases in ongoing operating costs. The FY07 direct expense budget only \$22.5 million more than spending in FY00. This represents annual increases of 1.7%, well below inflation. When adjusted for inflation, direct expenses have declined by more than \$57 million since FY00. Costs to operate new facilities, higher utility costs, healthcare costs and increased maintenance have not been offset by reduction in the workforce and controlling and optimizing chemical use.
- MWRA seeks to maximize savings in the deregulated electricity market, and now

competitively procures most of its power needs.

- MWRA is working to reduce labor costs wherever appropriate. Consistent with the recommendations of the Black & Veatch study, the budget assumes a staffing level of 1,255 for fiscal year 2007. This staffing level represents a decrease of more than 500 filled positions (over 29%) from peak staffing in 1997.
- MWRA uses a variety of financing tools including variable rate debt, tax-exempt commercial paper, interest rate swaps, refundings, and tender offers to take advantage of particular market conditions and appropriate maturity schedules to reduce annual debt service costs.
- MWRA continues to aggressively seek additional SRF assistance.
- Finally, MWRA uses rate stabilization funds and bond redemption funds in the context of its longer-term rate smoothing strategy.

In addition to carefully managing operating costs, MWRA will continue to explore additional financing strategies to manage assessment increases in a fiscally responsible manner.

MWRA Organization

MWRA has five divisions. Each division provides operations or support services to carry out MWRA's activities under the direction of the Executive Office. The frontispiece of this document presents MWRA's organizational structure.

The **Executive Office** provides centralized MWRA management, direction, and policy development. The budget includes funds for the Office of the Executive Director, The Office of Emergency Preparedness, the Board of Directors,

the Advisory Board, and other advisory committees. The MWRA recently created the Office of Emergency Preparedness by consolidating its security and emergency response functions throughout the agency.

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 **Finance Division** is responsible for budgeting, rate setting, accounting, grants management, risk management, and treasury activities; and securing financing to support the capital improvement program.

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 **Support Services Division** oversees the central functions of communications and community relations, real property and environmental management, human resources, affirmative action, procurement, materials

warehousing, occupational health and safety, internal audit, fleet services, computer system development and management, library and records management, and mail and employee shuttle services.

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 Accounting Principles Generally Accepted 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, 2005 and 2004 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE OFFICE

Final Final FY07 Current Expense Budget EXECUTIVE DIVISION by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 443,803	\$ 401,698	\$ 567,032	\$ 678,472	\$ 111,440	19.7%
OVERTIME	-	15	31	-	(31)	-100.0%
ONGOING MAINTENANCE	-	-	-	350,000	350,000	-
TRAINING & MEETINGS	39	100	-	3,346	3,346	-
PROFESSIONAL SERVICES	152,867	157,106	162,172	161,802	(370)	-0.2%
OTHER MATERIALS	1,818	700	2,625	4,043	1,418	54.0%
OTHER SERVICES	470,137	449,321	428,876	440,468	11,592	2.7%
TOTAL	\$ 1,068,664	\$ 1,008,940	\$ 1,160,736	\$ 1,638,131	\$ 477,395	41.1%

Final FY07 Current Expense Budget EXECUTIVE DIVISION by Department						
DEPARTMENT	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 448,779	\$ 405,834	\$ 372,349	\$ 385,659	\$ 13,310	3.6%
ADVISORY BOARD / OTHER COMMITTEES	619,885	603,106	588,059	597,569	9,510	1.6%
OFFICE OF EMERGENCY PREPAREDNESS	-	-	200,328	654,903	454,575	226.9%
TOTAL	\$ 1,068,664	\$ 1,008,940	\$ 1,160,736	\$ 1,638,131	\$ 477,395	41.1%

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 includes the Planning and Coordination Department, and has direct oversight of the Public Affairs, Internal Audit and AACU Department, which are funded as part of the Support Services budget.

The goals of the Executive Office are to:

- 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.
- Foster regional economic development through the maintenance and upgrading of the area's water and sewer systems.

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 and the Office of Emergency Preparedness cost center. 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. The Advisory Board has also, at various times, been charged by the Massachusetts State Legislature to advise the Legislature and the MWRA Board of Directors with policy initiatives relative to system expansion and rate methodology. 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 Final FY07 direct expense budget.

Budget Highlights

- *Total final FY07 budget of \$1,638,000, an increase of \$477,000 or 41% over FY06 actual spending, primarily due to the creation of Office of Emergency Preparedness, approved by the Board of Directors in November 2005.*
- *\$678,000 for **Wages and Salaries** represents 41% of the Executive Office budget. The final budget includes funding for eight positions, four more than funded in FY06.*
- *\$162,000 or 10% of the Executive Office budget is for **Professional Services** to fund the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee.*
- *\$437,000 or 27% of the Executive Office 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.*

OFFICE OF EMERGENCY PREPAREDNESS

Final FY07 Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ -	\$ -	\$ 200,328	\$ 299,726	\$ 99,398	49.6%
ONGOING MAINTENANCE	-	-	-	350,000	350,000	-
TRAINING & MEETINGS	-	-	-	1,249	1,249	-
OTHER MATERIALS	-	-	-	2,416	2,416	-
OTHER SERVICES	-	-	-	1,512	1,512	-
TOTAL	\$ -	\$ -	\$ 200,328	\$ 654,903	\$ 454,575	226.9%

The Office of Emergency Preparedness was created in November 2005. The creation of this department allows for the consolidation of authority-wide security and emergency response functions into one unit. It is responsible for oversight of MWRA’s security and emergency response policies and procedures; implementation and training for the Emergency Response Plan; and management, training, and outfitting of the Site Characterization Team, 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 and the Managing Director. The positions of Manager of Security and Emergency Planning and the Security Administrator have been transferred from the Support Services Division to this new Office and report to the Director of Emergency Preparedness. 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.

The department’s goals are to:

- Develop and implement policies and programs to ensure facility and water/wastewater system security, public health and staff safety.

Budget Highlights

- Total final FY07 budget of \$655,000, which represents 40% of the Executive Office budget, is primarily due to the creation of the new Office of Emergency Preparedness to consolidate oversight of authority-wide security and emergency response functions. The FY07 budget is offset by corresponding decreases in the Support Services Division Director’s office and the Public Affairs department.
- The final FY07 budget includes \$300,000 for **Wages and Salaries** to support 4 positions, one of which is transferred from Public Affairs and the other three from the Support Services Division Director’s office.
- Ongoing **Maintenance** includes \$350,000 for support and maintenance of MWRA’s electronic security systems. The FY07 budget includes \$100,000 for security systems maintenance service contracts, \$50,000 for replacements of existing equipment such as head-end systems, multi-plex routers, digital recorders and security monitors, and \$200,000 for purchase and installations of additional equipment such as cameras, intrusion detections, card access, motion sensors and cables.

PLANNING AND COORDINATION DEPARTMENT

Final FY07 Current Expense Budget PLANNING DIVISION by Line Item							
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07		
WAGES & SALARIES	\$ 1,202,514	\$ 1,736,206	\$ 1,822,172	\$ 1,881,748	\$ 59,576	3.3%	
OVERTIME	180	4	66	-	(66)	-100.0%	
TRAINING & MEETINGS	4,183	9,833	11,192	18,178	6,986	62.4%	
PROFESSIONAL SERVICES	-	18,335	10,412	13,000	2,588	24.9%	
OTHER MATERIALS	1,348	22,102	130,921	141,967	11,046	8.4%	
OTHER SERVICES	251,692	246,248	147,597	164,807	17,210	11.7%	
TOTAL	\$ 1,459,917	\$ 2,032,728	\$ 2,122,360	\$ 2,219,700	\$ 97,340	4.6%	

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 analytic tools. Staff administer financial assistance programs to improve the infrastructure of member communities. 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 develop and maintain 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; provide demand analysis and forecasting of water and wastewater flows for master planning and system operations; model reservoir operations, perform drought forecasting and planning, and evaluate system expansion requests; and develop and maintain water and sewer system models in support of master planning, system operations, and optimization.

System Planning and Renewal. Staff with expertise in engineering and planning are 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 review and process system expansion requests, water supply agreements, and emergency connection requests. Staff also provide assistance to 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 coordinate 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 administer community assistance programs including sewer inflow/infiltration financial and technical assistance, water pipeline rehabilitation financial assistance, water distribution systems Best Management Practices technical assistance, and water leak detection technical assistance.

Budget Highlights

- *\$1.9 million for **Wages and Salaries**, an increase of \$60,000 or 3.3% over FY06 actual spending, reflecting the transfer of one position from the CSO/Energy Department as well as annual wages and salaries adjustments. This final FY07 budget includes funding for 24 positions.*
- *\$142,000 for **Other Materials**, a slight increase of \$11,000 or 8.4% over FY06 actual spending, due to increase in postage cost. The final FY07 budget includes \$111,000 for postage and mailing of the Consumer Confidence Report, \$18,000 for mapping supplies, and \$10,000 for water conservation kits.*
- *\$165,000 for **Other Services**, an increase of \$17,000 or 12% over FY06 actual spending. The increase is primarily due to increased cost of printing and the inclusion of previously unbudgeted funds for printing the Monthly Water Quality Reports. The final FY07 budget includes \$134,000 for printing the CCR, \$11,000 for printing lead in tap water brochures, and \$10,000 for water conservation bill stuffers.*



Operations Division
Budget

OPERATIONS DIVISION

Final FY07 Current Expense Budget OPERATIONS DIVISION by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 58,432,405	\$ 59,227,760	\$ 61,728,182	\$ 64,140,643	\$ 2,412,461	3.9%
OVERTIME	3,631,487	3,672,896	3,437,562	3,728,114	290,552	8.5%
FRINGE BENEFITS	84,769	78,472	68,256	79,279	11,023	16.1%
WORKERS' COMPENSATION	(244)	-	-	-	-	-
CHEMICALS	6,190,167	6,579,778	6,878,847	8,431,208	1,552,361	22.6%
UTILITIES	17,337,465	20,397,582	27,494,449	30,266,235	2,771,786	10.1%
ONGOING MAINTENANCE	14,953,854	16,434,371	16,116,685	21,045,861	4,929,176	30.6%
TRAINING & MEETINGS	134,060	145,553	107,264	157,439	50,175	46.8%
PROFESSIONAL SERVICES	4,797,618	4,491,663	5,076,587	6,192,933	1,116,346	22.0%
OTHER MATERIALS	3,852,233	3,704,188	3,300,461	3,040,102	(260,359)	-7.9%
OTHER SERVICES	15,627,752	15,277,148	16,175,850	18,157,275	1,981,425	12.2%
TOTAL	\$ 125,041,566	\$ 130,009,411	\$ 140,384,143	\$ 155,239,089	\$ 14,854,946	10.6%

Final FY07 Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Budget	Change FY06 to FY07	
OPERATIONS ADMINISTRATION	\$ 4,388,375	\$ 3,892,261	\$ 3,315,764	\$ 3,263,916	\$ (51,848)	-1.6%
CSO PROGRAMS/ENERGY	1,401,931	890,734	380,828	-	(380,828)	-100.0%
WASTEWATER TREATMENT	55,923,448	58,795,533	64,302,817	70,034,216	5,731,399	8.9%
FIELD OPERATIONS	46,608,310	50,251,600	55,194,617	63,858,055	8,663,438	15.7%
LABORATORY SERVICES	4,724,112	4,779,422	4,824,456	5,453,259	628,803	13.0%
ENQUAD	4,740,856	4,413,216	4,755,487	4,619,473	(136,014)	-2.9%
ENGINEERING & CONSTRUCTION	4,992,108	4,861,895	6,673,887	8,010,170	1,336,283	20.0%
CAPITAL ENG & CONSTR.	2,262,426	2,124,750	936,287	-	(936,287)	-100.0%
TOTAL	\$ 125,041,566	\$ 130,009,411	\$ 140,384,143	\$ 155,239,089	\$ 14,854,946	10.6%

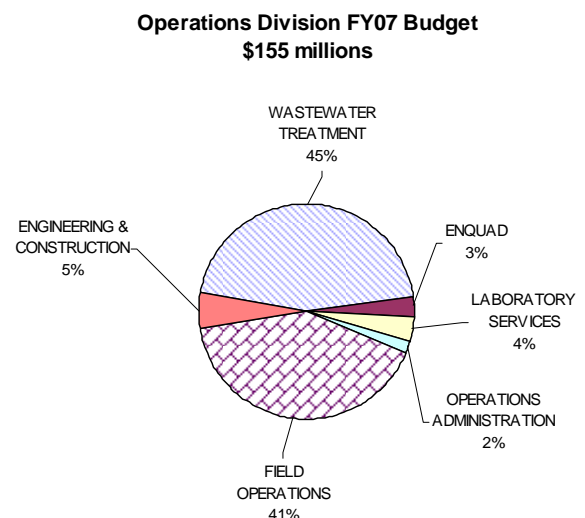
* FY04 Actuals for the CSO Programs/Energy represent the spending for the former Operation Planning Department.

The Operations Division integrates wastewater and water system operations and maintenance, treatment, laboratory services, and engineering and construction functions, including oversight of the Combined Sewer Overflow (CSO) plan.

The FY07 Current Expense Budget 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 45% of the Operations Division budget, operates and maintains the Deer Island and Clinton wastewater treatment plants and the Residuals Processing Facility at Fore River.

The **Field Operations Department**, which accounts for 41% 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.



During the past few years, there have been three departments in the Operations Division responsible for engineering and construction work including Capital Engineering and Construction, Engineering and Construction and the CSO/Energy departments. On November 16, 2005, MWRA consolidated these three departments into one department called Engineering and Construction under the direction of the Deputy Chief Operating Officer to provide 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 **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, 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, personnel, energy-related issues, including procurement and planning. The Administration Department budget also includes funds for MWRA vehicle purchases and division-wide memberships.

