# Annual Disclosure

**ANNUAL FINANCIAL INFORMATION**
**For the Fiscal Year Ending**
**June 30, 2004**

## THE METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY
## DEPARTMENT OF WATER AND SEWERAGE SERVICES

## HISTORICAL STATEMENT OF REVENUES, EXPENSES, DEBT, AND DEBT SERVICE COVERAGE

For the Fiscal Year Ending June 30

| | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|
| Operating Revenues | $ 151,201,562 | $ 152,171,855 | $ 151,189,267 | $ 147,977,245 | $ 152,785,636 |
| Operating Expenses | (66,263,605) | (66,101,340) | (65,969,605) | (70,131,101) | (81,475,309) |
| Operating income before Depreciation and amortization | $ 84,937,957 | $ 86,070,515 | $ 85,219,662 | $ 77,846,144 | $ 71,310,327 |
| Depreciation Expense | $ (36,342,268) | $ (41,690,486) | $ (43,673,925) | $ (44,113,004) | $ (45,196,830) |
| Amortization Expense | (652,687) | (614,146) | (582,312) | (674,272) | (276,438) |
| Operating Income | $ 47,943,002 | $ 43,765,883 | $ 40,963,425 | $ 33,058,868 | $ 25,837,059 |
| Non-Operating Revenues | | | | | |
| Interest Income | $ 15,788,900 | $ 19,065,878 | $ 13,492,125 | $ 8,712,562 | $ 1,852,839 |
| Interest Expense | (35,245,515) | (34,640,036) | (33,742,082) | (31,936,494) | (30,840,286) |
| Gain (loss ) on sale of property, plant and equipment | 27,490 | 1,185 | (74,746) | (9,027) | 176 |
| Arbitrage rebate income (expense) | - | (1,511,034) | 500,000 | (785,840) | - |
| Other | 383,728 | 1,205,688 | 1,253,548 | 521,468 | - |
| *Subtotal Non-Operating Revenues* | $ (19,045,397) | $ (15,878,319) | $ (18,571,155) | $ (23,497,331) | $ (28,987,271) |
| Capital Grants and contributions | - | 18,431,360 | 23,580,339 | 5,535,862 | 1,282,419 |
| **Net Income** | $ 28,897,605 | $ 46,318,924 | $ 45,972,609 | $ 15,097,399 | $ (1,867,793) |
| **Calculation for Rate Covenant Requirement** | | | | | |
| Operating Revenues | $ 151,201,562 | $ 152,171,855 | $ 151,189,267 | $ 147,977,245 | $ 152,785,636 |
| Plus: | | | | | |
| Interest Income | $ 15,788,900 | $ 19,065,878 | $ 13,492,125 | $ 8,712,562 | $ 6,361,839 |
| Other Income | 383,728 | 1,205,688 | 1,253,548 | 521,468 | - |
| Less: | | | | | |
| Interest Income (Debt Service Reserve Fund) | (3,290,000) | (3,827,614) | (2,539,385) | (3,292,318) | (4,509,000) |
| Interest Income (Construction Fund) | (1,406,000) | (90,000) | - | - | - |
| **Revenues Available for Rate Covenant Requirement** | $ 162,678,190 | $ 168,525,807 | $ 163,395,555 | $ 153,918,957 | $ 154,638,475 |
| Operating Expenses | $ 66,263,605 | $ 66,101,340 | $ 65,969,605 | $ 70,131,101 | $ 81,475,309 |
| Debt Service - Parity Debt | | | | | |
| Principal on Revenue Bonds | 10,630,000 | 13,480,000 | 14,050,000 | 19,680,000 | 20,190,000 |
| Interest on Revenue Bonds | 31,393,965 | 30,916,020 | 30,284,920 | 27,966,030 | 28,620,637 |
| Les: Debt Service Reserve Fund Interest | (3,290,000) | (3,827,614) | (2,539,385) | (3,292,318) | (4,509,000) |
| Net Debt Service - Parity Debt | $ 38,733,965 | $ 40,568,406 | $ 41,795,535 | $ 44,353,712 | $ 44,301,637 |
| Total Operating Expenses and Net Debt Service | **$ 104,997,570** | **$ 106,669,746** | **$ 107,765,140** | **$ 114,484,813** | **$ 125,776,947** |
| Rate Covenant Requirement (1.10) (1) | 1.55 | 1.58 | 1.52 | 1.34 | 1.23 |

(1) The rate covenant is calculated by dividing Revenues, as defined in the Resolution, by the total Operating Expenses and Debt Service, as defined in the Resolution. This ratio must be greater than or equal to 1.10.

