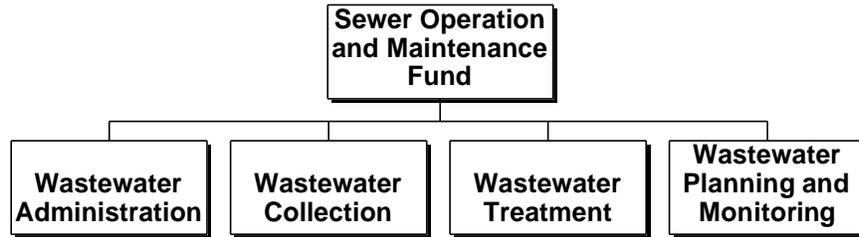


FUND 401
SEWER OPERATION AND MAINTENANCE



FUND 401 SEWER OPERATION AND MAINTENANCE

Agency Position Summary

370 Regular Positions / 369.5 Regular Staff Years

Position Detail Information ¹

WASTEWATER ADMINISTRATION

1 Director
1 Secretary II
2 Positions
2.0 Staff Years

WASTEWATER COLLECTION ⁴

Collection Program

1 Director
1 Engineer IV
1 Management Analyst III
1 Computer Systems Analyst II
1 Management Analyst II
1 Engineer II
1 Warehouse Supervisor
1 Warehouse Specialist
1 Secretary II
2 Account Clerks II
5 Clerical Specialists
1 Supply Clerk
1 Stock Clerk
18 Positions
18.0 Staff Years

Gravity Sewers

1 Supervisor of Facilities
1 Engineer III
3 Maintenance Superintendents
1 Asst. Maintenance Superintendent
1 Assistant Supervisor
Engineering Inspector
2 Senior Maintenance Supervisors
3 Senior Construction Supervisors
2 Senior Engineering Inspectors
6 Maintenance Supervisors
1 Engineering Technician II
1 Construction Supervisor
1 Map Drafter
3 Engineering Technicians I
3 Heavy Equipment Operators
16 Labor Crew Chiefs
9 Engineering Aides
3 Motor Equipment Operators
5 Truck Drivers
13 Senior Utility Workers
13 Utility Workers
88 Positions
88.0 Staff Years

Pumping Stations

1 Supervisor of Facilities Support
1 Industrial Electrician Supervisor
1 Instrumentation Supervisor
2 Pump Station Supervisors
1 Industrial Electrician III
3 Instrumentation Technicians III
5 Pump Station Operators III
2 Industrial Electricians II
3 Plant Mechanics III
1 Engineering Technician II
3 Instrumentation Technicians II
1 Welder II
9 Pump Station Operators II
5 Plant Mechanics II
1 Painter I
2 Engineering Aides
1 Maintenance Trade Helper II
1 Maintenance Trade Helper I
1 Laborer II
44 Positions
44.0 Staff Years

WASTEWATER TREATMENT

Noman M. Cole Pollution Control Plant

1 Director
1 Programmer Analyst IV
1 Engineer III
1 Engineer II
1 Network Analyst I
1 Engineering Technician III
1 Warehouse Supervisor
1 Heavy Equipment Supervisor
2 Engineering Technicians II
1 Engineering Drafter
1 Administrative Aide
1 Warehouse Specialist
1 Engineering Technician I
3 Heavy Equipment Operators
1 Secretary II
2 Account Clerks II
1 Warehouse Worker-Driver
2 Storekeepers
23 Positions
23.0 Staff Years

FUND 401

SEWER OPERATION AND MAINTENANCE

Operations

1	Engineer IV
1	Engineer II
2	Plant Operations Superintendents
8	Plant Operations Supervisors
1	Engineering Technician II
22	Plant Operators III
48	Plant Operators II
83	Positions
83.0	Staff Years

Maintenance

1	Engineer III
1	Plant Maintenance Superintendent
1	Industrial Electrician Supervisor
1	Instrumentation Supervisor
2	Plant Maintenance Supervisors
1	Chief Building Maintenance
3	Industrial Electricians III
3	Instrumentation Technicians III
1	Senior Maintenance Supervisor
5	Industrial Electricians II
6	Plant Mechanics III
6	Instrumentation Technicians II
2	Welders II
13	Plant Mechanics II
3	Painters I
2	Industrial Electricians I
1	Maintenance Trade Helper II
2	Senior Utility Workers
2	Utility Workers
3	Custodians II
5	Custodians I
64	Positions
64.0	Staff Years

WASTEWATER PLANNING & MONITORING

Financial Management and Planning

1	Director
1	Engineer IV
1	Engineer III
1	Programmer Analyst III
1	Accountant II
1	Management Analyst II
1	Programmer Analyst I
1	Engineering Technician II
3	Engineering Technicians I
1	Account Clerk II PT
2	Clerical Specialists
1	Secretary II
1	Administrative Aide
16	Positions
15.5	Staff Years

Engineering Analysis and Control

1	Engineer IV
1	Engineer III
5	Engineers II
2	Engineering Technicians III
2	Engineering Technicians II
11	Positions
11.0	Staff Years

Environmental Monitoring

1	Environmental Services Director
2	Assistant Environment Services Directors
3	Environmental Technologists III
1	Network/Telecommunications Analyst
3	Environmental Technologists II
3	Environmental Technicians II
7	Environmental Technologists I
1	Secretary I
21	Positions
21.0	Staff Years

PT Denotes Part-Time Positions

¹ As part of the reorganization, the four operating agencies that were previously reflected as separate agencies within Fund 401, Sewer Bond Operation and Maintenance, will now be reflected as Cost Centers in a single Wastewater Management agency within Fund 401.

