Building a Better Columbus

2006 Annual Report

Columbus Department of Public Utilities

Michael B. Coleman, Mayor

Mission Statement:

To enhance the quality of life, now and into the future, for people living, working and raising families in central Ohio through the economic, efficient, and environmentally responsible stewardship of superior public utilities.

Michael B. Coleman
Mayor

Cheryl Roberto
Director

Tatyana Arsh *P.E.*
Administrator,
Division of Sewerage
and Drainage

Rick Westerfield *P.E., PhD*
Administrator,
Division of Power
and Water

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Year in Review

Columbus and central Ohio continue to flourish for so many reasons: families can find strong, clean neighborhoods here; we are adding jobs and our economy is vibrant; and businesses look to expand or move here to embrace an outstanding workforce. Under the leadership of Mayor Michael B. Coleman, we are building a better Columbus and region, with exceptional, dependable public utilities at the core of our prosperity.

In 2006, the Department of Public Utilities implemented a new water and sewer rate structure that is more fair to homeowners. Our rates remain competitive with other major cities in Ohio and the Midwest, while allowing us to continue to invest in neighborhood utility improvement projects across Columbus. These neighborhood projects are aligned with our department's mission to enhance the quality of life through the economic, efficient and environmentally responsible stewardship of superior public utilities.

With the leadership of Mayor Coleman and City Council, we enacted a Low Income Discount Program in 2006 to lift some of the burden off ratepayers who have the greatest challenges making ends meet. Water and sewer customers who already qualify for a variety of state and federal low income programs are eligible for discounts of 15 percent on their water and sewer bills. A total of 2,221 ratepayers qualified for the program in its first year.

Happy Project Dry Basement Customers, The Knight Family

The department's investment in neighborhoods consisted of projects with long term benefits for customers, including the 40-year Wet Weather Management Plan. In 2006, progress continued on this program which, once completed, will result in cleaner waterways and fewer basement backups. The improvement projects in the plan will also bring the city into compliance with two consent orders signed with the State of Ohio in 2002 and 2004 to stop sewer overflows into local waterways.

The Division of Sewerage and Drainage made additional gains in stopping basement backups in 2006 through the Project Dry Basement program. Sixty-six backflow devices were installed in 2006, bringing the total to 376 such devices in homes across Columbus since Mayor Coleman launched the initiative in 2004.

The division's proactive preventative sewer maintenance program is at the core of excellent sewer service. The division maintained 5,474 miles of sewer, including 2,683 miles of sanitary lines, 2,628 miles of storm sewers and 163 miles of combined sewers. Also in 2006, our Southerly and Jackson Pike wastewater treatment plants upheld their award-winning status in treating a combined average of 171.5 million gallons a day.

Year in Review *(continued)*

The Division of Water and the Division of Electricity merged to form the new Division of Power and Water in 2006 and remained focused on achieving high standards of excellence. The Water Section delivered 51.3 billion gallons of potable water, in compliance with all applicable water quality standards, to residential, commercial and industrial customers in the Columbus metropolitan area. The average water consumption was 140 million gallons per day by the estimated service area population of 1,083,100.

We are committed to ensuring ample supplies of clean, dependable drinking water for our customers well into the 21st century as our region grows. Planning continued in 2006 on two essential projects: expansion of the South Wellfield; and the Upground Reservoir Project. South Wellfield construction is scheduled to begin in 2007; construction of the first of three upground reservoirs in northwest Delaware County is set to begin in 2008.

The Power Section in 2006 was vital in the department's negotiation of a new purchase power agreement with the American Electric Power Service Corporation, resulting in the first adjustment in our basic electric rates in 13 years.

The Power Section again made advancements in helping to make neighborhoods safer through installation of 1,193 new streetlights—655 of them decorative lights—in 2006, bringing Columbus' streetlight inventory to 49,982. Residents worked closely with Power Section staff to bring decorative lighting to the Maize–Morse neighborhood, Independence Village, Sharon Woods and Westerford Village.

The department is a key partner in Mayor Coleman's Get Green Columbus initiative through the Wet Weather Management Plan and a host of other projects. The department's new Stormwater Drainage Manual went into effect in 2006, which sets guidelines for safe and responsible stormwater runoff, including green stormwater management systems. A Conservation and Environmental Stewardship section is among the features of the department's new, customer-friendly web site.

Hoover Dam High Flow

Year in Review *(continued)*

The department took a significant step to ensure compliance with all environmental laws and related rules and regulations with the creation of a Regulatory Compliance Section in 2006.

The section works with department staff to maintain compliance at our water and wastewater treatment plants, monitors upcoming state and federal regulatory legislation and comments on pending environmental rules and regulations.

A Strategic Plan was implemented in 2006, which will help improve department efficiency and effectiveness, ultimately benefiting ratepayers. Department leadership and all employees are reaching across division lines, working together to analyze our progress, improve our fiscal accountability and identify how we can enhance our management to better serve our customers.

The year brought news that Director Cheryl Roberto would be leaving the department, after serving as director since 2003 and moving the department forward in many ways. It was announced by the end of the year that the new director chosen by Mayor Coleman to begin in 2007 was Tatyana Arsh, P.E., who was promoted from the position of Administrator of the Division of Sewerage and Drainage. She brings much experience to lead the department, drawing from a decade of service to the city in addition to private sector experience.

The department will continue to invest in neighborhoods to improve sewer, water and electricity service for our customers to keep central Ohio and Columbus attractive to families as the best place to live, work and raise a family. Mayor Coleman and the Department of Public Utilities' staff expect 2007 to bring even greater achievements.

Briggs Road Storm Sewer Installation

Getting Columbus Greener

The City of Columbus gained momentum in its mission to be greener in 2006. This visionary effort is based on Mayor Michael B. Coleman's Get Green Columbus initiative, launched in 2005 as a basis to pursue responsible environmental stewardship. The Mayor's Green Team, a 35-member advisory committee, includes city agencies, community leaders, residents, businesses and developers committed to achieving an environmentally sustainable city that meets today's needs without compromising the ability of future generations to meet their needs. The city has invested in green homes, buildings and businesses and much more.

The Department of Public Utilities is striving to do its part to create the highest quality of life possible for residents now and in the future and to serve as a role model for the private sector and the public at large. We are collaborating with members of our community to achieve environmental gains with lasting value. Increasing awareness, providing educational opportunities and raising environmental literacy are essential components the department uses to engage participation from residents in making daily decisions regarding water quality. Highlights of the department's progress on this initiative in 2006 included:

Community Watershed Stewardship Program

This unique partnership between the department, its customers and local watershed groups encourages residential backyard conservation, water and energy conservation and promotes public education to improve watershed health. Friends of Big Walnut Creek and Friends of the Lower Olentangy Watershed will emphasize rain barrel distribution and rain garden workshops, environmentally sensitive lawn care, stream stewardship and water quality monitoring.

Native Landscaping - A Natural Stormwater Best Management Practice

In partnership with the Mid-Ohio Regional Planning Commission's Greenways Program, the department created nearly an acre of Ohio native prairie at the Dublin Road Utilities Complex. A goal of the project is to advocate and showcase a natural landscaping technique that enhances biodiversity, decreases water and air pollution, provides an alternative to traditional lawns, and informs residents about the benefits of natural landscaping.

Solar Power – The Africentric School Project

Students at the Africentric School at Grant Street and Livingston Avenue in Columbus began learning that the sun's rays can be transformed into usable electricity because of a project initiated through the Division of Power and Water. The Power Section partnered with several agencies to install a small, one kilowatt solar unit on the side of the school building. The project is an educational tool to teach students about renewable energy sources. A monitor in the computer room at the Africentric School has access to a software program which allows students to watch, in real time, how much power the panels are generating from the sun's rays. The program also allows students to monitor air temperature. They can study how season, climate and weather affect the system's ability to produce power. Partners in addition to the Columbus Public Schools included the Ohio Energy Project, American Municipal Power, the Foundation for Environmental Education and the Ohio Department of Development's Office of Energy Efficiency.

