



Annual Report



Baltimore City Department of Public Works

We support the health, environment, and economy of our City and the region by providing customers with safe drinking water and keeping neighborhoods and waterways clean.







Contents

Values	3
--------	---

Integrity:

Doing the right thing

Accountability:

Taking responsibility for our action and work

Respect:

Being considerate of customers and colleagues

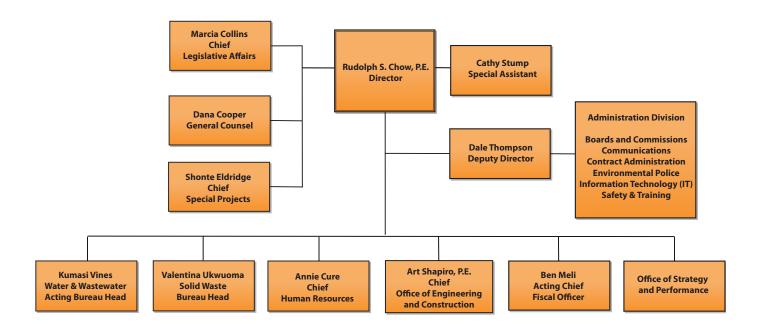
Teamwork:

Working together toward a shared vision and mission





Department of Public Works Organizational Structure





Message From the *Mayor*

Baltimore has a long history of innovation and leadership. Most notably there was Abel Wolman, for whom a City office building is named. His work set the international standards for water and wastewater engineering. That spirit of advancement in public health and sanitation are alive and well in today's Department of Public Works (DPW).

DPW first and foremost provides 1.8 million of us in the Baltimore region with the highest quality drinking water. Through the leadership of Director Rudy Chow, the Department is taking giant leaps in infrastructure rehabilitation and customer service to ensure that reliable water service continues for generations to come.

The same attention is being paid to the improvements to our wastewater and stormwater infrastructure. We are making careful, well-planned investments that will keep us in compliance with state and federal regulations, and serve generations of Baltimore residents in the future.

Just as importantly, DPW is working smarter in cleaning the neighborhoods, streets, and lots in our City. DPW is finding ways to make recycling and household hazardous waste disposal easier, and is removing graffiti so it doesn't mar our neighborhoods. These improvements, among many others, will allow for safer, stronger neighborhoods and allow our City to grow.

This annual report provides you with a broad outline of the work of DPW. I know you'll be impressed by the breadth of DPW's work, and by the determination of its employees to be innovators and leaders. Director Chow is crafting a plan to make your Baltimore City DPW the best in the business; I'm confident he and his employees will succeed.

Remember, in order to grow Baltimore by 10,000 families we need you to partner with DPW. Respect our natural resources, properly dispose of trash, recycle, and take an active role in your community. By working together we can achieve so much.

Stephanie Rawlings-Blake Mayor





cleaning the neighborhoods, streets, and lots in our City."

"I am committed to running your DPW like a business, focused on efficiency and effectiveness, while respecting our taxpayers and ratepayers."

Message From the

After a 27-year career at a water utility near Washington, D.C., I chose to come to Baltimore for the opportunity to build upon the hard work of those Public Works leaders who came before me. After three years leading the Bureau of Water and Wastewater, I was honored to have been nominated this January by Mayor Stephanie Rawlings-Blake to become the director of the Baltimore City Department of Public Works (DPW).

I want Baltimore's Department of Public Works to be the most professional, efficient and customer-centric organization, striving to perform at the highest level possible in all that we do - for the health of our City, for our communities, for you. Our employees have heard me say we must always perform at the highest possible level for our citizens, local leaders, community and environmental stakeholders, and our regulators. I am committed to running your DPW like a business, focused on efficiency and effectiveness, while respecting our taxpayers and ratepayers.

This Annual Report is one way we let our citizens know what Public Works has been doing on your behalf. I want you to see how the vision, values, mission and goals of this agency's leadership have shaped where we are going next. I want you to feel as good as I do about what we have been doing to put your DPW on a path toward being the standard by which other agencies are judged.