² As part of the agency's streamlining program, the Infiltration Abatement activity in the Wastewater Collection Cost Center is abolished in FY 2001. As a result of this action, 15/15.0 SYE positions are transferred to Gravity Sewers and 8/8.0 SYE positions are transferred to Pumping Stations.

FUND 401

SEWER OPERATION AND MAINTENANCE

AGENCY MISSION

To provide wastewater management services and ensure that the Wastewater Management Program is satisfying County citizen needs in order to protect the environment, safeguard public health, and ensure capacity in the sanitary sewer system.

AGENCY SUMMARY¹					
Category	FY 1999 Actual	FY 2000 Adopted Budget Plan	FY 2000 Revised Budget Plan	FY 2001 Advertised Budget Plan	FY 2001 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	386/ 385.5	373/ 372.5	370/ 369.5	370/ 369.5	370/ 369.5
Expenditures:					
Personnel Services	\$16,691,004	\$18,302,421	\$17,482,904	\$18,463,828	\$18,914,749
Operating Expenses	34,787,511	40,218,001	44,042,184	41,828,362	41,828,362
Capital Equipment	536,421	654,693	1,434,854	815,308	815,308
Subtotal	\$52,014,936	\$59,175,115	\$62,959,942	\$61,107,498	\$61,558,419
Less:					
Recovered Costs	(\$714,271)	(\$629,172)	(\$629,172)	(\$662,772)	(\$668,624)
Total Expenditures	\$51,300,665	\$58,545,943	\$62,330,770	\$60,444,726	\$60,889,795

SUMMARY BY COST CENTER					
Category	FY 1999 Actual	FY 2000 Adopted Budget Plan	FY 2000 Revised Budget Plan	FY 2001 Advertised Budget Plan	FY 2001 Adopted Budget Plan
Wastewater Administration	\$159,605	\$156,299	\$190,241	\$194,495	\$198,527
Wastewater Collection	8,684,502	10,137,832	10,381,895	10,181,085	10,346,335
Wastewater Treatment	13,528,123	16,288,062	17,766,487	16,419,505	16,626,765
Wastewater Planning & Monitoring	28,928,435	31,963,750	33,992,147	33,649,641	33,718,168
Total Expenditures	\$51,300,665	\$58,545,943	\$62,330,770	\$60,444,726	\$60,889,795

¹ As part of the reorganization, the four operating agencies (Wastewater Administration, Wastewater Collection, Wastewater Treatment, and Wastewater Planning and Monitoring) that were previously reflected as separate agencies within Fund 401, Sewer Bond Operation and Maintenance, will now be reflected as Cost Centers in a single Wastewater Management agency within Fund 401.

As outlined in the FY 2001 Advertised Budget Plan, another stage in the Department of Public Works and Environmental Services (DPWES) reorganization is occurring in FY 2001. The DPWES was formed in FY 1999 through the merger of the Department of Public Works, the Department of Environmental Management, and the Facilities Management Division, previously in the Department of General Services, which was abolished. It was anticipated at that time that the development of a cohesive organization would be a multi-year process as the Department evaluated its services and overall functionality. DPWES will establish business teams to provide leadership in stormwater, wastewater, solid waste, land development, capital facilities, and facilities management as well as numerous functional teams to improve coordination of financial management, human resources, systems administration and other business support areas. In addition, initiation of customer service strategic initiatives will continue. The reorganization includes transfer of funding and positions between agencies and results in no net General Fund impact.

FUND 401

SEWER OPERATION AND MAINTENANCE

Board of Supervisors' Adjustments

The following funding adjustments reflect all changes to the FY 2001 Advertised Budget Plan, as approved by the Board of Supervisors on April 24, 2000:

- The 2.5 percent cost-of-living/market rate adjustment approved by the Board of Supervisors, and previously held in reserve, has been spread to County agencies and funds. This action results in an increase of \$445,069 to Fund 401, Sewer Operation and Maintenance. This amount consists of an increase of \$450,921 in Personnel Services and an increase of \$5,852 in Recovered Costs.
- As part of the reorganization, the four operating agencies (Wastewater Administration, Wastewater Collection, Wastewater Treatment, and Wastewater Planning and Monitoring) that were previously reflected as separate agencies within Fund 401, Sewer Bond Operation and Maintenance, will now be reflected as Cost Centers in a single Wastewater Management agency within Fund 401.

The following funding adjustments reflect all approved changes to the FY 2000 Revised Budget Plan from January 1, 2000 through April 17, 2000. Included are all adjustments made as part of the FY 2000 Third Quarter Review:

- A net savings of \$537,637 is associated with the Close Management Initiatives based on a reduction of \$853,459 in Personnel Services and \$42,603 in Operating Expenses, partially offset by the redistribution of \$141,384 to Operating Expenses and \$217,041 to Capital Equipment. The remaining savings are returned to fund balance for investment in future program initiatives.
- An increase of \$33,942 in Personnel Services reflects increased accrued leave obligations.



