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Monty Ledbetter
City of Hot Springs Utilities Director
Hot Springs, Arkansas

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City of Hot Springs (Arkansas) Utilities Director Monty Ledbetter is shepherding his utility through the construction of a 17-mile gravity line that will bring freshwater from Lake Ouachita through Blakely Mountain to Hot Springs' new water treatment facility. (Photography by Stephen B. Thornton)



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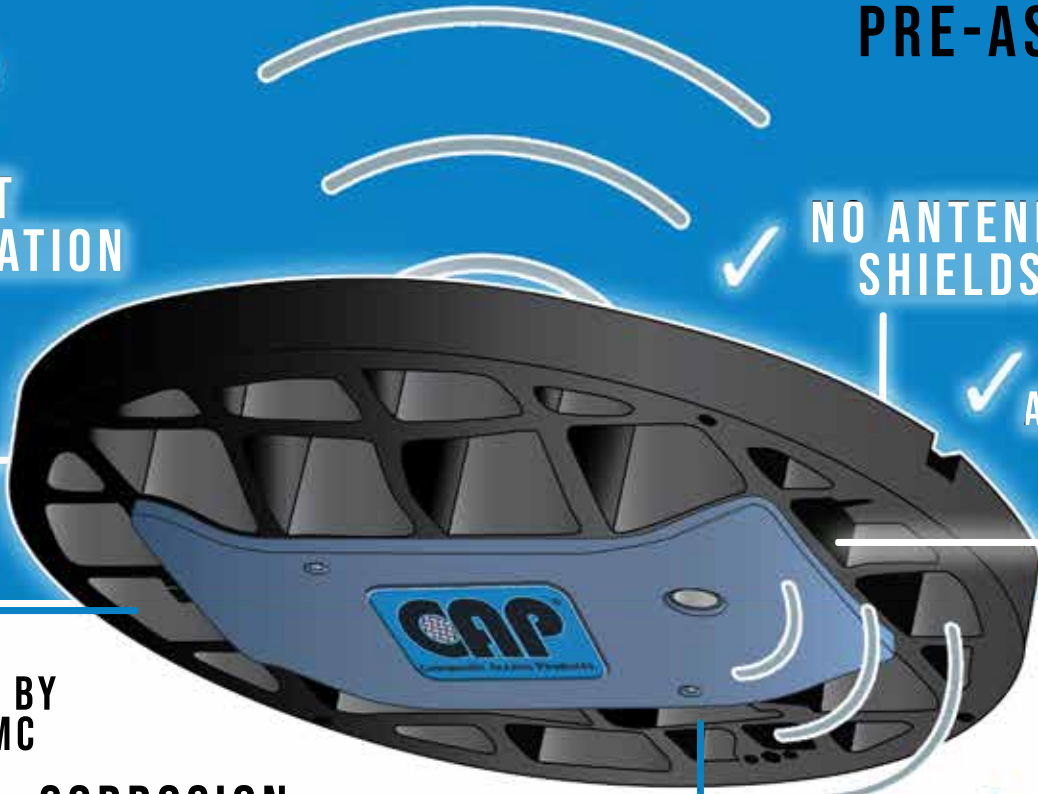


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Luke Laggis

99 BOTTLES OF ... WATER

Much like underground infrastructure, people should be more aware of the water they use

What if every drop of water your customers use came out of bottles? According to the U.S. EPA, Americans use an average of 82 gallons of water per day at home. But according to research conducted by Opinion on behalf of American Water, the number is more like 2,000 gallons per day when including both direct and indirect consumption. Indirect use is of course an individual's share of the water required to produce all the products they use and consume.

But let's get back to that 82-gallon figure. Suppose your customers had to draw all their water from gallon jugs. Or the ubiquitous 16-ounce plastic bottles. At the 82-gallon figure, that would amount to 656 16-ounce plastic bottles per day, or 4,592 per week per person. For a family of four, that number balloons to 18,368. No one would ever be able to park in their garage again if they were recycling

all those bottles.

It's slightly easier to imagine the space consumed by the 2,296 gallon jugs a family of four would use per week on average. Again, no one's parking in the garage.

People don't ever think about it until there's a problem.

We often talk about or hear about the out-of-sight, out-of-mind nature of water and wastewater infrastructure. People don't ever think about it until there's a problem. Turn on the faucet, and there's the water. Flush the toilet and everything's gone, just like magic.

But the out-of-sight, out-of-mind nature of our water and wastewater infrastructure often carries over to our use and appreciation of the resource. While many in the parched West are being forced to confront their water use head-on, many aren't, especially in other areas of the country. Most people, as has been well chronicled, don't really have any idea how much water they use, or how much certain tasks use.

So imagine if they had to grab a gallon jug everytime they needed some water instead of turning on the faucet. Aside from the obvious difficulties of transporting all your water home in gallon jugs, think of all those plastic containers piling up. Think of having a clear visual representation of every drop of water you use on a daily basis. As I mentioned, most garages would be packed full of plastic bottles, and that mountain of recyclables might get people to start being a little more careful with their water use.

I'm not at all suggesting we go this route, but it's an exercise that could bring perspective to people who innocently turn on their faucet whenever they need a drink or want to wash a few dishes and never give a thought to how much water is actually going down the drain.

I think the average person would be astonished to actually see all the water they use in a given day. And once they were aware, they might start to think about it.

Enjoy this month's issue. ♦

Comments on this column or about any article in this publication may be directed to editor Luke Laggis, 800-257-7222; editor@mswmag.com.

