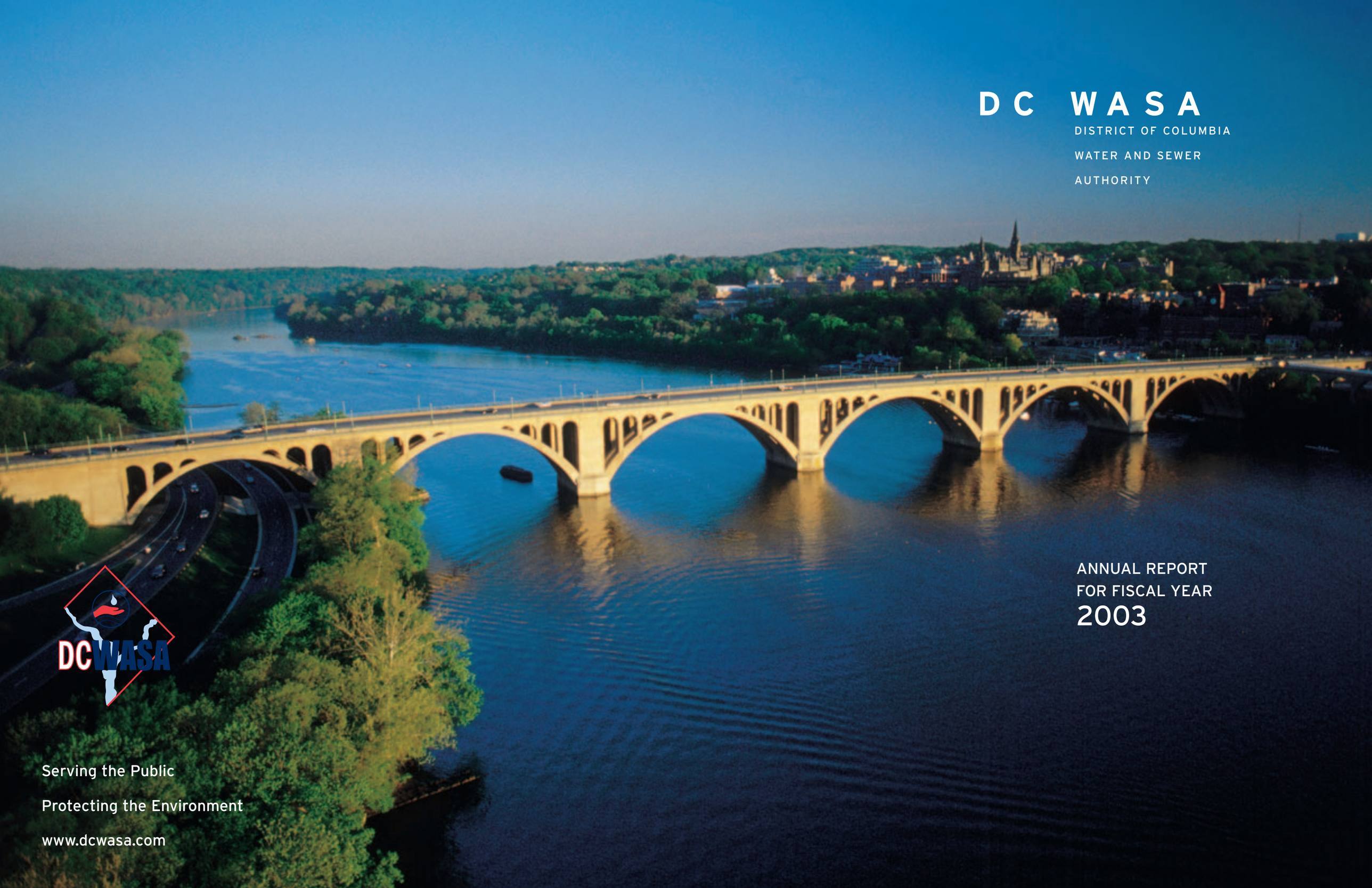
DC WASA

DISTRICT OF COLUMBIA

WATER AND SEWER

AUTHORITY



ANNUAL REPORT
FOR FISCAL YEAR
2003

Serving the Public

Protecting the Environment

www.dcwasa.com

WASA will be an independent world-class environmentally sensitive provider of a high quality, reliable, and reasonably priced drinking water distribution system and wastewater collection and treatment system.

WASA'S VISION

WASA'S MISSION

The mission of WASA is to serve all its regional customers with superior service by operating reliable and cost-effective water and wastewater services in accordance with best practices.




Under normal circumstances, the District of Columbia's Water and Sewer Authority's annual report for fiscal year 2003 would have been issued last year. But the lead crisis that erupted early in 2004 led us here at WASA to reshape our priorities and harness our collective energy to respond first to the needs of our customers in dealing with the lead issue.

We've spent the last year doing water testing, distributing filters, conducting informational meetings for more than 40 groups throughout the District of Columbia area, and working with the Army Corps of Engineers, which operates the Washington Aqueduct that produces our drinking water. We've designed and undertaken a crash program to replace all of the lead pipes in the District's public space—the largest program of its kind in the nation. This will help us solve, once and for all, the problem of lead leaching from WASA's pipes.

As a result of that activity, we postponed our work on this report. But as a public agency, we recognize it is important that our financial results and our operations during FY 2003 be reported in detail to our customers and our partners. Moreover, we are proud of, and want to tell you about, our accomplishments—because they mean lower costs and superior service for the more than 500,000 residents in the District and the 1.6 million residents in surrounding Virginia and Maryland whom we serve.

Probably the single most visible and significant achievement for WASA was the upgrade to "AA" status from all three rating agencies. This reflects the extraordinary progress WASA has made in its financial operations in the seven years since its creation as an independent agency in late 1996. The fiscal discipline and effective management that produced operating budget surpluses year after year translate directly into lower water and sewer rates paid by our retail customers in the District and our wholesale customers in the region.

WASA's financial performance was not our only bright spot in FY 2003. We've made great strides in improving our basic infrastructure, the way we strive to make and keep our employees happy and productive and in protecting not just the environment but also the security of our water supply system, a vital element of concern to any big city dweller.

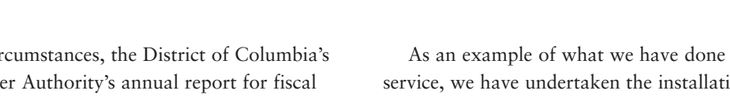
What does "improving infrastructure" really mean? Perhaps the best example is the Bryant Street Pumping Station in Northwest Washington. As several of the photographs that accompany this report so vividly illustrate, Bryant Street is noticeably improved over the last year. From the new paving outside the building to new valves and pumps on the inside, Bryant Street is becoming a much-improved facility. For the areas served by this facility, that means increased water pressure control and greater reliability in the distribution system.

