

MASSACHUSETTS WATER RESOURCES AUTHORITY



Proposed Fiscal Year 2009 CURRENT EXPENSE BUDGET

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

March 2008

Dear Chairwoman Dunphy:

This letter transmits to the Advisory Board MWRA's Proposed Current Expense Budget (CEB) for Fiscal Year 2009. The MWRA Board of Directors approved the transmittal at its February 13, 2008 meeting.

The Proposed FY09 CEB recommends an increase in rates and charges of 5.9%. The proposed rate revenue requirement is \$548.6 million. It reflects \$11.25 million of Debt Service Assistance, which represents MWRA's estimated share of the \$15 million statewide appropriation for FY09 included in the Governor's House 2 Budget, and the scheduled use of \$5.2 million of reserve funds.

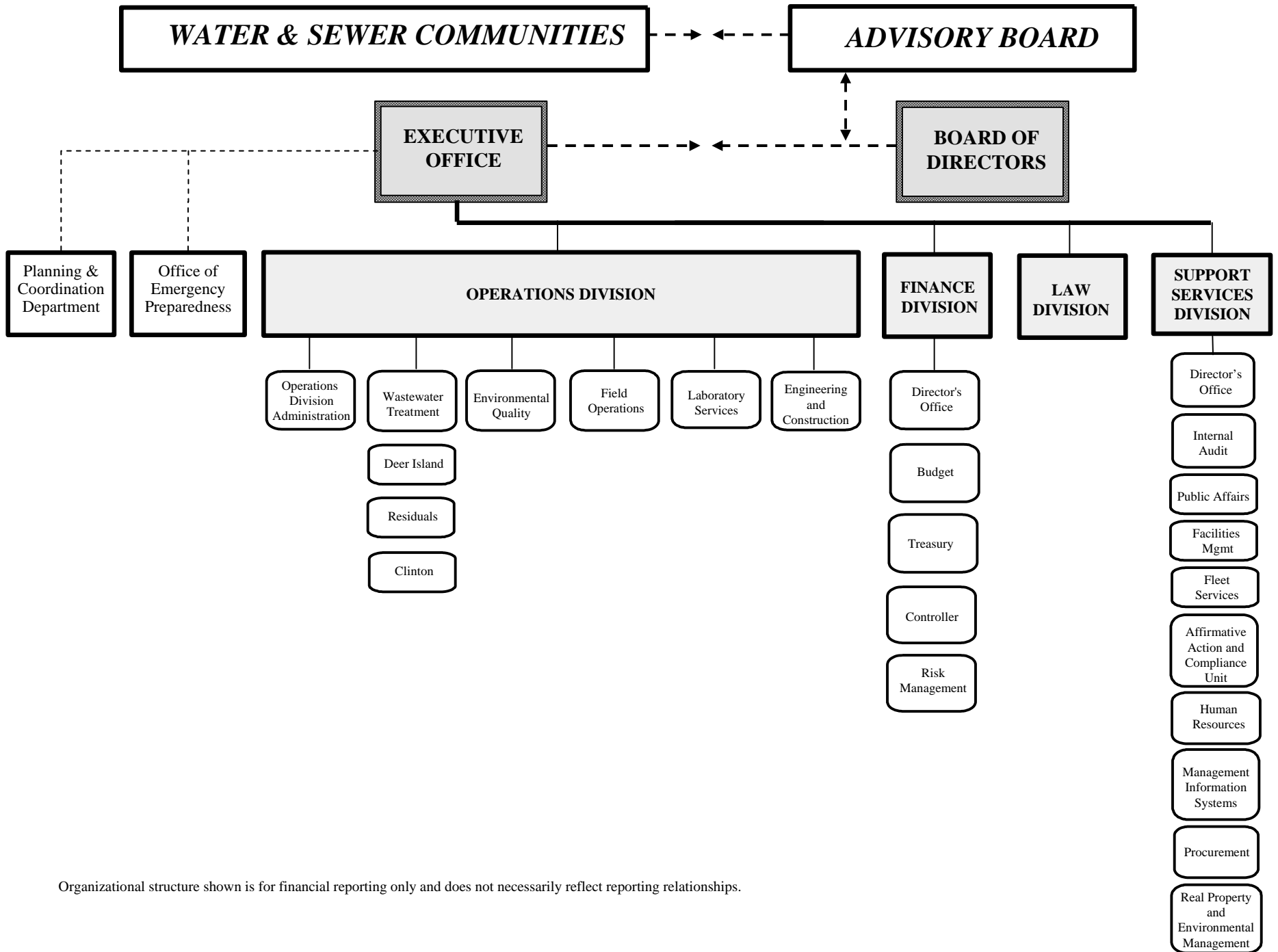
Total proposed expenses are \$598.0 million (before offsets), representing an increase of \$15.9 million or 2.7% over FY08 budgeted expenses. Approximately 56% or \$336.2 million of the proposed expenses is for debt service, and 44% or \$261.8 million for direct and indirect operating expenses. Significantly lower projected interest rates for FY09 resulted in a \$14 million reduction of investment income representing the largest unfavorable impact on the budget. Direct and indirect operating expenses increased by \$10.7 million or 4.3% driven by increased wages and salaries, higher health care costs, increased chemical costs due to regulatory requirements, increased maintenance needs, and the application of new pension liability valuation methodology adopted by the pension board.

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

Thank you for your continued support. We look forward to working closely with the Advisory Board during the review period and receiving your comments and recommendations on the Proposed FY09 CEB.

Sincerely,

Frederick A. Laskey
Executive Director



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

TABLE OF CONTENTS

SECTION I: EXECUTIVE SUMMARY

MWRA Mission.....	I- 1
Community Profiles and Assessments.....	I-14
Revenue and Expenditure Trends.....	I-17
Capital Improvement Program.....	I-19
MWRA Organization and History.....	I-24
Statement of MWRA Financial Position.....	I-27

SECTION II: EXECUTIVE DIVISION

Executive Office Budget Summary.....	II - 1
Office of Emergency Preparedness.....	II - 3
Planning and Coordination Department.....	II - 6

SECTION III: OPERATIONS DIVISION

Operations Division Budget Summary.....	III- 1
Operations Administration.....	III- 8
Wastewater Treatment.....	III- 9
Deer Island.....	III- 10
Residuals.....	III- 14
Clinton.....	III- 16
Field Operations.....	III- 18
Laboratory Services.....	III- 21
Environmental Quality.....	III- 23
Engineering and Construction.....	III- 24

SECTION IV: LAW DIVISION

Law Division Budget Summary.....	IV- 1
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SECTION V: FINANCE DIVISION

Finance Division Budget Summary.....	V-1
Division Director's Office.....	V-2
Budget.....	V-3
Controller.....	V-4
Risk Management.....	V-5
Treasury.....	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-10
Human Resources.....VI-11
Management Information Systems.....VI-13
Procurement.....VI-16
Real Property and Environmental Management.....VI-18

APPENDICES

- A. Descriptions of Direct Expense Budget Line Items
- B. Budget Timetable
- C. Budget and Assessment Policies and Procedures
- D. Planning Estimates - Detail Presentation, FY09 - FY18
- E. Glossary of Terms
- F. Capital Financing by Debt Series



Executive Summary

Executive Summary

MWRA Mission

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

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

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

Overview

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

The Proposed FY09 Budget totals \$598.0 million before offsets of \$11.25 million in debt service assistance (DSA) for a net total expense of \$586.8 million. This budget is \$22.3 million or 4.0% above the FY08 approved budget. While capital financing costs remain the largest component of the CEB, other escalating expenses such as health care and increased funding for pension and other post-employment benefits under GASB 45, which became effective in FY08, continue to put pressure on the operating budget.

The Authority's operations are energy intensive and rising energy prices are contributing to increased chemical and utility costs. Utility expense accounts for over 10% of operating costs and if oil prices continue to rise, energy and other inputs with petroleum links will be affected. Deer Island, Carroll Water Treatment Plant and other large Field Operations (FOD) facilities purchase blocks of power in the variable rate market. Approximately 77% of the Authority's energy requirement is purchased in the

variable rate market. Some of this market risk is mitigated by the Authority's power generating assets. Deer Island and the Carroll Plant have 52 MW and 8 MW of generating capacity, respectively. Since FY02, Deer Island has purchased approximately 76% of its electricity requirement. The remaining 24% of the plant's electricity requirements are met through on-site generation. Of this amount, 62% is generated from the steam turbine generator (STG) through the burning of digester gas in the boilers, 25% is from the combustion turbine generator (CTG), through a combination of exercise and load response, and 13% is from the hydro power facility. The Authority is also investigating alternative energy sources including wind and solar power opportunities at several facilities to promote additional self-generation.

The MWRA's Proposed FY09 Budget is \$586.8 million after offsets. The proposed budget projects its allocation of the Commonwealth's Debt Service Assistance (DSA) to be \$11.25 million, \$6.0 million less than the FY08 level. The MWRA, the Advisory Board, and its member communities will continue their efforts with the Legislature to restore the DSA appropriation to the FY07 level for FY09 and beyond.

Total expenses include \$336.2 million for capital financing costs, 56% of total costs, and \$261.8 million or 44% for operating expenses, of which \$215.3 million is for direct expenses and \$46.5 million is for indirect expenses. Total expenses increased by \$22.3 million over the FY08 approved budget, \$10.7 million for operating expenses and \$11.6 million in capital financing expense.

The \$11.6 million increase in capital financing expenses reflects a \$5.2 million increase in debt service, includes \$100 million planned to be borrowed from the state revolving fund (SRF) in December 2008 and \$100 million in new fixed rate borrowings planned for April 2009 in addition to the \$6 million projected reduction in DSA.

The \$10.7 million increase in operating expenses includes \$8.7 million for direct expenses and \$2.0 million for indirect expenses. The increase in direct expenses reflects increases in healthcare expenses, contractual labor agreements, maintenance, and chemicals. The increase in indirect expenses includes \$0.5 million in additional funding for adoption of GASB 45, *Accounting for Financial Reporting for Postemployment Benefits Other Than Pensions*.

The proposed rate revenue requirement for FY09 is \$548.6 million, an increase of 5.9% over the approved FY08 rate revenue requirement.

The Proposed FY09 non-rate revenue totals \$38.2 million, a decrease of \$8.5 million from the FY08 approved budget. The change, primarily results from a \$14.0 million decrease in projected investment earnings due to a projected 250 basis point drop in investment rate assumptions as the fed funds rate has dropped 225 basis point since September 2007. It is important to note that \$5.2 million in rate stabilization funds are projected to be used in FY09. The Proposed FY09 non-rate revenue budget includes \$19.9 million for investment income, \$7.8 million in other user charges, \$2.0 million in permit fees and penalties, \$1.7 million from the sale of renewable energy portfolio credits and participation in energy load reduction programs, and \$0.9 million from the Commonwealth, for chemical rebates.

Table I-1 on the following page shows MWRA's Proposed FY09 Budget for revenue and expenses by line item and includes a comparison with the FY08 approved budget and FY07 actual spending. Line item changes from FY08 to FY09 are described in the Revenue and Expense section of the Executive Summary and in more detail in the divisional sections of this document.

Table I-1

**Proposed FY09 Current Expense Budget
EXPENSES and REVENUES**

TOTAL MWRA	FY07 Actual	FY08 Approved	FY09 Proposed	Change FY09 Proposed to FY08 Approved	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 83,034,216	\$ 88,091,460	\$ 90,883,540	\$ 2,792,080	3.2%
OVERTIME	3,832,439	3,864,290	3,906,671	42,381	1.1%
FRINGE BENEFITS	15,120,537	16,271,444	17,870,870	1,599,426	9.8%
WORKERS' COMPENSATION	1,235,814	1,400,000	1,400,000	-	0.0%
CHEMICALS	7,266,880	8,702,933	9,468,383	765,450	8.8%
ENERGY AND UTILITIES	24,228,522	26,532,695	27,433,120	900,425	3.4%
MAINTENANCE	25,914,704	25,768,810	28,139,126	2,370,316	9.2%
TRAINING AND MEETINGS	275,433	222,252	290,913	68,661	30.9%
PROFESSIONAL SERVICES	5,864,009	7,869,287	7,717,586	(151,701)	-1.9%
OTHER MATERIALS	5,516,242	5,022,858	4,929,801	(93,057)	-1.9%
OTHER SERVICES	21,623,105	22,893,395	23,277,122	383,727	1.7%
TOTAL DIRECT EXPENSES	\$ 193,911,901	\$ 206,639,424	\$ 215,317,132	\$ 8,677,708	4.2%
INSURANCE	\$ 2,454,247	\$ 2,500,000	\$ 2,500,000	\$ -	0.0%
WATERSHED/PILOT	20,900,539	23,207,147	23,867,630	660,483	2.8%
HEEC PAYMENT	4,221,585	4,347,200	4,061,027	(286,173)	-6.6%
MITIGATION	1,383,482	1,419,223	1,445,234	26,011	1.8%
ADDITIONS TO RESERVES	3,118,693	1,654,655	1,673,539	18,884	1.1%
RETIREMENT FUND	4,094,362	4,233,329	5,314,218	1,080,889	25.5%
POSTEMPLOYMENT BENEFITS	-	7,098,896	7,641,697	542,801	7.6%
TOTAL INDIRECT EXPENSES	\$ 36,172,908	\$ 44,460,450	\$ 46,503,345	\$ 2,042,895	4.6%
DEBT SERVICE (before offsets)	\$ 341,693,795	\$ 331,002,700	\$ 336,206,013	\$ 5,203,313	1.6%
VARIABLE RATE DEBT	(4,295,441)	(375,000)	-	375,000	-100.0%
BOND REDEMPTION	-	-	-	-	
DEBT SERVICE ASSISTANCE	(18,937,082)	(17,250,000)	(11,250,000)	6,000,000	-34.8%
TOTAL DEBT SERVICE	\$ 318,461,272	\$ 313,377,700	\$ 324,956,013	\$ 11,578,313	3.7%
TOTAL EXPENSES	\$ 548,546,079	\$ 564,477,574	\$ 586,776,490	\$ 22,298,916	4.0%
REVENUE & INCOME					
RATE REVENUE	\$ 495,358,764	\$ 517,797,832	\$ 548,555,000	\$ 30,757,168	5.9%
OTHER USER CHARGES	8,870,839	7,565,475	7,838,590	273,115	3.6%
OTHER REVENUE	6,245,992	5,241,223	5,325,341	84,118	1.6%
RATE STABILIZATION	-	-	5,178,517	5,178,517	
INVESTMENT INCOME	40,262,125	33,873,044	19,879,043	(13,994,001)	-41.3%
TOTAL REVENUE & INCOME	\$ 550,737,720	\$ 564,477,574	\$ 586,776,490	\$ 22,298,916	4.0%

FY09 Highlights and Initiatives

- Continue with the start-up and first year operations of the Braintree-Weymouth Replacement Pump Station (start-up expected by the end of FY08).
- During the second year of operations, identify and implement optimization opportunities at the new Union Park CSO Detention Treatment Facility and BOS019 CSO facility (both commenced operations in FY07).
- Continue struvite remediation and prevention efforts at Deer Island by monitoring and controlling ortho-phosphate levels in the wastestream through the usage of ferrous chloride and/or ferric chloride.
- Competitively procure electricity for the Deer Island Treatment Plant when the existing contract expires in FY09.
- Continue optimization of energy and chemical usage at the CWTP based on the recommendations from the energy audit and water quality expert panel.
- Continue design of a more efficient steam turbine generator replacement at Deer Island. Construction scheduled to begin in 2010.
- Complete feasibility study and start implementation of recommendations on the use of wind-power at MWRA facilities.
- Provide 23% of Deer Island's power requirements through self-generation.
- Ensure the fiscal strength of MWRA through judicious, informed, and farsighted allocation of resources.
- Maintain favorable credit ratings for MWRA's revenue bonds.
- Look at new technologies for continuous improvements in security of desktop and mobile devices.
- Explore various options for Cyber Security Assessment of the MWRA Network.
- Examine new opportunities for "green computing" alternatives in the area of Servers, Printers and Other Peripheral Devices.
- Integrate security alarm services for the MWRA's wastewater facilities into the Authority-wide security monitoring program.

MWRA will continue to assign high priority in its capital and current expense budgets to projects which demonstrate its commitment to energy efficiency and environmental sustainability and will seek to maximize grant funding to improve the economic efficiency of renewable energy projects.

SOURCES AND USES OF FUNDS

MWRA funds its operations primarily through member community assessments. Funds supporting the current expense budget are not subject to appropriation with the exception of debt service assistance and minor reimbursements from the Commonwealth of Massachusetts. Table I-2 shows MWRA's sources and uses of funds for the Proposed FY09 Budget.

Table I-2

SOURCES & USES OF FUNDS*		
\$ in Millions		
<i>Sources of Funds</i>		
Other User Charges	\$7.8	1.3%
Other Revenue	5.3	0.9%
Investment Income	19.9	3.4%
Rate Revenue	548.6	93.5%
Rate Stabilization	5.2	0.9%
TOTAL REVENUE	\$586.8	100.0%
<i>Uses of Funds</i>		
Total Expenses before		
Debt Service Offsets	\$598.0	
Less:		
Debt Service Assistance	(11.3)	
Bond Redemption	0.0	
Sub-Total Net Expenses	586.8	
Capital Financing	336.2	56.2%
Direct Expenses	215.3	36.0%
Indirect Expenses	46.5	7.8%
TOTAL EXPENSES	\$598.0	100.0%
TOTAL EXPENSES Less Offsets	\$586.8	
*May not add up due to rounding		

REVENUE

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

In the Proposed FY09 Budget, 93.5% of revenue is derived from rate revenue. The remaining 6.5% of revenue will come from interest on investments, charges to other water and sewer customers, non-recurring revenue, annual charges to sewer system users with permits issued by MWRA's Toxic Reduction and Control Department, reimbursements from the Commonwealth, penalties assessed to holders of sewer use permits, and other miscellaneous sources.

Rate Revenue

Under the Proposed FY09 Budget, MWRA will raise \$548.6 million of its total revenue requirements from water and sewer assessments to member communities. Of the \$548.6 million, \$366.0 million will fund the sewerage system, an increase of 4.7% as compared to FY08; and \$182.5 million will fund the water system, an increase of 8.5% as compared to FY08.

Non-Rate Revenue

Other User Charges

Other User Charges include revenues derived from the provision of water and sewer services to communities and other entities under special agreements. Other User Charges in the Proposed FY09

Budget totals \$7.8 million and is composed of \$1.8 million in water revenue collected from sewer ratepayers to offset the cost of water used for operation of the Deer Island, \$3.9 million paid by the Chicopee Valley Aqueduct communities, \$1.5 million in water revenue to contract communities, and \$553,000 in entrance fees paid by Stoughton and the Dedham-Westwood Water District.

Other Revenue

Other Revenue is budgeted at \$5.3 million. This includes permit fees, penalties, hydro-power revenues, Commonwealth reimbursements, and other miscellaneous revenues.

Permit Fees and Penalties

The Proposed FY09 Budget includes \$2.0 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 Proposed FY09 Budget includes \$2.4 million in miscellaneous revenues of which \$1.7 million pertains to Deer Island's energy programs for the sale of Renewable Portfolio Standard Credits and participation in the demand response program; \$162,000 is for hydropower generation at the MWRA's Cosgrove Intake facility, and \$626,000 in other revenue.

Investment Income

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The Proposed FY09 Budget includes \$19.9 million in investment income, a decrease of \$14.0 million from the FY08 approved budget due to the 250 basis point drop in projected investment rates. The Proposed FY09 short-term interest rate is projected at 2.0% versus a 4.5% rate in the FY08 budget.

Non-Recurring Revenue

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

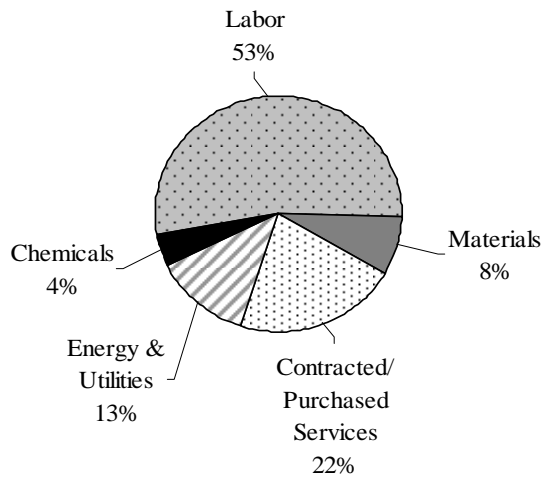
Direct Program Expenses

The Proposed FY09 direct program expense budget is \$215.3 million, an increase of \$8.7 million or 4.2% over the FY08 approved budget. The increase includes higher costs for wages and salaries, health insurance, energy and utilities, 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, and increased self-generation and utilization of digester gas for energy production. Generally, the budget presents expenses by line item and program. The divisional 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 contracted/purchased services (21%) and then by energy and utilities (13%).

FIGURE I-1
Direct Expenses by Category - \$215.3 Million

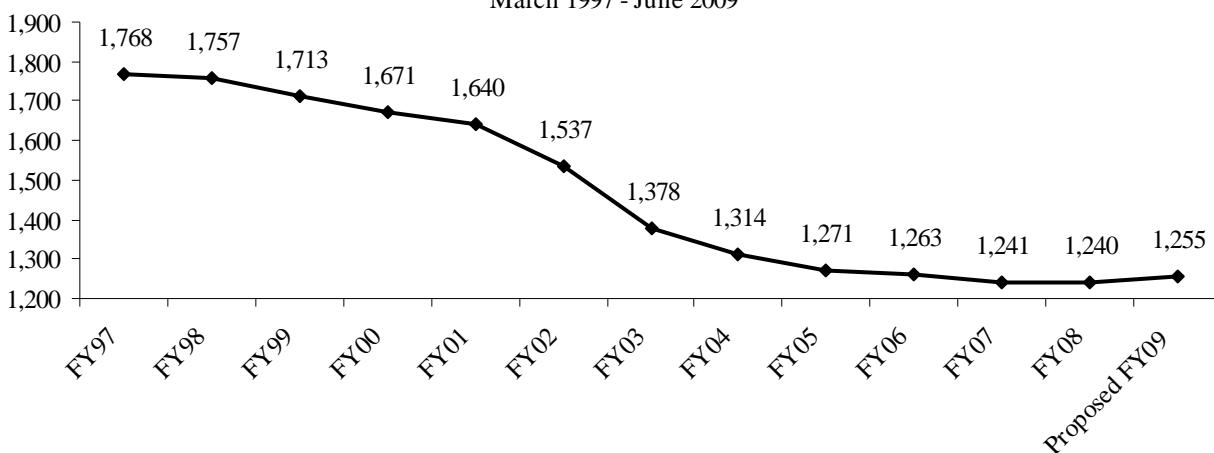


Within the labor cost category, wages and salaries account for \$90.9 million, 3.2% higher than the FY08 approved budget. Of the \$90.9 million, \$89.4 million is for regular pay. The proposed budget assumes a staffing level of 1,255 for Fiscal Year 2009, which matches the FY08 budget, but is 15 positions higher than the number of actual filled positions as of December 2007. New hires and backfills of vacant positions will be managed in the aggregate and addressed on a case-by-case basis by senior management.

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 FY09.

Figure I-2

MWRA Filled Positions
March 1997 - June 2009



Contracted and purchased services, the second largest direct expense cost category, includes professional, maintenance, and other services. The Proposed FY09 Budget for contracted and purchased services is \$46.8 million, \$2.4 million or 5.5% above the FY08 approved budget. This increase was driven by a \$1.0 million increase in property, plant, and machinery services expense and a \$0.8 million increase in building and grounds services.

Major components of this cost category include \$14.6 million for MWRA's residuals processing contract, \$3.1 million for lease payments, (consisting of \$1.6 million for the Charlestown Navy Yard and \$1.3 million for the Chelsea facility), \$15.8 million for maintenance services, \$3.1 million for harbor and outfall monitoring, \$1.4 million for telephone and lease line services, \$2.1 million for security, and \$0.9 million for grit and screenings removal.

The proposed budget for utility expenses is \$27.4 million compared to \$26.5 million in FY08. The \$0.9 million or 3.4% increase reflects higher projected electricity prices of which \$0.8 million can be attributed to Deer Island. The Proposed FY09 energy and utilities budget reflects the most recent pricing outlook based on energy futures and on the latest bids for contracts renewed in May 2007 for Deer Island, the Carroll Water Treatment Plant and other large FOD facilities. Seventy-seven (77%) of the Authority's power requirement is purchased on the variable rate market, exposed to the fluctuations of the market. The higher diesel fuel prices were offset by lower usage projections both in Field Operations and Deer Island.

The proposed budget includes \$9.5 million for chemicals, an increase of \$0.8 million or 8.8% from the FY08 budget. The majority of the variance is the result of price increases. Budget increases of \$290,000 and \$147,000 reflect higher prices for hydrofluosilicic acid and soda ash, respectively in Field Operations. The new regulatory requirement for enterococcus compliance at Deer Island resulted in usage increases for sodium bisulfite and sodium hypochlorite of \$225,000. Ferrous chloride usage increased \$168,000 to better control struvite formation at Deer Island.

The Proposed FY09 Budget for materials, which includes maintenance materials, laboratory equipment, vehicles, and computer hardware items, is \$17.3 million, \$0.1 million more the FY08 approved budget. The majority of the increase reflects greater spending for special equipment materials and HVAC materials to preserve the physical plant.

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 Proposed FY09 direct expense budget is for Wastewater Transport and Treatment costs, compared to 15% for Water Transmission, Treatment, and Distribution.

Figure I-4, Staffing by Functional Area as of December 2007 shows that of 1,240 filled positions, 56% are devoted to operating and maintaining the water and wastewater treatment and transport systems; 23% to administration and support and MIS functions, and 9% to facilities planning, design, and construction. Water and Wastewater Quality functions, and metering and monitoring, particularly Boston Harbor and Massachusetts Bay monitoring activities and industrial discharge and enforcement programs, account for 10% of all staff.