Getting Columbus Greener *(continued)*

The Lower Olentangy Ecosystem Restoration Project

To further enhance and protect our watersheds, the department will help restore the health of the Lower Olentangy Watershed by evaluating the ecological benefits of removing or modifying the urban low-head dam located on the Olentangy River at Fifth Avenue. On August 1, 2006, over 70 stakeholders and watershed residents attended the U.S. Army Corps of Engineers (USACOE) Scoping Meeting at Goodale Park. This initial phase of a USACOE-funded feasibility study brought stakeholders and the community together to examine a variety of alternatives to modify or remove the Fifth Avenue low head dam, restore the stream channel and improve water quality in this stretch of the Olentangy River.

Pilot Wetlands Mitigation Project

The Pilot Wetlands Mitigation Project was designed to mitigate impacts on existing wetlands from DPU construction projects in the Scioto watershed. Over six acres of herbaceous and wooded wetlands were created along Clover Groff Run in the Hellbranch Run Watershed. This local watershed mitigation presented an opportunity to provide a much needed wetland habitat within highly urbanized Franklin County and is a valuable educational tool for local residents.

Green Infrastructure

The department has successfully utilized the Ohio Environmental Protection Agency's Water Resource Restoration Sponsorship Program to acquire and protect green space. In 2006, DPU sponsored acquisition of $3 million in green infrastructure. The project, located in the Big Walnut Creek watershed, will acquire 104 acres of stream corridor along Big Walnut Creek and 75 acres of conservation easement. Over a mile of endangered habitat and 10,000 linear feet of high-gradient headwater stream along the main stem of the creek are also protected.

Green Fleet

The Department of Public Utilities participated in a pilot project to explore the use of diesel fuel alternatives that reduce dependence on petroleum and emit a cleaner exhaust. A trial phase for 2007 was planned to use a blend of 20 percent biodiesel fuel derived from soy and 80 percent petroleum to power some vehicles at the city's Compost Facility.

Green Roof Workshop

In October, 35 people representing various city departments learned about the benefits of green roofs during a workshop sponsored by the Department of Public Utilities. After a presentation, attendees toured American Electric Power's green roof in downtown Columbus. With plants in place, green roofs are a way to reduce stormwater and filter pollutants.

Local Rain Garden in Gahanna

Get Green Columbus
For more information visit **www.getgreencolumbus.org**
or call 311 or 645-3111.

Protecting Our Environment

The department protects the environment and our community's water supply in many ways. Highlights for 2006 include:

- The Industrial Wastewater Pretreatment Section staff monitor discharges from permitted industries into the sanitary sewer system to ensure compliance with clean water goals. One hundred and thirty-two inspections were performed. The staff also investigated 12 grease incidences, met with food service establishment management when necessary and distributed 2,031 door hangers in neighborhoods.

- The Surveillance Laboratory assists the wastewater treatment plants with monitoring effluents discharged by the plants. A total of 4,611 compliance parameters were analyzed from 1,006 samples. The lab also assists the Industrial Wastewater Pretreatment Program by testing samples of industrial customers. A total of 25,069 compliance parameters were analyzed from 6,790 samples for the pretreatment program.

- The Stormwater and Regulatory Management personnel performed 3,357 inspections of active construction sites for erosion and sediment control.

- Notices of Violation (NOVs) and Requests for Voluntary Compliance (RVCs) issued:

Section	Notices	Fines
Industrial Wastewater Pretreatment/Trucked Trucked Waste	12 NOVs (Program) 36 NOVs (Technical) 1 NOV, 5 RVCs, 1 warning	8,250
Stormwater and Regulatory Management	15 NOVs 6 RVCs	6,500
Total Fines		**$14,750**

- The award-winning record of compliance with clean water regulations for effluent discharge at the city's two 24-hour wastewater treatment plants continued with no violations in 2006.

- The Division of Sewerage and Drainage provides sanitary sewer service to failing septic tank areas as directed by the city's health department, Columbus Public Health.

- The department also helps protect the environment through public education programs, such as "We All Live Downstream."

- The public service campaign aims to inform residents about responsible use of lawn chemicals and other pollutants through television public service announcements and literature.

- The Communications Office coordinated and promoted the fifth annual Central Ohio River Pride regional watershed litter cleanup, which was expanded from a weeklong program to a full month in 2006. Five cleanups were done in three watersheds in May. The event is part of the "We All Live Downstream" non-point source water pollution public education program. Participation in the volunteer storm drain marking project remained strong in 2006, with nearly 1,800 markers distributed.

- The Division of Power and Water's Watershed Management staff works to protect and maintain the Hoover, Griggs and O'Shaughnessy reservoirs, which provide Columbus' drinking water supplies. Two reservoir litter cleanups were organized in 2006 at Hoover and Griggs, bringing out 281 volunteers. The Watershed office continued to oversee source protection programs such as the Land Stewardship Program. This program involves working with the 1,200 homeowners living adjacent to

Protecting Our Environment *(continued)*

city-owned reservoir property. The purpose is to educate them about the need to protect water quality by reducing erosion, protecting shorelines and encouraging native landscaping. Department involvement also continued in the Conservation Reserve Enhancement Program (CREP), which is designed to help farmers conserve riparian corridors and protect water quality. This voluntary program helps reduce agricultural pollution, soil erosion and the risk of downstream flooding in the Upper Big Walnut Creek and Scioto watersheds. The division lends support to the CREPs by analyzing and sharing water quality data, procuring conservation easements and adding enrollment incentives for riparian buffer strips. Together with various other government and environmental agency partners, the Watershed Management staff is committed to proactively protecting the watershed land supplying the water treatment plants.

- The partnership continued between Public Utilities and Columbus Public Health to help inform the community about the environmental and health dangers of mercury. Materials collected in 2006 containing mercury by the Health Department totals: 565 thermometers, six pounds of bulk mercury and one blood pressure cuff. Collection sites include Columbus and Franklin County fire stations, Neighborhood Pride events and the NBC4 Health and Fitness Expo.

- Additional efforts to protect the environment included various partnerships with other agencies. The Sierra Club partnered with the Department of Public Utilities in 2006 through a grant from the Columbus Foundation. A joint brochure, Community Wet Weather Partnership, was developed and distributed. Twenty group presentations and 11 community event displays reached over 5,000 residents under this partnership. Plans were also made to expand the partnership with the Franklin County Soil and Water Conservation District in 2007.

- Department personnel participate in the Mid-Ohio Regional Planning Commission's Greenways Steering Committee.

Investing in Our Communities and Infrastructure

Sewer System Engineering Section Capital Improvement Projects

For much of the year, the Sewer System Engineering Section (SSES) of the Division of Sewerage and Drainage was involved in advancing the Wet Weather Management Plan to reduce combined and sanitary sewer overflows to Columbus waterways. This plan provides the framework for an estimated $2.5 billion in wastewater infrastructure improvements. Highlights included:

Hydraulic Model Update

A contract was awarded for a Hydraulic Model Update on the combined and separate sanitary sewer networks. This information is critical to defining objectives of the Wet Weather Management Plan as well as for developers and engineers who rely on the data to help predict system response under varying conditions.

Inflow and Infiltration Studies

A series of inflow and infiltration studies began in the Livingston-James Roads area and also in the West Fifth Avenue and Early Ditch areas. These are among the most technologically advanced studies of this nature being performed in the country today. The information obtained will enable development of cost-effective solutions for improvements in those areas.

