

MASSACHUSETTS WATER RESOURCES AUTHORITY



Fiscal Year 2004 CURRENT EXPENSE BUDGET

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MASSACHUSETTS WATER RESOURCES AUTHORITY

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Frederick A. Laskey
Executive Director

October 28, 2003

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

Dear Chairwoman Dunphy:

This letter transmits to the Advisory Board MWRA's Current Expense Budget (CEB) for fiscal year 2004. The fiscal year 2004 budget was approved by MWRA's Board of Directors at its June 25, 2003 meeting. This document is also available online at www.mwra.state.ma.us.

Questions or comments on this document or information available on the Internet should be directed to the MWRA Rates and Budget Department.

Thank you for your continued support and comments and recommendations to MWRA's budget.

Sincerely,

A handwritten signature in black ink, appearing to read "Fred A. Laskey".

Frederick A. Laskey
Executive Director

Current Expense Budget

Fiscal Year 2004

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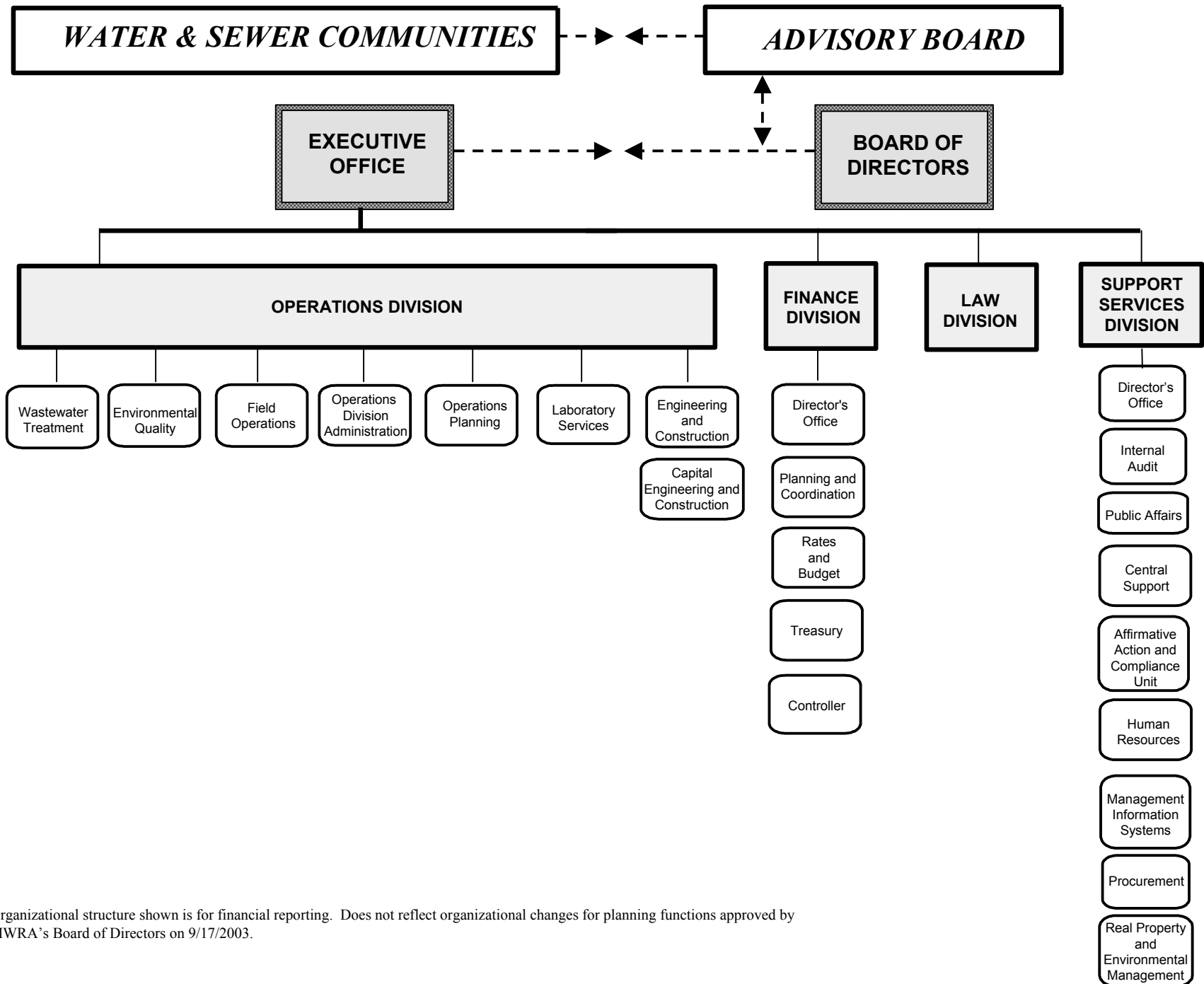
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Organizational structure shown is for financial reporting. Does not reflect organizational changes for planning functions approved by MWRA's Board of Directors on 9/17/2003.



Executive Summary

The Budget-in-Brief

MWRA Mission

The Massachusetts Water Resources Authority (MWRA) is an independent authority that provides wholesale water and sewer services to its customer 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 business 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 to its customer communities. The need to achieve and maintain a balance between these two goals continues to be the critical issue facing MWRA.

MWRA measures its performance compared to prior years and current year targets in a variety of areas. Progress in achieving performance targets is reported monthly in the Yellow Notebook and quarterly in the Orange Notebook. Quarterly reports are now available on MWRA's website. MWRA's business plan is also available online.

A brief history and organizational summary of MWRA is included at the end of the Executive Summary.

Overview

Each year MWRA prepares a proposed budget that reflects the best available information about anticipated expenditures and revenues. Typically, MWRA transmits its proposed budget to its

Advisory Board in February. The Advisory Board has sixty days to review and comment on MWRA's proposed budget. In May, MWRA's Board of Directors held hearings on the budget to review recommendations by the Advisory Board and new information available since the proposed budget was developed. Staff incorporated the Board's decisions from the hearings and presented a final budget for approval in June.

MWRA's budget for fiscal year 2004 includes \$489.1 million in expenses before debt service offsets of \$13.3 million, for a net expense total of \$475.8 million. The \$13.3 million in debt service offsets is comprised of \$6 million in variable rate debt savings rolled forward from FY03 and \$7.3 million in variable rate savings assumed for FY04.

MWRA's final FY04 budget includes no debt service assistance (DSA) from the Commonwealth. Subsequent to MWRA's approval of its budget, the legislature restored partial DSA funding in the Commonwealth's budget. Upon award and distribution of these funds by the Commonwealth, MWRA will reduce its rate revenue requirement by the amount of DSA received.

The rate revenue requirement for FY04 is \$435.8 million, an increase of 3.9% over the final FY03 rate revenue requirement¹.

The \$489.1 million expense total (before debt service offsets) is comprised of \$284.8 million in capital financing costs and \$204.3 million in operating expenses, of which \$173 million is for direct expenses and \$31.3 million is for indirect expenses. The total represents a decrease of \$2.9

¹ In FY04 the towns of Marlborough and Southborough have become part of the MWRA rate revenue base, which makes the rate revenue requirement \$3.1 million higher than it would have been. In order to provide an accurate basis for comparison, FY03 rate revenue has been re-stated to include \$2.6 million in FY03 Other User Charges revenue from Marlborough and Southborough. The re-stated total for FY03 rate revenue is \$419.5 million.

million from FY03 spending; comprised of \$4.4 million in lower operating costs offset by \$1.5 million less use of variable rate savings to offset debt service.

FY04 non-rate revenue totals \$40 million, a decrease of \$21.6 million from actual FY03 non-rate revenue. The change is primarily the result of a decrease in the use of rate stabilization funds from \$14.7 million in FY03 to \$0 in FY04, a reduced budget for investment income because of continued lower interest rates. The non-rate revenue budget is comprised of \$29.2 million in investment income, including swap receipts, \$10.2 million in other user charges and other revenue, and \$0.6 million in entrance fees.

Table I-1 shows MWRA's FY04 budget for revenue and expenses by line item and includes a comparison with FY03 spending. Variations in individual line item changes from FY03 to FY04 are described in the Revenue and Expense section of the Executive Summary and in more detail in the division sections of this document.

FY04 Initiatives and Highlights

Notable initiatives and highlights for FY04 are summarized below.

- MWRA plans to end FY04 with 1,325 filled positions, despite the addition of 16 new staff to begin preparation for start-up of the Walnut Hill Water Treatment Plant, the MetroWest Water Supply Tunnel, and the wastewater SCADA system.
- 1,325 filled positions at the end of the year is 53 positions less than the overall Black & Veatch target for FY04.
- The budget includes funds to enhance technical training of MWRA staff to ensure that, where possible, existing personnel can staff the new Walnut Hill plant and other new facilities.

- Continued development and implementation of maintenance strategies for optimal protection of assets through the Facilities Asset Management Program, Reliability Centered Maintenance, and Maximo Maintenance Management software.
- The FY04 budget includes \$3.3 million for harbor and outfall monitoring, a reduction of \$0.6 million compared to FY03. This decrease assumes a reduction in spending for some discretionary services and the completion of several research initiatives.

Table I-1

Final FY04 Current Expense Budget REVENUE and EXPENSES					
Line Item	FY02 Actual	FY03 Actual ¹	FY04 Final	Change FY03 Actual to FY04 Final	
				\$	%
<u>Operating Expenses</u>					
<u>Direct</u>					
Wages and Salaries	\$ 86,141,497	\$ 80,263,548	\$ 80,279,306	\$ 15,758	0.0%
Overtime	4,133,505	3,363,787	3,407,648	43,861	1.3%
Fringe Benefits	10,796,644	12,320,508	11,991,821	(328,687)	-2.7%
Workers Compensation	1,363,113	3,195,119	2,100,000	(1,095,119)	-34.3%
Chemicals	6,403,106	6,674,253	6,732,277	58,024	0.9%
Utilities	16,379,257	17,070,548	16,949,960	(120,588)	-0.7%
Maintenance	16,346,220	17,213,182	17,786,182	573,000	3.3%
Training & Meetings	305,613	132,329	257,631	125,302	94.7%
Professional Services	7,675,781	7,003,807	6,689,587	(314,220)	-4.5%
Other Materials	4,519,555	2,985,980	4,241,986	1,256,006	42.1%
Other Services	24,144,281	24,887,671	22,522,883	(2,364,788)	-9.5%
Sub-Total Direct	\$ 178,208,572	\$ 175,110,732	\$ 172,959,281	\$ (2,151,451)	-1.2%
<u>Indirect</u>					
Insurance	\$ 1,115,525	\$ 4,721,089	\$ 1,435,000	\$ (3,286,089)	-69.6%
Reimbursements	20,481,871	19,943,370	21,027,400	1,084,030	5.4%
Other	5,085,085	4,963,600	4,743,498	(220,102)	-4.4%
Mitigation	2,838,118	1,398,584	1,400,000	1,416	0.1%
Pension Expense	2,438,145	2,560,052	2,688,055	128,003	5.0%
Sub-Total Indirect	\$ 31,958,744	\$ 33,586,695	\$ 31,293,953	\$ (2,292,742)	-6.8%
Total Operating Expenses	\$ 210,167,316	\$ 208,697,427	\$ 204,253,234	\$ (4,444,193)	-2.1%
<u>Debt Service</u>					
Debt Service	\$ 285,415,238	\$ 303,769,916	\$ 284,844,479	\$ (18,925,437)	-6.2%
Offsets:					
Debt Service Assistance	(50,207,059)	-	-	-	0.0%
Bond Redemption Savings	-	(14,334,060)	-	14,334,060	-100.0%
Prior Variable Rate Savings	-	(19,374,985)	(5,989,000)	13,385,985	-69.1%
FY04 Variable Rate Savings	-	-	(7,314,515)	(7,314,515)	100.0%
Sub-Total Net Debt Service	\$ 235,208,179	\$ 270,060,871	\$ 271,540,964	\$ 1,480,093	0.5%
Total Expenses	\$ 445,375,495	\$ 478,758,298	\$ 475,794,198	\$ (2,964,100)	-0.6%
<u>Revenue</u>					
Rate Revenue ²	\$ 389,518,470	\$ 419,298,352	\$ 435,828,376	\$ 16,530,024	3.9%
Other User Charges	9,931,377	5,386,878	6,226,529	839,651	15.6%
Other Revenue	4,031,977	4,362,163	3,966,112	(396,051)	-9.1%
Swap Receipts	-	5,317,518	3,824,992	(1,492,526)	-28.1%
Rate Stabilization	11,599,996	14,690,940	-	(14,690,940)	-100.0%
Investment Income	34,966,995	31,388,383	25,366,189	(6,022,194)	-19.2%
Entrance Fees	-	432,000	582,000	150,000	34.7%
Total Revenue	\$ 450,048,815	\$ 480,876,234	\$ 475,794,198	\$ (5,082,036)	-1.1%
<p>¹ For comparison purposes, the final FY03 CEB (as amended and actual) has been re-stated to be consistent with the FY04 budget. The primary change is to treat the use of Rate Stabilization funds as an addition to revenue and to treat the use of Bond Redemption savings as an offset to debt service expense. In the FY03 CEB amendment the use of both Rate Stabilization funds and Bond Redemption savings were presented as enhancements to revenue partially offsetting the elimination of debt service assistance.</p> <p>² In FY04 the towns of Marlborough and Southborough are becoming part of the rate revenue base, which makes the rate revenue requirement \$3.1 million higher than it would have been. In order to provide an accurate basis for comparison, FY03 rate revenue has been re-stated to include \$2.6 million in FY03 Other User Charges revenue from Marlborough and Southborough.</p>					

Sources and Uses of Funds

As shown below, the largest source of funds in the FY04 budget is rate revenue from MWRA communities. FY04 rate revenue accounts for more than 90% of total revenue. Investment income accounts for 6% of revenue, and other revenue sources total 2% of the budget.

SOURCES & USES of Funds		
\$ Millions		
Sources		
Other User Charges	6.2	1%
Other Revenue	4.6	1%
Rate Stabilization	0	0%
Investment Income	29.2	6%
Rate Revenue	435.8	92%
TOTAL REVENUE	\$ 475.8	100%
Uses		
Total Expenses		
before Debt Service Offsets	\$ 489.1	
Less:		
Prior Year Variable Savings	(6.0)	
Current Year Variable Savings	(7.3)	
Sub-Total Net Expenses	\$ 475.8	
Capital Financing	271.5	57%
Direct Expenses	173.0	36%
Indirect Expenses	31.3	7%
TOTAL EXPENSES	\$ 475.8	100%

Capital financing expenses after debt service offsets account for 57% of the budget. Capital financing costs (before debt service offsets) are \$284.8 million, a decrease of \$18.9 million compared to FY03 spending. The FY04 budget incorporates savings from re-financing transactions completed in August and December of 2002. Savings from these transactions are reflected in the FY04 budget and in out-year planning estimates. The debt service budget does not include savings from additional debt re-financing because in FY04, no MWRA bonds have call dates that would facilitate a current

refunding. Future opportunities for refunding will be a function of call dates, limitations on advance refunding transactions, and market conditions. If MWRA is able to take advantage of unforeseen opportunities during the year, savings will be used to reduce future rate revenue requirements. The capital financing budget for FY04 includes:

- \$275.1 million in principal and interest payments on outstanding MWRA debt and SRF loans.
- \$7.8 million in debt service for two new bond issues to support the capital program (a \$165 million fixed rate issue in November 2003 and a \$150 million variable rate issue in May 2004 or a new SRF issue).
- \$4.9 million to fund ongoing capital projects with current revenue and to meet coverage requirements.
- \$1.6 million in interest payments related to the Local Water Pipeline Assistance Program.

Annual operating and maintenance expenses account for 36% of the FY04 budget. Operating and maintenance expenses decrease by \$2.2 million compared to FY03 spending. Significant changes include:

Fringe Benefits and Workers' Compensation - Both line items decrease from FY03 spending due to one-time adjustments recognized last year. Fringe benefits included a one-time accrual of \$977,000 for unemployment benefits to account for estimated expenses related to staff reductions implemented during the fiscal year. Workers' Compensation expenses were higher in FY03 because of an increase in the number of claims, as well as an increase in reserves for existing claims following MWRA's request that the third party administrator review reserves for existing claims.

- *Utilities* – The budget includes \$16.9 million for utilities. The electricity for Deer Island is \$9.3 million, more than 50% of the total utilities budget. In FY03, MWRA completed a competitive procurement for the supply of electricity to Deer Island and entered into a 17-month contract that will end in November 2004.
- *Maintenance* – The budget includes \$17.8 million for maintenance expenses, an increase of \$0.5 million from FY03 spending. As portions of the Deer Island plant near ten years old, maintenance expenses are increasing. Major initiatives for FY04 include Zurn boiler inspection, upgrading the Deer Island voltage system, the third phase of digester painting at Deer Island, and a new contracted approach to grounds maintenance for Western Operations.
- *Other Materials* – The FY04 budget includes \$4.2 million for other materials, an increase \$1.3 million from FY03 spending. Other than one specialty vehicle, all vehicle replacements planned for FY03 were deferred. The average age of the fleet is increasing with 50% of the vehicles now more than seven years old.

The direct expense budget is described further in the Direct Expenses section of the Executive Summary and in the division sections.

Indirect expenses account for the remaining 7% of the budget. The FY04 indirect expenses budget is \$2.3 million less than FY03 spending, primarily because of FY03 adjustments to reserves for insurance claims. Indirect expenses include \$21 million for Watershed Management operations, debt service on watershed land purchases, and payments in lieu of taxes (PILOT).

The indirect budget is described further starting on Page I-14 of the Executive Summary.

Revenue and Expenses Summary

As stated previously, MWRA funds its operations primarily through member community assessments. No funds supporting the current expense budget are subject to appropriation, except minor reimbursements from the Commonwealth. As noted above, the legislature restored partial funding of DSA in the Commonwealth's final FY04 budget.

MWRA has only one operating fund. All operating fund expenses and revenues are allocated to water and sewer customers. As water and wastewater units have consolidated, MWRA has developed systems to ensure the appropriate allocation of expenses to its wastewater and water service customers.

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 sufficient funds to recover the cost of operations (excluding depreciation), maintenance and improvements, debt service, and reserves. MWRA will derive approximately 90% of FY04 revenue from rate revenue.

The remaining 10% of revenue will come from interest on investments, charges to other water and sewer customers, annual charges to sewer system users with permits issued by MWRA, reimbursements from the Commonwealth, penalties assessed to holders of sewer use permits, and other miscellaneous sources.

Rate Revenue

Of the \$435.8 million in rate revenue, \$312 million will fund the sewerage system and \$123.8 million will fund the water system.

Other User Charges

Other User Charges consist primarily of revenues derived from the provision of water services under special agreements or during community emergencies. FY04 CEB payments based on these agreements provide approximately \$6.2 million, compared to \$5.4 million in FY03. Other User Charges also include approximately \$1.3 million in water revenue to be collected from sewer ratepayers to offset the cost of water used for operation of the Deer Island Treatment Plant. The budget also reflects a \$500,000 appropriation by the Commonwealth for the Town of Clinton to enable the town to pay MWRA for part of the cost of operating and maintaining the Clinton Wastewater Treatment Plant.

Permit Fees

The FY04 budget includes \$1.9 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.

Penalties

MWRA assesses fines as necessary to enforce its sewer use regulations. MWRA encourages violators to bring sewer discharges into compliance with their permits, and considers penalties and the lengthy adjudication process that follows as a last resort. Because actual income from penalties varies from year to year, MWRA budgets conservatively for this item, including \$250,000 in revenue from penalties in the FY04 CEB.

Reimbursements from the Commonwealth of Massachusetts

The FY04 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 FY04 budget includes \$790,000 in miscellaneous revenue MWRA expects to collect from hydroelectric power generation, the sale of surplus equipment, licenses, leases, fuel excise tax refunds, and other sources. Of this total, \$200,000 is from the sale of renewable portfolio credits resulting from the use of digester gas to generate power on Deer Island.

Rehabilitation of the turbines at MWRA's Cosgrove hydropower generation facility will be completed in FY04. As a result, the FY04 CEB includes \$159,000 from generation, to reflect periods when only one of the two turbines is operating.

Investment Income

MWRA earns income by investing reserves and fund balances in a variety of interest-yielding securities. The FY04 budget includes \$29.2 million in investment income, including \$3.8 million generated as a result of interest rate swap agreements. Without the swap income, the budget for investment income is \$25.4 million, a decrease of \$6 million from FY03 primarily because of lower interest rate assumptions for short-term investments and lower estimates of fund balances available to invest.

Rate Stabilization

In any fiscal year when annual revenues exceed expenses, MWRA transfers the unexpended amount to the rate stabilization reserve. Within certain limits, MWRA may use this money to reduce the

rate revenue requirement in any subsequent year. Consistent with the requirements of its Enabling Act and its general bond resolution, MWRA treats transfers from rate stabilization as revenue in that fiscal year.

The FY04 budget includes no use of funds from MWRA's rate stabilization reserve. Use of rate stabilization funds included in the proposed CEB has been offset by expense reductions (largely for variable rate debt) and increases to non-rate revenue (investment income and swap receipts).