FIGURE I-3
Direct Expenses by Functional Area - \$215.3 Million

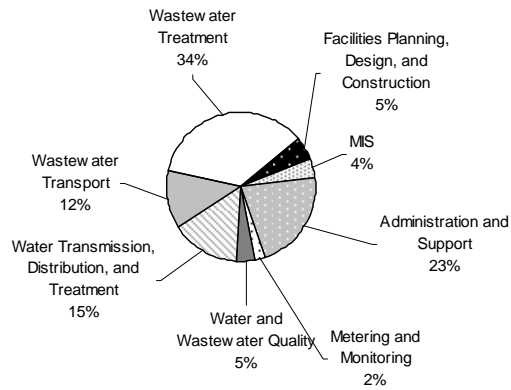
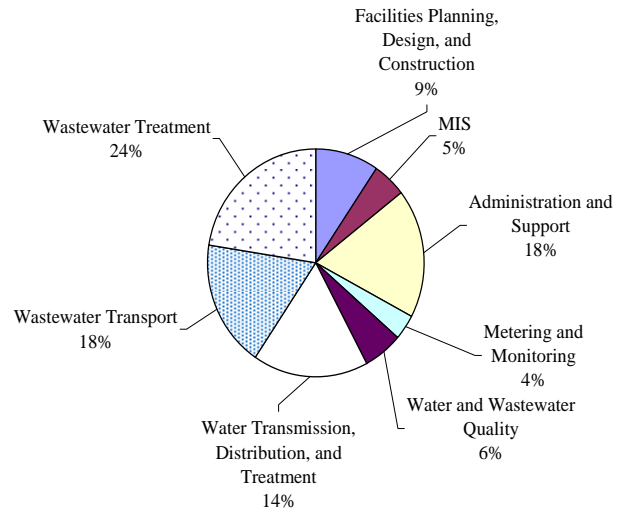


FIGURE I-4
Staffing by Functional Area

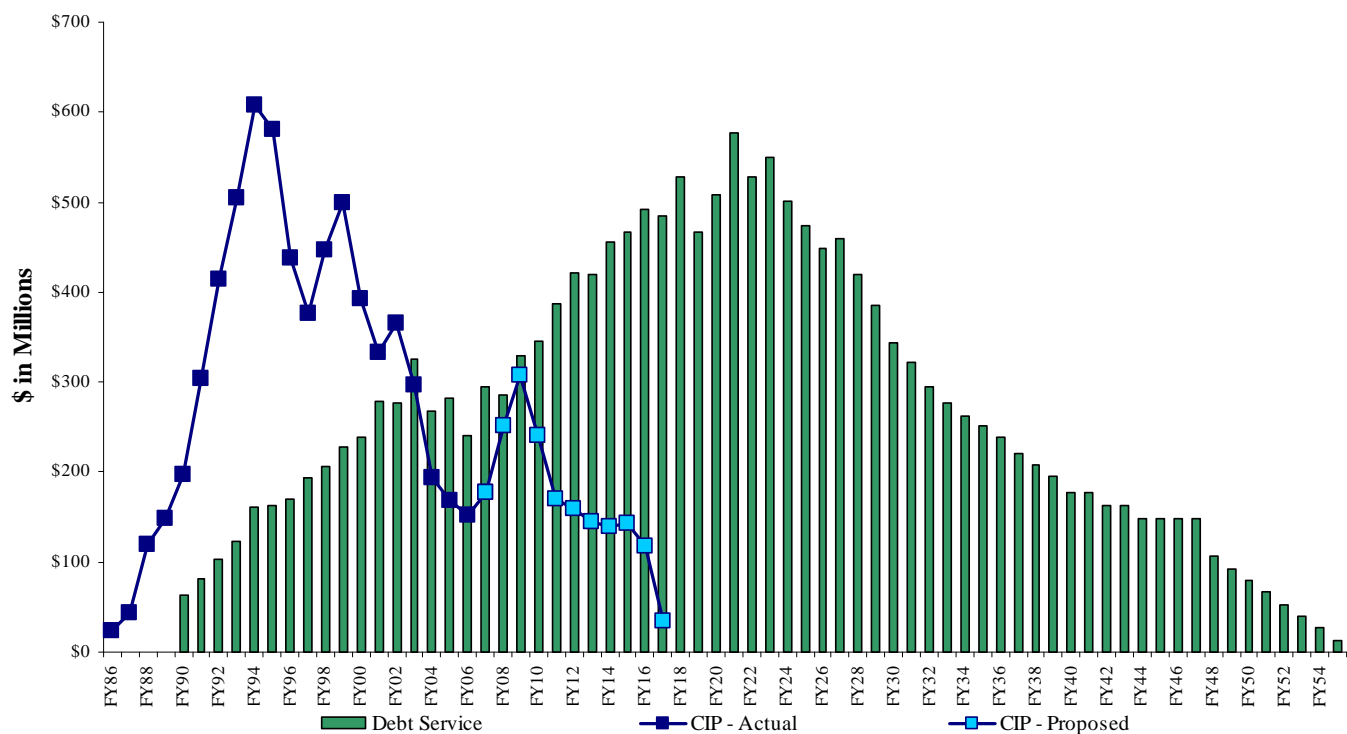


Capital Financing

The \$6.8 billion spent on MWRA's system modernization has relied heavily on debt financing. Total debt as of June 2007 reached \$5.6 billion consisting of senior and subordinated debt in addition to tax-exempt commercial paper. The Authority is significantly leveraged with long-term debt representing 70.5% of total assets, but the stability and predictability of operating cashflows can support a leveraged capital structure. The MWRA enjoys strong unenhanced debt ratings of Aa2, AA, and AA from Moody's, S&P, and Fitch, respectively.

The graph included below illustrates the relationship between the MWRA's Capital Improvement Program and outstanding debt as of June 2007.

**MWRA Capital Improvement Spending
&
Debt Service**



As a result of the Authority's capital improvement program, debt service as a percent of total expenses before offsets has increased steadily from 36% in 1990 to 56.2% in the FY09 Current Expense Budget. Much of this debt service is for completed projects, primarily the Boston Harbor Project and the Integrated Water Supply Improvement Program. MWRA's capital spending, from its inception, has been dominated by projects mandated by court order or regulatory requirements, which in total have accounted for 80% of capital spending to date.

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

The Proposed FY09 capital financing costs before offsets total \$336.2 million and remain the largest portion of the MWRA's operating expenses, accounting for 56.2% of total expenses. The debt service offsets include \$11.25 million assumed as MWRA's share of statewide appropriation for debt service assistance based on a \$15 million statewide program.

The Proposed FY09 Budget assumes a 4.25% interest rate for variable rate debt compared to 4.7% for FY08. If interest rates increase to levels higher than anticipated throughout the year, offsetting adjustments will have to be achieved elsewhere in the budget. If interest rates during the year are lower, the savings will be used to reduce rate revenue requirements in future years.

The Proposed FY09 capital financing costs total \$336.2 million before offsets of \$11.25 million for debt service assistance, resulting in a net capital financing total of \$325.0 million. The \$11.25 million represents MWRA's assumed share of a statewide appropriation for debt service assistance of \$15 million.

Table I-3 provides detail on the Proposed FY09 capital financing line item. Table I-3 also illustrates how upgrading the sewerage system has dominated the capital program to date. Sixty-six percent of the Proposed FY09 capital financing costs (before debt service offsets) are for wastewater improvements. Current and future borrowing increasingly supports improvements to the water system. A complete list of the Authority's indebtedness by series is presented in Appendix F.

	Amount Outstanding	Total	Sewer	Water
Total SRF ¹ Debt	\$997	\$54.2	\$44.0	\$10.2
Total Senior Debt	3,083	177.4	101.8	75.6
Total Subordinate Debt	1,515	93.2	66.6	26.6
Total SRF and Debt Service²	\$5,595	\$324.8	\$212.4	\$112.4
Water Pipeline Commercial Paper	89	3.7	0.0	3.7
Current Revenue/Capital ³		4.5	3.4	1.1
Capital Lease		3.2	2.1	1.1
Sub-Total	89	\$11.4	\$5.5	\$5.9
Total Capital Financing (before Debt Service Offsets)	\$5,684	\$336.2	\$217.9	\$118.3
Debt Service Offsets:				
Variable Rate Savings		0.0	0.0	0.0
Debt Service Assistance		(11.3)	(10.0)	(1.2)
Total Capital Financing	\$5,684	\$325.0	\$207.8	\$117.1

¹ SRF debt service payments reflect net MWRA obligations after state and federal subsidies.

² Numbers may not add due to rounding.

³ Current Revenue/Capital is revenue used to fund ongoing capital projects. The amount is partly determined by MWRA's bond covenant requirements.

The Proposed FY09 capital financing costs before offsets increased by \$5.2 million or 1.6% compared to FY08. This increase in MWRA's debt service requirement is the result of the new money issued in FY08 and projected FY09 issues. The FY09 capital financing budget includes:

- \$318.4 million in principal and interest payments on outstanding MWRA debt and SRF loans. This includes foregoing an optional prepayment of principal during FY09, previously reflected in the FY08 planning estimates.
- \$6.4 million in debt service to support a \$100 million in SRF borrowings in December 2008, and \$100 million fixed rate issue in April, 2009.
- \$4.5 million to fund ongoing capital projects with current revenue and to meet coverage requirements.
- \$3.7 million to fund the interest expense related to the Local Water Pipeline Assistance Program.
- \$3.2 million for the Chelsea Lease.

Indirect Expenses

The Proposed FY09 Budget includes \$46.5 million for indirect expenses, an increase of \$2.0 million or 4.6% over the FY08 approved budget. The increase includes a \$1.1 million increase in payments to the MWRA retirement fund, reflecting the adoption of a new assessment methodology which resulted in a deficit which will be erased over the next 17 years.

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 Proposed FY09 Budget includes \$2.5 million for premiums and fees, level funded at the FY08 level. 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. The current funding level of \$19.0 million has been determined to be acceptable and reasonable based on a FY07 Insurance Reserve Fund review performed by an outside insurance consultant. No changes to the insurance reserve are planned for FY09.

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 Proposed FY09 Budget includes \$5.9 million, \$13.0 million, and \$4.9 million respectively for these items. Collectively these represent an increase of \$0.7 million over the FY08 approved budget.

Harbor Electric Energy Company (HEEC)

Harbor Electric Energy Company (HEEC), 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 HEEC's capital investment on a 25-year schedule. The budget includes \$4.1 million for the estimated FY09 payment, comprised of \$3.4 million for capacity charges and \$667,000 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 Proposed FY09 Budget includes \$1.4 million for community compensation for impacts, including \$752,000 for the City of Quincy and \$693,000 for the Town of Winthrop, based on Memoranda of Agreement with the communities.

Retirement System Contribution

The Proposed FY09 Budget includes a contribution to MWRA's retirement fund of \$5.3 million, an increase of \$1.1 million compared to the FY08 Approved Budget. During FY08, the Retirement Board voted to adopt a new methodology of assessing retirement liability that would be in line with other 105 Chapter 32 retirement systems in the Commonwealth. Using the new methodology MWRA Employees' Retirement System funding level decreased from a fully funded level to 85% funding. The Retirement Board has chosen to recognize this liability and voted to adopt a seventeen year amortization schedule to bring the program back to the 100% funding level.

GASB 45 – Postemployment Benefits Other than Pensions

The Authority adopted GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions*, in FY08. An additional \$7.6 million is proposed to be added in FY09 based on recommendations from the actuarial report received in April FY07. As recommended by the Advisory Board, the Authority formed a working committee to evaluate funding options and develop a long-term strategy to manage this liability.

Operating Reserves

Funding for the Operating Reserve for FY09 of \$1.7 million is in compliance with the requirement of the MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the Proposed FY09 CEB, the required balance is \$39.4 million at the end of FY09.

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. Approximately 2.6 million people, or 42% of the population of Massachusetts, live and work in the communities that purchase water and/or wastewater services from MWRA.

MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the Proposed FY09 Current Expense Budget, rate revenue from BWSC will account for 31% of MWRA's total rate revenue. Table I-4, on page I-15, lists MWRA communities, the services received, and the proposed MWRA assessments for FY09.

Each year MWRA determines preliminary wholesale water and sewer assessments in February and final assessments in June before the beginning of the new fiscal year. These assessments must satisfy the statutory requirement that MWRA fully recover its budgeted water and sewer costs by apportioning net costs among its wholesale water and sewer customers.

Table I-5 on page I-16 presents the calculation of MWRA's proposed FY09 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 Proposed FY09 Budget was revised prior to FY02 to more accurately estimate the division of support costs between the water and sewer programs. Investment income and other revenues offset water and sewer expenses. The resulting net cost of water and sewer services is the amount MWRA recovers through water and sewer assessments.

Wholesale Assessment Methodology

MWRA calculates separate user assessments for water and sewer services. Budgeted water operating and capital costs are allocated based on each community's share of total water use for the most recent calendar year. The sewer assessment methodology allocates budgeted operating and maintenance costs based on share of wastewater flow and strength parameters, and capital costs based on proportion of maximum flow, strength, and population. MWRA uses three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. Flow averaging moderates the short-term impact of year-to-year changes in community flow, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow. Beginning in FY07, MWRA sewer assessments were 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.

Table I-4

Massachusetts Water Resources Authority
Preliminary FY09 Water and Sewer Assessments
Includes \$11.25M in Debt Service Assistance

12-Feb-08

MWRA Fully Served Water and Sewer Customers	Final FY08 Water Assessment	Preliminary FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Preliminary FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Preliminary FY09 Combined Assessment	Percent Change from FY08
ARLINGTON	\$3,635,597	\$3,846,352	5.8%	\$6,383,391	\$6,481,828	1.5%	\$10,018,988	\$10,328,180	3.1%
BELMONT	1,820,717	2,260,567	24.2%	3,853,748	3,976,142	3.2%	5,674,465	6,236,709	9.9%
BOSTON (BWSC)	63,979,766	66,353,826	3.7%	98,687,572	104,707,018	6.1%	162,667,338	171,060,844	5.2%
BROOKLINE	4,843,966	5,264,070	8.7%	10,011,208	10,453,614	4.4%	14,855,174	15,717,684	5.8%
CHELSEA	2,622,102	2,785,186	6.2%	4,746,257	5,007,459	5.5%	7,368,359	7,792,645	5.8%
EVERETT	4,149,900	4,241,120	2.2%	6,103,714	6,286,949	3.0%	10,253,614	10,528,069	2.7%
FRAMINGHAM	6,135,546	6,607,971	7.7%	8,690,797	9,958,575	3.1%	14,826,343	15,566,546	5.0%
LEXINGTON	4,117,775	4,623,873	12.3%	5,630,863	5,941,401	5.5%	9,748,638	10,565,274	8.4%
MALDEN	5,197,166	5,534,427	6.5%	9,284,922	9,814,306	5.7%	14,482,088	15,348,733	6.0%
MEDFORD	4,637,124	4,797,288	3.5%	9,335,845	9,809,102	5.1%	13,972,969	14,606,390	4.5%
MELROSE	2,073,594	2,145,539	3.5%	4,638,409	4,891,929	5.5%	6,712,003	7,037,468	4.8%
MILTON	2,196,171	2,459,783	12.0%	4,368,070	4,422,475	1.2%	6,564,241	6,882,258	4.8%
NEWTON	7,744,282	8,729,681	12.7%	16,011,280	16,490,696	3.0%	23,755,562	25,220,377	6.2%
NORWOOD	2,664,525	3,170,927	19.0%	5,416,848	5,481,081	1.2%	8,081,373	8,652,008	7.1%
QUINCY	8,675,891	9,575,385	10.4%	15,225,088	16,102,397	5.8%	23,900,979	25,677,782	7.4%
READING ¹	1,536,924	1,656,946	7.8%	3,410,216	3,616,836	6.1%	4,947,140	5,273,782	6.6%
REVERE	3,711,064	3,939,539	6.2%	7,237,597	7,685,648	6.2%	10,948,661	11,625,187	6.2%
SOMERVILLE	5,416,384	5,934,618	9.6%	11,802,980	12,037,009	2.0%	17,219,364	17,971,627	4.4%
STONEHAM	2,570,311	2,818,480	9.7%	3,623,787	3,788,944	4.6%	6,194,068	6,607,424	6.7%
WALTHAM	6,518,480	7,221,866	10.8%	10,567,428	11,045,120	4.5%	17,085,908	18,266,986	6.9%
WATERTOWN	2,551,548	2,717,266	6.5%	4,627,713	4,839,847	4.6%	7,179,261	7,557,113	5.3%
WINTHROP	1,206,885	1,241,284	2.9%	2,454,240	2,623,314	6.9%	3,661,125	3,864,598	5.6%
TOTAL	\$148,005,718	\$157,925,994	6.7%	\$252,111,973	\$264,461,690	4.9%	\$400,117,691	\$422,387,684	5.6%
MWRA Sewer and Partial Water Customers	Final FY08 Water Assessment	Preliminary FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Preliminary FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Preliminary FY09 Combined Assessment	Percent Change from FY08
CANTON	\$1,752,541	\$2,291,358	30.7%	\$3,342,320	\$3,314,129	-0.8%	\$5,094,861	\$5,605,487	10.0%
NEEDHAM	958,624	1,075,204	12.2%	4,911,005	4,969,440	1.2%	5,869,629	6,044,644	3.0%
STOUGHTON	429,813	541,862	26.1%	3,620,218	3,794,655	4.8%	4,050,031	4,336,517	7.1%
WAKEFIELD	1,465,661	1,461,416	-0.3%	4,643,094	4,757,856	2.5%	6,108,755	6,219,272	1.8%
WELLESLEY	505,698	864,226	70.9%	4,453,740	4,642,505	4.2%	4,959,438	5,506,731	11.0%
WINCHESTER	692,181	906,435	31.0%	3,140,264	3,157,835	0.6%	3,832,445	4,064,270	6.0%
WOBURN	1,979,251	2,997,673	51.5%	9,106,235	9,650,537	6.0%	11,085,486	12,648,210	14.1%
TOTAL	\$7,783,769	\$10,138,174	30.2%	\$33,216,876	\$34,286,957	3.2%	\$41,000,645	\$44,425,131	8.4%
MWRA Sewer-only Customers	Final FY08 Water Assessment	Preliminary FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Preliminary FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Preliminary FY09 Combined Assessment	Percent Change from FY08
ASHLAND				\$1,651,164	\$1,756,819	6.4%	\$1,651,164	\$1,756,819	6.4%
BEDFORD				2,662,238	2,815,330	5.8%	2,662,238	2,815,330	5.8%
BRAINTREE				6,564,038	6,838,350	4.2%	6,564,038	6,838,350	4.2%
BURLINGTON				3,845,017	4,122,283	7.2%	3,845,017	4,122,283	7.2%
CAMBRIDGE				18,475,398	20,110,418	8.8%	18,475,398	20,110,418	8.8%
DEDHAM				4,682,605	4,713,884	0.7%	4,682,605	4,713,884	0.7%
HINGHAM SEWER DISTRICT				1,274,442	1,263,804	-0.8%	1,274,442	1,263,804	-0.8%
HOLBROOK				1,209,004	1,244,809	3.0%	1,209,004	1,244,809	3.0%
NATICK				3,993,641	4,023,194	0.7%	3,993,641	4,023,194	0.7%
RANDOLPH				4,482,219	4,682,407	4.5%	4,482,219	4,682,407	4.5%
WALPOLE				2,809,378	2,966,726	5.6%	2,809,378	2,966,726	5.6%
WESTWOOD				1,996,235	2,000,676	0.2%	1,996,235	2,000,676	0.2%
WEYMOUTH				8,762,733	8,917,423	1.8%	8,762,733	8,917,423	1.8%
WILMINGTON				1,768,169	1,801,756	1.9%	1,768,169	1,801,756	1.9%
TOTAL				\$64,176,281	\$67,257,879	4.8%	\$64,176,281	\$67,257,879	4.8%
MWRA Water-only Customers	Final FY08 Water Assessment	Preliminary FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Preliminary FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Preliminary FY09 Combined Assessment	Percent Change from FY08
LYNNFIELD WATER DISTRICT	\$362,549	\$445,069	22.8%				\$362,549	\$445,069	22.8%
MARBLEHEAD	1,629,117	1,852,082	13.7%				1,629,117	1,852,082	13.7%
NAHANT	332,081	355,556	7.1%				332,081	355,556	7.1%
SAUGUS	2,715,030	2,887,816	6.4%				2,715,030	2,887,816	6.4%
SOUTHBOROUGH	602,437	770,683	27.9%				602,437	770,683	27.9%
SWAMPSCOTT	1,348,647	1,434,210	6.3%				1,348,647	1,434,210	6.3%
WESTON	1,281,195	1,666,986	30.1%				1,281,195	1,666,986	30.1%
TOTAL	\$8,271,056	\$9,412,402	13.8%				\$8,271,056	\$9,412,402	13.8%
MWRA Partial Water-only Customers	Final FY08 Water Assessment	Preliminary FY09 Water Assessment	Percent Change from FY08	Final FY08 Sewer Assessment	Preliminary FY09 Sewer Assessment	Percent Change from FY08	Final FY08 Combined Assessment	Preliminary FY09 Combined Assessment	Percent Change from FY08
DEDHAM-WESTWOOD WATER DISTRICT ¹	\$34	\$15,770	46282.4%				\$34	\$15,770	46282.4%
LYNN	219,006	222,991	1.8%				219,006	222,991	1.8%
MARLBOROUGH	2,738,567	3,435,741	25.5%				2,738,567	3,435,741	25.5%
NORTHBOROUGH	790,421	863,351	9.2%				790,421	863,351	9.2%
PEABODY	484,131	534,051	10.3%				484,131	534,051	10.3%
TOTAL	\$4,232,159	\$5,071,904	19.8%				\$4,232,159	\$5,071,904	19.8%
SYSTEMS TOTAL	\$168,292,702	\$182,548,474	8.5%	\$349,505,130	\$366,006,526	4.7%	\$517,797,832	\$548,555,000	5.9%

¹ The Dedham-Westwood Water District and the Town of Reading became partially served MWRA water communities in FY07. Reading became fully served in FY08.

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.

TABLE I-5
Calculation of the PFY09 Rate Revenue Requirement
(000's)

	Sewer	Water	Total
Allocated Direct Expenses	\$159,012	\$56,305	\$215,317
Allocated Indirect Expenses	\$17,548	\$28,955	\$46,503
PLUS			
Capital Expenses:			
Debt Service (less offsets)	\$202,325	\$114,914	\$317,239
Capital Lease	\$2,155	\$1,062	\$3,217
Current Revenue for Capital	\$3,375	\$1,125	\$4,500
PLUS			
Non-Rate Revenue:			
Investment Income	-\$12,210	-\$7,669	-\$19,879
Fees and Other Revenue	-\$6,199	-\$12,143	-\$18,342
Non-Recurring Revenue	0	0	\$0
EQUALS			
Rate Revenue Requirement	\$366,007	\$182,548	\$548,555

Revenue and Expenditure Trends

Because MWRA is required by its enabling act to balance its budget and to establish annual assessments to cover all expenses, revenue must change in concert with the changes in expenses each year. The rate revenue requirement in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and debt service assistance from the Commonwealth (which directly reduces debt service expense). For FY09, community assessments will represent 93.5% of total revenue.

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 allow MWRA to consider multiple-year rates management implications and strategies as it evaluates alternative capital and operating budget decisions.

The table below and Appendix D (in more detail) present future rate revenue requirements for FY09 through FY18.

Rates & Budget Projections - Based on \$11.25M of Debt Service Assistance										
Proposed FY09 CEB	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
Total Rate Revenue (\$ in Mil)	\$ 548,555	\$ 581,371	\$ 616,028	\$ 652,976	\$ 692,059	\$ 733,861	\$ 773,570	\$ 795,087	\$ 862,686	\$ 829,295
Rate Revenue Change from Prior Year (\$000)	\$ 30,757	\$ 32,816	\$ 34,657	\$ 36,948	\$ 39,083	\$ 41,802	\$ 39,709	\$ 21,517	\$ 67,599	\$ (33,391)
Rate Revenue Increase	5.9%	6.0%	6.0%	6.0%	6.0%	6.0%	5.4%	2.8%	8.5%	-3.9%

Increasing debt service to finance the capital improvement program is the most important factor driving estimates of future budget increases. Over the past several years MWRA's tax-exempt commercial paper program, debt refinancing, federal grants, SRF loans, and Commonwealth debt service assistance have mitigated the impact on ratepayers of new capital spending. However, new water system improvements, for which there are fewer non-ratepayer sources of funding, and the impact of 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 \$94.9 million increase in direct expenses from FY09 to FY18 is primarily the result of an assumed inflation rate of 4.0% annually. In addition, in order to account for anticipated increases in expenses for FY09, labor is projected to grow by 3.2%, while chemicals and maintenance are forecast to rise by 8.8% and by 9.2%, 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.

Completion of the North Dorchester Bay CSO project will have incremental impacts beginning in FY12. Also, \$1.4 million inflated in additional costs projected in FY14 for the Carroll Plant for ultraviolet technology licensing fees.

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:

- Debt Service Assistance projected to be level funded at \$11.25 million;
- Direct expense inflation rate of 4.0%;
- 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 (4.5% in FY09);
- Variable rate interest projected at 4.25% in FY09 and 4% in outer years;

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 4.0% is an area of increased concern. Increases in utilities, chemicals, maintenance and health care are reflected in the Proposed FY09 Budget. 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.

Proposed FY09 Capital Improvement Program

Overview

MWRA was created by the Massachusetts legislature in 1985 and since that time has invested over \$6.9 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. The Proposed FY09 CIP budget totals \$4.9 billion with projected spending of \$288.5 million for FY09, including contingency.

MWRA's sewage treatment system has undergone a nearly complete transformation under the federally mandated, \$3.8 billion Boston Harbor Project. Now complete, the project 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 into one; a sludge-to-fertilizer facility; and a 9.5-mile Effluent Outfall Tunnel to discharge treated wastewater away from shallow Boston Harbor into deeper waters and the stronger currents of Massachusetts Bay.

MWRA's Integrated Water Supply Improvement program is a \$1.7 billion series of projects that consists of aggressive watershed protection, modernized water treatment facilities and distribution system improvements including construction of covered storage facilities and pipeline rehabilitation projects. This program is nearly complete and includes the \$437 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 with ozonation and chloramination. The plan also includes the 17.6-mile MetroWest Supply Tunnel which was placed in service in November 2004 and runs parallel to the Mass Turnpike. The new tunnel greatly enhances the security, capacity and reliability of MWRA's entire water transmission system. Prior to 2004, the MWRA relied on a single 1940's-era surface aqueduct, the Hultman Aqueduct, to serve all of metropolitan Boston. With its leaks and aging valves, the Hultman had to be taken off-line for major repairs. Before the MetroWest Tunnel, failure of the Hultman could have caused nearly complete interruption of Boston's water supply. This would have been a disaster for the region's public health, safety and economy.

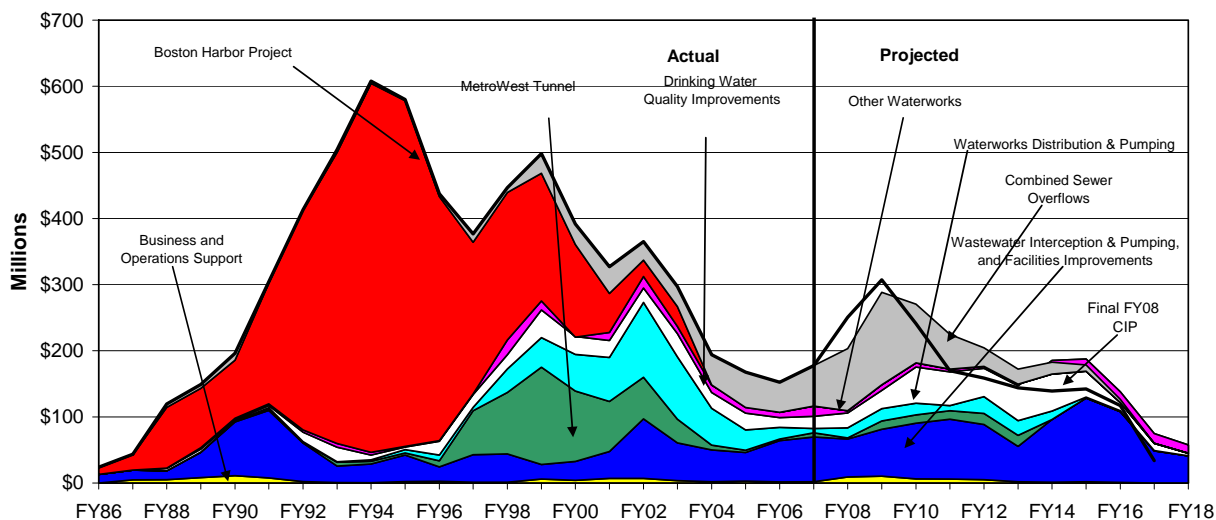
With the completion of the Deer Island facilities and the winding down of the Water Supply Improvement program, the MWRA now spends a proportionately large part of its CIP budget on the Combined Sewer Overflow ("CSO") projects mandated by state and federal agencies. The CSO program encompasses 25 projects with a total budget of \$840.3 million with spending of \$411.7 million through FY07 and a remaining balance of \$428.6 million. In 1987, MWRA entered a stipulation in the Federal District Court Order in the Boston Harbor Case by which it accepted responsibility for developing and implementing a long-term CSO control plan for all combined sewer overflows hydraulically connected to MWRA's system, including the outfalls owned and operated by the communities of Boston, Cambridge, Chelsea, Somerville, and a small section of Brookline. Since then, MWRA has conducted site-specific and watershed-based planning to meet short-term control requirements pursuant to federal regulations and

developed a long-term control plan to bring the Boston area CSOs into compliance with the Federal Clean Water Act and State Water Quality Standards.

As the MWRA matures as an agency, a greater proportion of its capital budget will be designated for Asset Protection and Maintenance initiatives, absent new regulatory mandates, to preserve these operating assets. The design of this long-term strategy for capital work is identified in the Authority’s recently completed Master Plan.

The graph below highlights major capital improvement spending by program categories, both completed (actual) and remaining (projected).