As an example of what we have done to improve customer service, we have undertaken the installation of automated water meters for all residences in the District – another one of our projects that is the largest of its kind in the nation. Whether it's something as basic as improving the time it takes for us to respond to water main breaks or something as cutting edge as our new Web site (www.dcwasa.com), we always seek to provide world-class customer service.

None of this would be happening, of course, if it weren't for the dedication and attention to detail shown by our employees. You'll find an example of that in the achievements of veteran WASA employees like Patrick Chesley, who won the W. McLean Bingley Award for Wastewater Treatment, which recognizes, in part, his commitment to protecting the water environment. Other examples are on display every day, when our workers repair water mains in bitter winter weather, or when our customer service agents help set up deferred payment arrangements for customers having trouble making ends meet.

And speaking of people, I must mention the excellent work of General Manager Jerry Johnson, the executive staff and the WASA Board of Directors, which is made up of talented and accomplished people from all over our service area. Their efforts have helped produce an excellent FY 2003 for WASA and its customers.

Sincerely,



Glenn S. Gerstell
Chairman

Customers First
WASA will provide superior, equitable and responsive customer service to the diverse communities of its customer base.

Technical Performance and Quality of Water
WASA will operate safe and efficient water distribution and wastewater collection and treatment facilities in compliance with all applicable laws and regulations.

Biosolids Management
WASA will develop and implement a state-of-the-art biosolids management program that is cost-effective, meets long-term needs and responds to applicable regulatory requirements.

Financial Stability and Rate Increases
WASA will maintain a sound financial position that supports legislative mandates while maintaining competitive rates for its customers.

Environmental Stewardship
WASA will provide excellent environmental stewardship based on good science and prudent financial management.

Health, Safety and Security
WASA will operate its facilities in a manner that protects the health, security and safety of employees and the surrounding residential communities.

Productive Work Force and Effective Management
WASA will foster an organizational culture that ensures a well-trained, highly skilled work force; encourages hard work, professionalism, creativity and productive communications; and promotes the highest ethical standards and conduct for all employees and managers.

Effective Internal and External Communications
WASA will communicate with employees, customers, stakeholders and government agencies to establish and maintain productive, two-way communications.

The WASA Board of Directors
The WASA Board will combine the best practices of corporate boards and public bodies, and will earn a reputation as one of the most effective and prestigious governing bodies in the metropolitan area.

Charles C. Johnson
District of Columbia
Principal

Bruce Romer
Montgomery County, MD
Principal

Anthony Griffin
Fairfax County, VA
Principal

Fariba Kassiri
Prince George's County, MD
Principal

Sherry Conway Appel
Prince George's County, MD
Alternate

Brenda Richardson
District of Columbia
Alternate

Rodney Newman
District of Columbia
Alternate

Lucy Murray
District of Columbia
Principal

Michael Hodge
District of Columbia
Principal

James Caldwell
Montgomery County, MD
Principal

James Wareck
District of Columbia
Alternate

John Wesley White
Fairfax County, VA
Alternate

Stephanie Nash
District of Columbia
Alternate

Alexander McPhail
District of Columbia
Principal

David J. Bardin
District of Columbia
Principal

Alfonso Cornish
Prince George's County, MD
Principal

Donna Wilson
Prince George's County, MD
Alternate

Paul Folkers
Montgomery County, MD
Alternate

David Lake
Montgomery County, MD
Alternate

Not Pictured

F. Alexis H. Robinson
District of Columbia Principal

Michael Dutton
District of Columbia Alternate

In the last annual report, I noted that we had made significant progress toward our goal of achieving world-class status for the Authority. We have continued our march toward that goal during FY 2003. Once again, it was the teamwork of everyone here at WASA, from the Board of Directors to all of our employees, whether at work on the street or in one of our many facilities, that transformed added potential into real progress. Notable improvement during this fiscal year occurred in the following areas:

Financial performance: In addition to continuing its award-winning financial performance throughout FY 2003, the Authority received $49.7 million in new federal funding to address combined sewer overflows. Also in FY 2003, the Authority's senior lien revenue bonds were upgraded to the second highest category. As a further indication of its financial strength, the Authority contributed $7 million to be used to level future rate increases. Also during this reporting period WASA issued $176 million in fixed rate revenue bonds at interest rates between 5.0 and 5.25 percent. The proceeds were used to refund commercial paper and for various capital projects and closing costs.

Environmental protection: We are deeply committed to the mission of environmental stewardship and protecting the area's waterways. Of all the area's waterways, the Anacostia River is the one most impacted by the District's combined sewer system; therefore it is the focus of the most aggressive plan for correcting the problem. At the same time, we are working to ensure that the schedule for this effort does not unduly burden our ratepayers.

Also in FY 2003, WASA began managing the District's EPA storm water permit that controls discharges from industrial and construction sites, their monitoring and permit enforcement and fiscal oversight. In this task, WASA continues to work with the District departments of Transportation, Health, and Public Works.

Employee relations and benefits: WASA would not be the successful organization that it is without the continuous hard work and support of its employees. In turn, the Authority continues to enhance its comprehensive employee benefits package. This has enabled it to attract and retain a highly qualified and diverse workforce.

Infrastructure and capital improvement: WASA's most notable improvement during FY 2003 has been the extensive work done on the Bryant Street Pumping Station. In order to be a better neighbor to Howard University, WASA took steps to improve that relationship by working in conjunction with the university, the city and the private sector on a number of physical improvements in the community.

Water quality: WASA's work to maintain and enhance access to clean drinking water continued during FY 2003. It engaged in a major effort to evaluate and upgrade the large valves in the distribution system and began a high priority water main replacement project to improve service to customers who live and work east of the Anacostia River.

The effort to address the phenomenon of the increased potential for lead to leach into service lines and other plumbing fixtures in some homes in the District is a key WASA priority. Water is naturally corrosive and can cause leaching, so federal regulations require water suppliers, in our case the U.S. Army Corps of Engineers' Washington Aqueduct, to use a water treatment process that helps prevent leaching. Although this treatment process used by the Washington Aqueduct for several years seems to have failed between 2002 and 2003, we have been working closely with the Washington Aqueduct, the Environmental Protection Agency, and others to identify the causes of this problem and to develop and implement a water treatment solution as quickly and safely as possible.