Expenses

MWRA's annual Current Expense Budget includes operating expenses and debt service. Operating expenses include direct program expenses and indirect or non-program costs. Direct expenses cover all costs which MWRA divisions incur, including personnel expenses, facility operating costs, and support functions. Indirect expenses include payments to the Commonwealth for expenses of the MDC Watershed Management Division² and to support watershed land purchases, additions to MWRA's retirement fund, insurance, mitigation costs, and any additions to reserves. The debt service budget includes current debt service payments, debt service for planned new borrowing, and contributions from current revenues to fund capital expenditures. In the FY04 budget, capital financing costs are offset by actual and anticipated savings on variable rate debt payments in FY03 and FY04 because of lower than anticipated interest rates.

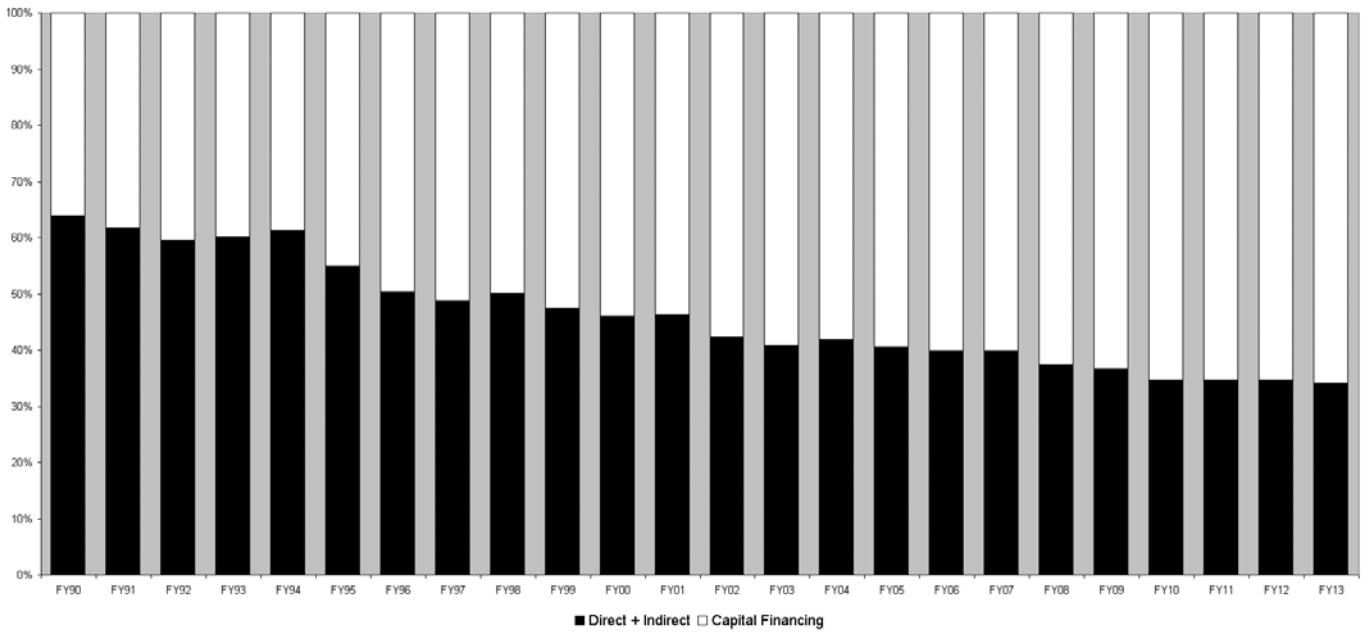
As Figure I-2 illustrates, between FY90 and FY04, the share of MWRA expenses devoted to capital financing costs (without debt service offsets) has increased from 36% to 58%. The share devoted to operating expenses has declined from 64% in FY90

² In the final FY04 state budget the MDC Division of Watershed Management became the Division of Water Supply Protection in the new Department of Conservation and Recreation.

to 42% in the FY04 budget. By FY10, based on MWRA's most recent planning estimates, it is expected that the capital financing share will exceed 65% and by FY13 will exceed 68%.

Figure I - 1

Direct and Indirect Expenses vs. Capital Financing



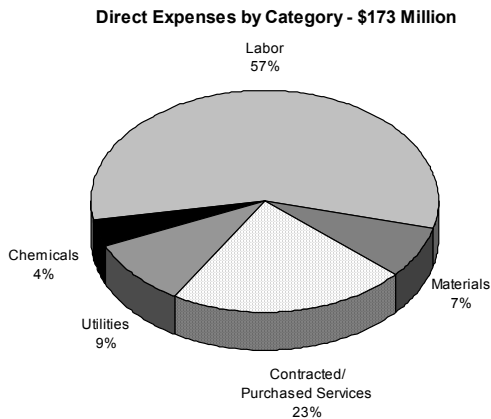
FY90-FY03 Actual; FY04 Budget; FY05 - FY13 Planning Estimates
For comparison purposes, Capital Financing does not include offsets.

Direct Program Expenses

The FY04 direct program expense budget is \$173 million, a decrease of \$2.2 million compared to FY03 spending. The decrease is the net of \$2 million in increases offset by \$4.2 million in decreases. Generally, the budget presents expenses by line item and program. The division sections of this document discuss program budget changes in greater detail.

Line Item Budget Summary

The chart below combines related direct expense line items into general cost categories and shows that labor costs (Wages and Salaries, Overtime, Fringe Benefits, Workers' Compensation and Training and Meetings) are the largest component of the direct expense budget (57%). The second



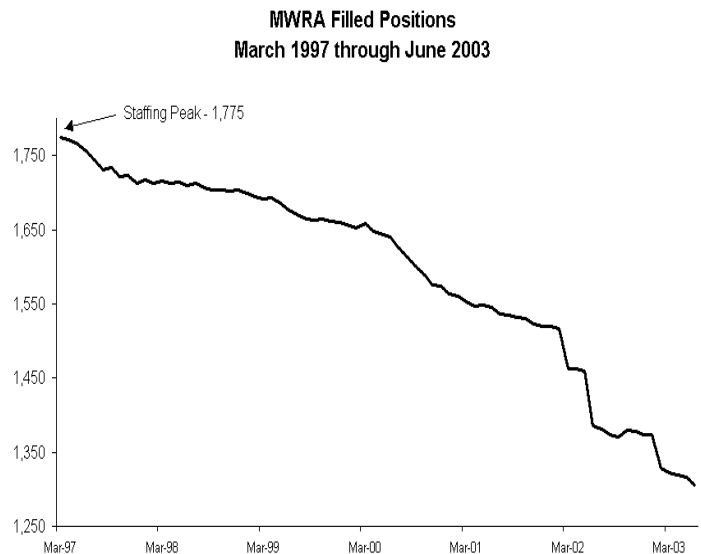
largest cost category is contracted and purchased services (23%), followed by chemicals and utilities (13%), and materials (7%).

Within the labor cost category, the Wages and Salaries budget includes \$80.3 million for wages and salaries which is level funded with FY03 spending and compares to \$86.1 million spent in FY02. Translating the regular pay budget into a number of funded positions is always an imprecise exercise. It must attempt to account for positions that are filled at salaries different from the most recent incumbent, collective bargaining

settlements that may differ from budgeted assumptions, and vacancy rates that vary from estimates. MWRA estimates, subject to these inherent limits on precision, that the regular pay budget of \$79.2 million will support approximately 1,325 filled positions. The regular pay budget reflects several key assumptions:

- MWRA expects to end FY04 with 1,325 filled positions, despite the need to add 16 new staff to begin preparation for start-up of the Walnut Hill Treatment Plant, the MetroWest Tunnel, and wastewater SCADA system. (The overall Black & Veatch target for the end of FY04 is 1,378.)
- 1,325 filled positions at the end of the year is 53 positions less than the overall Black & Veatch target for FY04. Moreover, the Black & Veatch target did not consider or include positions for operation of Walnut Hill. In fact, net of the 16 new positions, the projected FY04 year-end total of 1,309 is six positions less than Black & Veatch's overall target of 1,315 for the end of FY05.

The graph below shows how filled positions at MWRA has declined from a peak of 1,775 in March 1997 to the current staffing level of 1,306 as of June 2003.



Contracted and purchased services, the second largest direct expense cost category, includes professional, maintenance, and other services. The FY04 budget for contracted and purchased services is \$38.4 million or a net \$1 million less than FY03 spending. The decrease is primarily due to one-time expenses recognized in FY03 as MWRA consolidates leased space at its headquarters, offset by increased building and grounds expenses.

Major components of this cost category include \$10.4 million for MWRA’s residuals processing contract, \$5.8 million for lease payments \$9.2 million for maintenance services, \$3.7 million for harbor and outfall monitoring, \$1.2 million for telephone service, \$1.2 million for security, and \$0.9 million for grit and screenings removal.

The \$10.4 million budget for residuals processing is a \$100,000 increase, primarily because of estimates for utility prices. The \$3.7 million harbor and outfall monitoring budget is \$600,000 less than FY03 spending, reflecting elimination of some discretionary services. The maintenance services budget of \$9.2 million increases by \$2.1 compared to FY03 spending primarily as a result of additions for specialized equipment services and building and grounds services as staff are utilized to meet other needs.

The \$16.9 million utilities budget decreases by \$0.1 million, primarily because of lower estimates of the need for diesel fuel purchases offset by increased electricity and other utility expenses.

The budget for chemicals, in total, is unchanged from FY03 spending. The budgets for hydrogen peroxide and polymer decrease by \$245,000 and \$419,000, respectively. The budget for ferrous chloride increases because of its use for struvite control. Nearly 46% of the chemical budget is for the treatment of wastewater, while approximately 54% supports water treatment.

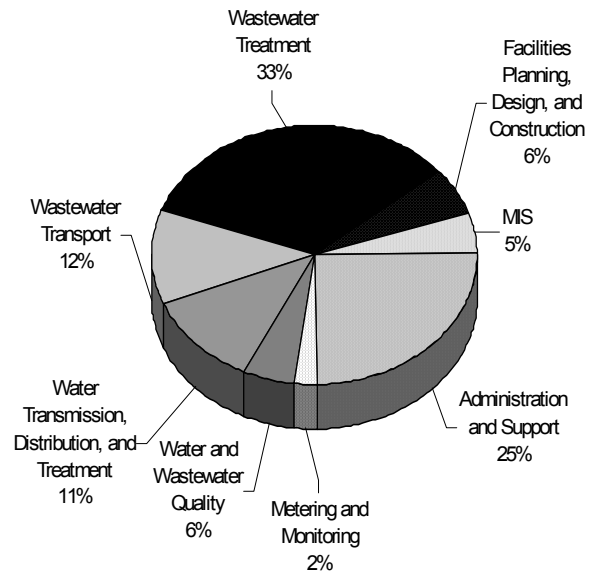
The \$12.8 million budget for materials, which accounts for 7% of the direct expense budget, includes maintenance materials, laboratory equipment, vehicles, and computer hardware items. The FY04 materials budget is \$100,000 more than FY03 spending.

Functional Area Budget Summary

For a broader perspective, the graph below presents direct expenses by MWRA functional area and shows that 45% of the FY04 direct expense budget is for Wastewater Transport and Treatment costs, compared to 11% for Water Transmission, Treatment, and Distribution.

Appendix A describes each MWRA functional area.

Direct Expenses by Functional Area - \$173 Million



Capital Financing

The FY04 capital financing budget, before debt service offsets, is \$284.8 million or 58% of the total \$489.1 million budget. Debt service offsets of \$13.3 million result in a net capital financing budget of \$271.5 million. Debt service offsets include \$6 million in savings from FY03 variable rate debt service payments because interest rates were less than expected and \$7.3 million in projected FY04 variable rate savings. If interest rates are less than budgeted in FY04, MWRA will use the savings to reduce rate revenue requirements in future years.

MWRA finances its capital improvement program primarily by issuing fixed rate 30- or 40-year revenue bonds. MWRA has also issued variable rate debt through a tax-exempt commercial paper program and a multi-modal (one, seven, and 35-day) borrowing program. As of June 2003, MWRA's revenue bonds outstanding totaled \$4.2 billion, including \$719 million in variable rate debt. MWRA also borrows from the Commonwealth's Water Pollution Abatement Trust, also known as the State Revolving Loan (SRF) Fund. As of June 2003 the gross amount of outstanding debt from the SRF was \$663 million. In FY95 MWRA initiated a tax-exempt commercial paper program to increase borrowing flexibility and reduce interest costs. As of June 2003, outstanding commercial paper totaled \$311 million.

In October 2000 MWRA's credit rating was upgraded by Standard & Poor's from A+ to AA and by Moody's Investors Service from A1 to Aa3. The rating agencies cited a number of accomplishments including continued progress in financing construction projects at lower-than-anticipated costs, continued ongoing regulatory compliance, the credit strength of the member communities, and substantial reserves. The Fitch rating, which had been upgraded to AA- in June 2000, was unchanged.

More recently, in February 2003, Fitch affirmed its rating of AA- for MWRA bonds and affirmed the outlook as stable. Fitch's credit review was undertaken in response to the elimination of debt service assistance (DSA) in FY03, which accounted for 10% of MWRA's projected revenues. The bond rating was affirmed in light of the actions taken by MWRA's in response to the DSA elimination.

The FY04 capital financing budget decreases compared to FY03 spending, primarily because re-financing transactions completed in August and December of 2002 decreased FY04 debt service payment requirements. The capital financing budget for FY04 includes:

- \$267.3 million in principal and interest payments on outstanding MWRA debt and SRF loans.
- \$7.8 million in debt service for two new bond issues to support the capital program (a \$165 million fixed rate issue planned for late November 2003 and a \$150 million variable rate issue in May 2004 or a new SRF issue).
- \$1.6 million in interest payments related to the Local Water Pipeline Assistance Program.
- \$4.9 million to fund ongoing capital projects with current revenue and to meet coverage requirements.

The FY04 debt service budget does not include savings from future re-financing of debt because no debt refunding or restructuring is currently planned for FY04. If MWRA is able to take advantage of unforeseen opportunities during the year, any FY04 savings will roll forward into future years.

MWRA's final FY04 budget includes no debt service assistance (DSA) from the Commonwealth. Subsequent to MWRA's approval of its budget, the legislature restored partial funding of DSA in the

Commonwealth's budget. Upon award and distribution of these funds by the Commonwealth, MWRA will reduce its rate revenue requirement by the amount of DSA received.

The table below illustrates how upgrading the sewerage system has dominated the capital program to date. Seventy-four percent of budgeted FY04 capital financing costs (before debt service offsets) are for wastewater improvements. Current and future borrowing increasingly supports improvements to the water system.

Final FY04 Current Expense Budget - Capital Financing Detail					
	Amount Outstanding (\$ millions)	Interest Rate	Total	Water	Sewer
SRF ¹					
Unrefunded	\$ 40	-	\$ 65,554	\$ -	\$ 65,554
1999E Pool Sewer	10	-	394,274	-	394,274
1999E Pool Water	11	-	581,322	581,322	-
1999F	377	-	15,978,347	-	15,978,347
2000E Pool Sewer	72	-	2,891,984	-	2,891,984
2000E Pool Water	12	-	574,633	574,633	-
2001C SRF Water	5	-	249,769	249,769	-
2001D SRF Sewer	8	-	386,482	-	386,482
2001D SRF Water	2	-	82,300	82,300	-
2002H	125	-	4,508,925	1,505,535	3,003,390
2002I	3	-	100,367	1,446	98,921
FY04 New Sewer	-	-	-	-	-
FY04 New Water	-	-	-	-	-
Sub-Total	\$ 663		\$ 25,813,957	\$ 2,995,005	\$ 22,818,952
MWRA Senior Debt					
1992A (fixed)	\$ 388	6.88%	\$ 25,209,925	\$ 1,260,496	\$ 23,949,429
1993C (fixed)	285	5.58%	14,928,960	1,866,120	13,062,840
1994A (fixed)	17	6.04%	4,025,200	-	4,025,200
1995B (fixed)	224	5.27%	14,952,320	-	14,952,320
1996A (fixed)	25	5.62%	3,240,624	-	3,240,624
1997D (fixed)	134	5.34%	7,811,419	468,685	7,342,734
1998A (fixed)	194	4.98%	12,763,450	4,254,441	8,509,009
1998B Refunding (fixed)	105	4.97%	5,017,300	200,692	4,816,608
2000A (fixed)	281	6.05%	17,972,158	11,982,038	5,990,120
2002B (fixed)	179	5.15%	11,010,531	9,909,478	1,101,053
2002J (fixed)	600	4.69%	30,848,400	7,084,840	23,763,560
FY04 New #1 (fixed)			5,643,115	2,821,558	2,821,558
Sub-Total	\$ 2,432		\$ 153,423,402	\$ 39,848,348	\$ 113,575,055
MWRA Subordinate Debt					
1997A (variable)	\$ 82	-	\$ 4,452,496	\$ -	\$ 4,452,496
1997B (variable)	82	-	4,452,496	4,452,496	-
1998D Refunding (variable to fixed)	199	-	8,381,435	335,257	8,046,178
1999A (variable to fixed)	93	-	5,131,770	2,052,708	3,079,062
1999B (variable to fixed)	93	-	5,202,923	2,081,169	3,121,754
1999C (variable)	72	-	3,800,447	2,280,268	1,520,179
1999D (variable)	72	-	3,800,447	2,280,268	1,520,179
2000B Refunding (variable to fixed)	135	-	7,566,557	1,059,318	6,507,239
2000C Refunding (variable to fixed)	135	-	7,666,557	1,073,318	6,593,239
2000D (fixed to variable)	150	-	8,250,000	4,125,000	4,125,000
2001A (variable)	91	-	5,861,792	3,927,401	1,934,391
2001B (variable)	85	-	3,584,204	3,584,204	-
2002C-G (variable)	430	-	25,545,319	3,002,190	22,543,129
FY04 New #2 (variable)		-	2,168,629	542,157	1,626,472
Sub-Total	\$ 1,719		\$ 95,865,072	\$ 30,795,755	\$ 65,069,317
Total SRF & MWRA Debt Service	\$ 4,814		\$ 275,102,431	\$ 73,639,108	\$ 201,463,324
Water Pipeline Commercial Paper			\$ 1,600,000	\$ 1,600,000	\$ -
Current Revenue/Capital ²			4,925,000	1,231,250	3,693,750
Capital Lease			3,217,060	1,093,800	2,123,259
Sub-Total			\$ 9,742,060	\$ 3,925,050	\$ 5,817,009
Total Capital Financing (before Debt Service Offsets)			\$ 284,844,491	\$ 77,564,158	\$ 207,280,334
Bond Redemption Savings			\$ -		
Prior Year Variable Rate Savings			(5,989,000)	(2,353,000)	(3,636,000)
Budget Year Variable Rate Savings			(7,314,515)	(4,578,371)	(2,736,144)
Total Capital Financing			\$ 271,540,976	\$ 70,632,787	\$ 200,908,190

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

² Current Revenue/Capital is revenue used to fund ongoing capital projects. The amount is partly determined by MWRA's bond covenant requirements.

Indirect Expenses

The FY04 budget includes \$33.6 million for indirect expenses, a decrease of \$2.3 or 6.8% compared to FY03 spending. The decrease reflects adjustments to insurance reserves made in FY03 and lower payments on the cross harbor cable. These decreases are offset by increased debt service payments for watershed land purchased by the Commonwealth and reimbursed by MWRA.

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 FY04 budget includes \$935,000 for premiums and fees and \$500,000 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, currently funded at \$18 million.

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 Watershed Management (DWM)³, and debt service costs for purchases of land around the supply reservoirs to protect the watersheds. The FY04 budget includes \$6.4 million, \$9.4 million, and \$5.3 million respectively for these items. The change from FY03 spending is largely comprised of increases for debt service on land purchases and for estimated DWM operational costs.

³ Now the Division of Water Supply Protection in the Department of Conservation and Recreation.

Harbor Electric Energy Company (HEECo)

Harbor Electric Energy Company (HEECo), a subsidiary of NStar, installed the cross harbor power cable and built the power substation to supply electric power for construction and operation of the Deer Island Treatment Plant. MWRA is repaying HEECo's capital investment on a 25-year schedule. The budget includes \$4.7 million for the estimated FY04 payment, comprised of \$4.4 million for capacity charges and \$355,000 for maintenance expenses. As more of the asset has been depreciated, the budget is \$200,000 less than FY03 spending.

Mitigation

MWRA disburses mitigation funds to communities affected by MWRA projects pursuant to MWRA's Statement of Mitigation Principles and/or specific agreements with communities. MWRA mitigation may include ameliorating direct construction impacts, meeting environmental/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 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.

Some mitigation is funded in the capital budget, while other mitigation is funded in the current expense budget. The FY04 CEB includes \$1.4 million for community compensation for impacts. The budget includes funds for the Town of the Winthrop, based on MWRA's Memorandum of Agreement with the town, as well as funds for the City of Quincy. Although many of MWRA's obligations under a 1988 Memorandum of Understanding (MOU) with Quincy have terminated, and agreement on a successor MOU has not been reached, some obligations remain. MWRA pays Quincy \$250,000 annually, subject to

inflation, for fire protection services for the FRSA, an obligation that will continue until MWRA ceases all residuals activities at the FRSA, establishes its own fire protection services, or the 1988 MOU is superceded.