MWRA CAPITAL PROGRAM FY86-18



**Proposed FY09 CAPITAL IMPROVEMENT PROGRAM
Actual and Projected Expenditures**

Expended To-Date	Projected Expenditures Beyond FY07
\$6.8 billion	\$2.3 billion

MWRA’s Green Initiatives

Building upon its track record in sustainable resource use – most notably dramatic system-wide reductions in water demand, 100% beneficial reuse of biosolids, self-generation of approximately 25% of Deer’s Island power needs, and maximizing revenue through hydropower – MWRA continues to work aggressively to use its resources efficiently, respond appropriately to climate change, and reduce the environmental impacts of its daily operations. Key initiatives now underway or planned for FY09 include the following:

- A comprehensive “green energy” initiative that is expected to bring solar, wind and hydroelectric power either alone or in combination to a number of MWRA facilities.
- Retrofitting of diesel-powered vehicles and equipment and continued purchase of alternative fuel vehicles.
- Comprehensive energy audits at the Carroll Water Treatment Plant, the Chelsea Facility, and Deer Island Treatment Plant facilities.
- A feasibility study to replace the existing steam turbine generator on Deer Island with a more efficient unit.

MWRA will continue to assign high priority in its capital and current expense budgets to projects which demonstrate its commitment to energy efficiency and environmental sustainability and will seek to maximize grant funding to improve the economic efficiency of green energy projects.

PROPOSED FY09 CIP

As shown in Table 6 below, the MWRA’s total capital budget is \$4.9 billion, including contingency, of which \$2.3 billion remains to be expended. Budgeted spending for FY09, including contingency, is \$288.5 million. The CSO program represents the largest program initiative in terms of spending with a FY09 budget of \$125.4 million in FY09 and accounts for over 26% of Authority spending over the FY09-13 period.

Table 6

Fiscal Year 2009 CAPITAL IMPROVEMENT PROGRAM (\$ in 000'S)									
	Total Contract Amount	Total \$ Thru FY07	Balance 6/30/07	FY2008 Estimate	FY2009	Sub-Total 5-Year FY04-08	Sub-Total 5-Year FY09-13	Sub-Total Beyond FY13	Total 10-Year FY04-13
Wastewater System Improvements	2,299,925	1,071,648	1,228,277	133,686	181,458	536,487	600,804	493,786	1,137,291
Interception & Pumping	703,259	465,703	237,556	26,083	21,116	149,297	103,681	107,791	252,978
Treatment	457,082	43,635	413,447	9,410	36,146	42,891	189,249	214,788	232,140
Residuals	212,381	63,811	148,570	97	1,025	7,289	6,473	141,999	13,762
CSO	840,328	411,710	428,618	93,961	125,396	300,331	303,948	30,708	604,279
Other	86,875	86,788	87	4,136	-2,226	41,180	-2,547	-1,503	38,633
Waterworks System Improvements	2,378,894	1,556,463	822,432	60,651	71,003	341,484	431,184	330,596	772,668
Drinking Water Quality Improvements	645,375	496,769	148,606	15,199	16,956	125,714	83,495	49,912	209,209
Transmission	989,426	659,736	329,690	19,323	20,689	59,619	115,615	194,751	175,234
Distribution And Pumping	713,364	280,912	432,452	22,700	25,113	105,001	208,565	201,186	313,566
Other	30,729	119,045	-88,316	3,429	8,245	51,150	23,509	-115,253	74,659
Business & Operations Support	78,481	38,741	39,740	9,117	9,631	17,257	27,043	3,579	44,300
SUB-TOTAL	4,757,300	2,666,852	2,090,449	203,454	262,092	895,228	1,059,031	827,961	1,954,259
Contingency	164,367		164,367	0	26,406	0	102,147	62,220	102,147
Total MWRA w/ Contingency	4,921,667	2,666,852	2,254,816	203,454	288,498	895,228	1,161,178	890,181	2,056,407

FY09 Capital Highlights

The Proposed FY09 CIP, including contingency and inflation to FY09 dollars, is \$895.2 million for fiscal years 2004-2008, \$1,161.2 million for fiscal years 2009-2013, and net projected spending of \$890.2 million for fiscal years 2014 and beyond which is primarily driven by spending on new projects from the Master Plan. The FY14-18 spending estimate will grow in future budget cycles as additional Master Plan projects are incorporated. The total contract spending in the Proposed FY09 CIP is \$4.9 billion, including contingency, of which \$2.7 billion has been spent through FY07. The Proposed FY09 CIP includes 78 projects/subphases from the Master Plan with the highest priority ratings totaling \$986.2 million. In the Proposed FY09 CIP, 11 projects/subphases totaling \$31.0 million were added from the Master Plan.

Highlights of Project Changes from the Final FY08 CIP to the Proposed FY09 CIP

The Proposed FY09 CIP represents updated spending and schedules for projects contained in the FY08 CIP and new spending on 18 new water and wastewater projects and subphases totaling \$36.7 million. These additional projects and subphases represent those capital initiatives outside of the FY08 CIP that staff recommend as most essential to assure reliable service to MWRA's customers. The Proposed FY09 CIP increased \$206.4 million above the Final FY08 CIP approved by the Board in June 2007 with the majority of the increased spending, \$140.6 million, occurring in the FY09-13 timeframe.

Table 7

MWRA Capital Program \$ in Millions	Final FY08 CIP	Proposed FY09 CIP	\$ Chge.	% Chge.	FY09-13 \$ Chge.	Beyond FY13 \$ Chge.
Wastewater System Improvements	\$2,209.6	\$2,299.9	\$90.4	4.1%	\$90.1	(\$8.4)
Waterworks System Improvements	2,278.3	2,378.9	100.6	4.4%	27.9	86.8
Business & Operations Support	68.4	78.5	10.1	14.8%	9.5	0.0
Total MWRA	4,556.3	4,757.3	201.0	4.4%	127.5	78.5
Contingency	159.0	164.4	5.4	3.4%	13.1	15.1
Total MWRA w/Contingency	\$4,715.3	\$4,921.7	\$206.4	4.4%	\$140.6	\$93.5

Major Planned Spending for Fiscal Year 2009

Capital spending in FY09 is estimated to be \$288.5 million. Spending will be driven by several large projects. Five projects account for 54.4% of FY09 spending, including contingency.

Contingency

Contingency for each fiscal year is incorporated into the Capital Improvement Program to fund the uncertainties inherent in construction programs. MWRA uses a contingency budget to cover these costs in the event they exceed the approved budget. The contingency budget is calculated as a percentage of budgeted expenditures outlays (15% for tunnel construction and approximately 10% for all other projects).

The total contingency budget for the ten-year CIP (09-18) is \$164.4 million.

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. In prior years, completion of the Deer Island Treatment Plant, the Carroll Water Treatment Plant, and the residuals processing facility in Quincy resulted in significant increases in operating expenses. Improved systems will increase annual operating costs by over \$1.0 million by FY18 with increase of \$123,000, \$149,000, and \$227,000, in FY10, FY11 and FY14, respectively for Laboratory Information and Management System (LIMS) replacement, Geographic Information System (GIS), and Operations Management System (OMS). North Dorchester Bay is expected to go on-line in FY12 and increase annual operating costs by \$422,000. The largest increase over the next five year period results from the licensing fee for the Ultra Violet treatment at the Carroll Water Treatment Plant beginning in FY14 for \$1.4 million. The following table summarizes projected CIP impact by project over the next 10 years.

Table 8

FISCAL YEAR	Impacts of CIP Projects (000's)									
	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	Total
Deer Island Energy	-\$139	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	-\$139
FERS Biofilter	0	0	0	0	-158	0	0	0	0	-158
North Dorchester Bay CSO	0	0	422	0	0	0	0	0	0	422
Charles River CSO Controls	5	0	0	0	0	0	0	0	0	5
TOTAL WASTEWATER (inflated)	-\$134	\$0	\$422	\$0	-\$158	\$0	\$0	\$0	\$0	\$129
John J. Carroll Water Treatment Plant	\$104	\$0	\$0	\$0	\$1,399	\$0	\$0	\$0	\$0	\$1,503
Quabbin Water Treatment Plant	0	0	0	162	32	0	0	0	0	194
Wachusett Algae Treatment Facility	0	0	0	0	0	25	26	0	0	52
Water Storage Tanks	208	0	0	0	0	0	0	0	0	208
TOTAL WATER (inflated)	\$312	\$0	\$0	\$162	\$1,431	\$25	\$26	\$0	\$0	\$1,957
Phase II: TRAC Replacement	\$0	\$162	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$162
Phase II: SAN & CPU's for TRAC and LIMS	0	97	0	0	0	0	0	0	0	97
Phase V: LIMS Replacement, GIS & OMS	123	149	0	0	227	0	0	0	0	499
Phase VI: Lawson, MS Licensing & Carroll Water Treatment Plant	0	67	0	0	0	0	0	0	0	67
SAN II	0	0	0	0	0	127	0	0	0	127
NET 2020	0	0	0	0	61	0	0	0	0	61
TOTAL BUSINESS AND OPERATIONS SUPPORT (inflated)	\$123	\$476	\$0	\$0	\$288	\$127	\$0	\$0	\$0	\$1,013
TOTAL MWRA	\$301	\$476	\$422	\$162	\$1,560	\$152	\$26	\$0	\$0	\$3,099

Capital Financing and Grant Revenues

In the past, MWRA was able to finance approximately 20 percent of capital spending with grant receipts totaling approximately \$1.1 billion through FY03. However, EPA grant awards have slowed significantly. Since FY03, grant receipts for capital projects have been limited to \$2.6 million and mostly the result of grant awards made prior to FY03.

MWRA expects to borrow the majority of funds necessary for future capital spending. Borrowing will include the issuance of fixed and variable rate revenue bonds; borrowing from the Commonwealth's Water Pollution Abatement Trust (also known as the State Revolving Loan Fund or SRF), and a tax-exempt commercial paper program.

MWRA Organization and History

The MWRA Enabling Act

MWRA was created by legislative act in 1984, and inherited the Sewerage and Waterworks Divisions of the Commonwealth of Massachusetts Metropolitan District Commission (MDC). In July 1985, MWRA assumed control of the water and sewer systems, including facilities, properties, and the right to utilize water withdrawn from system reservoirs. The Commonwealth, under the management of the MDC Watershed Management Division (now the Department of Conservation and Recreation – Division of Watershed Management), retained ownership of real property, including the reservoirs and watersheds.

The Enabling Act also established the MWRA Advisory Board to represent the cities and towns in the service area. The Advisory Board appoints three members of the MWRA Board of Directors, approves the extension of water and sewer services to additional communities, and reviews and makes recommendations on MWRA's annual Current Expense Budget and Capital Improvement Program.

In 1987, the legislature transferred responsibility to operate and maintain the Clinton Wastewater Treatment Plant from the Commonwealth to MWRA.

History and Accomplishments

In 1985, the U.S. District Court for Massachusetts found MDC in violation of numerous aspects of the federal Clean Water Act, and the responsibility for those violations passed to MWRA as successor to MDC. The court issued a detailed compliance schedule for actions to be taken by MWRA to achieve and maintain compliance with the Clean Water Act.

MWRA achieved all of the milestones in the schedule related to the construction of treatment facilities on Deer Island, and is working to achieve milestones with respect to implementation of its long term CSO control plan. These achievements have made noticeable, measurable improvements in the quality of Boston Harbor and its beaches.

MWRA is also working to achieve compliance with an extensive consent order issued by the Massachusetts Department of Environmental Protection (DEP) mandating the steps necessary to achieve required improvements to the MWRA water system.

Since taking over operation and maintenance of the water and sewer systems from MDC, MWRA has increased annual investment in the system infrastructure from an average of \$11 million per year to an average of more than \$350 million per year between (FY90 to FY08). This investment has greatly improved the operating efficiency of the existing water and sewer systems, protecting fresh water sources and improving the water quality in Boston Harbor.

MWRA Rates Management

Between FY96 and FY02 the MWRA limited rate revenue increases to an average of 3.6% annually as a result of debt service assistance from the Commonwealth, federal grants to support the Boston Harbor Project, lower borrowing costs, use of financing tools that delayed costs to later years, a favorable bid climate for construction projects, and aggressive efforts to control capital and operating costs.

As debt service costs resulting from mandated capital investment have steadily increased, MWRA's dependence on rising debt service assistance allocations have similarly increased. DSA reached a high of \$52.9 million in FY02. In FY03, in response to a state-wide recession, debt service assistance was eliminated and as a result, MWRA was forced to have an unprecedented mid-year rate adjustment, increasing the rate increase from 2.9% to 6.9% as part of an overall strategy in response to cover the loss. The Authority cut \$420 million from its capital improvement program and \$47.2 million from the current expense budget through various budget cuts including layoffs. Reductions in debt service assistance result in greater reliance on reserves, budget cuts or a combination of these two elements. In response to a strengthening local economy, debt service assistance was restored in FY05 at the level of \$8 million. This allocation increased over the next two fiscal years, rising to \$10 million in FY06, \$18.75 million in FY07, and \$17.25 million in FY08. The Authority is projected to receive a net allocation of \$11.25 million in FY09.

Planning estimates for FY10 through 2018 forecast rate revenue requirement increases of 6.0% annually for the next five years, 5.4%, 2.8%, 8.5%, and -3.9% in 2015, 2016, 2017, and FY18, respectively. With the prospect of higher rate increases in the future, the MWRA, the Advisory Board, and its member communities have aggressively pursued rate relief in the form of larger debt service assistance payments from the State Legislature and will continue this effort to secure future rate relief.

In FY06, the MWRA formed a Rates Management Committee to evaluate the Authority's debt portfolio and credit structure to propose recommendations that deliver responsible short-term solutions for mitigating imminent rate spikes and long-term strategies for achieving predictable and sustainable rates. In line with the Board of Directors' strategy to deliver long-term predictable and sustainable rates for our 61 ratepayer communities, the MWRA initially preserved the scheduled use of its reserves for future years when projected rate increases are more significant.

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 Proposed FY09 direct expense budget is only \$32.3 million more than spending in FY00. This represents annual increases of 1.8%, well below inflation. When adjusted for inflation, direct expenses have declined by more than \$52.9 million since FY00. Costs to operate new facilities, higher utility costs, healthcare costs and increased maintenance have been offset by reduction in the workforce, controlling and optimizing chemical use, and other materials.
- 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. The budget assumes a staffing level of 1,255 for Fiscal Year 2009. This staffing level represents a decrease of more than 500 filled positions (over 29%) from peak staffing levels 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. MWRA's organizational structure is included in the document before the Table of Contents.

The **Executive Office** provides centralized MWRA management, direction, and policy development. The budget includes funds for the Office of the Executive Director, the Board of Directors, the Advisory Board, and other advisory committees.

The MWRA created the **Office of Emergency Preparedness** in November 2005 by consolidating its security and emergency response functions throughout the agency. The Department is responsible for oversight of the security and emergency response policies and procedures, implementation of the Emergency Response Plan, and training of the Site Characterization Team.

The **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, treasury activities, 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 Generally Accepted Accounting Principles in the United States of America (GAAP) and, commencing with the annual reports for 1986, audited by independent certified public accountants. MWRA's audited financial statements at June 30, 2007 and 2006 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE OFFICE

Proposed FY09 Current Expense Budget EXECUTIVE DIVISION						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 366,704	\$ 376,563	\$ 393,509	\$ 397,976	\$ 4,467	1.1%
OVERTIME	31	-	-	-	-	-
ONGOING MAINTENANCE	-	-	-	-	-	-
TRAINING & MEETINGS	-	129	2,030	1,110	(920)	-45.3%
PROFESSIONAL SERVICES	162,172	160,597	170,341	173,648	3,307	1.9%
OTHER MATERIALS	2,625	2,354	1,777	1,385	(392)	-22.1%
OTHER SERVICES	428,876	436,934	438,106	446,269	8,163	1.9%
TOTAL	\$ 960,408	\$ 976,577	\$ 1,005,763	\$ 1,020,388	\$ 14,625	1.5%

Proposed FY09 Current Expense Budget EXECUTIVE DIVISION						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 372,349	\$ 382,213	\$ 400,340	\$ 403,496	\$ 3,156	0.8%
ADVISORY BOARD / OTHER COMMITTEES	588,059	594,364	605,423	616,892	11,469	1.9%
TOTAL	\$ 960,408	\$ 976,577	\$ 1,005,763	\$ 1,020,388	\$ 14,625	1.5%

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 Office of Emergency Preparedness and 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. 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, holds hearings on related matters, and makes recommendations to the Governor and the Legislature. The other advisory committees supported by this budget are the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee. The Executive Office budget accounts for less than 1% of the Proposed FY09 direct expense budget.

Budget Highlights:

- Total Proposed FY09 Budget of \$1.0 million, an increase of \$15,000 or 1.5% over FY08 Budget, primarily due to planned wage and salary increases.
- \$398,000 for **Wages and Salaries** represents 39% of the Executive Office budget. The Proposed budget includes funding for four positions.
- \$443,000 or 43% of the Executive Office proposed budget is for the MWRA Advisory Board staff. The Proposed budget supports its operating expenses, including wages and salaries, space rental and general administrative office materials and supplies.
- \$174,000 or 17% of the Executive Office proposed budget is for **Professional Services** to fund the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee.

OFFICE OF EMERGENCY PREPAREDNESS

Proposed FY09 Current Expense Budget OFFICE OF EMERGENCY PREPAREDNESS						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 200,328	\$ 298,277	\$ 310,732	\$ 335,763	\$ 25,031	8.1%
ONGOING MAINTENANCE	-	185,006	457,633	461,633	4,000	0.9%
TRAINING & MEETINGS	-	5,371	1,300	2,200	900	69.2%
PROFESSIONAL SERVICES	-	-	2,141,148	2,118,081	(23,067)	-1.1%
OTHER MATERIALS	-	2,165	46,716	48,716	2,000	4.3%
OTHER SERVICES	-	1,452	22,656	22,548	(108)	-0.5%
TOTAL	\$ 200,328	\$ 492,271	\$ 2,980,185	\$ 2,988,941	\$ 8,756	0.3%

The Office of Emergency Preparedness (OEP) was created in November 2005 to consolidate Authority-wide security and emergency response functions. It is responsible for oversight of the MWRA’s security and emergency response plans, policies and procedures; implementation and training for the Emergency Response Plan; and management, training, and outfitting of the Emergency Service Unit, which will respond to any intentional or accidental contamination of the water supply.

The Director of Emergency Preparedness reports directly to the Executive Director with a matrix reporting relationship to the Chief Operating Officer and the Managing Director. The positions of Manager of Security and Emergency Planning and the Security Administrator were 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 goals of the Office of Emergency Preparedness Department are to:

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

Highlights of FY09 Initiatives

- Integrate security alarm services for the MWRA’s wastewater facilities into the Authority-wide security-monitoring program.
- Integrate and maintain the DITP security technology infrastructure.
- Move Emergency Service Unit (ESU) assets to the Weston Reservoir and continue to expand the training program for the ESU’s boom deployment capability.
- Acquire and build a new mobile emergency lab.
- Implement Authority-wide security systems maintenance service contracts, including programming and systems integrations and installation of new security equipment.
- Maintain Authority-wide consolidated security guard services contract (year-two) to include Deer Island Treatment Plant (DITP), Chelsea Facility, the Carroll Water Treatment Plant (CWTP), Charlestown Navy Yard Office (CNY), and various wastewater and water facilities.

- Manage the physical security and technology components during construction and/or rehabilitation of five water pump stations, the Chelsea Screen House, the IPS and the Blue Hills Covered Storage Project.
- Manage the Tank Intrusion project and related upgrades to the Chelsea Security Center.
- Manage and coordinate the construction of a new security gate at DITP and plan for a new gate at CWTP.

Budget Highlights:

- Total Proposed FY09 Budget of \$3.0 million, is an increase of \$9,000 or 0.3% over FY08 Budget, primarily due to the consolidation of funding from other departments. To better control expenses with regard to centralization of security functions, security-related expenses such as security guard services contracts for facilities, security camera maintenance, intrusion alarm services, etc. formally budgeted in Operations and Support Services Divisions have been transferred to the OEP department.
- \$336,000 for **Wages and Salaries**, an increase of \$25,000 or 8.0% over FY08 Budget, primarily due to planned wages and salary increases. The proposed budget includes funding for four positions.
- \$462,000 is for **Ongoing Maintenance**, a slight increase of \$4,000 or 1.0% over FY08 Budget, primarily due to slight contract increase in Intrusion Alarm monitoring services. The proposed budget includes level-funding of \$250,000 for the following: security systems maintenance service contracts, programming and systems integrations services; \$50,000 for replacements of existing equipment such as head-end systems, multi-plex routers, digital recorders and security monitors; \$50,000 for purchase and installations of additional equipment such as cameras, intrusion detections, card access, motion sensors and cables; \$75,000 for maintenance and support of DITP security technology infrastructure; and \$15,000 for fencing supplies and locks for the water and wastewater facilities.
- \$2.1 million is for **Professional Services**, a decrease of \$23,000 or 1.1% from the FY08 Budget, reflecting year- two of the consolidated MWRA-wide security guard services. The Proposed FY09 Budget includes \$539,000 for security services contract for Chelsea facility, \$860,000 for DITP facility, \$341,000 for the Carroll Water Treatment Plant, \$122,000 for the CNY facility, \$83,000 for the Account Manager, and \$126,000 for one additional Roving Guard to provide security services at various facilities during emergencies and construction projects. The proposed budget also includes \$47,000 for the purchase/lease of patrol vehicles with other equipments for guards' site and area monitoring and patrols of the four MWRA facilities. These vehicles will be turned over to MWRA at the end of the three-year service contracts.
- \$49,000 is for **Other Materials**, a slight increase of \$2,000 over FY08 Budget. The proposed budget includes \$38,000 for the replenishment of safety materials and supplies after each use by the Emergency Service Unit Team (ESU).
- \$23,000 for **Other Services** is level-funded from FY08 Budget. The proposed budget includes \$20,000 for the mandatory testing, inspections and programming of the self-contained breathing apparatus (SCBA) units by the Intermediate Pump Station (IPS) Company, for the ESU Team.

FY08 Accomplishments through December 2007:

- Secured a \$100,000 grant toward the Deer Island gate under the Buffer Zone Protection Program
- Secured \$275,000 in Homeland Security Grants for (1) building an Emergency Mobile Lab and (2) to purchase three SCAN units
- Implemented and awarded the \$811,000 Tank Intrusion contract.
- Coordinated the sensor replacement component of the Norumbega Covered Storage hatch inspection project
- Established a new boom deployment capability, including a boat, trailers and a new support truck, for the Emergency Service Unit/Metro Ops boom deployment teams
- Managed the transition of contract security services to a new provider

PLANNING AND COORDINATION DEPARTMENT

Proposed FY09 Current Expense Budget						
PLANNING DIVISION						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 1,822,172	\$ 1,880,699	\$ 1,939,772	\$ 1,982,593	\$ 42,821	2.2%
OVERTIME	66	393	-	-	-	-
FRINGE BENEFITS	-	12	-	-	-	-
TRAINING & MEETINGS	11,192	18,113	22,756	23,156	400	1.8%
PROFESSIONAL SERVICES	10,412	7,109	11,600	16,600	5,000	43.1%
OTHER MATERIALS	130,921	129,290	141,875	146,875	5,000	3.5%
OTHER SERVICES	147,597	141,195	158,516	163,319	4,803	3.0%
TOTAL	\$ 2,122,360	\$ 2,176,811	\$ 2,274,519	\$ 2,332,543	\$ 58,024	2.6%

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 administers 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, 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 is responsible for water and wastewater system master planning, infrastructure needs assessment, and capital project development. This work is done in coordination with staff across MWRA. Planning and Coordination staff review and process system expansion requests, water supply agreements, and emergency connection requests. Staff also provides 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 coordinates with DCR to ensure water protection.

Community Support Program - Staff are responsible for inflow/infiltration (I/I) and sanitary sewer overflows (SSO) policy development, implementation, and reporting, provide oversight of and reporting on MWRA leak detection regulations and demand management programs, and report on the portions of MWRA’s NPDES permit related to demand management and flow limitation activities. Staff administers community assistance programs

including sewer inflow/infiltration financial and technical assistance, water pipeline rehabilitation financial assistance, water distribution systems Best Management Practices technical assistance, and water leak detection technical assistance.

Highlights of FY09 Initiatives

- Advance MWRA-wide energy and sustainability initiatives and continue long-term research related to climate change.
- Continue advocacy-related research and analysis in support of long-range water supply planning and MWRA water system expansion.
- Implement new community rebate program for toilet retrofits in public buildings.
- Manage the agency-wide environmental/regulatory review process.
- Advance concept planning and design for capital projects in conjunction with Engineering staff, and
- Effectively communicate water quality information to customers and health officials.

Budget Highlights:

- \$2.0 million for **Wages and Salaries**, an increase of \$43,000 or 2.2% over FY08 Budget. The Proposed FY09 Budget includes funding for 24 positions.
- \$23,000 for **Training and Meetings**, a slight increase of \$400 or 2.0% over FY08 Budget, reflecting the assumption of national organization leadership posts by the department's two senior managers and increases in travel costs.
- \$147,000 for **Other Materials**, an increase of \$5,000 or 3.5% over FY08 Budget, primarily due to costs associated with the Consumer Confidence Report. The Proposed FY09 Budget includes \$119,000 for postage and mailing of the Consumer Confidence Report (CCR), \$15,000 for water conservation kits, and \$10,000 for mapping supplies.
- \$163,000 for **Other Services**, an increase of \$5,000 or 3.0% over FY08 Budget, primarily due to CCR printing costs. The Proposed FY09 Budget includes \$138,000 for printing the CCR, \$10,000 for printing lead in tap water brochures, and \$10,000 for reprinting water conservation bill stuffers.



Operations Division
Budget

OPERATIONS DIVISION

Proposed FY09 Current Expense Budget OPERATIONS DIVISION						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 61,728,182	\$ 62,236,988	\$ 66,188,235	\$ 68,217,228	\$ 2,028,993	3.1%
OVERTIME	3,437,562	3,738,312	3,771,175	3,833,556	62,381	1.7%
FRINGE BENEFITS	68,256	76,965	73,347	76,991	3,644	5.0%
CHEMICALS	6,878,847	7,266,880	8,702,933	9,468,383	765,450	8.8%
UTILITIES	27,494,449	23,877,201	26,344,027	27,268,649	924,622	3.5%
ONGOING MAINTENANCE	16,116,685	22,206,984	22,037,721	24,389,934	2,352,213	10.7%
TRAINING & MEETINGS	107,264	190,922	138,874	174,079	35,205	25.4%
PROFESSIONAL SERVICES	5,076,587	5,066,978	4,382,979	4,205,955	(177,024)	-4.0%
OTHER MATERIALS	3,300,461	4,175,795	3,648,785	3,558,092	(90,693)	-2.5%
OTHER SERVICES	16,175,850	18,185,623	19,254,326	19,551,803	297,477	1.5%
TOTAL	\$ 140,384,143	\$ 147,022,648	\$ 154,542,402	\$ 160,744,670	\$ 6,202,268	4.0%

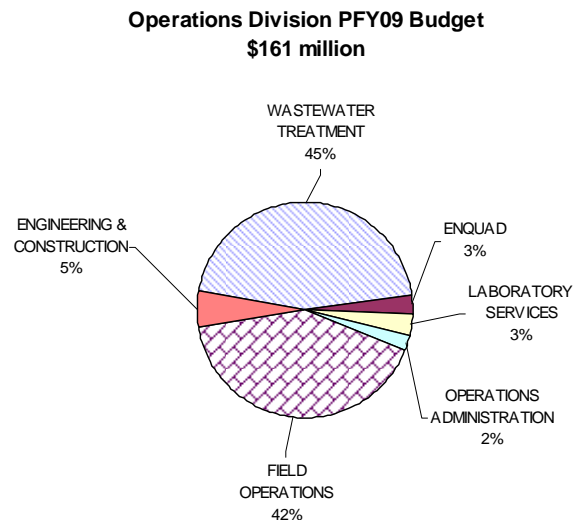
Proposed FY09 Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
OPERATIONS ADMINISTRATION	\$ 3,315,764	\$ 3,911,975	\$ 3,848,603	\$ 3,280,085	\$ (568,518)	-14.8%
CSO PROGRAMS/ENERGY	380,828	(887)	-	-	-	-
WASTEWATER TREATMENT	64,302,817	65,900,649	68,363,924	72,243,476	3,879,552	5.7%
FIELD OPERATIONS	55,194,617	60,031,796	64,003,115	66,781,894	2,778,779	4.3%
LABORATORY SERVICES	4,824,456	5,244,556	5,475,045	5,585,449	110,404	2.0%
ENQUAD	4,755,487	4,084,769	4,706,014	4,450,579	(255,435)	-5.4%
ENGINEERING & CONSTRUCTION	6,673,887	7,849,790	8,145,701	8,403,187	257,486	3.2%
CAPITAL ENG & CONSTR.	936,287	-	-	-	-	-
TOTAL	\$ 140,384,143	\$ 147,022,648	\$ 154,542,402	\$ 160,744,670	\$ 6,202,268	4.0%

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

The Proposed FY09 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 (DITP) and Clinton wastewater treatment plants and the Residuals Processing Facility at Fore River Staging Area (FRSA).