Awards: WASA continues to be acknowledged for its financial performance accomplishments by national associations. Among the awards we received during FY 2003 are two from the Government Finance Officers Association, a Distinguished Budget Presentation Award and Certificate of Achievement for Excellence in Financial Reporting. WASA also received the Gold Award from the Metropolitan Sewerage Agencies. That award recognizes WASA's high level of compliance with federal standards for discharges from the Blue Plains Wastewater Treatment Plan into the Potomac River.

Customer service: WASA took major steps forward in the crucial area of service to our customers on several fronts in FY 2003. Perhaps WASA's most highly visible achievements were in our Automated Meter Reading program (AMR). More than 97,000 residential automated meters and 10,000 small commercial meters have now been installed.

WASA has also initiated programs for customers with special needs, such as S.P.L.A.S.H.—Serving People by Lending A Supporting Hand, a program that offers assistance to families in need until they get back on their feet. S.P.L.A.S.H. is funded solely by contributions from the community, especially from caring customers.

We are also making substantial progress in replacing and rebuilding the infrastructure for our water distribution and wastewater collection and treatment systems. In addition, we have undertaken major efforts to improve water service through investment in large water storage and property facilities.

In closing, I extend a personal note of thanks to the Board, to our WASA team and also to our customers for doing their part in this ongoing, cooperative effort to improve the quality of our service to the nation's capital and surrounding jurisdictions.

Sincerely,

Jerry N. Johnson
General Manager

WASA continues to make significant improvement in its financial performance and operations. Operating budget results, revenue projections and capital financing goals all continue to meet or exceed Board adopted financial policies and the expectations of the larger financial community, especially the capital markets. Financial operations are stronger than ever. Vendor payments are made on time, payroll processing has been greatly enhanced, and the Authority's financial statements are produced ahead of schedule with clean opinions from the auditors.

Highlights:

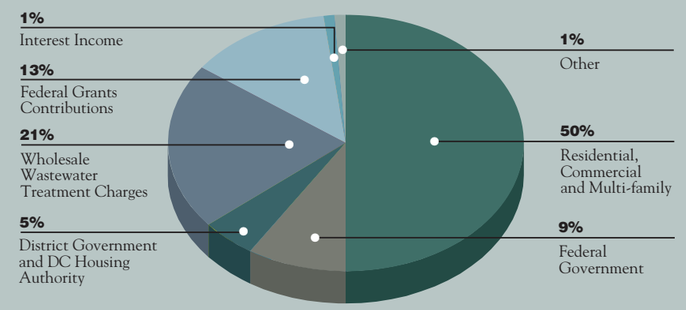
- In April 2003, the Authority received a $49.7 million federal matching-funds appropriation for capital projects designed to reduce Combined Sewer Overflows (CSOs).
- In July, WASA achieved a major goal when its senior lien revenue bond ratings were upgraded to AA by the three major rating agencies, putting the Authority in the second-highest rating category.
- In August, WASA issued $176.2 million in fixed rate revenue bonds at interest rates from 5.0 percent to 5.125 percent, and used $100 million of the proceeds to refund outstanding commercial paper. The balance was used for various capital projects.
- On October 1, 2002, the Board of Directors-approved new rate structure went into effect, replacing a structure based solely on water usage. In addition to usage charges, the new structure includes a metering fee and a pass-through of the District's pilot right-of-way fee.
- By the end of fiscal year 2003, total retail customer receivables had declined to $31.4 million, reflecting stepped-up collection efforts which included more systematic field service collecting, the Customer Service Department's new "Dialing for Dollars" program, settlement of several high balance accounts, and conversion to monthly billing.
- Thanks to strong financial results in fiscal 2003, WASA contributed $7 million to the rate stabilization fund, bringing the balance, plus interest, to $21.7 million.
- The Authority's net assets increased by $49.2 million, 6.5 percent, to $804.0 million.
- Operating expenses increased by $6.9 million, 3.3 percent, to $216.0 million (primarily due to higher contractual expenses and depreciation).
- Operating revenues increased by $7.1 million, 2.8 percent, to $255.8 million (primarily due to higher wholesale wastewater charges).
- Restricted assets increased by $34.6 million, 70.0 percent, to $83.9 million (due to receipt of a $49.7 million congressional appropriation for combined sewer overflow projects).
- The Authority's long-term debt, including current maturities and commercial paper notes, increased by $59.0 million, 12.6 percent, to $526.0 million (due to the issuance of $176.2 million in new long-term fixed rate revenue bonds and the payoff of $100 million of short-term outstanding commercial paper notes noted above).

Capital Assets

At the end of fiscal year 2003, the Authority had $1.5 billion invested in a broad range of capital assets, including its wastewater collection, wastewater treatment and water distribution systems. This amount represents a net increase of nearly $188.9 million, or 14.2 percent over last year due to a record level of capital spending.

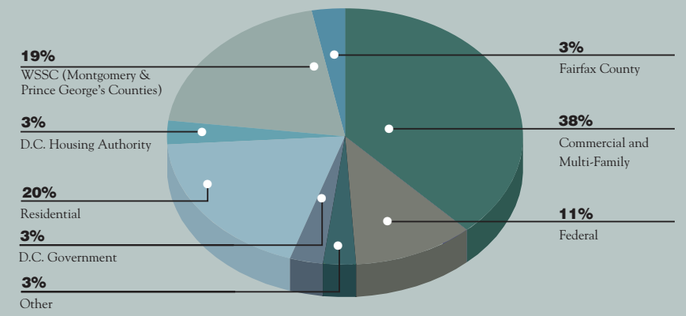
Operating and Non-operating Revenues

FY 2003 Actual



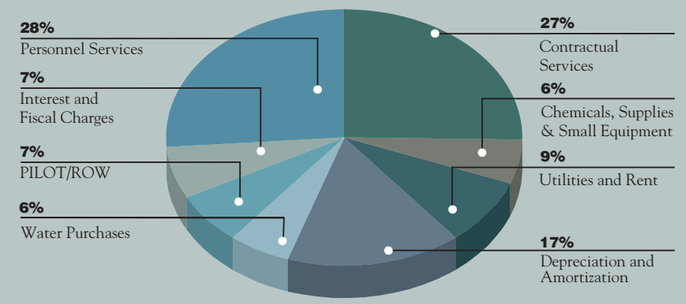
Operating Revenue by Source

FY 2003



Operating and Non-operating Expenses

FY 2003 Actual



Interior of the Bryant Street Pumping Station in Northwest Washington.

Facts about WASA

WASA is a multi-jurisdictional regional utility that provides drinking water, wastewater collection and treatment to more than 500,000 residential, commercial and governmental customers in the District of Columbia. It also collects and treats wastewater for 1.6 million customers in Montgomery and Prince George's counties in Maryland and Fairfax and Loudoun counties in Virginia.