Sewer Rehabilitation

The SSES section completed the rehabilitation of many sanitary sewers in Clintonville. The work will help reduce sanitary sewer overflows into the Olentangy River.

Neighborhood Stormwater Improvements

The third phase of the Bliss Run Storm Trunk Sewer Improvements continued, with completion scheduled for 2007. The improvements will have a significant impact on the east-side neighborhoods in reducing street flooding. Construction of the East Central Stormwater Relief Sewer was also completed. Work began on the Briggs Road Drainage Improvements to reduce flooding and allow for sidewalks to be completed in the area.

BWARI and BWOAS

Staff continued to oversee the construction of the two-phase Big Walnut Augmentation/Rickenbacker Sanitary Interceptor (BWARI) sewer and the Big Walnut Outfall Augmentation Sewer (BWOAS). Tunnel boring of Phase I of BWARI was completed. These sewers will provide significant wet weather storage and reduce plant bypasses at the Southerly Wastewater Treatment Plant. These are the first of the major projects contained in the Wet Weather Management Plan, representing over $200 million in reinvestment into Columbus' sanitary sewer system.

BWARI Phase 1 Completion

Investing in Our Communities and Infrastructure

Treatment Engineering Section Capital Improvement Projects

The Treatment Engineering Section of the Division of Sewerage and Drainage, formerly known as the General Engineering Section, is responsible for overseeing upgrades to the city's two wastewater treatment plants, Jackson Pike and Southerly.

Wet Weather Improvements Projects, Jackson Pike and Southerly Wastewater Treatment Plants

In 2006, procurement and authorization was completed for the six large design professional engineering contracts for the Project Clean Rivers/ consent order work in the two plants. Concept design from the WWMP was reviewed, confirmed and adjusted, and the initial design studies for the projects on the program's critical path began. At the end of 2006, this program was on schedule. Design, bidding, and contracting for the program is expected to progress at a rapid rate throughout 2007 and 2008. Extraordinary efforts were, and will continue to be, provided by the Professional Program Management team which is made up of consultants assisted by the Treatment Engineering and plants' personnel.

Southerly Wastewater Treatment Plant, New Headworks

This project includes two construction contracts that are part of the Wet Weather Management Plan and is actually the first project in the program. Although the work was severely impacted by flooding at the site in 2005, acceleration of the construction will allow the rest of the program to meet the proposed schedule. Capacity of the "front end" of the Southerly plant is being increased to a maximum of 330 million gallons per day (MGD), with the capability for later expansion to 550 MGD. This improvement was designed to operate seamlessly with the proposed operational plan for the Big Walnut Augmentation/ Rickenbacker Interceptor (BWARI) project. It has also provided a test site for substantive corrections and improvements to recent practice in the plants' instrumentation and controls' project delivery methods. These improvements are planned to be utilized throughout the balance of the plants' wet weather program.

Jackson Pike Headworks, Sludge Handling and Dewatering Improvements

Completion work continued on the contracts in these two process upgrade projects. The work is expected to be finished in 2007, which will enable four wet weather projects planned for the Jackson Pike plant to follow, on schedule.

Southerly Wastewater Treatment Plant, New Headworks

Investing in Our Communities and Infrastructure

Water Distribution Capital Improvement Projects

London/Groveport Road 24" Water Main, Part 2

This project provided for the construction of approximately 8,800 linear feet of 24" water main from the railroad crossing at London/Groveport Road to Shook Road, John Glenn Avenue, to Alum Creek Drive and London/Groveport Road. This transmission main was needed to complete a looped line between Parsons Avenue and Alum Creek Drive.

London/Groveport Road 24" Water Main, Part 3

This project provided for the construction of approximately 17,900 linear feet of 24" water main from the intersection of Shook Road and John Glenn Avenue through Rickenbacker to the Franklin/Pickaway County line. This transmission main was needed to provide for potable water and fire flows for the proposed Rickenbacker Industrial Area.

Scioto Darby Creek Road 24" Water Main, Part 1

This project provided for the construction of approximately 1,500 linear feet of 24" water main along Scioto Darby Creek Road from Darby Glen Boulevard to Walcutt Road. This transmission main was needed to reinforce the existing grid and to improve fire flows.

Scioto Darby Creek Road 24" Water Main, Part 2

This project provided for the construction of approximately 4,900 linear feet of 24" water main along Scioto Darby Creek Road from I-270 to Darby Glen Boulevard. This transmission main was needed to reinforce the existing grid and to improve fire flows.

Water Supply Capital Improvement Projects

Hap Cremean Water Plant Sludge Pump Station

Design work progressed, including a value engineering study and report, on renovations of this 18-year-old sludge pumping facility. The pumps, motors and valves require continuous maintenance. Replacement of this equipment will significantly reduce unnecessary downtime and maintenance expenses, while increasing efficiency. The plant electrical system is also being upgraded.

Upground Reservoir

Design work progressed on the raw water pump station and pipeline and the first upground reservoir off the Scioto River north of the O'Shaughnessy Dam. The project will produce additional safe yield water supply as recommended in the Water Beyond 2000 study for the Dublin Road Water Plant. Total estimated costs, including future phases of the project, is $263.7 million.

Dublin Road Water Plant Disinfection Improvements

Progress included installation of the temporary scrubber for the existing chlorine facility and completion of the Sodium Hypochlorite Facility engineering design and construction documents, and awarding the construction contract. A new separate facility will be constructed utilizing alternate disinfection chemicals, which will contribute to a more stable environment and safer handling.

Other improvements underway in 2006 included the Dublin Road Water Plant Automation Upgrade and the Hap Cremean Water Plant Asbestos Abatement and Heating System Replacement projects.

Investing in Our Communities and Infrastructure

Power Capital Improvement Projects

Spill Prevention Control and Countermeasures Project

This project provided for the construction of spill protection around all transformers and oil circuit breakers at all city substations and at distribution offices. All oil circuit breakers were changed at the Dublin Avenue substation and replaced with SF6 gas breakers. This project was required to meet updated federal EPA requirements.

Italian Village Circuits

This project provided for the construction of approximately 12,100 circuit feet of 15kv three-phase primary overhead distribution circuits. This consisted of four circuits originating at the Italian Village Substation with underground feeds to the overhead riser poles in the areas of Fourth and Summit Streets, First and Fifth Avenues. The distribution circuits were required to provide service and improved reliability for the Campus Gateway, North Substation and Columbus State Community College areas.

Reliable Power

The Power Section now has an additional 2.2 megawatts of peaking power after taking over operation of two diesel powered generators at the Renick Run Franklinton Floodwall pump station. The generators are important in the section's overall power mix in that they can be utilized to supplement power requirements during period of high usage. Power section staff worked with the DOSD staff and the U.S. Army Corps of Engineers on the diesel project.

South Substation Removal

A fixture at Children's Hospital off Livingston Avenue since the 1920's will be no more after completion of 7,200 volt circuit upgrades to 14,400 volts. With the circuit upgrades, the old South Substation will no longer be needed. Design for the upgrades was completed in 2006 with the actual upgrades to be completed in early 2008. The hospital will build an addition on the property now occupied by the substation. Elimination of the substation will not compromise electric service; in fact, it will improve because of the ability of the new circuits to carry more electrical load, improving customer reliability.

Morse Road

The city has made various improvements in recent years to the appearance and revitalization of the Morse Road corridor. The Power Section was a part of this effort. Phase 1 of the relocation of electric circuits to eliminate overhead wires spanning across the road was completed. The first phase of circuit relocations went from I-71 to Karl Road. The second phase will run from Karl Road to Cleveland Avenue.