# FORECAST STATEMENT OF REVENUES, EXPENSES, DEBT, AND DEBT SERVICE COVERAGE

For Fiscal Year Ending June 30

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| **Operating Revenues** | | | | | |
| *Charges for Service* | | | | | |
| Water Revenues | $ 55,857,722 | 55,913,580 | 55,969,493 | 56,025,463 | 56,081,488 |
| Sewer Revenues | 95,189,438 | 95,284,627 | 95,379,912 | 95,475,292 | 95,570,767 |
| Customer Service Fees | 3,324,146 | 3,327,470 | 3,330,798 | 3,334,128 | 3,337,463 |
| *Subtotal: Charges for Service* | $ 154,371,306 | $ 154,525,677 | $ 154,680,203 | $ 154,834,883 | $ 154,989,718 |
| **Non-Operating Revenues** | | | | | |
| Interest Income on Fund Balances | $ 1,080,000 | $ 846,000 | $ 794,000 | $ 791,000 | $ 791,000 |
| Other Revenues | - | - | - | - | - |
| *Subtotal: Non-Operating Revenues* | $ 1,080,000 | $ 846,000 | $ 794,000 | $ 791,000 | $ 791,000 |
| **Total Revenues** | **$ 155,451,306** | **$ 155,371,677** | **$ 155,474,203** | **$ 155,625,883** | **$ 155,780,718** |
| **Operating Expenses** | (84,300,000) | (89,837,400) | (92,083,335) | (94,385,418) | (96,745,054) |
| **Net Revenues Available for Debt Service** | $ 71,151,306 | $ 65,534,277 | $ 63,390,868 | $ 61,240,465 | $ 59,035,664 |
| **Debt Service** | | | | | |
| *Revenue Bonds* | | | | | |
| 1986 Revenue Refunding Bonds | $ (9,542,225) | $ (9,542,225) | $ (9,542,225) | $ (9,542,225) | $ (30,647,225) |
| Series 1993 Revenue Refunding Bonds | (13,888,405) | (13,864,655) | (13,833,125) | (13,876,605) | (6,985,105) |
| Series 1996 Revenue Refunding Bonds | (8,949,525) | (8,949,125) | (8,951,825) | (8,951,125) | (1,565,238) |
| Series 1998A Revenue Refunding Bonds | (11,130,388) | (11,129,888) | (11,120,138) | (11,121,138) | (11,116,888) |
| Series 1998B Revenue Bonds | (4,274,603) | (7,455,098) | (7,441,098) | (7,433,848) | (1,347,348) |
| Series 2002 Revenue Refunding Bonds | (1,426,031) | (1,426,031) | (1,426,031) | (1,426,031) | (1,426,031) |
| *Subtotal: Revenue Bonds* | (49,211,176) | (52,367,021) | (52,314,441) | (52,350,971) | (53,087,834) |
| *Existing State Revolving Fund Loans* | $ (5,368,624) | $ (4,412,580) | $ (4,412,580) | $ (4,412,580) | $ (4,412,568) |
| *New State Revolving Fund Loans* | $ (44,180) | $ (840,360) | $ (2,105,600) | $ (6,738,800) | $ 7,857,100 |
| **Net Revenues after Total Debt** | $ 16,527,326 | $ 7,914,316 | $ 4,558,247 | $ (2,261,886) | $ 9,392,362 |
| Adjustments for Non-cash Expenses | | | | | |
| Allowance for Bad Debts | $ 1,543,713 | $ 1,545,257 | $ 1,546,802 | $ 1,548,349 | $ 1,549,897 |
| **Total Revenues Available for Capital Projects** | **$ 18,071,039** | **$ 9,459,573** | **$ 6,105,049** | **$ (713,538)** | **$ 10,942,260** |
| (transferred to E&R Fund) | | | | | |
| **Other Budgeted Expenditures** | **2005** | **2006** | **2007** | **2008** | **2009** |
| Total Overflow Abatement Program | $ (20,073,000) | $ (17,375,000) | $ (21,160,000) | $ (21,000,000) | $ (22,500,000) |
| Total Other Capital Projects | (57,468,000) | (89,224,500) | (111,458,000) | $ (65,267,500) | $ (45,021,200) |
| Subtotal: Other Budgeted Expenditures | (77,541,000) | (106,599,500) | (132,618,000) | (86,267,500) | (67,521,200) |
| **Other Tranfers In** | | | | | |
| Transfer from Extension and Replacement Fund | 72,041,000 | 72,511,500 | 58,806,000 | 64,667,500 | 67,521,200 |
| Grants from Federal Government | - | - | - | - | - |
| State Revolving Fund Loan | 5,500,000 | 29,088,000 | 68,812,000 | 16,600,000 | - |
| Tennessee Local Development Authority Loans | - | 5,000,000 | 5,000,000 | 5,000,000 | - |
| *Subtotal: Other Transfers In* | $ 77,541,000 | $ 106,599,500 | $ 132,618,000 | $ 86,267,500 | $ 67,521,200 |
| **Remaining Available Funds (Revenue Surplus/Deficit)** | $ 18,071,039 | $ 9,459,573 | $ 6,105,049 | $ (713,538) | $ 10,942,260 |
| **Total Beginning Extension and Replacement Fund** | $ 188,317,531 | $ 134,347,570 | $ 71,295,643 | $ 18,594,692 | $ (46,786,346) |
| Remaining Available Funds (Revenue Surplus/Deficit) | 18,071,039 | 9,459,573 | 6,105,049 | (713,538) | 10,942,260 |
| Net Transfers | (72,041,000) | (72,511,500) | (58,806,000) | (64,667,500) | (67,521,200) |
| **Total Ending Extension and Replacement Fund** | 134,347,570 | 71,295,643 | 18,594,692 | (46,786,346) | (103,365,286) |

| Calculation for Rate Covenant Requirement | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| Operating Revenues | $ 154,371,306 | $ 154,525,677 | $ 154,680,203 | $ 154,834,883 | $ 154,989,718 |
| Plus: | | | | | |
| Interest Income | 2,770,634 | 2,846,000 | 2,794,000 | 2,791,000 | 2,791,000 |
| Other Income | - | - | - | - | - |
| Less: | | | | | |
| Interest Income (Debt Service Reserve Fund) | (1,690,634) | (2,000,000) | (2,000,000) | (2,000,000) | (2,000,000) |
| Interest Income (Construction Fund) | - | - | - | - | - |
| **Revenues Available for Rate Covenant Requirement** | **$ 155,451,306** | **$ 155,371,677** | **$ 155,474,203** | **$ 155,625,883** | **$ 155,780,718** |
| **Operating Expenses** | 84,300,000 | 89,837,400 | 92,083,335 | 94,385,418 | 96,745,054 |
| **Debt Service - Parity Debt** | | | | | |
| Principal on Revenue Bonds | 21,680,000 | 25,960,000 | 27,280,000 | 28,770,000 | 31,130,000 |
| Interest on Revenue Bonds | 27,531,176 | 26,407,021 | 25,034,441 | 23,580,971 | 21,957,834 |
| Less: Debt Service Reserve Fund Interest | (1,690,634) | (2,000,000) | (2,000,000) | (2,000,000) | (2,000,000) |
| **Net Debt Service - Parity Debt** | 47,520,542 | 50,367,021 | 50,314,441 | 50,350,971 | 51,087,834 |
| **Total Operating Expenses and Net Debt Service** | **$ 131,820,542** | **$ 140,204,421** | **$ 142,397,776** | **$ 144,736,389** | **$ 147,832,888** |
| **Rate Covenant Requirement (1.10) (1)** | **1.18** | **1.11** | **1.09** | **1.08** | **1.05** |

(1) The rate covenant is calculated by dividing Revenues, as defined in the Resolution, by the total Operating Expenses and Debt Service, as defined in the Resolution. This ratio must be greater of equal to 1.10.

