

## The Frank Lloyd Wright Stuff

### BEDC In-House Design

In 1937, **Frank Lloyd Wright** completed Fallingwater, a residence in Western Pennsylvania for **Edgar J. Kauffman, Senior**. The house incorporates a natural waterfall, which courses through the foundation of the house and can even be heard in some of the rooms. Here at DEP, our own In-House Design (IHD) Division specializes in “Flowingwater” – the design and construction of large tunnels, shafts and pump stations to transport hundreds of millions of gallons of drinking water and wastewater for the citizens of New York.

There are over 130 people who work in the division, which is a part of the Bureau of Engineering, Design, and Construction, led by Deputy Commissioner **Jim Mueller**. They’re tasked with some of the most challenging assignments in the history of New York City, such as the activation of City Water Tunnel No. 3 and the rehabilitation of our historic collection system pump stations. Boring through miles and miles of hard rock to convey drinking water and upgrading our pump stations



without interrupting flow is tricky stuff but IHD is up to the challenge.

“In In-House Design, we emphasize technical skills development through hands-on project work, mentoring from our senior leadership, and classroom training,” says **Kathryn Mallon, P.E.**, Assistant Commissioner of IHD and Support. Great-looking designs are important—DEP won a Design Award from the City’s Art Commission for the Shaft 21 superstructure over City Water Tunnel No. 1—but what matters the most is that In-House Design listens “to the operating bureaus’ needs and develops cost-effective and quality solutions to solve their problems,” says Mallon. “Our success is largely measured by our operating bureaus’ satisfaction.”

(Continued on reverse side)

## Spotlight on Safety

### BWS Injury and Illness Tracking

Over the last several years, the Bureau of Water Supply has been progressively developing an injury and illness tracking system. Originally conceived to provide a snapshot of PESH (Public Employees Safety & Health) recordable injuries that have occurred over the course of a year; the system has been expanded to include all reported work-related injuries and illnesses. The type of information being evaluated has also been expanded to include work location, work activity, injury classification, and other pertinent information that will allow for root cause analysis.

So far, the expansion of the tracking system has brought to light the two leading causes of injuries at BWS: slips, trips, falls, and material handling. Utilizing this information, BWS is focusing its resources on addressing the underlying causes of these injuries, including increasing awareness programs (i.e. toolbox talks and/or training sessions), providing additional PPE (personal protective equipment), and making adjustments to how tasks are performed. In the future, the ability to trend collected data will allow the Bureau to assess the effectiveness of these efforts in reducing the number of injuries.

## Commissioner’s Corner



Last Friday I made the annual water rate proposal to the Water Board for Fiscal Year 2011. The water rate is set at an amount necessary to cover operations and maintenance to run the water system, including debt service to cover the cost of financing our massive capital construction program. When we proposed the water rate for this year last spring, we projected that the rate would have to be increased by 14.3% in FY 2011. Due to the tremendous effort of every bureau, we successfully reduced the expense budget by 8% (achieving approximately \$80 million in recurring savings); these cuts and favorable interest rates that reduced our expected debt service mean that water rates will need to be increased by 12.9%—1.4% less than we originally forecast. You can review the entire presentation I made to the water board and read more details about it here [B](#). I encourage everyone to take the time to go through the proposal; the water bills that our customers pay make it possible to operate, maintain, and improve the water system, and we have a responsibility to supply, distribute, and treat the more than one billion gallons that New Yorkers use every day as safely and cost effectively as possible.

Any water rate increase is difficult to bear, particularly in these challenging economic times. But, we are committed to making the investments necessary to continue to deliver the high quality water that 9 million New Yorkers rely upon every day. We are making unprecedented investments in our water infra-

structure right now, including the \$2.8 billion Croton Water Filtration Plant, and the \$1.6 billion Ultraviolet Disinfection Plant in Kensico, two projects that are required by federal mandates. This year’s rate proposal also includes a 1% discount for direct debit subscribers; an increased fee for service terminations; and a stormwater charge for certain parking lots that don’t have water service. Parking lots generate a tremendous amount of stormwater runoff, and those without water service are taking advantage of our sewer infrastructure, but aren’t contributing to maintaining it. The stormwater pilot program is a first step in that change.

This weekend I toured Shaft 6 on the Delaware Aqueduct with Deputy Chief, Engineering & Technical Support, **Jeff Helmuth** and Technical Services Engineer **Jim Keesler**, where critical preparatory work for the eventual repair of the Rondout-West Branch tunnel is under way. Jeff provided an overview of the challenges we face to repair the tunnel, and Jim led a visit to the ever-ready, but infrequently used Hudson River Pumping station that last contributed to the City’s daily supply for 2 weeks in 1989. Chief of Planning **Todd West** showed some areas that may be impacted by the Tunnel leak, and then it was off to Port Jervis for a Meany Burger at Arlene and Tom’s Restaurant with Deputy Delaware River Master **Gary Paulachok**. Our final stop was the Port Jervis Wastewater Treatment Plant and the North Street pumping station, where Chief Operator **Danny Baumgardner** explained how he and his team are meeting water quality standards while overseeing the completion of important upgrades to the plant. Special thanks to Deputy Commissioner for Water Supply **Paul Rush** and Director of Operations **Tina Johnstone** for an action-packed day.

At DEP, everyone is responsible for safety. If you or anyone on your team is concerned about your working conditions, it’s okay to ask your supervisor or your bureau’s EHS liaison how they can help. If you’ve still got questions, you can call the EHS Employee Concerns Hotline. It’s DEP’s responsibility to acknowledge and fix unsafe situations, procedures, and practices. With your help, we’ll not only get the job done, we’ll make it safer for ourselves, our coworkers, our families, and our city.