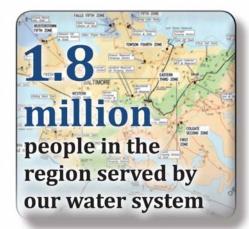
Will it happen quickly? Will it happen easily? Will it happen without missteps or mistakes? No. We must change attitudes and behaviors that have been ingrained for decades. We must balance the need to invest, with the need to respect the financial limitations of our constituents. We must recognize that we cannot force solutions on anyone, and that we must work as a partner with our customers and stakeholders.

But we will get there. We will continue working, every day, to deliver excellent services that sustain public health and enhance quality of life.

Baltimore deserves no less.

Rudolph S. Chow, P.E. Director

DPW By The Numbers



















Vision

To be a strong proponent and protector of our environment and the health and vitality of our communities.

2015: 100 Years of Water Filtration



The dedication of the Montebello I Water Filtration Plant, September 13, 1915.

More than 5,000 citizens gathered on a very hot day for the two-hour ceremony, opening what was then the second largest, but most advanced, water treatment facility in the country. Mayor James H. Preston called it "the most important event that has taken place in my time."

In September 2015 the Department of Public Works will rededicate this important facility, paying homage to the engineers and planners who gave us an outstanding water system.

CLEAN UP B

Collections

Providing weekly trash and recycling collection to 210,000 households every week is essential to a healthy urban environment. In addition, Baltimore residents can call 311 to schedule a bulk pickup for up to three items per month. Rain or shine, our Bureau of Solid Waste crews get the job done!

Municipal Cans

Baltimore has begun a Municipal Trash Can Pilot Program in the Mondawmin area of West Baltimore and the Belair-Edison/Four By Four neighborhoods of East Baltimore. These households received recycling bins and 65-gallon wheeled trash containers with attached lids and a Radio Frequency Identification chip to track them if stolen. The pilot program will demonstrate how containing trash improves the cleanliness of communities and reduces rat populations.

Citywide Cleanups

The Department partners with more than 1,000 neighborhood Pitch-In Cleanups every year, as well as supporting the numerous communities whose volunteers participate in the annual spring and fall one-day cleanups. These events have become a symbol of civic pride and teach our young people the importance of keeping our neighborhoods clean.

Recycling

In addition to the weekly recycling collections, Baltimore offers drop-off locations for Styrofoam, electronics, tires and household hazardous waste. We have accelerated recycling outreach, including through reduced-cost bin sales promotions, in a "Drive to 35" campaign to increase our recycling rate to 35% of all solid waste. Large multi-family residences will be a new component in October to help increase recycling and decrease what is thrown away.

Waterways

The State of Maryland mandated Baltimore and nine other jurisdictions to implement a Stormwater Remediation Fee to ensure that there would be sufficient funding for protecting our waterways and Chesapeake Bay from pollutants including trash, animal waste and other contaminants. Through street sweeping, stream restorations, and best management practices, we will meet our obligations to protect our waterways. A pilot project began in May to test the effectiveness of inlet screens in keeping trash out of our waterways. The Department's new Wooded Shoulders program is a proactive and scheduled cleaning effort for wooded areas along streets that can catch and hold debris.

Graffiti Removal

The Department of Public Works removes graffiti vandalism free of charge. During the 2014 fiscal year, the Bureau of Solid Waste addressed 5,039 scheduled locations for removal and an additional 3,162 unscheduled sites.





Except for major corridors and the central business district, Baltimore's mechanical street sweeping routes had long been determined by requests from communities. The new citywide street sweeping program, begun this spring, allows us to sweep almost every street in Baltimore on a set schedule. Based on a quadrant system and odd-even sides of streets, sweepers are now in every community twice a month. During the first month of operations 401.13 tons of trash was removed from 2,851 miles of roadways.

ENVIRON PIJBI

Fats, Oils and Grease (FOG)

FOG generated during food preparation and cleanup is discharged every day to Baltimore's sewer system. The FOG solidifies on the walls of the pipes, eventually blocking the flow of wastewater and causing sanitary sewer overflows and basement backups. The Department has a comprehensive program to educate food establishments and institutions such as hospitals and schools on how to manage and appropriately control FOG discharges. Fact sheets are available and shared at community meetings on how residents can appropriately dispose of their fats, oils and grease: "From the Pan to the Can." More information on FOG can be found on the Wastewater tab of CleanWaterBaltimore.org.