## THE WATER AND SEWER SYSTEM

### General

With the formation of the Metropolitan Government on April 1, 1963, the water and sewerage systems formerly maintained by the City of Nashville and the sewerage system formerly maintained by the Davidson County Improvement District No. 1, were combined and consolidated and placed under the control and supervision of the Department. The Department, established under the Charter of the Metropolitan Government, is charged with the responsibility for construction, operation and maintenance of all water and sanitary sewer facilities for the Metropolitan Government and for the collection of all charges for the services of such utilities.

In addition to the facilities thus combined and consolidated, The Water System (as defined herein) and the Sewer System (as defined herein) have gradually been expanded and include: improvements resulting from capital contributions in aid of construction by private developers; all improvements, additions and extensions financed with the proceeds of outstanding bonds and governmental grants; and facilities acquired from the Nashville Suburban Utility District, the First Suburban Water Utility District of Davidson County, Tennessee, the Parkwood Service Company, the Joelton Water Utility District, the City of Lakewood sewerage system, Rayon City Water Company, the Cumberland Utility District, and the sewerage service of the Nolensville/College Grove Utility District in Williamson County. On July 1, 2003, the Department assumed the Davidson County portion of the Cumberland Utility District. This added approximately 13,000 customers to the Water System. Sewer customers in this area were already the Department's customers.

Under the Charter and Tennessee Code Annotated § 7-3-302, the Metropolitan Government can assume and take over any water and/or sewer utility district located within its boundaries through ordinances adopted by the Metropolitan County Council. Several such systems currently operate inside Davidson County and if a decision is made to consolidate these operations into the Department, the Metropolitan Government will take subject to or retire all debts and liabilities of the systems. The economic impact of such assumption or takeover would be evaluated prior to the submission of any legislation to the Metropolitan Council. No uncommitted capital contribution toward any other systems' share of capacity, nor rate revenues from any assumption or takeover, is considered in the Forecast Statement. By contract dated February 1996, the Metropolitan Government has agreed not to take over the Harpeth Valley Utility

District before February 2026. The Cumberland Utility District was the most recently acquired water utility district in FY 2004.

On April 1, 2002, the Department began managing and partially funding the Stormwater operations of the Metropolitan Government. The remainder of funding came from the Public Works Department of the Metropolitan Government. Beginning on July 1, 2003, the department fully funded the Stormwater Division at a cost of $14 million for Fiscal Year 2004.

The Stormwater Division performs a number of federally mandated functions including storm drainage infrastructure inventory and maintenance for water quality, roadway pollution reduction, public education, monitoring of the system for illicit discharges and construction site runoff, and habitat improvement. The storm drainage infrastructure is maintained through a cleaning and stabilization program, while capital expenditures involve projects that replace larger segments of the drainage system or improve its capacity.

The Water System

The water provided by the Department's water system (the "Water System") currently meets all physical, biological, and bacteriological water quality standards established by the United States environmental Protection Agency (the "EPA") under the Safe Drinking Water Act, as amended, and by the Tennessee Department of Environment and Conservation ("TDEC") under the Tennessee Safe Drinking Water Act of 1983, as amended.

The Water System draws water from the Cumberland River and processes it through modern filtration plants for delivery into the distribution system. Raw water is treated by chemical coagulation, clarification, high rate filtration, and disinfection. The existing water treatment plants and pumping facilities have a total delivery capacity of 180 million gallons per day. In Fiscal Year 2004, net sales to retail customers were 24.8 billion gallons. The peak demand for water from the system during Fiscal Year 2004 was 107.4 million gallons on October 12, 2003.

The Robert L. Lawrence, Jr. Filtration Plant, originally placed in service in 1929, was extensively modernized and expanded in 1953 and 1963 to a capacity of 72 million gallons per day. An upgrade of this plant was completed in 2001 and it now has a treatment capacity of 90 million gallons per day. Control panels located at this plant provide constant monitoring of the status of all water pumping stations and reservoirs.

The K. R. Harrington Water Treatment Plant was completed and placed into operation in 1977. This facility provided additional capacity of 60 million gallons per day to the Metropolitan Government's water treatment capabilities. Expansion of this plant to 90 million gallons per day was completed in 1992 by the Department and will ensure an adequate supply of potable water through the year 2010. In 1999, as a precaution against prolonged power outages caused by ice storms, tornadoes, or other disasters, the Harrington Plant was equipped with four emergency generators with a capacity of 1,750 kW each. These generators allow the Department to operate the plant at a capacity of 72 million gallons per day.

The water from the existing treatment plants is delivered into the water distribution system via six major transmission mains. The distribution system contains approximately 2,746 miles of mains ranging in diameter from 2 to 60 inches. Storage is provided by the 51 million gallon Eighth Avenue Reservoir and various other reservoirs with a combined additional capacity of 46.1 million gallons and by tanks and stand pipes, many of which are utilized to provide water service in areas of higher elevation than the central urbanized area. Fifty-seven booster-pumping stations deliver water to the higher regions.

The Water System has experienced continuous growth over the past decade, and as of Fiscal Year 2004, provided direct service to 165,949 customers. In Fiscal Year 2004, 64% of the water provided by the Water System was consumed by commercial and industrial customers (including residential apartment complexes), and 36% by residential customers. The following table illustrates growth of the Water System over the past ten years.