- More than 900 employees work at various facilities throughout the District.
- WASA's service area covers approximately 725 square miles.
- WASA delivers water to over 130,000 locations in Washington, D.C., and provides approximately 135 million gallons of drinking water a day for use by individuals and businesses.
- WASA operates the Blue Plains Advanced Wastewater Treatment Plant, which is the largest advanced wastewater treatment plant in the world. The Plant covers 150 acres with a rated treatment capacity of 370 million gallons per day (mgd) and a peak capacity of 1.076 billion gallons per day.
- WASA's Board of Directors establishes rates, fees and other charges for all services provided. The fees collected from WASA's 2 million customers generate the revenue to pay operating costs and maintain capital investment.
- To distribute water, WASA operates nearly 1,300 miles of pipes, five pumping stations, five reservoirs, four elevated water storage tanks, 36,000 valves and 8,700 fire hydrants.
- To collect wastewater, WASA operates and maintains on behalf of the District, 1,800 miles of sanitary and combined sewers, 22 flow-metering stations, nine off-site wastewater pumping stations and 16 stormwater pumping stations within the District. Separate sanitary and stormwater sewers serve two-thirds of the city. In the older portion of the system, primarily in the downtown area, combined sewers are in service.
- WASA rates are highly competitive when compared to water and wastewater rates in similar cities in the mid-Atlantic region.
- WASA has a very stable customer base. More than 38 percent of its revenue comes from federal, municipal and county gov-

ernments, and 40 percent comes from commercial entities whose businesses are substantially driven by the regional economy. The remaining 17 percent of revenue is derived from residential customers in the District.

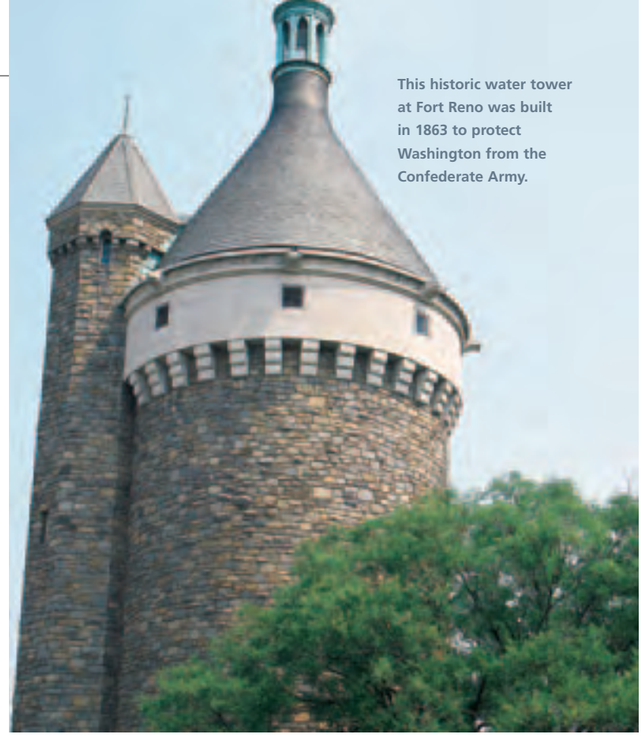
Background

The District of Columbia Water and Sewer Utility Administration was a part of the District government from its inception in 1938 until 1996. In 1996, regional participants in the Authority's service area, including the District of Columbia, Montgomery and Prince George's Counties in Maryland, Fairfax and Loudoun Counties in Virginia, and the United States Congress agreed to create an independent, multi-jurisdictional water and wastewater authority. This action was supported by legislation enacted by the Council of the District of Columbia. Through these actions, WASA was created as an independent agency of the District of Columbia, providing regional services. WASA's Board of Directors is comprised of representatives from each service area jurisdiction. They establish policy and set rates independently.

The Authority approves the budget, which is incorporated into the District's budget and then forwarded to Congress. Funding for operations, capital improvements and debt financing come from usage fees, the sale of revenue bonds, and EPA grants.

This organizational structure enables WASA to respond quickly to customer demand, changes in the industry; to create its own regulations and policies for procurement, human resources and finances; to negotiate its own contracts and labor agreements; and to sell bonds.

WASA's daily operations are administered by a General Manager who reports to an 11-member Board of Directors. Six of the board members represent the District of Columbia and five represent the adjoining jurisdictions of Montgomery and Prince George's Counties, MD, and Fairfax County, VA. The Board holds regular meetings on the first Thursday of the month, and all of its meetings are open to the public. WASA provides retail water and wastewater services to its residential and commercial customers in the District, with rates for these services set by the Authority's District of Columbia Board members. Wholesale wastewater treatment is provided to portions of Montgomery and Prince George's counties in Maryland and Fairfax and Loudoun counties in Virginia, and the town of Vienna, Virginia. These suburban jurisdictions pay the full cost for their use of facilities and services based on a funding formula in the Blue Plains Intermunicipal Agreement. The Authority buys its drinking water from the Washington Aqueduct, a division of the Army Corps of Engineers; the Aqueduct treats the water and WASA distributes it throughout the District.



This historic water tower at Fort Reno was built in 1863 to protect Washington from the Confederate Army.

History of the Water System

The District of Columbia's early settlers had no public water system. Instead, they had to depend on springs for their water needs. Downtown sections of the city were supplied by: the City Spring on the north side of C Street, NW, between 4th and 6th Streets; Caffery's Spring (or the Hotel Spring at the northwest corner of 9th and F Streets, NW; and another spring on public property at 13th Street, NW, north of Eye Street. Further west, there was also a spring near the center of Franklyn Park (now Judiciary Square), as well as Smith Spring, now the McMillan Reservoir. Other springs provided water to existing neighborhoods.

The earliest documented instance of water being piped throughout the District streets for public use was in 1808. Residents living in the 600 block of Pennsylvania Avenue, NW, were allowed to "convey" water from the city spring to their neighborhood. The first appropriation of public funds for a project to pipe water for residential use was on August 4, 1809, when the District allocated three hundred dollars for pipe construction to convey water from Caffery's Spring to the northwestern Pennsylvania Avenue area between 9th and 14th streets. The spring water piping systems were replaced and extended from year to year. By 1850, Pennsylvania Avenue, from First to 15th Streets, and to the north of Pennsylvania Avenue was supplied with pipes that were primarily used for public hydrants or "pumps."

In only a few instances, the pipes provided service within private premises. However, by 1909, most lines from springs to hydrants lost favor with residents and were replaced by new pipe extensions.