The **Field Operations Department**, which accounts for 42% 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.



The **Engineering and Construction Department** provides in-house engineering, consultant management, drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems.

The **Environmental Quality Department (ENQUAD)** manages the monitoring of Boston Harbor and Massachusetts Bay water quality and oversees MWRA's compliance with its National Pollutant Discharge Elimination System (NPDES) permits.

The **Laboratory Services Department** supports various client groups in the Operations Division, in the Department of Conservation and Recreation, and in MWRA member communities, providing field sampling, laboratory testing and reporting services. Most of the testing is required to meet the strict guidelines of regulatory programs and permits including the Safe Drinking Water Act (SDWA) and MWRA's NPDES permits.

The **Operations Administration Department** provides oversight and general management support in the areas of finance, contract administration, and personnel. The Administration Department budget also includes funds for MWRA vehicle purchases and division-wide memberships.

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 FY08 Accomplishments through December 2007

Operations, Energy, and New Facilities Start-ups:

- Operated the start-up phase of the new Union Park CSO Detention Treatment Facility (start-up in Q3 FY07) in conjunction with BWSC and successfully operated the BOS019 CSO facility (start-up in FY07).
- Implemented an extensive monitoring program throughout JCWTP, made treatment plant process and physical modifications, and convened an expert panel to review MWRA's actions and augment recommendations for addressing water quality issues at the Carroll Water Treatment Plant (CWTP).
- Assisted the Procurement Department with the procurement of contracts to supply and deliver chemicals including oxygen, aqua ammonia, hydrofluorosilicic acid, and sodium bisulfite at the CWTP; ferrous and ferric chloride at the DITP; and hydrogen sulfide for use in the Framingham Extension Sewer.
- Continued conducting black-start testing at both the DITP and CWTP to ensure power reliability during shutdowns and power failures.
- Competitively procured and executed an electricity contract for the Clinton Wastewater Treatment Plant and numerous facilities in the Field Operations Department.

- Generated \$754,000 in revenue at the Oakdale Station hydroelectric plant.
- 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) load response program and the non-rate revenue from the sale of Renewable Portfolio Standards Program (RPS) resulted in net savings of \$1.7 million through the first six months of FY08. Deer Island also self-generated 19% of the plant's total required power during this time period.
- Awarded contract to design and install a roof-mounted photovoltaic system at the Deer Island Treatment Plant.
- Awarded contract to retrofit existing lighting equipment and controls at Deer Island to reduce power usage.
- Processed at the Pelletization Plant an average of 101.7 tons per day of sludge during FY08 through December 2007.

Maintenance:

- The Operations Division spent \$10.8 million on maintenance of which \$4.7 million was for materials and \$6.1 million for services.
- Completed numerous major maintenance projects including the following:
 - Cleaned and repaired Storage Tank A at the CWTP.
 - Repaired the Bridge Crane and replaced the boiler in Shaft 8 in the water system.
 - Coil replacement at the Columbus and Ward Street facilities.
 - Replaced air dampener at the Nut Island headworks facility.
 - Roof replacement on several buildings at the Deer Island facilities.
 - Significant progress on facility painting and coating repair at Deer Island.
 - Procured and implemented numerous service contracts such as electrical testing for Field Operations facilities.
- In the water system, exercised 281 and replaced 9 mainline valves. Also exercised 185 and replaced 3 blow-off valves.
- In the wastewater system, inspected 20 miles and cleaned 14 miles of pipeline. Also inspected 450 structures and rehabilitated 60 manholes.

Engineering, Construction, and Planning:

- Water Engineering accomplishments through December 2007 include:
 - Professional Services Award: Lynnfield /Saugus Pipeline Design
 - Construction Contract Awards: Walnut Street Pipeline Rehabilitation, Cosgrove Intake and Shaft A PCB Removal, Wachusett Dam PCB Removal, CWTP Storage Tank Cleaning and Pipe Extension, and Shaft 8 Heating System Replacement (CEB contract, NTP 7/07).
 - Construction Contract Substantial Completions: Lynnfield/Saugus Interim Connection and Millbrook Valley Sewer Rehab Sections 80 & 83
- Wastewater Engineering major achievements from July thru December 2007;
 - Substantial completion of Contract 6916 Section 113 Siphon Modifications
 - Contracts 6191 and 6629 Upper Neponset Valley Relief Sewer put into service
 - Award of Contract 6938 Prison Point HVAC Upgrades Design/CA
 - NTP of Section 160 Sewer Rehabilitation (construction contract)

- o Completion of 100% designs for Cottage Farm Brookline Connection and for East Boston Branch Relief Sewer (Microtunneling).
- Developed cost-sharing agreement with Town of Saugus for design of a water pipeline on Route 1.
- At Deer Island, substantially completed the Ancillary Modification Construction 2-2 (South System Pump Station VFDs) and Sodium Hypochlorite Tanks 1&3 Relining projects.
- At the Clinton Wastewater Treatment Plant, substantially completed installation of the Permanent Standby Generator project.
- In compliance with MWRA's CSO Plan, BWSC (with MWRA oversight) substantially completed the South Dorchester Bay Sewer Separation Project.
- In conjunction with MWRA's Planning Department, updated the Board of Directors on the on-going and proposed studies and capital projects that address MWRA's water transmission and lack of redundancy.

Environmental:

- Currently implementing TRAC department's new information systems (TRAC-IS).
- The TRAC department completed the following EPA-required work for significant industrial users: 138 inspections, 169 monitoring events, and 275 sampling of connections. This department also issued or renewed 152 permits including significant industrial users (SIU), non-SIU, and municipal permits.
- The TRAC department submitted the Industrial Pretreatment Program Annual Report to the EPA for FY07.
- Awarded two contracts for phase 6 of the Harbor and Outfall Monitoring Program to provide environmental monitoring of outfall effects as required by MWRA's discharge permit for DI.
- Operated DITP without any NPDES Permit violations for the first six months of FY08.
- The Lab provided routine laboratory services and analysis for approximately 140,000 tests and also provided as-needed analytical support for numerous projects on topics such as the harbor and outfall monitoring e-coli verification procedures and solids materials from ozone contractors at the CWTP.
- EnQuad carried out required environmental monitoring of Boston Harbor and Massachusetts Bay water column, sediments, fish and shellfish, and CSO receiving water quality, finalizing 24 technical reports to day in FY07-FY08 and presenting results to the Outfall Monitoring Science Advisory Panel (OMSAP) and public.

Proposed FY09 Operations Division Budget Highlights:

- The total Proposed FY09 Budget for the Operations Division is \$160.7 million, which is \$6.2 million or 4.0% more than the FY08 Budget.
- New facilities-related increases include approximately \$314,000 for utilities, and maintenance for operation of the Braintree-Weymouth Replacement Pump Station offset by (\$153,000) due to the decommissioning of the Fox Point and Commercial Point CSO facilities.
- Other significant increases from the FY08 Budget include:

- o Net increase of \$2.4 million for **Maintenance** primarily due to new service contracts (i.e. equipment, meters) and increases in the price and/or scope of several contracts to be re-bid before or during FY09 (i.e. grounds maintenance, DI painting , DI roof replacement).
- o **Wages and Salaries** increased primarily due to collective bargaining agreements (+\$2.0 million). The Operations Division's Proposed FY09 Budget continues to fund 965 positions consistent with the FY08 budget.
- o **Utilities** (+\$731,000 excluding new facilities impacts) primarily due to higher price projections for FY09 for electricity, diesel fuel, and water. These increases are offset by lower expected usage for diesel fuel in Field Operations facilities primarily based on actual usage in the new facilities and also at Deer Island due to optimization initiatives.
- o **Chemicals** (+\$765,000) primarily due to price increases for water treatment chemicals and usage increases at Deer Island for struvite control and enterococcus treatment when the new permit becomes effective (assuming April 2009 in Proposed FY09 Budget).
- o **Other Services** +\$297,000 primarily for inflation adjustments per the residuals processing contract (net +\$198,000). This is offset by a decrease (\$130,000) in the grit and screenings disposal budget due to lower quantities in recent years.
- o Net increase to **Overtime** (+\$62,000) primarily due to wage increases offset by reductions in coverage related usage in Field Operations Department wastewater facilities.

Significant decreases from the FY08 Budget include:

- o Net decrease in **Professional Services** (\$177,000) primarily due to a reduction in the lab and testing analysis budget (\$367,000) for the Harbor and Outfall Monitoring program based on the scope and prices of new contracts. Also, the division-level energy consulting budget is decreasing (\$150,000) given that several audits and assessments will be completed in FY08. This is offset by an increase (+\$570,000) for use of as needed design services to support CEB maintenance projects. MWRA currently charges these contracts to the capital budget but as of FY09, will allocate the expenditures associated with maintenance-related work to the CEB to more appropriately reflect the cost of on-going asset management.
 - o Net decrease in **Other Materials** (-\$91,000) primarily due to fewer vehicle replacements planned for FY09 versus in FY08.
- The Proposed FY09 Budget is also subject to risk in the following areas: timing of the implementation of Deer Island's new NPDES permit (Proposed 09 Budget assumes start-up in April 2009), chemical and utility usage and prices, potential impacts of the Deer Island cable relocation project, and more than expected emergency-related maintenance and overtime needs.

Highlights of FY09 Initiatives

Operations, Energy, and New Facilities Start-ups:

- Continue with the start-up and first year operations of the Braintree-Weymouth Replacement Pump Station (start-up expected by the end of FY08).
- During the second year of operations, identify and implement optimization opportunities at the new Union Park CSO Detention Treatment Facility and BOS019 CSO facility (both commenced operations in FY07).
- Continue struvite remediation and prevention efforts at Deer Island by monitoring and controlling ortho-phosphate levels in the waste-stream through the usage of ferrous chloride and/or ferric chloride.
- Competitively procure electricity for the Deer Island Treatment Plant when the existing contract expires in FY09.

- Continue to identify, assess, and implement initiatives to reduce energy demand and increase energy self-generation in MWRA's system. This includes completion of the feasibility study, implementation, and the use of wind-power at MWRA facilities. Pursue grant-funding and cost-sharing arrangements to defray costs of implementing these initiatives.
- Provide 23% of Deer Island's power requirements through self-generation.
- Continue optimization of energy and chemical usage at the CWTP based on the recommendations from the energy audit and water quality expert panel.

Engineering & Construction:

- Award numerous contracts for the Wastewater System including the following:
 - Wastewater Central Monitoring Construction 3
 - Interceptor Renewal #7 Study
 - Deer Island: Ancillary Modifications Design 4, Fire Alarm System replacement Design, Digester Module Pipe Replacements, Centrifuge Backdrive Replacement, Digester Sludge Pump Replacement, South System Pump Station Lube System Replacement, Transformer Replacement, Low Voltage Lighting Replacement, Primary and Secondary Clarifier Construction
 - Central Lab Fume Hood Replacement
 - Residuals Plant Condition Assessment and Facilities Plan and the Fore River Service Area Pier Rehabilitation Design
 - CSO Program: North Dorchester Bay Dewater/Odor Control Construction, East Boston Branch Sewer Relief Sections 38 & 207 Replacement Construction, Brookline Sewer Separation Construction (managed by Town of Brookline) and Bullfinch Triangle Sewer Separation Construction (managed by BWSC).
- Award numerous contracts for the Water System including the following:
 - Winsor Power Station Pipe Design Phase 1, Quabbin Aqueduct Sluice Gate Design, and Winsor Power Station Chapman Valve Repair, and Quabbin Release Pipeline Design
 - Sudbury Aqueduct Repairs
 - Wachusett Reservoir Spillway Improvement PCB Material Remediation Phase 2 Construction
 - WASM Design 3, Section 28 Construction
 - Southern Spine Distribution Mains Section 107 Phase 2 Construction
 - SEH Redundancy and Storage Short-term Improvements Design
 - NIH Redundancy and Covered Storage: Improvements Design, Section 89/29 Redundancy designs, NIH Storage Final Design
 - New Connecting Mains Shaft 7 to WASM 3: Revised N Segment Construction, South Segment Construction
 - Waterworks Facility Asset Protection: Transformer at Cosgrove Intake Building
- Complete the following Capital Improvement Program design and construction phases:
 - Wastewater System - Wastewater Central Monitoring Construction 2, Interceptors Rehab Section 160, DI Study/Conceptual Design Concrete Repair, DI Hypochlorite Tanks 2&4 Relining, Clinton Soda Ash System Replacement, Central Lab Metals Lab Modification Construction, CSO Cottage Farm Brookline Connection Inflow Controls Construction, and CSO Morrissey Boulevard Drain Construction.
 - Water System - Winsor Dam Chapman Valve Repair, Wachusett Reservoir Spillway Improvements Construction and Cosgrove/Shaft A PCB Removal, Valve Replacement Construction 6, Walnut Street and Fisher Hill Pipeline Rehabilitation Construction Phase 1, Heath Hill Road Pipe Replacement Section 52 Design Phase 2, Southern Spine Distribution Mains Section 107 Construction Phase 1, SEH Redundancy and Storage Conceptual Plan and Preliminary Design, NIH Redundancy and Covered Storage Concept Plan, and Northern Low Service Rehabilitation Section 97A Construction.

Maintenance:

- Continue work on numerous major projects in FOD including procurement and implementation of service contracts for wastewater meter upkeep and repair and grounds maintenance. Other major projects include installation of variable frequency drives at the Gillis Pump Station and Chestnut Hill Nuisance Weed Dredging.
- Continue with repairs to the Rutland-Holden sewer line using both in-house and contractor services.
- Continue work on numerous major projects at Deer Island including facility repainting and coating repairs, building roof replacement, elevator controller replacement, and HVAC unit replacements.
- Continue work on multi-year initiative of replacing surge valves in water pump station facilities.
- Continue expanding use of Maximo (maintenance tracking software) in Field Operations Department facilities.
- Procure and implement two year project to inspect and clean two digesters at the Clinton Wastewater Treatment Plant.

Environmental:

- Advocate with regulators for the adoption of a reduced scope of the harbor and outfall monitoring plan to account for seven years of post-outfall data.
- Carry out the required outfall harbor and river monitoring, continue improving in-house data management, and deploy continuous monitoring instrumentation on the NOAA buoy.
- Ensure the permit-required outfall monitoring meets NPDES requirements, is scientifically credible, and is cost-effective.
- Implement the first full year of use of the new TRAC-IS. For the Laboratory Information Management System (LIMS), continue to implement the new system in conjunction with MIS.
- Plan for the start-up in early FY10 of the new round of NPDES-required Local Limit testing in TRAC to reassess industrial discharge limits. This work can commence after EPA issues the new DITP NPDES permit (assumed as of April 2009).

OPERATIONS ADMINISTRATION

Proposed FY09 Current Expense Budget OPERATIONS ADMINISTRATION						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 2,301,551	\$ 1,912,784	\$ 1,995,658	\$ 1,805,332	\$ (190,326)	-9.5%
OVERTIME	268	16	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	22,786	(231)	-	-	-	-
TRAINING & MEETINGS	523	625	3,531	3,529	(2)	-0.1%
PROFESSIONAL SERVICES	-	-	200,000	50,000	(150,000)	-75.0%
OTHER MATERIALS	730,465	1,855,134	1,380,650	1,161,400	(219,250)	-15.9%
OTHER SERVICES	260,171	143,647	268,764	259,824	(8,940)	-3.3%
TOTAL	\$ 3,315,764	\$ 3,911,975	\$ 3,848,603	\$ 3,280,085	\$ (568,518)	-14.8%

The Operations Administration Department is comprised of the Office of the Chief Operating Officer and Division level support staff. The department goal is to oversee, manage, and implement MWRA policies and procedures pertaining to the following functions: labor relations, finance, contract administration and general administration.

Budget Highlights:

- \$1.8 million for **Wages and Salaries**, which represents 55% of the Proposed FY09 Budget. The budget includes funding for 27 positions, which is two less than were funded in the FY08 budget. The budget also includes a vacancy rate adjustment of (\$150,000) to account for attrition within the division during the year.
- **Professional Services** includes \$50,000 for energy audits of the division's facilities and as-needed professional assistance with the procurement of electricity contracts. The budget is \$150,000 less than the FY08 Budget for these services primarily because numerous audits and assessments are in process in FY08 and will be completed by the end of the fiscal year.
- \$1.2 million for **Other Materials**, a decrease of \$219,000 compared to the FY08 Budget primarily due to fewer vehicle replacements planned for FY09 versus purchased in FY07 and FY08. Actual spending for vehicle purchases for FY02-FY07 is as follows:

FY02:	\$ 622,000
FY03:	\$ 120,000
FY04:	\$1,580,000
FY05:	\$1,237,289
FY06:	\$ 717,381
FY07:	\$1,846,396
FY08 CEB:	\$1,367,000
FY09 Proposed CEB	\$1,150,000

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 FY07 year-end indicates that approximately half of MWRA's active, operable fleet will be seven years or older during FY08.

- \$260,000 is for **Other Services** of which \$259,000 is for Authority-wide memberships including the American Waterworks Research Foundation and the National Association of Clean Water Agencies. Membership funding for the Water Environment Research Foundation shifted to the Environmental Quality Department in the FY08 Budget.

WASTEWATER TREATMENT

Proposed FY09 Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 15,893,392	\$ 16,132,014	\$ 17,241,621	\$ 17,759,500	\$ 517,879	3.0%
OVERTIME	1,134,334	1,177,058	1,109,902	1,177,330	67,428	6.1%
FRINGE BENEFITS	22,643	25,282	22,260	24,787	2,527	11.4%
CHEMICALS	2,135,041	2,353,539	2,570,651	2,885,297	314,646	12.2%
UTILITIES	18,747,498	14,959,308	16,263,963	16,712,971	449,008	2.8%
ONGOING MAINTENANCE	10,307,277	14,542,271	14,251,894	16,228,443	1,976,549	13.9%
TRAINING & MEETINGS	53,157	84,074	68,618	71,100	2,482	3.6%
PROFESSIONAL SERVICES	915,251	981,675	272,188	662,188	390,000	143.3%
OTHER MATERIALS	553,653	423,512	437,091	453,894	16,803	3.8%
OTHER SERVICES	14,540,572	15,221,916	16,125,736	16,267,966	142,230	0.9%
TOTAL	\$ 64,302,818	\$ 65,900,649	\$ 68,363,924	\$ 72,243,476	\$ 3,879,552	5.7%

Proposed FY09 Current Expense Budget WASTEWATER TREATMENT by Facility						
FACILITY	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
DEER ISLAND	\$ 48,178,045	\$ 48,202,995	\$ 49,816,283	\$ 53,685,104	\$ 3,868,821	7.8%
RESIDUALS	15,094,148	16,460,289	17,229,677	17,014,524	(215,153)	-1.2%
CLINTON	1,030,625	1,237,365	1,317,964	1,543,848	225,884	17.1%
TOTAL	\$ 64,302,818	\$ 65,900,649	\$ 68,363,924	\$ 72,243,476	\$ 3,879,552	5.7%

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 Proposed FY09 Budget and 34% of MWRA's Proposed FY09 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

Proposed FY09 Current Expense Budget DEER ISLAND TREATMENT PLANT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 15,354,260	\$ 15,585,586	\$ 16,654,073	\$ 17,105,137	\$ 451,064	2.7%
OVERTIME	1,087,636	1,123,069	1,060,361	1,118,343	57,982	5.5%
FRINGE BENEFITS	21,925	24,474	21,432	23,962	2,530	11.8%
CHEMICALS	2,007,219	2,187,772	2,414,637	2,687,414	272,777	11.3%
UTILITIES	18,495,331	14,705,747	16,004,988	16,410,557	405,569	2.5%
ONGOING MAINTENANCE	9,202,941	12,629,991	12,441,888	14,609,850	2,167,962	17.4%
TRAINING & MEETINGS	53,457	84,074	66,018	68,000	1,982	3.0%
PROFESSIONAL SERVICES	913,583	966,959	140,500	640,500	500,000	355.9%
OTHER MATERIALS	525,545	376,989	396,155	381,356	(14,799)	-3.7%
OTHER SERVICES	516,148	518,335	616,231	639,985	23,754	3.9%
TOTAL	\$ 48,178,045	\$ 48,202,996	\$ 49,816,283	\$ 53,685,104	\$ 3,868,821	7.8%

Program Description and Goals:

The Deer Island Treatment Plant budget accounts for 33% of the Operations Division's Proposed FY09 Budget. DITP has a primary treatment peak capacity of 1.27 billion gallons per day (bgd) and secondary treatment peak capacity of 700 million gallons per day (mgd).

Wastewater "influent" from MWRA customer communities arrives at the plant through four underground tunnels. Pumps then lift the influent 80 to 150 feet, depending on the tunnel, to the head of the plant. There are three pump stations. The pumping capacity at the Deer Island plant has dramatically increased the volume of wastewater that can be taken into the plant from the conveyance tunnels. This reduces back-ups and overflows throughout the system when wet weather causes peaking of system flows.

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 (removes 50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants). In the clarifiers, gravity separates sludge and scum from the wastewater.

In secondary treatment, reactors and clarifiers remove non-settleable solids through biological and gravity treatment. The biological process is a pure oxygen-activated sludge system, using microorganisms to consume organic matter that remains in the wastewater flow. Secondary treatment raises the level of pollution removal to over 85%. More than 150 tons of pure oxygen is manufactured each day at Deer Island's cryogenic facility to support the biological treatment process.

Sludge and scum from primary treatment are thickened in gravity thickeners. Sludge and scum from secondary treatment are thickened in centrifuges. Polymer is used in the secondary thickening process to increase its efficiency. Digestion occurs in 12 egg-shaped anaerobic digesters, each 90 feet in diameter and approximately 130 feet tall. Microorganisms naturally present in the sludge work to break sludge and scum down into methane gas, carbon dioxide, solid organic byproducts, and water. Digestion significantly reduces sludge quantity. The methane gas produced in the digesters is used in the plant's on-site power generating facility to save operating costs by reducing consumption of purchased energy. Digested sludge is pumped through the inter-island Braintree-Weymouth tunnel directly to the MWRA's Pelletizing Facility at Fore River, where it is further processed into a fertilizer product.

Organizational Structure:

The Deer Island Plant has six major functional areas: Operations, Thermal Power Plant, Process Control, Maintenance, Capital Planning, and Operations and Maintenance (O&M) Support.

- Operations manage the day-to-day operation of plant processing units, perform minor preventative maintenance activities, and oversee plant functions 24 hours per day, seven days per week.
- Thermal Power Plant staff manage and operate the Deer Island generation and thermal systems. Power Plant personnel provide 24 hour operation of the high-pressure, high temperature steam power plant. This facility is capable of producing up to 70 emergency megawatts of electrical power.
- Process Control manages and maintains the following programs in support of plant operations; real-time process instrumentation and control system (PICS), operational data system (OMS), plant performance monitoring and reporting programs, regulatory compliance programs including all plant permits, water quality, and air quality. The Process Control Unit provides the technical expertise for plant unit operations and routinely performs process optimization studies to help increase performance and reduce operating costs.
- Maintenance performs preventive and predictive maintenance and corrective repairs on all equipment, utilizing a computerized maintenance management system (CMMS) to coordinate scheduling with Operations. Staff has developed the Reliability Centered Maintenance (RCM) program, which has improved plant performance by applying maintenance resources where they are most effective. RCM analyzes the operating systems with the objective of ensuring that critical functions operate as required. Implementation of a preventive maintenance program using RCM helps reduce the cost of maintaining the plant and improve efficiency by anticipating when maintenance will be required. An on-island warehouse, managed by Procurement Department staff, ensures 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 Proposed FY09 Budget assumes treatment of an average flow of 365.4 mgd based on eight years of historical data. Sludge production is projected to be an average of 108 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.

Deer Island's Proposed FY09 Budget accounts for the impact of self-generation of electricity from the steam turbine generator, combustion turbine generators, and the hydroelectric facility. In total, use of these assets will meet approximately 23% of the total energy requirements resulting in an avoided cost savings of approximately \$4.1 million.

Deer Island continues to comply with the conditions of the current NPDES Permit which expired in FY06. Given the uncertainty regarding the timing of the permit renewal from EPA, Deer Island's Proposed FY09 Budget assumes the new permit will go into effect as of April 2009 at which time the treatment process will be required to kill enterococcus in addition to fecal coliform to comply with revised regulatory requirements.

Budget Highlights:

- \$16.7 million for **Regular Pay**, a \$413,000 or 2.5% increase from the FY08 Budget primarily due to contractual increases. The Proposed FY09 Budget includes 244 funded positions, one less position than funded in the FY08 Budget.
- \$78,000 for **Temporary Employees** to meet temporary needs in areas such as process control and maintenance.
- \$1.1 million for **Overtime**, a \$58,000 or 5.5% increase from the FY08 Budget primarily due to contractual increases. Also, the budget includes additional funds for the Safety Department to reflect historical levels of spending for inspections and emergencies
- \$2.7 million for **Chemicals**, a \$273,000 or 11.3% increase from the FY08 Budget. The Proposed FY09 Budget includes a \$167,000 increase in ferrous/ferric chloride due to higher anticipated dosing for struvite prevention. Also, sodium hypochlorite and sodium bisulfite usage will increase when a new NPDES permit is issued.
- \$16.4 million for **Utilities**, a \$406,000 or 2.5% increase from the FY08 Budget. The Proposed FY09 Budget includes \$13.1 million for electricity and \$1.2 million for diesel fuel. The Proposed FY09 Budget assumes a full year of electricity unit pricing under a spot market contract. In addition, the Proposed FY09 Budget includes \$1.8 million for water, which represents an \$115,000 or 5.9% decrease from the FY08 Budget primarily due to a decrease in usage as a result of leak repairs.
- \$14.6 million for **Maintenance**, a \$2.2 million or 17.4% increase from the FY08 Budget. The Proposed FY09 Budget includes \$4.7 million for materials and \$9.9 million for maintenance services.
- \$641,000 for **Professional Services**, a \$500,000 or 356% increase over the FY08 Budget due to the inclusion of \$500,000 for use of as needed design services to support CEB maintenance projects. MWRA currently charges these contracts to the capital budget but as of FY09, will allocate the expenditures associated with maintenance-related work to the CEB to more appropriately reflect the cost of on-going asset management.

- \$381,000 for **Other Materials**, a \$15,000 or 3.7% decrease from the FY08 Budget.
- \$640,000 for **Other Services**, a \$24,000 or 3.9% increase over the FY08 Budget primarily due to a \$28,000 increase in the cost of the ambulance service contract.

RESIDUALS MANAGEMENT

Proposed FY09 Current Expense Budget						
RESIDUALS						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 97,494	\$ 100,796	\$ 103,561	\$ 105,535	\$ 1,974	1.9%
OVERTIME	-	-	-	-	-	-
ONGOING MAINTENANCE	990,575	1,660,085	1,631,334	1,296,549	(334,785)	-20.5%
TRAINING & MEETINGS	(300)	-	2,500	3,000	500	20.0%
PROFESSIONAL SERVICES	-	13,028	-	-	-	-
OTHER MATERIALS	-	318	402	300	(102)	-25.4%
OTHER SERVICES	14,006,379	14,686,062	15,491,880	15,609,140	117,260	0.8%
TOTAL	\$ 15,094,148	\$ 16,460,289	\$ 17,229,677	\$ 17,014,524	\$ (215,153)	-1.2%

Program Description and Goals:

The Residuals Management Program manages the processing and disposal of approximately 108 dry tons per day (TSS) of sludge from the anaerobic digestion process at Deer Island, as well as the disposal of grit and screenings from all MWRA facilities. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

- MWRA contracts with the New England Fertilizer Company (NEFCo) to operate the sludge processing facility, and to market and distribute sludge products. A 15-year contract with NEFCo became effective March 1, 2001. Liquid sludge from Deer Island is pumped through the Braintree-Weymouth cross-harbor tunnel to the Fore River processing facility where it is dewatered, dried, and shipped by either rail or truck for use as fertilizer or to other appropriate disposal. MWRA is committed to the beneficial reuse of biosolids to the greatest extent practicable.