Water System Facts in Brief

| | Fiscal Year Ended June 30 | | |
|---|---|---|---|
| Use of Water | 2004 | 1994 | (1994-2004) Ten Year History |
| Water Customers - End of Period[1] (thousands) | 165,949 | 129,306 | 28.3% |
| Average Daily Treatment (millions of gallons) | 94.6 | 87.9 | 7.6% |
| Water Sales for Fiscal Year (billions of gallons) | 24.8 | 20.2 | 22.8% |
| Maximum Daily Demand (millions of Gallons) | 107.4 | 106.4 | 0.9% |
| Growth of System | | | |
| Utility Plant Value[2] (millions) | $1,290,414 | $932,380 | 38.4% |
| Reservoirs | 46 | 45 | 2.2% |
| Storage Capacity (millions of gallons) | 97.1 | 81.0 | 19.9% |
| Auxiliary Pump Stations | 57 | 57 | 0% |
| Total Miles, Distribution Lines | 2,746 | 2,429 | 13.1% |
| Fire Hydrants | 17,326 | 16,151 | 7.3% |

(1) As per billing records
(2) Property, Plant & Equipment of the Combined Water and Sewer System, net of depreciation

The Sewer System

The existing sewerage system (the "Sewer System") comprises 2,651 miles of gravity sewers, 99 pumping stations, 102 miles of force main and five treatment plants, the three most important of which are the Central Wastewater Treatment Plant, the Dry Creek Wastewater Treatment Plant, and the Whites Creek Wastewater Treatment Plant. The Central Wastewater Treatment Plant has a capacity of 100 million gallons per day of tertiary treatment with sustained peak flows of 250 million gallons per day plus an additional 80 million gallons per day stormwater treatment for a total capacity of 330 million gallons per day.

The Dry Creek Wastewater Treatment Plant has a capacity of 24 million gallons per day of secondary treatment. The Whites Creek Wastewater Treatment Plant has a capacity of 47.5 million gallons per day.

The Department properly treats and disposes of sludge produced at its treatment plants consistent with State law. Currently, the sludge is being transported to landfills. Beginning in Fiscal Year 2005 the Department will start design and construction of a $120 million biosolids project that will allow the sale of a dryer and more viable product for consumer use. This should eliminate the need for landfill space.

In addition to serving Metropolitan Nashville and Davidson County, the Department has been designated as the lead agency to provide complete regional wastewater treatment for ten municipalities or utility districts surrounding Metropolitan Nashville and Davidson County, with each participant to pay its share of the costs for the services under the 201 Plan (defined herein).

The following table provides data on the use and facilities of the Sewer System over the last ten years. The average number of customers served increased 23.3% since Fiscal Year 1994 primarily due to the acquisition of Cumberland Utility District's sewer facilities in 1995. Over the last ten years, there has been a 47.8% increase in the number of sewerage pumping stations and a concurrent 24.6% increase in the miles of sewer lines.

Sewer System Facts in Brief

| | Fiscal Year Ended June 30 | | |
|---|---|---|---|
| | 2004 | 1994 | (1994 - 2004) Ten Year History |
| Sewer Customers - End of Period | 169,533 | 137,474 | 23.3% |
| Annual Sewage Treatment (billions of gallons) | 53.3 | 59.0 | (9.7%) |
| Average Daily Treatment (millions of gallons) | 146.0 | 161.8 | (9.8%) |
| Growth of System | | | |
| Utility Plant Value [(1)] (millions) | $1,290,414 | $932,380 | 38.4% |
| Total Miles of Sewer Lines | 2,753 | 2,210 | 24.6% |
| Number of Treatment Plants | 5 | 5 | 0% |
| Number of Pumping Stations | 99 | 67 | 47.8% |

(1) Property, Plant & Equipment of the Combined Water and Sewer System, net of depreciation

Major Customers

The following list shows the largest customers of the Department for water and sewer services for the indicated recent one-year period, ranked according to billings.

WATER SERVICES LARGEST CUSTOMERS
One Year Period Ending June 30, 2004
(in 1,000's)

| | |
|---|---|
| Vanderbilt University | $ 1,540 |
| Opryland, USA | 484 |
| Baptist Hospital | 355 |
| Aerostructures Corporation | 337 |
| Bridgestone Tire and Rubber Co. | 275 |
| Tennessee State University | 242 |
| Spring Industries | 234 |
| Meharry Medical College | 217 |
| Coca-Cola Bottling | 196 |
| Purity Dairy | 186 |

SEWER SERVICES LARGEST CUSTOMERS
One Year Period Ending June 30, 2004
(in 1,000's)

| | |
|---|---|
| Vanderbilt University | $ 1,916 |
| Opryland, USA | 872 |
| Purity Dairies, Inc. | 639 |
| Baptist Hospital | 412 |
| Tennessee State University | 370 |
| International Diverse Foods | 368 |
| Meharry Medical College | 348 |
| Veterans Administration Hospital | 274 |
| Level Valley Creamery, Inc. | 273 |
| Ford Motor Co. Glass Plant | 268 |

Management and Personnel

SCOTT A. POTTER, P.E., Director, graduated from Vanderbilt University with a Bachelor of Engineering Degree in Electrical Engineering in 1986 and was commissioned as an Ensign in the United States Navy. While serving in the Navy Mr. Potter received a Masters Degree in Mechanical Engineering from the Naval Postgraduate School in Monterey, California, in 1991. Mr. Potter served on two destroyers: USS COCHRANE (DDG 21) and USS CALLAGHAN (DDG 994). While stationed at the United States Naval Academy, he earned the academic rank of Master Instructor, teaching courses in Statics, Materials Science, Applied Fluid Dynamics, Thermodynamics, and Applied Thermodynamics. The Louisville Water Company, in Louisville, Kentucky, employed Mr. Potter as Manager of Distribution Operations from 1998 to 2001. He was also a member of the faculty of the Mechanical Engineering Department in the Speed Scientific School at the University of Louisville.

DAVID M. TUCKER, Assistant Director (Operation of Water and Wastewater Facilities), graduated from Tennessee State University, with a Bachelor of Science Degree in Biological Sciences. He has twelve years experience in water and wastewater treatment plant operations and maintenance. Mr. Tucker holds a State of Tennessee Grade IV Operator's Certification in both water and wastewater treatment. He joined the Department in 1987 as an Assistant Plant Manager and has progressed to his present position. He is a member of the Water Environmental Federation and the American Water Works Association.

ROBERT J. WINGO, Assistant Director (Engineering), graduated from the University of Tennessee, Knoxville, in 1970, with a Bachelor of Science Degree in Engineering Physics. Mr. Wingo held a position in the Roadway Division of the Tennessee Department of Transportation for one year. Mr. Wingo joined the Department in June 1971, as Supervisor/Design Group, Engineering and has advanced to this present position. Mr. Wingo holds a Professional Engineering License for the State of Tennessee.