Retirement System Contribution

MWRA has included \$2.7 million in the FY04 budget for an addition to its Retirement Fund, commensurate with the goal to maintain a fully funded retirement system for employees, including approved cost-of-living increases. The Retirement System budget includes funds for the expenses of the Retirement Board. The \$2.7 million addition to the retirement fund is based on a recommendation from the Retirement Board that reflects an actuarial report completed after the early retirement incentive program offered in FY02.

Community Profile and Assessments

MWRA provides wholesale water and sewer services to 61 communities. Forty-seven communities purchase water supply services, and 45 communities purchase wastewater transport and treatment services. Thirty-one communities purchase both. Approximately 2.5 million people, or 43% of the population of Massachusetts, live and work in the communities that purchase water and/or wastewater services from MWRA.

MWRA's largest single customer is the Boston Water and Sewer Commission (BWSC), which provides retail services in the City of Boston. In the FY04 CEB, rate revenue from BWSC accounts for 31% of MWRA's total rate revenue. Table I-2, on page I-18, lists MWRA communities, the services received, and MWRA assessments for FY04.

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-3 presents the calculation of MWRA's FY04 rate revenue requirement. The tables show 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 FY04 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 revenue offset water and sewer

expenses. The resulting net cost of water and sewer services is the amount MWRA recovers through water and sewer assessments.

Wholesale Assessment Methodology

MWRA calculates separate user assessments for water and sewer services. Budgeted water operating and capital costs are allocated based on each community's share of total water use for the most recent calendar year. The sewer assessment methodology allocates budgeted operating and maintenance costs based on share of wastewater flow and strength parameters, and capital costs based on proportion of flow, strength, and population. In FY02, MWRA started using three-year averaging of wastewater flows to calculate the flow-related components of wholesale sewer assessments. This averaging moderates year-to-year swings in individual community assessments.

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.

TABLE I-3
Calculation of the FY04 Rate Revenue Requirement
 (\$000s)

	Sewer	Water	Total
Expenses			
Operations and Maintenance Costs:			
Direct Sewer and Water Expenses	\$72,027	\$36,692	\$108,719
PLUS			
Other Costs:			
Allocated Direct Expenses	\$56,273	\$9,367	\$65,640
Allocated Indirect Expenses	7,599	22,295	29,894
PLUS			
Capital Costs:			
Debt Service (Less: Debt Offsets)	\$197,214	\$69,402	\$266,616
Current Revenue/Capital	3,694	1,231	4,925
LESS			
Non-Rate Revenue:			
Investment Income	(\$18,908)	(\$6,459)	(\$25,367)
Fees and Other Revenue	(5,851)	(8,748)	(14,599)
Non-Recurring Revenue	0	0	0
EQUALS			
Rate Revenue Requirement	\$312,048	\$123,780	\$435,828

Table I-2

MWRA FY04 Water and Sewer Assessments

MWRA Combined Water and Sewer Customers	WATER		SEWER		COMBINED	
	Final FY04 Water Assessment	% Change from FY03	Final FY04 Sewer Assessment	% Change from FY03	Final FY04 Combined Assessment	% Change from FY03
ARLINGTON	\$ 2,586,146	8.8%	\$ 5,810,098	2.7%	\$ 8,396,244	4.5%
BELMONT	1,402,373	2.7%	3,570,578	-0.6%	4,972,951	0.3%
BOSTON	47,760,513	5.7%	88,558,030	5.0%	136,318,542	5.3%
BROOKLINE	3,616,785	7.9%	9,078,163	0.3%	12,694,948	2.3%
CHELSEA	2,057,772	10.7%	4,594,192	1.2%	6,651,964	4.0%
EVERETT	2,850,792	10.9%	5,690,860	2.7%	8,541,652	5.3%
FRAMINGHAM	4,657,424	5.6%	8,013,981	0.2%	12,671,405	2.1%
LEXINGTON	3,205,374	14.3%	4,857,518	2.5%	8,062,892	6.9%
MALDEN	3,437,821	7.1%	8,316,860	5.4%	11,754,681	5.9%
MEDFORD	3,136,676	5.5%	8,417,948	3.6%	11,554,624	4.1%
MELROSE	1,707,395	12.4%	3,966,470	4.4%	5,673,865	6.7%
MILTON	1,544,519	7.8%	3,923,700	0.3%	5,468,219	2.3%
NEWTON	5,943,789	8.6%	13,878,279	-1.1%	19,822,068	1.6%
NORWOOD	1,957,701	9.2%	4,752,487	1.3%	6,710,188	3.5%
QUINCY	5,587,157	8.9%	13,262,057	0.2%	18,849,214	2.6%
REVERE	2,634,597	10.7%	6,725,428	3.0%	9,360,025	5.1%
SOMERVILLE	3,891,591	3.4%	10,689,468	2.0%	14,581,059	2.4%
STONEHAM	2,117,675	8.7%	3,394,481	-1.6%	5,512,156	2.1%
WALTHAM	4,583,519	12.5%	9,414,931	1.7%	13,998,450	5.0%
WATERTOWN	1,812,605	7.9%	4,303,065	0.7%	6,115,670	2.7%
WINTHROP	911,331	10.4%	2,220,460	3.5%	3,131,791	5.4%
TOTAL	\$ 107,403,555	7.3%	\$ 223,439,053	2.8%	\$ 330,842,608	4.2%
MWRA Sewer and Partial Water Customers						
CANTON	\$ 1,237,846	6.3%	\$ 2,899,318	0.8%	\$ 4,137,164	2.4%
NEEDHAM	1,066,066	46.1%	4,695,589	0.4%	5,761,655	6.5%
STOUGHTON ¹	266,078	100.0%	3,207,382	0.2%	3,473,460	8.5%
WAKEFIELD	1,200,924	0.4%	4,242,216	1.9%	5,443,140	1.6%
WELLESLEY	234,265	-49.4%	3,813,153	2.1%	4,047,418	-3.6%
WINCHESTER	812,778	37.3%	2,956,195	3.3%	3,768,973	9.2%
WOBURN	1,617,868	-18.5%	7,498,289	1.7%	9,116,157	-2.6%
TOTAL	\$ 6,435,826	5.0%	\$ 29,312,142	1.5%	\$ 35,747,968	2.1%
MWRA Sewer-only Customers						
ASHLAND			\$ 1,343,253	6.7%	\$ 1,343,253	6.7%
BEDFORD			2,312,949	1.6%	2,312,949	1.6%
BRAINTREE			5,746,361	2.9%	5,746,361	2.9%
BURLINGTON			3,317,872	3.7%	3,317,872	3.7%
CAMBRIDGE			15,898,184	3.1%	15,898,184	3.1%
DEDHAM			4,173,338	-1.4%	4,173,338	-1.4%
HINGHAM			1,099,096	1.1%	1,099,096	1.1%
HOLBROOK			1,078,414	3.3%	1,078,414	3.3%
NATICK			3,671,040	2.8%	3,671,040	2.8%
RANDOLPH			3,921,055	0.5%	3,921,055	0.5%
READING			2,973,143	3.7%	2,973,143	3.7%
WALPOLE			2,380,458	-0.4%	2,380,458	-0.4%
WESTWOOD			1,844,726	1.4%	1,844,726	1.4%
WEYMOUTH			7,762,124	1.5%	7,762,124	1.5%
WILMINGTON			1,774,470	3.8%	1,774,470	3.8%
TOTAL			\$ 59,296,483	2.2%	\$ 59,296,483	2.2%
MWRA Water-only Customers						
LYNNFIELD	\$ 281,443	10.0%			\$ 281,443	10.0%
MARBLEHEAD	1,195,420	9.4%			1,195,420	9.4%
NAHANT	221,891	9.8%			221,891	9.8%
SAUGUS	1,787,388	4.3%			1,787,388	4.3%
SOUTHBOROUGH ²	543,022	11.5%			543,022	11.5%
SWAMPSCOTT	1,158,540	7.0%			1,158,540	7.0%
WESTON	1,014,135	8.3%			1,014,135	8.3%
TOTAL	\$ 6,201,839	7.5%			\$ 6,201,839	7.5%
MWRA Partial Water-only Customers						
LYNN	\$ 177,731	2.7%			\$ 177,731	2.7%
MARLBOROUGH ²	2,604,020	11.6%			2,604,020	11.6%
NORTHBOROUGH	140,422	-11.1%			140,422	-11.1%
PEABODY	817,306	26.0%			817,306	26.0%
TOTAL	\$ 3,739,478	12.8%			\$ 3,739,478	12.8%
SYSTEMS TOTAL	\$ 123,780,698	7.3%	312,047,678	2.6%	\$ 435,828,376	3.9%

¹ Stoughton joined the MWRA waterworks system in FY04.² FY03 charges for Marlborough and Southborough are estimates.

Revenue and Expenditure Trends

Because MWRA is required by its Enabling Act to balance its budget and to establish annual assessments to cover all expenses, revenue must increase in concert with the growth in expenses each year. Member community assessments are the largest source of funds; the amount required in any year is the difference between MWRA expenses and other revenue sources, most notably investment income and previously debt service assistance from the Commonwealth (which directly reduced debt service expense).

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

The table below and Appendix E (in more detail), present rate revenue requirements for FY05 through FY13 based on the rate increase for FY04.

	Estimates of Future Rate Revenue Requirements (\$ in Millions)									
	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
RATE REVENUE	\$435.8	\$461.2	\$487.9	\$516.3	\$556.6	\$594.8	\$649.6	\$674.1	\$700.5	\$725.3
RATE REVENUE INCREASE	3.9%	5.8%	5.8%	5.8%	7.8%	6.9%	9.2%	3.8%	3.9%	3.5%

Increasing debt service to finance the Capital Improvement Program is the most important factor driving estimates of future budget increases. Over the past seven years federal grants, SRF loans, Commonwealth debt service assistance, MWRA's tax-exempt commercial paper program, and debt refinancings 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 will increase MWRA capital financing costs over the next several years.

MWRA employs rates management tools where available -- extended maturities on future borrowings, variable rate debt, and increased use of the 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 growth factor is inflation of base operating costs. The estimated \$32.9 million increase in direct expenses from FY05 to FY13 is primarily the result of an assumed inflation rate of 2.5% annually. In addition, over the next ten years there will be an increase in direct expenses as a result of capital improvement projects. The largest increase will be for operation of new facilities. The Walnut Hill Water Treatment Plant, scheduled to reach full operation by FY05, will have an estimated incremental cost of \$2 to 2.4 million in FY05 and FY06. Startup and operation of the Union Park Detention and Treatment facility, the

Reserved Channel CSO facility, and associated remote odor control facilities have incremental impacts between FY06 and FY09. Improvements to increase remote monitoring and control of wastewater facilities are expected to result in decreased operating costs in FY06 and FY08. The anticipated increases and decreases in costs associated with these capital improvements are shown on Page I-24.

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:

- CIP inflation rate of 2.5%.
- Capital spending based on 85% of the CIP expenditure forecast with 10% (two-thirds of the 15% reduction) added back three years later.
- Long-term fixed rate debt issues with 40-year terms and 6% interest rates.

MWRA uses the planning estimates to present a picture of what future rate increases might be and to test the impact of changes to assumptions. The planning estimates are not predictions of what rate increases will be; 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 ensure that MWRA rate increases will not be higher than projected. The use of conservative assumptions also helps communities plan for future payments to MWRA. Historically, MWRA rate increases have been lower than projected as MWRA and the Advisory Board focused on a particular year.

There are several areas where differences from planning estimate assumptions may reduce projected increases, or where MWRA will have opportunities to decrease costs:

- Lower than anticipated borrowing rates or higher than 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.
- Operating expenses.

Managing rate increases in the coming years is likely to involve tradeoffs between smaller increases in the upcoming fiscal year and significantly larger increases in subsequent years.

Capital Improvement Program

Each year MWRA prepares a three-year budget and a ten-year plan for capital spending. After review and comment by the Advisory Board, the Board approves the budget, which remains in effect for one year.

In June 2003, the MWRA Board of Directors approved the FY04-06 Capital Improvement Program, which includes a three-year budget (FY04-06) of \$671.4 million, a five-year spending limit of \$1.1 billion (FY04-08), and a ten-year budget (FY04-13) of \$1.6 billion, including contingency funds. Also at the June meeting, the Board adopted a five-year capital spending cap that limits total expenditures for fiscal years 2004 to 2008 to \$1.1 billion. Annual spending within the five-year period may vary within plus or minus 20% of the initial budget amounts as long as the five-year total is not exceeded.

MWRA divides the CIP into three program areas: Wastewater, Waterworks, and Business and Operations Support. The Wastewater program area, which includes the Boston Harbor Project (BHP) and Wastewater System Improvement projects such as the Combined Sewer Overflow (CSO) Program, aims to modernize the wastewater collection and treatment system to meet current and future demand.

Waterworks System Improvement projects support MWRA's commitment to provide high quality drinking water to its customers. MWRA has undertaken an Integrated Water Supply Improvement Program (IWSIP) to ensure that the treatment, transmission, and storage of water meets quality standards and complies with state and federal regulatory requirements. IWSIP includes the construction of the Walnut Hill Treatment Plant, the MetroWest Water Supply Tunnel, and seven covered storage facilities.

The Business and Operations Support program area includes projects with authority-wide benefits, including the new MWRA facility in Chelsea, the Business Systems Plan, Security Improvements, and environmental remediation at MWRA sites and facilities.

MWRA's capital budget, including detailed expenditure forecasts and program descriptions, is available online at www.mwra.com.

FY04-06 CIP

MWRA has undertaken many capital improvements since 1985. Expenditures on all projects from MWRA's inception through the end of FY03 are \$5.9 billion². As shown on the next page, total planned capital investment for the ten-year period FY04-13 is \$1.57 billion, including contingency funds. The CIP for FY04-06 includes projected three-year outlays of \$671.4 million, including contingency funds, for more than 95 projects. The FY04-06 budget is stated in December 2003 dollars.

Total project costs presented in the FY04-06 CIP, which include both past and projected expenditures for active CIP projects, are \$5 billion for BHP and other Wastewater projects; \$2 billion for Waterworks projects; and \$54.2 million for Business and Operations Support projects.

The CIP also includes \$137.5 million in contingency budget funds for the next ten years.

² Includes approximately \$551 million in completed projects that are no longer included in the CIP budget totals.

FY04-06 Capital Improvement Program Budget					
Expenditure Summary					
\$ in Millions					
Program Area	FY04	FY05	FY06	3-Year FY04-06	10-Year FY04-13
S.99601 Boston Harbor Project	\$ 0.1	\$ 0.1	\$ -	\$ 0.2	\$ 0.2
S.99201 Wastewater System Improvements	99.5	101.1	115.7	316.3	821.9
S.10 Interception & Pumping	36.3	29.2	51.6	117.1	256.3
S.25 Treatment	8.4	19.4	12.1	39.9	122.5
S.12 Residuals	1.5	-	-	1.5	1.5
S.13 CSO	48.5	47.9	48.1	144.5	437.2
S.14 Other	4.8	4.6	3.9	13.3	4.7
S.99301 Waterworks System Improvements	127.8	83.2	76.9	287.9	592.6
S.16 Drinking Water Quality Improvements	66.0	30.0	15.6	111.6	145.3
S.17 Transmission	16.2	5.1	4.4	25.7	72.4
S.18 Distribution & Pumping	28.0	31.0	42.1	101.1	337.0
S.19 Other	17.6	17.1	14.7	49.4	37.6
S.99801 Business & Operations Support	9.6	5.8	2.6	18.0	19.1
Total MWRA	237.0	190.2	195.2	622.4	1,433.9
Contingency	19.4	14.1	15.5	49.0	137.5
Total MWRA with Contingency	\$ 256.4	\$ 204.3	\$ 210.7	\$ 671.4	\$ 1,571.3

MWRA capital spending has been driven by a small number of large projects. Peak spending for the Boston Harbor Project occurred in FY94 and for the MetroWest Water Supply Tunnel in FY99. Peak spending for the Walnut Hill Water Treatment Plant occurred in FY02, and for CSOs in FY06.

Capital spending will continue to decrease as the key components of the Integrated Water Supply Improvement Program and elements of the CSO Program are completed and in place to serve the long-term needs of the service area.

Capital Financing and Grant Revenues

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

In the past, federal and state grant receipts were a significant source of funds, totaling an estimated \$1.1 billion through June 2003 or 20% of spending for the period. Grant receipts of \$6 million and \$4.6 million in FY02 and FY03 amount to less than 1% of budgeted spending for the two years. After netting out grant revenue, MWRA expects to finance \$671 million in capital projects through long-term debt, SRF loans, and commercial paper over the next three fiscal years.

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 and the residuals processing facility in Quincy resulted in significant increases in operating expenses. The largest future increase results from beginning operation of the new Walnut Hill Water Treatment Plant in FY05. Other increases result from the cost of operating CSO facilities beginning in FY06 and again in FY08 and FY09. Startup of the Braintree-Weymouth Relief Facilities results in anticipated decreases starting in FY05 through FY09. Projects to automate wastewater central monitoring result in anticipated decreases in FY06 through FY09. Initial central monitoring costs in FY05 offset decreases from startup of the Braintree-Weymouth Facilities.

The table below summarizes, by program area, the estimated incremental costs and savings in MWRA's Current Expense Budget from FY05 through FY11 as a result of the capital program.

Incremental Costs and Savings from CIP Projects							
	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Wastewater	\$ 648,824	\$ (169,724)	\$ 230,755	\$ (2,619,544)	\$ (374,140)	\$ 658,417	\$ 675,355
Waterworks	3,152,554	2,907,771	-	-	74,000	(74,000)	-
Business & Operations Support	-	-	-	-	-	-	-
TOTAL	\$ 3,801,378	\$ 2,738,047	\$ 230,755	\$ (2,619,544)	\$ (300,140)	\$ 584,417	\$ 675,355

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, retained ownership of real property, including the reservoirs and watersheds.

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

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 \$425 million per year over the last thirteen years (FY91 to FY03). This investment has greatly improved the operating efficiency of the existing water and sewer systems, protecting fresh water sources and improving the water quality in Boston Harbor.

MWRA Rates Management

Between FY96 and FY02 MWRA limited rate revenue increases to an average of 3.6% annually as a result of debt service assistance from the Commonwealth, federal grants to support the Boston Harbor Project, lower borrowing costs, use of financing tools that delayed costs to later years, a favorable bid climate for construction projects, and aggressive efforts to control capital and operating costs. In FY03, with the elimination of debt service assistance, MWRA had a 6.9% rate increase as part of an overall strategy in response to the loss. In the planning estimates included with the CEB the rate revenue requirement, assuming debt service assistance is not restored, increases by 5.8% annually for the next three years.

With the prospect of higher rate increases in the future, MWRA must ensure that its operating and capital costs are kept to a minimum, and that

every dollar adds to the value of water and sewer services. MWRA has taken several steps toward this end.

- First, MWRA works to limit increases in ongoing operating costs. The FY04 direct expense budget is \$5.3 million less than FY02 spending.
- Second, 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.
- Third, MWRA continues to aggressively seek additional SRF assistance.
- Fourth, MWRA will use rate stabilization funds in the context of its longer-term rate smoothing strategy.
- Fifth, MWRA will seek to maximize savings in the deregulated electricity market, and will continue to explore reorganization opportunities.
- Finally, MWRA is working to reduce labor costs wherever appropriate. The FY04 budget includes funding for 1,325 filled positions by June 30, 2004, 53 positions less than the overall Black & Veatch target for FY04.

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

MWRA Organization

MWRA has five divisions. Each division provides operations or support services to carry out MWRA's activities under the direction of the

Executive Office. The frontispiece of this document presents MWRA's organizational structure.

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

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. In addition, it provides for long-term planning of the water and wastewater facilities and systems.

The **Finance Division** is responsible for budgeting, rate setting, accounting, grants management, risk management, and treasury activities; securing financing to support the capital improvement program; and coordinating strategic planning and performance measurement activities throughout MWRA.

The **Law Division** provides legal counsel to all divisions on environmental law, real estate transactions, litigation, and compliance with developing policy standards. The division represents MWRA in all court-related matters.

The **Support Services Division** provides support functions across MWRA. Support Services oversees the central functions of communications and community relations, real property and environmental management, human resources, affirmative action, procurement, internal audit, fleet services, computer system development and

management, facilities and office supplies management, the library and records management, and mail services. The division also manages the Fore River Staging Area in Quincy and MWRA's Chelsea Facility.

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 Acceptable Accounting Principles (GAAP) and, commencing with the annual reports for 1986, audited by independent certified public accountants. MWRA's audited financial statements at June 30, 2003 and 2002 are available online at www.mwra.com.