Wastewater Treatment Plants

Baltimore has two of the largest wastewater treatment plants on the East Coast: Back River and Patapsco. Both facilities are continuing to lead the way in protecting the environment by discharging the cleanest water possible to the Chesapeake Bay. The approximately \$1 billion Enhanced Nutrient Removal (ENR) programs at these facilities will dramatically reduce nitrogen discharge into the Bay.

Landfill

Baltimore has acquired the Millennium Landfill, directly across the street from our Quarantine Road Landfill. Merging these two landfills will increase the City's landfill capacity by more than 20 years. The expansion provides the City with disposal independence well into the future and will add more than \$120 million in revenue over the same period.

Rat Eradication

Rodent control is everyone's responsibility, beginning with proper trash disposal and removal of pet

waste from yards. The new Municipal Trash Cans may be one solution, but increasing vigilance is the key. During FY 2014 DPW inspected 45,654 locations and baited where needed. Additionally, problem properties were subsequently cited for sanitation

violations.

Proactive Mowing and Property Management

DPW recently changed the way we address high grass and weeds on city-owned vacant lots. Instead of being complaint driven, we now place these lots on a schedule for proactive cleaning and cutting. This improves the appearance of neighborhoods and reduces sanctuary for rodents. Additionally, during the last fiscal year, DPW crews boarded and secured 6,570 vacant buildings.

DPW's Environmental Police protect our water supply from pollution and crime. They serve a multi-jurisdictional area with full powers of arrest. These officers patrol our reservoirs, educate citizens about the ways in which we protect the environment and drinking water resources, and save lives.

MENIE ICHBATHI Baltimore City owns three raw-water reservoirs which provide water to 1.8 million people in Baltimore City and in five surrounding counties. These reservoirs — Liberty, Loch Raven and Prettyboy — contain approximately 80 billion gallons of water when the dams are at crest. It is the job of the DPW Natural Resources staff to maintain these properties and to manage the woodlands, fisheries and facilities. Through forest studies, trail maintenance, recreational regulations, managed deer culling and invasive species monitoring, these watershed lands remain healthy oases in an otherwise urban environment.

INFRAS

Accelerated Water Main Program

Baltimore's water system, like many others in the United States, is aging. For far too long the attitude of "out-of-sight, out-of-mind" prevailed when it came to our underground water lines. Over the last decade our pipes, which average 75 years of age, experienced too many failures, some of them devastating to property. The Department is increasing the pace of replacing these pipes to routinely replace 40 miles of water mains each year.

Finished Drinking Water Reservoirs

Under the federal Safe Drinking Water Act, Baltimore is required to better protect its five finished drinking water reservoirs that are part of our water storage and distribution system. Enclosed tanks are completed at the Towson and Montebello II locations and work is ready to begin at the Guilford Reservoir.

Deer Creek Pumping Station

The Deer Creek Pumping Station was constructed in conjunction with the Susquehanna Pipeline ("The Big Inch") and completed in 1966. This facility has undergone a \$25 million rehabilitation which included new pumps and motors, comprehensive electrical upgrades, installation of new controls, I) EV PC-based instrumentation and new flow measurement. The total

cost was approximately \$25 million. During times of drought, this station pumps water from the Susquehanna, and blends with Loch Raven water at the Montebello Water Filtration plants. In addition, this main provides raw water to a large part of Harford County.

Consent Decree

In 2002, the City of Baltimore entered into a consent decree with the U.S. Environmental Protection Agency and the Maryland Department of the Environment to inspect and improve the entire sanitary sewer system. This commitment focuses primarily on the elimination of sewage overflows. Baltimore City is entering the major construction phase of this \$1.5 billion program.

To learn more please go to cleanwaterbaltimore.org and

click on the Wastewater tab.