Agency Overview

As part of the Public Works Management Council restructuring, Fund 401, Sewer Bond Operations and Maintenance, is renamed Sewer Operation and Maintenance to more accurately reflect the functions of this fund. The Wastewater Management Program (WWM) will continue under the supervision of the Director of the Department of Public Works and Environmental Services, with central management provided by Wastewater Administration. The strategic planning and overall business monitoring will be the responsibility of Wastewater Administration.

FY 2001 funding will continue to provide for the management and operation of the WWM, whose mission is to plan, collect, treat, and monitor all wastewater generated within Fairfax County. At the end of FY 1999, there were 309,946 connections to the sanitary sewer systems, including 147,711 single-family residences, 79,102 apartments, 66,662 townhouses, and 11,574 nonresidential units. On average, there are approximately 5,050 new connections per year. In order to plan, collect, treat, and monitor the wastewater in the most economical way while maintaining the highest regard for public safety and the environment, the agency has been aligned by specific business practices.

The Wastewater Collection Division will continue to convey approximately 103 million gallons of wastewater per day (MGD) to various treatment plants, as well as operate and maintain the entire sewer system in the County which includes approximately 3,106 miles of sewer lines, 88,500 manholes, 63 sewage pumping station, 64 sewage flow meters and 276 grinder pump stations. In FY 2001, the Infiltration Abatement section is eliminated as its functions are more appropriately aligned with those of Gravity Sewers and Pumping Stations.

FUND 401

SEWER OPERATION AND MAINTENANCE

As a direct result of more aggressive sewer line cleaning and inspection activities, this division has reduced the annual total of sewer backups and overflows by 66.4 percent, from 128 in FY 1995 to 43 in FY 1999. It is estimated that this level will be maintained in FY 2000 and FY 2001.

The Sanitary Sewer Rehabilitation Program, which concentrates on rehabilitating the County's aging sewer lines, will continue in FY 2001. Focusing primarily on the older areas of the County, this program utilizes closed circuit television inspection of the entire sewer shed to identify potential problems. Rehabilitation of the deteriorated sewer lines is achieved by utilizing state-of-the-art trenchless technologies offered by private companies.

In FY 2001, the Wastewater Treatment Division will also continue to operate the Noman M. Cole, Jr., Pollution Control Plant (NCPCP) with a total sewage treatment capacity of 54 MGD. The estimated volume of wastewater to be treated at the NCPCP in FY 2000 is 45.31 MGD (84 percent capacity) compared to the FY 1999 actual volume of 41.50 MGD. An estimated flow of 46.12 MGD will be treated at the NCPCP in FY 2001.

Construction to expand the NCPCP to 54 MGD began in FY 1987 and was completed in FY 1997 at a total cost of \$140 million. To partially cover the cost of this expansion, the County issued revenue bonds in FY 1986 in the amount of \$75 million. In FY 1997, construction began to expand the NCPCP beyond the 54 MGD capacity. This expansion includes several systemic improvements to the plant which are scheduled to be completed by the year 2002, including an increase in treatment capacity to 67 MGD, an upgrade to treatment processes necessary to meet the Virginia State Water Control Board water quality standards, an upgrade to odor control systems in response to concerns of citizens in the surrounding community, an upgrade to instrumentation and control systems, the abandonment of 21 underground storage tanks and the installation of five new above-ground storage tanks, construction of new septage disposal facilities, and modifications to the laboratory and administration facilities. The total estimated cost of the NCPCP expansion beyond 54 MGD is estimated at \$188 million. To partially offset these costs, the County issued \$104 million in bonds in FY 1996. In addition, the County received a Point Source Grant of \$10.4 million from the Department of Environmental Quality in FY 1998 to finance 50 percent of the design and installation costs for the biological nitrogen removal facilities.

The expansion of NCPCP from a capacity of 54 to 67 MGD is scheduled for completion in six phases (referred to as Task Orders) by FY 2002.

Task Order	Description	Completion Date
1	Design Services	Continuing
2	Above-ground Storage Tanks Septage Receiving Facility	FY 1998
3	Laboratory and Administration Facilities	FY 2000
4	South Site Construction	FY 1999
5	Main Plant Expansion	FY 2002
6	Instrumentation and Control Systems	FY 2002

The agency has already completed Task Orders 2 and 4 which include the abandonment of 21 underground storage tanks, the installation of five above-ground storage tanks, the construction of new septage disposal facilities, a new pumping station and a bridge over Pohick Creek, and new equalization tanks. Task Order 3 includes modifications to the laboratory and administration facilities and is scheduled for completion by the end of FY 2000. Task Order 5 consists of the main plant expansion and improvement. The remaining Task Order 6 consists of enhancements to the instrumentation and control system and the information management system. Both Task Orders 5 and 6 are scheduled for completion in FY 2002.