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BRINGING WATER THROUGH A MOUNTAIN

Arkansas pipeline project features the longest tunnel bore of its kind in North America

By Ken Wysocky

A \$155 million project that will provide the city of Hot Springs, Arkansas, with an additional water source by the end of 2025 features about 30 miles of pipeline — including a section that passes through almost a half-mile-long microtunnel bored through nearby Blakely Mountain.

Started in fall 2022, the Hot Springs Water Supply Project is by far the largest water-utility project in the city's history. It will bring up to 15 million gallons per day of water from Lake Ouachita, a roughly 40,000-acre lake — the state's largest — that's located about 15 miles northwest of the city and was created by the Blakely Mountain Dam, says Monty Ledbetter, the city's utilities director.

That allocation was negotiated by the Mid-Arkansas Water Alliance, a nonprofit coalition of regional communities and water utilities, with the United States Army Corps of Engineers in 2017.

Two bond issues — one for \$110 million and one for \$45 million — are funding the project. Revenue generated by ratepayers will pay off the bonds.

"The city needs an additional water source because we've reached our capacity more than once," says Ledbetter. "In 2012, we reached our maximum capacity 56 times during a very dry period and since then we've reached it at least once a year.

"If it stays dry, we'll probably hit our maximum again this year."

Shortage spurs search

By state mandate, a water shortage technically occurs when a community reaches 80% of its maximum allocation, which occurred in Hot Springs in 2010, 2011, 2012 and 2022. The first shortage spurred city officials to start searching for another water source.

"Multiple alternatives were considered in the planning process with respect to location of the new intake, a new treatment plant and the route of the transmission mains associated with the project," Ledbetter explains. "One option was to pump water over Blakely Mountain, for example, or pump water from Lake Ouachita into another lake, Lake Ricks.

"It was an extremely complicated decision process."

Expected population growth also factored into the need for another water source, he notes. (The city's population currently stands at a little more than 38,000 people, but the system supplies water for around 98,000 consumers in the city and two other communities.)

Droughts that now occur more frequently also played a role.

"During dry spells, we really see the needle move when every-

one's water sprinklers kick in," Ledbetter says.

The city's primary source of water is upper Lake Hamilton, a 7,200-acre reservoir created by the Carpenter Dam, located on the Ouachita River near the southeast part of the city. The river flows along the west and south sides of the city.

The city's allocation of water from Lake Hamilton is 30 mgd. Nearby Lake Ricks provides a secondary source with a 6 mgd allocation, but it's not used very often because it's an unreliable water source, Ledbetter says.

The utility operates two water treatment facilities, the Ouachita Water Treatment Plant on the northwest side of the city and the Lakeside Water Treatment Plant, located about a mile north of Hot Springs. But the Lakeside plant will likely be "mothballed" within the next few years, he says.

A boring topic

The key component of the project is the 2,600-foot-long, 61-inch-diameter bore through Blakely Mountain, a 1,132-foot-tall ridge composed of various types of sandstone and shale and located near the Blakely Mountain Dam. Michels Corp., a global construction company based in Milwaukee, was hired to do the bore, which is the longest of its kind in North America using direct and steerable pipe-thrusting technology, according to Michels officials.

Drilling through a mountain may seem like a lot of extra work and expense. But it was the best option because Lake Ouachita is at a higher elevation than Hot Springs. As such, water can travel via gravity from an intake



PROJECT:
Water Treatment Division of Hot Springs (Arkansas) Utilities Department

SERVICE AREA:
Hot Springs and two other communities

CUSTOMERS:
Nearly 39,000

ESTABLISHED:
Late 1800s

INFRASTRUCTURE:
Approximately 900 miles of water mains; two treatment plants, 12 water-storage tanks, 6,000 fire hydrants

CURRENT MAJOR PROJECT:
A 17-mile raw-water pipeline to carry water from Lake Ouachita to a new treatment plant. Around a half-mile of the pipeline passes through a microtunnel bored through a ridge — the longest bore of its kind in North America.

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“It was an extremely complicated decision process.”

Monty Ledbetter

City of Hot Springs Utilities Director Monty Ledbetter at the work yard in Hot Springs, Arkansas.
PHOTOGRAPHY BY STEPHEN B. THORNTON



Monty Ledbetter (left) talks with the crew near the Lake Hamilton crossing site for the 17-mile gravity line that will feed Hot Springs' new water treatment facility.

40 feet below the lake's surface to a new treatment plant under construction 17 miles south, on the southeast side of Hot Springs, Ledbetter says.

"That will save us millions of dollars in pumping costs during the life expectancy of the new treatment plant," he says. "All we have to operate is a valve that controls the flow of raw water."

The pipeline from Lake Ouachita will have to traverse portions of sprawling Lake Hamilton twice; those sections will be made of 42-inch-diameter concrete pipe that will run along the bottom of the lake, Ledbetter explains.

"We won't have to anchor it down because the walls of the pipe are five inches thick," Ledbetter says.

The rest of the pipeline is made from spiral-welded steel that's 48 inches

in diameter. The annular space between the pipeline and the 63-inch-diameter bore will remain unfilled except for the first 40 feet of each end, which will be filled with grout to secure the line, he explains.

"That will save us millions of dollars in pumping costs during the life expectancy of the new treatment plant."

Monty Ledbetter

From the plant, another pipeline will carry treated water for 13 miles. At that point, it will tie into the south end of the city's water distribution system.

So far, so good

The bore through Blakely Mountain started in October 2022, while pipeline construction and work on the new treatment plant began in August 2021. The estimated completion date for the entire project is late 2025, Ledbetter says.