CALL (800) 897-9677 OR SEND A MESSAGE THROUGH PIPELINE. HELP IS ON THE WAY.



## Focus on the Field



**Burjor Kharivala**, Chief of the Division of Waterworks Design, started working the Department of Public Works—later DEP—in 1963. A few years later, the City began designing and building City Water Tunnel No. 3, and Burjor started to design components that would support this massive project.

Burjor's first design was a coffer dam—a temporary dam designed to keep water and soil out of a below ground construction site—for the Newtown Creek Wastewater Treatment Plant. He then spent a good portion of his career working on City Water Tunnel No. 3: Burjor designed the Van Cortlandt

and Roosevelt Island Valve Chambers. The Van Cortlandt chamber is 680 feet long, 50 feet wide, and 60 feet high—it was blasted out of solid bedrock 280 feet below the ground. "It's a very complex design, and it's very unique: very few such chambers exist," says Burjor.

Burjor planned and supervised the design of a 34-mile deep-rock tunnel and 31 shafts for City Water Tunnel No. 3. "You need extensive geotechnical knowledge, including knowledge of soil and rock mechanics and structural engineering to build subterranean structures," says Burjor. "You have to rely on your engineering knowledge and experience."

Burjor reports to **Patrick O'Connor**, Director of In-House Design for the Bureau of Engineering, Design and Construction, led by Deputy Commissioner **Jim Mueller**. In his spare time, he likes to exercise and work around the house and the garden.

## Milestones

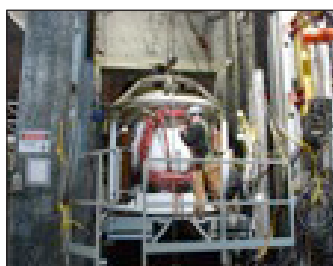
Congratulations to the following DEP employees:

40 years of service: **Anthony Annaruma**, BEDC, **James Mahaney**, EAO;  
35 years of service: **Luis Baerga**, BWSO, **Gertha Toney**, BEC;  
30 years of service: **Mikhail Esterov**, BWSO, **Nellya Furman**, BWSO, **Josephine Guzman Delorme**, FDC, **Michael Panzarina**, BWT.

## DEP: Then & Now



in excellent condition with a minimal amount of leakage. This was unsurprising, given the stringent standards for concrete written by the BWS Chief Engineer, who was an expert in cement chemistry. (Hdq.d.17829: 11/13/1957)



the diver support group landing the diving bell that lowered the divers into the tunnel. (Photograph by Ted Dowey; 10/31/2008)

**Then:** This image shows a 1957 inspection of the Rondout-West Branch portion of the Delaware Aqueduct. Board of Water Supply Engineers used a specially modified Jeep from the contractor to inspect a portion of the tunnel. The inspection report found the tunnel concrete lining to be

**Now:** Over 50 years later, DEP is doing extensive work on the same section of the Rondout-West Branch Tunnel. A special team of six divers was enlisted in 2008 to repair a valve 700 feet below the surface so that the tunnel can be dewatered and repaired. This image shows a member of

## Ask Cas

askcas@dep.nyc.gov

**Q.** Who handles recycling at NYC DEP facilities for all the day-to-day waste? Where does it go? What percent do we recycle? We have recycling for paper and cardboard and a bin for aluminum, but the only place to put plastic and glass are in the bins in the cafeteria. My paper recycle basket is put in the same large garbage can as my garbage basket when the cleaning crew arrives. Do we send our garbage to a sorting facility or a refuse-derived incinerator?

**Calder Orr**, BWS-Water Quality, Research Scientist

**A.** Thanks for your inquiry. We have different procedures at our various DEP facilities. For example, recycling here in Lefrak is handled by the owner. DEP does not keep track of it; however, the management does collect everything and take it to a resorting transfer station. Outside of the City, BWS handles recycling in accordance with local regulations due to the fact that their facilities are distributed throughout the 2,000 square mile watershed.

## Did You Know?

...that shafts are initially used for construction operations – lowering materials and workers into the tunnels, and providing necessary utilities. After construction, shafts can take on different uses. They are used to supply water to local communities, and some no longer have a purpose and are sealed completely.

(BEDC In-House Design... - continued)

Recently, **Commissioner Holloway** toured In-House Design and Support to learn about the new initiatives that the division is pursuing, such as developing a standardized design framework for the delivery of their projects. That framework provides instructions and information to help engineers progress a design project from inception through construction. That means that DEP will continue to design great projects that will serve the City of New York.

### Employee EHS survey coming on April 15!

Electronic survey will run from April 15 to April 30, which will be followed by a paper questionnaire distribution for DEP employees who do not have computer access. Please take a few minutes to fill it out. The future success of our EHS program depends on you! All answers are confidential.

### Event Calendar:

**Saturday, April 17th**—Official Water Sponsor of **Street Games**—a NYC Parks event - Thomas Jefferson Park, 114th St. off 1st Ave., Harlem—11am - 4pm.

**Saturday, April 17th**— **Earth Day at the Seaport Museum**; Noon - 4pm

**Sunday, April 18th** —“**Bayside Anglers Waterfront Day**” -16th Annual Little Neck Bay Beach Clean-up - 9am - 2pm

**Thursday, April 22**, DEP will be participating in the City's annual “**Take Our Children to Work Day**,” for children between the ages of 9 and 15; activities will take place in the Lefrak cafeteria (the Bureaus of Police and Security and Water Supply's upstate locations will also have events scheduled).

**We welcome your feedback! To submit an announcement or suggestion, please email us at: [newsletter@dep.nyc.gov](mailto:newsletter@dep.nyc.gov).**