Italian Village Substation Mural

Customer Service and Community Relations

The major accomplishments for the Customer Service Call Center included implementation of a new water rate structure and the new low-income discount program. Applications for the 15 percent discount were distributed at various locations including food pantries, libraries and health centers, through a customer bill mailing and were made available on the city's Web site.

In addition to the continued service of on-line payment for sewer and water bills on the department's web site, additional payment locations were secured in August.

A new department-wide customer reply postcard went into development by the Communications Office in 2006, and a new consistent methodology of gathering this customer feedback will be developed in 2007. Until the new program is put into place, existing division customer reply postcards continue to be used to allow customers a way to provide feedback on services provided.

DOSD Administrator Arsh and Engineer for a Day Participants

A new Department of Public Utilities' Web site went live in December after many months of planning. The site features the department's new blue and green "infinity" logo that was created by Columbus College of Art and Design students. Designed with customer usability in mind, the site structure was based on pages most commonly used by customers. The navigation was grouped by subject, rather than division, which will help remove the guesswork for the visitor.

The department participated with the Public Service Department in the Engineer for a Day program in February. The national program is designed to allow students interested in engineering to accompany a practicing engineer and observe them at work. Thirteen students from 10 local high schools participated and toured various city facilities. As part of the event, a city engineer is named Engineer of the Year for outstanding service. The 2006 recipient was Tanya Arsh, P.E., then administrator of the Division of Sewerage and Drainage and later named the new director.

Columbus residents continued to welcome the opportunity to participate in the Project Dry Basement sewer backup prevention program, which began in 2004. Sixty-six backflow valves were installed in 2006.

Public service notices continued in This Week Community Newspapers and The Lantern during recreational season, advising of potential sewer overflow discharge locations along waterways.

With design and construction plans moving along on the Division of Power and Water's Upground Reservoir project in Delaware County, the Communications Office hosted two public open houses for residents in the project area to learn more and provide input. An additional opportunity was provided at a Columbus City Council Public Utilities Committee hearing.

Customer Service and Community Relations *(continued)*

Tours of the Jackson Pike and Southerly Wastewater Treatment Plants continued to be provided by request and appointment. Over 60 tours were conducted in 2006. One tour was also provided at the Compost Facility to a group of international students from The Ohio State University.

The Compost Facility donated material for various community garden projects in Columbus and participated in events including the Whetstone Rose Festival and the Chadwick Arboretum and Gardens Spring Plant Sale.

The Watershed Management Office participated in events including the Sports, Vacation and Travel Show. Watershed rangers monitor and secure the reservoir park lands and assist visitors (on foot and by boat), logging 843 hours of boat patrol, and providing 547 boat safety inspections.

One way the department ensures good customer service is by offering training opportunities to employees. A total of 350 classes were conducted in 2006, with over 1,200 employees attending at least one class.

2006 Customer Service Highlights

Residential meters
(meter installations and replacements, inspections, service renewal and service termination) 83,501
Account adjustments 33,724
Delinquent accounts (door tagged, service terminated) 28,765
Meter reading (recheck readings, inspect reading problems) 9,930
Commercial meters (test meters, investigate billing concerns) 2,108

Total calls **417,902**

Low Income Discount applications approved (water and sewer) 2,220

Active senior citizen discount participants:
- Water 859
- Power 51

Total customers billed:
- Water 269,117
- Sewer 265,400
- Storm 193,478
- Power 13,719

Maintaining Our Systems

Sewer Maintenance Operations Center

The maintenance of the 5,474 miles of storm, sanitary, and combined sewers is performed by the Sewer Maintenance Operations Center (SMOC), a 24-hour facility and the largest staffed section of the Division of Sewerage and Drainage. Maintenance responsibilities include: 10 sanitary and 15 storm pump stations monitored by Supervisory Control Data and Acquisition (SCADA) system, 18 regulators, 22 detention/retention basins, 13 siphons, six sluice gates, two bio-filters, the Alum Creek Storm Tank, numerous catch basins, ditches, flapgates, inlets and manholes, as well as the maintenance of the Franklinton Floodwall gates and 14 gate wells.

Designated neighborhoods of Berwyn East/Thunderbird, Hilltop VI, King/Lincoln/Bronzeville, Maize/Morse, North and South Linden, Vassor Village benefited from SMOC's continued support of the city's Neighborhood Pride program. Attention to these areas included inspection of 1689 catch basins, resulting in 290 catch basins cleaned and 29 catch basins repaired. Support also continued on the Campus Partners' program with The Ohio State University: 1,990 catch basins were inspected, 743 catch basins cleaned and 13 catch basins repaired.

Maintenance Activity	2006	2005	2004
Repairs *(manholes, catch basins, etc.)*	479	1,261	1,171
Catch basins inspected	14,129	10,098	13,585
Catch basins, inlets, man holes cleaned *(city crews)*	6,591	5,348	5,411
Catch basins, inlets, man holes cleaned *(contracted)*	2,711	1,558	3,437
Miles of sewers power cleaned	432	336	419
Miles of sewers closed circuit televised	113	69	58
Total work orders	**12,671**	**15,494**	**16,469**

Maintaining Our Systems

Water Distribution and Maintenance

The Pitometer Water Waste Survey located 40 breaks in the distribution system while investigating 755 miles of pipeline. The repair of these breaks has reduced our underground leakage by 2.17 million gallons per day. The Main Line Repair Crews repaired a total of 690 main-line breaks and 734 service leaks. The Cross-Connection Control and Backflow Prevention Program increased water use surveys on existing properties to assure proper protection was in place. Software has streamlined many clerical and administrative duties for these activities. Backflow requirements for temporary water use and hydrant permit connections were reviewed for proper system protection and best business practices.

A total of 11,388 inspections for new construction, existing structures, service line inspections, meter settings, backflow prevention installation inspections and water use surveys were completed by this activity. We now have 24,148 backflow prevention devices listed in our database, where we record the installation records and monitor the required maintenance schedule.

There were 2,022 new service connection permits issued; 1,120 in Columbus and 902 issued in the suburban service areas. Thirty miles of waterline—10 miles in Columbus and 20 miles in suburban service areas—were added to the distribution system in 2006, bringing the total to 3,470 miles.

Water Distribution System Repairs	2006	2005	2004
Taps			
Repaired	422	396	455
Renewed	269	303	295
Cut-Off at Main	43	61	57
Put-In-Shapes	323	137	265
Relocated/Transfers	4	2	7
New Taps Main Line	8	6	18
Leaks 2” & Under	171	149	133
Leaks 3” & Over	519	509	427
Extensions 2” & Under	0	91	0
Extensions 3” & Over	0	0	0
Fire Hydrants			
Repaired	1,266	1,409	1,127
Replaced	237	168	110
Checked	1,231	1,012	548
Painted	1,893	2,577	1,137
Valves			
Installed, Mainline	123	176*	7
Installed, Watch	3	3	5
Repaired, Main Line	76	98	67
Repaired, Watch	43	34	89
Put-In-Shapes	81	96	90
Valves Worked	1,420	1,619	1,312
Total Work Orders	**8,132**	**8,848**	**6,150**