HAL BALTHROP, Assistant Director (Repair and Maintenance of Distribution and Collection Systems), holds a Bachelor of Science Degree in Civil Engineering from Tennessee Technological University. He is a licensed Professional Engineer and MWS's State Licensed Collection System Manager and Water Distribution Manager. Hal is also State Secretary of the Tennessee Society of Professional Engineers, PTSA President of Martin Luther King, Jr. Academic Magnet School, Vice President of Madison Kiwanis and a member of WEF, AWWA, TWWA, and TAUD.

MARTHA SEGAL, Assistant Director (Customer Service), graduated from Old Dominion University with a Bachelor of Science in Business Administration Degree and a Master of Business Administration Degree. She worked with the Department of Utilities in Norfolk, Virginia for 14 years prior to being recruited to Metro Water Services in 2000. She served for many years on the AWWA Virginia Section Customer Service Committee, and has recently taken over as Chair of the KY/TN Customer Service Committee, and is co-chair of the Local Arrangements Committee for the Water Professionals Conference.

At the end of Fiscal Year 2004, the Department employed 630 persons. Employees of the Department are members of one of four pension plans. Two such plans are of the former City of Nashville and former Davidson County plans. Both are closed to new membership. The third, the Original Metro Plan is now closed to new membership. The fourth plan that has been established is the Modified Metro Plan and is an open plan. The Metropolitan Employee's Benefit Trust Fund was established under provisions of the Charter. The General Fund of the Metropolitan Government, after recognizing contributions from other moneys of the Metropolitan Government, employees and the State, is responsible for funding of the aforementioned plans.

Rate Setting Process

The Charter of the Metropolitan Government provides that the Metropolitan Mayor and the Metropolitan Council have the authority and are directed to establish the rates for water and sewerage services and to provide methods of changes in such rates. Acting in accordance with this authority, the Council adopted Ordinance 99-1502, which, beginning May 1, 1999, established a table of charges for water services that decreased water rates by 25% for residential water customers, 20% for small commercial customers,

15% for intermediate commercial customers, and a 5% for large commercial customers. These charges are presently in effect. Increases in water rates are anticipated for the near future.

At the recommendation of the Department, the Metropolitan Council, pursuant to Ordinance 96-317, adopted on June 11, 1996, rescinded increases scheduled to take effect in January 1997 and January 1998. Sewerage rates have been constant since 1996. The Department anticipates changes in sewerage rates in the near future.

Any change in the water and sewerage service rates established under the above ordinances must be adopted by the Metropolitan Council by ordinance. As stated in Section 3.05 of The Charter of The Metropolitan Government of Nashville and Davidson County "No ordinance shall become effective unless it shall have passed by a majority vote on three (3) different days, on the final passage of which it shall have received a majority vote of all the members to which the council is entitled and until it shall have been signed by the metropolitan county mayor or become a law without his signature...."

An ordinance will become law without the signature of the Metropolitan Mayor if the Mayor fails to approve or disapprove the ordinance and does not return it to the Council at or prior to the next regular meeting of the Council occurring ten days or more after the ordinance is delivered to the Mayor. If the Mayor disapproves the ordinance, it will become law if subsequently adopted by a two-thirds vote of all the members of the Council to which it is entitled.

Under the Charter of the Metropolitan Government, the Mayor is obligated to submit an operating budget to the Council no later than May 25 of each year. Before the beginning of each Fiscal Year, the Council is obligated to adopt a budget, which must provide for all expenditures required by law or the Charter and for the payment of all debt service requirements for the ensuing year.

Pursuant to the Resolution, before the beginning of each Fiscal Year, the Metropolitan Government is obligated to fix or maintain rates for water and sewerage service so as to produce Revenues at least equal to 110% of the Operating Expenses for the Department budgeted for the ensuing Fiscal Year plus the aggregate of the Debt Service (being the amount of payments due during such ensuing year on the Bonds issued and outstanding pursuant to the Resolution).

Current Rates and Charges

Monthly service charges for water and sewerage services are generally based, in each case, upon a rate schedule consisting of a minimum charge and a quantity charge. The minimum charges vary according to meter size and account class, i.e. residential, small commercial, intermediate commercial and large commercial/industrial. The quantity charge is dependent on account class.

Forecast Period Water Rates

Water revenues from the Department's customers include a fixed minimum charge per customer connection and a quantity charge per 100 cubic feet (cf) based upon the meter size and number of connections. The quantity charge is applied to all consumption in excess of 200 cf per month.

## WATER AND SEWERAGE RATE SCHEDULE BY CUSTOMER CLASS

Monthly rates for water sold are based on meter measurement.
Monthly sewerage service charges for the use of the public sanitary sewerage system are set by water consumption as determined by meter measurement.
Minimum charges per month are based on size of meter and customer class.

## CLASS DETERMINATION

| CLASS | ANTICIPATED OR HISTORICAL USAGE |
|---|---|
| Residential | Up to two housing units on a common meter |
| Small Commercial and Industrial | Up to 1,600 cubic feet per month |
| Intermediate Commercial and Industrial | 1,600 to 200,000 cubic feet per month |
| Large Commercial and Industrial | Over 200,000 cubic feet per month |