Executive Office
Budget

EXECUTIVE OFFICE

Final FY04 Current Expense Budget EXECUTIVE DIVISION by Line Item						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 794,104	\$ 790,525	\$ 430,845	\$ 504,112	\$ 73,267	17.0%
OVERTIME	57	82	-	-	-	0.0%
TRAINING & MEETINGS	14,220	2,993	36	4,075	4,039	11219.4%
PROFESSIONAL SERVICES	379,151	286,188	196,597	157,590	(39,007)	-19.8%
OTHER MATERIALS	3,169	4,567	2,031	1,785	(246)	-12.1%
OTHER SERVICES	441,066	455,103	457,060	443,813	(13,247)	-2.9%
TOTAL	\$ 1,631,767	\$ 1,539,458	\$ 1,086,569	\$ 1,111,375	\$ 24,806	2.3%

Final FY04 Current Expense Budget EXECUTIVE DIVISION by Department						
DEPARTMENT	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
EXECUTIVE OFFICE / BOARD OF DIRECTORS	\$ 1,065,845	\$ 942,671	\$ 481,349	\$ 514,267	\$ 32,918	6.8%
ADVISORY BOARD / OTHER COMMITTEES	565,922	596,787	605,220	597,108	(8,112)	-1.3%
TOTAL	\$ 1,631,767	\$ 1,539,458	\$ 1,086,569	\$ 1,111,375	\$ 24,806	2.3%

The Executive Office provides executive management and guides the implementation of MWRA policies established by the Board of Directors. It is responsible for developing and implementing specific goals and programs to achieve MWRA's primary mission of providing reliable and efficient water and sewer services, improving water quality, and for creating a framework within which all divisions can operate effectively. The Executive Office is also implementing a centralized MWRA-wide security program to preserve and protect MWRA facilities and systems and MWRA employees.

The Executive Office guides implementation of MWRA's Business Plan and ensures that all initiatives are in concert with MWRA's overall mission. At its September 17, 2003 meeting, the Board of Directors approved organizational changes to MWRA's planning functions. These changes consolidate separate planning activities mostly from the Operations and Finance divisions. The new unit will report to the Executive Director through a single Director of Planning and Coordination. Responsibility for the Combined Sewer Overflow (CSO) program, previously part of Operations Planning, will remain with the Operations Division.

Executive Office goals 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) and the MWRA Advisory Board and Advisory Committees cost center. The Board of Directors formulates policies to guide MWRA actions and is responsible for major policy and fiscal decision making. The MWRA Advisory Board was established by the Enabling Act to serve as a "watchdog" for MWRA's customer communities. The Advisory Board makes recommendations to MWRA on annual expense budgets and capital improvement programs. 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 FY04 direct expense budget.

Budget Highlights

- *\$158,000 for Professional Services, a decrease of \$39,000 or 19.8% from FY03 spending. The budget funds the Water Supply Citizens' Advisory Committee and the Wastewater Advisory Committee.*
- *\$440,000 for the MWRA Advisory Board staff and operating expenses including space rental and general administrative office materials and supplies.*



Operations Division
Budget

OPERATIONS DIVISION

Final FY04 Current Expense Budget OPERATIONS DIVISION by Line Item						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 66,251,856	\$ 63,941,259	\$ 59,876,891	\$ 61,289,296	\$ 1,412,405	2.4%
OVERTIME	3,714,141	4,065,742	3,264,743	3,379,183	114,440	3.5%
FRINGE BENEFITS	98,520	96,924	75,499	95,865	20,366	27.0%
WORKERS' COMPENSATION	779,718	1,323,614	3,145,492	-	(3,145,492)	-100.0%
CHEMICALS	7,489,328	6,403,105	6,674,253	6,732,275	58,022	0.9%
UTILITIES	19,898,563	15,556,711	16,071,081	15,734,163	(336,918)	-2.1%
ONGOING MAINTENANCE	13,414,661	12,477,204	13,878,580	14,321,589	443,009	3.2%
TRAINING & MEETINGS	244,239	192,326	75,998	165,002	89,004	117.1%
PROFESSIONAL SERVICES	4,196,699	5,310,055	5,493,100	5,041,329	(451,771)	-8.2%
OTHER MATERIALS	4,854,562	3,209,664	2,284,366	3,548,292	1,263,926	55.3%
OTHER SERVICES	16,223,415	15,314,685	15,106,669	14,889,386	(217,283)	-1.4%
TOTAL	\$ 137,165,702	\$ 127,891,289	\$ 125,946,672	\$ 125,196,380	\$ (750,292)	-0.6%

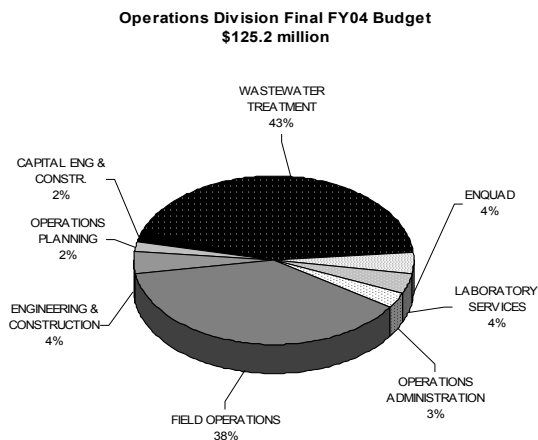
Final FY04 Current Expense Budget OPERATIONS DIVISION by Department						
DEPARTMENT	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
OPERATIONS ADMINISTRATION	\$ 3,839,013	\$ 5,854,183	\$ 6,528,592	\$ 3,983,718	\$ (2,544,874)	-39.0%
OPERATIONS PLANNING	3,115,998	3,060,091	2,803,473	2,570,593	(232,880)	-8.3%
WASTEWATER TREATMENT	62,191,613	54,127,719	53,838,758	53,825,615	(13,143)	0.0%
FIELD OPERATIONS	47,254,062	45,753,462	45,562,263	47,569,315	2,007,052	4.4%
LABORATORY SERVICES	4,647,654	4,717,716	4,404,807	4,820,062	415,255	9.4%
ENQUAD	4,228,319	5,130,613	5,479,579	4,911,105	(568,474)	-10.4%
ENGINEERING & CONSTRUCTION	7,647,497	6,479,639	5,130,527	5,204,895	74,368	1.4%
CAPITAL ENG & CONSTR.	2,743,349	2,346,803	2,198,673	2,311,077	112,404	5.1%
PMD	1,498,197	421,063	-	-	-	0.0%
TOTAL	\$ 137,165,702	\$ 127,891,289	\$ 125,946,672	\$ 125,196,380	\$ (750,292)	-0.6%

In FY01 MWRA established the Operations Division to integrate wastewater and water system operations and maintenance, treatment, planning, laboratory services, and engineering and construction functions, including the Program Management Division (PMD). At its September 17, 2003 meeting, the Board of Directors approved organizational changes to MWRA's planning functions. These changes consolidate separate planning activities mostly from the Operations and Finance divisions. The new unit will report to the Executive Director through a single Director of Planning and Coordination. Responsibility for the Combined Sewer Overflow (CSO) program, previously part of Operations Planning, will remain with the Operations Division. This change will be reflected in the FY05 Current Expense Budget.

The FY04 Current Expense Budget and existing structure of the Operations Division is shown and described below.

The *Wastewater Treatment Department*, which accounts for 43% of the Operations Division budget, operates and maintains the Deer Island and Clinton wastewater treatment plants and the residuals processing facility at Fore River.

The *Field Operations Department*, which accounts for 38% 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. Field Operations consolidates the former Transport, TRAC, and Water Operations departments, and the metering portion of the former Sewerage Facilities Development Department.

Two departments in the Operations Division are responsible for most of the division's engineering and construction work. The *Engineering and Construction Department* manages and coordinates the planning, design, and construction of ongoing system improvements in the wastewater transport and treatment and water distribution and treatment systems. The *Capital Engineering and Construction Department (CECD)* is responsible for managing engineering, design (including water system hydraulic modeling), and construction of the Integrated Water Supply Improvement Program (IWSIP) which includes the Walnut Hill Treatment Plant, the MetroWest Water Supply Tunnel, and seven covered storage facilities. CECD is also responsible for the planning, design, and construction of the program to rehabilitate MWRA's large water distribution mains.

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

The *Operations Planning Department* manages planning activities for the water and wastewater systems and MWRA's energy program. The department provides central coordination and support in public health research and outreach, CSO control, technical and financial community support, Geographic Information Systems (GIS), watershed protection, environmental review, and master planning. As previously noted, these functions, except for the CSO Program, have been consolidated with other planning functions within the Authority and will be reflected as a separate unit in the FY05 budget.

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

The *Operations Administration Department* provides oversight and general management support in the areas of finance, contract administration, personnel, and planning. The Administration Department budget also includes funds for MWRA vehicle purchases and certain division-wide memberships. The budget for MWRA's workers' compensation program has been transferred to Human Resources, which is responsible for the management of the program.

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.

OPERATIONS ADMINISTRATION

Final FY04 Current Expense Budget OPERATIONS ADMINISTRATION						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 2,026,306	\$ 3,155,964	\$ 2,762,719	\$ 2,603,115	\$ (159,604)	-5.8%
OVERTIME	339	2,974	123	-	(123)	-100.0%
FRINGE BENEFITS	-	83	-	-	-	0.0%
WORKERS' COMPENSATION	779,718	1,323,614	3,145,492	-	(3,145,492)	-100.0%
ONGOING MAINTENANCE	687	-	(3,452)	-	3,452	-100.0%
TRAINING & MEETINGS	16,580	8,571	1,736	12,553	10,817	623.1%
PROFESSIONAL SERVICES	17,556	277,396	9,854	-	(9,854)	-100.0%
OTHER MATERIALS	666,596	641,907	125,526	1,086,855	961,329	765.8%
OTHER SERVICES	330,231	443,674	486,594	281,195	(205,399)	-42.2%
TOTAL	\$ 3,838,013	\$ 5,854,183	\$ 6,528,592	\$ 3,983,718	\$ (2,544,874)	-39.0%

The Operations Administration Department consists of the Chief Operating Officer, the Deputy Chief Operating Officer, and administrative staff who provide overall policy and program direction and support for Operations Division personnel, labor relations, finance, contract administration, and invoice processing functions. The Operations Administration budget also includes funding for division vehicle purchases and certain division-wide memberships. As part of the FY04 budget, the workers' compensation budget has been transferred to the Human Resources Department, which is responsible for managing the program.

Budget Highlights

- *\$2.5 million for regular pay for employees performing management, administrative, contract administration, labor relations, and financial management functions.*
- *Funding for Workers' Compensation claims and medical payments has been transferred to the Human Resources Department.*
- *\$1.1 million for Other Materials for non-domicile work crew vehicle purchases. Expenses for vehicle purchases totaled \$622,000 and \$120,000 in FY02 and FY03, respectively.*
- *\$281,000 for Other Services of which \$260,000 represents the cost of MWRA memberships, primarily in the American Water Works Research Foundation and the Association of Metropolitan Water and Sewer Agencies (AMWA/AMSA).*

OPERATIONS PLANNING

Final FY04 Current Expense Budget OPERATIONS PLANNING							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ 2,563,527	\$ 2,612,671	\$ 2,266,275	\$ 2,162,327	\$ (103,948)		-4.6%
OVERTIME	10,134	3,135	1,905	3,847	1,942		101.9%
FRINGE BENEFITS	309	90	72	-	(72)		-100.0%
UTILITIES	764	16	41	-	(41)		-100.0%
ONGOING MAINTENANCE	1,110	16,222	74,587	-	(74,587)		-100.0%
TRAINING & MEETINGS	29,480	21,110	3,675	20,669	16,994		462.4%
PROFESSIONAL SERVICES	46,524	74,809	30,849	79,000	48,151		156.1%
OTHER MATERIALS	259,476	39,565	33,112	46,850	13,738		41.5%
OTHER SERVICES	204,675	292,473	392,957	257,900	(135,057)		-34.4%
TOTAL	\$ 3,115,999	\$ 3,060,091	\$ 2,803,473	\$ 2,570,593	\$ (232,880)		-8.3%

FY01 actual represents the totals for the former Sewerage Facilities Development and Waterworks Planning departments.

As previously noted, MWRA recently consolidated its planning functions into a new planning and coordination department. With the exception of the CSO program, all functions described below are now part of the new planning department. This consolidation will be reflected in the FY05 budget.

Prior to the consolidation, the Operations Planning Department was comprised of the following sections:

Master Planning is responsible for water and wastewater master plans, and capital project development. This unit is also responsible for public health research, including outreach and water quality reporting and the annual Consumer Confidence Report (CCR) and supports the Operations Division in environmental review and permitting of projects, including impacts on MWRA facilities from other agency projects; review and processing of system expansion requests, water supply agreements, and emergency connection requests; and coordination with MDC Division of Watershed Management on source water protection¹. Additionally this unit assists in the development of strategies for long-term emergency risk reduction and preparation for MWRA facilities and systems, and energy planning for MWRA operating facilities.

Community Program Support is responsible for inflow/infiltration (I/I) and sanitary sewer overflows (SSO) policy development, implementation, and reporting. It is also responsible for 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. In addition, this unit provides oversight of and reporting on MWRA leak detection regulations and demand management programs. The unit is also responsible for reporting on the portions of MWRA's NPDES permit related to demand management and flow limitation activities.

Through the I/I Financial Assistance Program MWRA has distributed grants and loans to member communities totaling \$91.9 million since the program's inception in FY93. The FY04-06 CIP includes \$40 million for Phase IV of the I/I program, with funds to be allocated to member communities at a 45% grant and 55% loan ratio. The Water Infrastructure Rehabilitation Financial Assistance Program distributed \$30 million in grants and loans in FY98 and FY99. A new \$250 million Local Pipeline

¹ In the FY04 state budget the MDC Division of Watershed Management became the Division of Water Supply Protection in the new Department of Conservation and Recreation.

Assistance Program was initiated in FY01 and \$49.9 million of interest-free loans were distributed through June 2003.

Mapping, Modeling, and Data Analysis is responsible for the development and maintenance of GIS for both water and wastewater systems, including integration of field and engineering records into GIS for access by planning, engineering, and operations staff. Staff provides demand analysis and forecasting of water and wastewater flows for master planning and system operations, modeling of reservoir operations, drought forecasting and planning, and evaluation of system expansion requests. This unit is also responsible for the development and maintenance of water and sewer system models in support of master planning, system operations, and optimization. Staff provide statistical analysis for planning and operations, including pathogen risk analysis.

Combined Sewer Overflows (CSO) Program is responsible for the \$645 million CSO control plan. Responsibilities include long-term CSO control master planning and evaluation; CSO project permitting; engineering design; technical assistance during construction of MWRA managed CSO projects; oversight of community managed CSO design and construction activities; and start-up assistance for new CSO facilities. It is anticipated that this section will phase out upon completion of the CSO capital program with key functions integrated into the rest of the organization.

Budget Highlights

- *\$2.2 million for Wages and Salaries, a decrease of \$104,000 or 4.6% from FY03 spending.*
- *\$79,000 for Professional Services to fund professional assistance regarding power suppliers for MWRA's energy program, mandated newspaper notices, and mapping services.*
- *\$258,000 for Other Services, a decrease of \$135,000 or 34.4% from FY03 spending due to the completion of MDC watershed projects. The FY04 budget includes \$232,000 for the production and distribution of the federally mandated Consumer Confidence Report (CCR).*

WASTEWATER TREATMENT

Final FY04 Current Expense Budget WASTEWATER TREATMENT						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 17,319,924	\$ 16,534,740	\$ 15,381,303	\$ 15,371,366	\$ (9,937)	-0.1%
OVERTIME	1,216,764	1,529,721	925,479	980,562	55,083	6.0%
FRINGE BENEFITS	40,410	40,450	21,098	37,359	16,261	77.1%
CHEMICALS	4,400,760	3,182,544	3,378,941	3,098,112	(280,829)	-8.3%
UTILITIES	15,129,787	10,667,776	10,932,336	11,042,030	109,694	1.0%
ONGOING MAINTENANCE	7,959,670	7,854,613	9,343,432	8,776,939	(566,493)	-6.1%
TRAINING & MEETINGS	55,013	70,430	37,067	34,668	(2,399)	-6.5%
PROFESSIONAL SERVICES	671,705	780,663	850,257	1,006,664	156,407	18.4%
OTHER MATERIALS	1,087,461	598,588	493,081	520,338	27,257	5.5%
OTHER SERVICES	14,310,121	12,868,194	12,475,764	12,957,577	481,813	3.9%
TOTAL	\$ 62,191,615	\$ 54,127,719	\$ 53,838,758	\$ 53,825,615	\$ (13,143)	0.0%

Final FY04 Current Expense Budget WASTEWATER TREATMENT by Program						
PROGRAM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
DEER ISLAND	\$ 41,429,751	\$ 39,497,258	\$ 39,559,412	\$ 39,420,371	\$ (139,041)	-0.4%
RESIDUALS	19,855,213	13,700,725	13,360,145	13,503,551	143,406	1.1%
CLINTON	906,649	929,736	919,201	901,693	(17,508)	-1.9%
TOTAL	\$ 62,191,613	\$ 54,127,719	\$ 53,838,758	\$ 53,825,615	\$ (13,143)	0.0%

The Deer Island Treatment Plant (DITP), the Residuals Management Program, and the Clinton Treatment Plant comprise the Wastewater Treatment Department. Together the budgets for these programs comprise 43% of the Operations Division's FY04 budget and 31% of MWRA's FY04 direct expense budget.

The **Deer Island Treatment Plant** budget accounts for more than 31% of the Operations Division's FY04 budget. DITP has a primary treatment peak capacity of 1.27 billion gallons per day (bgd) and secondary treatment peak capacity of 495 million gallons per day (mgd).

There are three headworks facilities that handle flows from MWRA's north system communities. At these headworks, bricks, logs, sand, and large debris are removed from the wastewater prior to transport to Deer Island through one of two underground tunnels. At Deer Island, north system flows are pumped through a grit removal facility prior to entering the primary treatment process. The grit is hauled off-island and disposed of in a landfill.

South system flows are sent through the Nut Island Headworks for preliminary treatment. The flows are then transported to Deer Island through a cross-harbor tunnel. At Deer Island, south system flows are pumped directly to the primary treatment process, by-passing Deer Island's on-island grit removal system because of the level of grit removal achieved at the Nut Island Headworks.

North and south system flows are combined in primary treatment that takes place in a series of stacked clarifiers where scum (fats, oils, grease) rises to the top and sludge (solids) settles to the bottom. The secondary process provides additional treatment, passing the wastewater through a series of reactors containing bacteria in a pure oxygen environment. These bacteria break down dissolved organics in the

wastewater. The flow then moves on to a series of secondary clarifiers where the bacteria are allowed to settle out in the form of secondary sludge. This secondary sludge, along with the primary sludge, is thickened, anaerobically digested, and barged to MWRA's residuals processing facility in Quincy. Methane, a by-product of anaerobic digestion, is used as fuel for the Deer Island plant's boilers, which produce steam to heat the facility and generate electricity.

Deer Island Operating Assumptions for the Proposed FY04 CEB

An average of 357 million gallons per day, based on 5-year running average, is assumed for the combined flows of the north and south systems with secondary treatment capacity of 495 million gallons per day.

Sludge quantities for FY04 are assumed to be 96.5 tons per day (TS), which translates to 91.5 tons per day (TSS) of residuals processing. The assumed average solids content for digested sludge is 5.5%.

The **Residuals Management Program** manages the processing and disposal of sludge from the anaerobic digestion process at Deer Island, as well as the disposal of grit and screenings. MWRA seeks to dispose of all sludge and grit and screenings in a reliable, economical, and environmentally sensitive manner.

MWRA has a three-pronged approach to the processing and disposal of waste material:

- Grit and screenings from MWRA's transport system are disposed of in landfills.
- Liquid sludge from Deer Island is barged to the Fore River processing facility where it is dewatered, dried, and shipped by rail either for use as fertilizer or to appropriate disposal. MWRA is committed to the beneficial reuse of biosolids to the greatest extent practicable. MWRA contracts with the New England Fertilizer Company (NEFCo) to operate the processing facility and market and ship sludge products. A 15-year contract with NEFCo became effective March 1, 2001.
- Landfill capacity is reserved as a backup to the beneficial use efforts (per agreement with the Federal Court, EPA, and DEP) for disposal of all sludge produced.

The **Clinton Wastewater Treatment Plant** provides sewage treatment services to the Town of Clinton and the Lancaster Sewer District. The plant treats an average of 2.5 mgd.