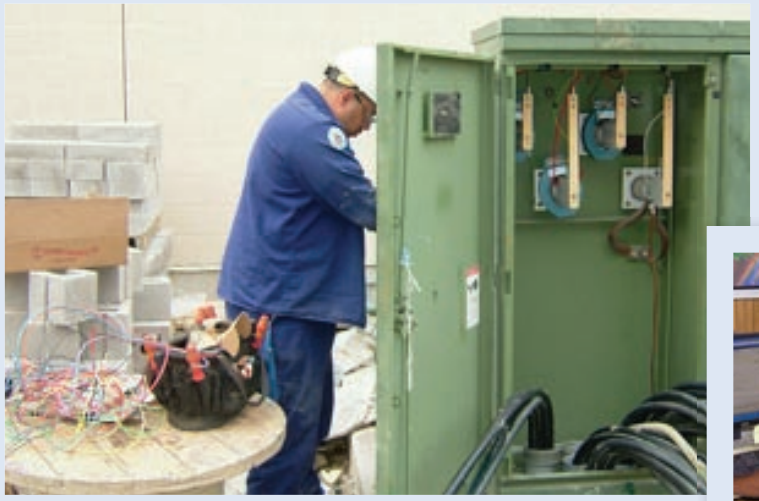
** Six were completed by Division of Power and Water crews, while 170 were completed by contractors as part of the Valve Program.*

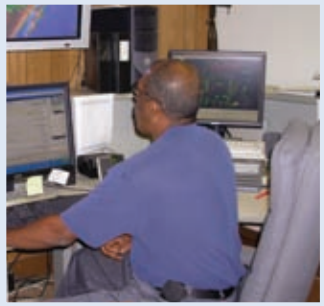
Maintaining Our Systems

Power Distribution System

Safer neighborhoods through modern, efficient street and alley lighting is the primary mission of the Power Section. The total number of street lights illuminating neighborhoods by the end of 2006 was 9,982. This was an increase of 1,193 lights over 2005. Many of the lights were added under the very popular neighborhood assessment program, where residents petition for decorative lighting. Four neighborhoods were added to the 33 which have gone this direction since the program began in 1993. The Power Section also maintains 4,081 Interstate lights under contract with the State of Ohio. Maintaining reliable service to customers is a major strength of the Power Section.

Maintenance Activity	2006	2005	2004
Wire/cable repaired *(feet)*	229,606	169,080	159,121
KVA of transformers	9,950	31,814	16,074
Luminaries	2,953	2,940	2,685
Lamps	11,376	11,607	19,052
Wooden poles	185	182	220
Standard poles	163	212	187
Total work orders	**7,264**	**6,330**	**6,311**





Water Treatment

2006 Consumer Confidence Report (CCR)

Primary Drinking Water Standards

Substances we detected (units)	When we checked	What's allowed? (MCL)	What's the goal? (MCLG)	Dublin Road Water Plant		Hap Cremean Water Plant		Parsons Avenue Water Plant		Violation?	Where did it come from?
				Level Found	Range	Level Found	Range	Level Found	Range		
Fluoride (ppm)	2006	4	4	1.09	0.94-1.09	1.17	0.80-1.17	1.14	0.93-1.14	No	Water additive – protects teeth
Nitrate (ppm)	2006	10	10	12.0[1]	<0.5–12.1	1.8	0.7-1.8	ND	ND	Yes[1]	Agricultural fertilizer runoff
Simazine (ppb)	2006	4	4	0.22	<0.10-1.00	0.68	<0.10-1.05	ND[2]	ND[2]	No	Agricultural herbicide runoff
Atrazine (ppb)	2006	3	3	0.76	<0.10-2.01	0.74	<0.10-1.42	ND[2]	ND[2]	No	Agricultural herbicide runoff
Alachlor (ppb)	2006	2	0	ND	ND	ND	ND	ND[2]	ND[2]	No	Agricultural herbicide runoff
Metolachlor (ppb)	2006	No set level	No goal set	0.21	<0.20-0.69	<0.20	<0.20-0.28	ND[2]	ND[2]	No	Agricultural herbicide runoff
Metribuzin (ppb)	2006	No set level	No goal set	<0.10	<0.10-0.19	<0.1	<0.1-0.12	ND[2]	ND[2]	No	Agricultural herbicide runoff
Chloroform (ppb)	2006	No set level	0	9.6	N/A	25.7	N/A	1.9[2]	N/A	No	By-product of drinking water disinfection
Bromodichloromethane (ppb)	2006	No set level	0	5.8	N/A	8.2	N/A	4.0[2]	N/A	No	By-product of drinking water disinfection
Dibromochloromethane (ppb)	2006	No set level	60	1.8	N/A	1.4	N/A	5.8[2]	N/A	No	By-product of drinking water disinfection
Bromoform (ppb)	2006	No set level	0	< 0.5	N/A	< 0.5	N/A	2.6[2]	N/A	No	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	2006	80	No goal set	56.2	21.9-103.0	55.1	22.0-83.2	15.5	10.1-25.6	No	By-product of drinking water disinfection
Total Haloacetic Acids (ppb)	2006	60	No goal set	51.9	24.2-97.3	50.4	34.3-60.5	5.6	3.1-11.8	No	By-product of drinking water disinfection
Total Alpha (pCi/L)	2003	15	0	< 3	N/A	< 3	N/A	< 3[3]	N/A	No	Erosion of natural deposits
Total Beta (pCi/L)	2003	50	0	8.5	N/A	4.6	N/A	N/A	N/A	No	Decay of natural and man-made deposits
Total Organic Carbon	2006	TT (removal ratio >1)	No goal set	2.23	1.70-2.63	2.01	1.76-2.38	N/A	N/A	No	Naturally present in environment
Total Coliform Bacteria	2006	Present in <5% of monthly samples	0%	0.7%[4]	0-0.7%	0.0%	0.0-0.0%	0%	0.0-0.0%	No	Bacteria present in environment
Total Chlorine (ppm)	2006	4 (MRDL)	4 (MRDLG)	1.52	0.38-2.16	1.62	0.33-2.70	1.08	0.21-2.01	No	Disinfectant
Turbidity (NTU)	2006	TT (<1 NTU)	No goal set	0.58	0.03-0.58	0.18	0.04-0.18	N/A	N/A	No	Soil runoff
		TT (% meeting Std.)	No goal set	98%	98-100%	100%	100-100%	N/A	N/A		
Nickel (ppb)	2006	100	100	21.0	N/A	ND	N/A	ND[2]	N/A[2]	No	Erosion of natural deposits, electroplating, alloying, mining and refining operations

Substances we detected (units)	When we checked	Action Level (AL)	What's the goal? (MCLG)	Concentration at 90th percentile	Range	# of sites found above the Action Level	Violation?	Where did it come from?
Lead (ppb)	2005	15	0	< 1	< 1 – 30.6	1 out of 50	No	Corrosion of household plumbing
Copper (ppm)	2005	1.3	1.3	0.059	0.002 – 0.070	0 out of 50	No	Corrosion of household plumbing; Erosion of natural deposits

[1] ***Nitrate Violation:*** *May 23rd to May 31st of 2006, drinking water from the Dublin Road Water Plant exceeded the nitrate MCL of 10 ppm. Water supplied by the Hap Cremean and Parsons Avenue Water Plants did not exceed the MCL.*

[2] *2005 Data, Not required to monitor in 2006.*

[3] *2002 Data, Not required to monitor in 2006.*

[4] *One (1) sample out of 145 in August 2006 indicated the presence of coliform bacteria = 1/1568 for the year.*

Other Water Quality Parameters of Interest

Substances we detected (units)	When we checked	What's allowed? (MCL)	What's the goal? (MCLG)	Dublin Road Water Plant		Hap Cremean Water Plant		Parsons Avenue Water Plant		Where did it come from?
				Annual Avg.	Range	Annual Avg.	Range	Annual Avg.	Range	
pH (units)	2006	7.0-10.5 (SMCL)	No goal set	7.8	7.6 – 7.8	7.8	7.6 - 7.9	7.8	7.7 – 7.9	Treatment process
Hardness (ppm)	2006	No set level	No goal set	118	117 - 120	114	106 - 119	122	120 - 123	Naturally occurring
Sodium (ppm)	2006	No set level	No goal set	52	38 - 75	15	12 - 23	61	53 - 68	Natural/Treatment process