Aside from a small delay in the boring process caused by harder-than-expected rock and associated problems, the project generally is on schedule, he notes.

But no matter when it's completed, Ledbetter is happy to see more than a decade of consideration and planning come to fruition.

"We are literally building the future for Hot Springs," he says. "It will provide the water that Hot Springs needs for the next half century."

"Yes, it's a lot of money and it's hard to get approval for a project of this size and with such a large price tag, but the bottom line is that our board of directors and the community understood the need for it and provided outstanding support."

"If Hot Springs is going to continue to grow, we had to do this." ♦

(continued)

"We are literally building the future for Hot Springs."

Monty Ledbetter

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Water Production Manager Cody Howell, Project Manager Todd Piller and Utilities Director Monty Ledbetter (from left) at the exit point of the 2,600-foot tunnel that will bring freshwater from Lake Ouachita through Blakely Mountain.



Work continues on Hot Springs' new water treatment facility.



Hot Springs Water Utilities crew members at the utility shop in Hot Springs.

THE CENTERPIECE OF THE PROJECT

The central component of a major water supply project in Hot Springs, Arkansas, is a nearly half-mile-long bore that hosts a pipeline that eventually will transport water from Lake Ouachita to a new water treatment plant 17 miles away on the city's south side.

Completed in early July, the 61-inch-diameter bore through Blakely Mountain, a 1,132-foot-tall ridge composed of various types of sandstone and shale, is the longest of its kind in North America using direct and steerable pipe-thrusting technology, according to officials from Michels Corp, a global construction company based in Milwaukee, Wisconsin.

It took about nine months to complete the bore, performed by a custom-built German microtunnel boring machine. The machine was nicknamed Miss Elaine in honor of a long-standing and now-retired member of the city's board of directors, Elaine Jones, says Monty Ledbetter, the city utilities director.

In just one pass, the Herrenknecht microtunnel machine drilled through the ridge while at the same time installing a 56-inch-diameter, rolled-and-welded steel pipe in its wake. The pipe will carry water via gravity from an intake about 40 feet below the surface of Lake Ouachita to the city; the lake is at a higher elevation than the city, Ledbetter explains.

Using gravity to transport the water will save the city millions of dollars over the ensuing years by eliminating the cost of pumping water to Hot Springs, he says.

The steel pipe comes in 40-foot sections. Five sections are welded together at a time, then are welded to the back of the machine's thrusting unit, which relies on two hydraulic cylinders that deliver up to 750 metric tons of thrust to push the pipe and the machine through the mountain.

The drilling head is equipped with 10 cutters and rotates about seven times per minute.

"As it cuts, the machine grinds rock into small pieces that are pumped outside through a pipe," Ledbetter says. "When they finish pushing in a section of pipe, they stop and weld on another 200 feet, then start drilling again."

At the end of the bore, the thrusters pushed the huge machine, which is about 40 feet long, into Lake Ouachita, where it's propped up with beams, he says.

"It's like a big arm sticking out of the bore and into the lake," Ledbetter explains.

A large barge with a crane retrieved the machine. After that, an intake screen and a valve were installed.



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PROMOTING POSITIVE CHANGE

Wastewater superintendent builds her team around preventive maintenance, standard operating procedures and embracing greatness

By Jim Force

The best municipal leaders are driven by the desire to make their communities stronger. Count LaTia Jutan among them.

Taking advice from her mom, developing management skills in her own cleaning business and learning about wastewater treatment as an operator in training, Jutan rose to superintendent of the lift stations and wastewater plants in Baytown, Texas, in just 12 years.

In 2022, she received the William D. Hatfield Award from the Southeast Chapter of the Water Environment Association of Texas, recognized in particular for her work in asset management and preventive maintenance. Sterling Beaver, assistant director for public works and engineering, says Jutan is coachable and takes a professional approach to problem-solving.

“Before she got here, we did not have a good preventive maintenance program,” he says. “It was a different culture. But she and I have focused on PM, scheduling, budgeting our capital improvements and operations and developing long-term plans. She is open to suggestions and eager to improve herself and her team.”

Getting started

Jutan sees her mission as “bringing new and innovative ideas to the wastewater field and promoting positive upward change.”

Her working career started more modestly. After earning a degree in business management from Amridge University in her native Montgomery, Alabama, she got a job working in a warehouse. But she wasn’t satisfied and, on advice from her mother who had experience working in the municipal field, she took an operator-in-training position with the City of Houston.

“I was familiar with hands-on work, and the position suited me,” she says. She saw the job as an opportunity to become educated in the wastewater profession and start a career: “I was motivated. I thought, ‘This is my niche.’”

She earned her certification in 2009, and the plant where she was working received a Peak Performance Platinum Award

from the National Association of Clean Water Agencies. She was proud to be part of an operation that reported no effluent permit violations.

She moved up quickly, earning her Class D and C certifications within the first year. After that, she was promoted to inspector in the wastewater department where her responsibilities included reviewing treatment processes, making them operate more efficiently while maintaining the required water quality.

But as important as the position was, it offered none of the management upside that Jutan was looking for. “It wasn’t a family,” she explains. “There was no advancement beyond the inspector position, no way to move up.”

Private education

So, she decided to give the private sector a try and test her management skills. In the middle of Houston’s oil and gas industry, she started an industrial cleaning business, focusing on the petroleum sector.

While she stayed with the business for just over two years, she found the experience valuable, enabling her to train team members and focus on customer satisfaction. “We had several offsite crews,” she says. “I was able to develop management expertise. We had a service we were proud of, and we focused on whether our customers were happy or not. It not only taught me how to run a business, but what different people needed and how to accommodate that.”