The Operations Division's goals are to:

- Plan, develop, implement, and operate efficient, reliable, and economical water treatment and delivery and wastewater transport and treatment systems.
- Ensure compliance with state and federal drinking water quality and wastewater discharge regulations including the 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 FY06 Accomplishments

Operations, Energy, and New Facilities Start-ups:

- Started up the new John J. Carroll Water Treatment Plant (JJCWTP) on July 27, 2005.
- Completed relocation of the Somerville laboratory to the Chelsea facility.
- Compliance at the Deer Island Wastewater Treatment Plant with the National Pollutant Discharge Elimination System (NPDES) permit for all parameters except one (one month violation of chronic toxicity level for sea urchin).
- Completed polymer system improvements at Deer Island resulted in polymer dosage reductions of 33% for the waste sludge operation.

- Complied with the lead and copper rule required by Department of Environmental Protection (DEP) and Environmental Protection Agency (EPA), which required dosage increases for soda ash, and carbon dioxide.
- Residuals Management - Successfully negotiated termination of regulatory requirement to have back-up reservation landfill contract for disposal of sludge generated at Deer Island.
- Competitively procured and executed a five-month electricity contract for the JJCWTP starting 12/21/05.
- During FY06 Deer Island continued to leverage its 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) price response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) resulted in net savings of \$2.1 million in FY06.
- Completed operation of Metrowest Community Temporary Chloramination Facilities and Norumbega Temporary Chloramination Facility, which were in operation until John J. Carroll WTP was place on-line.
- Initiation of Prison Point CSO Facility operations optimization study.

Maintenance:

- The Operations Division spent \$16.1 million on maintenance of which \$8.7 million was for materials and \$7.4 million for services.
- Completed key repair projects including the following:
 - Repaired Section 22 pipe break in Dorchester
 - Installed boiler room windows at headworks
 - Initiated multi-year program to rehabilitate headworks equipment such as screens, grit piping, and knife valves.
 - Repaired both hydropower turbines at Deer Island.
 - Implemented next phase of facility painting project at Deer Island.
 - Replaced roof on the Residuals Facility at the DITP as part of multi-year initiative
- Procured and implemented numerous new service contracts at the JJCWTP.
- Continued expansion of the condition monitoring program at Deer Island. Staff was trained in advanced laser and precision belt alignment, infrared camera use, and vibration monitoring.

Engineering & Construction:

- Awarded the following construction contracts: North Dorchester Bay Pleasure Bay Drainage Improvements, 93A Force Main, Phase I Oakdale Valves, Hultman Rehab CP9, Chicopee Valley Pipeline Redundancy, Heath Hill Road Pipe Replacement Section 52 Rehabilitation and Wastewater Central Monitoring (CP1).
- Awarded the following professional services contracts: Hultman Interconnection/Fin Des/CA Inspection, North Dorchester Bay Tunnel & Facilities CM Services, John J Carroll WTP As Needed Tech Assistance #1 & #2, Power Consulting Recs Design, Wachusett Reservoir Spillway Improvements/Winsor Dam Repair Design, and East Boston Branch Design 2 CS.
- Completed the following professional Services contracts: Braintree-Weymouth Relief Facilities Design 1 CS/RI, Quabbin Ultra Violet Disinfection Facility Demonstration Scale Operation and Concept Design project,

Norumbega Covered Storage Owners Representative, and Chestnut Hill Connecting Mains Final Pipe Connections Preliminary Design.

- Achieved substantial completion of the following construction projects: John J. Carroll WTP CP4 Treatment Facility and CP6 Late Sitework, Spot Pond Supply Mains-Rehab Middle (Medford/Somerville), Cummingsville Branch Sewer Construction, Norumbega Covered Storage Tanks, and DI Ancillary Modifications #1.

Environmental:

- Environmental Quality Department staff assumed management of outfall monitoring database in lieu of contracting out work. During rebid of the contract, this allowed smaller firms to bid on the outfall monitoring contract, thus increasing competition and cutting the cost of a portion of the monitoring.
- Submission on time of all NPDES-required deliverables (DMRs, environmental monitoring reports).

FY07 Operations Division Budget Highlights:

- The Total Operations Division FY07 budget is \$155.2 million, which is \$14.9 million or 10.6% more than FY06 spending. Of this increase, approximately \$3 million is the result of shifting the majority of Facilities Management group from the Support Division to FOD in the Operations Division.
- Other significant increases from FY06 spending include utility prices (+\$2.8 million), growing maintenance needs (+\$4.9 million), wage increases primarily due to collective bargaining agreements (+\$2.4 million), compliance with new enterococcus treatment requirements for Deer Island's NPDES permit (\$250,000 for three months in FY07), additional inflation adjustments per the residuals processing contract (+\$800,000), chemical price increases (\$1+ million). New facilities related increases include +\$.5 million for chemicals and maintenance at the JJCWTP and +\$.5 million for operation of the Union Park CSO facility (MWRA will share costs with BWSC). These increases are offset by an \$817,000 decrease due to the discontinuation of the landfill reservation fee.
- The FY07 budget is also subject to risk in the following areas; timing of the implementation of Deer Island's new NPDES permit (costs will increase if implemented before 4th quarter of FY07), utility prices, and more than expected emergency-related maintenance and overtime needs.

Highlights of FY07 Initiatives

Operations, Energy, and New Facilities Start-ups:

- Start up the new Union Park CSO Detention/Treatment Facility anticipated by January 2007
- First full year of operation for the JJCWTP.
- Deer Island will implement strategies for optimizing secondary treatment capacity pending agreement with the EPA.
- Commence new round of NPDES- required Local Limit testing in TRAC to reassess industrial discharge limits.
- Competitively procure electricity for MWRA facilities, including the Deer Island Treatment Plant, the JJCWTP and various accounts in Field Operations.

- Implement energy information system and support energy demand-side management initiatives in key Field Operations facilities.
- Complete feasibility study of the use of wind-power at MWRA facilities.

Engineering & Construction:

- Initiation of the Blue Hill Tanks design/build project.
- Initiation of discussions with Massachusetts Department of Environmental Protection and the US EPA regarding supplementing the proposed addition of ultra violet disinfection to the existing treatment for Wachusett and Quabbin Reservoirs.
- Award the following professional services contracts: Cottage Farm Brookline Connection & Inflow Control Design/CA, Remote Headworks Facility Plan, North Dorchester CSO Facilities Design/CA, Alewife Brook Pump Station and Screen Replacement Design/CA, Weston Aqueduct Supply Main 3 Rehabilitation, and Section 28 Rehabilitation.
- Award of several construction projects, including North Dorchester Bay CSO Storage Tunnel, Rehabilitation of Other Water Pumping Stations, Upper Neponset Replacement Sewer Section 687, Shaft 8 Crane Replacement, Section 160 Rehabilitation, Section 113 Siphons Modifications, Section 80 & 83, Valve 6, Walnut Street Line, Prison Point Intake Repair, Lynnfield Temporary Interconnection Piping, Wachusett Spillway Improvement/Winsor Dam Repair and Shaft 8 Heating.
- Completion of construction for Section 93A Force Main, Union Park Detention/Treatment Facility, and BOS019 CSO Storage Conduit
- Completion of Prison Point CSO Facility operations optimization study and implementation of recommended operations improvements
- CSO control by BWSC under the MOU and Financial Assistance Agreement: completion of construction of Stony Brook sewer separation, completion of construction of Fort Point Channel sewer separation, commencement of construction of Morrissey Boulevard storm drain, commencement of design of Reserved Channel sewer separation, and commencement of design of Bulfinch Triangle sewer separation.
- CSO control by City of Cambridge under the MOU and Financial Assistance Agreement: completion of design of floatables controls for Charles River outfalls and commence construction. Also, commencement of design of CAM400 manhole separation and Alewife Brook interceptor connection relief and floatables controls dependent upon the citizens appeal of the superseding order of conditions issued on March 31, 2005.
- CSO control by Town of Brookline under the MOU and Financial Assistance Agreement: commencement of design of Brookline Sewer Separation for Charles River CSO control.

Maintenance:

- Continue to manage and advance work on several critical headworks upgrade initiatives including heating system upgrades, screen replacement, grit collection system improvements, knife valve replacement, and facilities condition assessment.
- Continue with repairs to the Rutland-Holden sewer line using both in-house and contractor services.
- Install a new soda ash system and replace the hypochlorite tank at the Clinton Wastewater Treatment Plant.

- Continue work on numerous major projects at Deer Island including the Liquified Oxygenation Catalyst system rehabilitation, South System Pump Station flow meter replacement, facility repainting, and building roof replacement.

Environmental:

- Negotiate a new Deer Island Treatment Plant discharge permit. The current permit expired August 2005.
- Review and redesign harbor and outfall monitoring plan based on five years of post-outfall data.
- Ensure the permit-required outfall monitoring meets NPDES requirements, is scientifically credible, and is cost-effective.
- Finalize, with MIS the Harbor and Outfall Monitoring data management applications, and use them to manage consultant monitoring data.
- Implement new DEP air permit requirements for Deer Island.

OPERATIONS ADMINISTRATION

Final FY07 Current Expense Budget OPERATIONS ADMINISTRATION						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 2,499,709	\$ 2,365,950	\$ 2,301,551	\$ 2,010,236	\$ (291,315)	-12.7%
OVERTIME	-	-	268	-	(268)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	-
WORKERS' COMPENSATION	(244)	-	-	-	-	-
ONGOING MAINTENANCE	19,752	17,797	22,786	-	(22,786)	-100.0%
TRAINING & MEETINGS	1,803	6,708	523	4,016	3,493	667.9%
PROFESSIONAL SERVICES	4,088	-	-	30,000	30,000	-
OTHER MATERIALS	1,598,907	1,253,942	730,465	965,783	235,318	32.2%
OTHER SERVICES	264,360	247,864	260,171	253,881	(6,290)	-2.4%
TOTAL	\$ 4,388,375	\$ 3,892,261	\$ 3,315,764	\$ 3,263,916	\$ (51,848)	-1.6%

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

- \$2 million for **Wages and Salaries**, which represents 62% of the total FY07 budget. The budget includes funding for 29 positions, four less than the FY06 CEB primarily due to the transfer of financial staff to the Finance Division as part of an agency-wide reorganization.
- \$30,000 for **Professional Services** for the transfer in of funds from the former CSO/Energy department to retain an energy consultant to assist MWRA staff in evaluating the marketplace and MWRA's energy demand, structuring procurements and evaluating bids.
- \$966,000 for **Other Materials**, an increase of \$235,000 or 32% as compared to FY06 spending. The majority of the expenses are for the Authority-wide vehicle replacement program (\$950,000), which is an increase of \$233,000 or 32% from FY06 spending. Actual spending for vehicle purchases for FY02-FY06 is as follows:

FY02:	\$ 622,000
FY03:	\$ 120,000
FY04:	\$1,580,000
FY05:	\$1,237,289
FY06:	\$ 717,381
FY07 CEB:	\$ 950,000

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. Analysis as of June 2006 indicates that more than 50% of MWRA's active, operable fleet will be seven years or older as of the beginning of FY07.

- \$254,000 for **Other Services** of which \$253,000 is for Authority-wide memberships including the American Waterworks Research Foundation and the National Association of Clean Water Agencies.

WASTEWATER TREATMENT

Final FY07 Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 14,923,865	\$ 15,235,246	\$ 15,893,391	\$ 16,573,906	\$ 680,515	4.3%
OVERTIME	1,138,132	1,049,301	1,134,334	1,086,513	(47,821)	-4.2%
FRINGE BENEFITS	27,844	22,279	22,643	22,283	(360)	-1.6%
CHEMICALS	2,728,690	2,697,738	2,135,041	3,073,973	938,932	44.0%
UTILITIES	11,979,324	14,165,306	18,747,498	19,279,970	532,472	2.8%
ONGOING MAINTENANCE	9,601,769	10,284,866	10,307,277	13,086,553	2,779,276	27.0%
TRAINING & MEETINGS	38,346	66,280	53,157	87,375	34,218	64.4%
PROFESSIONAL SERVICES	1,001,608	1,001,047	915,251	1,337,660	422,409	46.2%
OTHER MATERIALS	398,500	470,153	553,653	363,274	(190,379)	-34.4%
OTHER SERVICES	14,085,370	13,803,317	14,540,572	15,122,709	582,137	4.0%
TOTAL	\$ 55,923,448	\$ 58,795,533	\$ 64,302,817	\$ 70,034,216	\$ 5,731,399	8.9%

Final FY07 Current Expense Budget WASTEWATER TREATMENT by Facility						
FACILITY	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
DEER ISLAND	\$ 40,325,656	\$ 43,523,952	\$ 48,178,045	\$ 52,380,542	\$ 4,202,497	8.7%
RESIDUALS	14,602,892	14,282,939	15,094,148	16,457,670	1,363,522	9.0%
CLINTON	994,900	988,643	1,030,624	1,196,004	165,380	16.0%
TOTAL	\$ 55,923,448	\$ 58,795,534	\$ 64,302,817	\$ 70,034,216	\$ 5,731,399	8.9%

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 45% of the Operations Division's FY07 budget and 34% of MWRA's FY07 direct expense budget.