That same year, the Potomac River was identified as the District's principal water source in a Congressionally-funded engineering study to determine the most available mode of supplying water to the city. Lieutenant Montgomery C. Meigs, who supervised most of the study, and later served as Quartermaster General of the Army, is credited for planning and building what became the Washington Aqueduct. On January 3, 1859 it provided the first water to reach the District through the Water Aqueduct system.

As originally designed, the Washington Aqueduct system was believed to be sufficient for the future water needs of the city. But by 1902, it was no longer adequate to the task of supplying water to a growing population or providing a filtration system. Therefore, in 1905, a 75 mgd (million gallon per day) slow-sand plant was added at the McMillan Reservoir and the large Bryant Street high-lift pumping station was built. When the area experienced another sharp increase in population following World War I a new 80 mgd rapid-sand filter was built in Dalecarlia.

Washington experienced significant population growth during World War II. This made it necessary to further expand the water supply system. To meet water supply needs, the District Engineer, the United States Engineering Office, and the Engineer Commissioner of the District of Columbia submitted a joint report to Congress On February 8, 1946. The report contained comprehensive plans for constructing, improving and expanding the District's water system. Over the next thirty years, the plan underwent periodic modifications because of continued area growth, changing requirements, and the need for funding increases to implement the plan.

The Water Treatment and Distribution System Today

Today, WASA is responsible for management of the treated water distribution system that serves the District and certain Department of Defense and other Small customers outside the District, the water itself is treated by the Washington Aqueduct Division of the U.S. Army Corps of Engineers. WASA purchases water from the Aqueduct and transmits and distributes it through five pumping stations, five distribution reservoirs and four elevated tanks.

The Aqueduct water treatment and transmission system is extensive. It consists of the Great Falls intake on the Potomac River, two parallel nine-mile long raw water conduits from Great Falls to the Dalecarlia Reservoir; the Little Falls Intake and Pumping Station, the Dalecarlia and McMillan Reservoirs and Water Treatment Plants; the Dalecarlia Pumping Station; the Georgetown conduit and reservoir; the Washington City Tunnel; the East Shaft Pumping Station; several treated water transmission lines and three ground storage reservoirs.

The Authority's Department of Water Services oversees the entire water distribution system serving the District, one that includes 1,300 miles of pipes and mains ranging from 4 to 78 inches in diameter.

History of the Wastewater System

The District's sewer system is one of the oldest in the United States. It began around 1810 when sewers and culverts were constructed to safely drain storm and ground water from the streets. The drains were not all built at the same time nor were they linked together to form a "system" as we know it today. By 1850, most of the streets along Pennsylvania Avenue from First to 15th Street had spring or well water piped in, thus creating the need for the District's first sanitary sewage process. Sewage was discharged into the nearest body of water.

From 1871–1874, a general sewer construction program undertaken by the Board of Public Works led to the construction of approximately 80 miles of sewers. Unfortunately, much of the work was poorly planned, structurally unsound, and hydraulically inadequate.

Efforts were made to solve the problems caused by engineering inadequacies and faulty construction. However, the outcome of actions to correct sewerage management problems and foul conditions in the Constitution Avenue area only resulted in their being diverted to marshy areas along the Potomac and Anacostia Rivers.

Up to this time, the wastewater system that served the District was a combined system that carried and discharged both sanitary sewage and stormwater into local waterways. In the 1890's, there was considerable difference of opinion among engineers about the desirability of retaining such a system. A Board of Engineers appointed by President Benjamin Harrison recommended that the combined system be retained, and also that extensions be built to serve new areas as a separate system, using separate lines to carry stormwater and sanitary flows. The Board also recommended that all the sewage flows be discharged at a point far enough down the Potomac River to prevent their return to the environs of the city. (That discharge point is still located at Blue Plains, the southernmost tip of the District.) Upon further recommendation from the Board, construction of a system of large interceptor sewers was undertaken to collect and carry sanitary sewage and some stormwater to a pumping station on the bank of the Anacostia River and to the discharge point at Blue Plains. The implementation of those recommendations accounts for the major portion of the current sewage system.

The Biosolids Management Program at the Blue Plains Advanced Wastewater Treatment Plant is a comprehensive and cost-effective approach to reusing resources to reduce pollution and waste.

WASA's vision is to establish a self-sustaining, world-class, regional biosolids management program that will carry the treatment facility through the demands of this century.

The Blue Plains Advanced Wastewater Treatment Plant (AWTP) continues to face numerous challenges, such as aging facilities and reduced biosolids management options. Employing a decision-making process based on stakeholder consensus, WASA has launched a biosolids management program (BMP)that focuses on end-use options for biosolids, including odor control.

The product of studies anglicized, existing plant operating conditions, biosolids management practices and a series of workshops findings, the BMP will help WASA:

- Address community concerns
- Replace aging facilities and improve system reliability
- Reduce odors onsite and offsite
- Improve biosolids so they are easier and cheaper to manage and recycle
- Provide additional treatment capacity to cope with current and future needs
- Provide flexibility to adjust and respond to markets.

This program gives WASA control over its future services, ensuring that the area's wastewater treatment will continue to achieve high environmental and water quality standards while satisfying customer expectations for decades to come.

One of the Authority's two new skimmer boats collects debris and trash from the Anacostia River.

Once a sub-agency of the District of Columbia Department of Public Works, WASA in the seven years since its formation has rapidly emerged as a nationally recognized, world-class public utility. The goal of the Authority's Board of Directors, its management and all of its employees is to continue to perform at, and work to exceed, this award-winning level of public service.

Indications that we are on track are reflected in the following FY 2003 achievements:

Operations

- WASA made historic investments in capital construction, $205.5 million. Major projects at the Blue Plains Wastewater Treatment plan included improvements to primary and secondary treatment processes and the chemical distribution systems.
- In an important safety step, the potentially hazardous chlorine and sulfur dioxide processes were replaced. Permanent facilities for sodium hypochlorite/sodium bisulphate disinfection and dechlorination were brought on line.
- Major rehabilitation of the Bryant Street pumping station continued during FY 2003.
- WASA's new National Pollutant Discharge Elimination System (NPDES) permit became effective.
- The Authority deployed a new radio system in collaboration with the District's Emergency Management Agency. The system greatly improved communications capabilities among departments. Immediately on installation, the new system played a crucial role during Hurricane Isabel.