The expansion and upgrade of the NCPCP to 54 MGD has already greatly improved the efficiency of the plant, resulting in a reduction in staffing requirements and operating expenditures over the past few fiscal years. In FY 2001, the Division will continue to investigate other options to streamline the agency's operations and reorganize staffing to better meet the needs of the agency. The agency anticipates additional reductions in operating expenditures due to lesser maintenance requirements, the optimal use of chemicals and utilities, and the installation of state-of-the-art equipment.

FUND 401

SEWER OPERATION AND MAINTENANCE

The Wastewater Planning and Monitoring Division will analyze, plan, and develop the Wastewater Management Program, monitor and report County sewage flows treated at non-County facilities, and monitor public and private treatment facilities in the system for environmental quality. It should be noted that this division also includes the Treatment by Contract payments for the treatment of County wastewater by neighboring jurisdictions' facilities.

It is estimated that the total amount of treated sewage from Fairfax County in FY 2001 will be approximately 107.2 MGD, which is reflective of wet weather trends and an increase of 9.2 percent over the FY 1999 actual level of 96.6 MGD. In addition to the 46.12 MGD that are projected to be treated at the County-owned Noman M. Cole, Jr. Pollution Control Plant, the County has treatment agreements with the Alexandria Sanitation Authority, the District of Columbia (Blue Plains, Potomac Interceptor), Arlington County, and the Upper Occoquan Sanitation Authority. For FY 2001, the treated flow is estimated to be 61.1 MGD at these outside facilities.

To ensure the adequacy of the Wastewater Management Program in meeting current and future capacity requirements, the Engineering Analysis section will review an estimated 200 project plans for conformance with County standards to provide adequate sewer lines for proposed future development. Approximately 44 miles of sewer lines will be reviewed for incorporation into the system. Of that total, it is projected that 40 miles will be accepted.

In FY 2001, the Wastewater Planning and Monitoring Division, in conjunction with the Department of Information Technology and other County agencies, will continue to develop a Geographical Information System (GIS) database. This database will automate the sanitary sewer facilities, streamline data maintenance tasks, and utilize GIS network modeling tools to reproduce sewer plans quickly, generate maps with select facility layers, and match water usage statistics with sanitary sewer customers.

Funding of \$585,000 in FY 2001 will allow the Division to hire an outside consultant to convert existing sewer maps and automated databases into the new GIS system; purchase new GIS software to enter graphic data into the database and meet design/application requirements; and provide additional training on the new GIS software, hardware, and modifications to the database structure which consists of sewer, wastewater, planimetric, topographic property, and facilities information.

FY 2001 funding provides for the continuation of sample collections during the summer months by the Environmental Laboratory, which provides analysis associated with the Ecosystem Evaluation of the Gunston Cove Estuary and the Stream Monitoring Program. In addition, the laboratory staff will continue new monitoring programs promulgated by Federal and State regulations including the Toxic Monitoring Program as it pertains to the permit compliance and reporting requirements of the National Pollutant Discharge Elimination System (NPDES) and the testing of sewage sludge for hazardous substances. Additionally, laboratory staff will continue to sample, monitor, and analyze influent and effluent sewage flows at the County's wastewater treatment facility for the presence of, and concentration of, 126 toxic substances. The laboratory will continue to monitor plant process performance and industrial waste discharges in the County to ensure the proper functioning of the treatment plant.

An amount of \$60,889,795 is budgeted for the fund's direct expenditures in FY 2001. Of this amount, \$26,876,908 is for payments to other jurisdictions for the costs incurred for treating Fairfax County sewage flows (i.e., Treatment by Contract). The primary source of funding in FY 2001 is the transfer of sewer revenues from Fund 400, Sewer Revenue, in the amount of \$60,644,595.

The Performance Indicators used for the Wastewater Management Program were established from the FY 2000 Adopted Budget Plan for the specific cost centers. The Strategic Plan for the Wastewater Management Program is currently being developed; therefore, the goals and objectives have not been finalized. The Performance Indicators will be revised once the Strategic Plan has been fully approved in FY 2001.

FUND 401

SEWER OPERATION AND MAINTENANCE



Funding Adjustments

The following funding adjustments from the FY 2000 Revised Budget Plan are necessary to support the FY 2001 program:

- An increase of \$385,656 is due to the implementation of the new Pay for Performance program in FY 2001. The new system links annual pay increases to employee performance.
- An increase of \$345,178 is due to the implementation of the Market Pay Study. As a result of the Study, incumbents in job classes that are found to be one grade below the market will be moved to the appropriate grade and receive a 2.0 percent market adjustment. Incumbents in classes found to be two or more grades below the market will be moved to the appropriate grade and receive a 4.0 percent market adjustment. In addition, funding is held in reserve to provide all employees with a 2.5 percent cost-of-living/market adjustment.
- A decrease of \$569,427 in Personnel Services based on current grade and projected fringe benefits for existing staff.
- An increase of \$33,600 in Recovered Costs primarily reflects increased County contributions to the Colchester Treatment Facility based on a revised rate structure and an increase in the recovery of lab work costs from other agencies based on the previous year actual for land fill monitoring, water analysis, and storm water testing.
- A net decrease of \$2,213,822 in Operating Expenses is primarily due to encumbered carryover of FY 1999 treatment expenses including sewage treatment supplies, odor chemicals, and utilities.
- Funding of \$815,308 is included for new and replacement Capital Equipment. Of this amount, replacement equipment totals \$799,158 and is included for the replacement of one rodder (\$61,000), one sewer cleaner (\$230,000), one vactor combination unit (\$230,000), one low-boy trailer (\$32,600), one air compressor (\$14,000), and seven trucks (\$165,108) recommended for replacement by the Department of Vehicle Services. In addition, \$37,000 is included for the replacement of 10 computers based on the agency's replacement schedule for FY 2001. The remaining \$29,450 is included to replace a 15-year-old digestion system in order to meet mission essential requirements of the Land Information Management System (LIMS), two meters that provide mandatory Environmental Protection Agency (EPA) laboratory field testing, and two printers and one copier that are beyond repair. Funding for new equipment totals \$16,150, and includes two cabinets to provide additional filing space for County sewer line records, one distiller to maintain fresh water samples prior to analysis, and an icemaker to maintain cool temperatures when collecting samples from wastewater treatment plants to meet mandated EPA standards.