Her passion for excellence was nurtured there, too: “It taught me what our customers needed and what our competition was doing. I was able to mentor each employee and enable them to get better, buy into our goals and ultimately to become great.”

She returned to the wastewater profession, serving in Houston for three years while running her cleaning business at night. As if not busy enough, she received a master’s degree in public administration from Ashford University. Then, with a host of superintendents and assistants retiring at the Baytown utility,

“I’m passionate about what we do. I want us to be great.”

LaTia Jutan

LaTia Jutan, superintendent of the City of Baytown Wastewater Division, at the Northeast Wastewater Treatment Plant, Baytown, Texas.
PHOTOGRAPHY BY JON SHAPLEY



PROFILE:
LaTia Jutan

CITY:
Baytown, Texas

ROLE:
Superintendent of lift stations and wastewater plants

UNDER MANAGEMENT:
30-plus employees, 86 lift stations, four wastewater treatment plants



The team at the Northeast Wastewater Treatment Plant includes (from left) lead operator Angel Negrón, lab technician Alejandra Moz, operator Jessica Gutierrez, wastewater superintendent LaTia Jutan, lab technician Kathryne Mathis, operator Eldon Derrington, field supervisor Dynnne Mitchell and chief lab technician Grace Wright.



Jutan received the 2022 William D. Hatfield Award from the Southeast Chapter of the Water Environment Association of Texas.

she joined that city's team as an operator and was quickly promoted to wastewater coordinator, and then superintendent.

Making a difference

She immediately prepared to lead a complete overhaul of the wastewater department's preventive maintenance program, while focusing on what she calls the "Competency Model." "It refers to gaps in training. People learn in different ways and it varies from person to person.

"There are different ways of learning, depending on the individual."

LaTia Jutan

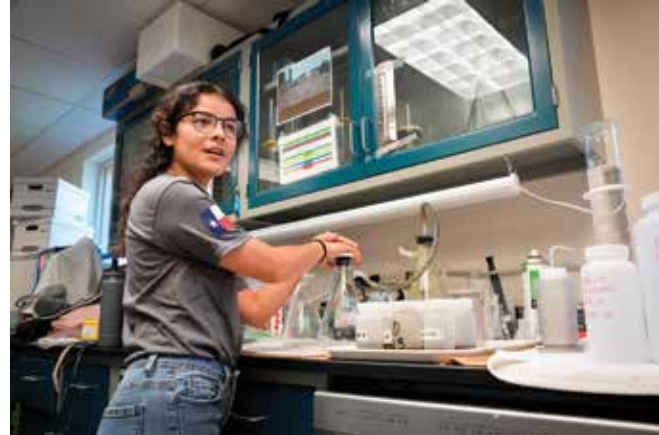
I didn't believe a blanket approach was the best way to go.

"There are different ways of learning, depending on the individual."

She says that too often managers tell employees how something works but without fully



Jessica Gutierrez, operator 2, works with a ProSolo YSI D.O. meter in the lab.



Lab tech Alejandra Moz explains the testing processes the plant uses.



Ángel Negrón Monllor is the lead operator at the Northeast Wastewater Treatment Plant.



Jutan credits her private-sector business experience for her ability to manage a broad range of assets and a large team.

explaining the important operating details to them. “As a result, employees develop their own ways of operating or maintaining a piece of equipment, and it’s not always operated as intended. Errors occur and things are missed.

The solution is to make sure everyone understands a particular process. She recommends small, standardized tests that everyone takes so that all equipment and operating procedures are understood universally. “Start at the lowest level,” she says. She finds standard operating procedures on video to be an innovative and effective training approach.

Managing assets

Some challenges she faced came from outside forces. “Because of Hurricane Harvey (2017), we lost some of the O&M manuals,” she says. Her staff had to research equipment, re-create the documents and put them all on the networks.

“We developed an SOP for everything,” she says. “And we created a preventive maintenance book that we updated daily. We wanted to be proactive, not reactive, so we’ve developed O&M spreadsheets that include on-site as well as warehouse replacement parts and supply chain information.”

Baytown has also adopted Cityworks public asset management software to inventory all assets and document life expectancy. The program has improved the ability to manage and plan. The program contains a work order system that lays out everything her crew needs to do to keep Baytown’s systems running smoothly.

“It builds on what we have and contains everything we need to do,” she says. “We are building a program that withstands staff turnover.”

Management skill

Jutan’s ability to manage a broad range of assets and a large team can be traced to her business experience. At least that’s the opinion of Sterling Beaver, her manager. “Running a business requires that you juggle different tasks simultaneously,” he says. “It has similarity to her current role.

“She has 30-plus people reporting to her, plus she manages four treatment plants and 86 lift stations and must be able to keep track of operations and maintenance and a budget of several million dollars.”

In Jutan’s view, it’s a quest for excellence. Just as she’s shared her company’s mission with her team, she wants her colleagues at Baytown to embrace greatness. “I’m passionate about what we do,” she says. “I want us to be great.”

She refers to team-building as pouring information and inspiration into her staff. “It’s getting everyone to see the whole picture,” she says. “It’s training, motivation, identifying problems and working together to solve them.”