Stormwater Capital Projects

Numerous stormwater capital projects are now under way or set to begin. These include the 1,890 foot repair of the collapsed Race Street Culvert, which has closed that street since 2009. Additionally, stream restoration in Leakin Park and East Stony Run, slope stabilization along Biddison Run near Moravia Road, bioretention projects in Harlem Park and in the Carroll-Camden Industrial Area, and the Highlandtown Stormwater Pumping Station are all projects under way.





The newly formed **Utility Asset Management Division (UAMD)** was created to systematically address our aging linear infrastructure. It represents a shift from reactive to proactive maintenance.

Ongoing activities of UAMD include a comprehensive chemical root control program to remediate tree root infiltration of sewer lines, sewer lateral inspection and repair, and follow-up investigations on sewer overflows and basement backups. The UAMD is also actively engaged with water pipeline condition assessment, water loss control, and unidirectional flushing.

In addition to preventive maintenance programs, UAMD is actively leveraging data to justify infrastructure investments and provide transparency to our rate payers. By implementing strategic asset management principles, our objectives are to extend the life and capacity of our mains, minimize system failures, and provide a sustained level of service to our customers at an affordable rate.

Customer Satisfaction and Communications

Our customers expect, and have a right to, reliable information, assistance, and service. This is why DPW has undertaken a complete overhaul of the way we do business. Through increased staffing, adding telephone lines, thorough training, the addition of a correspondence unit, and other improvements, customers are provided with the efficient service they deserve.

Meter Reading

Directly tied to Customer Support and Services is water meter reading. With more than 400,000 accounts, our meter reading operations are critical to positive customer experience. Through a series of comprehensive meter replacements and field investigations, the problems of skipped meter reads, unlocated meters, and meters inside houses have now been virtually eliminated. Reads are now accurate and on time. These improvements will be continued in the years ahead as we move toward new metering and billing systems.

Liaisons

Providing excellent service is not good enough if our citizens and regional customers are not informed. Our community liaisons, from the Office of Communications and Community Affairs, are continuously providing neighborhoods and individual citizens the latest on the Department's activities. They are also the point of contact for getting problems solved that may have more complexity than can be resolved through a 311 call. Our team also includes a Spanish-speaking liaison to address the needs of a growing Latino population. From nighttime community meetings to daytime community tours, our liaisons are always on the job.

Media and Social Media

Broader outreach to the metropolitan area is accomplished through our Communications Office. With 24-hour on-call personnel, the public, the press, and elected officials are kept

informed of upcoming programs, water emergencies, special events, and Departmental innovations. The office includes a graphics operation, which provides banners and signs for DPW and other City agencies. The Department posts regularly on its two websites: publicworks.baltimorecity.gov and

cleanwaterbaltimore.org. Our outreach on Twitter and Facebook has grown over the past year, and followers regularly comment on the efficiency and courtesy of DPW staff in responding to their postings.

Publications

Not everyone has a computer or is tech-savvy. That is why DPW continues to provide materials the good old-fashioned way — printed. These include informational flyers on upcoming construction projects, stormwater credits, preventing sewer backups, DPW events, street sweeping, municipal trash cans, and much more. Many of these can be downloaded from our websites and shared.



Beginning in late summer, residential customers in Baltimore City will have the option of purchasing service contracts for their private water and sewer lines. The contracts are provided by a private company vetted by the City. The peace of mind in knowing you are protected against expensive repairs is priceless.



ORGAN

Mobile Computers

Many field activities within the Department are now being supported by mobile computing. This puts utility and construction information in the hands of crews and inspectors when and where they need it, reducing requests for locations and trips to the office for paper documents. Investigators can more easily locate sewage overflows and water system leaks with accurate utility information on field tablets that are GPS enabled. Construction inspectors can inspect jobs, view drawings, and submit daily reports from the field. Response to emergencies is improved by access to utility maps at the scene.

Cityworks

The Department has expanded its use of Cityworks, a work order management system, to additional areas. It is now in use by Utility Maintenance to track all water, wastewater, and stormwater work activities, allowing us to improve response and record work more accurately. Customer complaints and concerns received through 311 are transferred directly to Cityworks so that maintenance crews can immediately investigate and take necessary action.