The following funding adjustments reflect all approved changes to the FY 2000 Revised Budget Plan since passage of the FY 2000 Adopted Budget Plan. Included are all adjustments made as part of the FY 1999 Carryover Review and all other approved changes through December 31, 1999:

- As part of the FY 1999 Carryover Review, a net increase of \$4,288,522 is due to carryover of \$321,525 reflecting the unexpended balance of Close Management Initiatives (CMI) savings as well as the carryover of encumbered items totaling \$3,966,997. This amount consists of an increase of \$3,725,402 in Operating Expenses and \$563,120 in Capital Equipment.
- The County Executive approved a redirection of positions resulting in a decrease of 2/2.0 SYE positions for the Wastewater Planning and Monitoring Division and a decrease of 1/1.0 SYE position for the Wastewater Treatment Division in FY 2000. There are no corresponding funding adjustments for these position redirections.

FUND 401 SEWER OPERATION AND MAINTENANCE

Cost Center: Wastewater Administration

GOAL: To provide for the overall management of the Wastewater Management and Solid Waste Management programs, and to ensure that the office satisfies the County needs as they relate to the operation and maintenance of facilities supporting Wastewater Management and Solid Waste Management programs.

COST CENTER SUMMARY					
Category	FY 1999 Actual	FY 2000 Adopted Budget Plan	FY 2000 Revised Budget Plan	FY 2001 Advertised Budget Plan	FY 2001 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	2/2	2/2	2/2	2/2	2/2
Expenditures:					
Personnel Services	\$149,855	\$156,549	\$190,491	\$161,218	\$165,250
Operating Expenses	150,878	101,320	101,320	159,979	159,979
Capital Equipment	0	0	0	0	0
Subtotal	\$300,733	\$257,869	\$291,811	\$321,197	\$325,229
Less:					
Recovered Costs	(\$141,128)	(\$101,570)	(\$101,570)	(\$126,702)	(\$126,702)
Total Expenditures	\$159,605	\$156,299	\$190,241	\$194,495	\$198,527



Objectives

- To ensure that the Wastewater and Solid Waste Management businesses have adequate resources to achieve their goals at a target of 100 percent. Resources are defined as funding, staffing, materials, and equipment.



Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 1997 Actual	FY 1998 Actual	FY 1999 Estimate/Actual	FY 2000	FY 2001
Output:					
Program goals met within allocated resources	NA	6	6 / 6	6	6
Efficiency:					
Average cost of resources allocated per goal	NA	\$16,403	\$33,360 / \$26,600	\$31,707	\$33,088
Service Quality:					
Percent of timely responses to Board, County Executive and customers	NA	100%	72% / 100%	100%	100%
Outcome:					
Percent of program goals met within allocated resources	NA	100%	100% / 100%	100%	100%

FUND 401 SEWER OPERATION AND MAINTENANCE

Cost Center: Wastewater Collection

GOAL: To operate, maintain, and repair the County's wastewater collection system in a manner that protects Fairfax County citizens and the environment.

COST CENTER SUMMARY					
Category	FY 1999 Actual	FY 2000 Adopted Budget Plan	FY 2000 Revised Budget Plan	FY 2001 Advertised Budget Plan	FY 2001 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	163/ 163	150/ 150	150/ 150	150/ 150	150/ 150
Expenditures:					
Personnel Services	\$6,388,702	\$7,060,340	\$6,760,340	\$6,958,342	\$7,128,586
Operating Expenses	2,405,758	3,121,298	3,176,310	2,976,496	2,976,496
Capital Equipment	277,764	340,196	829,247	604,600	604,600
Subtotal	\$9,072,224	\$10,521,834	\$10,765,897	\$10,539,438	\$10,709,682
Less:					
Recovered Costs	(\$387,722)	(\$384,002)	(\$384,002)	(\$358,353)	(\$363,347)
Total Expenditures	\$8,684,502	\$10,137,832	\$10,381,895	\$10,181,085	\$10,346,335



Objectives

- To control the number of sanitary sewer overflows and backups at a level of no more than 20 per 1,000 miles of sewer pipe annually through a preventative maintenance program of sewer inspection, cleaning, repair, and rehabilitation.
- To maintain all pumping stations, grinder pump stations, auxiliary equipment, controls and accessories to ensure 100 percent reliability of force mains and pressure sewer systems; and to achieve 100 percent accuracy in metering and recording wastewater flows entering and leaving the Fairfax County sewer system for interjurisdictional billings.



Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 1997 Actual	FY 1998 Actual	FY 1999 Estimate/Actual	FY 2000	FY 2001
Output:					
Miles of pipe visually inspected	1,397	887	900 / 745	900	700
Miles of pipe pressure flushed	275	303	315 / 267	315	300
Miles of pipe rodded	101	131	140 / 115	140	125
Miles of sewer line inspected by TV ¹	193	206	194 / 208	165	165
Pump station alarm responses	295	319	360 / 318	360	360

FUND 401 SEWER OPERATION AND MAINTENANCE

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 1997 Actual	FY 1998 Actual	FY 1999 Estimate/Actual	FY 2000	FY 2001
Efficiency:					
Cost per foot for flushing	\$0.55	\$0.44	\$0.41 / \$0.49	\$0.43	\$0.51
Cost per foot for rodding	\$1.31	\$0.86	\$0.80 / \$0.63	\$0.83	\$0.62
Cost per mile for TV inspection	\$6,714	\$5,476	\$5,044 / \$4,332	\$4,126	\$4,332
Pumping cost per MGD	\$166	\$164	\$172 / \$154	\$173	\$168
Annual cost for permanent meter reading per device	\$7,162	\$6,547	\$7,058 / \$7,206	\$7,135	\$7,200
Service Quality:					
Percent of backups and overflows divided by actual number of backups and overflows	83%	125%	100% / 144%	100%	100%
Percent of planned TV inspections accomplished	100%	90%	100% / 90%	100%	100%
Regulatory Compliance – Violations issued per year ²	0	0	0 / 0	0	0
Pump station failures resulting in overflow/bypass or backup conditions	0	0	0 / 0	0	0
Outcome:					
Backups and overflows per 1,000 miles of pipe ³	24	16	20 / 14	20	20
Force main and pressure sewer system reliability as measured by equipment reliability ratio	100%	100%	100% / 100%	100%	100%
Wastewater collection metering accuracy	100%	100%	100% / 100%	100%	100%

¹ Beginning in FY 2000, the CCTV production level was reduced due to the agency's streamlining efforts which resulted in 3 CCTV crews working instead of 4 CCTV crews to conduct television inspections of the sanitary sewer lines.

² Black & Veatch's 1997 Survey of Performance Measures for Water & Wastewater Utilities in Maryland and Virginia reports the number of days in compliance with state permit for a Very Large (100-250 MGD capacity) utility is 365.

³ The 1984 results of the Urban Institute study correlating sewer backups and line cleaning indicate that "the upper limit of best practice was probably 20 to 100 backups per 1,000 miles of pipe annually." Black & Veatch's 1997 Survey of Performance Measures for Water & Wastewater Utilities in Maryland and Virginia reports the average number of stoppages per 100 miles of sewer main for a Very Large (100-250 MGD capacity) utility is 27.

FUND 401 SEWER OPERATION AND MAINTENANCE

Cost Center: Wastewater Treatment

GOAL: To ensure efficient and effective operation and maintenance of the County's wastewater treatment facilities within the laws and standards established by the Congress of the United States in Public Law 92-500 which designates regulatory powers to the U.S. Environmental Protection Agency (EPA) and the Virginia Department of Environmental Quality (DEQ).

COST CENTER SUMMARY					
Category	FY 1999 Actual	FY 2000 Adopted Budget Plan	FY 2000 Revised Budget Plan	FY 2001 Advertised Budget Plan	FY 2001 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	171/ 171	171/ 171	170/ 170	170/ 170	170/ 170
Expenditures:					
Personnel Services	\$7,809,704	\$8,334,187	\$7,917,478	\$8,510,884	\$8,718,144
Operating Expenses	5,612,444	7,722,378	9,372,608	7,743,513	7,743,513
Capital Equipment	105,975	231,497	476,401	165,108	165,108
Total Expenditures	\$13,528,123	\$16,288,062	\$17,766,487	\$16,419,505	\$16,626,765



Objectives

- To maintain the cost of service per million gallons treated for Wastewater Treatment at an annual increase no greater than the change in the Consumer Price Index (CPI) for the Greater Washington Metropolitan Area.
- To operate the NCPCP in order to achieve fewer than five Virginia Pollutant Discharge Elimination System (VPDES) permit exceeding incidents per year.
- To operate and maintain the NCPCP 24 hours per day, while minimizing objectionable odors impacting the surrounding community and reducing the number of complaints by 10 percent toward a goal of zero complaints.



Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 1997 Actual	FY 1998 Actual	FY 1999 Estimate/Actual	FY 2000	FY 2001
Output:					
Million gallon of wastewater flow treated per day	44.70	45.10	45.00 / 41.50	45.31	46.12
CBOD discharge quality (mg/l) ^{1,2}	2	2	2 / 2	2	2
TSS discharge quality (mg/l) ³	1.5	1.2	1.2 / 1.2	1.2	1.2
TP discharge quality (mg/l) ⁴	0.10	0.90	0.90 / 0.90	0.10	0.10
Efficiency:					
Cost per million gallons	\$956	\$829	\$1,032 / \$893	\$985	\$988
Cost per day (Odor Control)	\$2,823	\$2,047	\$2,108 / \$1,849	\$1,904	\$1,961

FUND 401 SEWER OPERATION AND MAINTENANCE

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 1997 Actual	FY 1998 Actual	FY 1999 Estimate/Actual	FY 2000	FY 2001
Service Quality:					
Percent of wastewater receiving full treatment	100%	100%	100% / 100%	100%	100%
Percentage CBOD removal	99%	99%	99% / 99%	99%	99%
Percentage TSS removal	99%	99%	99% / 99%	99%	99%
Total phosphorus removal (percent better than reqmt.)	44%	50%	50% / 50%	50%	60%
CBOD (percent better than reqmt.)	60%	60%	60% / 60%	60%	60%
TSS (percent better than reqmt.)	75%	80%	80% / 85%	80%	80%
TP (percent better than reqmt.)	44%	50%	50% / 50%	44%	44%
Percent of odor-free days	76%	92%	92% / 93%	94%	95%
Outcome:					
Change in cost of service ⁵	6.0%	(14.2%)	19.4% / (0.9%)	20.4%	(2.7%)
VPDES permit exceedances	1	0	0 / 0	0	0
Odor complaints	46	32	28 / 25	22	20

¹ Mg/l = Milligrams per liter

² CBOD = Carbonaceous Biochemical Oxygen Demand

³ TSS = Total Suspended Solids

⁴ TP = Total Phosphorus

⁵ The increase in the FY 1999 actual costs of service is primarily due to increased wastewater flows and greater than anticipated costs associated with the plant expansion of the treatment facilities.

Cost Center: Wastewater Planning and Monitoring

GOAL: To manage sewer revenue collection; to monitor and report County sewage flows treated at non-County facilities; to control, plan, and develop the Wastewater Management Program; and to environmentally monitor County treatment facilities, other publicly and privately-owned treatment facilities in the program, and nearby embayments.

COST CENTER SUMMARY					
Category	FY 1999 Actual	FY 2000 Adopted Budget Plan	FY 2000 Revised Budget Plan	FY 2001 Advertised Budget Plan	FY 2001 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	50/ 49.5	50/ 49.5	48/ 47.5	48/ 47.5	48/ 47.5
Expenditures:					
Personnel Services	\$2,342,743	\$2,751,345	\$2,614,595	\$2,833,384	\$2,902,769
Operating Expenses	26,618,431	29,273,005	31,391,946	30,948,374	30,948,374
Capital Equipment	152,682	83,000	129,206	45,600	45,600
Subtotal	\$29,113,856	\$32,107,350	\$34,135,747	\$33,827,358	\$33,896,743
Less:					
Recovered Costs	(\$185,421)	(\$143,600)	(\$143,600)	(\$177,717)	(\$178,575)
Total Expenditures	\$28,928,435	\$31,963,750	\$33,992,147	\$33,649,641	\$33,718,168

FUND 401

SEWER OPERATION AND MAINTENANCE



Objectives

- To maintain a minimum debt service coverage ratio of at least 1.0 as required by the Bond Resolution.
- To collect 100 percent of Sales of Service charges within 45 days and to ensure billing agents are reporting sewer service charges within two days of receipt.
- To ensure that there are no capacity problems in the system.
- To report accurate laboratory analyses for NCPCP wastewater samples to ensure proper performance of the wastewater and solids handling processes in the plant and to ensure compliance with VPDES permit limits so results of annual laboratory inspection by the State will be satisfactory and fewer than 90 percent of analysis results on EPA Performance Evaluation Standards will be out of the acceptable range.
- To monitor 17 industrial discharges for compliance with pretreatment requirements and prevent toxic discharges by monitoring and inspecting facilities at least twice a year, issuing discharge permits for significant industrial dischargers in the County, and issuing notices of violation to County industries violating pretreatment regulations and requirements to ensure zero incidents of toxic effects on NCPCP operations or sludge quality.
- To monitor Treatment by Contract (TBC) costs of service to ensure costs are competitive with County cost of service and reflective of the degree of treatment being provided, with a target of less than 115 percent of NCPCP costs.



Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 1997 Actual	FY 1998 Actual	FY 1999 Estimate/Actual	FY 2000	FY 2001
Output:					
Sewer charges collected (\$ in millions)	59.7	60.8	64.3 / 66.0	64.3	69.0
Sale charges collected (\$ in millions)	5.90	5.90	6.70 / 7.20	6.70	6.96
Wastewater customer connections	300,279	305,105	312,479 / 309,946	319,279	325,000
Fixture units sold ¹	146,546	157,085	150,000 / 206,915	150,000	150,000
Plans reviewed ²	216	425	500 / 592	500	500
Miles of sewer accepted into Wastewater Management	39.99	45.04	44.00 / 32.90	40.00	40.00
Development proposals analyzed ³	192	276	300 / 218	300	300
Samples analyzed	92,198	88,780	90,000 / 79,971	80,000	80,000
Inspections made ⁴	47	48	50 / 176	50	50
TBC flow (in million gallons per day)	57.75	58.22	59.00 / 55.13	59.00	60.00