In FY05, major operational changes occurred regarding sludge processing at Deer Island. The Braintree-Weymouth cross-harbor tunnel came on-line in April 2005. The previous practice of thickening and barging sludge from Deer Island to Fore River ceased. Deer Island began pumping a much lower concentration of sludge (2.0% to 2.5% average total suspended solids) to the Residuals Processing Facility.

- The average dry tons per day (TSS) is budgeted at 108 tons per day, the same as the FY08 CEB.
- Grit and screenings (minor residuals) from MWRA's headworks and certain pump stations are collected and disposed of in landfills. MWRA contracts with a third party operator for this service. Minor residuals are by-products of wastewater pre-treatment and primary/secondary treatment processes and include grit, screenings and scum screenings. A new, two year contract with the same vendor started 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 resulted in an \$817,000 annual savings for the Authority. NEFCo remains contractually obligated to provide back-up disposal capability, and will meet this obligation by maintaining a list of disposal sites.

Budget Highlights:

- \$106,000 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.
- \$1.3 million or 8% of the Proposed FY09 Budget is for **Maintenance**, in accordance with the NEFCo contract, which includes a specific level per year adjusted to account for inflation. The FY09 Budget is \$335,000 or 21% less than the FY08 Budget because NEFCo's contract includes a decrease in maintenance spending for calendar year 2009, of which six months fall within fiscal year 2009.
- \$14.6 million or 86% of the Proposed FY09 Budget is for **Sludge Pelletization**. The \$198,000 or 1.4% increase from the FY08 Budget is the net effect of inflationary adjustments per NEFCo's contract (inflation linked to current indexes). The Proposed FY09 Budget is based on 108 tons per day, the same tonnage as the FY08 Budget.
- \$914,000 or 5% of the Proposed FY09 Budget is for **Grit and Screenings** disposal, a decrease of \$124,000 or 12% from the FY08 Budget. The Proposed FY09 budget is based on 5,086 tons of grit and screenings versus 5,400 tons in the FY08 CEB. The decrease in quantities is primarily the result of scum process improvements at Deer Island.
- \$40,000 of the Proposed FY09 Budget is for **Permit Fees**, an increase of \$39,000 from FY08 Budget. The Proposed FY09 Budget includes \$37,500 for sludge dryer stack testing of two trains required by DEP to be performed every two years.

CLINTON WASTEWATER TREATMENT PLANT

Proposed FY09 Current Expense Budget CLINTON WASTEWATER TREATMENT PLANT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 441,637	\$ 445,633	\$ 483,988	\$ 548,827	\$ 64,839	13.4%
OVERTIME	46,698	53,988	49,541	58,987	9,446	19.1%
FRINGE BENEFITS	718	808	828	825	(3)	-0.4%
CHEMICALS	127,823	165,767	156,014	197,883	41,869	26.8%
UTILITIES	252,166	253,562	258,975	302,414	43,439	16.8%
ONGOING MAINTENANCE	113,761	252,196	178,672	322,044	143,372	80.2%
TRAINING & MEETINGS	-	-	100	100	-	0.0%
PROFESSIONAL SERVICES	1,668	1,688	131,688	21,688	(110,000)	-83.5%
OTHER MATERIALS	28,108	46,205	40,534	72,238	31,704	78.2%
OTHER SERVICES	18,046	17,519	17,625	18,841	1,216	6.9%
TOTAL	\$ 1,030,625	\$ 1,237,366	\$ 1,317,965	\$ 1,543,847	\$ 225,882	17.1%

Program Description and Goals:

The Clinton Wastewater Treatment Program provides advanced sewage treatment services to the Town of Clinton and the Lancaster Sewer District. MWRA assumed formal operational responsibility for the Clinton plant in 1987. Since then MWRA has designed and constructed new primary, secondary, and advanced treatment facilities which incorporated rehabilitated portions of the existing plant with new construction. The new facilities, designed to meet all current and projected National Pollutant Discharge Elimination System (NPDES) discharge standards, was completed in 1992.

The plant provides secondary treatment using an activated sludge process in combination with advanced nutrient removal and dechlorination. The major facilities include a headworks, primary settling tanks, digesters, sludge processes, trickling filters, aeration tanks, secondary tanks, and a chemical addition building. The plant discharges its effluent into the South Nashua River in accordance with the discharge limits of the facility's NPDES permit which limits effluent flow to 3.01 mgd. The plant has a potential peak flow rate of 12 mgd and a 6 mgd peak 24 hour rate. Residual materials are pressed and transported to an MWRA-owned landfill for disposal. Staff also performs regular monitoring of the landfill site.

Budget Highlights:

- \$549,000 for **Wages and Salaries** represents 36% of the Proposed FY09 Budget. This funds seven positions and one part-time temporary contract clerical position.
- \$59,000 for **Overtime**, a \$9,000 or 19% increase compared to the FY08 Budget. Overtime is required to meet the 24 hour, 7 day per week emergency coverage requirement as well as the increased maintenance required as a result of an aging facility.
- \$198,000 for **Chemicals** represents 13% of the Proposed FY09 Budget. This is a \$42,000 or 27% increase from the FY08 Budget, primarily due to a price and quantity increases for soda ash and aluminum sulfate. A new NPDES permit is expected in FY09 and may require additional chemical expenditures.
- \$302,000 for **Utilities** represents 20% of the Proposed FY09 Budget. This is \$43,000 or 17% more than the FY08 Budget primarily due to expected electricity price increases.

- \$322,000 for **Maintenance** represents 21% of the Proposed FY09 Budget, a \$143,000 or 80% increase from the FY08 Budget. The Proposed Budget includes \$200,000 for inspecting and cleaning the first of two digesters.
- \$22,000 for **Professional Services**, a decrease of \$110,000 from the FY08 Budget. The FY08 Budget included funds for a Landfill Closure Plan and Arsenic Study/Evaluation.
- \$72,000 for **Other Materials**, including \$59,000 for clean fill for the landfill operation. The Proposed FY09 Budget is \$32,000 more than the FY08 CEB primarily to cover the cost of additional fill required at the landfill. Based on a regulatory review, Clinton has suspended the sludge reuse program at the landfill and is now only using new fill for mixing and covering.

FIELD OPERATIONS

Proposed FY09 Current Expense Budget FIELD OPERATIONS						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 31,122,959	\$ 31,787,874	\$ 33,799,814	\$ 35,107,852	\$ 1,308,038	3.9%
OVERTIME	2,195,710	2,441,917	2,511,836	2,501,391	(10,445)	-0.4%
FRINGE BENEFITS	44,758	50,685	49,300	50,500	1,200	2.4%
CHEMICALS	4,743,805	4,913,341	6,132,282	6,583,086	450,804	7.4%
UTILITIES	8,620,737	8,765,861	10,054,282	10,527,753	473,471	4.7%
ONGOING MAINTENANCE	5,401,063	7,222,109	7,414,862	7,825,597	410,735	5.5%
TRAINING & MEETINGS	39,700	90,698	41,000	70,000	29,000	70.7%
PROFESSIONAL SERVICES	601,686	1,166,442	548,360	438,960	(109,400)	-20.0%
OTHER MATERIALS	1,163,076	902,493	853,700	936,700	83,000	9.7%
OTHER SERVICES	1,261,123	2,690,376	2,597,679	2,740,055	142,376	5.5%
TOTAL	\$ 55,194,617	\$ 60,031,796	\$ 64,003,115	\$ 66,781,894	\$ 2,778,779	4.3%

Proposed FY09 Current Expense Budget FIELD OPERATIONS by Program						
PROGRAM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
TOXIC REDUCTION & CONTROL	\$ 3,124,185	\$ 3,180,877	\$ 3,555,174	\$ 3,530,272	\$ (24,902)	-0.7%
WASTEWATER OPERATIONS	10,914,643	10,408,745	12,021,723	12,099,127	77,404	0.6%
WATER OPERATIONS & MAINT	17,998,459	19,389,090	20,612,163	21,650,995	1,038,832	5.0%
METRO MAINTENANCE	14,555,866	15,480,625	16,387,668	17,336,191	948,523	5.8%
OPERATIONS SUPPORT	7,142,829	7,108,356	7,573,970	7,819,901	245,931	3.2%
FOD ADMIN	1,458,635	4,464,103	3,852,417	4,345,408	492,991	12.8%
TOTAL	\$ 55,194,617	\$ 60,031,796	\$ 64,003,115	\$ 66,781,894	\$ 2,778,779	4.3%

The primary goal of the **Field Operations Department (FOD)** is to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring program. FOD consists of six operating units: Toxic Reduction and Control, Wastewater Operations, Metropolitan Maintenance, Water Operations and Maintenance, Operations Support, and Administration.

The Toxic Reduction and Control (TRAC) Department operates a multi-faceted program to minimize and control the inflow of hazardous or toxic materials into the MWRA sewer system. TRAC operates MWRA's EPA approved Industrial Pretreatment Program and is responsible for all associated activities which include conducting inspections (about 700 annually), issuing permits (300 annually), conducting sampling (more than 2,000 events annually), and carrying out enforcement activities (about 400 annually). The program tracks over 1,400 permitted facilities and 4,000 gas/oil separators. TRAC uses a software application, TRAC-IS, to manage an extensive amount of industrial data on analytical test results, compliance status, and facility sampling and permitting requirements. A replacement system is under development and should be fully functional during FY08.

Wastewater Operations operates MWRA's wastewater transport facilities, including four continuously staffed headworks facilities; 12 fully automated pumping stations; and seven CSO facilities which are similarly unstaffed. During FY06, the current Braintree-Weymouth pumping facility went off-line and all remaining staff transferred to the Chelsea facility during construction of the new Braintree-Weymouth Replacement Pump Station. A contractor will provide by-pass pumping until the new facility is operational in FY09. Additionally, during FY08, it is anticipated that the current Fox Point and Commercial Point CSO facilities will be taken off line and decommissioned.

Water Operations and Maintenance is responsible for the treatment and delivery of approximately 220 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 Carroll Water Treatment Plant (CWTP). There are two operations centers that provide for monitoring and control of the water system on a 24-hour per day basis. The Metropolitan Operations and Control Center (OCC) is located at MWRA's Chelsea facility and the Western Operations Center is located at the Carroll Water Treatment Plant.

Metropolitan Maintenance is responsible for maintenance of MWRA's wastewater and water systems and facilities within the Route 128 area. Staff 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 seven 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 Supervisory Control and Data Acquisition (SCADA) systems.

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

Budget Highlights:

- \$35.1 million or 53% of the Proposed FY09 Budget is for **Wages and Salaries** of which \$34.4 million or 98% is for regular pay to fund 520 positions, one position more than the FY08. The proposed budget also includes \$353,000 for stand-by pay to support operational and maintenance needs, \$20,000 for interns primarily for quality assurance support in Waterworks, and \$70,000 for temporary employees for Maximo (maintenance software) implementation and TRAC document coordination. The wages and salaries line item is \$1.3 million more than the FY08 Budget primarily due to contractual increases for wages and standby pay.
- The Proposed FY09 Budget funds \$2.5 million for **Overtime**, including \$885,000 for operational coverage needs, \$889,000 for emergency related overtime \$670,000 for planned overtime for scheduled maintenance, and \$18,000 for planned training. Overtime is \$10,000 less than the FY08 Budget primarily due to the net effect of reductions in coverage related overtime in Wastewater Operations offset by increases in need for Western Operations maintenance.
- \$6.6 million or 9.9% of the Proposed FY09 Budget is for **Chemicals**, of which \$5.8 million is for water treatment, \$582,000 is for wastewater treatment, and \$186,000 is a contingency for potential price increases for water chemical contracts that will be rebid in FY09 as current contracts expire. The final budget includes \$3.0 million for soda ash, \$1.1 million for sodium hypochlorite, \$860,000 for hydrofluosilicic acid, 579,000 for liquid oxygen for the CWTP ozone generation, \$306,000 for carbon dioxide to control the water pH, and \$253,000 for nitrazyme for Framingham Extension Relief Sewer odor and corrosion control.

Chemicals increased by \$451,000 or 7.3% from the FY08 Budget. Of this increase, approximately \$417,000 is due to price increases for hydrofluosilicic acid (+\$269,000 or 34%), soda ash (+\$176,000 or 6%), and several contracts that will be re-bid (+\$186,000). These increases are offset by decreased dosing for hydrofluosilicic acid (\$61,000 or 11%), soda ash (\$47,000 or 2%), liquid oxygen (\$28,000 or 4%), and wastewater chemicals (\$51,000 or 12%)

- \$10.5 million or 16% of the Proposed FY09 Budget is for **Utilities**, including \$7.5 million for electricity, \$1.8 million for diesel fuel, \$911,000 for natural gas, and \$296,000 for water. Utilities increased \$473,000 compared with the FY08 Budget. Of the increase, \$300,000 reflects the full year operation of the new Braintree Weymouth Replacement Pump Station currently scheduled to come on line in May 2008 (FY08). This includes \$218,000 for electricity and \$66,000 for diesel fuel. The remaining change of approximately \$173,000 is largely attributable to the increases for diesel fuel prices based on analysis of market indicators.
- \$7.8 million or 12% of the Proposed FY09 Budget is for **Maintenance**, including \$3.1 million for materials and \$4.8 million for services. Maintenance increased \$411,000 as compared to the FY08 Budget due to new initiatives including a preventive maintenance service contract of \$200,000, Wastewater metering system service contract of \$150,000, and \$50,000 for maintenance associated with the new Braintree Weymouth Replacement Pump Station.
- \$439,000 of the Proposed FY09 Budget is for **Professional Services**, including \$350,000 for engineering, \$29,000 for lab and testing, \$50,000 to fund an energy assessment within FOD, and \$10,000 for a pilot Dig Safe program. Professional Services decreased \$109,000 in comparison with the FY08 Budget largely due to the postponement to FY2010 of \$80,000 in anticipated costs for Local Limits initiatives which will be required after the new DITP NPDES permit is issued (expected in late FY09).
- \$937,000 is for **Other Materials**, including \$281,000 for vehicle expenses for gas, mileage reimbursements and tolls, \$218,000 for work clothes, \$188,000 for health and safety supplies, and \$125,000 for lab and testing supplies. Other Materials increased by \$83,000 from the FY08 Budget mainly due to the inclusion of \$56,000 for laptop computers for field staff to enter maintenance data into the Maximo system.
- \$2.7 million is for **Other Services**, including \$1.4 million for Chelsea annual lease payments, \$566,000 for telephone and SCADA needs at various facilities, \$441,000 for required police details, and \$43,000 for permit fees. The Other Services line item increased by \$142,000 from the FY08 Budget primarily due to increases for the Chelsea facility lease (+\$58,000) and use of police details for MWRA projects involving work in roadways (+\$64,000).

LABORATORY SERVICES

Proposed FY09 Current Expense Budget						
LABORATORY SERVICES						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 3,479,699	\$ 3,573,983	\$ 3,858,884	\$ 3,958,127	\$ 99,243	2.6%
OVERTIME	58,628	52,746	87,125	87,125	-	0.0%
FRINGE BENEFITS	469	486	1,200	1,200	-	0.0%
UTILITIES	126,214	152,032	25,783	27,925	2,142	8.3%
ONGOING MAINTENANCE	276,001	435,303	360,680	325,414	(35,266)	-9.8%
TRAINING & MEETINGS	460	1,029	5,975	6,500	525	8.8%
PROFESSIONAL SERVICES	57,508	79,639	167,434	184,231	16,797	10.0%
OTHER MATERIALS	740,980	866,336	858,329	884,468	26,139	3.0%
OTHER SERVICES	84,497	83,002	109,635	110,459	824	0.8%
TOTAL	\$ 4,824,456	\$ 5,244,556	\$ 5,475,045	\$ 5,585,449	\$ 110,404	2.0%

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, Massachusetts Bay outfall monitoring, TRAC, and wastewater residuals. DLS also conducts the Boston Harbor monitoring program, which involves regular sampling for nutrients, bacteria, and water quality parameters throughout Boston Harbor. Laboratory staff track and analyze results 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 sampling of Massachusetts Bay to collect bacteria samples. In July 2004, MWRA brought laboratory testing of Quabbin and Wachusett Reservoirs and their tributaries for the Department of Conservation and Recreation in-house, including operation of the Quabbin Laboratory.

Budget Highlights:

- \$4.0 million or 71% of the Proposed FY09 Budget is for **Wages and Salaries**, of which \$3.8 million is regular pay for the funding of 55 positions. The budget includes one more funded position than in the FY08 CEB to cover the need for additional staff for water quality analysis. The Proposed FY09 Budget also includes \$156,000 for up to five temporary employee positions to cover work during peak periods and to ensure adequate staffing for routine work when permanent employees are on vacation, leave, or completing special projects. The temporary employees will also help cover workload during implementation of the Laboratory Information Management System (LIMS) in FY09.
- \$28,000 is for **Utilities**, which consists of gases and cryogenic liquids used for various lab instruments. As of FY08, the budget for the Laboratory's diesel fuel and electricity is included in the DITP's budget versus in the Laboratory budget because the Lab shares a building with the Deer Island Plant.

- \$325,000 is for **Maintenance** which includes \$90,000 for Laboratory modifications, \$214,000 for equipment service contracts and \$10,000 for HVAC services to annually certify the fume hoods. The (\$35,000) change from the FY08 maintenance budget is primarily due to the \$53,000 decrease in the cost of building modification work which varies from year to year depending on the project. This decrease is offset by a \$26,000 increase for service contracts primarily for additional instruments being purchased in FY08.
- The **Professional Services** budget of \$184,000 covers lab and testing analysis services. The Lab contracts out a variety of complex and/or low volume tests. Outside labs are used for emergencies, “second opinions”, capacity constraints, and unavailability of specialized equipment or economic justification.
- \$884,000 is for **Other Materials** including \$575,000 for laboratory supplies and \$260,000 for equipment replacement.
- \$110,000 for **Other Services** primarily covers boat rental service on an as-needed basis, boat dockage for two boats, and courier service for shipping samples between laboratories and removing hazardous waste.

ENVIRONMENTAL QUALITY

Proposed FY09 Current Expense Budget ENVIRONMENTAL QUALITY							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09		
WAGES & SALARIES	\$ 1,234,453	\$ 1,233,001	\$ 1,366,324	\$ 1,425,446	\$ 59,122	4.3%	
OVERTIME	2,567	3,281	4,000	4,879	879	22.0%	
FRINGE BENEFITS	6	-	-	-	-	-	
ONGOING MAINTENANCE	3,751	1,639	-	-	-	-	
TRAINING & MEETINGS	2,480	2,585	7,050	7,050	-	0.0%	
PROFESSIONAL SERVICES	3,499,485	2,840,422	3,194,997	2,870,576	(324,421)	-10.2%	
OTHER MATERIALS	3,240	977	6,030	6,030	-	0.0%	
OTHER SERVICES	9,505	2,864	127,613	136,598	8,985	7.0%	
TOTAL	\$ 4,755,487	\$ 4,084,769	\$ 4,706,014	\$ 4,450,579	\$ (255,435)	-5.4%	

The Environmental Quality Department (ENQUAD) reports on environmental findings that may be linked to MWRA operations and projects. The department's main activities are monitoring sewage influent and effluent quality; monitoring the water quality of Boston Harbor, its tributary rivers, and Massachusetts Bay; managing data and entering quality data; and complying with the reporting requirements of MWRA's NPDES permits. MWRA submits these permit reports to state and federal regulators, the Outfall Monitoring Science Advisory Panel and its subcommittees, and several libraries; and, as required by the permits, MWRA posts many of these reports on its 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 periodically produces the printed State of Boston Harbor Report.

Budget Highlights:

- \$1.4 million or 32% of the Proposed FY09 Budget is for **Wages and Salaries** for 17 positions plus one contractor to assist with water quality data management and the State of Boston Harbor report.
- \$2.9 million or 64% of the Proposed FY09 Budget is for **Professional Services** for outside laboratory testing and analysis. The proposed budget provides total funding of \$2.6 million for the Harbor and Outfall Monitoring (HOM) Program including \$354,000 for the remainder of the HOM5 contract and \$2.2 million for HOM6, which will be completed through contracts with two vendors (Battelle and ENSR). The balance of the funds covers the following:
 - o follow-on cost-sharing contract with the National Oceanic and Atmospheric Administration's National Data Buoy Center for required continuous monitoring
 - o MA Bay Eutrophication Model
 - o chlorophyll monitoring
 - o membership in the Gulf of Maine Ocean Observation System monitoring program and
 - o biotoxicity testing for Clinton WWTP, CSO facilities, and the Deer Island Treatment Plant.

The decrease from the FY08 Budget to the Proposed FY09 Budget is partially attributable to the Massachusetts Bay Eutrophication Model work which is \$139,000 less than in FY08 due to the new cost-sharing contract with the University of Massachusetts at Dartmouth. In addition, MWRA had previously negotiated reductions in the scope of fish and shellfish contaminant monitoring, so there is nothing budgeted for that work in FY09 compared with \$132,000 in FY08.

- \$137,000 for **Other Services** of which \$118,000 is for an Authority-wide membership in the Water Environment Research Foundation. The Proposed FY09 Budget also funds the permit fees for MWRA's NPDES Permit renewal process.

ENGINEERING AND CONSTRUCTION

Proposed FY09 Current Expense Budget ENGINEERING AND CONSTRUCTION							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09		
WAGES & SALARIES	\$ 6,496,401	\$ 7,597,332	\$ 7,925,934	\$ 8,160,972	\$ 235,038	3.0%	
OVERTIME	45,969	63,295	58,313	62,831	4,518	7.7%	
FRINGE BENEFITS	380	512	584	504	(80)	-13.7%	
ONGOING MAINTENANCE	31,010	5,893	10,285	10,480	195	1.9%	
TRAINING & MEETINGS	2,777	11,911	12,700	15,900	3,200	25.2%	
PROFESSIONAL SERVICES	1,421	(750)	-	-	-	-	
OTHER MATERIALS	84,810	127,780	112,985	115,600	2,615	2.3%	
OTHER SERVICES	11,119	43,817	24,900	36,900	12,000	48.2%	
TOTAL	\$ 6,673,887	\$ 7,849,790	\$ 8,145,701	\$ 8,403,187	\$ 257,486	3.2%	

The Engineering and Construction Department (ECD) manages and coordinates the planning, design, and construction of system improvements that ensure a safe and adequate water supply and a reliable wastewater collection and treatment. Staff is organized into three units including Wastewater Engineering, Water Engineering, and Construction.

The department provides in-house engineering, consultant management (during the facilities planning, environmental review, design, and engineering services during construction stages of capital projects), drafting, surveying, construction management, and other technical assistance required for the maintenance, repair, and rehabilitation of wastewater and waterworks systems. The Wastewater Engineering Unit manages all wastewater design and engineering projects including CSO engineering activities. The unit also maintains the Design Information Services Center (DISC), which provides computer-aided design and drafting (CADD) and services. The Water Engineering Unit manages all water design and engineering projects as well as specialized technical services in electrical, structural, mechanical, and civil engineering disciplines. The Construction Unit provides contract management and resident inspection on all MWRA water and wastewater construction and rehabilitation projects, with the exception of Deer Island.

Budget Highlights:

- \$8.1 million for **Wages and Salaries** represents 97% of the Proposed FY09 Budget and includes funding for 94 positions.
- \$63,000 for **Overtime**, mainly to cover resident inspection at construction sites after regular work hours to ensure monitoring of construction projects. Overtime is also used for unplanned design or survey needs, attendance at evening public meetings and meeting deadlines.
- \$10,000 for **Maintenance** which covers service contracts for the DISC Unit's specialized printers and plotters.
- \$116,000 for **Other Materials**, which includes \$93,000 for vehicle expense for staff traveling to construction sites, \$15,000 for office supplies and \$5,000 for work clothes.
- \$37,000 for **Other Services** which includes \$10,000 for memberships and dues, \$15,000 for printing of in-house design plans and specifications, \$6,000 for cell phones, and \$3,000 for police details.



Law Division
Budget

LAW DIVISION

Proposed FY09 Current Expense Budget LAW DIVISION							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09		
WAGES & SALARIES	\$ 1,679,360	\$ 1,649,990	\$ 1,706,055	\$ 1,745,599	\$ 39,544	2.3%	
OVERTIME	2,850	40	-	-	-	-	
TRAINING & MEETINGS	4,543	2,788	3,748	3,748	-	0.0%	
PROFESSIONAL SERVICES	94,374	150,409	176,000	176,000	-	0.0%	
OTHER MATERIALS	3,645	7,347	5,539	5,539	-	0.0%	
OTHER SERVICES	31,663	29,779	36,500	39,500	3,000	8.2%	
TOTAL	\$ 1,816,435	\$ 1,840,353	\$ 1,927,842	\$ 1,970,386	\$ 42,544	2.2%	

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 less than 1% of MWRA's FY09 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 them as favorably and early as possible thereby reducing or eliminating litigation costs and interest payable upon such claims were they to be litigated.

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 \$40,000 or 2.3% due to contractual increases.
- \$176,000 for **Professional Services** kept at the same funding level due to prior year expenditures approaching that level of spending.
- The 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

Proposed FY09 Current Expense Budget FINANCE DIVISION						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 2,739,596	\$ 2,920,430	\$ 3,165,710	\$ 3,339,071	\$ 173,361	5.5%
OVERTIME	5,939	486	-	-	-	-
TRAINING & MEETINGS	2,572	2,650	6,350	7,795	1,445	22.8%
PROFESSIONAL SERVICES	455,495	129,633	502,300	502,300	-	0.0%
OTHER MATERIALS	7,442	8,547	10,138	10,127	(11)	-0.1%
OTHER SERVICES	8,860	17,768	24,755	25,081	326	1.3%
TOTAL	\$ 3,219,904	\$ 3,079,514	\$ 3,709,253	\$ 3,884,374	\$ 175,121	4.7%

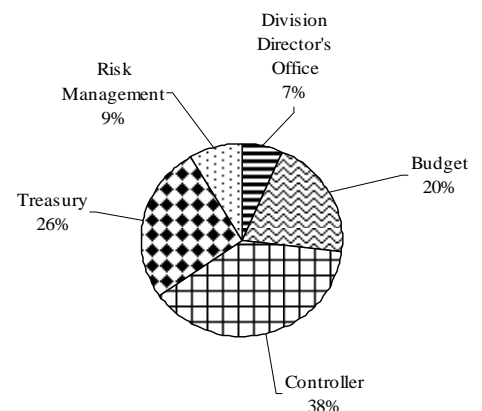
Proposed FY09 Current Expense Budget FINANCE DIVISION by Department						
DEPARTMENT	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
DIVISION DIRECTOR'S OFFICE	\$ 218,684	\$ 213,438	\$ 214,922	\$ 254,357	\$ 39,435	18.3%
PLANNING/COORDINATION	193	110	-	-	-	-
BUDGET	375,378	680,218	710,927	792,862	81,935	11.5%
TREASURY	1,078,168	502,745	961,646	1,015,615	53,969	5.6%
CONTROLLER	1,412,624	1,393,264	1,497,882	1,487,613	(10,269)	-0.7%
RISK MANAGEMENT	134,857	289,739	323,876	333,927	10,051	3.1%
TOTAL	\$ 3,219,904	\$ 3,079,514	\$ 3,709,253	\$ 3,884,374	\$ 175,121	4.7%

The Finance Division is responsible for overseeing rates and revenue management, budgeting, capital financing, accounting, disbursements, investments, grant and loan management and the processing and resolution of insurance claims. The Finance Division is comprised of four independent but related functions. These are Budget, Controller, Risk Management, and Treasury. The Finance Division performs critical financial support functions that ensure the daily operations of the Authority and improvements to its capital assets, including: timely and accurate processing of payments for goods and services, annual issuance of debt to fund essential capital projects, weekly distribution of payroll, and regular reporting on expenditures to MWRA management, the Advisory Board, and the Board of Directors. The Finance Division is also responsible for developing and implementing forward thinking, long-range investment and budget strategies that ensure adequate funding for capital projects and on-going operations while mitigating financial impact to ratepayers and ensuring the Authority's strong bond rating.