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 was barged (through March 2004) and pumped through the Braintree-Weymouth tunnel (starting April 2005) 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 FY07 Current Expense Budget DEER ISLAND TREATMENT PLANT by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 14,376,220	\$ 14,731,138	\$ 15,369,260	\$ 16,027,649	\$ 658,389	4.3%
OVERTIME	1,075,572	991,988	1,087,636	1,029,488	(58,148)	-5.3%
FRINGE BENEFITS	26,710	21,342	21,925	21,150	(775)	-3.5%
CHEMICALS	2,625,205	2,590,624	2,007,219	2,944,665	937,446	46.7%
UTILITIES	11,775,945	13,934,125	18,495,331	19,002,506	507,175	2.7%
ONGOING MAINTENANCE	8,438,525	9,173,625	9,202,941	11,255,768	2,052,827	22.3%
TRAINING & MEETINGS	36,963	64,294	53,457	84,876	31,419	58.8%
PROFESSIONAL SERVICES	999,944	999,383	913,583	1,055,996	142,413	15.6%
OTHER MATERIALS	347,682	436,359	525,545	334,981	(190,564)	-36.3%
OTHER SERVICES	622,890	581,073	516,148	623,463	107,315	20.8%
TOTAL	\$ 40,325,656	\$ 43,523,951	\$ 48,193,045	\$ 52,380,542	\$ 4,187,497	8.7%

Program Description and Goals

The **Deer Island Treatment Plant** budget accounts for 34.2% of the Operations Division's FY07 budget. DITP has a primary treatment peak capacity of 1.27 billion gallons per day (bgd) and secondary treatment peak capacity of 710 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.

After pumping, north system flows pass through grit chambers that remove grit for disposal in an off-island landfill. South system flows are pre-treated for grit at the remote headworks on Nut Island. Flow is routed to primary treatment clarifiers, which 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). 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%. Over one hundred and fifty 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 Planning*, and *Operations and Maintenance (O&M) Support*.

- *Operations* manages the day-to-day operation of plant processing units, performs 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 twenty-four 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 that critical functions operate as required. Implementation of a preventive maintenance program using RCM may 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 that there is adequate stock for maintenance repairs and plant operations.
- *Capital Planning* provides technical support services for both the Operations and Maintenance Units. Staff is responsible for 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 FY07 CEB assumes treatment of an average flow of 359 mgd based on seven-years of historical data. Sludge production is projected to be an average of 103 TPD of digested sludge shipped 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.

In FY07 the amount of self-generation of electricity from the steam turbine generator, combustion turbine generators, and the hydroelectric facility will meet approximately 23 percent of the total energy requirements, resulting in an avoided cost savings of approximately \$3.5 million.

Budget Highlights

- *\$16.0 million for **Regular Pay**, a \$658,000 or 4.3 percent increase over the FY06 actual spending. The budget includes 244 funded positions, two less than the FY06 CEB.*
- *\$87,000 for temporary employees to meet temporary needs in areas such as process control and maintenance.*
- *\$1.0 million for **Overtime**, a \$58,000 or 5.4 percent decrease from FY06 actual spending.*
- *\$2.9 million for **Chemicals**, a \$ 937,000 or 46.7 percent increase over the FY06 actual spending. The budget includes increases of \$ 622,000 for sodium hypochlorite and \$183,000 for sodium bisulfite primarily due to expected increases in usage to comply with changes to NPDES permit requirements. Regulatory revisions, which now require the treatment process to kill enterococcus in addition to fecal coliform, will go into effect at Deer Island upon renewal of the Plant's NPDES permit (expired in FY06).*
- *\$19.0 million for **Utilities**, a \$507,000 or 2.7 percent increase over the FY06 actual spending. The budget includes \$15 million for electricity and \$2.2 million for diesel fuel. The FY07 budget assumes a full year of electricity unit pricing equivalent to the FY06 actual pricing under the spot market contract. The FY07 budget reflects \$1.7 million decrease in diesel fuel compared to FY06 actual. During FY06, Deer Island participated in 384 hours of price response and also consumed fuel during 408 hours of wet weather/high flow events. The FY07 budget only includes anticipated fuel usage for an estimated 250 hours of price response events.*
- *\$11.3 million for **Maintenance**, a \$ 2.1 million or 22.3 percent increase over the FY06 actual spending. The budget includes \$4.5 million for materials and \$6.8 million for maintenance services. The budget is \$2.1 million more than FY06 actual partly due to the addition of new service contracts (low voltage lighting, \$300,000, motor repairs, \$175,000, flare refractories, \$100,000) and new project materials (Locat system replacement, \$500,000).*
- *\$1.1 million for **Professional Services**, a \$142,000 or 15.6 percent increase over FY06 actual spending. Security services accounts for \$916,000 of the budget. The change reflects an increase in engineering services of \$58,000 and a \$52,000 increase in the security contract services.*
- *\$335,000 for **Other Materials**, a \$ 191,000 or 36.3 percent decrease from FY06 actual spending. The decrease is primarily due to the \$173,000 accrual recorded in FY06 for the estimated termination cost for the uniform services contract.*
- *\$623,000 for **Other Services**, a \$107,000 or 20.8 percent increase over FY06 actual spending primarily due to an increase in ambulance services of \$102,000 resulting from the change in the ambulance service provider.*

RESIDUALS MANAGEMENT

Final FY07 Current Expense Budget RESIDUALS by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 130,793	\$ 92,622	\$ 97,494	\$ 100,303	\$ 2,809	2.9%
OVERTIME	534	-	-	-	-	-
ONGOING MAINTENANCE	1,024,448	984,682	990,575	1,624,000	633,425	63.9%
TRAINING & MEETINGS	1,383	1,986	(300)	2,410	2,710	-903.3%
PROFESSIONAL SERVICES	-	-	-	250,000	250,000	-
OTHER MATERIALS	331	-	-	402	402	-
OTHER SERVICES	13,445,403	13,203,649	14,006,379	14,480,555	474,176	3.4%
TOTAL	\$ 14,602,892	\$ 14,282,939	\$ 15,094,148	\$ 16,457,670	\$ 1,363,522	9.0%

Program Description and Goals

The **Residuals Management Program** manages the processing and disposal of approximately 103 dry tons per day 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, market and distribute sludge products. A 15-year contract with NEFCo became effective March 1, 2001. Liquid sludge from Deer Island is pumped through the new 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 new 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 (about 2.0% average total suspended solids) from Deer Island to the Residuals Processing Facility.

- The average dry tons per day (TSS) is budgeted at 103 tons per day in the FY07 CEB vs 103.5 tons per day in FY06.
- 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. The current contract ends in May 2007.
- Historically MWRA had a long term (30 year) contract required by law to provide reserve landfill capacity for disposal of sludge as a back-up in the event of any problems with the primary disposal methods. During FY06 MWRA applied for and was granted permission by the Federal District Court to terminate this contract effective March 31, 2006 on the basis of demonstrated reliability of its primary residuals program. This will result in an \$817k annual savings for the Authority as of FY07. NEFCo remains contractually obligated to provide back-up disposal capability, and will meet this obligation by maintaining a list of disposal sites.

Budget Highlights

- \$100,000 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.
- \$1.6 million or 10% of the FY07 budget is for **Maintenance**, in accordance with the NEFCo contract, which includes a specific level per year adjusted to account for inflation. FY07 costs are \$633,000 or 64% higher than FY06 spending because NEFCo's contract includes an increase in maintenance spending for calendar year 2007, of which six months fall within fiscal year 2007.
- \$250,000 or 1.5% of the FY07 budget is for **Professional Services** to cover an infrastructure study at the FRSA to evaluate the reliability of utility systems affecting the pelletizing plant.
- \$13.3 million or 81% of the FY07 budget is for **Sludge Pelletization**. The \$781,500 or 6.2% increase from the FY06 actual reflects an increase of \$860,250 for inflation mostly for gas and electric, offset by a \$78,750 decrease for excess quantities (above the contractual 90 tons per day fixed pricing) due to .5 tons per day less sludge budgeted in FY07 than processed in FY06.
- \$1.1 million or 6.6% of the FY07 budget is for **Grit and Screening** disposal, an increase of \$54,600 or 5.3% from the FY06 spending due to higher budgeted quantities of 364 tons, (6,864 in FY07 vs 6,500 in FY06) associated with a 60% expected increase in scum quantities. The pricing is at FY06 levels.
- \$38,000 or 0.2% of the FY07 budget is for **Permits**, of which \$35,000 is for sludge dryer stack testing of two trains required by DEP to be performed in December 2006 (testing is scheduled every two years).
- The (\$817,000) decrease in **Landfill Reservation Fee** is based on a court order relieving the MWRA from its obligation to reserve space for the Deer Island Wastewater Treatment Plant's production of sludge at the East Carbon Development Corporation landfill in Utah.

CLINTON WASTEWATER TREATMENT PLANT

Final FY07 Current Expense Budget CLINTON WASTEWATER TREATMENT PLANT by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 416,852	\$ 411,487	\$ 441,637	\$ 445,954	\$ 4,317	1.0%
OVERTIME	62,026	57,312	46,698	57,025	10,327	22.1%
FRINGE BENEFITS	1,134	937	718	1,134	416	57.9%
CHEMICALS	103,485	107,114	127,823	129,308	1,485	1.2%
UTILITIES	203,379	231,182	252,166	277,463	25,297	10.0%
ONGOING MAINTENANCE	138,796	126,559	113,761	206,785	93,024	81.8%
TRAINING & MEETINGS	-	-	-	89	89	-
PROFESSIONAL SERVICES	1,664	1,664	1,668	31,664	29,996	1798.3%
OTHER MATERIALS	50,487	33,793	28,108	27,891	(217)	-0.8%
OTHER SERVICES	17,077	18,594	18,045	18,691	646	3.6%
TOTAL	\$ 994,900	\$ 988,642	\$ 1,030,624	\$ 1,196,004	\$ 165,380	16.0%

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 NPDES discharge standards, were 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

- \$446,000 for **Wages and Salaries** represents 37% of the Clinton FY07 budget. This funds six positions, one less position than was funded in FY06.
- \$57,000 for **Overtime**, a \$10,000 or 22% increase compared to FY06. This is due to the need to meet the 24 hour, 7 day per week emergency coverage requirement with one less position.
- \$129,000 for **Chemicals** represents 11% of the Clinton FY07 budget, no change in total from the FY06.
- \$277,000 for **Utilities** represents 23% of the Clinton FY07 budget. This is \$25,000 or 10% greater than FY06. Electricity represents a \$20,000 or 10% increase and fuel oil represents an \$7,000 or 23% increase, both due to price increases.
- \$207,000 for **Maintenance** represents 17% of the Clinton FY07 budget, a \$93,000 increase from FY06. The replacement of the hypochlorite tank was delayed from FY06 to FY07. The plant will be 15 years old in FY07; staff anticipates increased maintenance needs in the future.
- \$28,000 for **Other Materials**, including \$18,000 for clean fill for the landfill operation.

FIELD OPERATIONS

Final FY07 Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 28,261,648	\$ 29,575,047	\$ 31,122,959	\$ 32,790,910	\$ 1,667,951	5.4%
OVERTIME	2,372,201	2,479,307	2,195,710	2,493,775	298,065	13.6%
FRINGE BENEFITS	54,749	54,325	44,758	55,150	10,392	23.2%
CHEMICALS	3,461,477	3,882,039	4,743,805	5,357,236	613,431	12.9%
UTILITIES	5,233,183	6,121,114	8,620,737	10,823,895	2,203,158	25.6%
ONGOING MAINTENANCE	4,931,775	5,714,598	5,401,063	7,464,434	2,063,371	38.2%
TRAINING & MEETINGS	75,224	54,659	39,700	48,778	9,078	22.9%
PROFESSIONAL SERVICES	102,704	213,164	601,686	1,385,757	784,071	130.3%
OTHER MATERIALS	981,075	1,049,257	1,163,076	798,301	(364,775)	-31.4%
OTHER SERVICES	1,134,274	1,108,090	1,261,123	2,639,819	1,378,696	109.3%
TOTAL	\$ 46,608,310	\$ 50,251,600	\$ 55,194,617	\$ 63,858,055	\$ 8,663,438	15.7%

Final FY07 Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WASTEWATER OPERATIONS	\$ 12,126,032	\$ 13,213,000	\$ 14,038,828	\$ 15,122,965	\$ 1,084,137	7.7%
WATER OPERATIONS & MAINT	12,981,667	14,183,116	17,998,459	20,979,923	2,981,464	16.6%
METRO MAINTENANCE	14,138,631	15,309,685	14,555,866	15,812,127	1,256,261	8.6%
OPERATIONS SUPPORT	6,055,558	6,414,840	7,142,829	7,104,896	(37,933)	-0.5%
FOD ADMIN	1,306,422	1,130,959	1,458,635	4,838,144	3,379,509	231.7%
TOTAL	\$ 46,608,310	\$ 50,251,600	\$ 55,194,617	\$ 63,858,055	\$ 8,663,438	15.7%

The primary goal of the Field Operations Department (FOD) is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. Field Operations includes wastewater transport operations and maintenance, waterworks operations and maintenance, and toxic reduction and control (TRAC Unit). 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. Through TRAC, FOD manages MWRA's industrial pretreatment, permitting, and monitoring program. FOD consists of five operating units: Wastewater Operations, Metropolitan Maintenance, Water Operations and Maintenance, Operations Support, and Administration.

Wastewater Operations is comprised of Wastewater Operations and TRAC. Wastewater Operations operates MWRA's wastewater transport facilities, including 4 continuously staffed headworks facilities; 12 fully automated pumping stations; and five CSO facilities which are similarly unstaffed. This unit commenced operating the Braintree-Weymouth Intermediate Pump Station in November 2004. During FY06, the current Braintree-Weymouth facility went off-line and all remaining staff were transferred to the Chelsea facility while the new Braintree-Weymouth Replacement Pump Station is constructed. A contractor will provide by-pass pumping until the new facility is operational.

Water Operations and Maintenance is responsible for the treatment and delivery of approximately 230 mgd 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. Additionally, this unit maintains MWRA's western waterworks facilities, including the Ware Water Treatment Plant, the Cosgrove Intake Facility, and the Norumbega Reservoir. This unit also oversees covered storage facilities and operates the MetroWest Tunnel and John J. Carroll Water Treatment Plant (JJCWTP) which came on line in July 2005. 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),

formerly in Chestnut Hill, is now located at MWRA's Chelsea facility. The Western Operations Center moved to the JJCWTP in July 2005.