She sees her work and that of her team as building a legacy: “It’s how we carry ourselves, and it’s not just management; it’s out in the field as well. This is not just a job. There’s no new water. What we do keeps our water and our community safe for

our kids, grandkids and neighbors. We want to leave something behind, so that when we leave here, we can say, ‘This is what we did.’” ♦

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*IUPUI Test, Oct. 2021

CREATING CAPACITY FOR NEW DEVELOPMENT

Partnership fosters private-side inflow and infiltration reduction, more resilient wastewater systems

By *Murari Raghavan and Matthew Malone*

Reduced sewer conveyance and treatment capacity caused by inflow and infiltration can increase wastewater operation and maintenance costs, restrict urban development, and increase potential for environmental spills and overflows.

Various studies have shown that I&I generated from private property can represent over 60% of the total I&I in a wastewater system. This number can be significantly higher in older systems, and presents unique challenges for municipalities, ranging from legal and policy issues to funding and implementation.

As a result, it's often difficult for municipalities to significantly reduce I&I coming from private properties. But it's a different story in Ontario, Canada, where Civica Infrastructure Inc., in partnership with several municipalities in Ontario and the Greater Toronto Area, has successfully reduced the amount of private-side I&I through a public-private partnership.

The specific partnership framework allows municipalities to pass most — if not all — of the liability, cost and risk of the investigations, remediations and verifications to the private partner (i.e. land developer), while ensuring proper communication, coordination and warranties are in place. In return, the private partner receives a portion of the sanitary servicing capacity created through the sewer flow reduction. This process produces a net reduction in flow in the public sewer system by only allocating a portion of the reduction.

Benefits of the P3 program

The benefits of reducing significant I&I gives obvious advantages over adding more conveyance and treatment capacity in a system. Additional direct benefits of a P3:

1. No program costs to municipalities: The burden of program costs is shifted to the private partner (developer), relieving municipalities of financial obligations.
2. Liability mitigation: The identification and remediation of I&I defects on private properties become the responsibility of the private partner, reducing liabilities for municipalities.
3. Improved storm drainage handling: Through the retrofit of Low Impact Development techniques, storm drainage capabilities can be enhanced, and in some cases, stormwater treatment can be improved.
4. Reduced operation and maintenance costs: Compared to constructing additional sewers, pumping stations and treatment facilities, I&I reduction leads to decreased long-term operation and maintenance expenses for municipalities.
5. Lower costs for developers: The elimination of new sewer construction, pumping stations, and treatment system design and construction reduces overall costs for private developers.
6. Faster timeline for increased sewer capacity: By focusing on I&I reduction, the program achieves increased sewer capacity more quickly than traditional infrastructure expansion.
7. Residual capacity for future growth: By understanding the available residual capacity, municipalities can defer planned new infrastructure, leading to potential savings.
8. Enhanced system resilience: The program contributes to the sanitary sewer system's resilience and sustainability, helping address climate change risks and system aging.

In York Region alone, a significant increase in sewer capacity has been realized through

BETTER MOUSETRAPS

PROBLEM:

Reduced sewer conveyance and treatment capacity caused by inflow and infiltration

SOLUTION:

Public-private partnerships transferring responsibility for I&I remediation from municipalities to private landowners and developers in exchange for capacity allowances.

RESULT:

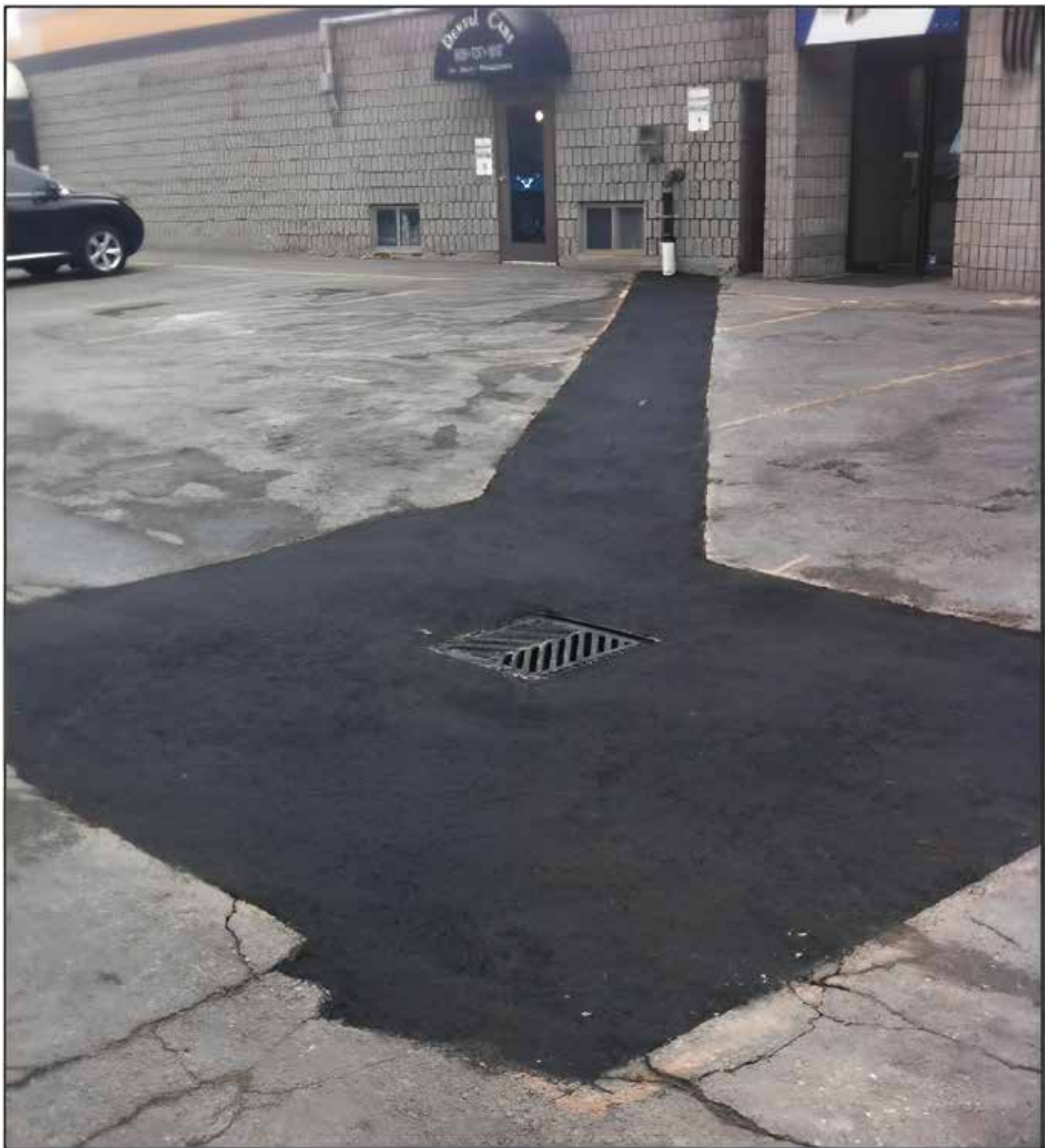
Decreased sewer collections and treatment volume, along with increased capacity for development.