If you have any questions about this data please call the Columbus Water Quality Assurance Lab at (614) 645-7691, or www.utilities.columbus.gov

Water Treatment

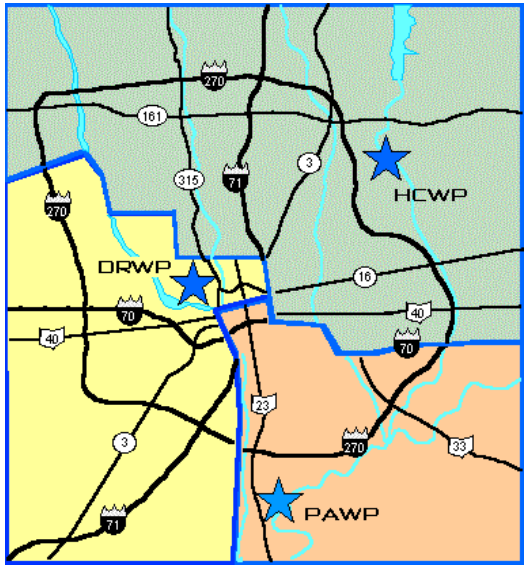
The Water Service Area Map

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Each home, school and business in the greater Columbus area receives water from one of the following three water plants:

- Dublin Road Water Plant (DRWP) serves northwestern and southwestern residents using water from Griggs and O'Shaughnessy Reservoirs.
- Hap Cremean Water Plant (HCWP) serves OSU and northern residents. The water source is the Hoover Reservoir.
- Parsons Avenue Water Plant (PAWP) draws water from wells and serves residents in the southeast.

Definitions and Terms		
Action Level (AL)		The concentration of a contaminant, which if exceeded, triggers treatment or other requirements that a water system must follow.
Maximum Contaminant Level Goal (MCLG)		The level of a contaminant in drinking water, below which there is no known or expected health risk. MCLGs allow for a margin of safety.
Maximum Contaminant Level (MCL)		The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology.
Secondary MCL (SMCL)		A nonenforceable numerical limit set by the USEPA for a contaminant on the basis of aesthetic effects to prevent an undesirable taste, odor, or appearance.
N/A		Not Applicable
ND		No Detect
NTU		Nephelometric Turbidity Unit (a measure of particles held in suspension in water.)
Parts per Billion (ppb) or Micrograms per Liter (ug/L)		Are units of measurement for concentration of a contaminant. A part per billion corresponds to one second in roughly 31.7 years.
Parts per Million (ppm) or Milligrams per Liter (mg/L)		Are units of measurement for concentration of a contaminant. A part per million corresponds to one second in roughly 11.5 days.
pCi/L		Picocuries per liter (a measure of radiation.)
MRDL		Maximum Residual Disinfectant Level
MRDLG		Maximum Residual Disinfectant Level Goal
The ">" symbol		This symbol means "greater than".
The "<" symbol		This symbol means "less than". For example, a result of < 5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.
Treatment Technique (TT)		A required process intended to reduce the level of a contaminant in drinking water. For Total Organic Carbon (TOC) the level must be above 1. For turbidity the level must be under 0.3 NTU 95% of the time, and always < 1 NTU.
Turbidity		Is a measurement of the cloudiness of the water. We monitor turbidity because it is a good indication of water quality and the effectiveness of our treatment process.

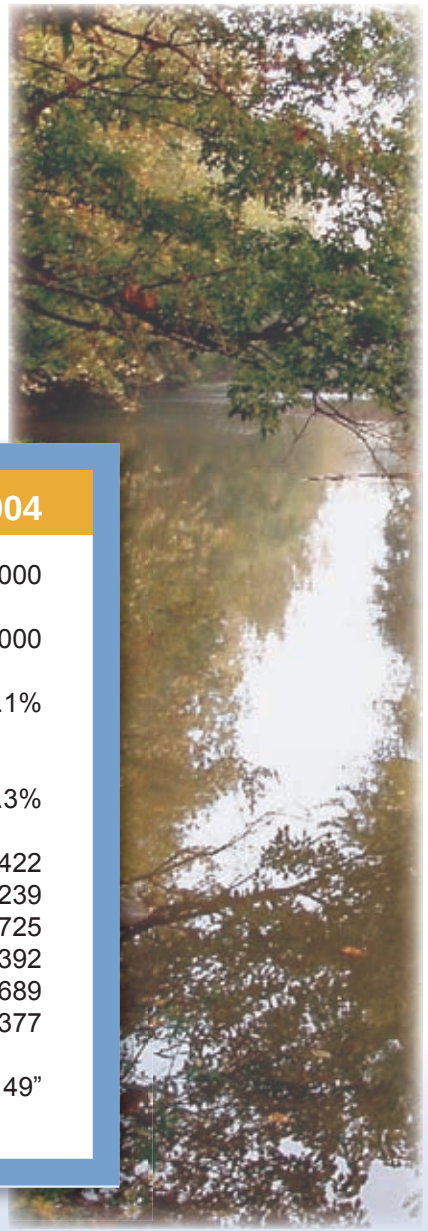
Water Service Area for the City of Columbus



Wastewater Treatment

Columbus operates two 24-hour wastewater treatment plants, serving Columbus and 22 contracting communities. The Jackson Pike Wastewater Treatment plant was built in 1935 and has a design capacity of 68 million gallons per day (MGD) with a peak treatment capacity of approximately 102 MGD. It serves roughly the central and western half of Franklin County. The Southerly Wastewater Treatment Plant was built in 1967 and serves roughly the eastern half of the county.

Its current design capacity is 114 MGD and future expansion to that capacity is planned for 330 MGD to better handle wet weather flow and in order to accommodate an ever-growing central Ohio population. Both plants have award-winning regulatory compliance records and had no violations in 2006. Tours of the plants are available to the public by appointment.