## WATER AND SEWER CHARGES AND RATES

Minimum Charges per Month (Including 200 Cubic Feet Usage)

| | WATER | | | | SEWER | | | |
|---|---|---|---|---|---|---|---|---|
| Meter Size | Residential | Small Commercial | Intermediate Commercial | Large Commercial | Residential | Small Commercial | Intermediate Commercial | Large Commercial |
| 5/8" | $ 2.70 | $ 3.44 | $ 11.96 | $ 515.91 | $ 6.05 | $ 6.76 | $ 22.14 | $ 854.53 |
| 3/4" | 9.17 | 9.78 | 16.97 | 521.49 | 17.17 | 19.23 | 31.40 | 863.77 |
| 1" | 11.03 | 11.77 | 18.58 | 523.31 | 20.68 | 23.16 | 34.40 | 866.77 |
| 1 1/2" | 16.22 | 17.30 | 23.07 | 528.32 | 30.40 | 34.05 | 42.72 | 875.08 |
| 2" | 21.85 | 23.30 | 28.19 | 534.04 | 40.94 | 45.85 | 52.18 | 884.55 |
| 3" | 28.84 | 30.76 | 35.28 | 539.07 | 54.02 | 60.50 | 65.31 | 892.86 |
| 4" | 47.00 | 50.13 | 55.85 | 562.06 | 88.03 | 98.59 | 103.38 | 930.97 |
| 6" | 73.79 | 78.71 | 86.22 | 596.01 | 138.23 | 154.82 | 159.61 | 987.20 |
| 8" | 115.40 | 123.10 | 134.22 | 652.55 | 216.17 | 242.11 | 248.46 | 1,080.84 |
| 10" | 115.40 | 123.10 | 134.22 | 652.55 | 216.17 | 242.11 | 248.46 | 1,080.84 |
| | Water usage charges per 100 Cubic Feet (Usage over 200 Cubic Feet) | | | | Sewer usage charges per 100 Cubic Feet (Usage over 200 Cubic Feet) | | | |
| Rates | $ 2.01 | $ 2.14 | $ 1.85 | $ 1.56 | $ 3.76 | $ 4.21 | $ 3.43 | $ 2.59 |

In addition to the above rates, an additional charge of 10% of the sewerage charge is required to repay state loans.
An 8.25% state and local sales tax is added to all water charges.

Billing and Collection Procedures

With certain limited exceptions, the Department is required to charge for all water and sewerage services provided by it and consumed by, or, in the case of sewerage services, made available to each customer. Charges for water and sewerage services are generally based on metered measurement of water consumption. The Department reads meters monthly and renders bills to customers based on the actual meter measurement.

The charges for water and sewerage services are included in a single, combined bill in terms of a "net billing," which is the charge calculated at established rates, and a "gross billing," which is the current net billing increased by 5%. The 5% addition to the net billing is a form of penalty for the customer's failure to promptly pay the monthly bill for services, and the gross billing amount becomes applicable 15 days after the billing is mailed to the customer. If a customer fails to pay a bill, a delinquency notice is included in the subsequent month's bill. If the customer fails to pay the bill for a second time, a representative of the department notifies the customer, pursuant to Tennessee Code Annotated § 65-32-104, that service will be discontinued if payment is not received in five days. If the customer does not pay the delinquent account within five days following the visit, the account is subject to immediate discontinuation of water and sewer service. The customer must then pay at least one-half of the amount due and the reconnection fee to have service restored. If the Department is unable to collect the amount owed, the

account is then turned over to a commercial collection agency. To upgrade its customer billing system, the Department installed a new Customer Information System in Fiscal Year 1999.

The foregoing billing and collection procedures have resulted in the collection of approximately 99.20 % of all amounts billed during the past five Fiscal Years.

Operations and Maintenance

The Department has implemented operation and maintenance procedures with respect to the System and has undertaken several programs to upgrade performance, including a water quality testing program. Water quality within the water treatment facilities is tested on site on an hourly basis. Additional testing is conducted at a central laboratory maintained by the Department and certified by the State. Water discharged from the plants into the distribution system is monitored in accordance with the Federal Safe Drinking Water Act (42 U. S. C. 300f et seq.). Water discharged from all five wastewater treatment plants is tested to ensure compliance with the National Pollutant Discharge Elimination System as administered by the United States Environmental Protection Agency and the Tennessee Department of Environment and Conservation.

The Department performs regular maintenance and repair of equipment with outside contractors performing major repairs. To facilitate maintenance and repairs, the Department has established several inspection programs for the different areas of operation. Inspection programs include pumping station inspection, cross-connection protection testing, smoke testing for collection system integrity, water leak detection, fire hydrant testing and valve testing programs. Vans are equipped with closed circuit television cameras that can be maneuvered through the sewer mains to inspect the sewer system.

Comprehensive training programs have been developed for employees, from unskilled to supervisory and management positions, covering many aspects of the operation and maintenance of the System. Although participation in the programs is not mandatory, employees who wish to be promoted to a higher job classification must demonstrate that they have the knowledge and skills that such programs provide.

Payments in Lieu of Taxes and the Local Cost Allocation Plan

Tennessee law provides that a municipality may require a public works to make payments in lieu of ad valorem property taxes, to which the public works is exempt as a governmental entity, in an amount not to exceed the taxes payable on privately owned property of a similar nature. This payment is intended to help reimburse the municipality for the municipal services and support provided to the public works. In 1996, the Metropolitan Council adopted Substitute Resolution No. R96-177, which requires the Department to make an annual payment to the Metropolitan Government of $4,000,000, representing a payment in lieu of ad valorem taxes. This payment, made in monthly installments, is to be paid out of the Department's Operating and Maintenance Fund. Since the Department must make payments to the Debt Service Fund before any payments to the Operating and Maintenance Fund, payments to the Bondholders will have priority over the payments in lieu of taxes.

Local Cost Allocation Plan (LOCAP) for Metro government is a plan by which central services costs are distributed across the Metro departments. In FY 2004, this plan cost the Department $3,973,000. In Fiscal Years 2005 and 2006 this plan will cost the Department $4,100,000 and $4,945,000 respectively. Both the Payments in Lieu of Taxes and the Local Cost Allocation Plan payments have been included in the historical and forecasted Expenses of the Department in the Forecast Statement.

## THE WATER AND SEWER SYSTEM IMPROVEMENT PLAN

The Water System

Beginning in 2002, the Metropolitan Government updated its Master Water Improvement Plan (the "Water Plan") which sets out projected water needs for the service area through the year 2025. The last update was in 1987. All improvements projected in the Water Plan through 2005 are currently scheduled to be made. These improvements include $11.5 million for the upgrade of 29,000 feet of water main in Powell

Avenue, scheduled for completion in 2006; and replacement and relocation of two 36 inch water transmission lines with a single 48 inch transmission line from the Lawrence Water Plant to Fesslers Lane to be completed in 2005 at a cost of $4 million.