Budget Highlights

- *\$15.4 million for Wages and Salaries, a decrease of \$10,000 or 0.1% from FY03 spending. Regular pay is 99% of the wages and salaries budget.*
- *\$981,000 for Overtime, a \$55,000 or 6.0% increase over FY03 spending.*
- *\$3.1 million for Chemicals, a decrease of \$281,000 or 8.3% from FY03 spending. Decreases for polymer and hydrogen peroxide are partially offset by increases for sodium hydroxide and ferrous chloride. Ferrous chloride is used in the treatment and control of struvite. The chemicals budget includes \$1.2 million for sodium hypochlorite, which is used for disinfection and odor control, and \$637,000 for polymer, which is used to thicken sludge.*
- *\$11 million for Utilities, a \$110,000 or 1.0% increase over FY03 spending. The FY04 budget includes \$9.3 million for electricity, \$1.3 million for water, and \$431,000 for diesel fuel.*
- *\$7.6 million for DITP and Clinton maintenance, a \$541,000 or 6.6% decrease from FY03 spending. The FY04 budget includes \$2.7 million for materials and \$4.9 million for services. The FY04 maintenance budget for the Residuals Management program is \$1.1 million. Under the terms of the NEFCo contract, it will be used to cover the cost of all repairs with an individual cost of more than \$10,000.*
- *\$1 million for Professional Services, a \$156,000 or 18.4% increase over FY03 spending primarily due to increased security costs. The FY04 budget includes \$856,000 for perimeter and access security at Deer Island, \$34,000 for vibration analysis, and \$20,000 for Maximo support services.*
- *\$520,000 for Other Materials, a \$27,000 or 5.5% increase over FY03 spending. The FY04 budget includes \$105,000 for materials including \$29,000 for fill for the Clinton Treatment Plant landfill, \$93,000 for work clothes, \$70,000 for vehicle expenses, \$58,000 for health and safety materials, and \$55,000 for computer software.*
- *\$13 million for Other Services, a \$482,000 or 3.9% increase over FY03 spending primarily due to increase of \$212,000 for Grit and Screenings quantities and higher sludge quantity assumptions of \$114,000. The FY04 budget includes \$10.4 million for the third party pelletization contract, \$924,000 for Grit and Screenings Removal contract, \$817,000 for back-up landfill, and \$228,000 for ambulance services at Deer Island.*

FIELD OPERATIONS

Final FY04 Current Expense Budget						
FIELD OPERATIONS						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 29,332,061	\$ 28,728,824	\$ 28,123,992	\$ 29,753,984	\$ 1,629,992	5.8%
OVERTIME	2,187,766	2,274,653	2,216,695	2,143,112	(73,583)	-3.3%
FRINGE BENEFITS	52,839	52,165	52,218	54,420	2,202	4.2%
CHEMICALS	3,088,568	3,220,561	3,295,313	3,634,163	338,850	10.3%
UTILITIES	4,634,259	4,768,891	5,003,268	4,549,458	(453,810)	-9.1%
ONGOING MAINTENANCE	5,028,179	4,188,746	4,130,814	5,090,948	960,134	23.2%
TRAINING & MEETINGS	72,270	57,491	19,969	58,357	38,388	192.2%
PROFESSIONAL SERVICES	214,396	134,211	193,968	119,500	(74,468)	-38.4%
OTHER MATERIALS	1,541,827	872,522	935,430	949,069	13,639	1.5%
OTHER SERVICES	1,101,897	1,455,398	1,590,596	1,216,304	(374,292)	-23.5%
TOTAL	\$ 47,254,062	\$ 45,753,462	\$ 45,562,263	\$ 47,569,315	\$ 2,007,052	4.4%

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

Wastewater Operations comprises Wastewater Operations and TRAC. Wastewater Operations operates MWRA's wastewater transport facilities, including 11 pumping stations (ten of which are unstaffed); four headworks facilities, which are continuously staffed; and five combined sewer overflow (CSO) facilities (all unstaffed). TRAC manages MWRA's regulatory program for industrial and commercial dischargers, provides analytical and technical support to other MWRA programs, conducts independent research on sources and impacts of toxics in the MWRA system, and provides education and outreach on toxics to MWRA sewer users.

Water Operations and Maintenance is responsible for the treatment and delivery 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 Wakefield, Marblehead, and Norwood in the metropolitan area. Additionally, this unit maintains MWRA's western waterworks facilities, including the Ware Water Treatment Plant, the Interim Corrosion Control Facility in Marlborough, the Cosgrove Intake Facility, and the Norumbega Reservoir. This unit also oversees covered storage facilities and will operate the MetroWest Tunnel and the Walnut Hill Treatment Plant when those facilities begin to come on line in late 2003 and 2004, respectively. There are two operations centers that provide for monitoring and control of the water system on a 24-hour per day basis. The Metropolitan Operations and Control Center (OCC), formerly in Chestnut Hill, is now located at MWRA's Chelsea facility. The Western Operations Center (WOC) is located at the Cosgrove Intake adjacent to the Wachusett Reservoir.

Metropolitan Maintenance is responsible for maintenance of MWRA's wastewater and water systems and facilities within the Route 128 area. Staff maintain pipelines, valves, interceptors, pumps, facility equipment, buildings, and grounds. Metropolitan Maintenance staff maintain a waterworks network of 275 miles of water mains, 3,500 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. In addition, this unit performs TV inspections of the wastewater system.

Operations Support provides technical support to FOD in the areas of engineering, quality assurance, data management, metering, and monitoring. Engineering staff coordinate 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 the tracking and analyzing of chemical and hydraulic flow data. The Metering and Monitoring unit maintains 150 community water meters, 16 contract community water meters, 14 master water meters, and 212 wastewater meters. This unit collects meter data for operational and revenue generating purposes from the water and wastewater systems. It is also responsible for the maintenance of the water and future wastewater SCADA systems.

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

Budget Highlights

- *\$29.8 million for Wages and Salaries, an increase of \$1.6 million or 5.8% from the FY03 spending. The budget includes 16 new positions, of which 13 are for the new Walnut Hill Water Treatment Plant and 3 for wastewater SCADA system.*
- *\$2.1 million for Overtime, a decrease of \$74,000 from FY03 spending.*
- *\$3.6 million for Chemicals, an increase of \$339,000 or 10.3% from FY03 spending primarily due to more use of chemical due to planned operation of temporary disinfection facilities at Wachusett and Norumbega reservoirs. The FY04 budget includes \$1.6 million for soda ash, \$818,000 for sodium hypochlorite, \$319,000 for potassium permanganate, and \$307,000 for carbon dioxide.*
- *\$4.5 million for Utilities, a decrease of \$454,000 or 9.1% from FY03 spending primarily due to anticipated lower pricing, and transferring the FRSA utilities budget to Central Support. The FY04 budget includes \$3.5 million for electricity and \$587,000 for diesel fuel.*
- *\$5.1 million for Maintenance, an increase of \$960,000 or 23.2% from FY03 spending. The increase is primarily attributable to the inclusion of several facility rehabilitation projects in FY04 and additional services to cover upkeep of MWRA facilities in the western service area of the waterworks system. The budget includes \$2.2 million for maintenance materials and \$2.9 million for maintenance services. These funds are also intended to cover unanticipated security initiatives and emergency situations such as pipeline breaks.*
- *\$1.2 million for Other Services, a decrease of \$374,000 or 23.5% from FY03 spending. The decrease is primarily due to state police expenses at Norumbega, which are expected to be less in FY04 than in FY03. The FY04 budget includes \$617,000 for police details to insure public safety on roadways during MWRA work activities and for security coverage as needed at selected facilities and \$422,000 for telephone services.*
- *\$969,000 for Other Materials, including \$455,000 for vehicle expense, \$172,000 for work clothes, \$122,000 for health and safety materials, and \$93,000 for lab testing supplies for TRAC and Quality Assurance.*

LABORATORY SERVICES

Final FY04 Current Expense Budget LABORATORY SERVICES							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ 3,010,123	\$ 3,215,667	\$ 3,267,086	\$ 3,357,839	\$ 90,753		2.8%
OVERTIME	75,422	65,828	61,291	67,549	6,258		10.2%
FRINGE BENEFITS	1,331	1,183	1,144	1,200	56		4.9%
UTILITIES	133,752	120,028	135,436	142,675	7,239		5.3%
ONGOING MAINTENANCE	232,339	269,257	199,218	282,406	83,188		41.8%
TRAINING & MEETINGS	8,322	4,978	2,789	7,070	4,281		153.5%
PROFESSIONAL SERVICES	142,459	109,941	62,395	100,193	37,798		60.6%
OTHER MATERIALS	971,315	852,582	579,619	761,347	181,728		31.4%
OTHER SERVICES	72,592	78,251	95,829	99,783	3,954		4.1%
TOTAL	\$ 4,647,654	\$ 4,717,716	\$ 4,404,807	\$ 4,820,062	\$ 415,255		9.4%

The Department of Laboratory Services (DLS) supports the laboratory sampling, testing, and consulting needs of various client groups in the Operations Division through its four locations: Southborough, Somerville, the Central Laboratory at Deer Island, and the Clinton Wastewater Treatment Plant. Testing supports drinking water transmission and treatment processes, wastewater operations and control at Deer Island and Clinton, NPDES compliance, harbor and outfall monitoring, TRAC, and wastewater residuals. DLS also conducts the Boston Harbor monitoring program, which involves regular sampling for nutrients, bacteria, and water quality parameters throughout Boston Harbor.

DLS monitors drinking water treatment effectiveness and provides laboratory services in support of in-depth studies of corrosion control, disinfectant residual decay, nitrification, biofilm, and treatment issues. DLS regularly tests reservoir and community water systems for regulatory compliance with bacterial levels, chemical parameters such as chlorine residuals, and algae.

Results are tracked and analyzed and compliance reports are regularly submitted to the Environmental Protection Agency and the Massachusetts Department of Environmental Protection.

Most MWRA laboratory testing is done in-house. Certain exceedingly specialized or low volume tests are outsourced, such as tests for dioxins and radioactivity. In addition, MWRA maintains contracts with outside laboratories for use when DLS capacity is exceeded.

The department's goals are to provide high quality and responsive laboratory services to MWRA's water and wastewater treatment programs, and to conduct 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) and Clean Water Act NPDES permits.

Budget Highlights

- \$3.4 million for Wages and Salaries, an increase of \$91,000 or 2.8% from FY03 spending to reflect filled positions.
- \$68,000 for Overtime, a 10.2% decrease from FY03 spending.
- \$143,000 for Utilities, an increase of \$7,000 or 5.3% from FY03 spending.
- \$282,000 for Maintenance, a \$83,000 or 41.8% increase from FY03 spending primarily due to delay in completion of building modification projects in FY03, which resulted in budgeting for these projects in FY04. The FY04 budget includes \$162,000 for special equipment services and repair contracts for lab equipment and \$109,000 for building modifications and janitorial services.
- \$100,000 for Professional Services to support outside lab testing, an increase of \$38,000 or 60.6% from FY03 spending primarily due to new pharmaceutical manufacturer testing and less than budgeted use of second opinion testing in FY03.
- \$761,000 for Other Materials, an increase of \$182,000 or 31.4% from FY03 spending. The FY04 budget includes \$183,000 for equipment replacement and \$534,000 for laboratory supplies.

ENVIRONMENTAL QUALITY

Final FY04 Current Expense Budget ENVIRONMENTAL QUALITY							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ 1,022,658	\$ 1,065,250	\$ 1,086,720	\$ 1,121,642	\$ 34,922		3.2%
OVERTIME	8,332	4,449	2,354	4,099	1,745		74.1%
FRINGE BENEFITS	17	-	-	20	20		100.0%
ONGOING MAINTENANCE	2,432	369	819	3,000	2,181		266.3%
TRAINING & MEETINGS	6,116	4,826	609	3,619	3,010		494.3%
PROFESSIONAL SERVICES	3,041,785	3,915,496	4,345,708	3,735,972	(609,736)		-14.0%
OTHER MATERIALS	24,929	10,404	11,615	20,570	8,955		77.1%
OTHER SERVICES	122,051	129,819	31,754	22,183	(9,571)		-30.1%
TOTAL	\$ 4,228,319	\$ 5,130,613	\$ 5,479,579	\$ 4,911,105	\$ (568,474)		-10.4%

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; data management and quality assurance; and compliance with the reporting requirements of MWRA's National Pollutant Discharge Elimination System (NPDES) permits. These permit reports are submitted to state and federal regulators, the Outfall Monitoring Science Advisory Panel, its subcommittees, and several libraries. As required by the permits, ENQUAD also posts many of these reports on MWRA's web site. All technical reports and several reports on water quality in the harbor and the bay are also posted on the web site. The department also produces the State of Boston Harbor Report.

ENQUAD's goals for FY04 are:

- Maintain compliance with the reporting requirements of MWRA's NPDES permits for the Deer Island and Clinton treatment plants
- Ensure that the permit-required outfall monitoring meets NPDES requirements, is scientifically credible, and is cost-effective
- Monitor the effects of the Boston Harbor Project and MWRA's CSO Plan and provide data and assistance for CSO planning and compliance with regulatory requirements
- Communicate results of monitoring to MWRA management, and to scientists, regulators, and the public

Budget Highlights

- *\$1.1 million for Wages and Salaries, of which 99% is for regular pay.*
- \$3.7 million for outside laboratory testing and analysis, a reduction of \$610,000 from FY03 spending reflecting the elimination of some discretionary spending, the completion of several studies in FY03, and redesign of some monitoring for improved efficiency. This line item includes \$3.3 million for continued outfall monitoring required by MWRA's NPDES permit. The remaining funds are for studies related to Massachusetts Bay monitoring cost shared with the U.S. Geological Survey; Gulf of Maine Ocean Observing System data cost-shared with the Navy and others; permit-required water quality modeling cost shared with UMass Boston, and permit-required biotoxicity testing for Clinton WWTP, CSO facilities, and DITP.

ENGINEERING AND CONSTRUCTION

Final FY04 Current Expense Budget ENGINEERING AND CONSTRUCTION							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ 7,072,159	\$ 6,070,138	\$ 4,958,936	\$ 4,845,718	\$ (113,218)		-2.3%
OVERTIME	214,994	184,997	56,864	180,015	123,151		216.6%
FRINGE BENEFITS	3,578	2,947	967	2,866	1,899		196.4%
ONGOING MAINTENANCE	26,337	22,470	10,320	10,417	97		0.9%
TRAINING & MEETINGS	14,474	14,042	7,949	11,416	3,467		43.6%
PROFESSIONAL SERVICES	3,092	408	68	-	(68)		-100.0%
OTHER MATERIALS	266,286	162,484	80,837	130,963	50,126		62.0%
OTHER SERVICES	46,577	22,152	14,586	23,500	8,914		61.1%
TOTAL	\$ 7,647,497	\$ 6,479,639	\$ 5,130,527	\$ 5,204,895	\$ 74,368		1.4%

The Engineering and Construction Department (ECD) manages and coordinates the planning, design, and construction of system improvements that will ensure the reliable operation of the wastewater collection, transport, and treatment systems, and maintain and improve the waterworks infrastructure and physical plant to ensure a safe and adequate supply of water.

ECD is organized into two units. The **Engineering Unit** provides in-house engineering, consultant management (during the facilities planning, environmental review, and design stages of capital projects), drafting, surveying, and other technical assistance required for the maintenance, repair, and rehabilitation of the wastewater and waterworks systems. In addition, unit staff provide specialized technical services in the electrical, structural, mechanical, and civil engineering disciplines; maintain the Design Information Services Center (DISC); provide engineering and project management support, computer-aided design and drafting (CADD) services, and survey and design services; and manage construction document control. The **Construction Unit** provides contract management and resident inspection on water and wastewater construction and rehabilitation projects. Staff administer, oversee, and monitor construction projects to ensure timely, cost-effective, high quality construction for a variety of infrastructure improvement projects. Staff manage contractor activities to ensure projects are completed in accordance with approved plans and specifications with quality construction practices, timely project completion, and cost efficiency.

Budget Highlights

- \$4.8 million for Wages and Salaries, a reduction of \$113,000 or 2.3% from FY03 spending.
- \$180,000 for Overtime, an increase of \$123,000 or 216.6% from FY03 spending and \$32,000 or 21.6% from the FY03 amended budget. Overtime is used primarily to ensure timely monitoring of construction projects when contractor activity extends beyond normal working hours. Overtime is also necessary to accommodate unplanned design or survey efforts, attendance at evening public meetings, or other workload requirements to meet project schedules.
- \$87,000 for vehicle expenses, primarily for staff traveling to and from construction sites.

CAPITAL ENGINEERING AND CONSTRUCTION

Final FY04 Current Expense Budget						
CAPITAL ENGINEERING AND CONSTRUCTION						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 2,437,747	\$ 2,147,000	\$ 2,029,859	\$ 2,073,303	\$ 43,444	2.1%
OVERTIME	274	-	33	-	(33)	-100.0%
FRINGE BENEFITS	36	6	-	-	-	0.0%
ONGOING MAINTENANCE	164,004	125,527	122,842	157,880	35,038	28.5%
TRAINING & MEETINGS	32,320	8,488	2,204	16,650	14,446	655.4%
PROFESSIONAL SERVICES	59,183	17,132	-	-	-	0.0%
OTHER MATERIALS	26,004	26,163	25,146	32,300	7,154	28.4%
OTHER SERVICES	23,780	22,488	18,589	30,944	12,355	66.5%
TOTAL	\$ 2,743,349	\$ 2,346,803	\$ 2,198,673	\$ 2,311,077	\$ 112,404	5.1%

The Capital Engineering and Construction Department (CECD) is responsible for managing engineering, design, and construction of major waterworks facilities and pipelines, in particular MWRA's Integrated Water Supply Improvement Program (IWSIP). IWSIP is comprised of the Walnut Hill Water Treatment Plant, the MetroWest Water Supply Tunnel, and seven covered storage facilities. Together with the Planning and Field Operations departments, CECD assesses the condition of waterworks facilities and pipelines to determine and document the improvements needed to eliminate deficiencies and bring the water system up to current standards. These improvements are broken down into a series of design and construction contracts, which are prioritized and scheduled to allow safe and reliable operation of the system during construction.

The department also manages the engineering design, construction, start-up and training, and testing of other major waterworks capital projects. Staff define scopes of work for consultant contracts and manage consultants conducting conceptual studies, preliminary designs, environmental reports and final designs. In addition, staff coordinate with cities and towns, regulatory agencies, and citizens groups to ensure acceptance of the projects by all stakeholders. The department monitors technical and regulatory standards to ensure that at completion facilities fulfill all of their essential functions in a cost-effective manner.

Budget Highlights

- \$2 million for Wages and Salaries, an increase of \$43,000 or 2.1% from FY03 spending.
- \$158,000 for Maintenance, including \$141,000 for operation of temporary chloramination facilities and \$15,000 for community chlorine analyzers for the MetroWest communities.



Law Division
Budget

LAW DIVISION

Final FY04 Current Expense Budget LAW DIVISION by Line Item						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 1,778,696	\$ 2,057,038	\$ 1,817,314	\$ 1,456,509	\$ (360,805)	-19.9%
OVERTIME	408	165	402	-	(402)	-100.0%
TRAINING & MEETINGS	14,710	10,208	5,606	5,956	350	6.2%
PROFESSIONAL SERVICES	576,513	430,390	293,437	316,584	23,147	7.9%
OTHER MATERIALS	3,473	3,834	1,653	5,464	3,811	230.6%
OTHER SERVICES	92,328	70,021	54,027	67,405	13,378	24.8%
TOTAL	\$ 2,466,128	\$ 2,571,655	\$ 2,172,439	\$ 1,851,918	\$ (320,521)	-14.8%

The Law Division provides legal counsel to all divisions on compliance with federal and state laws and regulations and court and administrative orders, litigation matters, real estate matters, labor/employment issues, and construction issues. The division represents MWRA in all litigation through division staff or supervision of outside counsel retained to handle matters beyond the resources or expertise of division staff. The budget for the division accounts for 1.1% of MWRA's FY04 direct expense budget.

Budget Highlights

- *\$1.5 million for regular pay, a reduction of \$361,000 from FY03 spending, including a \$17,000 reduction due to the elimination of funding for interns.*
- *\$317,000 for professional services, level funded with the amended FY03 budget but an increase of \$23,000 or 7.9% from FY03 spending. The budget funds outside legal counsel to assist in handling cases which require special expertise on tax, energy, insurance, labor, environmental, and financial business issues. In-house staff concentrate on cases which require a close understanding of MWRA.*



Finance Division
Budget

FINANCE DIVISION

Final FY04 Current Expense Budget FINANCE DIVISION by Line Item						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 3,256,283	\$ 3,069,974	\$ 3,054,196	\$ 2,857,506	\$ (196,690)	-6.4%
OVERTIME	4	1,233	78	-	(78)	-100.0%
FRINGE BENEFITS	8	-	-	-	-	0.0%
ONGOING MAINTENANCE	-	566	-	-	-	0.0%
TRAINING & MEETINGS	28,373	3,788	5,796	9,791	3,995	68.9%
PROFESSIONAL SERVICES	249,737	212,256	221,528	225,420	3,892	1.8%
OTHER MATERIALS	3,973	1,586	984	7,246	6,262	636.4%
OTHER SERVICES	40,318	24,661	14,111	34,007	19,896	141.0%
TOTAL	\$ 3,578,697	\$ 3,314,065	\$ 3,296,693	\$ 3,133,970	\$ (162,723)	-4.9%

Final FY04 Current Expense Budget FINANCE DIVISION by Department						
DEPARTMENT	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
DIVISION DIRECTOR'S OFFICE	\$ 229,349	\$ 248,841	\$ 270,649	\$ 271,688	\$ 1,039	0.4%
PLANNING/COORDINATION	367,178	304,839	249,688	185,207	(64,481)	-25.8%
RATES/BUDGET	841,404	594,698	577,146	591,383	14,237	2.5%
TREASURY	2,140,766	2,165,687	998,270	788,545	(209,725)	-21.0%
CONTROLLER	-	-	1,200,940	1,297,147	96,207	8.0%
TOTAL	\$ 3,578,697	\$ 3,314,065	\$ 3,296,693	\$ 3,133,970	\$ (162,723)	-4.9%

The Finance Division is responsible for overseeing rates and revenue management, disbursements, budgeting, capital financing, investment, accounting, grant and loan management, and coordination of MWRA planning. At its September 17, 2003 meeting, the Board of Directors approved organizational changes to MWRA's planning functions. These changes consolidate separate planning activities mostly from the Operations and Finance divisions. The new unit will report to the Executive Director through a single Director of Planning and Coordination. The change will be reflected in the FY05 Current Expense Budget.