The Proposed FY09 Budget for the Finance division accounts for less than 2% of MWRA's direct expense budget.

Goals:

- Ensure the fiscal strength of MWRA through judicious, informed, and farsighted allocation of resources.
- Develop strategies for minimizing increases in community assessments and charges.
- 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.



DIVISION DIRECTOR'S OFFICE

Proposed FY09 Current Expense Budget FINANCE DIVISION DIRECTOR'S OFFICE							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09		
WAGES & SALARIES	\$ 216,676	\$ 210,528	\$ 211,992	\$ 249,862	\$ 37,870	17.9%	
TRAINING & MEETINGS	1,306	2,288	1,400	2,345	945	67.5%	
OTHER MATERIALS	179	171	20	415	395	1975.0%	
OTHER SERVICES	523	451	1,510	1,735	225	14.9%	
TOTAL	\$ 218,684	\$ 213,438	\$ 214,922	\$ 254,357	\$ 39,435	18.3%	

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 ensures that all financial transactions are conducted in compliance with the Authority's policies, procedures and contract terms and that the investment of all funds are consistent with the bond resolutions and regulations. The Director's Office manages the development and implementation of financial policy to uphold the efficient utilization of resources and control of all monies. The Director's Office provides advice and analysis to the Executive Director and the Board of Directors on all financial issues.

The division's continuing challenge in FY09 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 reduction in the amount of state debt service assistance received by the MWRA since 2002.

Goals:

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

Budget Highlights:

- Proposed FY09 Budget of \$250,000 for **Wages and Salaries**, an increase of \$38,000 from FY08 Budget is due to wage increases and a division-wide vacancy adjustment in the FY08 budget. The proposed budget funds two positions.

BUDGET

Proposed FY09 Current Expense Budget						
BUDGET						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 374,813	\$ 669,306	\$ 699,987	\$ 781,711	\$ 81,724	11.7%
TRAINING & MEETINGS	125	-	450	450	-	0.0%
OTHER MATERIALS	440	5,409	460	570	110	23.9%
OTHER SERVICES	-	5,503	10,030	10,131	101	1.0%
TOTAL	\$ 375,378	\$ 680,218	\$ 710,927	\$ 792,862	\$ 81,935	11.5%

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 works closely with divisions' 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 coordinates development of MWRA's annual Current Expense Budget (CEB) and monitors spending compared to budget throughout the year.

Goals:

- Continually enhance processes and the management of resources to deliver the proposed and final Capital Improvement Program and Current Expense Budgets timely and accurately.
- Adhere to all MWRA policies, procedures and administrative practices as well as all relevant statutory and regulatory authority and accounting and budgeting principles.
- Improve the quality and presentation of budget documents and regularly required reports while working to develop new reports that will aid the Authority's management and staff as well as the MWRA Advisory Board.

Budget Highlights:

- Proposed FY09 Budget of \$782,000 for **Wages and Salaries**, an increase of \$82,000 or 11.7% from FY08 Budget mostly due to wage increases, one part-time position being funded at the full-time level, and some upgrades. The proposed budget funds nine positions.
- \$10,000 is for **Other Services**, level funded from FY08 Budget. The other services Proposed FY09 Budget includes \$3,000 for forecasting services from Global Insight for inflation projections and \$6,000 to cover the costs of printing a limited number of budget documents and reports.

Initiatives:

- Reorganize department to realize cross functionality of the CIP and CEB programs.
- Training initiatives to enhance system skills.

CONTROLLER

Proposed FY09 Current Expense Budget						
CONTROLLER						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 1,305,300	\$ 1,176,542	\$ 1,299,730	\$ 1,290,326	\$ (9,404)	-0.7%
OVERTIME	4,992	-	-	-	-	-
TRAINING & MEETINGS	500	313	1,000	500	(500)	-50.0%
PROFESSIONAL SERVICES	99,000	215,500	189,000	189,000	-	0.0%
OTHER MATERIALS	2,493	629	4,607	4,242	(365)	-7.9%
OTHER SERVICES	339	280	3,545	3,545	-	0.0%
TOTAL	\$ 1,412,624	\$ 1,393,264	\$ 1,497,882	\$ 1,487,613	\$ (10,269)	-0.7%

The Controller Department consists of the Accounting, Accounts Payable, and Payroll units. The department has the responsibility for ensuring integrity within the financial accounting system and integration among the three functions. The department is also responsible for the appropriate treatment, classification and reporting of the MWRA's assets, liabilities, revenues and expenditures in accordance with accounting principles generally accepted in the United States of America.

Goals:

- Produce accurate and timely financial reports.
- Process invoices within terms and conditions.

Budget Highlights:

- \$1.3 million for **Wages and Salaries**, a decrease of \$9,000 or (0.7%) from FY08 Budget due to division-wide vacancy adjustment. The proposed budget funds 20 positions.
- \$189,000 for **Professional Services**, level funded from FY08 Budget. The Proposed FY09 Budget reflects anticipated costs associated with the annual financial statement audit, the A-133 Single Audit related to the receipt of federal funds, and the actuarial services related to GASB 45 Other Post Employment Benefits.

RISK MANAGEMENT

Proposed FY09 Current Expense Budget						
RISK MANAGEMENT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 134,857	\$ 266,119	\$ 277,451	\$ 286,502	\$ 9,051	3.3%
TRAINING & MEETINGS	-	-	500	1,500	1,000	200.0%
PROFESSIONAL SERVICES	-	23,261	45,000	45,000	-	0.0%
OTHER MATERIALS	-	59	-	-	-	-
OTHER SERVICES	-	300	925	925	-	0.0%
TOTAL	\$ 134,857	\$ 289,739	\$ 323,876	\$ 333,927	\$ 10,051	3.1%

The Risk Management Department formerly included in 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 manages all administrative functions relating to the initial reporting, processing and resolution of construction contract claims and self-insured auto, general liability, and property damage claims. Department staff 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 serves as a liaison to insurance industry participants including brokers, insurers, insurance consultants, attorneys and all MWRA departments.

Goals:

- Process claims in an efficient and timely manner.
- Secure the timely, cost effective renewal of Authority-wide insurance contracts.
- Minimize MWRA's exposure to financial loss stemming from contractor and vendor activities by establishing insurance requirements and monitoring compliance.

Budget Highlights:

- Proposed FY09 Budget is \$334,000 of which \$287,000 is for **Wages & Salaries**. The proposed budget funds three positions.
- \$45,000 for **Professional Services** includes funds for an insurance consultant, and is level funded from the FY08 Budget.

TREASURY

Proposed FY09 Current Expense Budget							
TREASURY							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09		
WAGES & SALARIES	\$ 707,948	\$ 597,935	\$ 676,551	\$ 730,670	\$ 54,119	8.0%	
OVERTIME	947	486	-	-	-	-	
TRAINING & MEETINGS	641	50	3,000	3,000	-	0.0%	
PROFESSIONAL SERVICES	356,495	(109,130)	268,300	268,300	-	0.0%	
OTHER MATERIALS	4,136	2,170	5,050	4,900	(150)	-3.0%	
OTHER SERVICES	8,001	11,234	8,745	8,745	-	0.0%	
TOTAL	\$ 1,078,168	\$ 502,745	\$ 961,646	\$ 1,015,615	\$ 53,969	5.6%	

The Treasury Department secures funds for ongoing operations and capital programs in addition to processing cash disbursements. Department staff collects revenue, disburses funds, and manages grant and loan programs in addition to debt issuance and investments. 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.

Goals:

- Manage MWRA's debt portfolio to achieve sustainable and predictable rate increases.

Budget Highlights:

- \$731,000 for **Wages and Salaries**, an increase of \$54,000 or 8.0% from FY08 Budget is mostly due to wage increases. The proposed budget funds nine positions.
- \$268,000 for **Professional Services**, level funded from FY08 Budget. The Proposed FY09 budget includes funds for trustee services, energy and arbitrage consulting services.



Support Services Division
Budget

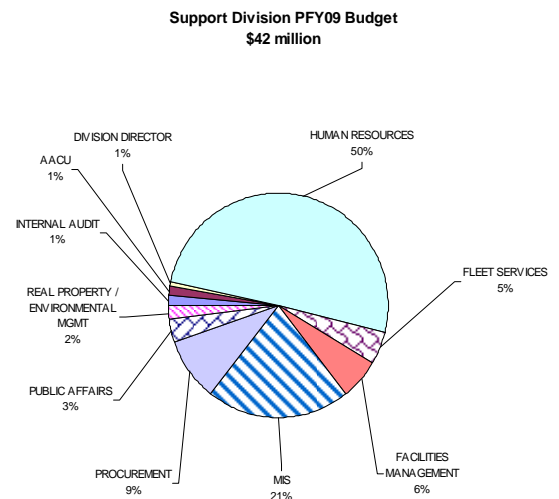
SUPPORT SERVICES DIVISION

Proposed FY09 Current Expense Budget SUPPORT DIVISION						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 13,599,492	\$ 13,671,269	\$ 14,387,447	\$ 14,865,311	\$ 477,864	3.3%
OVERTIME	65,014	93,209	93,115	73,115	(20,000)	-21.5%
FRINGE BENEFITS	14,125,296	15,043,560	16,198,100	17,793,879	1,595,779	9.9%
WORKERS' COMPENSATION	1,823,355	1,235,814	1,400,000	1,400,000	-	0.0%
UTILITIES	1,161,558	351,321	188,668	164,471	(24,197)	-12.8%
ONGOING MAINTENANCE	3,368,100	3,522,714	3,273,456	3,287,560	14,104	0.4%
TRAINING & MEETINGS	37,301	55,459	47,194	78,825	31,631	67.0%
PROFESSIONAL SERVICES	804,911	349,285	484,921	525,003	40,082	8.3%
OTHER MATERIALS	758,865	1,190,744	1,168,028	1,159,067	(8,961)	-0.8%
OTHER SERVICES	5,218,892	2,810,354	2,958,535	3,028,603	70,068	2.4%
TOTAL	\$ 40,962,784	\$ 38,323,729	\$ 40,199,464	\$ 42,375,834	\$ 2,176,370	5.4%

Proposed FY09 Current Expense Budget SUPPORT DIVISION by Department						
DEPARTMENT	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
DIVISION DIRECTOR	\$ 548,601	\$ 223,882	\$ 231,190	\$ 237,418	\$ 6,228	2.7%
INTERNAL AUDIT	532,496	550,914	577,417	592,287	14,870	2.6%
PUBLIC AFFAIRS	1,305,265	1,219,402	1,290,536	1,321,246	30,710	2.4%
FACILITIES MANAGEMENT	6,711,567	2,835,484	2,439,106	2,425,714	(13,392)	-0.5%
FLEET SERVICES	1,675,339	1,596,618	2,002,574	2,077,239	74,665	3.7%
AACU	514,664	555,273	576,492	592,031	15,539	2.7%
HUMAN RESOURCES	17,596,471	18,143,093	19,696,119	21,376,595	1,680,476	8.5%
MIS	7,970,819	8,727,087	8,910,798	9,005,021	94,223	1.1%
PROCUREMENT	3,505,265	3,841,264	3,660,107	3,879,272	219,165	6.0%
REAL PROPERTY / ENVIRONMENTAL MGMT	602,297	630,712	815,125	869,011	53,886	6.6%
TOTAL	\$ 40,962,784	\$ 38,323,729	\$ 40,199,464	\$ 42,375,834	\$ 2,176,370	5.4%

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 \$42 million FY09 Budget accounts for 19.7% of MWRA's direct expense budget. The division budget includes \$17.8 million for fringe benefits for all MWRA personnel; \$1.6 million for lease, taxes insurance, and operating and maintenance costs for the Charlestown Navy Yard (CNY) headquarters; and \$1.4 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

Proposed FY09 Current Expense Budget DIVISION DIRECTOR						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 268,740	\$ 222,590	\$ 229,836	\$ 236,064	\$ 6,228	2.7%
OVERTIME	54	-	-	-	-	-
FRINGE BENEFITS	-	-	-	-	-	-
ONGOING MAINTENANCE	267,543	221	-	-	-	-
TRAINING & MEETINGS	659	-	-	-	-	-
OTHER MATERIALS	9,990	368	450	450	-	0.0%
OTHER SERVICES	1,615	703	904	904	-	0.0%
TOTAL	\$ 548,601	\$ 223,882	\$ 231,190	\$ 237,418	\$ 6,228	2.7%

The Division Director Department consists of management and administrative staff.

The goals of the Division Director's Department 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:

- The Proposed FY09 Budget of \$237,000 is an increase of \$6,000 or 2.7% as compared to the FY08 budget. The majority of the increase is for **Wages and Salaries** due to contractual increases. This budget includes funding for two positions.

INTERNAL AUDIT

Proposed FY09 Current Expense Budget INTERNAL AUDIT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 525,051	\$ 539,094	\$ 564,209	\$ 579,039	\$ 14,830	2.6%
TRAINING & MEETINGS	3,887	9,118	9,738	9,738	-	0.0%
OTHER MATERIALS	2,208	2,217	2,400	2,400	-	0.0%
OTHER SERVICES	1,350	485	1,070	1,110	40	3.7%
TOTAL	\$ 532,496	\$ 550,914	\$ 577,417	\$ 592,287	\$ 14,870	2.6%

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, adhere to sound management procedures, and use controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and to provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have adequate accounting and billing systems to provide current, complete, and accurate cost and price information and project invoicing.

Budget Highlights:

- Total Proposed FY09 Budget of \$592,000, an increase of \$15,000 or 2.6% over FY08 Budget.
- \$579,000 for **Wages and Salaries**, an increase of \$15,000 or 2.6% over FY08 Budget, for staff to perform internal audits, management advisory services, preliminary review and incurred cost audits, and consultant disclosure statement reviews. The proposed budget supports eight positions.
- \$10,000 for **Training and Meetings**, of which 46% is for travel to consultant offices to perform incurred cost audits of billings for design and engineering services.

FY08 Accomplishments through December 2007:

- Identified \$1,926,991 in savings related to incurred cost audits (\$19,230), construction labor burden reviews (\$18,623), construction claims (\$1,537,734) and other contractor and vendor assignments (\$351,404).
- Completed four incurred cost assignments, eight preliminary construction reviews, a vendor audit, the total cost review of a construction claim, a prevailing wage review, a true-up of 2006 billings by Harbor Energy Electric Company (HEEC), and issued a report on the New England Fertilizer Company's (NEFCO's) compliance with the provisions of the Pellet Plant Operating and Maintenance contract.

PUBLIC AFFAIRS

Proposed FY09 Current Expense Budget						
PUBLIC AFFAIRS						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 1,230,576	\$ 1,148,137	\$ 1,188,613	\$ 1,218,983	\$ 30,370	2.6%
OVERTIME	1,070	-	-	-	-	-
TRAINING & MEETINGS	2,875	1,045	3,600	3,665	65	1.8%
PROFESSIONAL SERVICES	1,934	1,683	1,050	1,050	-	0.0%
OTHER MATERIALS	22,414	15,432	15,750	17,850	2,100	13.3%
OTHER SERVICES	46,396	53,105	81,523	79,698	(1,825)	-2.2%
TOTAL	\$ 1,305,265	\$ 1,219,402	\$ 1,290,536	\$ 1,321,246	\$ 30,710	2.4%

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), Department of Environmental Protection (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 Proposed FY09 Budget of \$1.3 million, an increase of \$31,000 or 2.4% from FY08 Budget.
- \$1.2 million for **Wages and Salaries**, an increase of \$30,000 or 2.6% from FY08 Budget, primarily due to contractual adjustments to regular pay. The proposed budget supports 15 positions.
- \$98,000 for **Other Materials** and **Other Services** includes \$65,000 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

Proposed FY09 Current Expense Budget FACILITIES MANAGEMENT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 628,221	\$ 370,908	\$ 392,502	\$ 400,169	\$ 7,667	2.0%
OVERTIME	20,011	30,320	35,000	25,000	(10,000)	-28.6%
FRINGE BENEFITS	521	126	-	-	-	-
UTILITIES	1,153,669	349,873	187,168	162,971	(24,197)	-12.9%
ONGOING MAINTENANCE	302,472	86,715	37,320	39,400	2,080	5.6%
TRAINING & MEETINGS	-	-	-	-	-	-
PROFESSIONAL SERVICES	538,687	(1)	-	-	-	-
OTHER MATERIALS	23,800	87,935	121,961	121,233	(728)	-0.6%
OTHER SERVICES	4,044,186	1,909,608	1,665,155	1,676,941	11,786	0.7%
TOTAL	\$ 6,711,567	\$ 2,835,484	\$ 2,439,106	\$ 2,425,714	\$ (13,392)	-0.5%

Proposed FY09 Current Expense Budget FACILITIES MANAGEMENT SUPPORT by Area						
AREA	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
FRSA	\$ 281,636	\$ 217,333	\$ -	\$ -	\$ -	-
FACILITIES MANAGEMENT	5,780,804	2,216,599	2,009,168	1,997,437	(11,731)	-0.6%
ADMINISTRATIVE SERVICES	649,127	401,552	429,938	428,277	(1,661)	-0.4%
TOTAL	\$ 6,711,567	\$ 2,835,484	\$ 2,439,106	\$ 2,425,714	\$ (13,392)	-0.5%

The Facilities Management Department provides a range of support services to MWRA staff located at the Charlestown Navy Yard (CNY).

Facilities Management is responsible for coordinating site management activities at CNY. Staff institute maintenance procedures, respond to facilities requests from building occupants, coordinate workspace planning, provide office furnishings, and develop and implement appropriate measures to ensure the safety of MWRA staff and protect and preserve MWRA assets.

In addition, staff provides administrative and office support services that facilitate efficient use of MWRA resources. These responsibilities include providing and managing the motor pools at Chelsea and CNY, 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.
- Implement facility programs in conjunction with MWRA recycling and resource conservation efforts.
- Support efforts to limit the fleet size while meeting operational needs by providing reliable motor pool and transportation services.

Budget Highlights:

- The Proposed FY09 Budget of \$2.4 million, a decrease of \$13,000 or 0.5% as compared to the FY08 budget.
- \$400,000 for **Wages and Salaries**, an increase of \$8,000 or 2.0% from the FY08 budget due to contractual increases, longevity and sick leave buyback. The budget supports eight positions.
- \$25,000 for **Overtime** for coverage of facility maintenance and support services, a decrease of \$10,000 or 28.6% as compared to the FY08 budget. Funds are used to provide coverage of daily services, such as shuttles and reception services during vacations or other periods when staff are away.
- \$163,000 for **Utilities**, a decrease of \$24,000 or 12.9% as compared to the FY08 budget. The decrease reflects a reduction in consumption based on the first full year of decreased occupancy at CNY.
- \$121,000 for **Other Materials**, a decrease of \$700 or 0.6% as compared to the FY08 budget.
- \$1.7 million for **Other Services**, an increase of \$12,000 or 0.7%, as compared to the FY08 budget.

FY08 Accomplishments

- Continue to support energy reduction efforts by installing devices such as timers and motion sensors for lighting in shared areas.
- Support enhanced recycling program at CNY.

FLEET SERVICES

Proposed FY09 Current Expense Budget							
FLEET SERVICES							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09		
WAGES & SALARIES	\$ 633,183	\$ 650,257	\$ 699,384	\$ 733,189	\$ 33,805	4.8%	
OVERTIME	18,172	13,774	40,000	30,000	(10,000)	-25.0%	
FRINGE BENEFITS	537	598	2,100	1,800	(300)	-14.3%	
UTILITIES	1,306	1,331	1,500	1,500	-	0.0%	
ONGOING MAINTENANCE	585,215	666,280	742,050	747,250	5,200	0.7%	
TRAINING & MEETINGS	-	-	-	-	-	-	
OTHER MATERIALS	435,076	462,616	513,002	558,962	45,960	9.0%	
OTHER SERVICES	1,850	(198,238)	4,538	4,538	-	0.0%	
TOTAL	\$ 1,675,339	\$ 1,596,618	\$ 2,002,574	\$ 2,077,239	\$ 74,665	3.7%	

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 the development and processing of specifications for new vehicles and equipment.

Budget Highlights:

- The Proposed FY09 Budget of \$2.1 million reflects an increase of \$75,000 or 3.7% as compared to the FY08 budget.
- \$733,000 for **Wages & Salaries**, an increase of \$34,000 or 4.8% as compared to the FY08 budget. Funds support 12 positions. The increase is attributed to contractual increases.
- **Ongoing Maintenance** budget of \$747,000, an increase of \$5,000 or 0.7% as compared to the FY08 budget. The budget includes funds for automotive materials & services to maintain MWRA's vehicle fleet. This increase is driven by vendor increases due to higher fuel costs. More than 50 percent of the active fleet is seven years or older.
- \$559,000 for **Other Materials** is an increase of \$46,000 or 9% as compared to the FY08 budget. The Proposed FY09 Budget includes funds for vehicle/equipment fueling which are based on FY07 and FY08 fueling costs. Fleet Services procures bulk fuels from state contracts while continuing to meet all governmental alternative fuel directives.
- **Other Services** is level funded at \$4,500. These funds are used to provide maintenance staff with required uniforms and work boots.

FY08 Accomplishments

Fleet Services

- Developed specifications for 32 new / replacement vehicles / equipment. Twenty-two (22) of these units are alternative fuel or hybrid models, consistent with the Authority's goal of purchasing environmentally friendly products. One emergency service unit (trailer) was purchased with a grant from the Department of Homeland Security.

- As part of the Authority's environmental goals, 10 large diesel vehicles were retrofitted with Diesel Oxidation Catalyst (DOC) devices which reduce greenhouse gas emissions.
- Fleet Services assisted in the upgrade of Deer Island's vehicle/equipment fueling system as part of an effort to standardize fuel management systems (Gasboy) agency-wide.
- MWRA is rated as one of the largest bio-fuel users by the Massachusetts Alternative Fuel Coalition. The Authority continues to fuel diesel powered vehicle/equipment with bio-diesel.
- Prepared the documentation for the surplus sale of 65 vehicles and equipment.
- Continue to work with MIS staff on the design and implementation of a Maximo system upgrade which includes a transportation module specifically designed for a fleet environment.
- Development and implementation of FCC mandated frequency re-banding project with Motorola and Nextel is underway.

AFFIRMATIVE ACTION and COMPLIANCE

Proposed FY09 Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 513,217	\$ 552,953	\$ 572,498	\$ 586,439	\$ 13,941	2.4%
OVERTIME	-	-	-	-	-	-
TRAINING & MEETINGS	3	1	1,794	3,360	1,566	87.3%
OTHER MATERIALS	944	2,119	1,500	1,800	300	20.0%
OTHER SERVICES	500	200	700	432	(268)	-38.3%
TOTAL	\$ 514,664	\$ 555,273	\$ 576,492	\$ 592,031	\$ 15,539	2.7%

The Affirmative Action and Compliance Unit (AACU) develops, administers, and monitors compliance of Affirmative Action Plan programs and policies by ensuring equal opportunity and non-discrimination in employment and equitable access of Minority/Women Business Enterprises (MBE/WBE) in Authority procurement activities.

The goals of the Affirmative Action and Compliance Unit 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 into its work force.
- Maintain internal audit and reporting systems adequate to monitor MWRA’s accomplishments of goal attainment in identified underutilized job groups for minorities and female representation.
- Communicate to managers and supervisors MWRA's commitment to its equal opportunity policies and affirmative action programs.
- Provide for the equitable participation of minority and women-owned businesses in procurement opportunities and ensure that minorities and women are represented in the labor force on construction contracts, and coordinate with other public entities regarding state and federal requirements.
- Assist divisions and departments in the understanding and implementation of MBE/WBE program policies and practices and monitor and report on contractor compliance and expenditures.

Budget Highlights:

- Total Proposed FY09 Budget of \$592,000, an increase of \$16,000 or 2.8% over FY08 Budget, primarily due to contractual adjustments to regular pay. The proposed budget supports eight positions.

HUMAN RESOURCES

Proposed FY09 Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 1,335,022	\$ 1,484,995	\$ 1,543,492	\$ 1,588,286	\$ 44,794	2.9%
OVERTIME	1,092	69	437	437	-	0.0%
FRINGE BENEFITS	14,123,974	15,042,497	16,196,000	17,792,079	1,596,079	9.9%
WORKERS' COMPENSATION	1,823,355	1,235,814	1,400,000	1,400,000	-	0.0%
ONGOING MAINTENANCE	807	28	1,000	900	(100)	-10.0%
TRAINING & MEETINGS	3,146	3,820	7,514	7,514	-	0.0%
PROFESSIONAL SERVICES	262,552	347,875	483,370	523,453	40,083	8.3%
OTHER MATERIALS	16,672	25,156	26,460	27,560	1,100	4.2%
OTHER SERVICES	29,851	2,839	37,846	36,366	(1,480)	-3.9%
TOTAL	\$ 17,596,471	\$ 18,143,093	\$ 19,696,119	\$ 21,376,595	\$ 1,680,476	8.5%

Proposed FY09 Current Expense Budget HUMAN RESOURCES by Area						
AREA	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
EMPLOYEE/COMP/BEN	\$ 611,510	\$ 567,473	\$ 648,262	\$ 664,481	\$ 16,219	2.5%
LABOR RELATIONS	676,213	862,639	951,220	971,848	20,628	2.2%
TRAINING	325,882	387,848	472,587	509,854	37,267	7.9%
CENTRALIZED FRINGE BENEFITS	15,982,866	16,325,133	17,624,050	19,230,412	1,606,362	9.1%
TOTAL	\$ 17,596,471	\$ 18,143,093	\$ 19,696,119	\$ 21,376,595	\$ 1,680,476	8.5%

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 package (salary and benefits) to all employees.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility. Ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment that

fosters safety consciousness and productive work, maximize the number of early returns to work by employees who have incurred on-the-job injuries or illnesses, and aggressively manage the Workers' Compensation Program to reduce costs.

Budget Highlights:

- \$1.6 million for **Wages and Salaries**, an increase of \$45,000 or 2.9% as compared to the FY08 Budget, includes funding for 20 positions.
- \$17.8 million for **Fringe Benefits**, an increase of \$1.6 million or 9.9% as compared to the FY08 Budget. The budget includes \$15.0 million for MWRA's share of health insurance costs, \$1.4 million for MWRA's share of Medicare taxes, \$924,000 for MWRA's share of dental insurance costs and union health and welfare fund contributions, \$60,000 for unemployment insurance payments, and \$31,000 for tuition reimbursement.
- Health insurance budget increased 11.0%. This increase is driven primarily by higher GIC health insurance rates. Dental insurance is 2.2% more than the FY08 budget due to a projected increase in dental insurance premiums. Medicare is higher to reflect estimated expenses of contractual salary increases. Unemployment insurance and tuition reimbursement for FY09 are both level funded with the FY08 Budget.
- **Workers' Compensation** budget is level funded with the FY08 Budget at \$1.4 million. Human Resources is responsible for the management of this program as well as coordination with the third-party administrator.
- \$523,000 for **Professional Services**, an increase of \$40,000 or 8.3% as compared to the FY08 Budget. The Proposed FY09 Budget includes \$219,000 for professional development and technical training, \$56,000 for the Employee Assistance Program, \$63,000 for medical evaluation services, specialized investigation services, unemployment claims administration and salary surveys, \$130,000 for workers' compensation claims administration and \$55,000 for arbitration expenses.