Metropolitan Maintenance is responsible for 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, 4,700 valves, 18 miles of deep rock tunnels, ten pump stations, eight tunnel shafts, ten distribution storage tanks and reservoirs, and 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 150 community water meters, 16 contract community water meters, 14 master water meters, and 212 wastewater meters. 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 future wastewater SCADA systems.

FOD Administration provides financial, administrative, planning, and policy oversight functions for the entire Field Operations Department.

Budget Highlights

- *\$32.8 million or 51% of the total FY07 budget is for **Wages and Salaries** of which \$32.3 million or 98% is for Regular Pay, to fund approximately 519 positions, two less than funded in FY06. The budget also includes \$268,000 for stand-by pay to support operational and maintenance needs and \$10,000 for interns primarily for quality assurance support in Waterworks. The Wages and Salaries line item is \$1.7 million more compared with the FY06 actual spending mainly due to wage increases and fewer filled positions in FY06.*
- *\$2.5 million is for **Overtime**, including \$1.2 million for operational coverage needs, \$793,000 for emergency related overtime, \$411,000 for planned overtime for scheduled maintenance and \$44,000 for planned training. Overtime is \$298,000 more than the FY06 actual spending mainly due to wage increases, fewer wet weather/snow events in FY06, and management's decision to hold all non-emergency OT during most of FY06.*
- *\$5.4 million or 8% of the total budget is for **Chemicals**, of which \$4.7 million is for water treatment and \$0.6 million, is for wastewater treatment. The budget includes \$2.0 million for soda ash, \$1.4 million for sodium hypochlorite, \$448,000 for liquid oxygen for the JJCWTP ozone generation, \$337,000 for carbon dioxide to control the water pH, \$437,000 for hydrofluosilicic acid, (fluoride) and \$229,000 for nitrazyme for Framingham Extension Relief Sewer odor and corrosion control.*

Chemicals increase by \$613,000 compared to FY06 actual spending. Of this increase, approximately \$120,000 is due to a recalculation of average water flows based on the most recent 5 year water history, \$198,000 is due to revised dosing strategy to maintain chlorine residual in the Authority's distribution system and the balance is mainly due to increased unit pricing of many of the chemicals used in the treatment of water and wastewater. The chemicals showing the largest increase are Sodium Hypochlorite +\$357,000, Hydrofluosilicic Acid +\$189,000, Aqua Ammonia +\$85,000, and Sodium Hydroxide of +\$65K.

- *\$10.8 million or 17% of the total FY07 budget is for **Utilities**, including \$7.6 million for electricity, \$1.7 million for diesel fuel, \$1.1 million for natural gas, and \$331,000 for water. Utilities increased \$2.2 million compared*

to FY06 actual spending. Of the \$2.2 million increase, approximately \$1.0 million is for electricity of which \$161,000 is for Union Park operations (half a year), approximately \$700,000 is for unit pricing increases and \$488,000 is for the transfer of Central Support Facilities Management accounts to FOD. Also, \$47,000 of the increase is for diesel fuel due to price increases offset by volume decrease and \$557,000 is for natural gas of which \$290,000 is for the transfer of Central Support Facility Management Chelsea Facility, \$32,000 is for Union Park (half year) and the balance is largely due to unit price increases at other FOD facilities.

- \$7.5 million or 12% of the FY07 budget is for **Maintenance**, including \$2.7 million for materials and \$4.8 million for services. Maintenance increased \$2.1 million compared to the FY06 actual spending and is mainly due to more funding for grounds contracts of \$90,000, Union Park of \$63,000, division-wide service contracts of \$239,000, paving of \$100,000, and the inclusion of funding for JJCWTP as needed services of \$300,000. Additionally, FY07 projects include funding for Headworks initiatives of \$360,000, Nut Island projects of \$150,000, Prison Point Water Line Rehabilitation of \$180,000, Bellevue Tank Repairs of \$100,000, Shaft 8 Boiler of \$146,000 and Rutland Holden line cleaning initiatives of \$100,000.
- \$1.4 million is for **Professional Services**, including \$375,000 for engineering, \$55,000 for lab and testing, and \$955,000 for security. Professional Services increased \$784,000 in comparison with the FY06 actual spending. Of this amount, \$300,000 pertains to funding to support technical assistance contracts for maintenance projects mainly at JJCWTP, \$50,000 supports a new round of Local Limits testing which is required every five years, \$25,000 for cryptosporidium testing, and \$569,000 for the transfer of security costs for the Chelsea facility from Central Support.
- \$798,000 is for **Other Materials**, including \$303,000 for vehicle expenses for gas, mileage reimbursements and tolls, \$160,000 for work clothes, \$189,000 for health and safety supplies, and \$98,000 for lab and testing supplies. This \$365,000 decrease from the FY06 actual spending is primarily due to the shift of gasoline expense from FOD to VMM in conjunction with the operation of the Chelsea Fuel Facility.
- \$2.6 million is for **Other Services**, including \$1.3 million for Chelsea annual lease payments, \$542,000 for telephone and SCADA needs at various facilities, \$385,000 for required police details, and \$88,000 for permit fees. The Other Services line item increased by \$1.4 million from the FY06 actual spending mostly due to the shift of the Chelsea facility lease payment of \$1.3 million from Central Support to FOD and the increased scope of the Eurasian Milfoil initiative of \$175,000.

LABORATORY SERVICES

Final FY07 Current Expense Budget LABORATORY SERVICES							
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07		
WAGES & SALARIES	\$ 3,391,346	\$ 3,360,258	\$ 3,479,699	\$ 3,635,100	\$ 155,401	4.5%	
OVERTIME	61,066	62,265	58,628	84,577	25,949	44.3%	
FRINGE BENEFITS	1,213	1,128	469	1,200	731	155.9%	
UTILITIES	124,958	111,162	126,214	162,370	36,156	28.6%	
ONGOING MAINTENANCE	245,116	262,634	276,001	485,477	209,476	75.9%	
TRAINING & MEETINGS	3,573	3,435	460	3,977	3,517	764.6%	
PROFESSIONAL SERVICES	68,441	66,267	57,508	160,264	102,756	178.7%	
OTHER MATERIALS	736,653	820,128	740,980	814,792	73,812	10.0%	
OTHER SERVICES	91,746	92,145	84,497	105,502	21,005	24.9%	
TOTAL	\$ 4,724,112	\$ 4,779,422	\$ 4,824,456	\$ 5,453,259	\$ 628,803	13.0%	

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 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 control at Deer Island and Clinton, NPDES compliance, harbor and 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 and regularly prepare compliance reports 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 samples of Massachusetts Bay to collect bacteria samples. In July 2004, MWRA brought laboratory testing for the Department of Conservation and Recreation in-house, including operation of the Quabbin Laboratory.

Budget Highlights

- *\$3.6 million or 67% of the FY07 budget is for **Wages and Salaries**, of which \$3.5 million is Regular Pay for the funding of 54 positions, the same level as FY06. The Regular Pay increase of \$192,000 is primarily the result of contractual increases.*
- *\$485,500 is for **Maintenance** including \$200,000 for the HVAC humidity project, \$197,000 for equipment service contracts and \$59,000 for building and grounds services. The increase from FY06 maintenance spending is due to the delay of the HVAC insulation project which is scheduled for completion by the end of the FY07 first quarter.*
- *\$160,000 is for lab and testing analysis, a \$103,000 or 180% increase from the FY06 actual spending in Professional Services. The increase is due to contracting out the low volume of fertilizer pellets testing that*

cannot be performed efficiently. Outside labs are used for emergencies, “second opinions”, capacity constraints, unavailability of specialized equipment or economic justification.

- *\$815,000 is for **Other Materials**, a \$74,000 or 10% increase as compared to the FY06 actual spending. The FY07 budget includes \$531,000 for laboratory supplies and \$235,000 for equipment replacement.*

ENVIRONMENTAL QUALITY

Final FY07 Current Expense Budget ENVIRONMENTAL QUALITY						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 1,112,367	\$ 1,182,212	\$ 1,234,453	\$ 1,320,539	\$ 86,086	7.0%
OVERTIME	421	6,404	2,567	4,879	2,312	90.1%
FRINGE BENEFITS	-	-	6	-	(6)	-100.0%
ONGOING MAINTENANCE	3,400	16,305	3,751	-	(3,751)	-100.0%
TRAINING & MEETINGS	2,674	4,835	2,480	4,460	1,980	79.8%
PROFESSIONAL SERVICES	3,602,861	3,195,096	3,499,485	3,279,252	(220,233)	-6.3%
OTHER MATERIALS	11,787	2,889	3,240	2,730	(510)	-15.7%
OTHER SERVICES	7,346	5,475	9,505	7,613	(1,892)	-19.9%
TOTAL	\$ 4,740,856	\$ 4,413,216	\$ 4,755,487	\$ 4,619,473	\$ (136,014)	-2.9%

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 sub-committees, and several libraries and as required by the permits, also posts many of these reports on MWRA's web site. All technical reports and several reports on water quality in the harbor and the bay are also posted on the web site. The department also produces the periodic State of Boston Harbor Report.

Budget Highlights

- *\$1.3 million or 28% of the total FY07 budget is for **Wages and Salaries** for 17 positions, reflecting a transfer of the Executive Secretary from the Operations Administration budget to Enquad. A part-time intern assists with database management.*
- *\$3.3 million or 71% of the total FY07 budget is for **Professional Services** for outside laboratory testing and analysis. The harbor and outfall monitoring budget, which is level-funded with FY06, is carried out by three contractors: Battelle, ENSR, and Normandeau, for a total of \$2.8 million. The remaining funds are for Massachusetts Bay monitoring cost-shared with the U.S. Geological Survey, which ends in January, 2008, and a smaller follow-on contract for required continuous monitoring; permit-required water quality modeling; and permit-required biotoxicity testing for Clinton WWTP, CSO facilities, and DITP. The decrease of \$220,000 from FY06 spending for this line item is due to the following combination of factors:*
 - a reduction in effort on the USGS study from \$338,000 in FY06 to \$296,000 in FY07
 - bringing data management and other tasks in-house under HOM5 that were included in HOM4 in FY06,
 - deleting interpretive reports from the water column contract that are no longer necessary
 - a reduction in contracted costs for interpretive reports and other tasks in the ENSR (sediment monitoring) and Normandeau (fish and shellfish monitoring) HOM5 contracts, compared to similar tasks contracted via HOM4 in FY06.

ENGINEERING AND CONSTRUCTION

Final FY07 Current Expense Budget ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 4,832,438	\$ 4,681,359	\$ 6,496,401	\$ 7,809,952	\$ 1,313,551	20.2%
OVERTIME	58,678	75,106	45,969	58,370	12,401	27.0%
FRINGE BENEFITS	899	734	380	645	265	69.7%
ONGOING MAINTENANCE	8,948	9,637	31,010	9,397	(21,613)	-69.7%
TRAINING & MEETINGS	771	1,900	2,777	8,833	6,056	218.1%
PROFESSIONAL SERVICES	-	-	1,421	-	(1,421)	-100.0%
OTHER MATERIALS	72,928	82,727	84,810	95,222	10,412	12.3%
OTHER SERVICES	17,446	10,432	11,119	27,751	16,632	149.6%
TOTAL	\$ 4,992,108	\$ 4,861,895	\$ 6,673,887	\$ 8,010,170	\$ 1,336,283	20.0%

* FY04 Actual includes wages and salaries for a partial year from the former Operations Planning Department.

On November 16, 2005, MWRA reorganized staff from the Capital Engineering and Construction, Engineering and Construction, and CSO Program departments to form a new, consolidated Engineering and Construction Department under the direction of the Deputy Chief Operating Officer. Staff in the new department are organized into three units including Wastewater Engineering, Water Engineering, and Construction.

The new 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

- \$7.8 million for **Regular Pay**, which represents 98% of the total FY07 department budget and funds 95 positions. The increase is the result of funding the actual number of filled positions, (FY06 budget assumes three vacancies), contractual increases, leave balance accrual adjustments, and the Deputy Chief Operating Officer's car allowance
- \$58,000 for **Overtime**, mostly to cover resident inspection after regular work hours at construction sites to ensure monitoring of construction projects. Overtime is also used for unplanned design or survey needs, attendance at evening public meetings and meeting deadlines.
- \$95,000 for **Other Materials**, a \$10,000 increase compared with FY06. The budget includes \$72,000 for vehicle expense for staff traveling to construction sites and \$18,000 for office supplies. The decrease reflects the elimination of gas card fuel purchases due to staff using the Chelsea fuel depot.
- \$28,000 for **Other Services**, a \$17,000 increase compared with the FY06. The budget includes \$10,000 for Memberships and Dues, \$8,000 for printing of in-house designed plans and specifications, \$5,000 for cell phones, and \$3,000 for police details
- \$9,000 for **Maintenance**, a \$21,000 decrease compared with FY06. The FY06 budget included funds for decommissioning eight chloramination sites associated with the start-up of the JJCWTP which became operational in FY06.

- *Professional Service* funding of \$30,000 for an energy consultant has been moved to the Operations Administration budget in FY07.