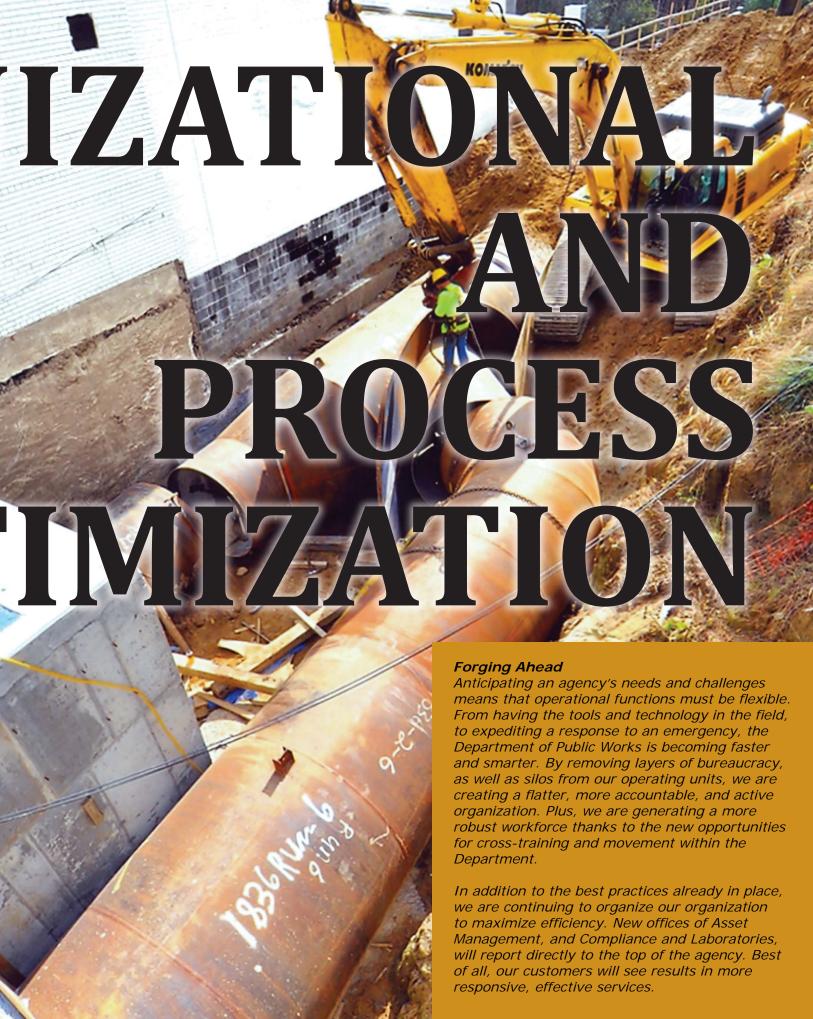
Consolidation of Fiscal Offices

In order to create the most efficient, effective, and team-oriented structure for Department of Public Works Fiscal Administration, the various fiscal offices within the Department were consolidated in March 2014. Previously there were fiscal offices in DPW Administration, Water and Wastewater, and Solid Waste. A centralized fiscal organizational structure will keep all levels of Fiscal Administration focused on one vision leading to the development, implementation and maintenance of sound financial management within the Department.

Creation of the Office of Engineering and Construction

Streamlining operations to create efficiency is just good business. The Department of Public Works is in the process of accelerating a wide range of construction projects from underground infrastructure to aboveground facilities. These begin with our engineers and are then mostly placed under contract for execution. Traditionally, the construction management team would not be brought on board until a contract was let, leaving a gap between concept and realworld creation. By bringing together these formerly disparate operations, our projects benefit from continuity, shared expertise and a single manager responsible from creation through construction.





New Engineer Hires

As much of our workforce approaches retirement, it is essential that we seek out the best and the brightest to continue and expand on their contributions. These are exciting times in DPW and we are reaching out to top students at local universities as they near graduation. Our mentoring program is just beginning and promises to guide these talented young engineers while enabling them to be as creative as possible. There is a lot of competition out there for this talent and DPW wants to retain these new employees by creating the best workplace environment possible.