FY08 Accomplishments through December 2007

Human Resources

In FY08, the accomplishments of the Human Resources Department included:

- Successfully implemented labor contract increases for five collective bargaining units.
- Successfully concluded negotiations for successor collective bargaining agreements with Units 3 and 6.
- Successfully implemented with MIS an upgrade to HRIS software.
- Provided supervisory development training for recently promoted/hired supervisors.
- Provided training, guidance and management reporting for managers to improve leave of absence management.
- Reviewed employment processes and developed improvements in paper flow and procedures and expanded recruitment sources used to find qualified applicants.
- Developed drug and alcohol recognition training for supervisors of CDL drivers.
- Implemented mechanical certification training for M & O Specialists.
- Procured a new three-year contract for Medical Services for pre-placement medical evaluations, medical monitoring and alcohol and controlled substance testing.

MANAGEMENT INFORMATION SYSTEMS (MIS)

Proposed FY09 Current Expense Budget						
MIS						
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09	
WAGES & SALARIES	\$ 4,923,033	\$ 4,983,333	\$ 5,174,576	\$ 5,277,708	\$ 103,132	2.0%
OVERTIME	2,937	1,112	2,678	2,678	-	0.0%
FRINGE BENEFITS	10	-	-	-	-	-
ONGOING MAINTENANCE	1,955,248	2,392,647	2,493,086	2,500,010	6,924	0.3%
TRAINING & MEETINGS	18,092	34,522	13,823	43,823	30,000	217.0%
OTHER MATERIALS	152,584	489,177	386,067	340,234	(45,833)	-11.9%
OTHER SERVICES	918,915	826,296	840,568	840,568	-	0.0%
TOTAL	\$ 7,970,819	\$ 8,727,087	\$ 8,910,798	\$ 9,005,021	\$ 94,223	1.1%

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 FY09 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 FY09.
- 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 tracks 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 budget 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, Carroll Water Treatment Plant and other remote sites, by ensuring that:

- Existing applications, hardware, and network resources are cost-effectively maintained, supported, upgraded, and replaced.
- Information system development efforts are consistent with the MWRA Master Plan, reflecting management priorities.

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

Focus Areas for FY09:

During FY09 we will focus on the following areas:

- Look at new technologies for continuous improvements in security of desktop and mobile devices;
- Explore various options for Cyber Security Assessment of the MWRA Network;
- Explore Lawson Application new security architecture, which is expected to be implemented during FY09; and look into additional security measures to address the Lawson HP/UX System;
- Research two new Lawson modules: Absent Management System and LBI (Lawson Business Intelligence). The modules will provide electronic distribution of reports and e-mail notifications, process flow for work-flow management;
- Examine new opportunities for “green computing” alternatives in the area of servers, printers and other peripheral devices
- Review additional Web platforms to provide infrastructure services, information, applications and business processes through Web based “cloud computing” environments;
- Voice Over IP (VOIP): Explore the concept of Unified Communications – PBX migration to IP communications.

Budget Highlights:

- The Proposed FY09 Budget of \$9.0 million reflects an increase \$94,000 or 1.1% as compared to the FY08 budget, primarily due to changes in **Wages and Salaries, Ongoing Maintenance, Training and Meetings** and **Other Materials** as described below.
- The Proposed FY09 Budget includes funding for 63 positions resulting in a 2.0% increase in **Wages and Salaries** as compared to the FY08 Budget.
- \$2.5 million for **Ongoing Maintenance** for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff. This represents a slight increase of \$7,000 or 0.3% as compared to the FY08 budget.
- \$44,000 for **Training and Meetings** reflects an increase of \$30,000 or 217.0% as compared to the FY08 budget due to major infrastructure and platform changes.
- \$340,000 for **Other Materials** reflects a decrease of \$46,000 or -11.9% as compared to the FY08 budget primarily due to adjustments to PCs, hardware and peripheral items deferred for later purchase to better meet budgeting goals.
- \$841,000 for **Other Services** remains level funded.

FY08 Accomplishments

Management Information Systems (MIS)

- Network Redesign - WAN: Agreement has been signed with Verizon Business to develop a new network design that will phase out the current SONET and Frame Relay Technology and replace it with Multiple Protocol Layer System (MPLS). The new technology will improve redundancy, provide higher availability and generate costs savings.
- Cyber Security: Awarded a 3-year Cyber Security Monitoring Contract; upgraded existing hardware and software; expanded security program and increased monitoring services. No unplanned downtime was experienced. MWRA's email gateway received 4,811,049 email messages, of which it blocked 2,815,375 year-to-date (263% increase from FY07). Additionally, 34,207 messages were quarantined year-to-date of which, less than 2.53% 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 less than 1% of all incoming email messages), including "phishing" scams. Staff pushed out monthly security updates/fixes to PCs/servers, alerted users to current SOPs and responded immediately to several critical bulletins throughout the year.
- PICS (Process Information Control System): Integrated numerous tags into PI (Process Information) for management trending/reporting; Added PI tags to monitor power from the two turbines at CWTP; and transport tags to monitor Flows, Levels, Pumps, and Gate Position for the following stations: Alewife, Delauri, Hayes, Houghs Neck, New Neponset, and Prison Point.
- MAXIMO, LIMS, TRAC and ENQUAD: Customization for the PIMS application has been installed on the development system. PIMS implementation and server replacements are underway; awarded LIMS replacement contract; completed ENQUAD HOML database project; Implemented Maximo 5.2 Transportation Module; Mass DEP Reports (LIMS) Modification is underway; and Chlorine Contact Time Reports has been completed for Southboro Water Quality.
- A&F applications: Developed new applications and completed numerous reports, application enhancements, and ongoing support and maintenance for over 60 applications. Highlights include: developing web and blackberry front end for Chelsea weather data, new modules for tracking MIS application configurations to support audit requirements, New Hire IT Services Request workflow database; Providing technical assistance with, W2 and 1099 production; union contract settlements, web usage reports and analysis, and new deferred compensation interface program transfer benefits to Great West. LAWSON: Hardware/OS installations (Tier 1 of 3) implementation began in December additional servers for DI test and disaster recovery systems were received and installations began in mid January. The Lawson Application Environment installation (tier 2 of 3) for the Chelsea servers also started in January. Lawson Environment Upgrade from 8.0.3 to 9.0.1 will be completed by Q4 FY08. Application upgrade from 8X to 9X will begin during FY08 rather than the scheduled milestone in FY09.
- Infrastructure: The SAN (Storage Area Network) hardware procurement was completed. Installation and configuration of SAN switches, the management server and the EVA (Enterprise Virtual Array) in Chelsea Data center have been completed. Two servers including one of the mail servers, has been successfully transitioned to utilize SAN storage. Two additional servers are in the process of being collapsed into SAN; completed replacement of 500 CRT monitors with energy saving LCD monitors; and addressed approximately 10,000 user calls within benchmark and completed a variety of server, switching and network improvements.

PROCUREMENT

Proposed FY09 Current Expense Budget							
PROCUREMENT							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09		
WAGES & SALARIES	\$ 3,052,874	\$ 3,210,896	\$ 3,477,538	\$ 3,683,569	\$ 206,031	5.9%	
OVERTIME	19,543	47,422	15,000	15,000	-	0.0%	
FRINGE BENEFITS	254	339	-	-	-	-	
UTILITIES	6,582	117	-	-	-	-	
ONGOING MAINTENANCE	256,816	376,824	-	-	-	-	
TRAINING & MEETINGS	7,375	5,635	7,725	7,725	-	0.0%	
OTHER MATERIALS	94,117	103,596	98,474	86,608	(11,866)	-12.0%	
OTHER SERVICES	67,704	96,435	61,370	86,370	25,000	40.7%	
TOTAL	\$ 3,505,265	\$ 3,841,264	\$ 3,660,107	\$ 3,879,272	\$ 219,165	6.0%	

The Procurement Department includes three units. The **Purchasing Unit** operates a competitive purchasing system for the procurement of materials, goods, and non-professional services in accordance with MWRA policies and procedures. The **Contract Management Unit** reviews, drafts, and negotiates contracts, amendments, and change orders for all professional, non-professional, and construction services contracts. Staff directs the bid, review, and selection process, and maintains a contracts database. The **Materials Management Unit** manages an Authority-wide inventory control and management system for better control, storage, distribution, and accounting of MWRA's inventory. The unit manages three regional warehouses/distribution centers that support all MWRA activities.

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.
- Maintain a recycling program in order to contain MWRA operating costs by removing recyclable materials from the waste stream.

Budget Highlights:

- Total Proposed FY09 Budget of \$3.9 million, represents a 6.0% increase over FY08 budget; includes \$3.7 million to support **Wages and Salaries** for 53 positions.

FY08 Accomplishments

- Competitively bid CY07 Renewable Portfolio Standard certificates, resulting in revenue of \$705,500 to date.
- Awarded a contract for design and installation of a roof-mounted photovoltaic system at Deer Island, under provisions of Massachusetts law for the procurement of energy management services.

- Awarded fast-track contracts for the removal of PCBs at Cosgrove Intake, Shaft A and Wachusett Dam.
- Increased the recycled content required under the copier paper contract to 30%, up from 10% in previous contracts, reflecting the MWRA's commitment to green purchasing.
- Procured five hybrid vehicles and one flex fuel vehicle adding more alternative fuel vehicles to the MWRA fleet.
- Implemented the second phase of our asset management program, which includes control of surplus computers, tools and scrap metal in conjunction with the MWRA recycling program.
- Competitively bid electric power for small Field Operations Department facilities and Facility Management profile accounts.
- Awarded a contract for a new Pretreatment Information Management System.
- Recycled 34.13 tons of paper, 115.13 tons of scrap metal, and 6,535 gallons of waste oil, resulting in revenues of \$17,000. Rechargeable batteries (556 lbs.) and lead acid batteries (5,046 lbs.) were recycled at no cost to MWRA.

REAL PROPERTY and ENVIRONMENTAL MANAGEMENT

Proposed FY09 Current Expense Budget REAL PROPERTY / ENVIRONMENTAL MANAGEMENT							
LINE ITEM	FY06 Actual	FY07 Actual	FY08 Budget	FY09 Proposed	Change FY08 to PFY09		
WAGES & SALARIES	\$ 489,576	\$ 508,106	\$ 544,800	\$ 561,865	\$ 17,065	3.1%	
OVERTIME	2,135	511	-	-	-	-	
TRAINING & MEETINGS	1,263	1,318	3,000	3,000	-	0.0%	
PROFESSIONAL SERVICES	1,739	(272)	500	500	-	0.0%	
OTHER MATERIALS	1,060	2,128	1,964	1,970	6	0.3%	
OTHER SERVICES	106,524	118,921	264,861	301,676	36,815	13.9%	
TOTAL	\$ 602,297	\$ 630,712	\$ 815,125	\$ 869,011	\$ 53,886	6.6%	

The Real Property and Environmental Management Department negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects and operations and manages the disposition of surplus real property. Staff participate in site selection, and negotiate acquisitions or easements. In addition, staff 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 manages environmental regulatory compliance at MWRA facilities and also provide special expertise and assistance to MWRA staff regarding air quality and hazardous material issues. Assistance includes management of oil and hazardous materials site assessment and remediation, and air emission permits negotiation and preparation and submittal of quarterly/annual monitoring reports.

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 Proposed FY09 Budget of \$869,000 represents an increase of \$54,000 or 6.6% as compared to the FY08 budget.
- **Wages and Salaries** budget of \$562,000 includes funding for six positions. The increase of \$17,000 or 3.1% is primarily due to contractual wage increases.
- \$302,000 for **Other Services** is an increase of \$37,000 or 13.9% as compared to the FY08 Budget. This increase is due primarily to the addition of \$35,000 for CVA Intake PCB Remediation, a project which was initially funded in Western Operations in the investigation phase but has been transferred to RPEM for ongoing project management.

FY08 Accomplishments

- Worked with Engineering and Construction to reduce the term of the North Dorchester Bay temporary easements at the Bayside Expo/Boston Teachers Union property from three years to one while maintaining contractor flexibility resulting in savings of approximately \$185,000.
- Renegotiated three permit agreements with communications companies for use of space at MWRA water tanks at Turkey Hill (Arlington) and Walnut Hill (Lexington) raising annual rate from \$30,000 each to \$50,000 each increasing the total annual revenue \$230,000. Collected all outstanding permit arrears. Staff will renegotiate the last agreement in FY08.
- Managing fee assessment for 8M permits on MWRA fee controlled land. Currently collecting approximately \$35,000 per year.
- Staff anticipates acquiring property rights for the remainder of FY08 to support projects such as the Hultman Interconnections, East Boston Branch Sewer Relief Project, WASM 3 to 7 Connecting Mains, Randolph Trunk Sewer.
- Continued to provide technical support, including regulatory liaison, for the ongoing remediation of PCBs at the Wachusett Dam and Cosgrove Intake Facility. The approval for the abatement plan for both facilities was issued by EPA on August 29, 2007.
- Completed an update to the DITP boilers Continuous Emissions Monitors QA/QC Plan following installation of new data handling hardware and software.
- Provided training to staff regarding the regulatory requirements for the new Clinton Wastewater Treatment Plant Emergency Generator. Submitted certification documents to DEP.
- Provided technical and environmental regulatory support regarding contaminated soil and groundwater issues on various construction projects, including North Dorchester Bay CSO Tunnel and Section 53 and 97A Water Main Replacement projects.



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 fuel, and other utilities such as water and sewer services paid by MWRA to the towns in which it operates facilities.

Maintenance - This line item includes funds to purchase materials and services for the maintenance of MWRA's plants and machinery, water and sewer pipelines, grounds, and buildings.

Training and Meetings - This line item covers the costs of staff training, meetings, and professional seminars.

Professional Services - This line item funds outside consultants supporting MWRA activities, including engineering and construction services, laboratory and testing contracts, computer system consultants, and legal and audit services.

Other Materials - This line item includes funds for office materials, equipment, postage, laboratory supplies, MWRA vehicles, work clothes, and computer hardware and software.

Other Services - This line item includes funds for space leasing, health and safety initiatives, removal of grit and screenings from the sewerage system, and the contracted operation of MWRA's residuals processing plant.

Sections II – 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. Between FY2005 and FY2007, the budget included an increase of \$1 million to increase the reserve to \$19 million. The current funding level of \$19.0 million has been determined to be acceptable and reasonable based on a FY07 Insurance Reserve Fund review performed by an outside insurance consultant.

Renewal and Replacement Reserve

The renewal and replacement reserve has been established to fund a required capital improvement which is not provided for by moneys otherwise available. Amounts may not be withdrawn until MWRA has specified the project to which the amount will be applied and its estimated cost and estimated completion date. It must also certify that such expenditure is reasonably required for the continued operation of the systems or for maintenance of revenues and that other provisions have not been made for funding such expenditures. Every three years, MWRA receives recommendations from a consulting engineer as to the adequacy of the renewal and replacement reserve fund requirement. During FY2000, based on the recommendation of its consulting engineer, MWRA reduced the size of the renewal and replacement reserve to \$35 million from \$50 million. The most recent review by the consulting engineer was prepared in December 2005. The recommended reserve remained at \$35 million.

CURRENT EXPENSE BUDGET MANAGEMENT POLICIES AND PROCEDURES

A. Budget Allocations

Budget Contingency Holdbacks

After the Board of Directors adopts the Current Expense Budget each year, the Executive Director, the Chief Operating Officer, or a division director may reserve between two percent and four percent of a division's approved budget as a budget contingency to be expended only upon approval of the Executive Director. The contingency holdback may be from any line item or cost center or combinations thereof, and any amount reserved as a budget contingency is not to be included in the monthly budget allocation process described below. The Administration and Finance Committee will be notified of all budget contingency holdback amounts.

Monthly Allocation of the Annual Current Expense Budget

Initial monthly allocations are made for purposes of adopting and filing an operating budget in accordance with MWRA's financing agreements. Before the end of the first reporting period of the fiscal year, divisions, with the assistance of the Rates and Budget Department, allocate the approved budget, less any holdbacks, by month. The allocations set forth planned expenditures and accruals for each of the 12 months of the year to be compared to actual expenditures and accruals as reported in MWRA's monthly variance reports.

B. Budget Variance Monitoring and Analysis

At the close of each monthly accounting period, the Treasury Department prepares MWRA financial statements. The Rates and Budget Department then prepares monthly variance reports that compare planned to actual revenues and expenses.

Variance Analysis

Division directors and staff review variance reports and explain variances between planned and actual expenditures as requested by the Rates and Budget Department. Variance explanations are prepared as needed, usually at the end of each quarter of the fiscal year. At least twice each year MWRA staff prepare forecasts of year-end expenditures and revenue. Barring extraordinary circumstances, division directors are responsible for controlling spending within the overall division budget. The Rates and Budget Department reviews all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA's budget.

Variance explanations are submitted to the Rates and Budget Department in accordance with the schedule developed by the Rates and Budget Department. Each month the Rates and Budget Department prepares a summary of budget variances for inclusion in the Management Indicators Report (Yellow Notebook). The Rates and Budget Department also prepares a monthly staff summary (except for July and August) to the Board of Directors describing major budget

variances and a quarterly budget variance report for inclusion in the Board of Directors Report on Key Indicators of MWRA Performance (Orange Notebook). At least twice a year, the Rates and Budget Department prepares a staff summary to the Board of Directors on year-end projections of revenue and expenses.

C. Budget Amendments

An amendment to an MWRA Current Expense Budget is defined as follows:

A proposed change in an adopted budget or a proposed budget transmitted to the MWRA Advisory Board in accordance with Section 8(b) of Chapter 372 of the Acts of 1984 which meets any of the following criteria:

1. Any increase in total current expenses.
2. An increase of five percent or more in total division expenses.
3. An increase in any expense line item (subsidiary account) of 15 percent or more if that line item is at least 2.5 percent of total current expenses.
4. An addition or deletion of a specific new program or initiative, the cost of which is greater than one percent of total current expenses, unless the addition or deletion has been specifically recommended by the Advisory Board.

The Executive Director, with the concurrence of the Chairman of the Board of Directors and the Chairman of the Administration and Finance Committee of the Board of Directors, submits proposed amendments to the Advisory Board for comment and recommendation. At the end of the Advisory Board 30-day review period, the Board of Directors may take action on the amendment.

CAPITAL BUDGET MANAGEMENT POLICIES AND PROCEDURES

General Guidelines

The Authority shall periodically adopt and revise capital facility programs for the Waterworks and Sewer Systems and capital budgets based on these programs. The Authority shall consult in the preparation of its capital facility programs for the Sewer and Waterworks Systems with the Authority's Advisory Board and the Executive Office of Environmental Affairs, and may consult with other agencies of federal, state and local government concerned with the programs of the Authority. Proposed capital facility programs and capital expenditure budgets for said systems shall be submitted to the Advisory Board for such consultation no less than sixty days prior to adoption or revision by the Authority. The Authority shall prepare a written response to reports submitted to it by the Advisory Board, which response shall state the basis for any substantial divergence between the actions of the Authority and the recommendations contained in such reports of the Advisory Board. The Authority shall capitalize expenditures in accordance with

generally accepted accounting principles. Capital expenditures will be planned in accordance with Authority financing agreements and policies for amortization of capital costs.

Capital Budget Contingency

A contingency for each fiscal year is incorporated into the Capital Improvement Program for the purpose of providing for unanticipated or unpredictable expenditures under the CIP spending cap.

Capital Budget Monitoring and Reporting

The Authority shall continually monitor the progress of capital projects for purposes of managerial control and decision-making and for financial planning and management. Two capital budget variance analysis reports will be provided to the Board of Directors, one for the first six months of a year and one at year-end. The reports will include planned project schedules and budgets compared to actual performance. The reports will highlight any major changes, either in scope or budget, of any project. Based on these reports, staff may recommend to the Board of Directors revisions, if appropriate, to the annual and five-year caps based upon said changes. In addition, capital budget progress reports shall be provided to the Board of Directors on a regular basis, both as project specific updates and in Quarterly Orange Notebook reports that shall include discussions of project progress compared to schedules. Monthly Financial Summary reports shall include discussions of capital expenditures compared to budget.

Capital Budget Spending Cap

Beginning in June 2003, the Board of Directors established a five-year Capital Budget Spending cap and annual caps for each year within the cap period. Spending for any year in the cap period may, with Board approval, vary within plus or minus 20% of the annual cap, as long as total spending for the five-year period does not exceed the five-year cap. Before the end of each five-year cap period, the Board will adopt a cap for the next five-year period and annual caps for each year in the period. The Board will establish the second five-year cap for the FY09-13 period at its June 2008 meeting.

Expenditures in Excess of the Spending Cap

In the event of unanticipated spending requirements, the Executive Director may recommend to the Board of Directors that annual expenditures exceed an annual cap by more than 20% or that five-year expenditures exceed the current five-year CIP spending cap. In such an event, a proposed plan to adjust the five-year cap or any of the annual caps will be presented to the Board. Any such proposed plan will be submitted to the MWRA Advisory Board for review and comment for a period of thirty days. At the end of the thirty-day period, the Board of Directors may take action on the proposed plan.

APPENDIX D

MWRA Planning Estimates FY2009 to FY2018										
	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
EXPENSES										
Direct Expenses	\$215,317	\$224,230	\$233,675	\$243,444	\$253,344	\$265,039	\$275,792	\$286,850	\$298,324	\$310,257
Indirect Expenses	46,503	48,129	51,391	52,903	55,239	56,050	57,183	61,476	63,304	64,901
Capital Financing (before offsets)	<u>336,206</u>	<u>379,887</u>	<u>415,725</u>	<u>415,059</u>	<u>460,170</u>	<u>476,423</u>	<u>500,164</u>	<u>507,608</u>	<u>563,619</u>	<u>517,315</u>
Sub-Total Expenses	\$598,026	\$652,246	\$700,792	\$711,406	\$768,753	\$797,511	\$833,140	\$855,934	\$925,248	\$892,473
Debt Service Assistance	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)	(11,250)
Bond Redemption Savings	0	0	(18,364)	(1,900)	(13,000)	(2,146)	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Expenses	\$586,776	\$640,996	\$671,178	\$698,256	\$744,503	\$784,116	\$821,890	\$844,684	\$913,998	\$881,223
REVENUE & INCOME										
Non-Rate Revenue & Income										
Interest Income/Other Charges	\$33,043	\$43,820	\$43,397	\$44,495	\$45,628	\$46,857	\$48,319	\$49,597	\$51,312	\$51,928
Rate Stabilization	<u>5,179</u>	<u>15,806</u>	<u>11,752</u>	<u>785</u>	<u>6,817</u>	<u>3,398</u>	0	0	0	0
Total Non-Rate Revenue	\$38,221	\$59,626	\$55,149	\$45,280	\$52,444	\$50,254	\$48,319	\$49,597	\$51,312	\$51,928
Total Rate Revenue	\$548,555	\$581,371	\$616,028	\$652,976	\$692,059	\$733,861	\$773,570	\$795,087	\$862,686	\$829,295
Rate Revenue Increase	5.9%	6.0%	6.0%	6.0%	6.0%	6.0%	5.4%	2.8%	8.5%	-3.9%
Estimated Annual Household Charge **										
Charge based on 61,000 gpy (weighted)	\$767	\$805	\$844	\$895	\$940	\$999	\$1,054	\$1,099	\$1,166	\$1,186
Charge based on 90,000 gpy (weighted)	\$1,132	\$1,187	\$1,245	\$1,320	\$1,386	\$1,473	\$1,555	\$1,622	\$1,721	\$1,749
WASTEWATER										
EXPENSES										
Direct Expenses	\$159,012	\$165,324	\$172,264	\$179,570	\$186,753	\$194,265	\$202,123	\$210,208	\$218,616	\$227,361
Indirect Expenses	17,548	18,485	18,607	19,303	20,753	20,457	20,922	21,809	22,644	23,298
Capital Financing (before offsets)	<u>217,901</u>	<u>257,227</u>	<u>290,447</u>	<u>282,363</u>	<u>310,144</u>	<u>314,000</u>	<u>323,457</u>	<u>321,795</u>	<u>370,724</u>	<u>319,145</u>
Sub-Total Wastewater Expenses	\$394,462	\$441,035	\$481,318	\$481,236	\$517,650	\$528,722	\$546,502	\$553,812	\$611,985	\$569,805
Debt Service Assistance	(10,046)	(10,196)	(10,291)	(10,199)	(10,226)	(10,203)	(10,213)	(10,199)	(10,329)	(10,204)
Bond Redemption Savings	0	0	(8,339)	0	0	0	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Wastewater Expenses	\$384,416	\$430,839	\$462,688	\$471,037	\$507,424	\$518,520	\$536,289	\$543,612	\$601,656	\$559,601
REVENUE & INCOME										
Non-Rate Revenue & Income										
Interest Income/Other Charges	\$17,449	\$23,286	\$23,548	\$23,807	\$24,248	\$24,613	\$25,065	\$25,511	\$26,171	\$26,523
Rate Stabilization	<u>960</u>	<u>9,255</u>	<u>6,381</u>	0	0	0	0	0	0	0
Total Non-Rate Revenue	\$18,409	\$32,541	\$29,929	\$23,807	\$24,248	\$24,613	\$25,065	\$25,511	\$26,171	\$26,523
Wastewater Rate Revenue	\$366,007	\$398,298	\$432,759	\$447,230	\$483,177	\$493,906	\$511,224	\$518,101	\$575,485	\$533,078
Rate Revenue Increase	4.7%	8.8%	8.7%	3.3%	8.0%	2.2%	3.5%	1.3%	11.1%	-7.4%
Estimated Annual Household Sewer Charge **										
Charge based on 61,000 gpy (weighted)	\$451	\$480	\$511	\$533	\$566	\$588	\$614	\$636	\$683	\$683
Charge based on 90,000 gpy (weighted)	\$665	\$708	\$754	\$787	\$836	\$868	\$906	\$938	\$1,007	\$1,007
WATER										
EXPENSES										
Direct Expenses	\$56,305	\$58,907	\$61,411	\$63,874	\$66,591	\$70,773	\$73,669	\$76,642	\$79,708	\$82,896
Indirect Expenses	28,955	29,644	32,784	33,600	34,485	35,593	36,261	39,667	40,660	41,603
Capital Financing (before offsets)	<u>118,305</u>	<u>122,661</u>	<u>125,278</u>	<u>132,696</u>	<u>150,026</u>	<u>162,423</u>	<u>176,708</u>	<u>185,813</u>	<u>192,895</u>	<u>198,169</u>
Sub-Total Water Expenses	\$203,565	\$211,211	\$219,474	\$230,170	\$251,103	\$268,789	\$286,638	\$302,122	\$313,263	\$322,668
Debt Service Assistance	(1,204)	(1,054)	(959)	(1,051)	(1,024)	(1,047)	(1,037)	(1,051)	(921)	(1,046)
Bond Redemption Savings	0	0	(10,025)	(1,900)	(13,000)	(2,146)	0	0	0	0
Variable Rate Savings	0	0	0	0	0	0	0	0	0	0
Total Water Expenses	\$202,361	\$210,157	\$208,490	\$227,219	\$237,079	\$265,596	\$285,601	\$301,071	\$312,342	\$321,622
REVENUE & INCOME										
Non-Rate Revenue & Income										
Interest Income/Other Charges	\$15,594	\$20,534	\$19,850	\$20,687	\$21,380	\$22,243	\$23,255	\$24,085	\$25,142	\$25,405
Rate Stabilization	<u>4,219</u>	<u>6,551</u>	<u>5,371</u>	<u>785</u>	<u>6,817</u>	<u>3,398</u>	0	0	0	0
Total Non-Rate Revenue	\$19,812	\$27,085	\$25,220	\$21,473	\$28,196	\$25,641	\$23,255	\$24,085	\$25,142	\$25,405
Water Rate Revenue	\$182,548	\$183,073	\$183,270	\$205,746	\$208,882	\$239,955	\$262,346	\$276,986	\$287,201	\$296,217
Rate Revenue Increase	8.5%	0.3%	0.1%	12.3%	1.5%	14.9%	9.3%	5.6%	3.7%	3.1%
Estimated Annual Household Water Charge **										
Charge based on 61,000 gpy (weighted)	\$317	\$325	\$333	\$362	\$373	\$410	\$440	\$464	\$483	\$503
Charge based on 90,000 gpy (weighted)	\$467	\$479	\$491	\$533	\$551	\$605	\$649	\$684	\$713	\$742

**Annual household charges are estimated for communities that receive full water and wastewater services from MWRA weighted by the number of households in each of these core communities. Based on community responses to the MWRA Advisory Board's Annual Water and Sewer Retail Rate Survey dated November 2007.