Law Division
Budget

LAW DIVISION

Final FY07 Current Expense Budget LAW DIVISION by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 1,532,656	\$ 1,553,854	\$ 1,679,360	\$ 1,723,363	\$ 44,003	2.6%
OVERTIME	40	93	2,850	-	(2,850)	-100.0%
TRAINING & MEETINGS	5,200	4,390	4,543	3,748	(795)	-17.5%
PROFESSIONAL SERVICES	278,636	211,672	94,374	176,000	81,626	86.5%
OTHER MATERIALS	3,208	4,140	3,645	5,539	1,894	52.0%
OTHER SERVICES	31,453	29,210	31,663	32,500	837	2.6%
TOTAL	\$ 1,851,193	\$ 1,803,359	\$ 1,816,435	\$ 1,941,150	\$ 124,715	6.9%

The Law Division provides legal counsel to the Board of Directors and staff on compliance with federal and state laws; regulations; court and administrative orders; litigation matters; real estate matters; labor/employment issues; 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 provide or supervise through outside counsel the representation of MWRA in all litigation. The budget for the Division accounts for 1% of MWRA's FY07 direct expense 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 same as favorably and early as possible thereby reducing or eliminating litigation costs and interest payable upon such claims were they to be litigated. In FY06 the Law Division underspent its original professional services line item (outside counsel/experts) by approximately \$162,000 and further underspent its amended FY06 budget for this line item by \$43,000. The savings were the result of efforts to keep more legal work in-house and also the result of the resolution of several cases in which the Authority had previously engaged outside counsel and experts.

Law Division goals include:

- 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.

Budget Highlights

- *\$1.7 million for **Wages and Salaries**, an increase of \$44,000 or 2.6% from FY06 actual spending. The Final FY07 budget includes funding for 21 positions, one less than funded in FY06. The final budget also includes \$7,600 – reduction from FY06 actuals, for one intern position to assist in legal research and litigation.*
- *\$176,000 for **Professional Services**, an increase of \$81,000 or 86.5% from FY06 actuals, a decrease of 30% from the FY06 original budget. Litigation expenses for trial preparation, including expert witnesses, outside counsel, deposition and copying expense, are difficult to predict in advance because they depend on the nature and complexity of new litigation filed, on actions taken by litigants, and discovery and trial schedules set by the courts. The final budget funds outside legal counsel to assist in handling cases that require special expertise (such as insurance, eminent domain and, energy issues) or resources beyond those available in the Division, as well as representation in the Boston Harbor Case as required by the Enabling Act. In-house staff handles all other matters.*
- *Law Division continues to exhaust all opportunities to shift the cost of legal representation to insurers and indemnitors and to litigate insurance coverage disputes as they arise, all in the interest of cost savings.*



Finance Division
Budget

FINANCE DIVISION

Final FY07 Current Expense Budget FINANCE DIVISION by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 2,652,874	\$ 2,672,016	\$ 2,739,596	\$ 3,076,206	\$ 336,610	12.3%
OVERTIME	50	63	5,939	-	(5,939)	-100.0%
TRAINING & MEETINGS	1,717	3,918	2,072	5,333	3,261	157.4%
PROFESSIONAL SERVICES	288,609	405,016	455,495	467,300	11,805	2.6%
OTHER MATERIALS	3,056	7,025	7,442	10,823	3,381	45.4%
OTHER SERVICES	25,481	22,563	8,860	24,726	15,866	179.1%
TOTAL	\$ 2,971,787	\$ 3,110,601	\$ 3,219,404	\$ 3,584,388	\$ 364,984	11.3%

FY07 Current Expense Budget FINANCE DIVISION by Department						
DEPARTMENT	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to PFY07	
DIVISION DIRECTOR'S OFFICE	\$ 227,366	\$ 214,455	\$ 218,684	\$ 237,772	\$ 19,088	8.7%
PLANNING/COORDINATION	45,140	500	193	-	(193)	-
BUDGET	479,092	382,787	375,378	703,920	328,542	87.5%
TREASURY	830,900	986,497	1,078,168	870,328	(207,840)	-19.3%
CONTROLLER	1,389,289	1,526,362	1,412,124	1,447,774	35,650	2.5%
RISK MANAGEMENT	-	-	134,857	324,594	189,737	140.7%
TOTAL	\$ 2,971,787	\$ 3,110,601	\$ 3,219,404	\$ 3,584,388	\$ 364,984	11.3%

The Finance Division is responsible for overseeing rates and revenue management, budgeting, capital financing, accounting, disbursements, investments, and grant and loan management. At its September 17, 2003 meeting, the Board of Directors approved organizational changes to MWRA's planning functions. The changes consolidated the separate planning activities of the Operations and Finance divisions under a single Director of Planning who reports to the Executive Director. The organization change was reflected in the FY05 Current Expense Budget.

The Controller Department consists of the accounting, accounts payable, and payroll functions that were previously performed within the Treasury Department. The Controller has responsibility for ensuring financial system integrity and integration among the three functions. Department staff are also responsible for appropriate treatment and classification of MWRA revenues and expenditures in accordance with accounting principles generally accepted in the United States and prepare statements of MWRA's financial condition.

The Treasury Department is responsible for securing funds for ongoing operations and capital programs, and processing disbursements. The Treasury Department also manages water and sewer assessments to communities and planning estimates of future rate projections. In addition to issuing debt and securing investments, the Treasury Department staff processes revenue collected, disburse funds, and manage grants and loans.

The Finance Division goals are to:

- Ensure the fiscal strength of MWRA through judicious, informed, and farsighted allocation of resources.
- Develop strategies for minimizing increases in community assessments and charges.
- Maintain favorable credit ratings for MWRA's revenue bonds.
- Provide financial planning, control, and accountability for MWRA.
- Ensure effective, coordinated operating and capital budget planning throughout MWRA.
- The FY07 final budget for the Finance division accounts for less than 2% of MWRA's direct expense budget.

DIVISION DIRECTOR’S OFFICE

Final FY07 Current Expense Budget FINANCE DIVISION DIRECTOR'S OFFICE by Line Item							
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07		
WAGES & SALARIES	\$ 227,356	\$ 213,547	\$ 216,676	\$ 235,213	\$ 18,537	8.6%	
TRAINING & MEETINGS	-	898	1,309	1,339	30	2.3%	
OTHER MATERIALS	10	10	179	20	(159)	-	
OTHER SERVICES	-	-	520	1,200	680	130.8%	
TOTAL	\$ 227,366	\$ 214,455	\$ 218,684	\$ 237,772	\$ 19,088	8.7%	

The Division Director's Office oversees the centralized financial functions of rates development, revenue collection, budgeting, capital financing, accounting, disbursement and payroll processing, debt and investment management, grant and loan management, and risk management. The Director's Office provides advice and analysis to the Executive Director and the Board of Directors on all financial issues.

The division’s continuing challenge in FY07 will be maintaining agency-wide focus on balancing the competing needs to minimize rate increases while ensuring the provision of critical MWRA services. This challenge is heightened by a significant loss in the amount of state debt service assistance received by the MWRA since 2002.

The Division Director’s Office’s goals are to:

- Guide and coordinate division activities to support MWRA and Finance Division objectives.
- Provide central and administrative support to the division's departments.

Budget Highlights

- *Total Final FY07 budget of \$235,000 for **Wages and Salaries**, an increase of \$19,000 from FY06 actual spending due to wage increases. The final budget funds 3 positions.*

BUDGET

Final FY07 Current Expense Budget BUDGET by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 463,610	\$ 371,573	\$ 374,813	\$ 693,292	\$ 318,479	85.0%
TRAINING & MEETINGS	-	262	125	402	277	221.6%
OTHER MATERIALS	41	70	440	300	(140)	-31.8%
OTHER SERVICES	15,441	10,882	-	9,926	9,926	-
TOTAL	\$ 479,092	\$ 382,787	\$ 375,378	\$ 703,920	\$ 328,542	87.5%

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 work closely with division staff to coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to schedule and budget. Staff also coordinate development of MWRA's annual Current Expense Budget (CEB) and monitor spending compared to budget throughout the year. In addition, the department works closely with the Treasury Department to forecast near- and long-term expense and rate revenue requirements.

Budget Highlights

- *Total Final FY07 budget of \$693,000 for **Wages and Salaries**, an increase of \$318,000 from FY06 actual spending, due to consolidation of certain budget functions and staff into a centralized Budget Department in April 2006. The final budget funds 8 positions.*
- ***Other Services** include \$5,700 for a WEFA membership for inflation projections and \$6,000 to cover the costs of printing a limited number of budget documents and reports.*

TREASURY

Final FY07 Current Expense Budget TREASURY by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 634,667	\$ 754,298	\$ 707,948	\$ 634,046	\$ (73,902)	-10.4%
OVERTIME	30	63	947	-	(947)	-100.0%
TRAINING & MEETINGS	831	2,185	641	2,677	2,036	317.6%
PROFESSIONAL SERVICES	184,282	215,016	356,495	218,300	(138,195)	-38.8%
OTHER MATERIALS	2,257	4,790	4,136	5,250	1,114	26.9%
OTHER SERVICES	8,833	10,145	8,001	10,055	2,054	25.7%
TOTAL	\$ 830,900	\$ 986,497	\$ 1,078,168	\$ 870,328	\$ (207,840)	-19.3%

The Treasury Department secures funds for ongoing operations and capital programs in addition to processing cash disbursements. Department staff collect revenue, disburse funds, and manages grant and loan programs in addition to debt issuance and investments. The Treasury Department also manages the annual process of establishing water and sewer assessments to be paid by MWRA's member communities and planning estimates of future rate projections. The Risk Management Department formally included in Treasury was established as a stand alone department during FY06.

Budget Highlights

- *\$634,000 for **Wages and Salaries**, a decrease of \$74,000 from FY06 actual spending, due to division-wide attrition assumption. The final budget funds 8 positions.*
- *\$218,000 for **Professional Services**, a decrease of \$138,000 or 38.8% from FY06 spending. The final budget includes funds for trustee and bank deposit services and insurance consultant service.*

CONTROLLER

Final FY07 Current Expense Budget CONTROLLER by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 1,282,234	\$ 1,332,597	\$ 1,305,300	\$ 1,249,061	\$ (56,239)	-4.3%
OVERTIME	19	-	4,992	-	(4,992)	-100.0%
TRAINING & MEETINGS	823	573	-	915	915	-
PROFESSIONAL SERVICES	104,327	190,000	99,000	189,000	90,000	90.9%
OTHER MATERIALS	679	1,656	2,493	5,253	2,760	110.7%
OTHER SERVICES	1,207	1,536	339	3,545	3,206	945.7%
TOTAL	\$ 1,389,289	\$ 1,526,362	\$ 1,412,124	\$ 1,447,774	\$ 35,650	2.5%

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 revenues and expenditures in accordance with accounting principles generally accepted in the United States of America.

Budget Highlights

- *\$1.2 million for **Wages and Salaries**, a decrease of \$56,000 or 4.3% from FY06 spending. The decrease reflects the elimination of one position. The final budget funds 20 positions.*
- *\$189,000 for audit services, \$90,000 above FY6 actuals reflecting higher anticipated costs associated with contracting out arbitrage calculations and reporting requirements.*

RISK MANAGEMENT

Final FY07 Current Expense Budget RISK MANAGEMENT by Line Item							
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07		
WAGES & SALARIES	\$ -	\$ -	\$ 134,857	\$ 264,594	\$ 129,737	96.2%	
OVERTIME	-	-	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-	-
TRAINING & MEETINGS	-	-	-	-	-	-	-
PROFESSIONAL SERVICES	-	-	-	60,000	60,000	-	-
OTHER MATERIALS	-	-	-	-	-	-	-
OTHER SERVICES	-	-	-	-	-	-	-
TOTAL	\$ -	\$ -	\$ 134,857	\$ 324,594	\$ 189,737	140.7%	

The Risk Management Department formally included in the Treasury was established as a stand alone department during FY06.

The department is responsible for all MWRA insurance and risk management functions and reports to the Finance Division Director. 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 are 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 serve as a liaison to insurance industry participants including brokers, insurers, insurance consultants, attorneys and all MWRA departments.

Budget Highlights

- *Total Final FY07 budget of \$325,000 of which \$265,000 is for **Wages & Salaries**. The final budget funds 3 positions.*
- *\$60,000 for Professional Services includes funds for an insurance consultant.*



Support Services Division
Budget

SUPPORT SERVICES DIVISION

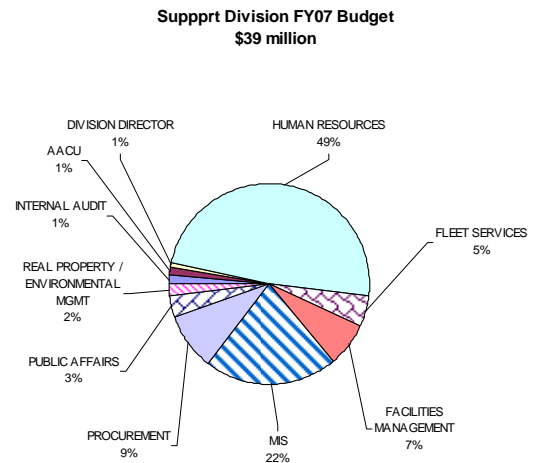
Final FY07 Current Expense Budget SUPPORT DIVISION by Line Item						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 14,092,833	\$ 13,736,162	\$ 13,599,492	\$ 14,063,736	\$ 464,244	3.4%
OVERTIME	50,779	57,103	65,014	45,354	(19,660)	-30.2%
FRINGE BENEFITS	10,771,098	12,197,305	14,125,296	15,879,091	1,753,795	12.4%
WORKERS' COMPENSATION	1,687,301	1,038,298	1,823,356	1,040,000	(783,356)	-43.0%
UTILITIES	1,039,882	975,625	1,161,558	150,654	(1,010,904)	-87.0%
ONGOING MAINTENANCE	3,657,632	3,734,642	3,368,100	2,875,759	(492,341)	-14.6%
TRAINING & MEETINGS	52,698	73,794	37,301	46,819	9,518	25.5%
PROFESSIONAL SERVICES	812,896	927,672	804,911	489,461	(315,450)	-39.2%
OTHER MATERIALS	1,009,591	437,074	758,865	1,143,344	384,479	50.7%
OTHER SERVICES	5,941,170	5,678,773	5,218,892	3,322,638	(1,896,254)	-36.3%
TOTAL	\$ 39,115,880	\$ 38,856,448	\$ 40,962,785	\$ 39,056,856	\$ (1,905,929)	-4.7%

Final FY07 Current Expense Budget SUPPORT DIVISION by Department						
DEPARTMENT	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
DIVISION DIRECTOR	\$ 429,759	\$ 473,915	\$ 548,601	\$ 202,365	\$ (346,236)	-63.1%
INTERNAL AUDIT	500,572	525,367	532,496	554,561	22,065	4.1%
PUBLIC AFFAIRS	1,364,023	1,330,809	1,305,265	1,237,300	(67,965)	-5.2%
FACILITIES MANAGEMENT	7,915,969	7,375,557	6,711,567	2,707,036	(4,004,531)	-59.7%
FLEET SERVICES	1,144,995	1,211,148	1,675,339	1,986,038	310,699	18.5%
AACU	501,178	519,847	514,664	553,415	38,751	7.5%
HUMAN RESOURCES	14,289,480	14,949,227	17,596,472	18,944,998	1,348,526	7.7%
MIS	9,355,643	8,329,376	7,970,819	8,496,139	525,320	6.6%
PROCUREMENT	3,070,600	3,334,042	3,505,265	3,596,616	91,351	2.6%
REAL PROPERTY / ENVIRONMENTAL MGMT	602,800	807,160	602,297	778,388	176,091	29.2%
TOTAL	\$ 39,175,019	\$ 38,856,448	\$ 40,962,785	\$ 39,056,856	\$ (1,905,929)	-4.7%

¹The budget for Workers' Compensation was transferred from Operations to Human Resources in FY04.