Conferences

Sharing information with one's peers is an important part of professional growth and a way to bring best practices from other jurisdictions to our own city. Additionally, bringing professional organizations here allows us to expose more of our employees to these ideas, and enables us to show off all the good things that

Baltimore City has to offer. In March 2014, the Water Environment Federation held a very successful conference – Collection Systems 2014 – at the Baltimore Convention Center.



Presentations

Not only did our employees attend these conferences, DPW was an important contributor to the events. Whether being part of a panel discussion, making a presentation, or providing a publication, our activities were shared with our counterparts from other cities and countries. One major theme has been the agency's proactive approach to infrastructure rehabilitation through asset management. That topic was addressed at American Public Works Association (APWA), American Waterworks Association (AWWA), and Water Environment Federation (WEF) meetings, among others, in Denver, Sacramento, Chicago, Washington and elsewhere. Other topics included "Integrated Planning," "Managing Wet Weather Sanitary Sewer Overflows," and "Combating FOG (fats, oils and grease)." Additionally, Baltimore DPW played host to high-level delegations from Kenya, China, and Brazil.

Safety/Training

The Department of Public Works takes pride in making sure our employees obtain outstanding training in a myriad of areas. From basic driver courses for those needing a Baltimore City driving permit, to supervisory courses where a solid understanding of local, state and federal regulations is essential, training is a tool for personal and professional growth. It also keeps our workforce safe whether in the office or in the field. Hundreds of DPW employees participated in 161 training classes offered.

Giving

DPW employees came through again this year with donations to the City's Combined Charities Campaign (CCC). The average gift was \$129 per donor, which is a 30% increase compared to 2010 levels. In addition, other funds were generated for CCC through bake sales, silent auctions and flea markets.

In December 2013 the annual Mitten Tree Ceremony was held in the lobby of the Abel Wolman Building. For almost 40 years this Department has taken the lead in having the tree decorated with mittens, scarves, hats and gloves to be provided to Baltimore children in need.





Our Future Workforce

The Department of Public Works employs individuals from many backgrounds and nations. We have biologists, accountants, CDL drivers, cartographers and engineers among others.

As much of our workforce approaches retirement, it is essential that we seek out the best and the brightest to continue and expand on their contributions.

In addition to hosting and participating in regional job fairs, the Department brings prospective employees to our operations to see first-hand the range of opportunities available to them.

SUSTA

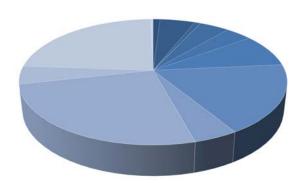
Dollars By Service FY 2014

				_	
On	ora	tin	σΕ	राज	get

Agency Total Budget	1,417,590,064
Capital Projects Budget Total	957,211,000
Operating Budget Total	460,379,064
Administration - DPW	1,622,496
Engineering and Construction Management - Water and Wastewater	108,401,562
Surface Water Management	21,431,408*
Wastewater Management	118,194,945
Water and Wastewater Consumer Services	20,858,484
Water Management	81,791,016
Administration - DPW - Water & Wastewater	39,126,502
Waste Re-Use and Disposal	17,609,180
Waste Removal and Recycling	19,613,863
Vacant/Abandoned Property Cleaning and Boarding	3,850,107
Public Right-of-Way Cleaning	23,292,745
Administration - DPW - Solid Waste	4,586,756

^{*}Amount budgeted but not received.

FINANCIAI. INABILITY



- Administration DPW Solid Waste
- Public Right-of-Way Cleaning
- Vacant/Abandoned Property Cleaning and Boarding
- Waste Removal and Recycling
- Waste Re-Use and Disposal
- Administration DPW Water & Wastewater
- Water Management
- Water and Wastewater Consumer Services
- Wastewater Management
- Surface Water Management
- Engineering and Construction Management Water and Wastewater
- Administration DPW

LOOKIN(

BaltiMeter

The City of Baltimore, in conjunction with our neighbors in Baltimore County, will begin installing and testing new advanced metering infrastructure (AMI) meters in three locations this summer. These meters will have a transmitter to send signals to our billing operations center. This will mean accurate and timely billing, reduced water loss through continuous monitoring, elimination of estimated billing, enhanced customer service and greater operational efficiencies.