In FY03, previously separate payroll, claims and risk management, and insurance functions from the Operations and Finance divisions were consolidated in the Finance Division. As part of the organizational change, structural changes within the Finance Division were also implemented. Specifically, Treasury Department functions were reorganized and a new Controller Department was created.

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

The Treasury Department now encompasses the financial responsibilities of securing funds for ongoing operations and capital programs, processing disbursements, and managing MWRA's insurance coverage and liability claims. Treasury Department staff collect revenue, disburse funds, and manage debt issuance and investments. As part of the division reorganization, the Grant and Loan Management Department was merged with the Treasury Department.

The Finance Division goals are to:

- Ensure the fiscal strength of MWRA through judicious, informed, and farsighted allocation of resources.
- Develop strategies for minimizing increases in community assessments and charges.
- Maintain favorable credit ratings for MWRA's revenue bonds.
- Provide financial planning, control, and accountability for MWRA.
- Ensure effective, coordinated operating and capital budget planning throughout MWRA.

In the FY04 CEB the division accounts for less than 2% of MWRA's direct expense budget.

DIVISION DIRECTOR'S OFFICE

Final FY04 Current Expense Budget							
FINANCE DIVISION DIRECTOR'S OFFICE by Line Item							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ 224,601	\$ 245,713	\$ 269,356	\$ 268,020	\$ (1,336)		-0.5%
OVERTIME	-	254	-	-	-		0.0%
TRAINING & MEETINGS	1,399	-	-	1,503	1,503		100.0%
OTHER MATERIALS	593	96	10	350	340		3400.0%
OTHER SERVICES	2,755	2,778	1,283	1,815	532		41.5%
TOTAL	\$ 229,348	\$ 248,842	\$ 270,649	\$ 271,688	\$ 1,039		0.4%

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

The division's continued challenge in FY04 will be to maintain agency-wide attention on how best to balance the need to minimize rate increases, compounded by the loss of debt of service assistance, while ensuring that critical MWRA services are maintained.

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

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

PLANNING AND COORDINATION

Final FY04 Current Expense Budget PLANNING AND COORDINATION by Line Item							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ 278,331	\$ 298,836	\$ 244,580	\$ 175,440	\$ (69,140)		-28.3%
TRAINING & MEETINGS	10,606	5,077	4,961	5,193	232		4.7%
PROFESSIONAL SERVICES	75,844	-	-	-	-		0.0%
OTHER MATERIALS	467	597	147	774	627		426.5%
OTHER SERVICES	1,929	328	-	3,800	3,800		100.0%
TOTAL	\$ 367,178	\$ 304,839	\$ 249,688	\$ 185,207	\$ (64,481)		-25.8%

The Planning and Coordination Department coordinates planning activities throughout MWRA. The program has primary responsibility for coordinating development of the MWRA Business Plan. Department staff are also responsible for coordinating and staffing benchmarking and work process improvement projects to identify ways of changing MWRA work processes to increase efficiency and effectiveness, for coordinating development and reporting of MWRA's monthly and quarterly performance indicators, and for researching activities of and maintaining a database of peer water and wastewater utilities.

As previously noted, these functions have been consolidated with planning functions mostly from Operations and will be reflected as a separate unit in the FY05 budget.

Budget Highlights

- *Total budget of \$186,000, a decrease of \$64,000 or 25.8% from FY03 spending, reflecting reduced staff and elimination of outside professional services to support the productivity improvement program.*

RATES AND BUDGET

Final FY04 Current Expense Budget RATES AND BUDGET by Line Item							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ 811,357	\$ 577,657	\$ 570,339	\$ 572,497	\$ 2,158	0.4%	
TRAINING & MEETINGS	7,040	-	-	1,305	1,305	100.0%	
PROFESSIONAL SERVICES	-	-	-	-	-	0.0%	
OTHER MATERIALS	72	391	58	481	423	729.3%	
OTHER SERVICES	22,936	16,650	6,749	17,100	10,351	153.4%	
TOTAL	\$ 841,404	\$ 594,698	\$ 577,146	\$ 591,383	\$ 14,237	2.5%	

The Rates and Budget Department provides the financial analysis that allows MWRA to translate its goals and legal/financial commitments into cost-effective annual and multi-year programs and budgets. Department staff coordinate development of the long-term Capital Improvement Program (CIP) and monitor the progress of capital projects compared to schedule and budget. Staff also coordinate development of MWRA's annual Current Expense Budget (CEB) and monitor spending compared to budget throughout the year. In addition, the department is responsible for forecasting near- and long-term expense and revenue requirements, and for the effective management of the annual process of establishing water and sewer assessments to be paid by MWRA's customer communities.

Budget Highlights

- *Total budget of \$591,000, an increase of \$14,000 or 2.5% from FY03 spending. The FY04 budget for Other Services is less than the amended FY03 budget and covers the costs of printing a limited number of budget documents and reports. These documents are available online, reducing printing costs.*

TREASURY and CONTROLLER

Final FY04 Current Expense Budget TREASURY by Line Item						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 2,089,518	\$ 2,112,973	\$ 769,438	\$ 658,565	\$ (110,873)	-14.4%
OVERTIME	4	979	-	-	-	0.0%
FRINGE BENEFITS	8	-	-	-	-	0.0%
ONGOING MAINTENANCE	-	566	-	-	-	0.0%
TRAINING & MEETINGS	9,328	(969)	835	790	(45)	-5.4%
PROFESSIONAL SERVICES	173,892	212,256	221,528	120,420	(101,108)	-45.6%
OTHER MATERIALS	2,860	623	770	888	118	15.3%
OTHER SERVICES	12,698	4,905	5,699	7,882	2,183	38.3%
TOTAL	\$ 2,288,308	\$ 2,331,333	\$ 998,270	\$ 788,545	\$ (209,725)	-21.0%

Final FY04 Current Expense Budget CONTROLLER by Line Item						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ -	\$ -	\$ 1,200,481	\$ 1,182,984	\$ (17,497)	-1.5%
OVERTIME	-	-	78	-	(78)	-100.0%
FRINGE BENEFITS	-	-	-	-	-	0.0%
TRAINING & MEETINGS	-	-	-	1,000	1,000	100.0%
PROFESSIONAL SERVICES	-	-	-	105,000	105,000	100.0%
OTHER MATERIALS	-	-	-	4,753	4,753	100.0%
OTHER SERVICES	-	-	381	3,410	3,029	795.0%
TOTAL	\$ -	\$ -	\$ 1,200,940	\$ 1,297,147	\$ 96,207	8.0%

Actuals for the recently eliminated Capital Grants Management Department are included in the above Treasury Department actuals.

The Treasury Department secures funds for ongoing operations and capital programs, processes disbursements, and manages MWRA's insurance coverage and liability claims. Department staff collect revenue, disburse funds, and manage debt issuance and investments.

The Controller Department consists of the Accounting, Accounts Payable, and Payroll units. This department was created in FY03 as part of an organizational change in Finance and Operations. The department has the responsibility for ensuring financial system integrity and integration among these functions. The department also is responsible for appropriate treatment and classification of MWRA revenues and expenditures in accordance with accounting principles generally accepted in the United States and for preparing statements of MWRA's financial condition.

Budget Highlights

- \$2.1 million combined budget, an increase of \$180,000 from the amended FY03 budget reflecting the consolidation of functions from Operations.
- \$225,000 for professional services, including \$105,000 for audit services, \$100,000 for trustee services, and \$19,000 for deposit services.



Support Services Division
Budget

SUPPORT SERVICES DIVISION

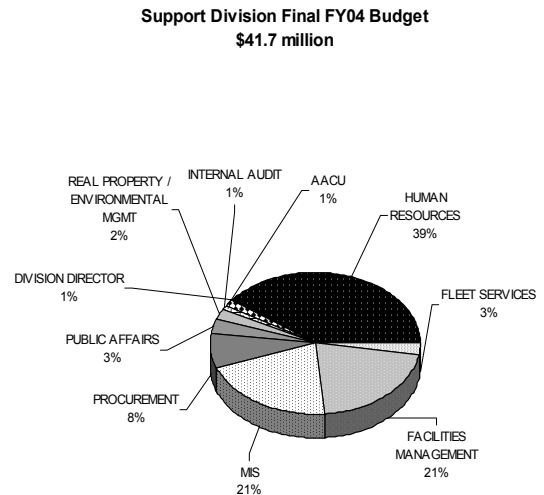
Final FY04 Current Expense Budget SUPPORT DIVISION by Line Item						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change ¹ FY04 to FY03	
WAGES & SALARIES	\$ 15,588,538	\$ 16,282,700	\$ 15,083,467	\$ 14,171,883	\$ (911,584)	-6.0%
OVERTIME	84,856	66,284	98,564	28,467	(70,097)	-71.1%
FRINGE BENEFITS	10,153,364	10,699,720	12,245,009	11,895,956	(349,053)	-2.9%
WORKERS' COMPENSATION	43,945	39,500	49,627	2,100,000	2,050,373	4131.6%
CHEMICALS	67	-	-	-	-	0.0%
UTILITIES	587,504	822,546	999,467	1,215,796	216,329	21.6%
ONGOING MAINTENANCE	3,243,187	3,868,445	3,334,602	3,440,592	105,990	3.2%
TRAINING & MEETINGS	129,030	96,297	44,894	72,807	27,913	62.2%
PROFESSIONAL SERVICES	854,019	1,436,891	799,145	948,664	149,519	18.7%
OTHER MATERIALS	1,136,901	1,299,684	696,945	703,200	6,255	0.9%
OTHER SERVICES	7,329,297	8,279,810	9,255,805	7,088,272	(2,167,533)	-23.4%
TOTAL	\$ 39,150,708	\$ 42,891,877	\$ 42,607,525	\$ 41,665,637	\$ (941,888)	-2.2%

Final FY04 Current Expense Budget SUPPORT DIVISION by Department						
DEPARTMENT	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change ¹ FY04 to FY03	
DIVISION DIRECTOR	\$ -	\$ -	\$ 444,099	\$ 372,250	\$ (71,849)	-16.2%
INTERNAL AUDIT	896,429	686,274	524,413	531,787	7,374	1.4%
PUBLIC AFFAIRS	2,051,203	2,182,485	1,704,957	1,390,299	(314,658)	-18.5%
FACILITIES MANAGEMENT	9,689,227	10,792,349	11,538,026	8,855,595	(2,682,431)	-23.2%
FLEET SERVICES	1,324,019	1,413,540	1,144,995	1,065,862	(79,133)	-6.9%
AACU	602,206	694,818	581,657	510,010	(71,647)	-12.3%
HUMAN RESOURCES	12,142,329	13,130,531	14,247,134	16,174,180	1,927,046	13.5%
MIS	8,357,773	9,418,409	8,710,490	8,608,303	(102,187)	-1.2%
PROCUREMENT	3,198,619	3,748,856	2,986,383	3,287,539	301,156	10.1%
REAL PROPERTY / ENVIRONMENTAL MGMT	888,903	824,615	725,371	869,812	144,441	19.9%
TOTAL	\$ 39,150,708	\$ 42,891,877	\$ 42,607,525	\$ 41,665,637	\$ (941,888)	-2.2%

¹ All of the increase in the Human Resources budget is attributable to transfer of the budget for workers' compensation payments from Operations to Human Resources and to the increase in the budget for MWRA-wide fringe benefits, also included in the Human Resources Department budget.

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, internal audit, fleet services, computer system development and management, facilities and office supplies management, library and records management, and mail and employee shuttle services. The division also manages the Fore River Staging Area (FRSA) in Quincy, the Chelsea Facility and the Charlestown headquarters.

The division budget includes ten departments: Division Director, Internal Audit, Public Affairs, Facilities Management, Fleet Services, Affirmative Action and Compliance (AACU), Human Resources, Management Information Systems (MIS), Procurement, and Real Property and Environmental Management (RPEM).



Internal Audit, AACU, and Public Affairs, funded as part of the Support Services budget, report to the MWRA's Executive Director. The \$41.7 million FY04 budget accounts for 24% of MWRA's direct expense budget. The division budget includes \$11.9 million for fringe benefits for all MWRA personnel, as well as \$5.7 million for lease, taxes and insurance, and operating and maintenance costs for the CNY headquarters and the Chelsea facility, and \$2.1 million for workers' compensation claims and medical expenses. Net of these agency-wide expenses, the Support Services Division accounts for 13% of direct expenses.

As shown below, a new separate Division Director department is included in the FY04 CEB. This department consists of administrative and security staff.

DIVISION DIRECTOR

Final FY04 Current Expense Budget							
DIVISION DIRECTOR							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ -	\$ -	\$ 438,896	\$ 362,372	\$ (76,524)	-17.4%	
OVERTIME	-	-	73	\$ -	\$ (73)	-100.0%	
TRAINING & MEETINGS	-	-	248	5,000	4,752	1916.1%	
OTHER MATERIALS	-	-	2,166	2,418	252	11.6%	
OTHER SERVICES	-	-	2,716	2,460	(256)	-9.4%	
TOTAL	\$ -	\$ -	\$ 444,099	\$ 372,250	\$ (71,849)	-16.2%	

The division's goals are to:

- Provide comprehensive administrative, technical, personnel, affirmative action, procurement and support services to all divisions to create a cooperative framework within which MWRA can operate effectively.
- Develop and implement policies and programs to ensure facility and water/wastewater system security, public health and staff safety.
- Ensure proper and effective communication between MWRA and the communities served, other agencies, and state and local officials.

INTERNAL AUDIT

Final FY04 Current Expense Budget						
INTERNAL AUDIT						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 870,485	\$ 671,364	\$ 511,926	\$ 515,594	\$ 3,668	0.7%
OVERTIME	-	\$ -	29	\$ -	(29)	-100.0%
TRAINING & MEETINGS	21,478	10,079	11,076	12,350	1,274	11.5%
OTHER MATERIALS	2,541	2,353	1,272	2,000	728	57.2%
OTHER SERVICES	1,925	2,478	110	1,843	1,733	1575.5%
TOTAL	\$ 896,429	\$ 686,274	\$ 524,413	\$ 531,787	\$ 7,374	1.4%

The Internal Audit Department monitors the efficiency and integrity of MWRA's operations and capital programs by auditing financial and program operations, reviewing compliance with accounting and management control systems, laws, and regulations, and coordinating the creation of and revisions to MWRA policies and procedures. Internal Audit reports to MWRA's Executive Director.

The Internal Audit Department's goals are to:

- Encourage more economical and efficient operations, adherence to sound management procedures, and the use of controls designed to safeguard MWRA assets.
- Assure that automated and supporting manual management information systems have secure data control environments and provide accurate and useful management information.
- Assure that contractors and consultants doing business with MWRA have accounting and billing systems adequate to provide current, complete, and accurate cost and price information and project billings. In FY03, Internal Audit identified \$2.3 million in savings, including \$657,000 related to consultant billings to MWRA, \$690,000 related to vendor audits and contract negotiation support, and \$951,000 related to construction change orders and claims.

Budget Highlights

- *\$515,000 for Wages and Salaries, an increase of \$4,000 or 0.7% from FY03 spending to perform internal audits, management advisory services, preliminary review and incurred cost audits, and consultant disclosure statement reviews.*
- *\$12,000 for Training and Meetings of which 65% is for travel to consultant offices required to perform cost audits.*

PUBLIC AFFAIRS

Final FY04 Current Expense Budget PUBLIC AFFAIRS						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 1,856,902	\$ 2,013,515	\$ 1,619,632	\$ 1,267,808	\$ (351,824)	-21.7%
OVERTIME	529	32	-	-	-	0.0%
TRAINING & MEETINGS	7,018	8,375	4,273	3,930	(343)	-8.0%
PROFESSIONAL SERVICES	23,550	25,894	5,050	1,050	(4,000)	-79.2%
OTHER MATERIALS	39,920	28,798	17,548	22,443	4,895	27.9%
OTHER SERVICES	123,284	105,871	58,454	95,068	36,614	62.6%
TOTAL	\$ 2,051,203	\$ 2,182,485	\$ 1,704,957	\$ 1,390,299	\$ (314,658)	-18.5%

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 to ensure compliance with the Massachusetts Environmental Policy Act (MEPA), the Massachusetts Historical Commission (MHC), DEP, local conservation commissions, and the Boston Landmarks Commission (BLC)¹. The **Communications Section** manages media relations, issues press releases and responds to information requests, oversees the design and distribution of MWRA publications, manages the web site, and provides design, editorial, and graphics services for other sections of MWRA. The **Education Section** is responsible for curriculum development, teacher training workshops, as well as providing school education materials to all grade levels 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 Public Affairs Department's goals 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.

¹ As part of the organizational changes to MWRA's planning functions, these compliance functions will also be part of the new planning unit. This will be reflected in the FY05 CEB.

Budget Highlights

- *\$1.3 million for Wages and Salaries, a decrease of \$352,000 or 21.7% from FY03 spending and \$746,000 less than FY02 spending, reflecting staff reductions.*
- *\$118,000 for Other Materials and Other Services, including \$78,000 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 about Boston Harbor and other environmental matters. FY03 spending was scaled back for education materials and the Envirolab boat tours were eliminated in FY03 and are not funded in FY04. With fewer staff in FY04, funding for printed materials increases compared to FY03 to continue providing educational materials to member communities.*

FACILITIES MANAGEMENT

Final FY04 Current Expense Budget FACILITIES MANAGEMENT						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 1,878,047	\$ 1,734,723	\$ 1,106,183	\$ 855,851	\$ (250,332)	-22.6%
OVERTIME	40,003	37,410	53,098	20,349	(32,749)	-61.7%
FRINGE BENEFITS	810	803	1,014	50	(964)	-95.1%
UTILITIES	585,886	814,450	998,994	1,214,296	215,302	21.6%
ONGOING MAINTENANCE	484,536	315,229	380,112	376,044	(4,068)	-1.1%
TRAINING & MEETINGS	110	7,804	1,490	280	(1,210)	-81.2%
PROFESSIONAL SERVICES	51,449	505,210	435,172	388,144	(47,028)	-10.8%
OTHER MATERIALS	451,447	354,572	244,989	144,163	(100,826)	-41.2%
OTHER SERVICES	6,196,939	7,022,148	8,316,974	5,856,418	(2,460,556)	-29.6%
TOTAL	\$ 9,689,227	\$ 10,792,349	\$ 11,538,026	\$ 8,855,595	\$ (2,682,431)	-23.2%

Final FY04 Current Expense Budget FACILITIES MANAGEMENT SUPPORT by Area						
AREA	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
FRSA	\$ 991,859	\$ 806,078	\$ 608,703	\$ 612,374	\$ 3,671	0.6%
Facilities Management	7,058,587	8,767,066	10,005,406	7,609,015	(2,396,391)	-24.0%
Administrative Services	1,204,953	1,219,205	923,917	634,206	(289,711)	-31.4%
Energy Services	433,828	-	-	-	-	0.0%
TOTAL	\$ 9,689,227	\$ 10,792,349	\$ 11,538,026	\$ 8,855,595	\$ (2,682,431)	-23.2%

The Facilities Management Department provides a wide range of support services to MWRA staff located at the Charlestown Navy Yard (CNY), Chelsea and Fore River Staging Area (FRSA) facilities. The department comprises two sections: Facilities Management and Administrative Services.

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

Staff are also responsible for the security, operation, and maintenance of the site utilities and various structures and buildings within **FRSA**. Of the approximately 50-acre site, Facilities Management is responsible for 35 acres, including several major buildings. MWRA uses this facility for the operation of its sludge processing facility, confined space entry training, the warehousing of materials, records, and geological samples and the Fore River Railroad Corporation's office, storage tracks and main rail line crossing the parcel.

MWRA is continuing to pursue options to surplus and sell those portions of FRSA not needed to support MWRA operations. To support this effort, Field Operations, confined space entry training and warehousing materials will be relocated to other MWRA facilities in FY04.

Administrative Services provides administrative and office support services that facilitate efficient use of MWRA resources. The Administrative Services Unit provides and manages 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 and the Chelsea facility.

Facilities Management goals are to:

- Provide a safe, secure, and well-maintained working environment for all MWRA staff at Chelsea, CNY, and FRSA and provide appropriate space for staff by coordinating workspace planning, design, and furniture acquisitions.
- Maintain and protect the Chelsea and FRSA facilities to prevent loss or deterioration of MWRA assets.
- Assist staff in their activities at FRSA by coordinating overall site development plans and monitoring the activities of operations at the site.
- Provide efficient and cost-effective administrative services to CNY and Chelsea facility staff.