The Support Services Division oversees the central functions of communications and community relations, real property and environmental management, human resources, affirmative action, procurement, materials warehousing, occupational health and safety, internal audit, fleet services, computer system development and management, library and records management, and mail and employee shuttle services. The division also manages the Charlestown Navy Yard headquarters.

The division budget includes ten departments: Division Director, Internal Audit, Public Affairs, Facilities Management, Fleet Services, Affirmative Action and Compliance Unit (AACU), Human Resources, Management Information Systems (MIS), Procurement, and Real Property and Environmental Management (RPEM). Internal Audit, Public Affairs, and AACU, funded as part of the Support Services budget, report to the MWRA's Executive Director. The \$39 million FY07 budget accounts for 19% of MWRA's direct expense budget. The division budget includes \$15.8 million for fringe benefits for all MWRA personnel; \$1.9 million for lease, taxes insurance, and operating and maintenance costs for the Charlestown Navy Yard (CNY) headquarters; and \$1 million for workers'



compensation claims and medical expenses. Net of these agency-wide expenses, the Support Services Division budget accounts for 10% of direct expenses.

DIVISION DIRECTOR

Final FY07 Current Expense Budget						
DIVISION DIRECTOR						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 424,503	\$ 385,908	\$ 268,740	\$ 197,936	\$ (70,804)	-26.3%
OVERTIME	522	1,579	54	-	(54)	-100.0%
FRINGE BENEFITS	44	-	-	-	-	-
ONGOING MAINTENANCE	24	81,062	267,543	-	(267,543)	-100.0%
TRAINING & MEETINGS	49	834	659	-	(659)	-100.0%
OTHER MATERIALS	1,693	1,948	9,990	3,525	(6,465)	-64.7%
OTHER SERVICES	2,924	2,584	1,615	904	(711)	-44.0%
TOTAL	\$ 429,759	\$ 473,915	\$ 548,601	\$ 202,365	\$ (346,236)	-63.1%

The Division Director department consists of management and administrative staff. During FY06 staff and responsibilities related to the security function transitioned to the Executive Division as part of the Office of Emergency Preparedness (OEP).

The division's goals are to:

- Provide comprehensive administrative, professional and technical support services to all divisions to create a cooperative framework within which MWRA can operate effectively.
- Ensure proper and effective communication between MWRA and the communities served, other agencies, and state and local officials.

Budget Highlights

- *Total FY07 budget of \$202,365, a decrease of \$346,235 or 63.1% from FY06 actual spending. Reduction is primarily due to the transfer of security and support staff and responsibilities to the Office of Emergency Preparedness in the Executive Division. This budget includes funding for 2 positions.*

INTERNAL AUDIT

Final FY07 Current Expense Budget INTERNAL AUDIT							
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07		
WAGES & SALARIES	\$ 489,795	\$ 512,994	\$ 525,051	\$ 540,753	\$ 15,702	3.0%	
TRAINING & MEETINGS	8,038	9,903	3,887	10,348	6,461	166.2%	
OTHER MATERIALS	889	1,455	2,208	2,400	192	8.7%	
OTHER SERVICES	1,850	1,015	1,350	1,060	(290)	-21.5%	
TOTAL	\$ 500,572	\$ 525,367	\$ 532,496	\$ 554,561	\$ 22,065	4.1%	

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 coordinating 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 audits. Internal Audit reports to the MWRA's Executive Director.

The Internal Audit Department's goals are to:

- Encourage more economical and efficient operations, adherence to sound management procedures, and the use of controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have accounting and billing systems adequate to provide current, complete, and accurate cost and price information and project billings. In FY06, Internal Audit identified \$1,225,000 in contract savings, \$225,000 over the FY06 goal, including \$770,000 related to consultant billings to MWRA, \$340,000 related to vendor audits and contract negotiation support, and \$115,000 related to construction change orders and claims.

Budget Highlights

- *Total FY07 budget of \$554,561, an increase of \$22,000 or 4.1% over FY06 actual spending.*
- *\$541,000 for **Wages and Salaries**, an increase of \$16,000 or 3% over FY06 actual, for staff to perform internal audits, management advisory services, preliminary review and incurred cost audits, and consultant disclosure statement reviews. The proposed budget supports 8 positions.*
- *\$10,000 for **Training and Meetings**, of which 52% is for travel to consultant offices to perform incurred cost audits of billings for design and engineering services.*

PUBLIC AFFAIRS

Final FY07 Current Expense Budget PUBLIC AFFAIRS							
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07		
WAGES & SALARIES	\$ 1,308,363	\$ 1,272,436	\$ 1,230,576	\$ 1,145,015	\$ (85,561)	-7.0%	
OVERTIME	18	147	1,070	-	(1,070)	-100.0%	
TRAINING & MEETINGS	4,561	2,651	2,875	2,320	(555)	-19.3%	
PROFESSIONAL SERVICES	1,025	1,050	1,934	1,050	(884)	-45.7%	
OTHER MATERIALS	18,675	20,193	22,414	13,652	(8,762)	-39.1%	
OTHER SERVICES	31,381	34,332	46,396	75,263	28,867	62.2%	
TOTAL	\$ 1,364,023	\$ 1,330,809	\$ 1,305,265	\$ 1,237,300	\$ (67,965)	-5.2%	

The Public Affairs Department is the institutional link to all MWRA constituencies. 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 the Massachusetts Environmental Policy Act (MEPA), the Massachusetts Historical Commission (MHC), DEP, local conservation commissions, and the Boston Landmarks Commission (BLC). 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 to all grade levels school education materials on water quality, water conservation, wastewater topics, and environmental issues. 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. Public Affairs reports to the Executive Director.

The goals of the Public Affairs Department are to:

- Enhance overall public understanding of MWRA's mission, goals, and benefits to the public through aggressive 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, progress, and effective management.
- 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 in a cost-effective and efficient manner, and provide input to regulatory agencies in order to ensure MWRA interests are recognized during the development of regulations.

Budget Highlights

- *Total FY07 budget of \$1,237,300, a decrease of \$68,000 or 5.2% from FY06 actual spending.*
- *\$1.1 million for **Wages and Salaries**, a decrease of \$86,000 or 7% from FY06 actual spending, reflecting the transfer of staff to the newly created Office of Emergency Preparedness Department. The final budget now supports 15 positions.*
- *\$89,000 for **Other Materials and Other Services**, including \$64,000 to fund services associated with the publication and distribution of MWRA's Annual Report, as well as production of materials to inform the public about MWRA activities and to educate school children, teachers and environmental organizations about Boston Harbor and other environmental matters.*

FACILITIES MANAGEMENT

Final FY07 Current Expense Budget FACILITIES MANAGEMENT						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 971,144	\$ 995,985	\$ 628,221	\$ 432,897	\$ (195,324)	-31.1%
OVERTIME	25,466	25,059	20,011	12,239	(7,772)	-38.8%
FRINGE BENEFITS	549	253	521	300	(221)	-42.4%
UTILITIES	1,039,111	974,175	1,153,669	149,154	(1,004,515)	-87.1%
ONGOING MAINTENANCE	370,028	312,151	302,472	37,300	(265,172)	-87.7%
TRAINING & MEETINGS	117	38	-	125	125	-
PROFESSIONAL SERVICES	399,908	586,796	538,687	-	(538,687)	-100.0%
OTHER MATERIALS	139,645	77,351	23,800	68,680	44,880	188.6%
OTHER SERVICES	4,970,001	4,403,749	4,044,186	2,006,341	(2,037,845)	-50.4%
TOTAL	\$ 7,915,969	\$ 7,375,557	\$ 6,711,567	\$ 2,707,036	\$ (4,004,531)	-59.7%

Final FY07 Current Expense Budget FACILITIES MANAGEMENT SUPPORT by Area						
AREA	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
FRSA	\$ 572,488	\$ 337,090	\$ 281,636	\$ -	\$ (281,636)	-100.0%
FACILITIES MANAGEMENT	6,622,895	6,022,429	5,780,804	2,260,820	(3,519,984)	-60.9%
ADMINISTRATIVE SERVICES	720,586	1,016,038	649,127	446,216	(202,911)	-31.3%
TOTAL	\$ 7,915,969	\$ 7,375,557	\$ 6,711,567	\$ 2,707,036	\$ (4,004,531)	-59.7%

The Facilities Management Department provides a wide range of support services to MWRA staff located at the Charlestown Navy Yard (CNY). During FY06 management of the Chelsea facility was transferred to the Operations Division.

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, copying and printing services, general office equipment repairs, transportation, mail and courier services, and receptionist coverage at CNY.

The goals of the Facilities Management Department are to:

- 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.
- Support efforts to limit the fleet size while meeting operational needs by providing reliable motor pool and transportation services.

Budget Highlights

- *Total FY07 budget of \$2.7 million, a decrease of \$4.0 million or 59.7% as compared to FY06 actuals. Significant decreases reflect the anticipated closing of the FRSA facility and the transfer of expenses related to the Chelsea facility to the Operations Division.*
- *\$433,000 for **Wages and Salaries**, a decrease of \$195,000 or 31.1% from FY06 actuals, primarily due to the transfer of 7 staff to the Operations Division, and one staff to the Procurement Department in November. The budget now supports 9 positions.*
- *\$12,000 for **Overtime** for coverage of facility maintenance and support services, a decrease of \$7,772 or 38.8% from FY06 actual. Funds are used to provide coverage of daily services, such as shuttles, reception services and during vacations or other periods when staff are away.*
- *\$149,154 for **Utilities**, a decrease of \$1 million or 87.1% from FY06 actual spending.*
- *\$37,000 for **Maintenance**, a decrease of \$265,000 or 87.7% from FY06 actuals.*
- *\$2.0 million for **Other Services**, a decrease of \$2.0 million or 50.4%, as compared to FY06 actual spending. The transfer of Chelsea Facility rent to Field Operations Department resulted in a decrease of approximately \$1.3 million. Savings of \$700,000 as the result of the renegotiation of CNY Facility lease.*

FLEET SERVICES

Final FY07 Current Expense Budget FLEET SERVICES							
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07		
WAGES & SALARIES	\$ 543,768	\$ 600,409	\$ 633,183	\$ 676,950	\$ 43,767		6.9%
OVERTIME	18,720	20,078	18,172	20,000	1,828		10.1%
FRINGE BENEFITS	768	1,044	537	1,050	513		95.5%
UTILITIES	771	1,450	1,306	1,500	194		14.9%
ONGOING MAINTENANCE	454,673	506,201	585,215	603,518	18,303		3.1%
TRAINING & MEETINGS	(75)	-	-	-	-		-
OTHER MATERIALS	63,706	78,224	435,076	678,482	243,406		55.9%
OTHER SERVICES	3,525	3,742	1,850	4,538	2,688		145.3%
TOTAL	\$ 1,085,856	\$ 1,211,148	\$ 1,675,339	\$ 1,986,038	\$ 310,699		18.5%

Fleet Services 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 development and processing of specifications for new vehicles and equipment.

Budget Highlights

- *Total FY07 budget of \$1.9 million, an increase of \$311,000 or 18.5% over FY06 actual spending.*
- *\$676,950 for **Wages & Salaries**, an increase of \$43,767 or 6.9% over FY06 actuals, includes funds for 12 positions. The increase is attributed to contractual increases.*
- ***Ongoing Maintenance** budget of \$603,518 an increase of \$18,303 or 3.1% over FY06 actuals. The budget includes funds for automotive materials & services to maintain MWRA's vehicle fleet.*
- *\$678,482 for **Other Materials**, an increase of \$243,406 or 55.9% over FY06 actuals. Fleet Services FY07 budget includes funds for vehicle/equipment fueling. A projected increase for fuel prices is included.*

FY06 Accomplishments

Fleet Services

- Fleet Services and Procurement worked together to design and implement new two-year automotive materials contracts.
- Developed specifications, purchased and registered 19 new / replacement vehicles and assisted OEP staff in the acquisition and outfitting of a specially equipped "Emergency Services Unit" vehicle purchased with Federal funding.
- Conducted auction and sale of 24 pieces of equipment.
- Continued working with MIS staff on the design and implementation of a Maximo system update which includes a transportation module specifically designed for a fleet environment.