Eastern District Collections Facility (Bowley's Yard) Ramps

The Department's new drop-off configuration at the Northwestern Collections Facility (Sisson Street Yard) greatly improved ease of disposal of bulk and other items. Rather than having to lift and carry items, residents can now drive up a ramp and simply drop them into a container below grade level. A similar operation is coming to the Bowley's Yard, providing a state-of-the-art resident drop-off area by utilizing modular raised platform blocks. These engineered blocks can be moved and reconfigured to accommodate future purposes and to allow repair of utilities underneath when needed. In addition, a new 3,600 square foot office building will be constructed to house additional staff and allow for the renovation of the existing building for employee usage. A new fuel depot will also be built to allow the load packer fleet to fuel onsite, saving fuel and travel time.

Druid Lake and Lake Ashburton

Two of the City's premier bodies of water are Druid Lake and Lake Ashburton. These are finished drinking water reservoirs which must also be addressed by federal mandate to protect them from outside contaminants. That means enclosing the drinking water while at the same time retaining these historic and culturally significant community landmarks as bodies of water. Engineers are now working on design ideas which will enable tanks to be placed below ground with new amenities, possibly including playing fields and an amphitheater. Extensive landscaping and pathways will make these locations even more user-friendly and fun.

Back River Wastewater Treatment Plant Headworks

Over the next four years there will be extensive construction work at the Back River facility to address the matter of wet-weather flow equalization. The original design of the intake does not allow for continuous flow and storage during wet-weather events. Improvements to the Headworks will allow materials entering the facility to be stored when needed, thus eliminating potential overflows of untreated or partially treated wastewater into Back River. Additionally, this will also eliminate upstream backups on the wastewater mains during these extreme wet-weather events.