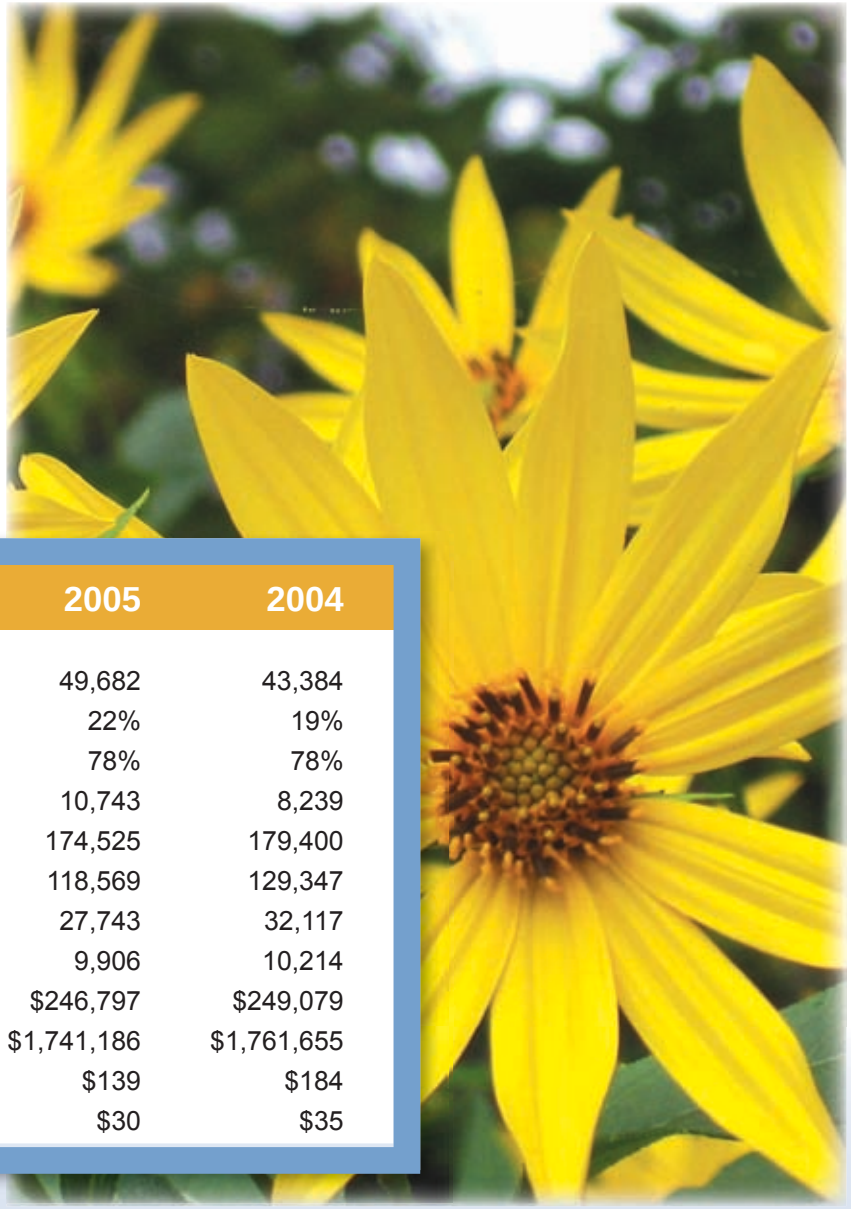
Wastewater Treatment Summary	2006	2005	2004
Total Gallons Treated	62,421,950,000	64,203,170,000	68,397,790,000
Average Gallons Treated Per Day	171,450,000	175,900,000	187,040,000
$CBOD_5$ Removed (Carbonaceous Biological Oxygen Demand)	98.2%	98.2%	98.1%
Suspended Solids Removed	97.7%	97.7%	97.3%
Dry Tons Bio-Solids Handled:	44,852	47,421	49,422
• Composted	11,237	10,743	8,239
• Land Filled	1,545	1,496	2,725
• Land Applied	1,633	2,174	3,392
• Incinerated	26,731	27,751	30,689
• Solids to Energy (JP only)	3,707	5,257	4,377
Central Ohio Precipitation	43.6”	40.3”	49”

Compost Facility

The Compost Facility was established in 1980 as an environmentally friendly alternative to treat wastewater residuals. By recycling the bio-solids into a woodchip and composting gardening material, DOSD reduces the amount that would otherwise be incinerated or landfilled.

The popular "Com-Til" composting product is available for sale to the public.

COM-TIL



Compost Facility Summary	2006	2005	2004
Incoming Sludge: Quantity *(wet tons)*	50,081	49,682	43,384
Average Dry Solids	22.5%	22%	19%
Average Volatile Solids	80%	78%	78%
Quantity *(dry tons)*	11,237	10,743	8,239
Compost processed *(cubic yards)*	174,525	174,525	179,400
Compost screened *(cubic yards)*	147,189	118,569	129,347
Com-Til Sold *(cubic yards)*	22,597	27,743	32,117
Total Compost Sold *(dry tons)*	9,407	9,906	10,214
Revenue	$199,658	$246,797	$249,079
Total Expenditures	$1,988,248	$1,741,186	$1,761,655
Cost after Revenue (per dry ton)	$158	$139	$184
Cost after Revenue (per wet ton)	$36	$30	$35

Revenues and Expenditures

Sanitary Enterprise Fund

	2006	2005	2004
Revenue			
Beginning Cash Balance	(1,867,020)	(9,621,131)	(5,782,973)
Sewer Service Charges	137,639,315	127,890,688	118,004,404
Investment Earnings	4,625,437	1,173,810	680,250
System Capacity Charges	9,018,034	9,152,682	8,052,121
Storm Sewer Reimbursements	10,571,735	7,211,361	8,451,454
Others	10,941,915	2,670,775	2,579,387
Revenues Before Transfers	172,796,436	148,099,316	137,767,616
Refunding Bonds	N/A	61,460,813	N/A
Other Fund Transfers	1,867,020	9,771,230	5,790,042
Revenues After Transfers	174,663,456	219,331,359	143,557,658
Expenditures			
Personnel	33,155,985	33,311,148	33,670,091
Suppllies and Materials	5,376,955	5,117,517	4,632,594
Operations & Maintenance	19,811,500	18,826,929	20,369,002
Other Agencies	16,212,903	16,033,696	15,280,664
Capital Equipment	2,078,049	2,876,960	2,986,148
Other	859,708	724,780	556,979
Debt Service	71,913,469	131,511,825	69,319,250
Sewer Share of DPU	3,804,448	1,653,042	581,089
Sewer Share of DOS	3,190,017	1,521,350	N/A
Total Expenditures	156,403,035	211,577,249	147,395,816
Ending Cash Balance	16,393,401	(1,867,020)	(9,621,131)
Revenue Over Expenditures	**$18,260,421**	**$7,754,110**	**($3,838,157)**

Revenues and Expenditures

Stormwater Enterprise Fund

	2006	2005	2004
Revenue			
Beginning Cash Balance	12,313,868	7,356,459	3,910,762
Storm Sewer Charges	26,462,136	24,594,256	23,289,911
Investment Earnings	3,649,565	1,278,154	529,453
Revenues Before Transfers	30,111,701	25,872,410	23,819,364
Refunding Bonds	N/A	30,147,741	N/A
Revenues After Transfers	30,111,701	56,020,151	23,819,364
Expenditures			
Personnel	1,695,326	2,298,557	2,218,945
Suppllies and Materials	7,250	7,255	13,295
Operations & Maintenance	15,540,271	1,209,279	1,247,334
Other Agencies	N/A	11,738,998	12,419,418
Capital Equipment	40,053	N/A	16,478
Other	75,311	217,805	43,735
Debt Service	15,209,432	35,432,157	4,414,462
Sewer Share of DOS	506,202	158,691	N/A
Total Expenditures	33,073,846	51,062,742	20,373,667
Ending Cash Balance	9,351,723	12,313,868	7,356,459
Revenue Over Expenditures	**($2,962,145)**	**$4,957,409**	**$3,445,697**

Revenues and Expenditures

Water Enterprise Fund

	2006	2005	2004
Revenue			
Beginning Cash Balance	4,935,265	2,454,749	(2,848,505)
Water Charges	91,149,221	87,737,331	79,424,527
Water Billing Penalties	1,084,501	934,627	824,826
Investment Earnings	4,988,246	2,055,713	257,062
System Capacity	8,253,814	12,434,215	12,407,646
Sewer Billing Charges	6,972,197	6,886,000	6,600,379
Meter Service Fees	396,504	495,193	538,089
Other Revenue	1,725,892	1,756,107	3,457,574
Revenues Before Transfers	114,570,375	112,299,185	103,510,103
Refunding Bonds	N/A	42,260,874	N/A
Other Fund Transfers	N/A	89,094	2,849,901
Revenues Before Transfers	114,570,375	154,649,153	106,360,004
Expenditures			
Personnel	28,226,989	35,063,789	34,978,595
Suppllies and Materials	3,178,767	3,863,428	3,760,812
Chemicals	9,891,272	8,484,023	7,191,445
Operations & Maintenance	7,699,677	5,368,746	6,058,460
Other Agencies	6,957,912	9,137,765	7,987,018
Electricity	5,853,836	5,723,477	5,167,030
Other	228,148	436,109	110,317
Capital Equipment	824,607	1,024,765	858,431
Debt Service	38,086,553	80,301,533	34,363,553
Sewer Share of DPU	2,715,698	1,043,637	581,089
Sewer Share of DOS	9,442,789	1,721,367	
Total Expenditures	113,106,248	152,168,637	101,056,750
Ending Cash Balance	6,399,392	4,935,265	2,454,749
Revenue Over Expenditures	**$1,464,127**	**$2,480,516**	**$5,303,254**