AFFIRMATIVE ACTION and COMPLIANCE

Final FY07 Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT							
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07		
WAGES & SALARIES	\$ 498,465	\$ 517,460	\$ 513,217	\$ 549,921	\$ 36,704		7.2%
OVERTIME	-	94	-	-	-		-
TRAINING & MEETINGS	1,400	1,345	3	1,294	1,291	430	33.3%
OTHER MATERIALS	313	448	944	1,500	556		58.9%
OTHER SERVICES	1,000	500	500	700	200		40.0%
TOTAL	\$ 501,178	\$ 519,847	\$ 514,664	\$ 553,415	\$ 38,751		7.5%

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 in Authority procurement activities.

The goals of AACU are to:

- 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 for its work force.
- Maintain internal audit and reporting systems adequate to measure MWRA’s accomplishments of goal attainment in identified underutilization of minorities and female job groups.
- 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 (MBE/WBE) 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.

Budget Highlights

- Total FY07 budget of \$553,000, an increase of \$39,000 or 7.5% over FY06 actual spending, primarily due to contractual adjustments to regular pay. The proposed budget supports 8 positions.

HUMAN RESOURCES

Final FY07 Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 1,362,099	\$ 1,320,455	\$ 1,335,022	\$ 1,468,072	\$ 133,050	10.0%
OVERTIME	138	344	1,092	437	(655)	-60.0%
FRINGE BENEFITS	10,769,692	12,195,892	14,123,974	15,877,741	1,753,767	12.4%
WORKERS' COMPENSATION	1,687,301	1,038,298	1,823,356	1,040,000	(783,356)	-43.0%
ONGOING MAINTENANCE	-	52	807	1,000	193	23.9%
TRAINING & MEETINGS	3,314	3,711	3,146	7,406	4,260	135.4%
PROFESSIONAL SERVICES	411,681	338,911	262,552	487,911	225,359	85.8%
OTHER MATERIALS	19,842	22,312	16,672	25,585	8,913	53.5%
OTHER SERVICES	35,413	29,252	29,851	36,846	6,995	23.4%
TOTAL	\$ 14,289,480	\$ 14,949,227	\$ 17,596,472	\$ 18,944,998	\$ 1,348,526	7.7%

Final FY07 Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
EMPLOYEE/COMP/BEN	\$ 610,099	\$ 610,445	\$ 1,455,513	\$ 714,375	\$ (741,138)	-50.9%
LABOR RELATIONS	608,367	691,158	676,213	752,361	76,148	11.3%
TRAINING	585,776	388,832	325,880	526,930	201,050	61.7%
CENTRALIZED FRINGE BENEFITS	12,485,238	13,258,792	15,138,866	16,951,332	1,812,466	12.0%
TOTAL	\$ 14,289,480	\$ 14,949,227	\$ 17,596,472	\$ 18,944,998	\$ 1,348,526	7.7%

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 budgets for fringe benefits for all MWRA employees as well as for mandatory payments for unemployment expenses and Medicare.

The goals of the Human Resources Department are to:

- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation (salary and benefits) package 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.

Budget Highlights

- *\$1.5 million for **Wages and Salaries**, an increase of \$133,000 or 10% over FY06 actuals, includes funding for 20 positions vs. 19 budgeted in FY06.*
- *\$15.9 million for **Fringe Benefits**, an increase of \$1.8 million or 12.4% over FY06 actuals. The budget includes \$13.6 million for MWRA's share of health insurance costs, \$1.3 million for MWRA's share of Medicare taxes, \$827,000 for MWRA's share of dental insurance costs and union health and welfare fund contributions, \$90,000 for unemployment insurance payments, and \$31,000 for tuition reimbursement.*
- *Health insurance increased 12.5%. This increase was driven primarily by increase in GIC Health Insurance rates and a change in employer contributions to health insurance. Dental insurance is 3.5% over FY06 actual due to increases in dental insurance premiums. Medicare increased 23.5% over FY06 actual due to the impact of contractual salary increases. Unemployment insurance for FY07 is 34% below FY06 actual expenses. However, the FY07 budget does represent an overall increase from the FY06 budget for projected unemployment expenses. Tuition reimbursement is level-funded from the FY06 budget.*
- *\$1,040,000 for **Workers' Compensation** expenses, a decrease of \$783,356 or 43% over FY06 actuals. As part of the FY06 year-end audit, the actuarial valuation of outstanding claims resulted in an increase of \$844,000 in revenues for incurred but not recorded liabilities in FY06. Human Resources is responsible for the management of this program and coordination with the third-party administrator.*
- *\$487,911 for **Professional Services**, an increase of \$225,000 from FY06 actuals, includes \$219,000 for the professional development and technical training, \$25,500 for the Employee Assistance Program, and \$58,000 for specialized investigation services and medical evaluation services, \$130,000 for Workers Compensation claims administration and \$55,500 for arbitration expenses.*

FY06 Accomplishments

Human Resources

In FY06, the accomplishments of the Human Resources Department included:

- Successfully negotiated one-year extensions with two collective bargaining units.
- Developed and implemented a process for collecting and tracking required licenses from employees in positions requiring licenses.
- Renewed and implemented an enhanced MWRA Dental Plan at no additional costs.
- Improved internal HR processing of personnel paperwork by automating the employee change of status form.
- Provided follow-up training for managers accountable for managing the Drug and Alcohol Testing Policy.

MANAGEMENT INFORMATION SYSTEMS (MIS)

Final FY07 Current Expense Budget						
MIS						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 4,871,640	\$ 4,677,687	\$ 4,923,033	\$ 5,109,331	\$ 186,298	3.8%
OVERTIME	1,603	1,943	2,937	2,678	(259)	-8.8%
FRINGE BENEFITS	-	4	10	-	(10)	-100.0%
ONGOING MAINTENANCE	3,027,277	2,636,929	1,955,248	2,233,941	278,693	14.3%
TRAINING & MEETINGS	26,817	49,122	18,092	13,823	(4,269)	-23.6%
OTHER MATERIALS	658,762	133,109	152,584	250,031	97,447	63.9%
OTHER SERVICES	769,544	830,582	918,915	886,335	(32,580)	-3.5%
TOTAL	\$ 9,355,643	\$ 8,329,376	\$ 7,970,819	\$ 8,496,139	\$ 525,320	6.6%

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.

In FY07 MIS will continue to provide three categories of services:

- *Operational services* are day-to-day routine activities required for applications and systems to work, including preventive maintenance; replacement programs; minicomputer, server, network, and voice equipment availability; back-up and recovery; accounts payable and payroll generation; period closings; and scheduled report productions. Up-time goals based on industry norms have been established, as well as schedules for annual replacement programs. Cyber Security will continue to be a major work item in FY07.
- *Responsive services* are provided as a result of calls for assistance, training, troubleshooting, repair of systems or requests for materials, research, and records. A variety of performance measures have been adopted based on business impact and problem type. For example, the target response rate to close any of the aforementioned types of calls is 90% within three days, except for calls regarding system outages, the target for which is 100% within one business day. Staff also track backlogs, average closure rates, and rolling averages to ensure responsiveness.
- *Developmental services* respond to requests for new or enhanced products, services, reports, and applications. These requests are generally turned into projects with plans, defined deliverables, and agreed upon schedules. MIS-generated projects based on infrastructure limitations, changing technology, and expiration of leased equipment may also be included. All activities seek to balance business demands with costs and the desire to be neither leading nor lagging in the use of technology. Measurement is based on timely completion of milestones and a +/- 10% of budget and schedule target is established for all major projects. In addition, for projects with large capital or CEB requirements, a customization cap is established and reported on.

The goal of MIS is to support more than 1,000 MWRA users, including those at the Charlestown Navy Yard, Chelsea, Deer Island, Southboro 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 Business Plan, reflecting management priorities.

- System security and integrity are maintained.
- Flexible tools and system capabilities are provided consistent with industry standards and norms.

Major focus areas and key projects for FY07 include:

- Business continuity and disaster recovery services (planning, SOPs, drills, information security/document support for classified documents, new EOC applications and backup mini-computer center at CWTP).
- Development of a multi-year business systems plan.
- Improved cyber and network security with intrusion detection device appliance upgrades.
- Wireless network planning.
- PI enhancements for Water, Transport and Deer Island.
- Continuation of multi-year CIP projects including TRAC and LIMS system replacements and Lawson conversion to a new platform.
- Continuation of MAXIMO, TV Inspection software changes, GIS improvements, and metering improvements.
- Implementation of planned upgrades and continued improvement with storage management, clustering, and unattended operations solutions to expand services, reduce costs and improve management of growing data and resources.
- Programming support for the over 400 annual reports and development requests.
- Records Center relocation.

Budget Highlights

- *Total FY07 budget of \$8.4 million, an increase of \$525,320 or 6.6% from FY06 actual, primarily in **Wages and Salaries** due to hiring a network program manager (offset by a \$92,000 decrease in network contract service), re-budgeting a position for a returnee from military service, union salary increases and leave balance adjustments. The other major increases were partial restoration of PC replacement funding, records center utilities and additional telecommunications costs. The budget includes funding for 65 positions.*
- *\$2.2 million for **license and maintenance** fees to support administrative, operations, and database applications used by MWRA staff. This represents an increase of 14.25% from FY06 actual (under spending in FY06 was achieved through changes in some maintenance contracts to partially offset unbudgeted Records Center moving expenses and overspending in Wages and Salaries). In FY07, the program continues the maintenance contract savings while incorporating \$100,000 for 24 hour by 7 day intrusion protection services previously budgeted in the CIP.*
- *\$250,000 for **Other Materials**, an increase of \$97,447 or 63.8% over FY06 actual reflecting a partial restoration of PC and related hardware replacements.*
- *\$886,335 for **Other Services**, a decrease of -\$32,580 or -3.55% from FY06 actual due to Records Center moving expenses.*

FY06 Accomplishments

Management Information Systems (MIS)

- **Business Continuity/Disaster Recovery:** Developed MWRA-wide communications, vital records and MIS mission critical system plans/SOPs. Configured a mini EOC for DITP. Implemented email, security restricted and data connectivity improvements to safeguard mission critical applications until a mini-computer center is completed at CWTP.
- **Cyber-Security:** No unplanned downtime was experienced. MWRA's email gateway received 3,469,135 messages of which it blocked 970,829 for the year. Additionally, 593,974 messages were quarantined for the year of which, less than 2.5% were incorrectly categorized as spam (and sent on to their recipients). Updates to MWRA spam filters continue to catch a significant majority of all spam email (accounting for over 16.1% of all incoming email messages), including "phishing" scams. Staff pushed out monthly security updates/fixes to PCs/servers, replaced intrusion detection appliances, adopted new SOPs and responded immediately to several critical bulletins throughout the year.
- **SCADA, PICS & Metering:** Integrated numerous CWTP's SCADA tags into PI for management trending/reporting; assisted with CWTP's energy monitoring tool implementation; enhanced the DITP ISO New England 5 Minute Marginal Prices data transfer program; and expanded the OMMS Website for communities to provide near real-time sewer meter data including flow, level, and velocity (water flow, pressure and chlorine residual information is also available).
- **MAXIMO, LIMS, TRAC and ENQUAD:** Completed MAXIMO upgrade to version 5.2; completed LIMS and TRAC replacement system specifications; and initiated ENQUAD harbor monitoring database project.
- **A&F applications:** Completed numerous reports, program changes, patches and upgraded XRT and Portia software; provided technical assistance with annual permit, W2 and 1099 productions; and implemented an Inventory and Purchase Order legacy data warehouse.
- **Infrastructure:** Supported the opening of CWTP with network, voice and data connectivity; replaced Nut Island aging PBS; moved Records Center to DITP; continued Microsoft XP upgrades; addressed approximately 10,000 user calls within benchmark and completed a variety of server, switching and network improvements.

PROCUREMENT

Final FY07 Current Expense Budget						
PROCUREMENT						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 3,090,184	\$ 2,948,357	\$ 3,052,874	\$ 3,420,139	\$ 367,265	12.0%
OVERTIME	4,312	7,587	19,543	10,000	(9,543)	-48.8%
FRINGE BENEFITS	45	112	254	-	(254)	-100.0%
UTILITIES	-	-	6,582	-	(6,582)	-100.0%
ONGOING MAINTENANCE	(194,370)	198,247	256,816	-	(256,816)	-100.0%
TRAINING & MEETINGS	6,397	4,847	7,375	7,362	(13)	-0.2%
OTHER MATERIALS	105,077	101,093	94,117	97,525	3,408	3.6%
OTHER SERVICES	58,955	73,799	67,704	61,590	(6,114)	-9.0%
TOTAL	\$ 3,070,600	\$ 3,334,042	\$ 3,505,265	\$ 3,596,616	\$ 91,351	2.6%

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 direct the bid, review, and selection process, and maintain 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.

The goals of the Procurement Department are to:

- Procure materials, equipment, supplies, and 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.

Budget Highlights

- *Total FY07 budget of \$3.6 million, represents a 2.6% increase over FY06 spending; includes \$3.4 million to support Wages and Salaries for 51 positions. During FY06 three positions transferred to Procurement from Operations (Southborough warehouse) and one position transferred from the Facilities Management department (Admin. Services Manager).*

FY06 Accomplishments

- Competitively bid CY05 Renewable Portfolio Standard certificates, resulting in revenues of \$1,194,420.
- Awarded North Dorchester Bay CSO Project CM Services; advertised North Dorchester Bay CSO Tunnel Contract.
- Managed procurement for selection of new investment banking (underwriting) services.

- Completed Fit Out (Phase II) and Start Up of Carroll Water Treatment Plant.
- Competitively bid electric power for Deer Island Treatment Plant and electric power and natural gas for Carroll Water Treatment Plant.