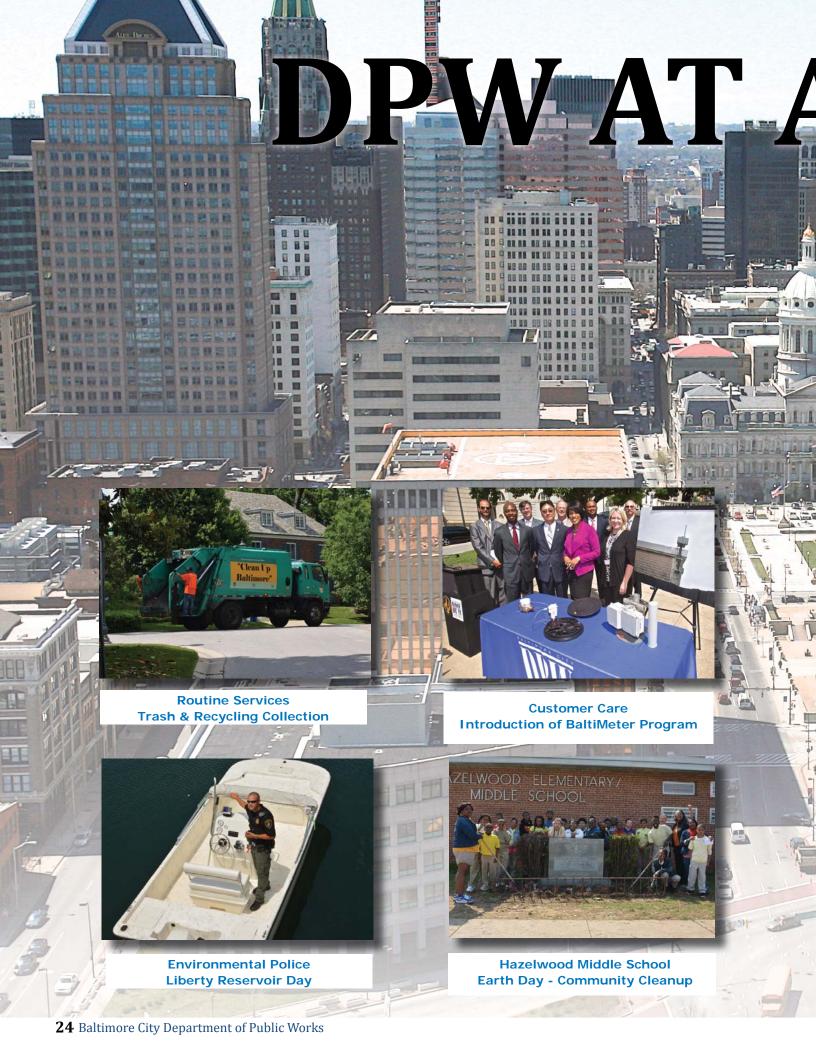
Fullerton

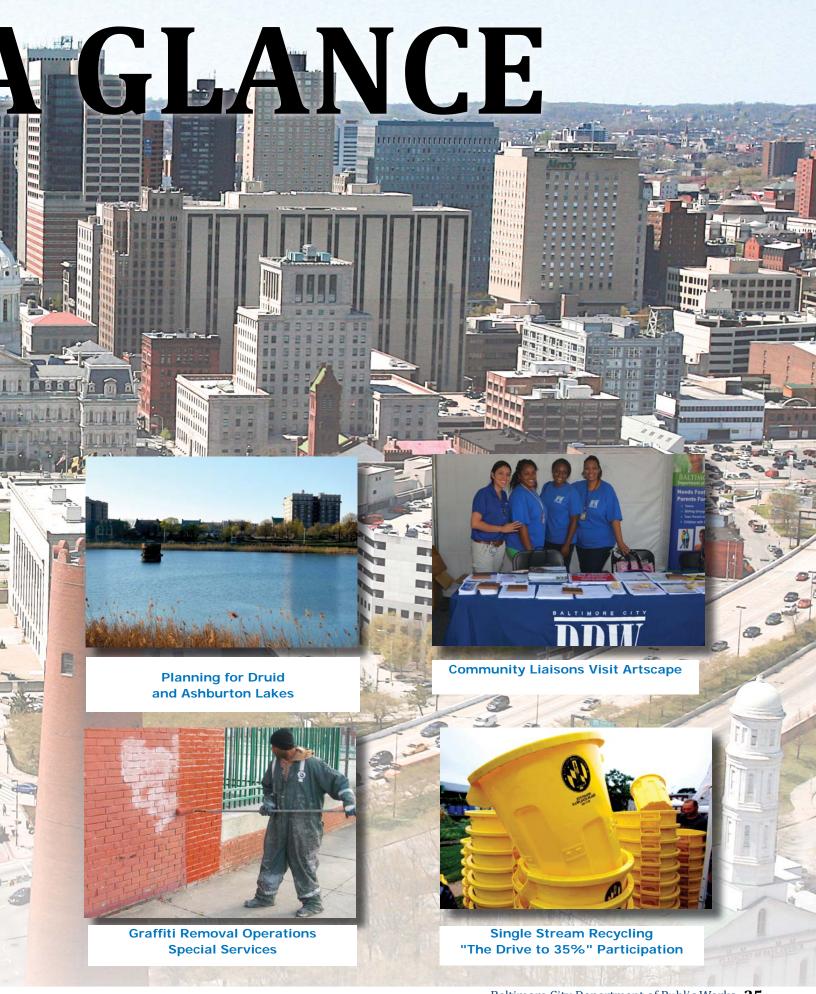
The history of Baltimore's successful water system is one of expansion and of seeking better ways of providing water to a growing population. These have included changes in raw water sources from the Jones Falls to the Gunpowder and Patapsco Rivers. Outstanding engineers of the past, like Robert K. Martin and Abel Wolman, provided us a legacy upon which our present Public Works team is building. Part of this involves increasing the use of the Susquehanna River as a back-up supply in case of drought. A new water treatment plant in Fullerton, using Susquehanna water, will be state-of-the-art and carry on this legacy of providing the best quality water for our growing region.



Thank you to our community, religious, business, and environmental organizations as well as our neighboring jurisdictions and all the citizens who work to better their communities.

Visit us on facebook.com/BaltimoreCityDepartmentofPublicWorks, Twitter at twitter.BaltimoreDPW and cleanwaterbaltimore.org.





Baltimore City Department of Public Works

200 Holliday Street Abel Wolman Municipal Building Baltimore, MD 21202