Over the next five years, the Department has committed over $51.3 million to the Water Infrastructure Rehabilitation Program, which will ensure the integrity of our water transmission and distribution system for the future. These improvement include 10,200 feet of 24 inch water main from the New Kinhawk reservoir to Bluff Road to be completed in 2005 at a cost of $1.8 million; and 6,700 feet of 36 inch water main from the "City Low" Pressure System to the Airport Pressure System to be completed in 2005 at a cost of $2.5 million.

The Sewer System

The Federal Water Pollution Control Act of 1972 (Public Law 92-500), as amended by the Clean Water Act of 1977 (Public Law 95-217) (collectively, the "FWPCA"), provides for the restoration and maintenance of the chemical, physical and biological integrity of the nation's waters. To achieve that end, the FWPCA established the National Pollution Discharge Elimination System ("NPDES"), a permit system administered by the US Environmental Protection Agency ("EPA") in conjunction with the states. The EPA has delegated the NPDES program for Tennessee to the Tennessee Department of Environment and Conservation ("TDEC"). The Tennessee General Assembly enacted the Tennessee Water Quality Control Act of 1977 to obtain the primary objectives of the FWPCA and to qualify for full participation in the NPDES program established under Section 402 of the FWPCA. Pursuant to the authority granted to it, the Tennessee Water Quality Control Board has enacted regulations consistent with the FWPCA.

Until 1990, Section 201 of the FWPCA authorized grants for the construction of wastewater treatment facilities. The purpose of Section 201 is to require and assist in the development and implementation of wastewater treatment management plans and practices which will achieve the goals of the FWPCA (the "201 Plan"). The FWPCA requires that the publicly owned treatment works, such as the treatment portions of the wastewater system, achieve levels of secondary treatment as defined in the FWPCA or, where applicable, more stringent levels of treatment required to meet water quality standards established pursuant to applicable state and federal laws and regulations. In 1976, the Metropolitan Government completed its 201 Plan (the "Nashville 201 Plan") for the Nashville area and surrounding communities (the "201 Plan Area"). The Nashville 201 plan, approved by the TDEC and the EPA, provided for the most cost-effective methods of treating and transporting sanitary waste in the 201 Plan Area and for an infrastructure for wastewater treatment through the year 2000. An update of this plan was completed and approved in 1987, extending the 201 Plan period through the year 2035. A more detailed update is currently being developed and is scheduled for completion in 2004.

The TDEC makes loans available to the Metropolitan Government and other local governments to pay the cost of constructing projects such as those described above. The Department repays the Tennessee Local Development Loans from a 10% sewer surcharge, imposed pursuant to State law. This fee appears as a charge on sewer bills and, upon collection, the Department remits sewer user fees to the State in the same manner as certain sales tax collections. The State sewer surcharges are not included in Revenues. In 1990, the grants program was converted to a State Revolving Loan Program under which debt service is paid from the Department's Extension and Replacement Fund as provided in the General Resolution.

Many of the capital improvements (set forth in the following table) are required to be completed pursuant to Order 88-3364, issued by the TDEC in 1990 (the "1990 Order"). The 1990 Order resulted from violations by the Metropolitan Government of the Tennessee Water Quality Control Act of 1977 (Tenn. Code Ann. § 69-3-101 et seq., as amended) from January 1987 through June 1989. This was a result of the Metropolitan Government's various wastewater treatment plants, among other things, discharging improperly treated wastewater into the waterways causing pollution in violation of the act. The 1990 Order also acknowledged that the Metropolitan Government's failure to comply with certain agreed upon orders entered by the Tennessee Water Quality Control Board in 1985 and 1987 was also a basis for the 1990 Order.

The 1990 Order identified certain problems regarding the Metropolitan Government's wastewater treatment and required the Metropolitan Government to correct these problems. In response, the

Department developed a detailed program, referred to as the "Overflow Abatement Program" ("OAP"), for making system improvements to correct the problems identified in the 1990 Order, which program was approved the TDEC. With exceptions for structures under construction, or those in which a legally binding commitment existed, the 1990 Order originally prevented the Metropolitan Government from making further line extensions or connections to its wastewater system, until TDEC approved a plan. TDEC removed the prohibition after the Metropolitan Government prepared an approved growth control plan. The 1990 Order provided for specific monetary penalties should the Metropolitan Government not meet certain scheduled deadlines for the completion of various system improvements.

Under the Overflow Abatement Program, the Metropolitan Government continued its extensive program with the construction of additional facilities and the rehabilitation of existing facilities. These have included the construction or rehabilitation of approximately 1,434,000 linear feet of sewer lines, with plans to construct or rehabilitate over 440,000 additional feet. Twenty-three wastewater-pumping stations have been constructed or refurbished. The Metropolitan Government has also constructed or upgraded nine wastewater force mains comprising approximately 129,000 feet.

On September 17, 1999, the TDEC issued Order 99-0390 (the "1999 Order") citing the Metropolitan Government in violation of state law; "By causing or allowing discharges from its sewage system to waters of the state in a manner not authorized by its permit the Respondent has violated T. C. A. §69-3-108(b) and T. C. A. §69-3-114(b)…." This new order superseded the provisions of Order 88-3364, and required payment of a fine of $600,000. Effective July 1, 2001, the Metropolitan Government was to immediately not permit or allow any overflows or bypassing from its combined sewer system during dry weather to any waters of the state. Nor was it to allow any discharge from the sanitary sewerage system to any tributary of the Cumberland River. The current flow limits at the tie-in points from all contributing satellite sewage systems were to be maintained.

The Metropolitan Government prepared a detailed response to each noted violation. The TDEC approved the Metropolitan Government proposed commitment to bring its treatment and collection into compliance by December 31, 2007. If the Metropolitan Government continues to violate the requirement that all CSO controls and elimination be in place and operational, the 1999 Order provides for a payment of $500,000 on December 31, 2007.