Financial

- WASA's senior lien revenue bond ratings were upgraded to AA by the three major rating agencies in July, 2003. The Authority's bonds are now in the second highest category available to state and local issuers.
- During 2003 WASA received a $49.7 million appropriation from the Federal government to be used with matching funds for capital projects aimed at reducing Combined Sewer Overflows (CSO).
- Contributed $7 million to the rate stabilization funds. This brought the total in the fund to $21.7 million. The fund will be used to level future rate

increases. This is in accordance with the Board policy of gradual and predictable rate increases.

- WASA issued $176 million in fixed rate revenue bonds at interest rates ranging from 5.0 percent to 5.125 percent. Proceeds were used to refund $100 million in outstanding capital paper and the balance was applied to fund capital projects.
- WASA's Board of Directors instituted a new rate structure in FY 2003. Unlike the old structure, based solely on water usage, the new form includes a metering fee and a pass-through of the District's right-of-way fee as well as usage charges.
- WASA saved $3.7 million in customer receivables during the fiscal year as a result of improved collection procedures and more systematic field service collections. Total retail customer receivables declined to $31.4 million in FY 2003 from a level of $35.1 million in FY 2004.

Customer Service

- By the end of FY 2003, WASA had installed more than 97,000 residential automated meters and approximately 10,000 small commercial meters, bringing the total to 107,000. This comprises approximately 86 percent of all meters to be replaced.
- The dispatch function was consolidated in the Customer Service Department with the result that customers no longer need to make multiple calls to receive assistance. In the past, dispatching was handled by three different departments.

Biosolids from the DCWASA Blue Plains treatment plant are applied to agricultural land in Virginia as a fertilizer product (left). In a joint experiment with the University of Maryland, poplar trees planted (far left) will keep nutrients in treated sewage sludge from leaching into nearby soil and water. U-MD graduate student checks positive results (below).

FY 2003 AWARDS

- WASA received the prestigious *Gold Award* from the Metropolitan Sewerage Agencies during FY 2003. The award recognizes WASA's high level of compliance with federal standards for discharges from the Blue Plains Wastewater Treatment Plan into the Potomac River. This award adds to the three gold and two silver awards earned by the Authority over the previous five years.
- WASA was awarded a *Certificate of Achievement for Excellence in Financial Reporting* for its comprehensive annual financial report for FY 2002 by the Government Finacial Officers Association.
- The Government Financial Officers Association also awarded the Authority the *Distinguished Budget Presentation* award for the FY 2004 Operating and Capital budgets. This is the second consecutive time that WASA has received this prestigious recognition.

The Authority has received numerous awards in recognition for outstanding performance in past years, including:

Charles Alvin Emerson Medal

Walter Bailey, who heads WASA's Department of Wastewater Treatment, was awarded the Charles Alvin Emerson medal, given by the Water Environment Federation. This award is given to the person whose contributions to wastewater collection and treatment most deserves recognition.

W. McLean Bingley Award

Patrick Chesley, an operator at the Blue Plains Wastewater Treatment Plant, received the W. McLean Bingley Award for Wastewater Treatment, from the Water and Wastewater Operators Association of Maryland, Delaware and the District of Columbia. This award is for his significant impact on the operation of a wastewater treatment facility and for displaying a commitment to protect the water environment.

Environmental Partnership

The U.S. Defense Intelligence Agency (DIA) recognizd WASA for "Outstanding Environmental Partnership" for its work with DIA and Kodak to eliminate the discharge of cadmium into wastewater from DIA's Aerial Photography Laboratory.

Testing a tap tap water sample is a service provided at the request of the customer.

The Automated Meter Reading (AMR) project began in the spring of 2002, and by the end of fiscal year 2003 residential installations were completed (with the exception of inaccessible meters and those needing extensive ancillary work), and the installation of small commercial meters had started. Approximately half of water consumption flows through 2,500 of the large meters (three inches and above), the customer service and systems application benefits of this project will be more fully realized as these large meters are installed.

A departmental realignment accompanied the automated meter program, and an inspection function will be added to ensure that all new construction and redevelopment activities are accurately metered and billed.

The customer information and billing system (CIS), in combination with AMR, supports the Board's objective of using state-of-the-art technology to meet customer needs. Conversion from quarterly to monthly billing for AMR metered accounts in fiscal year 2003 was a major accomplishment made possible by the CIS system and automated meter data.

CIS enhancements in fiscal year 2003 allowed WASA to offer many new payment options to customers, including recurring credit card payments and budget billing. In order to continue to offer direct customer benefits, the Authority is committed to upgrade the system on a regular basis, with the first major upgrade scheduled for next year.

In January 2004, the Board of Directors approved expanding the customer assistance program to include tenants as well as homeowners, a change that is expected to increase the number of customers served by the program from about 1,500 to 6,000. Under this program, customers who meet income eligibility guidelines are not billed for the first 400 cubic feet of water they use, an annual savings of approximately $84.

Customer Service Improvement

The recent and ongoing improvements in service delivery demonstrate that service to our customers is the highest priority of the Board of Directors and WASA management. These improvements include:

- At the Chairman's direction, creating a Customer and Community Service

Committee, indicative of Board and management focus and commitment to customer service

- Implementing a new customer information system, which allows customers to obtain account information online, make credit card or electronic funds transfer bill payments, and assures access to accurate and consistent information from customer service representatives
- Conversion from quarterly to monthly billing for AMR metered accounts
- Providing an updated, user-friendly Web page that allows our customers easy access to the customer information system
- Instituting a monthly newsletter, *What's on Tap*, to inform customers about improvements to our service delivery
- Expanding S. P. L. A. S. H. (Serving People by Lending A Supporting Hand) and other customer assistance programs, that will help our customers in financial need pay their water bills
- Shortening the time for claims resolution
- Completing our large meter testing and repair program, one of several steps to assure that all customers are paying for their fair share of water consumption
- Completing the planning and procurement phase of our comprehensive Automated Meter Reading project
- Improving the response time to water main breaks and other requests for service

Capital Improvement Program, FY 2003–2012

WASA's ultimate success in achieving its operational goals, and its continuing success in regulatory compliance, depends in large part on the implementation of our 10-year capital improvement program. This $1.76 billion program will roughly double the value of our physical infrastructure, and will result in improved service to all of our customers, wholesale and retail.