Revenues and Expenditures

Electricity Enterprise Fund

	2006	2005	2004
Revenue			
Beginning Cash Balance	2,081,488	494,709	418,300
Charges for Electric Services	58,940,320	56,475,196	52,147,935
Construction Charges	597,840	343,104	1,532,712
Expressway Lighting/Maintenance	868,078	955,674	739,909
Street Lighting	3,253,018	2,833,468	2,906,841
Investment Earnings	402,670	282,371	104,395
New Customer Installation	506,553	502,533	583,508
Other Revenue	1,088,665	742,088	1,049,809
Revenues Before Transfers	65,657,144	62,134,434	59,065,108
Refunding Bonds	N/A	3,589,732	N/A
Other Fund Transfers	N/A	N/A	25,930
Revenues After Transfers	65,657,144	65,724,167	59,091,038
Expenditures			
Personnel	7,760,828	8,810,355	9,075,801
Purchase Power	37,677,110	39,054,452	36,206,430
Supplies and Materials	555,726	449,943	630,755
Operations & Maintenance	2,082,613	1,991,955	2,211,380
Other Agencies	3,157,185	3,332,484	3,257,959
Other	170,795	115,874	1,097,521
Capital Equipment	1,312,195	1,282,897	1,074,247
Debt Service	6,813,880	8,075,538	5,298,221
Sewer Share of DPU	1,286,976	553,386	162,314
Sewer Share of DOS	1,976,998	470,502	N/A
Total Expenditures	62,794,304	64,137,387	59,014,629
Ending Cash Balance	4,944,328	2,081,488	494,709
Revenue Over Expenditures	**$2,862,840**	**$1,586,779**	**$76,409**

Sewer and Water Advisory Board

The City of Columbus formed the Sewer and Water Advisory Board in 1984 to oversee the rates and major policy changes for sewer and water services in Columbus. The board, comprised of city officials and six Columbus residents who represent different constituencies—such as senior citizens and the business community—meets several times a year. Revenue needs are reviewed, along with any rate increase requests for the coming year. Chaired by Ohio State University's Wallace Giffen, the board forwards their recommendation to Columbus City Council, who then review and vote to set rates or change fundamental policy.

2006 Sewer and Water Advisory Board Members

Wallace C. Giffen, Chair
James Bowman
Robert Clemons
Richard Fahey
Joseph Maskovyak
Margaret Ann Samuels
Hugh J. Dorrian, City Auditor
Cheryl Roberto, Department of Public Utilities Director
Joel Taylor, Department of Finance and Management Director

The Sewer and Water Advisory Board meetings are open to the public. Call (614) 645-3956 for a schedule of meeting times and dates.

Columbus City Council

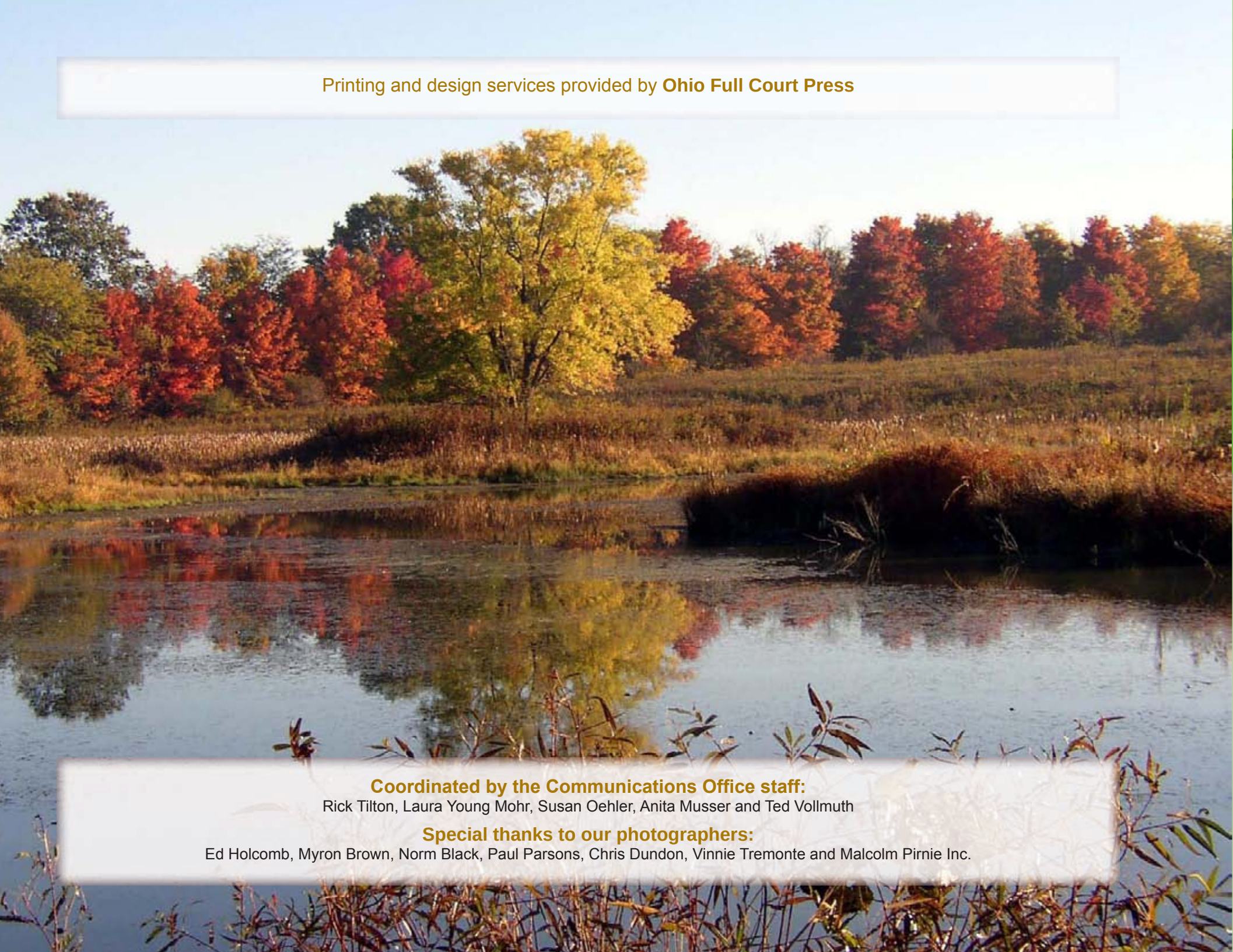
City Council is the legislative branch of the city with the responsibility of adopting annual operating and capital budgets, city contracts that exceed $20,000, or $100,000 if authorized from a Universal Term Contract, and enacting the Columbus City Codes. In addition to its fiscal and regulatory authority, council establishes land use policy through its zoning powers. They also must pass any proposed sewer, water, stormwater or power rate increases requested by the Department of Public Utilities.

There are seven members of City Council in addition to a Mayor, a City Auditor and a City Attorney. Council members also serve as chairs for various departmental committees to oversee operations and legislation.

2006 Columbus City Council Members

Matt Habash, President
Patsy Thomas
Kevin Boyce
Mary Jo Hudson
Michael Mentel
Maryellen O'Shaughnessy
Charleta Tavares

City Council meetings are open to the public. For a schedule, please call 645-8559 or visit **www.cityofcolumbus.org**.



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