FUND 401 SEWER OPERATION AND MAINTENANCE

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 1997 Actual	FY 1998 Actual	FY 1999 Estimate/Actual	FY 2000	FY 2001
Efficiency:					
Average annual sewer bill	\$194	\$191	\$198 / \$198	\$200	\$209
Days to process sale charge bills	<15	<15	<15 / <15	<15	<15
Cost to process fixture unit ⁵	\$2.68	\$2.33	\$2.50 / \$2.46	\$2.50	\$2.61
Plans reviewed per employee	216	212	200 / 296	300	300
Reports submitted per employee	192	212	300 / 218	220	220
Cost per sample analysis	\$7.93	\$8.11	\$9.58 / \$9.37	\$10.31	\$10.69
Cost per year, pretreatment program	\$304,466	\$300,228	\$359,150 / \$312,540	\$320,000	\$356,678
NCPCP Billing Costs, \$/MG	\$1,025	\$896	\$1,032 / \$969	\$1,000	\$1,000
Service Quality:					
Accuracy/adequacy of Sewer Rates as measured by the Adopted rate divided by Calculated rate:					
Service charge	97.8%	102.4%	99.0% / 105.0%	99.0%	99.0%
Availability fee	97.6%	99.5%	103.7% / 102.0%	100.0%	100.0%
Days to collect sale of service billings	<45	<45	<45 / <45	<45	<45
Percent of analysis reports submitted on time	100%	100%	100% / 100%	100%	100%
Lab analyses available on time	Yes	Yes	Yes / Yes	Yes	Yes
Outcome:					
Debt Service Coverage Ratio	2.43	2.55	2.00 / 2.70	1.50	1.50
Percent of Sales of Service bills paid within 45 days	100%	100%	100% / 100%	100%	100%
Imminent wastewater capacity problems	None	None	None / None	None	None
Percent accuracy within EPA performance evaluation standards	96%	97%	>90% / 97%	>90%	>90%
Incidents of toxic effects on NCPCP operations/sludge quality	0	0	0 / 0	0	0
Interjurisdictional treatment costs as a percentage of NCPCP treatment costs	103%	118%	<115% / 112%	<115%	<115%

¹ The FY 1999 actuals are higher than anticipated due to strong economic conditions resulting in an increase in the building industry.

² The FY 1999 actuals are higher than anticipated due to strong economic conditions resulting in an increase in the building industry.

³ FY 1999 actuals are low due to changes in construction characteristics to multi-family complexes resulting in fewer sewer lines/manholes accepted into the system.

⁴ The FY 1999 actuals are greater than anticipated due to an increase in the number of inspections which led to an increase in violations cited.

⁵ Fixture Unit sales are contingent on economic and development conditions in the County. Consequently, Cost/Fixture unit to process Availability Fee applications is not entirely controllable.

FUND 401

SEWER OPERATION AND MAINTENANCE

FUND STATEMENT

Fund Type G40, Enterprise Funds

Fund 401, Sewer Operation
and Maintenance

	FY 1999 Actual	FY 2000 Adopted Budget Plan	FY 2000 Revised Budget Plan	FY 2001 Advertised Budget Plan	FY 2001 Adopted Budget Plan
Beginning Balance	\$9,012,774	\$115,630	\$10,757,663	\$141,430	\$141,430
Revenue:					
Miscellaneous Revenue	\$72,899	\$80,000	\$80,000	\$70,000	\$70,000
Sale Surplus Property	28,939	60,000	30,000	30,000	30,000
Sludge Incinerator Charges	61,660	170,000	60,000	60,000	60,000
Total Revenue	\$163,498	\$310,000	\$170,000	\$160,000	\$160,000
Transfer In:					
Sewer Revenue (400)	\$52,882,056	\$58,261,743	\$51,544,537	\$60,644,595	\$60,644,595
Total Transfer In	\$52,882,056	\$58,261,743	\$51,544,537	\$60,644,595	\$60,644,595
Total Available	\$62,058,328	\$58,687,373	\$62,472,200	\$60,946,025	\$60,946,025
Expenditures:					
Personnel Services	\$16,691,004	\$18,302,421	\$17,482,904	\$18,463,828	\$18,914,749
Operating Expenses	34,787,511	40,218,001	44,042,184	41,828,362	41,828,362
Recovered Costs	(714,271)	(629,172)	(629,172)	(662,772)	(668,624)
Capital Equipment	536,421	654,693	1,434,854	815,308	815,308
Subtotal Expenditures	\$51,300,665	\$58,545,943	\$62,330,770	\$60,444,726	\$60,889,795
COLA/MRA Reserve	\$0	\$0	\$0	\$445,069	\$0
Total Disbursements	\$51,300,665	\$58,545,943	\$62,330,770	\$60,889,795	\$60,889,795
Ending Balance	\$10,757,663	\$141,430	\$141,430	\$56,230	\$56,230
PC Replacement Reserve ¹	115,630	141,430	141,430	56,230	56,230
Unreserved Balance	\$10,642,033	\$0	\$0	\$0	\$0

¹ The FY 2001 PC Replacement Reserve is decreasing due to the timely replacement of computer equipment for the agencies in previous years.