I&I reduction, allowing more service areas and populations to be served by the same sewer system. More specifically, capacity has been created for over 12,000 people in new development and 24,000 in total.

The successful transfer of improvement costs and liabilities to the private partner has been a key advantage of the P3 program. The private partner takes on the responsibility for intrusive investigations, remediation works and construction, while the municipality holds a security for a warranty period to ensure the quality and longevity of the work.

A customer-centric approach based on transparent and friendly communication has contributed to the program's success. Each private property project is assigned a dedicated project coordinator who facilitates agreements with homeowners and oversees construction works. The financial and physical facilitation of the program has played a vital role in achieving near-perfect success rates for storm-water disconnection from sanitary sewers. This success surpasses other programs relying on homeowner-led initiatives or enforcement-based approaches.



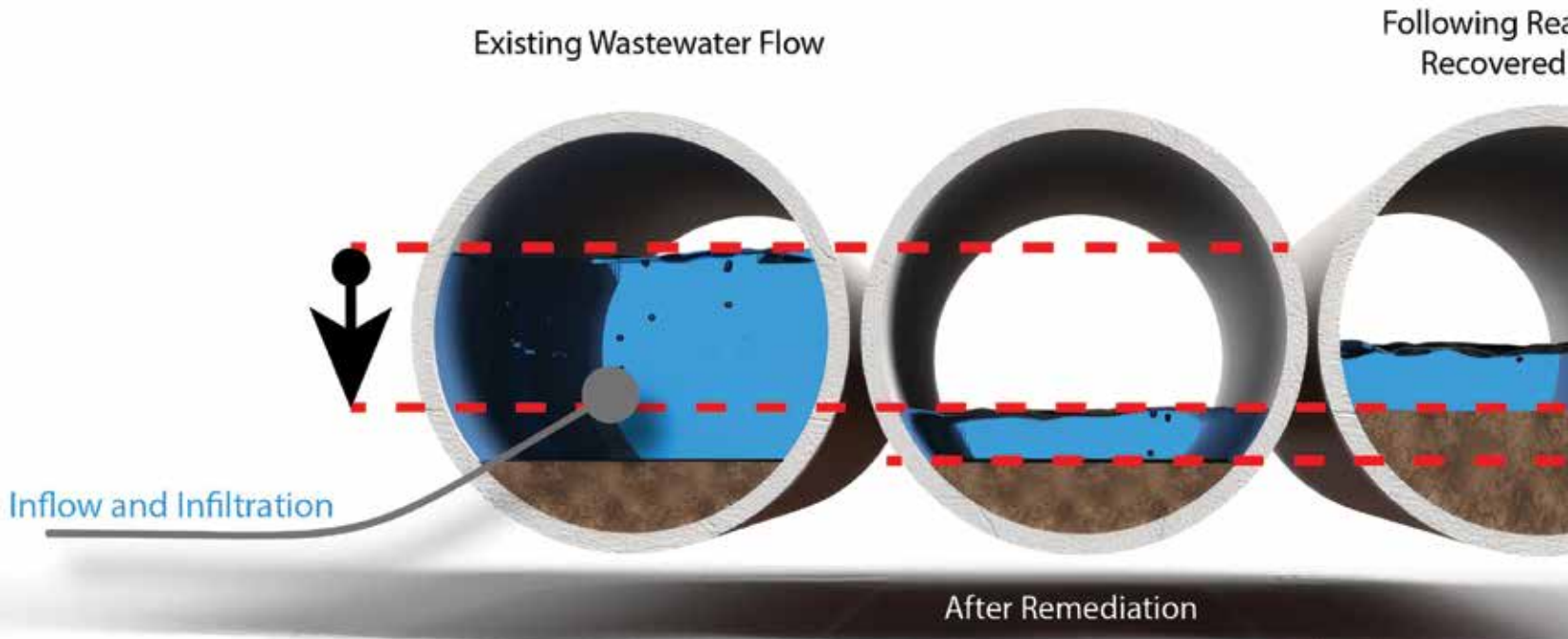


Status of completion

The program commenced in 2010 and is at different stages of implementation throughout the Greater Toronto Area. To date, over 25,000 private lots have undergone investigations using various techniques, including specialty testing.