Budget Highlights

- *Total budget of \$8.9 million, a decrease of \$2.7 million or 23% from FY03 spending reflecting fewer staff and a one-time expense for future lease payments for Building 34 which was vacated in FY03.*
- *\$20,000 for Overtime for coverage of support services, a decrease of \$67,000 or 76.7% from FY03 spending. Overtime has decreased reflecting the elimination of 24-hour security at FRSA.*
- *\$1.2 million for Utilities, an increase of \$216,000 or 21.6% from FY03 spending primarily due to increased use of the Chelsea Facility reflecting more consolidation of maintenance activities.*
- *\$376,000 for Maintenance, a decrease of \$4,000 from FY03 spending. The budget includes \$199,000 for building and grounds services including janitorial and trash removal services, and \$133,000 to service and maintain radio communications equipment, security equipment, and card access at Chelsea.*
- *\$388,000 for Professional Services, including \$361,000 to fund security services at the Chelsea facility.*
- *\$144,000 for Other Materials, a decrease of \$100,000 or 41.2% from FY03 spending. The decrease reflects the transfer of the MWRA-wide office supply budget to Procurement as office supplies are now part of Materials Management warehouse inventory. Postage, routine delivery services, and overnight delivery services comprise 64% of this line item.*
- *\$5.9 million for Other Services, a decrease of \$2.5 million from FY03 spending primarily due to the one-time future lease expense, noted above, for Building 34.*

FLEET SERVICES

Final FY04 Current Expense Budget						
FLEET SERVICES						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 602,972	\$ 653,692	\$ 559,326	\$ 587,024	\$ 27,698	5.0%
OVERTIME	13,341	10,497	34,399	-	(34,399)	-100.0%
FRINGE BENEFITS	743	310	1,335	-	(1,335)	-100.0%
UTILITIES	1,618	421	473	1,500	1,027	217.1%
ONGOING MAINTENANCE	535,827	548,553	506,059	421,975	(84,084)	-16.6%
TRAINING & MEETINGS	-	-	1,278	2,909	1,631	127.6%
OTHER MATERIALS	45,636	73,597	41,656	51,054	9,398	22.6%
OTHER SERVICES	123,882	126,470	469	1,400	931	198.5%
TOTAL	\$ 1,324,019	\$ 1,413,540	\$ 1,144,995	\$ 1,065,862	\$ (79,133)	-6.9%

Fleet Services manages and maintains MWRA's motor vehicle and equipment fleet and the radio communications network which provides communications and emergency support services to MWRA headquarters and field personnel. Fleet Services staff also manage development and processing of specifications for new vehicles and equipment, provide ongoing in-house training in safe driving procedures to MWRA drivers, and manage the gas card program and the fuel facility in Chelsea.

Fleet Services goal is to maintain MWRA's vehicle and equipment fleet to minimize downtime and extend the life of the assets.

Budget Highlights

- *\$1.06 million total FY04 budget, a decrease of \$79,000 from FY03 spending. FY04 budget continues cost saving reductions implemented in FY03. The budget includes \$264,000 for automotive materials and services to maintain MWRA's vehicle fleet.*

AFFIRMATIVE ACTION and COMPLIANCE

Final FY04 Current Expense Budget AFFIRMATIVE ACTION & COMPLIANCE UNIT						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 597,828	\$ 643,964	\$ 568,945	\$ 506,216	\$ (62,729)	-11.0%
OVERTIME	-	-	109	-	\$ (109)	-100.0%
TRAINING & MEETINGS	2,895	3,800	-	1,450	1,450	100.0%
PROFESSIONAL SERVICES	-	45,415	11,500	-	(11,500)	-100.0%
OTHER MATERIALS	402	1,139	903	1,244	341	37.8%
OTHER SERVICES	1,081	500	200	1,100	900	450.0%
TOTAL	\$ 602,206	\$ 694,818	\$ 581,657	\$ 510,010	\$ (71,647)	-12.3%

The Affirmative Action and Compliance Unit (AACU) develops, administers, and monitors compliance with all aspects of MWRA's Affirmative Action Plan, programs, and policies of affirmative action, equal opportunity, and non-discrimination. The Special Assistant for AACU reports to the Board of Directors through the Executive Director.

AACU goals are to:

- Assist divisions and departments in the implementation of MWRA's affirmative action program and promote MWRA's policy of non-discrimination for all persons in or recruited for its work force.
- Maintain internal audit and reporting systems adequate to measure accomplishments in areas of identified underutilization of minorities and females and to evaluate the effectiveness of MWRA's affirmative action program.
- Communicate to managers and supervisors MWRA's commitment to equal opportunity and affirmative action.
- Provide for the equitable participation of minority and women-owned businesses (MBE/WBE) in procurement opportunities and ensure that minorities and women are represented in the labor force on construction contracts.
- Assist divisions and departments in understanding MBE/WBE program policies and practices and monitor and report on contractor compliance.

HUMAN RESOURCES

Final FY04 Current Expense Budget HUMAN RESOURCES						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 1,418,211	\$ 1,466,968	\$ 1,580,550	\$ 1,557,926	\$ (22,624)	-1.4%
OVERTIME	76	123	378	440	62	16.4%
FRINGE BENEFITS	10,150,368	10,698,306	12,242,555	11,895,906	(346,649)	-2.8%
WORKERS' COMPENSATION	43,945	39,500	49,627	2,100,000	2,050,373	4131.6%
ONGOING MAINTENANCE	885	786	138	1,200	1,062	769.6%
TRAINING & MEETINGS	13,887	12,417	7,058	11,198	4,140	58.7%
PROFESSIONAL SERVICES	417,410	845,583	350,150	559,470	209,320	59.8%
OTHER MATERIALS	26,614	39,366	8,278	21,925	13,647	164.9%
OTHER SERVICES	70,933	27,482	8,400	26,115	17,715	210.9%
TOTAL	\$ 12,142,329	\$ 13,130,531	\$ 14,247,134	\$ 16,174,180	\$ 1,927,046	13.5%

The Human Resources Department is comprised of three units.

The **Employment, Compensation, and Benefits Unit** coordinates and oversees all external recruitment and selection activities including hiring, lateral transfers and promotions to meet the business needs of MWRA, and develops and coordinates MWRA compensation benefits strategies and programs. 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 directed at the improvement of employee knowledge, skills, productivity, and the quality of workplace interaction. It is responsible for MWRA performance evaluation programs, oversight and tracking, and administration of Employee Recognition, 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.

Human Resources Department goals are to:

- Attract and retain a qualified high-performance workforce, hire and promote qualified minority and female employees, and offer a competitive total compensation (salary and benefits) package to all employees.
- Maintain effective relationships with the unions representing the MWRA workforce while protecting and enhancing management flexibility, ensure that collective bargaining objectives are met, support MWRA initiatives by designing and implementing appropriate labor relations strategies, create an environment which 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, a decrease of \$23,000 or 1.4% from FY03 spending.*
- *\$11.9 million for Fringe Benefits, a decrease of \$347,000 or 3.8% from FY03 spending. The budget includes \$10.0 million for MWRA's share of health insurance costs, \$945,000 for MWRA's share of Medicare taxes, \$833,000 for MWRA's share of dental insurance costs and union health and welfare fund contributions, \$90,000 for unemployment insurance payments, and \$42,000 for tuition reimbursement. The decrease compared to FY03 spending is due to a one-time unemployment insurance expense as a result of staff reductions implemented in FY03.*
- *\$2.1 million for Workers' Compensation expenses. The budget for this program has been transferred from the Operations Division to Human Resources, where management and responsibility of the program and coordination with the third-party administrator exists.*
- *\$559,000 for Professional Services, an increase of \$209,000 or 59.8% from FY03 spending to enhance technical training of MWRA staff to ensure that, where possible, existing personnel can staff the new Walnut Hill plant and other new facilities. The FY04 budget includes \$256,000 for technical training, \$96,000 for professional development, \$58,000 for the Employee Assistance Program, and \$52,000 for specialized investigation services and medical evaluation services.*

MANAGEMENT INFORMATION SYSTEMS (MIS)

Final FY04 Current Expense Budget						
MIS						
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03	
WAGES & SALARIES	\$ 4,608,080	\$ 5,355,510	\$ 5,111,419	\$ 4,892,548	\$ (218,871)	-4.3%
OVERTIME	3,104	2,668	2,491	2,678	187	7.5%
FRINGE BENEFITS	19	-	-	-	-	0.0%
ONGOING MAINTENANCE	2,267,562	2,486,568	2,502,857	2,641,373	138,516	5.5%
TRAINING & MEETINGS	61,232	42,947	13,986	15,990	2,004	14.3%
PROFESSIONAL SERVICES	360,000	-	(1,695)	-	1,695	-100.0%
OTHER MATERIALS	546,930	788,579	374,648	285,414	(89,234)	-23.8%
OTHER SERVICES	510,846	742,137	706,784	770,300	63,516	9.0%
TOTAL	\$ 8,357,773	\$ 9,418,409	\$ 8,710,490	\$ 8,608,303	\$ (102,187)	-1.2%

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 FY04 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. During FY01 and FY02 several major viruses affected e-mail and Internet services causing unscheduled minicomputer downtime. However, network and telecommunications reliability remained within the downtime limit of less than eight hours for the entire year. Cyber Security become a major work item in FY03 and will continue to be so in FY04.
- Responsive services* are provided as a result of calls for assistance, training, troubleshooting, repair of systems or requests for materials, research, and records. A range of performance measurements has been adopted based on business impact and problem type. The response rate target for calls to be closed within three days was increased to 90% at the start of FY02 compared to 80% in FY01. This target will continue for FY04 as well as a target to address 100% of system outages within one business day. Staff also track backlogs, average closure rates, and rolling averages to ensure responsiveness.
- Developmental services* respond to requests for new or enhanced products, services, reports, and applications. These requests are generally turned into projects with plans, defined deliverables, and agreed upon schedules. MIS-generated projects based on infrastructure limitations, changing technology, and expiration of leased equipment may also be included. All activities seek to balance business demands with costs and the desire to be neither leading nor lagging with the use of technology. Measurement is based on timely completion of milestones and a +/- 10% of budget and schedule target is established for all major projects. In addition, for projects with large capital or CEB

requirements, a customization cap is established and reported on.

MIS' goal is to support more than 1,200 MWRA users, including those at the Charlestown Navy Yard, Chelsea, and remote sites, by ensuring that:

- Existing applications, hardware, and network resources are cost-effectively maintained, supported, upgraded, and replaced.
- Information system development efforts are in line with the MWRA Business Plan, reflecting management priorities.
- System security and integrity are maintained.
- Flexible tools and system capabilities are provided in line with industry standards and norms.

Budget Highlights

- *Total budget of \$8.6 million, a decrease of \$102,000 or 1.2% from FY03 spending reflecting fewer staff.*
- *\$2.6 million for license and maintenance fees to support administrative, operations, and database applications used by MWRA staff.*
- *\$285,000 for Other Materials, a decrease of \$89,000 or 23.8 % from FY03 spending. The FY04 budget includes \$254,000 to replace printers, personal computers, and other equipment. In FY04, MIS will maintain a limited reserve of personal computers to replace failed desktop units and laptops. The PC replacement program budget will need to be increased in FY05, as useful life of existing inventory will have been nearly exhausted.*
- *\$770,000 for Other Services, an increase of \$64,000 or 9% from FY03 spending. The FY04 budget includes \$580,000 for MWRA network and telephone services for Charlestown headquarters, the Chelsea facility, and Southborough. This is an increase of \$73,000 to support MWRA's security network.*

PROCUREMENT

Final FY04 Current Expense Budget							
PROCUREMENT							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ 3,114,016	\$ 3,145,862	\$ 2,970,520	\$ 3,030,566	\$ 60,046		2.0%
OVERTIME	27,803	15,554	7,987	5,000	(2,987)		-37.4%
FRINGE BENEFITS	1,424	301	93	-	(93)		-100.0%
CHEMICALS	67	-	-	-	-		0.0%
ONGOING MAINTENANCE	(45,623)	517,308	(54,564)	-	54,564		-100.0%
TRAINING & MEETINGS	20,787	6,783	4,008	16,100	12,092		301.7%
PROFESSIONAL SERVICES	1,610	-	-	-	-		0.0%
OTHER MATERIALS	21,927	9,850	3,044	171,125	168,081		5521.7%
OTHER SERVICES	56,608	53,198	55,295	64,748	9,453		17.1%
TOTAL	\$ 3,198,619	\$ 3,748,856	\$ 2,986,383	\$ 3,287,539	\$ 301,156		10.1%

The Procurement Department includes three units. The **Purchasing Unit** operates a competitive purchasing system for the procurement of materials, goods, and non-professional services in accordance with MWRA policies and procedures. The **Contract Management Unit** reviews, drafts, and negotiates contracts, amendments, and change orders for all professional, non-professional, and construction services contracts. Staff direct the bid, review, and selection process, and maintain a contracts database. The **Materials Management Unit** manages an authority-wide inventory control and management system for better control, storage, distribution, and accounting of MWRA's inventory. The unit has consolidated existing inventory locations into four regional warehouses/distribution centers that will support all MWRA activities. The consolidation will result in better control, reduce dollar inventory levels, and establish consistency across MWRA.

Procurement Department goals 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 the spare parts and operating supplies inventory.
- Provide timely and high quality services to initiating divisions to enable MWRA programs to meet their public, production, and schedule responsibilities.

Budget Highlights

- *Total budget of \$3.3 million, an increase of \$301,000 or 10.1% from FY03 spending. The largest increases reflects the transfer of the budget for MWRA-wide office supplies from the Central Support Department to Materials Management as office supplies are now part of MWRA's warehouse inventory.*

REAL PROPERTY and ENVIRONMENTAL MANAGEMENT

Final FY04 Current Expense Budget							
REAL PROPERTY / ENVIRONMENTAL MANAGEMENT							
LINE ITEM	FY01 Actual	FY02 Actual	FY03 Actual	FY04 Final	Change FY04 to FY03		
WAGES & SALARIES	\$ 641,999	\$ 597,103	\$ 616,072	\$ 595,978	\$ (20,094)		-3.3%
FRINGE	-	-	12	-	\$ (12)		-100.0%
UTILITIES	-	7,675	-	-	-		0.0%
ONGOING MAINTENANCE	-	-	-	-	-		0.0%
TRAINING & MEETINGS	1,623	4,092	1,477	3,600	2,123		143.7%
PROFESSIONAL SERVICES	-	14,789	(1,033)	-	1,033		-100.0%
OTHER MATERIALS	1,483	1,430	2,441	1,414	(1,027)		-42.1%
OTHER SERVICES	243,798	199,526	106,402	268,820	162,418		152.6%
TOTAL	\$ 888,903	\$ 824,615	\$ 725,371	\$ 869,812	\$ 144,441		19.9%

The Real Property and Environmental Management Department negotiates the purchase or lease of real estate and land necessary to support MWRA's capital projects. Staff participate in selecting sites, negotiating acquisitions or easements, and managing the sale or lease of MWRA surplus real property. In addition, staff have developed and are maintaining the Real Property Database, the compilation of more than 100 years of easements and land rights for the water and sewer systems. Department staff manage environmental regulatory compliance at MWRA facilities and also provide special expertise and assistance to MWRA staff regarding air quality and hazardous material issues. Assistance includes air emission permits negotiation and preparation and submittal of monthly/quarterly monitoring reports.

Real Property and Environmental Management Department goals are to:

- Acquire the real property needed to complete MWRA's major capital projects in a timely and cost-effective manner, and manage the disposition of surplus real property in a cost-effective manner, as well as to provide staff and others with current information, in a timely manner, regarding MWRA's real property rights.
- Centralize the environmental management program, providing technical assistance regarding hazardous waste management, air quality compliance, and related issues during all phases of MWRA projects, and monitoring of and providing assistance in maintaining environmental regulatory compliance at MWRA facilities.

Budget Highlights

- *Total budget of \$870,000, an increase of \$144,000 of 19.9% from FY03 spending, reflecting remediation projects planned in FY03 but deferred to FY04 and beyond due to the loss of Commonwealth debt service assistance.*



Appendices

APPENDIX A

DESCRIPTIONS OF FUNCTIONAL AREAS

Facilities Planning, Design, and Construction - Management of planning, design, and construction activities to repair, rehabilitate, and construct MWRA transport, treatment, distribution, and support facilities. Functions include in-house engineering, drafting, surveying, technical assistance, environmental review, management of consultants, and construction project management, including contract management and administration. More than 90 projects valued at nearly \$7 billion are now in planning, design, or construction stages.

Wastewater Transport - The continuous transportation and delivery of an average of more than 350 million gallons per day of wastewater from user communities to the Deer Island and Clinton treatment plants. Includes operation and maintenance of a large network of interceptors, and numerous pump stations, CSOs, and headworks facilities, as well as regular inspection of interceptors and tidegates. System operation requires 1) very careful attention to wet weather flows which can double or even triple average daily flows, and 2) response to emergency conditions such as flooding, back-ups, and illegal sewer discharges.

Wastewater Treatment - The continuous treatment of wastewater to meet NPDES requirements at the Deer Island and Clinton treatment plants, as well as the conversion of wastewater residuals from the Deer Island plant into fertilizer pellets or sludge cake at the residuals processing facility in Quincy. Includes operation, maintenance, and technical and administrative support for all treatment facilities.

DESCRIPTIONS OF FUNCTIONAL AREAS – CONTINUED

Water Transmission, Distribution, and Treatment - The transmission, pumping, treatment, and delivery of 250 million gallons per day of potable water from the Quabbin and Wachusett reservoirs to MWRA user communities. Includes operation and maintenance of aqueducts, tunnels, pipelines, pump stations, and treatment facilities. Also includes generation and sale of hydroelectric power.

Water and Wastewater Quality - Activities which work to ensure that the water MWRA delivers to user communities and that the wastewater discharged from MWRA treatment plants meet appropriate quality standards. Includes the Environmental Quality Department, which monitors sewage influent and effluent quality and the resulting impact on Boston Harbor; the Laboratory Services Department, which performs more than 150,000 analyses per year, including 30,000 tests to monitor and ensure the purity and quality of MWRA water at the system and community levels; and the TRAC Department, which operates a multi-faceted program to minimize and control the inflow of hazardous and toxic materials into the sewer system and includes permitting and monitoring of more than 800 industries.

Metering and Monitoring - Operation and maintenance of MWRA's 150 water meters, more than 200 wastewater meters, and a variety of instrumentation devices to ensure the accuracy and integrity of the meter systems and the information MWRA uses to support hydraulic modeling, planning, pipeline maintenance and rehabilitation, and customer assessments.

DESCRIPTIONS OF FUNCTIONAL AREAS – CONTINUED

Facilities and Equipment Management and Support - Management and maintenance of approximately 500 MWRA vehicles and pieces of communications equipment; management of the Fore River Staging Area and MWRA headquarters, including more than \$5.75 million in leases for CNY and Linden Street; management of the new Chelsea Facility; provision of supply- and demand-side energy management services; office supplies and postage; and provision of library and records management services, copying and printing services, and other general office services.

Administration - Senior management and support staff in the offices of the Executive Director, Finance Division Director and Operations Division Administration; also includes funding for the Advisory Board and other MWRA advisory committees (WSCAC, WAC).

Financial Management - Management of budgeting, accounting and payments, payroll, rates and revenue, capital financing, investments, grants and loans, auditing, and review of compliance with accounting and management control systems related to MWRA's annual spending.

Law - Provision of legal analysis and counsel to MWRA's operating and support areas including environmental regulation, real estate, labor relations, and claims management, as well as representation of MWRA in all court-related matters.

DESCRIPTIONS OF FUNCTIONAL AREAS – CONTINUED

Human Resources - Management and administration of human resources policies and programs for MWRA's employees, including recruitment and hiring; wage and salary compensation and fringe benefits of more than \$104 million; labor relations and collective bargaining for five bargaining units; development, implementation, and evaluation of occupational health and safety programs and practices; health screening and CDL testing; a \$1 million workers' compensation program; and annual provision of technical and non-technical training to MWRA employees.

Procurement - Management of the purchase of goods and professional and construction services needed to support MWRA's operating and capital programs and to ensure compliance with statutory, regulatory, and policy requirements, including MBE/WBE procurement goals. The Procurement Department annually manages the procurement of more than \$40 million of goods and materials as well as the procurement of an estimated 575 contracts, amendments, and change orders valued at approximately \$475 million.

Public Affairs - Activities to enhance public understanding of MWRA's mission, goals, and services through media outreach, public information, and educational initiatives. Responds to legislative inquiries from the 82 representatives and 26 senators representing the MWRA service area. Coordinates MWRA response to construction-related, operations, and financial issues in each of the 61 MWRA member communities.

DESCRIPTIONS OF FUNCTIONAL AREAS – CONTINUED

MIS - Provides hardware, software, network/voice communications, systems training, and programming resources including telephones, personal computers, word processing and spreadsheet software, electronic mail, and communications between remote sites and CNY. Specific applications and technologies are provided to support financial (budget, receivables/payables, rates, investments), operational (flow/meter capture, maintenance, materials management, safety), engineering (modeling, mapping, geographical information systems, project planning, computer-aided design), regulatory (TRAC, NPDES, water and wastewater quality), and administrative/support (payroll, training, contracts, purchasing) activities. This function is supported by the MIS Department, the FIS group at Deer Island, and other staff.

Planning - Coordinates development of the MWRA Business Plan and prepares other short-term and long-term plans to guide MWRA development and increase the overall efficiency and effectiveness of MWRA operations, maintenance, and capital programs; also includes the Real Property and Environmental Management Department, which negotiates the purchase or lease of real estate and land needed to support MWRA capital projects and provides special environmental and policy expertise and assistance to MWRA staff.

APPENDIX B

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, and holiday pay for MWRA staff, as well as funds for interns and temporary staff.

Overtime - This line item includes funds for overtime related to operations, 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,

potassium permanganate, and hydrofluosilicic acid.

Utilities - This line item includes funds for electricity, fossil fuels, and other utilities such as water and sewer services paid by MWRA to the towns in which it operates facilities.