REAL PROPERTY and ENVIRONMENTAL MANAGEMENT

Final FY07 Current Expense Budget REAL PROPERTY / ENVIRONMENTAL MANAGEMENT						
LINE ITEM	FY04 Actual	FY05 Actual	FY06 Actual	FY07 Final	Change FY06 to FY07	
WAGES & SALARIES	\$ 532,870	\$ 504,471	\$ 489,576	\$ 522,722	\$ 33,146	6.8%
OVERTIME		271	2,135	-	(2,135)	-100.0%
TRAINING & MEETINGS	2,080	1,343	1,263	4,141	2,878	227.9%
PROFESSIONAL SERVICES	283	916	1,739	500	(1,239)	-71.2%
OTHER MATERIALS	989	942	1,060	1,964	904	85.3%
OTHER SERVICES	66,578	299,217	106,524	249,061	142,537	133.8%
TOTAL	\$ 602,800	\$ 807,160	\$ 602,297	\$ 778,388	\$ 176,091	29.2%

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. Staff participate in selecting sites, negotiating acquisitions or easements, and managing the sale or lease of MWRA surplus real property. In addition, staff have developed and are 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 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.

The goals of the Real Property and Environmental Management Department are to:

- 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.

Budget Highlights

- *The total FY07 budget of \$778,000 represents an increase of 29.2% from FY06 actual spending.*
- ***Wages and Salaries** budget of \$523,000 includes funding for 6 positions. The increase of \$33,000 or 6.8% is primarily due to staff classification, schedule changes and wage increases.*
- ***Professional Services** decreased to \$500. The goal of Real Property is to have the sewerage easements and land takings scanned and entered into the Real Property Database during FY07.*
- *\$249,000 for **Other Services** is an increase of \$143,000 or 133.8% compared to FY06 actual spending. This increase is due to changes in remediation projects including projected spending on Lake Cochituate Groundwater Monitoring as this project continues into FY07, and the transfer from Facilities Management of responsibility for FRSA oil plume remediation.*

FY06 Accomplishments

- Acquired easements in support of Heath Hill Rehabilitation Project and Chicopee Valley Aqueduct Project and extended easements related to the Upper Neponset Valley Sewer Project.

- Surplused Mystic Shops Facility to DCAM.
- Assumed assignment of the Marlboro Warehouse lease and negotiated a new lease.
- Advertised the sale of 3 FRSA parcels (Cleverly Court West, Route 3A, and Lot 7C1), accepted bids, received Board of Directors approval and executed Purchase and Sale Agreements for all 3 parcels.
- Completed the Chestnut Hill Tank Vault Cleanup.
- Negotiated a new air emissions permit for the Biosolids Processing Facility.
- Prepared a Maintenance and Inspection specifications bid package for MWRA underground storage tanks.
- Completed a fast track procurement of Licensed Site Professional Services for the Pleasure Bay Storm Drain.



Appendices

APPENDIX A

DIRECT EXPENSE BUDGET LINE ITEMS

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 fuels, 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 – VI present summaries of the MWRA’s five division budgets with a detailed description of program budgets and highlights within each division 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 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 – November	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, Rates and Budget Department staff begin the financial management process by consolidating the authority-wide budgets, developing briefing materials for senior management and identifying major budget issues.
January	The Executive Director, supported by senior management, determines proposed funding levels required to meet service priorities. 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. Use of rate stabilization and bond redemption fund amounts is carried out in furtherance of MWRA's budgeting objectives and in accordance with its financing agreements. MWRA consults with the Advisory Board concerning use of amounts in the 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.

Beginning in FY2001, 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 45 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. The latest consultant review recommended an increase of \$3 million in the reserve's funding level between FY05 and FY07. Between FY2005 and FY2007, the budget included an increase of \$1 million to increase the reserve to \$19 million. The next consulting engineer or insurance consultant review should be done in FY07.

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

Every five years, beginning in June 2003 for the period FY04 through FY08, the Board will establish a five-year Capital Budget Spending cap and annual caps for each year of 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.

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 FY2008 to FY2016									
	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
EXPENSES									
Direct Expenses	\$214,927	\$220,431	\$226,030	\$231,628	\$237,947	\$245,524	\$251,654	\$257,945	\$264,394
Indirect Expenses	45,461	43,662	44,451	47,751	50,246	49,502	51,526	52,856	54,270
Capital Financing (before offsets)	<u>375,157</u>	<u>397,131</u>	<u>445,437</u>	<u>466,756</u>	<u>488,788</u>	<u>513,402</u>	<u>508,736</u>	<u>510,027</u>	<u>508,283</u>
Sub-Total Expenses	\$635,546	\$661,224	\$715,918	\$746,135	\$776,981	\$808,428	\$811,917	\$820,828	\$826,946
Debt Service Assistance	(18,750)	(18,750)	(18,750)	(18,750)	(18,783)	(18,782)	(18,815)	(18,750)	(18,750)
Bond Redemption Savings	(16,600)	(5,850)	(2,786)	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0
Total Expenses	\$600,195	\$636,624	\$694,382	\$727,384	\$758,197	\$789,646	\$793,102	\$802,079	\$808,197
REVENUE & INCOME									
Non-Rate Revenue & Income									
Interest Income/Other Charges	\$41,446	\$41,039	\$41,958	\$42,958	\$43,219	\$43,864	\$44,009	\$44,139	\$44,354
Rate Stabilization	<u>17,078</u>	<u>3,791</u>	<u>5,797</u>	0	0	0	0	0	0
Total Non-Rate Revenue	\$58,523	\$44,830	\$47,755	\$42,958	43,219	43,864	44,009	44,139	44,354
Total Rate Revenue	\$541,672	\$591,794	\$646,627	\$684,427	\$714,978	\$745,782	\$749,093	\$757,939	\$763,843
Rate Revenue Increase	9.3%	9.3%	9.3%	5.8%	4.5%	4.3%	0.4%	1.2%	0.8%
Estimated Annual Household Charge **									
Charge based on DEP data (weighted)	\$707	\$762	\$823	\$869	\$909	\$950	\$999	\$1,023	\$1,045
Charge based on 90,000 gal. (weighted)	\$1,043	\$1,125	\$1,214	\$1,282	\$1,341	\$1,402	\$1,428	\$1,462	\$1,493
WASTEWATER									
EXPENSES									
Direct Expenses	\$156,547	\$160,559	\$164,653	\$168,430	\$173,137	\$177,217	\$181,663	\$186,227	\$190,475
Indirect Expenses	15,965	14,944	14,941	15,549	17,179	15,699	16,920	17,171	15,693
Capital Financing (before offsets)	<u>259,656</u>	<u>267,669</u>	<u>312,965</u>	<u>321,914</u>	<u>348,238</u>	<u>368,687</u>	<u>358,085</u>	<u>357,816</u>	<u>351,554</u>
Sub-Total Wastewater Expenses	\$432,168	\$443,172	\$492,559	\$505,892	\$538,553	\$561,603	\$556,667	\$561,214	\$557,723
Debt Service Assistance	(16,694)	(16,677)	(16,829)	(16,475)	(16,997)	(17,136)	(17,129)	(17,159)	(17,101)
Bond Redemption Savings	(10,000)	(4,000)	(1,317)	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0
Total Wastewater Expenses	\$405,474	\$422,495	\$474,413	\$489,417	\$521,556	\$544,467	\$539,539	\$544,055	\$540,621
REVENUE & INCOME									
Non-Rate Revenue & Income									
Interest Income/Other Charges	\$25,261	\$24,502	\$25,204	\$25,476	\$25,864	\$26,262	\$26,223	\$26,241	\$26,193
Rate Stabilization	<u>11,095</u>	0	0	0	0	0	0	0	0
Total Non-Rate Revenue	\$36,356	\$24,502	\$25,204	\$25,476	25,864	26,262	26,223	26,241	26,193
Wastewater Rate Revenue	\$369,118	\$397,993	\$449,209	\$463,941	\$495,693	\$518,205	\$513,316	\$517,814	\$514,428
Rate Revenue Increase	11.1%	7.8%	12.9%	3.3%	6.8%	4.5%	-0.9%	0.9%	-0.7%
Estimated Annual Household Sewer Charge **									
Charge based on DEP data (weighted)	\$434	\$465	\$516	\$535	\$569	\$596	\$618	\$629	\$634
Charge based on 90,000 gal. (weighted)	\$640	\$686	\$761	\$789	\$840	\$879	\$882	\$899	\$905
WATER									
EXPENSES									
Direct Expenses	\$58,380	\$59,872	\$61,377	\$63,198	\$64,810	\$68,307	\$69,992	\$71,718	\$73,918
Indirect Expenses	29,496	28,718	29,510	32,202	33,067	33,803	34,606	35,685	38,577
Capital Financing (before offsets)	<u>115,501</u>	<u>129,462</u>	<u>132,472</u>	<u>144,842</u>	<u>140,550</u>	<u>144,716</u>	<u>150,652</u>	<u>152,211</u>	<u>156,729</u>
Sub-Total Water Expenses	\$203,377	\$218,052	\$223,359	\$240,242	\$238,427	\$246,825	\$255,250	\$259,615	\$269,224
Debt Service Assistance	(2,056)	(2,073)	(1,921)	(2,275)	(1,786)	(1,646)	(1,687)	(1,590)	(1,648)
Bond Redemption Savings	(6,600)	(1,850)	(1,469)	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0
Total Water Expenses	\$194,721	\$214,129	\$219,969	\$237,967	\$236,641	\$245,179	\$253,563	\$258,024	\$267,575
REVENUE & INCOME									
Non-Rate Revenue & Income									
Interest Income/Other Charges	\$16,185	\$16,537	\$16,753	\$17,482	\$17,355	\$17,602	\$17,786	\$17,899	\$18,161
Rate Stabilization	<u>5,983</u>	<u>3,791</u>	<u>5,797</u>	0	0	0	0	0	0
Total Non-Rate Revenue	\$22,168	\$20,328	\$22,550	\$17,482	\$17,355	\$17,602	\$17,786	\$17,899	\$18,161
Water Rate Revenue	\$172,553	\$193,800	\$197,418	\$220,485	\$219,286	\$227,577	\$235,777	\$240,126	\$249,414
Rate Revenue Increase	5.8%	12.3%	1.9%	11.7%	-0.5%	3.8%	3.6%	1.8%	3.9%
Estimated Annual Household Water Charge **									
Charge based on DEP data (weighted)	\$273	\$298	\$307	\$334	\$340	\$355	\$382	\$394	\$411
Charge based on 90,000 gal. (weighted)	\$402	\$439	\$453	\$493	\$502	\$523	\$545	\$563	\$587

** 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. Estimated household charges based on DEP data are based on average residential consumption of 61,000 gallons per year. The ratio of MWRA to local charge is assumed to be 33% local, 67% MWRA in FY06.

APPENDIX E

GLOSSARY OF FINANCIAL AND OPERATING TERMS

SM 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 oxygen.

Anaerobic: Life or processes such as bacteria that digest sludge that require, or are not destroyed by, the absence of oxygen.

AOC: 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.

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.

CAC: Citizens' Advisory Committee.

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 liquid 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.

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, or other metals. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates.

Coverage Requirement: Requirement of MWRA's bond resolution which provides that pledged revenue available annually to pay debt service must exceed the annual debt service requirement by a certain percentage.

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 63 CSOs that currently discharge into rivers or Boston Harbor.

CSO Facilities: MWRA has five facilities that intercept the flow from CSO pipes and provide limited wastewater treatment 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.

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 federal government expects to issue this rule in draft form late in 2002 and promulgate the final rule in late 2003. The rule will further regulate 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 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, that disperses treated wastewater over a large area.

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.

Division of Watershed Management (DWM): A division of the Metropolitan District Commission (MDC) responsible for watershed management activity. MWRA reimburses the Commonwealth for the cost of DWM's operations.

***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 defined 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 environment 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: The federal government expects to issue LT2ESWTR as a draft in late 2002, and to promulgate the final rule in late 2003. LT2ESWTR will further tighten 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.

Force Main: A pressure pipe joining the pump discharge at a water or wastewater pumping station with a point of gravity flow.

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 the Boston Edison Company 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.

ICC: Interim Corrosion Control Facility - A facility located in Marlborough near Walnut Hill, where MWRA adjusts pH and alkalinity to reduce the leaching of lead from home plumbing.

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.

John J. Carroll Water Treatment Plant (JJCWTP): 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 and 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.

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.

MDC: Metropolitan District Commission - Prior to 1985, the agency responsible for water and sewer services in metropolitan Boston, a responsibility MWRA assumed in July, 1985. MDC continues to oversee and manage parks and recreational areas, roadways in the metropolitan area, and the watershed

system including the Quabbin, Wachusett, and Sudbury Reservoirs. The MDC was merged into the newly created Department of Conservation and Recreation (DCR) in 2003.

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.

NEFCo: New England Fertilizer Company - The contractor responsible for the operation of barging and 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.

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.

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 place 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. MWRA is constructing a new water treatment plant at Walnut Hill that will use ozone 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 town 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.

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 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.

Relief Sewer: A sewer built to carry flows in excess of the capacity of an existing sewer.

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.

Safe Yield Model: The equation used to determine the maximum dependable draft that can be made continuously on a source of supply 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.

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.

Sewer Jet Truck: Vehicle used to clean and/or remove blockages from sewer lines by pushing fluids in the sewer.

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 as the primary chemical in the disinfection and odor processes at the Deer Island Treatment Plant, and as the disinfectant at the Cosgrove and Ware water disinfection facilities. MWRA will also use sodium hypochlorite at the Walnut Hill water treatment plant.

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.

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.

Wastewater: The water carried by sewers serving residences and businesses that enters wastewater facilities for treatment.

Wastewater Treatment Plant (WTP): 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.