Overall, testing has resulted in the identification and remediation of over 250 stormwater defects, including over 200 residential downspouts, 25 commercial flat-roof drains, five catch basins (approximately 250,000 cubic feet) disconnected from the sanitary system, four reverse sloped driveway drains, the entire roof area of a hotel, and other open storm access hatches draining to sanitary sewers.

Across the GTA, the program has completed each stage, from preliminary design to post-remediation warranty, with all necessary improvements made. The last stage of the program is the warranty period. The warranty mechanism has worked well, with little to no follow-up repairs required and ensuring all storm connections remain disconnected and properly connected to the storm drainage system.



Ongoing investigations and remediation work is taking place in multiple GTA municipalities. Based on the established framework's demonstrable successes, the program is expected to expand to include other areas in Ontario facing similar growth and capacity pressures. The completed projects have already created sewer capacity equivalent to serving a population of nearly 50,000.

The completed projects have already created sewer capacity equivalent to serving a population of nearly 50,000.

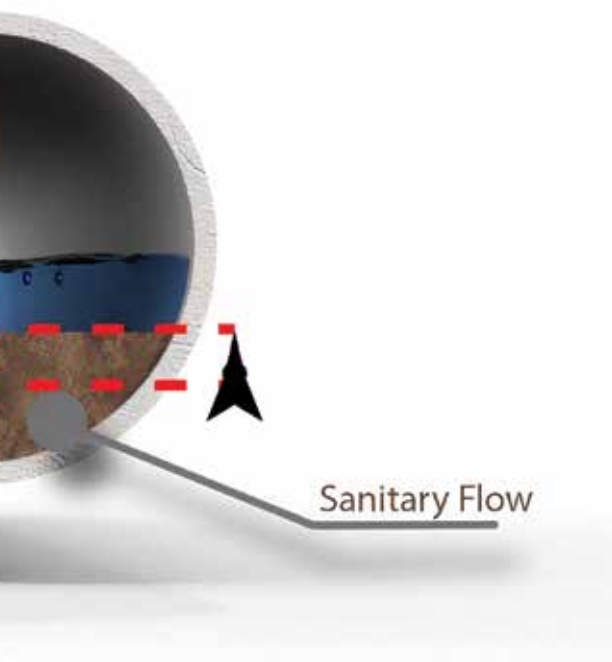
The P3 program's successful reduction of private-side I&I has provided municipalities in the Greater Toronto Area with increased wastewater system capacity. The program's benefits extend to cost savings, liability mitigation, improved storm drainage and enhanced system resilience. With ongoing expansion and the potential to replicate the program in other regions, the P3 approach holds promise for addressing I&I challenges and supporting sustainable growth in wastewater systems. ♦

Net benefits

The success of P3 projects can be attributed to the specialized processes followed by private consultants/contractors and the collaborative efforts of all involved parties. Municipalities have achieved significant I&I reductions, resulting in increased sewer capacities that offer flood protection and enable land developers to expedite sewage connections using sustainable practices.

The primary focus of the program has been to create net benefits by reducing I&I and allowing new development flows. The program has achieved tangible and quantifiable fixes that ensure stormwater remains disconnected from sanitary sewers. The P3 program provides an effective mechanism to accelerate improvement and address challenging fixes on private properties that may be subject to ownership and legal constraints. This flexible framework can be applied in other jurisdictions facing growth and infrastructure challenges.

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Product Spotlight

Multipower system for service trucks is quiet and powerful

By **Tim Dobbins**

VMAC had heard enough requests from their dealers across North America for a multipower system with a gas engine to realize it was a product they needed to manufacture.

“They wanted a quiet, powerful, and lightweight multi-power system for their service trucks, but powered with a gas engine,” says Mike Pettigrew, marketing manager for VMAC. “This allows fleets to simplify their fuel needs.”

Using feedback provided from their dealer network, VMAC’s engineering team designed the 5-in-1 Multifunction Power System. True to its name, the unit includes five power sources in one machine. Powered by a Honda engine, it supplies users with an air compressor, generator, welder, booster and charger.

When new VMAC products like the 5-in-1 are developed, Pettigrew says it all starts with a need. “When product development begins, VMAC works closely with dealers and their customers to understand modern fleet needs,” he says. “From there, an ideal product is imagined, and the most important specs are clearly defined, and it’s up to the VMAC team to turn the vision into a reality.”

After engineering, the 5-in-1 Multifunction Power System was sent out to operators for real-life testing. “Only after the field trials have been completed and given a stamp of approval from our field users do we release the product,” Pettigrew says.

The unit features an air-cooled Honda iGX800, 779 cc gas engine with



electronic fuel injection, an electronic control system with integrated configurable electronic control unit and a self-tuning regulator.

Users will find an air compressor with output capabilities of 40 cfm at 100 psi, an 8 kW AC generator, 250-amp DC adjustable welder, 300-amp adjustable booster at 13 volts and a 100-amp, 12- and 24-volt adjustable battery charger.

“This system is commonly installed on service trucks used by heavy-duty mechanics and equipment-repair technicians,” Pettigrew says. “The compact package fits on the side pack or behind the cab of most trucks.”

Pettigrew says they’ve heard positive feedback with many dealers reporting excitement for a system that’s so quiet in all operations. “It’s designed to reduce noise levels on the job site with noise reduction panels, automated idle controls and a standby mode.”

National sales representative Darren Darnley says people appreciate that the system is powerful enough to push 40 cfm and that the removable side panel and lifting lids make servicing the unit quick and easy.