The Metropolitan Government considers its relationship with TDEC to be good, and that the current OAP has addressed, and continues to address, the concerns expressed by the State of Tennessee about its wastewater treatment and collection system. On March 17, 2000, the TDEC recognized the tremendous commitment of effort and expense made by the Department toward safer, cleaner water by the Department's commitment of an additional $453 million for capital projects, including specific OAP projects. This brings the Metropolitan Government's total capital commitment between 1990 and 2007 to $1.1 billion to comply with water quality enforcement actions. All compliance dates in the 1999 Order have been met. TDEC has not assessed monetary penalties against the Metropolitan Government for failing to meet a schedule compliance date, and the Metropolitan Government is in compliance with the requirements approved in settling the 1999 Order.

Specific OAP projects include the Dry Creek Wastewater Treatment Plant Optimization, which will enable the plant to process higher rates of peak flow from 42 MGD, the current peak rate, to 63 MGD. This project is scheduled for completion in 2007 at a cost of $5.5 million. The Richland Creek/Sylvan Park Sewer Rehabilitation Project is intended to remove inflow and infiltration flow to the West Park Wastewater Pumping Station, and ultimately the White Creek Wastewater Treatment Plant. Included in this project will be the removal of three pipe bridges from the system. This project is scheduled for completion in 2006 at a cost of $2.6 million.

Additional improvements to the Central Wastewater Treatment Plant are needed to address the handling of biosolids, and odor issues. These include the installation of a centrifugal de-watering process and new solids drying system, which will convert the biosolids into a salable product. The costs of these improvements are estimated at $120 million over the next five years, funded by state revolving fund loans. This is scheduled for completion in 2008. An additional $22 million in biosolids handling improvements to the Dry Creek Wastewater Treatment Plant, including new digesters and filter presses, are scheduled for completion in 2007.

The following table depicts the proposed commitments for capital improvements to be undertaken by the Department during the Fiscal Years Ending June 30, 2003 through 2007. Capital projects during the forecast period may be funded from the Extension and Replacement Fund, and from State loan programs. The Metropolitan Government has received approximately $218 million in Tennessee Local Development Authority and State Revolving Fund loans to finance projects under the OAP, and anticipates additional approvals for funding from these sources of approximately $120 million.

## The Water and Sewer Capital Improvement Plan

| | 2005 | 2006 | 2007 | 2008 | 2009 | TOTAL |
|---|---|---|---|---|---|---|
| **Overflow Abatement Program:** | | | | | | |
| Wastewater Plant Improvement | $ 1,500,000 | - | - | - | - | $ 1,500,000 |
| Wastewater Pump Station Improvements | 3,288,000 | 5,550,000 | 9,410,000 | - | - | 18,248,000 |
| Sanitary Sewer Rehabilitation | 10,990,000 | 9,725,000 | 4,375,000 | - | - | 25,090,000 |
| Combined Sewer Improvements | 100,000 | 1,100,000 | 3,375,000 | 11,300,000 | 10,000,000 | 25,875,000 |
| Program Management & Water Quality | 4,195,000 | 1,000,000 | 4,000,000 | 9,700,000 | 12,500,000 | 31,395,000 |
| **Total Overflow Abatement Program** | $ 20,073,000 | $ 17,375,000 | $ 21,160,000 | $ 21,000,000 | $ 22,500,000 | $ 102,108,000 |
| **Other:** | | | | | | |
| Biosolids and Odor Control | 5,500,000 | 29,088,000 | 68,812,000 | 16,600,000 | - | 120,000,000 |
| Trunk Sewer Additions | 380,000 | 325,000 | 300,000 | 325,000 | 7,050,000 | 8,380,000 |
| Wastewater Plant Improvement | 5,090,000 | 6,950,000 | 5,025,000 | 4,915,000 | 2,401,000 | 24,381,000 |
| Wastewater Pump Station Improvements | 770,000 | 805,000 | 460,000 | 460,000 | 460,000 | 2,955,000 |
| Water Plant Improvements | 1,535,000 | 7,125,000 | 5,060,000 | 5,050,000 | 5,620,000 | 24,390,000 |
| Water Reservoir & Pump Station Improvements | 1,575,000 | 5,501,500 | 2,106,000 | 960,000 | 1,560,000 | 11,702,500 |
| Water Distribution System Improvements | 13,725,000 | 13,900,000 | 8,275,000 | 16,900,000 | 9,900,000 | 62,700,000 |
| Utility Relocation Projects | 3,500,000 | 3,000,000 | 3,500,000 | 3,500,000 | 2,000,000 | 15,500,000 |
| Information Systems Improvements | 1,600,000 | 1,920,000 | 1,182,500 | 720,000 | 720,000 | 6,142,500 |
| Vehicles and Equipment | 1,900,000 | 1,611,000 | 526,000 | 621,000 | 656,000 | 5,314,000 |
| Meter Change-out Program | 4,560,000 | 5,320,000 | 5,320,000 | 5,615,500 | 5,880,000 | 26,695,500 |
| Stormwater Improvements | 7,230,000 | 4,198,000 | 272,500 | 110,000 | 10,000 | 11,820,500 |
| Miscellaneous | 10,103,000 | 9,481,000 | 10,619,000 | 9,491,000 | 8,764,200 | 48,458,200 |
| **Total Other Capital Projects** | $ 57,468,000 | $ 89,224,500 | $ 111,458,000 | $ 65,267,500 | $ 45,021,200 | $ 368,439,200 |
| **TOTAL** | **$ 77,541,000** | **$ 106,599,500** | **$ 132,618,000** | **$ 86,267,500** | **$ 67,521,200** | **$ 470,547,200** |
| Sources of Funds | | | | | | |
| Extension and Replacement Fund | 72,041,000 | 72,511,500 | 58,806,000 | 64,667,500 | 67,521,200 | 335,547,200 |
| State Revolving Fund Sewer Loan | 5,500,000 | 29,088,000 | 68,812,000 | 16,600,000 | - | 120,000,000 |
| Tennessee Local Development Authority Loans | - | 5,000,000 | 5,000,000 | 5,000,000 | - | 15,000,000 |
| Other (Grants) | - | - | - | - | - | - |
| **TOTAL** | **$ 77,541,000** | **$ 106,599,500** | **$ 132,618,000** | **$ 86,267,500** | **$ 67,521,200** | **$ 470,547,200** |