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

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

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

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

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

Sections II – VI present summaries of the MWRA's five division budgets with a detailed description of program budgets and highlights within each division section.

APPENDIX C

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.

September Divisions receive budget targets, guidelines, and manuals for the development of budget requests, and can begin to access MWRA's interactive budgeting system.

Nov-Dec After the divisions return their budget requests, Rates and Budget Department staff compare the requests to the previous years' budgets and expenses, review the justifications for the requests, and meet with program staff to clarify resource needs and identify opportunities for efficiencies.

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. (FY04 was an exception to this timetable since there is a first-time Governor and the House 1 budget was released in February versus January).

Mar-April MWRA hosts public hearings to solicit comments on the proposed budget community assessments from citizens in its service area. The Board of Directors may hold briefing sessions on the proposed budget. The Advisory Board transmits comments and recommendations on the proposed budget to MWRA.

May The Board of Directors holds a hearing on the proposed budget and the Advisory Board's comments and recommendations.

June The Board of Directors adopts a final Current Expense Budget and a schedule of final wholesale water and sewer assessments.

APPENDIX D

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 effect 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 assessment 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 Program.

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 assessments, customers are strongly encouraged to review this data closely upon receipt and to 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, the community may submit a written objection. to the Executive Director with a copy to the Rates and Budget Department. 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.

All objections 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 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.

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 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. During FY2000, based on the recommendation of its insurance consultant, MWRA reduced the size of the insurance reserve to \$18 million from \$20 million.

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.

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 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 and 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 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

Capital Budget Spending Cap

Every five years, beginning in June 2003 for the period FY04 through FY08, the Board will establish a five-year Capital Budget Spending cap and annual caps for each year of the cap period. Spending for any year in the cap period may, with Board approval, vary within plus or minus 20% of the annual cap, as long as total spending for the five-year period does not exceed the five-year cap. Before the end of each five-year cap period, the Board will adopt a cap for the next five-year period and annual caps for each year in the period.

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.

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.

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.

ATTACHMENT E

MWRA Planning Estimates FY2004 to FY2013

	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
EXPENSES										
Direct Expenses	\$172,959	\$180,921	\$187,130	\$190,753	\$192,631	\$197,107	\$202,712	\$208,583	\$213,797	\$219,142
Indirect Expenses	31,294	32,219	34,653	41,179	36,324	37,317	38,326	41,546	44,884	44,885
Capital Financing (before offsets)	<u>284,844</u>	<u>313,355</u>	<u>336,305</u>	<u>352,737</u>	<u>386,230</u>	<u>406,903</u>	<u>456,566</u>	<u>473,190</u>	<u>491,314</u>	<u>514,522</u>
Sub-Total Expenses	\$489,098	\$526,495	\$558,088	\$584,669	\$615,185	\$641,327	\$697,605	\$723,319	\$749,996	\$778,550
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	(7,000)	(12,000)	(20,662)	0	0	0	0	0	0
Variable Rate Savings	<u>(13,304)</u>	<u>(1,538)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Expenses	\$475,794	\$517,957	\$546,088	\$564,008	\$615,185	\$641,327	\$697,605	\$723,319	\$749,996	\$778,550
REVENUE & INCOME										
Non-Rate Revenue & Income										
Interest Income/Other Charges	\$39,966	\$43,570	\$45,214	\$45,021	\$45,983	\$46,511	\$48,016	\$49,225	\$49,487	\$53,229
Rate Stabilization	0	<u>13,235</u>	<u>12,937</u>	<u>2,704</u>	<u>12,570</u>	0	0	0	0	0
Total Non-Rate Revenue	\$39,966	\$56,805	\$58,151	\$47,726	\$58,553	\$46,511	\$48,016	\$49,225	49,487	53,229
Total Rate Revenue	\$435,828	\$461,152	\$487,937	\$516,282	\$556,632	\$594,817	\$649,588	\$674,094	\$700,508	\$725,320
Rate Revenue Increase	3.9%	5.8%	5.8%	5.8%	7.8%	6.9%	9.2%	3.8%	3.9%	3.5%
Estimated Annual Household Charge **										
Charge based on DEP data (weighted)	\$548	\$578	\$609	\$642	\$686	\$728	\$783	\$815	\$851	\$915
Charge based on 90,000 gal. (weighted)	\$809	\$852	\$899	\$948	\$1,012	\$1,073	\$1,155	\$1,203	\$1,256	\$1,308
WASTEWATER										
EXPENSES										
Direct Expenses	\$126,899	\$128,166	\$129,400	\$130,942	\$131,976	\$134,703	\$138,868	\$142,761	\$145,885	\$149,803
Indirect Expenses	8,999	8,760	8,634	8,511	8,391	7,947	7,240	7,160	7,753	8,476
Capital Financing (before offsets)	<u>207,280</u>	<u>226,306</u>	<u>243,522</u>	<u>254,290</u>	<u>268,581</u>	<u>281,429</u>	<u>316,480</u>	<u>318,494</u>	<u>341,484</u>	<u>360,970</u>
Sub-Total Wastewater Expenses	\$343,179	\$363,232	\$381,556	\$393,743	\$408,948	\$424,079	\$462,587	\$468,416	\$495,123	\$519,249
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	(7,000)	(12,000)	(20,662)	0	0	0	0	0	0
Variable Rate Savings	<u>(6,372)</u>	<u>(934)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Wastewater Expenses	\$336,807	\$355,298	\$369,556	\$373,082	\$408,948	\$424,079	\$462,587	\$468,416	\$495,123	\$519,249
REVENUE & INCOME										
Non-Rate Revenue & Income										
Interest Income/Other Charges	\$24,759	\$26,946	\$27,122	\$26,156	\$26,207	\$25,660	\$26,064	\$26,379	\$26,733	\$30,048
Rate Stabilization	0	<u>9,818</u>	<u>9,573</u>	<u>1,955</u>	<u>5,385</u>	0	0	0	0	0
Total Non-Rate Revenue	\$24,759	\$36,764	\$36,695	\$28,110	\$31,592	\$25,660	\$26,064	\$26,379	26,733	30,048
Wastewater Rate Revenue	\$312,048	\$318,534	\$332,861	\$344,971	\$377,356	\$398,419	\$436,524	\$442,037	\$468,389	\$489,201
Rate Revenue Increase	2.6%	2.1%	4.5%	3.6%	9.4%	5.6%	9.6%	1.3%	6.0%	4.4%
Estimated Annual Household Sewer Charge **										
Charge based on DEP data (weighted)	\$335	\$345	\$361	\$375	\$406	\$428	\$463	\$474	\$501	\$541
Charge based on 90,000 gal. (weighted)	\$495	\$509	\$532	\$554	\$599	\$631	\$684	\$699	\$739	\$773
WATER										
EXPENSES										
Direct Expenses	\$46,060	\$52,756	\$57,729	\$59,812	\$60,655	\$62,403	\$63,845	\$65,822	\$67,913	\$69,340
Indirect Expenses	22,295	23,458	26,018	32,668	27,933	29,371	31,087	34,386	37,131	36,409
Capital Financing (before offsets)	<u>77,564</u>	<u>87,049</u>	<u>92,784</u>	<u>98,447</u>	<u>117,650</u>	<u>125,474</u>	<u>140,086</u>	<u>154,696</u>	<u>149,830</u>	<u>153,552</u>
Sub-Total Water Expenses	\$145,919	\$163,263	\$176,531	\$190,926	\$206,237	\$217,248	\$235,017	\$254,903	\$254,873	\$259,301
Debt Service Assistance	0	0	0	0	0	0	0	0	0	0
Bond Redemption Savings	0	0	0	0	0	0	0	0	0	0
Variable Rate Savings	<u>(6,931)</u>	<u>(604)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Water Expenses	\$138,988	\$162,659	\$176,531	\$190,926	\$206,237	\$217,248	\$235,017	\$254,903	\$254,873	\$259,301
REVENUE & INCOME										
Non-Rate Revenue & Income										
Interest Income/Other Charges	\$15,206.840	\$16,624	\$18,092	\$18,866	\$19,776	\$20,850	\$21,952	\$22,847	\$22,754	\$23,182
Rate Stabilization	0	<u>3,416</u>	<u>3,364</u>	<u>750</u>	<u>7,185</u>	0	0	0	0	0
Total Non-Rate Revenue	\$15,207	\$20,041	\$21,455	\$19,615	\$26,961	\$20,850	\$21,952	\$22,847	\$22,754	\$23,182
Water Rate Revenue	\$123,781	\$142,618	\$155,076	\$171,311	\$179,276	\$196,398	\$213,065	\$232,057	\$232,119	\$236,119
Rate Revenue Increase	7.3%	15.2%	8.7%	10.5%	4.6%	9.6%	8.5%	8.9%	0.0%	1.7%
Estimated Annual Household Water Charge **										
Charge based on DEP data (weighted)	\$213	\$233	\$248	\$267	\$280	\$300	\$320	\$342	\$350	\$374
Charge based on 90,000 gal. (weighted)	\$314	\$344	\$366	\$394	\$413	\$442	\$472	\$504	\$517	\$535

** 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. For reference the unweighted 90,000 FY03 estimated household charge was \$827 for the "core" communities. The annual household charge based on DEP data for FY03 reflects actual residential consumption for calendar year 2001. Estimated household charges based on DEP data for FY04 to FY14 are based on average residential consumption of 61,000 gallons per year. The ratio of MWRA to local charge is assumed to be 38% local, 62% MWRA in FY03.

APPENDIX F

GLOSSARY OF FINANCIAL AND OPERATING TERMS

8M permit: Permission granted by MWRA to persons who wish to construct property improvements on land either adjoining or overlapping MWRA property interests. Permission may be conditioned on various operational and/or engineering concerns.

Accrued Costs: Adjustments to paid expenditures to account for materials or services received but for which payment has not been made.

Activated Sludge: The sludge that results when primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment.

Advanced Waste Treatment: Wastewater treatment beyond the secondary or biological stage that includes the removal of nutrients such as phosphorus and nitrogen and the removal of a higher percentage of suspended solids and organic matter than primary treatment.

Advisory Board: The agency that represents the interests of MWRA's 61 user communities to the Board of Directors in an advisory capacity in accordance with the provisions of MWRA's Enabling Act. The Advisory Board elects three members of the Board of Directors, reviews and comments on MWRA's CIP and CEB, and approves the addition of new communities to the wastewater and water systems.

Aerobic: In the presence of oxygen.

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

AOC: Assimilable Organic Carbon - One measure of the "food" available to bacteria within a water system. More complex carbon compounds can become assimilable when oxidized by strong disinfectants.

Ash: The inert material remaining after the combustion of wastewater sludge. Ash is either wet or dry depending on combustion system design.

Bacteria: One-celled microscopic organisms commonly found in the environment. Bacteria can be harmful, such as pathogens or helpful and perform a variety of biological treatment processes.

BDOC: Biologically Degradable Organic Carbon - Another, more precise, measure of the "food" available to bacteria within a water system.

BGD: Billion gallons per day.

Biofilm: Growth of various bacteria within a water distribution system on the pipe walls. Biofilm growth can contribute to iron corrosion, colored water, poor taste, excessive chlorine demand, and complications with coliform testing.

Blow-off valves: Valves operated during pipeline repair to de-water (drain) a portion of a pipeline.

BOD: Biochemical Oxygen Demand - An indicator of the amount of biodegradable contaminants in wastewater.

Board of Directors: The 11-member governing board of MWRA.

Bond Resolution: A document adopted by the Board of Directors that governs MWRA's issuance of revenue bonds and sets forth its obligations to bondholders.

Boston Harbor Project: An extensive plan of activities which MWRA developed and implemented to construct new wastewater treatment facilities in response to a federal court order to comply with the provisions of the U.S. Clean Water Act.

Business Systems Plan (BSP): The strategic planning framework for MWRA's management information systems. The BSP is updated annually to reflect ongoing business requirements, new opportunities identified by ongoing MWRA strategic planning efforts, technology changes, and user requests.

BWSC: Boston Water and Sewer Commission - The agency responsible for providing water and sewer services to the City of Boston, MWRA's largest customer.

CAC: Citizens' Advisory Committee.

CADD: Computer aided drafting and design.

Capital Improvement Program (CIP): A plan which identifies and estimates the nature, schedule, cost, and financing of long-term assets that MWRA intends to build or acquire during a specific period.

Capital Investment: Development of a facility or other asset that adds to the long-term value of an organization.

CDF: Cosgrove Disinfection Facility

Cathodic Protection: A form of corrosion protection that is particularly effective against galvanic corrosion. Galvanic corrosion occurs when pipe metal is in the presence of other metals while immersed in water. The interaction of these elements causes an electric current to flow away from the pipe, taking electrons with it and pitting the pipe as a result. Cathodic protection reverses the current, thereby stopping the corrosion.

Centrifuge: A machine that uses centrifugal force to separate substances of different densities and remove moisture. MWRA uses centrifuges at the Deer Island Wastewater Treatment Plant to de-water sludge.

CFM: Cubic Feet per Minute - A measure of the quantity of a liquid flowing through a pipe.

Chloramination: The process of adding chloramine to drinking water. Chloramine, a form of chlorine and ammonia, is used as a residual disinfectant because it lasts longer in the water distribution system than primary disinfectants.

Chloramine: A long lasting residual disinfectant created by combining measured amounts of chlorine and ammonia. Chloramine forms fewer disinfection by-products than chlorine.

Chlorination: The process of adding chlorine to drinking water to inactivate pathogens.

Chlorine: A relatively strong primary disinfectant, effective against bacteria, *giardia*, and viruses, but not *cryptosporidium*. Concerns exist about the health effects of its by-products, some of which are or will be regulated.

Clarifiers: Settling tanks or basins in which wastewater is held for a period of time, during which heavier solids settle to the bottom and lighter materials float to the surface.

Clean Water Act: A law passed by Congress in 1972, and subsequently amended, which sets national standards for pollution reduction, permits discharges from wastewater treatment plants, and promotes achievement of the national goal that all surface waters be "fishable and swimmable."

Cleaning and Lining: Cleaning and cement lining of unlined cast iron water mains to improve hydraulic capacity and extend useful life.

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

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

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

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

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

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

Corrosion Control: Adjustments to the chemistry of treated water to reduce its ability to dissolve lead, copper, or other metals. Corrosion control can include adjustments to pH and alkalinity, as well as the addition of corrosion inhibitors such as phosphates.

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

Cross-Connection: A point at which potable water piping is connected to a non-potable water source creating an opportunity for the introduction of pollutants into the potable water.

Cryogenic oxygen plant: MWRA operates a cryogenic oxygen-based facility as part of its secondary wastewater treatment program at Deer Island.

Cryptosporidium: A protozoan parasite that can cause severe gastrointestinal disease in healthy individuals, and may be fatal to people with compromised immune systems. *Cryptosporidia* exist in the environment as hard walled oocysts that are very resistant to chlorination, but can be inactivated by disinfection with ozone or ultraviolet light.

CSO: Combined Sewer Overflow – An overflow point in a combined sewer system that collects both sewage and storm water runoff for wastewater treatment. During rainstorms, systems can become overloaded, with the excess discharged directly into surface waters from CSO pipes. In the metropolitan Boston area there are approximately 63 CSOs that currently discharge into rivers or Boston Harbor.

CSO Facilities: MWRA has five facilities that intercept the flow from CSO pipes and provide limited wastewater treatment prior to discharge. The CSO facilities have some capacity to store flow and pump it to the Deer Island plant after rainstorms end.

CT: Concentration x Contact Time - A measure of disinfection effectiveness established under the Surface Water Treatment Rule. CT is the product of the concentration of disinfectant [C] and the time it has been in contact with the water [T]. Required CT varies by type of disinfectant, organism, temperature, and pH.

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

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

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

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

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

D/DBP Stage 2: Disinfectants/Disinfection By-products Stage 2 Rule-. The federal government expects to issue this rule in draft form late in 2002 and promulgate the final rule in late 2003. The rule will further regulate the amount of DBPs allowed in water. The 80/60 values set in Stage 1 will now apply to each individual sample location in a "Locational Running Annual Average".

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

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

Department: A sub-unit of an MWRA division.

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

Diffusers: A system of shafts, rising from the end of MWRA's effluent outfall tunnel to the seabed, that disperses treated wastewater over a large area.

Digesters: Tanks for the storage and anaerobic or aerobic decomposition of organic matter present in sludge.

Direct Program Expenses: Costs directly associated with providing services or performing activities.

Disinfection, Primary: The inactivation (killing) of pathogenic organisms in a water system by the use of chemical or other disinfection agents.

Disinfection, Residual: The presence of a measurable residual of disinfectant within a water distribution system to help control bacterial re-growth and guard against contamination.

Dissolved Oxygen (DO): A measure of the amount of oxygen in a given amount of water. Adequate levels of DO are needed to support aquatic life. Low dissolved oxygen concentrations can result from inadequate wastewater treatment.

Division: A major organizational unit within MWRA, encompassing the activities and resources for providing a major service or function.

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

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

Effluent: Treated wastewater discharged from a treatment plant.

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

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

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

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

EOC: Emergency Operations Center

EOEA: Executive Office of Environmental Affairs - The Massachusetts cabinet office that oversees state environment agencies.

EPA: Environmental Protection Agency - The federal government agency responsible for environmental enforcement and investigation.

ESWTR: Enhanced Surface Water Treatment Rule - A federal rule is being promulgated in three stages:

1) Interim Enhanced Surface Water Treatment Rule (IESWTR): The IESWTR was promulgated in 1998 and tightened the requirements for the operation of water filtration plants in large systems to take a first step toward controlling *cryptosporidium* in source waters. IESWTR also added *cryptosporidium* to the list of issues considered within watershed protection plans for unfiltered systems.

2) LT1ESWTR primarily extends the IESWTR to smaller systems

3) LT2ESWTR: The federal government expects to issue LT2ESWTR as a draft in late 2002, and to promulgate the final rule in late 2003. LT2ESWTR will further tighten the standards for the operation of filtration plants and add requirements for 99% inactivation of *cryptosporidium* and the use of two primary disinfectants for unfiltered systems. The concept of proportional treatment, with less treatment required for cleaner sources, will be implemented as part of the rule.

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

Expenditures: Payments for goods and services received.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Incentives and Other Charges: A fee system designed to help recover permitting, inspecting, and monitoring costs incurred by MWRA's TRAC Program and provide incentives to permitted users to reduce discharges.

Indirect Expenses: Costs not directly associated with providing services or performing activities.

Infiltration/Inflow (I/I): The problem of clean water flows entering sewers resulting in diminished pipe capacity for sanitary flows and in costly pumping and treatment of unnecessarily large wastewater volumes. Infiltration is groundwater that leaks into the sewerage system through pipe joints and defects. Inflow, primarily a wet-weather phenomenon, refers to water that enters sewers from improperly connected catch basins, sump pumps, land and basement drains, and defective manholes. Inflow also enters through improperly closed or defective tidegates during high tides.

Influent: The flow of water that enters the wastewater treatment process.

Insurance Reserve: A fund established to adequately reserve against risks for which MWRA does not currently maintain insurance.

Interceptors: The large pipes that convey wastewater from collection systems to treatment plants.

Investment Income: Income derived by investing certain operating and reserve fund balances in interest-yielding securities in accordance with the provisions of MWRA's bond resolution.

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

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

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

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

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

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

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

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

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

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

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

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

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

MGD: Million gallons per day.

MIS: Management Information Systems

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

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

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

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

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

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

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

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

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

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

Outfall: The place where effluent is discharged into receiving waters.

Ozonation: The application of ozone to water, wastewater, or air, generally for the purposes of disinfection or odor control. MWRA is constructing a new water treatment plant at Walnut Hill that will use ozone to inactivate pathogens, including *cryptosporidium*, with lower levels of DBPs.

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

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

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

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

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

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

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

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

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

Primacy: Primary enforcement authority for federal Safe Drinking Water Act regulations delegated to a state by EPA.

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

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

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

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

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

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

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

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

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

Safe Yield Model: The equation used to determine the maximum dependable draft that can be made continuously on a source of supply during a period of years during which the probable driest period or period of greatest deficiency in water supply is likely to occur.

SAMS: Sewerage Analysis and Management System – A database which contains specifications of the location, size, and condition of MWRA wastewater interceptors and appurtenances and which produces maps for use by MWRA and outside parties.

Sanitary Sewers: In a separate system, pipes that carry only domestic wastewater.

SCADA: Supervisory Control and Data Acquisition - Equipment for monitoring and controlling water or wastewater facilities remotely.

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

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

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

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

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

Seeding: The initial filling of sludge into digesters.

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

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

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

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

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

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

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

Sodium Hypochlorite (NaOCl): A liquid form of chlorine that MWRA uses as the primary chemical in the disinfection and odor processes at the Deer Island Treatment Plant, and as the disinfectant at the Cosgrove and Ware water disinfection facilities. MWRA will also use sodium hypochlorite at the Walnut Hill water treatment plant.

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

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

Suspended Solids: The particulate matter contained in wastewater.

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

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

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

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

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

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

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

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

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

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

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

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

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

Wholesale Water and Sewer Services: Potable water and wastewater collection, transport, delivery, and treatment services that MWRA provides to communities. Communities provide the same services directly to retail customers or end users.

WOCC: Western Operations Control Center.