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.

CMMS (Computerized Maintenance Management System): *Maximo* is the computerized maintenance management system which is an essential component of successful asset management. This system is an important tool used in refining the long term maintenance strategy to ensure proper maintenance and replacement of plant assets.

Coliform bacteria: A group of lactose fermenting bacteria, which while not of direct health concern, are used as a first line indicator of potential problems. See fecal coliform and *E.coli*.

Comminutor - A machine or process that pulverizes and reduces solids to minute particles.

Commonwealth Debt Service Assistance (DSA): Funds appropriated by the Commonwealth to offset MWRA capital financing expenses.

Commonwealth Reimbursements: Income received from the Commonwealth of Massachusetts as reimbursement for certain chemical and operational costs in accordance with prevailing legislation.

Community Obligation and Revenue Enhancement (CORE) Fund: A fund established by MWRA's bond resolution that is used to provide insurance against delays by communities in paying charges due to MWRA.

Composting: The process of converting wastewater treatment residuals to a soil-like humus material often used in the horticultural industry. The process involves the aerobic breakdown of the residuals and the addition of sawdust or wood chips.

Corrosion Control: Adjustments to the chemistry of treated water to reduce its ability to dissolve lead, copper, 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 each year, revenue less operating expenses (net revenue) must be more than the amount required for debt service payments on outstanding bonds.

CP (Construction Package): Major construction projects such as the Carroll Water Treatment Plant or the North Dorchester Bay CSO project will package individual construction contracts for particular areas of work.

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 six facilities that intercept the flow from CSO pipes and provide 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.

CTG (Combustion Turbine Generator): CTGs are used to generate electricity during planned cable outages, wet weather operations and for participation in price response events.

Current Expense Budget: A financial plan that estimates the revenues and expenses associated with MWRA's operations for a fiscal year.

C-Value: The carrying capacity of a water main for a specified length and pressure drop that is determined by its diameter and resistance to flow. The friction coefficient "C" of the main is often used as a measure of flow resistance. C-values for new pipe are about 120 for water mains that are 6 to 16-inches in diameter, and 130 and 140 for larger diameter mains.

DAF: Dissolved Air Flotation - A process of adding super saturated air into water to cause coagulated solids to rise to the top to be skimmed off. DAF replaces conventional gravity sedimentation (clarification) and is particularly cost-effective for low turbidity waters subject to periodic algae blooms.

DBP: Disinfection By-products - Complex compounds formed by the use of oxidizing agents such as chlorine or ozone in waters containing organic matter.

D/DBP Stage 1: Disinfectants/Disinfection By-products, Stage 1 Rule – Promulgated 11/1998, and effective 1/2002, this rule set DBP limits at 80 parts per billion for Trihalomethanes and 60 parts per billion for Haloacetic Acids, averaging all samples over four quarters.

D/DBP Stage 2: Disinfectants/Disinfection By-products Stage 2 Rule-. The rule further regulates the amount of DBPs allowed in water. The 80/60 values set in Stage 1 will now apply to each individual sample location in a "Locational Running Annual Average".

Debt Service: In a given fiscal year, the amount of money necessary to pay interest and principal on outstanding notes and revenue bonds.

DEP: Department of Environmental Protection - The Massachusetts agency that regulates water pollution control, water supplies, and waterways and dispenses federal and state grant funds to support these activities.

Department: A sub-unit of an MWRA division.

Department of Conservation and Recreation (DCR): Created in 2003 through the merger of the Metropolitan District Commission and the Department of Environmental Management, DCR manages the Commonwealth's diverse parks system and protects and enhances natural resources and outdoor recreational opportunities throughout Massachusetts.

De-watering: The process of removing water from wastewater treatment residuals. De-watered sludge has the appearance of mud or wet soil material.

Diffusers: A system of shafts, rising from the end of MWRA's effluent outfall tunnel to the seabed, 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.

DLS (Department of Laboratory Services): Laboratory Services is a full service analytical testing and consulting group within the MWRA that primarily serves client groups primarily within the Operations Division. The analytical services that Laboratory Services provides include wet chemistry, metals, organics, and microbiology testing. Related services include field sampling, technical consultation, and contract laboratory management.

DMR (Discharge Monitoring Report): Monthly reports submitted to federal and state regulators. MWRA monitors the effluent (treated sewage) that is discharged into Massachusetts Bay, to ensure that it meets the standards set out in the NPDES permit. Analytical support to the effluent monitoring program is provided by the Department of Laboratory Services.

E.coli: A normal inhabitant of the digestive tract of mammals. The presence of *E.coli* indicates probable contamination by fecal matter.

Effluent: Treated wastewater discharged from a treatment plant.

EIR: Environmental Impact Report – A document prepared in adherence with the Massachusetts Environmental Policy Act (MEPA) to review the environmental impact of projects and ensure opportunities for public review and comment.

EIS: Environmental Impact Statement – A document prepared in adherence with the National Environmental Policy Act to review the environmental impact of projects and ensure opportunities for public review and comment.

Enabling Act: Legislation (Chapter 372 of the Acts of 1984) that established MWRA and define its purpose and authority as of January 1, 1985.

ENF: Environmental Notification Form - The first step in the MEPA process.

EOC: Emergency Operations Center

EOEA: Executive Office of Environmental Affairs - The Massachusetts cabinet office that oversees state 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: further tightens the standards for the operation of filtration plants and add requirements for 99% inactivation of *cryptosporidium* and the use of two primary disinfectants for unfiltered systems. The concept of proportional treatment, with less treatment required for cleaner sources, will be implemented as part of the rule.

Eutrophication: Nutrient enrichment of a lake or other water body typically characterized by increased growth of planktonic algae and rooted plants. Eutrophication can be accelerated by wastewater discharges and polluted runoff.

Expenditures: Payments for goods and services received.

Expenses: Costs associated with the operating activities of a period, including expenditures and accrued costs.

Facility Information System (FIS): The management information system at the Deer Island Treatment Plant.

Fecal coliform bacteria: A group of bacteria used as a primary indicator organism for potential contamination from human or animal waste. Also called thermo-tolerant bacteria. Specific organisms in the group may or may not be of health concern (see *E.coli*).

Filtration: A water treatment process involving the removal of suspended particulate matter by passing the water through a porous medium such as sand or carbon.

Fiscal Year: The 12-month financial period used by MWRA that begins July 1 and ends June 30 of the following calendar year. MWRA's fiscal year is numbered according to the calendar year in which it ends.

Flash coat: A light coat of shotcrete used to cover minor blemishes on a concrete surface.

FOD (Field Operations Department): Department within the Operations Division created to provide high quality, uninterrupted water delivery and wastewater collection services to MWRA communities. The department is responsible for the treatment, transmission, and distribution of water from the Quabbin and Wachusett reservoirs to community water systems. It also manages the collection, transport, and screening of wastewater flow from MWRA communities to the Deer Island Treatment Plant as well as MWRA's industrial pretreatment, permitting, and monitoring programs.

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

FRSA (Fore River Staging Area): The site of the Sludge-Fertilizer Plant.

Giardia: A protozoan parasite that can cause severe gastrointestinal disease, although there is medical treatment available. *Giardia* exist in the environment as hard-walled cysts, and are moderately resistant to chlorine disinfection.

Goal: A statement in general terms of a desired condition, state of affairs, or situation. Goals, which are long-term in nature and not usually directly measurable, provide general direction for the activities of operating units.

Graphitization: A corrosion mechanism that alters the molecular structure of the carbon/iron matrix of cast iron pipe. During the process, iron atoms are forced away from the metal leaving behind an unstable carbon matrix. The result is a weakened pipe, easily susceptible to ruptures. High frequency in the number of breaks causes leakage to be a major problem of graphitized pipe.

Grit: Sand-like materials that quickly settle out of wastewater.

Groundwater: A body of water beneath the surface of the ground. Groundwater is made up primarily of water that has seeped down from the surface.

HAA: Haloacetic Acids - A class of disinfection by-products related to chlorine disinfection. HAAs are regulated under D/DBP Stage 1 Rule at 60 ppb.

Harbor Electric Energy Company (HEEC): A subsidiary of NStar which installed a cross harbor power cable and built a sub-station to provide power for construction and operation of the new Deer Island Treatment Plant.

Head House: A structure containing the control gates to a conduit such as a sewer pipeline.

Headworks: A preliminary treatment structure or device, usually including a screening and de-gritting operation, that removes large or heavy materials such as logs and sand from wastewater prior to primary treatment.

Heavy Metals: Metals such as lead, silver, gold, mercury, bismuth, and copper that can be precipitated by hydrogen sulfide in an acid solution.

HOM (Harbor Outfall Monitoring): A comprehensive program to provide pre-discharge data that helps to predict and then to measure the effect of Deer Island outfall discharge on the marine ecosystem.

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.

ISO - NE (Independent System Operator of New England): Non-profit wholesale operator of the regional grid system. The MWRA receives payment from ISO-NE when Deer Island removes itself from the grid. Deer Island participates in the Load Response Program offered by ISO-NE which is a program that pays larger commercial and industrial electricity consumers to “shed load” during grid peaks. There are several programs available such as price, demand response and load response. Deer Island constantly evaluates the options and participates in the most advantageous program.

Carroll Water Treatment Plant (CWTP): Water treatment facility for waters from Quabbin and Wachusett Reservoirs with capacity of 405 mgd using ozonation as a primary disinfectant.

Labor Costs: Direct costs of employing permanent and temporary personnel, including wages, salaries, overtime pay, fringe benefits, and workers' compensation.

Land Application: The use of wastewater treatment residuals on land for agricultural benefits.

Landfilling: The disposal of residuals by burial. Modern landfills have double liners, leachate collection systems, and other design features to protect against groundwater contamination.

LCR: Lead and Copper Rule – A federal rule that set an action level for lead and copper at “worst case” consumer taps. Optimized corrosion control, notification, education, and lead service replacements are all components of compliance plans.

Leachate: Water that drains from a landfill after having been in contact with, and potentially contaminated by, buried residuals. Modern landfills are designed to collect leachate for subsequent treatment.

Limnology: The scientific study of physical, chemical, meteorological, and biological conditions in fresh waters.

LIMS: Laboratory Information and Management System – An automated database system used to transfer information between MWRA’s Central Laboratory to its client groups and to process information obtained by the Central Laboratory to monitor substances that enter and leave the MWRA wastewater system. Use of LIMS removes the potential for human error in the sampling process by bar coding samples, eliminating the need to transcribe sample data, producing pre-printed project-specific sample check-off forms for field crews, and automating testing through pre-set test codes and project-specific parameters.

LOX (Liquid Oxygen): Liquid oxygen is used together with electrical energy to generate ozone at the Carroll Water Treatment Plant.

Mapping Protocols: Sets of specifications defining the content and format of data to be collected.

MCL: Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available control technology.

MCLG: Maximum Contaminant Level Goal - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Massachusetts Environmental Policy Act (MEPA) Unit: A unit of the Commonwealth's Executive Office of Environmental Affairs responsible for implementation of the state environmental review process.

Methane: A colorless, nonpoisonous, flammable gas produced as a by-product of anaerobic sludge processing. At Deer Island, MWRA uses methane as fuel to provide heat and hot water and to generate electricity.

MGD: Million gallons per day.

MIS: Management Information Systems

Mission: A description of the fundamental purposes and major activities of an operating unit or program.

Mitigation: Financial remuneration or non-financial considerations that MWRA provides to communities to alleviate the negative effects of major construction projects.

Molybdenum (Mo): A metallic element that resembles chromium and tungsten in many properties, and is used in strengthening and hardening steel. Mo is a trace element in plant and animal metabolism.

NACWA (Nation Association of Clean Water Agencies): NACWA represents the interests of publicly owned wastewater treatment plants. NACWA is involved in all areas of water quality protection including the development of environmental legislation and assisting federal regulatory agencies in the implementation of environmental programs.

NEFCo: New England Fertilizer Company - The contractor responsible for the operation of processing sludge into fertilizer pellets at MWRA's residuals processing plant located in Quincy. NEFCo is also responsible for marketing and distributing the pellets and disposing of any product that is not marketable.

National Pollutant Discharge Elimination System (NPDES) Permit: A permit issued by EPA in conjunction with DEP that governs wastewater discharges into surface waters.

NHS (Northern High Service): Project that involves a series of pipeline improvements in the Northern High Service Area.

Nitrification: An aerobic process in which bacteria changes the ammonia and organic nitrogen in wastewater into oxidized nitrogen (usually nitrate). Second-stage BOD is sometimes referred to as the nitrification stage (first-stage BOD is called the carbonaceous stage). Also, a similar process in the water distribution system, where ammonia from chloramine can be used by nitrifying bacteria, resulting in a reduced chlorine residual, and the potential for additional bacteria growth.

OCC: Metropolitan Operations Control Center, located at MWRA's Chelsea Facility.

OEP (Office of Emergency Preparedness): The Office of Emergency Preparedness has oversight over security, exercises, emergency operations, planning, the Emergency Services Unit and critical infrastructure protection.

OMS (Operations Management Systems): OMS correlates PICS data with laboratory analysis to track and analyze plant process performance with regard to the plant's discharge permit from EPA and DEP and with respect to cost effective operation.

Operating Reserve: A fund established to adequately reserve for operating contingencies, required by MWRA's bond resolution to be not less than one-sixth of the its annual operating expenses.

Organic Matter: Material containing carbon, the cornerstone of plant and animal life. It originates from domestic and industrial sources.

Other User Charges: Revenue received per agreements MWRA has for provision of water, sewer, and other services to entities other than communities which are charged assessments.

Outfall: The 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. The new Carroll Water Treatment Plant (CWTP) employs the ozonation process to inactivate pathogens, including *cryptosporidium*, with lower levels of DBPs.

Ozone: A strong disinfectant made from oxygen and electrical energy. Ozone is effective against *cryptosporidium*.

Pathogens: Harmful organisms, often called germs that can cause disease. Waterborne pathogens (or the diseases they cause) include *giardia*, *cryptosporidium*, cholera, typhoid, *E.coli*, Hepatitis A, *legionella*, and MAC.

Payments in Lieu of Taxes (PILOT): Amounts which MWRA pays each fiscal year to cities and towns for land owned by the Commonwealth in the Quabbin, Ware River, Wachusett, and Sudbury watersheds. Consistent with the provisions of MWRA's Enabling Act, these payments are based on the past commitments of the Commonwealth of Massachusetts.

Penalty Revenue: Revenue derived from penalties assessed by MWRA to violators of its sewer use regulations.

Performance Measure: An indicator of the work and/or service provided, defined by output, work or service quality, efficiency, effectiveness, or productivity.

Performance Objective: A statement of proposed accomplishments or attainments that is short-term in nature and measurable.

PICS (Process Instrumentation and Control System): PICS provides real-time operations data from systems throughout the plant (including system status, flow, etc.).

Plume: The rising discharge of treated wastewater effluent from a treatment plant outfall pipe.

Preliminary Treatment: The process of removing large solid objects, sticks, gravel, and grit from wastewater.

Pretreatment: The reduction or elimination of pollutant properties in wastewater prior to discharge into a sewer system.

Primacy: Primary enforcement authority for Federal Safe Drinking Water Act regulations delegated to a state by the Environmental Protection Agency (EPA).

Primary Treatment: A wastewater treatment process that takes place in a rectangular or circular tank and allows substances in wastewater that readily settle or float to be separated from the water being treated. Primary treatment results in 50-60% removal of suspended solids and 30-34% removal of BOD.

Program: An organized group of activities and the resources to carry them out, aimed at achieving one or more related objectives.

Rate Revenue: Revenue received from annual assessments of communities within MWRA's service area for water and sewer services.

Rate Stabilization Reserve: A fund established by the Board of Directors that is used to reduce rate revenue requirements. MWRA finances this reserve with unexpended or surplus funds available from the Current Expense Budget at the end of each fiscal year.

RCM (Reliability Centered Maintenance): A maintenance strategy adopted in 2000 for critical systems. RCM is a failure modes and effects process that involves maintenance, operations and engineering staff in the development of preventative maintenance and operation plans for plant systems.

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

RGGI: Regional Greenhouse Gas Initiative

Remote Headworks: The initial structures and devices of a treatment plant set apart by some distance from the plant site.

Renewal and Replacement Reserve: A fund established to adequately reserve for the cost of capital improvements not provided for by funds available through the Capital Improvement Program or the Current Expense Budget.

Residuals: The by-products of the wastewater treatment process, including scum (floatables), grit and screenings, primary sludge, and secondary sludge.

Revenue Bonds: Bonds payable from a specific source of revenue and which do not pledge the full faith and credit of the issuer.

RPS (Renewable Portfolio Standards): State policies which mandate a state to generate a percent of its electricity from renewable resources. The MWRA enrolled the steam turbine generator (STG) in the Massachusetts RPS program. The electricity produced is derived from digester gas burned in the boilers. The MWRA is issued electronic certificates for each megawatt hour of electricity produced from the digester gas, which is considered renewable energy. RPS credits are a source of revenue for the MWRA.

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

SCBA: Self-contained breathing apparatus.

Screenings: Large items such as wood and rags that are collected from wastewater in coarse screens prior to primary treatment.

Scum: Floatable materials such as grease, oil, and plastics that are skimmed from the surface of wastewater as it flows through large settling tanks.

SDWA: Safe Drinking Water Act - A Federal law enacted in 1986 and amended in 1996 that requires EPA to establish national primary drinking water regulations for water suppliers which consist of MCLs or treatment techniques.

Secondary Treatment: Usually following primary treatment, secondary treatment employs microorganisms to reduce the level of BOD and suspended solids in wastewater.

Sedimentation Tanks: Settling tanks where solids are removed from sewage. Wastewater is pumped to the tanks where the solids settle to the bottom or float on the top as scum. The scum is skimmed off the top, and solids on the bottom are pumped out for further treatment and/or final disposal.

Seeding: The initial filling of sludge into digesters.

Sensitive user: A member of a group within the general population likely to be at greater risk than the general population of adverse health effects due to exposure to contaminants in drinking water. Sensitive users include infants, children, pregnant women, the elderly, and individuals with histories of serious illness.

Septic Tanks: Tanks used for domestic wastes when a sewer line is not available to carry them to a treatment plant. Periodically, the septage is pumped out of the tanks, usually by commercial firms, and released into a wastewater treatment system.

Shotcrete: Mortar or concrete conveyed through a hose and projected at high velocity onto a surface; also known as air-blown mortar, pneumatically applied sprayed mortar, or gunned concrete.

Siphon: A closed conduit, a portion of which lies above the hydraulic grade line, resulting in a pressure less than atmospheric and requiring a vacuum within the conduit to start flow. A siphon utilizes atmospheric pressure to effect or increase the flow of water through the conduit.

Slip Lining: Insertion by pushing or pulling of lines fabricated of plastic, concrete cylinder pipe, reinforced concrete, or steel through existing conduits from access pits.

Sludge: Material removed by sedimentation during primary and secondary treatment. Sludge includes both settled particulate matter and microorganisms and is the single largest component of wastewater residuals. At the time sludge is removed during the treatment process, it contains only 0.5% to 5% solid content by weight. It has the appearance of muddy water.

Sodium Hypochlorite (NaOCl): A liquid form of chlorine that MWRA uses 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 currently uses sodium hypochlorite at the Carroll Water Treatment Plant (CWTP) and other wastewater Field Operations facilities.

Storm Sewers: Separate systems of pipes that carry only water runoffs from roofs, streets, and parking lots during storms.

Surcharging: Loads on a system beyond those normally anticipated; also, the height of wastewater in a sewer manhole above the crown of the sewer when the sewer is flowing completely full.

Suspended Solids: The particulate matter contained in wastewater.

SWTR: Surface Water Treatment Rule – A Federal rule promulgated in 1989 that affects all utilities using surface waters or waters under the influence of surface waters. SWTR requires filtration unless certain criteria on source water quality, watershed control, and disinfection effectiveness can be met (see also ESWTR).

Telemetry: Remote measuring or monitoring devices connected to a central monitoring station via telephone lines.

TCR: Total Coliform Rule – A federal rule that requires monitoring of water distribution systems for coliform bacteria and chlorine residual. No more than 5% of the coliform samples in a month can be positive.

TOC: Total Organic Carbon - A measure of the amount of organic material in water. Often used as a surrogate for disinfectant demand or DBP precursors.

Transition: A short section of conduit used as a conversion section to unite two conduits having different hydraulic elements.

TTHM: Total Trihalomethanes - A class of disinfection by-products, related to primarily chlorine disinfection (see D/DBP Rule).

TRAC: Toxic Reduction and Control – The department responsible for MWRA's industrial pretreatment program.

TSS (Total Suspended Solids): A measure of the settleable solids and non-settleable solids in wastewater. During the primary treatment process, flows are routed to primary treatment clarifiers that remove about half of the pollutants brought to the plant in typical wastewater (50-60% of total suspended solids and up to 50% of pathogens and toxic contaminants are removed).

United States Geological Survey (USGS): The federal agency that collects Geographic Information System (GIS) data for developing mapping protocols.

Vector Jet Truck: A vehicle used to clean and/or remove blockages from sewer lines by pushing and/or pulling fluids in the sewer.

VMM: Vehicle Management and Maintenance – The program responsible for management and maintenance of MWRA's vehicles and heavy equipment.

WASM (Weston Aqueduct Supply Mains): Project involving the rehabilitation of the four Weston Aqueduct Supply Mains that carry water to MWRA's service area. When complete, they will transmit about one-third of the water to MWRA's service area and the City tunnel will carry the remaining two-thirds.

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

Wastewater Treatment Plant (WTP): A facility containing a series of tanks, screens, filters, and other equipment and processes for removing pollutants from wastewater.

Watershed Reimbursement: An amount that MWRA pays to the Department of Conservation and Recreation (DCR) each fiscal year for maintaining and managing the primary sources of MWRA's water supply (watersheds) in accordance with the laws of the Commonwealth of Massachusetts. The amount of the reimbursement is determined by prevailing legislation.

WERF (Water Environment Research Foundation): WERF is a not for profit organization that seeks to promote the development and application of sound science to water quality issues. WERF subscribers include municipal and regional water and wastewater utilities, industrial corporations, and environmental engineering firms that share a commitment to cost-effective water quality solutions.

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.

APPENDIX F
Proposed FY09 Current Expense Budget - Capital Financing Detail (as of 6/30/09)

	Amount Outstanding (\$ millions) as of 12/31/07	Total	Sewer	Water
SRF¹				
Unrefunded	\$ 20	\$ 33,018	\$ 33,018	\$ -
1999E Sewer	7	389,241	389,241	-
1999E Water	10	575,747	-	575,747
1999F	330	15,738,828	15,738,828	-
2000E Sewer	61	2,734,010	2,734,010	-
2000E Water	12	558,461	-	558,461
2001C Water	4	249,711	-	249,711
2001D Sewer	6	381,359	381,359	-
2001D Water	1	81,296	-	81,296
2002H Sewer	73	3,125,047	3,125,047	-
2002H Water	36	1,545,070	-	1,545,070
2002I Sewer	2	100,568	100,568	-
2002I Water	0	1,455	-	1,455
2003A	1	71,269	-	71,269
2003B	4	223,504	-	223,504
2003C Sewer	28	1,352,221	1,352,221	-
2003C Water	20	974,670	-	974,670
2004C Sewer	10	539,251	539,251	-
2004C Water	2	92,245	-	92,245
2004D Sewer	61	3,842,590	3,842,590	-
2004D Water	10	642,794	-	642,794
2005C Sewer	7	418,475	418,475	-
2005C Water	1	69,479	-	69,479
2005D Sewer	62	3,400,799	3,400,799	-
2005D Water	15	810,134	-	810,134
2005E Sewer	0.4	24,872	24,872	-
2005E Water	0.1	5,569	-	5,569
2006C Sewer	8	488,016	488,016	-
2006D Sewer	65	3,752,770	3,752,770	-
2006D Water	28	1,624,463	-	1,624,463
2006E Sewer	0.4	22,883	22,883	-
2006E Water	0.2	10,284	-	10,284
2007C Sewer	5	373,859	373,859	-
2007C Water	3	203,799	-	203,799
2007D Sewer	23	1,149,461	1,149,461	-
2007 E Sewer	59	3,333,909	3,333,909	-
2007 E Water	23	1,277,463	-	1,277,463
2008 SRF Sewer		2,789,094	2,789,094	-
2008 SRF Water		1,170,000	-	1,170,000
Total SRF Debt	\$ 997	\$ 54,177,684	\$ 43,990,272	\$ 10,187,412

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	Amount Outstanding (\$ millions) as of 12/31/07	Total	Sewer	Water
MWRA Senior Debt				
1993C Refunding/New (fixed)	51	5,974,883	5,228,023	746,860
1997D Refunding (fixed)	129	6,242,850	6,117,993	124,857
1998A (fixed)	100	4,766,863	3,177,924	1,588,938
1998B Refunding (fixed)	104	4,924,550	4,727,568	196,982
2002B (fixed)	74	3,809,031	380,903	3,428,128
2002J Refunding (fixed)	360	18,574,613	16,717,151	1,857,461
2002J New (fixed)	194	10,000,000	5,000,000	5,000,000
2003D New	113	5,510,288	1,836,579	3,673,709
2004A New	105	5,249,419	393,706	4,855,712
2004B Refunding	49	2,469,500	2,160,813	308,688
2005A Refunding	411	30,500,562	9,912,683	20,587,879
2005B Refunding	80	4,014,500	1,338,033	2,676,467
2006A New	200	9,376,800	-	9,376,800
2006B Refunding	265	12,755,300	9,566,475	3,188,825
2007A New	200	9,033,188	1,535,642	7,497,546
2007B Refunding	648	34,017,375	28,574,595	5,442,780
2008 A New - May 2008		7,719,250	3,859,625	3,859,625
FY09 New Money (April 2009)		2,472,222	1,236,111	1,236,111
Total Senior	\$ 3,083	\$ 177,411,192	\$ 101,763,824	\$ 75,647,369
1997A (variable)	77	5,651,417	5,651,417	-
1997B (variable)	77	5,651,417	-	5,651,417
1998D Refunding (variable to fixed)	199	13,727,197	13,178,109	549,088
1999A (variable)	86	3,085,500	1,851,300	1,234,200
1999B (variable)	86	6,391,250	3,834,750	2,556,500
1999C (variable)	68	4,290,083	1,716,033	2,574,050
1999D (variable)	68	4,290,083	1,716,033	2,574,050
2000B Refunding (variable to fixed)	133	6,265,100	5,387,986	877,114
2000C Refunding (variable to fixed)	133	6,265,100	5,387,986	877,114
2001A (variable)	83	5,908,500	1,949,805	3,958,695
2001B (variable)	85	3,612,500	-	3,612,500
2002C Refunding (variable)	71	3,176,807	1,058,830	2,117,977
2002D-G Refunding (variable)	350	24,885,123	24,885,123	-
Total Subordinate Debt	\$ 1,515	\$ 93,200,077	\$ 66,617,372	\$ 26,582,705
Total SRF & MWRA Debt Service²	\$ 5,595	\$ 324,788,953	\$ 212,371,467	\$ 112,417,486
Water Pipeline Commercial Paper	\$ 89	\$ 3,700,000	\$ -	\$ 3,700,000
Current Revenue/Capital ³		4,500,000	3,375,000	1,125,000
Capital Lease		3,217,060	2,144,707	1,072,353
Sub-Total	\$ 89	\$ 11,417,060	\$ 5,519,707	\$ 5,897,353
Total Capital Financing (before Debt Service Offsets)	\$ 5,684	\$ 336,206,013	\$ 217,891,174	\$ 118,314,839

APPENDIX F
Proposed FY09 Current Expense Budget - Capital Financing Detail (as of 6/30/09)

	Amount Outstanding (\$ millions) as of 12/31/07	Total	Sewer	Water
Debt Service Offsets				
Variable Rate Savings		\$ -	\$ -	\$ -
Debt Service Assistance		(11,250,000)	(10,046,250)	(1,203,750)
Total Capital Financing	\$ 5,684	\$ 324,956,014	\$ 207,844,925	\$ 117,111,089

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.