In both fiscal year 2002 and fiscal year 2003, the Capital Improvement Program entered the construction phase for many of the large projects in the plan. Major capital activities and their total budgets that continued in fiscal year 2003 at the Blue Plains Wastewater Treatment Plant included:

- primary and secondary treatment facility upgrades, with budgets totaling $104.4 million.
- upgrade the west grit chamber and influent screening facility; also work began on the east grit chamber facility; total project budgets are $100 million.
- additional dewatering facilities, with a total project budget of $79.4 million, and additional chemical systems, with a total project budget of $73.5 million.
- the alternate disinfection facility became fully operational in November 2003, completing the accelerated conversion from chlorine and sulfur dioxide to sodium hypochlorite and sodium bisulfite disinfection and dechlorination.
- the process computer control system with a budget of $51.7 million, underway in fiscal year 2003.
- completed preliminary design on the egg-shaped digester project this year and final design of the foundation and vessels is scheduled to be completed in fiscal year 2004. Process design will also start in fiscal year 2004.
- Budgeted at $257 million, this project will dramatically improve WASA operations and reduce the production of biosolids by 80 percent. Biosolid hauling costs are about $17 million annually).

Other major capital initiatives in fiscal year 2003 were the major rehabilitation of the Bryant Street Water Pumping Station, with a total project budget of $54.8 million, and the Automated Meter Reading project, with a lifetime budget of $43.4 million. The sewer system assessment, that will lead to a comprehensive sewer facilities plan, was started in fiscal year 2003 and will continue in fiscal year 2004.

The Water and Sewer Facilities Master Plan provides a 20-year framework for developing, analyzing and evaluating changes to the CIP, and includes projects currently in the 10-year CIP as well as proposed projects to begin after completion of the current 10-year planning period. It describes current conditions and presents a vision of the needs of the water and sewer systems and the actions planned to meet those needs. This plan is scheduled to be updated in fiscal year 2004.

WASA employee caulks windows as part of ongoing rehabilitation of the Bryant Street Pumping Station (above); future staff offices (below) are inside dormer floor of building shown opposite.

Paving of Bryant Street parking areas was completed in FY 2003.


WASA employees examine new control panel.

In FY 2003, more than $400,000 was paid out to over 1,000 WASA employees through the Authority's gain-sharing program. The program is jointly overseen by WASA executive management and the presidents of five local union groups. Together, they developed goals and performance measures for each work group in WASA. The goals were based on and intended to help meet the Board of Director's strategic plan objectives. The program was successful in meeting its goals with significant improvements in operations realized as a direct result of the program. In addition, WASA's continued commitment to its workforce is evidenced by FY 2003 accomplishments, including:

- WASA's new union performance evaluation process is designed to generate an ongoing dialogue on performance between supervisors and employees throughout the performance year. Union employees received merit bonus based on performance ratings under the new program.
- Continuation of the Employee Recognition Program, honoring employees for length or service and outstanding performance.
- Continuation of an alternative duty work program, allowing workers injured on the job to continue working in positions that match their physical needs, and returning employees to work as quickly as possible in order to maintain productivity and reduce claim costs.
- Continuation of training programs for employees, budgeted at $2 million in FY 2003, to assure that they have professional skills needs in the workplace.

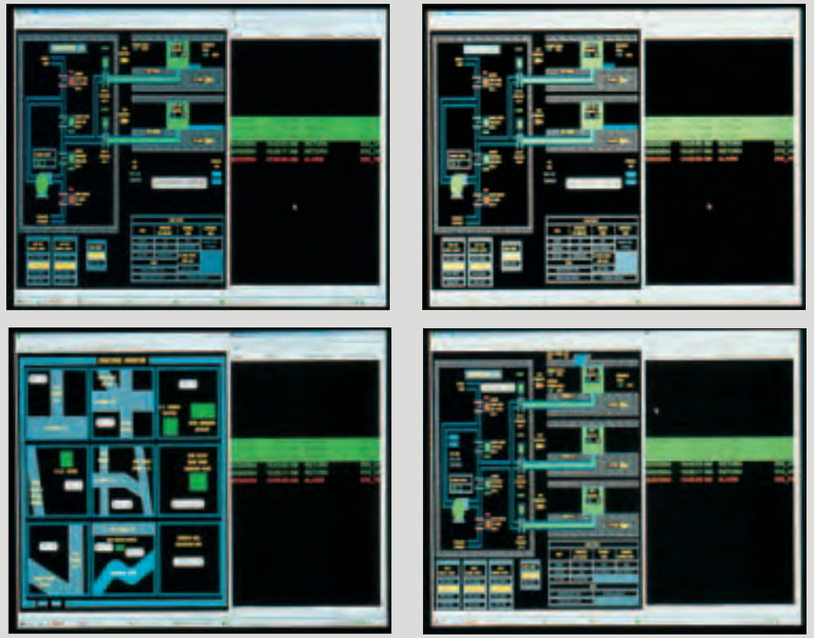

At Bryant Street Pumping Station, contractor checks wiring.

Owner-Controlled Insurance Program

Owner-controlled insurance offers potential financial advantages to WASA. Therefore, in FY 2003, the Authority began an evaluation of an owner-controlled insurance program (OCIP). Under such a program, WASA would take responsibility for procuring and managing insurance for construction projects. The current practice requires contractors to purchase their own insurance. The new arrangement would result in savings to WASA by avoiding redundancies in coverage and through an overall improvement in the safety program for all contractors.


Supervisor checks work on East Capitol Street.

OCIPs have become a standard practice in the insurance industry and it is WASA's intention to establish one should the evaluation support such a decision.


Four "Dynamic Weir (Sabridam) upgrade" control panel screens at O Street Pumping Station.

Information Technology Improvements

Information technology plays a crucial role in virtually all phases of WASA operations. It is the means by which the Authority is able to manage account services data related to hundreds of thousands of residential, commercial, and governmental customers. It supports exacting, complex chemical and technical production processes. It makes possible the generation of sophisticated financial and operational data and provides the mechanisms necessary to carry out a host of day-to-day activities necessary to the functioning of the water distribution system and wastewater collection and treatment system.

But, information technology is noted for its rapid change. To be fully successful and make optimum use of this valuable tool, organizations such as WASA must keep abreast of technical developments in the field and invest in the new technology necessary to meet the Authority's information technology needs.

To assure that the Authority has the information technology support needed to accomplish its goals, WASA developed an Information Technology Strategic Plan. The plan was approved by the Board of Director's two years ago. It provides a vision for the delivery of WASA's information technology services. In addition, the plan recommends a methodology for the prioritization of projects and suggests network security and infrastructure improvements. It also identifies project management initiatives and organizational enhancements. During FY 2003,


WASA employee uses panel that controls tidal flow.

WASA made substantial progress on several major projects in the plan:

- The new maintenance system became fully functional mid-FY 2003. This resulted in the enhancement of WASA's prevention maintenance and inventory management, especially at the Blue Plains Wastewater Treatment Plant.
- Conceptual phase work on an asset management system was completed in FY 2003 and will be implemented. The new system is designed to integrate existing customer information, maintenance management, the process computer system and mapping systems and will assist WASA in better managing its water and sewer infrastructure.
- The Process Computer Control System (PCCS) will enable WASA to better manage chemical usage, better manage electricity consumption and minimize peak demand usage, and provide other operating efficiencies. The PCCS is essential to achieving goals enumerated in the Blue Plains Internal Improvement Plan. It fosters the Authority's efforts to integrate information technology with operational functions.
- During FY 2003, a process control software development office was built and software development was begun for both primary and secondary processes.

New wastewater treatment tanks at Blue Plains, as seen from top of the Central Operations Facility building.

WASA'S Blue Plains Wastewater Treatment Plant is the largest advanced wastewater treatment facility in the world. Covering 150 acres of land bordering the Anacostia River, the plant has a capacity of 370 million gallons per day (mgd). Its peak capacity is almost triple that—1,076 billion gallons a day. It is pivotal to WASA's role of providing wastewater collection and treatment for more than 2 million customers in the District of Columbia and the jurisdictions it serves in Maryland and Virginia.

History of the Service Area

The first wastewater treatment facilities serving the Washington area were constructed at the site of the present Blue Plains Wastewater Treatment Plan. These facilities had a treatment capacity of up to 130 million gallons per day (mgd)for a population of 650,000. The facility provided only primary treatment.

Over time, there are have expansions and upgrades in wastewater treatment services at Blue Plains. Capacity was increased to 175 mgd in 1949 and raised again to 240 mgd in 1959. Chlorination facilities and secondary (biological) treatment were also added.

In 1972, the Federal Clean Water Act was enacted. It required all municipal sewage treatment systems to incorporate secondary or advanced levels of treatment. Blue Plains was again expanded and upgraded to comply with the new Federal regulations. Work on tertiary treatment projects and expansion was completed in 1983.

Work necessary to expand Blue Plains' tertiary treatment capacity to 370 mgd was completed in FY 1997.

Blue Plains Service Area Today

The wastewater treatment area served by the Blue Plains Advanced Wastewater Treatment Plant is extensive. Through wholesale wastewater treatment agreements made by the District of Columbia, Blue Plains services the needs of several large jurisdictions in the metropolitan area. Since 1985, it has had an Intermunicipal Agreement (IMA) with Fairfax County, Virginia, and Montgomery and Prince George's Counties, Maryland. The IMA specifies terms relating to facility location, sizing, capacity allocations, and funding and long-term management of the wastewater treatment and disposal process. The agreement also established a uniform payment basis for facilities and future improvements. The IMA signatories share the

costs of operations, maintenance, and the capital program of the Blue Plains facility. In 1998, WASA entered a similar agreement with the Loudoun County Sanitation Authority. In addition, WASA has wholesale wastewater treatment agreements with the Washington-Dulles International Airport, the Department of the Navy, the National Park Service, and the Town of Vienna, Virginia.

Treatment Process

Wastewater is collected by the District of Columbia sewer system and from the surrounding service areas in Maryland and Virginia. It is delivered to Blue Plains where it is processed. That process consists of preliminary treatment, secondary treatment, nitrification/denitrification, effluent filtration, chlorination/dechlorination and post-aeration.

The solids treatment processes at Blue Plains are composed of thickening and dewatering processes for primary sludge, secondary waste activated sludge (WAS) and nitrification/denitrification waste activated sludge. These facilities including screen and degritting processes, gravity thickeners, dissolved air flotation thickeners, sludge blending and centrifuge dewatering.

Until December 2000, a portion of the primary sludge and all the nitrification/denitrification waste activated sludge was anaerobically digested. The digesters used in this process have been deactivated and will be replaced with egg-shaped digesters. Preliminary design on the egg-shaped digester project was completed in FY 2003. Presently, all sludge is lime stabilized.

Newly installed control panel for Site Runoff Pumping Station at Blue Plains (above), and the second skimmer boat, at work on The Washington Channel of the Potomac River (below).

Biosolid Disposal

In 1984, officials from all the jurisdictions served by the Blue Plains Wastewater Treatment Plant established procedures for soliciting and entering into contracts for hauling and disposing of biosolids from Blue Plains. These biosolids are high quality material that meets all applicable requirements of Federal regulations. Most of the 1,300 tons per day of biosolids produced at Blue Plains is applied directly to land in Maryland and Virginia. Montgomery and Prince George's Counties retain contractual responsibility for their share of generated biosolids and use land application or landfill methods to meet their disposal obligations.

WASA developed a Biosolids Management Program in concert with a stakeholder group that included representatives from neighboring jurisdictions. That plan was adopted by the WASA Board of Directors in 1999. The program calls for full biosolids digestion as the Authority's primary long-term solution and continuing land application for as it is financially advantageous. The new egg-shaped digesters currently under development will play an important role in the new process and make a significant contribution to the reduction of the volume of biosolids produced at Blue Plains.

Combined Sewer Overflows

About two-thirds of the District of Columbia is served by separate sanitary and storm sewers. However, in about one-third of the District, is served by a combined sewer system. This is primarily in older sections of the District. In the combined sewer system, both sanitary waste and storm water flow through the same pipes. When the collection system and/or the Blue Plains treatment plant reach capacity, usually during periods of heavy rain, the system is designed to overflow the excess water in waterways such as the Anacostia River, Potomac River, and Rock Creek. These events are called "combined sewer overflows" (CSO) and are common to wastewater systems in many of the nation's older cities.

The "V Notch Weirs" in a primary sedimentation water tank at Blue Plains allow the cleaner water to be distributed evenly to the effluent trough. Authority employee uses panel that controls tidal flow.

WASA's permit from the Environmental Protection Agency (EPA) authorizing CSO discharges, requires WASA to develop a long term CSO control plan (LTCP) that will result in compliance with the Federal Clean Water Act. The Authority submitted its LTCP to EPA in August 2002, and has been in negotiations with EPA and the Department of Justice particularly focused on the implementation schedule and water quality standards.

The LTCP proposes construction of large storage tunnels, rehabilitation of pumping stations, new pipelines, and other targeted improvements that will provide for temporary storage of combined flows during storm events until they can be released to Blue Plains for treatment. The LTCP would result in a dramatic decrease in CSOs, an estimated 96 percent reduction.

The total estimated cost for implementation of the proposed plan is $2.6 billion, over 40 years, assuming a 3 percent annual inflation rate. If no outside financial assistance was forthcoming, implementation of the plan would result in rate increases of approximately 2 percent annually over the 40 year construction period. In FY 2003, WASA received a $49.7 million appropriation from the U.S. Congress based on a request by the Mayor of the District of Columbia.