877-912-6605; www.vmacair.com

SPECIAL REPORT

OZ Lifting XR Series davit cranes

OZ Lifting Products has launched its XR Series of davit cranes for wastewater and water operators. The Winona, Minnesota-based manufacturer has released the model in 500- and 1,000-pound capacities, but the long reach of the range is a stand-out benefit for operators. Where other davit cranes typically have reduced capacity when it is in the longest reaching position, this series maintains its maximum capacity rating in all configurations. This means wastewater and water professionals can lift more weight, further out, which presents many benefits for numerous lifting and material handling applications. The smaller crane weighs only 57 pounds and the larger crane weighs 95 pounds. Both have a maximum 62-inch reach and maximum hook height of 87 inches.

800-749-1064; www.ozliftingproducts.com



SPECIAL REPORT

Patterson portable davit cranes for mobile lifting

Patterson davit cranes allow for servicing multiple locations with a single piece of equipment, minimizing upfront investment. The low maintenance, easy-to-assemble crane can be used at the plant or on a truck for lifting pumps and other equipment in and out of pits and manholes. The cranes are now available with an optional magnet attachment that is perfect for lifting road eyes and other metal pieces weighing up to 2,000 pounds. Built with Patterson’s hallmark safety and durability, the crane and magnet attachment were developed with the highest quality materials. The crane features a brake that keeps loads in position without creeping and comes standard with a hot-dipped galvanized finish, steel sheaves and stainless steel hardware to prevent rust and corrosion. Available in 1/2- and 1-ton capacities, the cranes are built for safety, minimal maintenance, extended life – reducing cost and increased efficiency. Learn more and watch the assembly video online.

800-322-2018; www.pattersonmfg.com/crane-details



SPECIAL REPORT

Vacall AllExcavate/AllExcavate2 811 models deliver hydro and air excavation in a smaller footprint



Vacall's AllExcavate 811 delivers power and reliability in a smaller footprint. Get in and out of tight jobs faster with the 8-cubic-yard debris tank, 1,100-gallon water tanks and an overall vehicle length of under 35 feet. The AE 811 delivers vacuum forces up to 5,400 cfm at free air and waterjetting power of 0 to 25 gpm at 3,000 psi. The AE2 811 adds air pressure modes at 110 psi at 185 cfm or 150 psi at 150 cfm. The AllSmartFlow CANbus intelligent control system features a programmable LCD display that monitors engine, water flow, air pressure and vacuum performance for precise boom and reel adjustments. Aluminum water tanks and optional galvanized debris tanks with supreme finish carry a lifetime warranty. Both models, manufactured by Gradall, use one engine to power the chassis and excavation functions, reducing service and operation costs.

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Sheila Joy is executive director of NASSCO. She can be reached at director@nassco.org.

NASSCO EXCHANGE EVENTS ARE BACK

In-person educational opportunities bring trenchless professionals together

By *Sheila Joy*

NASSCO's Technical Advisory Council and various technical NASSCO committees have worked hard to bring in-person trenchless technology education opportunities to regional locations across the country.

The NASSCO Beantown Exchange was held Sept. 20, 2023, just outside of Boston at the Scottish Rite Masonic Museum and Library in Lexington, Massachusetts. Next up is the NASSCO Motor City Exchange Nov. 2 at Lovett Hall in the Henry Ford Museum of American Innovation in Dearborn, Michigan (a suburb of Detroit). NASSCO is returning to Lovett Hall for the third year. Two more Exchange events will be held in cities to be announced soon.

The events earn attendees 7 PDH or 0.7 CEU credits, and there is no fee for employees of municipalities and public agencies to attend this full day of learning:

7:30 a.m. Breakfast

8 a.m. Welcome and Keynote Speaker

Learn how NASSCO sets standards for the underground infrastructure industry through education, technical resources, and advocacy, followed by a special keynote message.

9 a.m. Trenchless Technology Overview

Understand the benefits and features of a variety of trenchless — or “no dig” technologies, including those for assessment, maintenance and rehabilitation.

9:45 a.m. Infrastructure Funding Roadmap

Hear from NASSCO's Government Relations Committee on the need to fund underground infrastructure and the path to apply for funding in your state.

10:45 a.m. Break

11 a.m. Trench and Confined Space Safety

Trench safety and confined space entry are two important topics to ensure we keep our workers safe. Learn best practices and how to implement them in your organization.

11:45 a.m. Test Your Knowledge — Kahoot!

Attendees will get the chance to win a prize for how much they learned during the morning session.

12 a.m. Lunch

1 p.m. PACP Version 8 Updates

NASSCO's Pipeline Assessment Certification Program will be launched soon! Learn about the latest updates including pressure pipe and stormwater coding.

1:45 p.m. ADR/AI and its Impact on Our Industry

Artificial intelligence is making itself known everywhere — even in the world of sewer assessment. Learn what NASSCO is doing to embrace this new technology.

2:30 p.m. Break

2:45 p.m. Routine Collection System O&M

Learn the basics of routine O&M including large diameter cleaning, force main inspections and lateral inspections and maintenance.

3:30 p.m. Styrene-Based Resins in CIPP

There has been a lot of talk about styrene-based resins in CIPP. Learn the steps NASSCO has taken with recommendations to protect our workers and the environment.

4:15 p.m. Test Your Knowledge — Kahoot!

Attendees will get the chance to win a prize for how much they learned during the afternoon session.

4:30 p.m. Networking Reception

Join NASSCO board, staff and other industry professionals for cocktails and appetizers.

The presentations will not promote specific products or services. However, suppliers and manufacturers will have the opportunity to participate in small exhibits where attendees can learn about the latest trenchless technologies. To learn more and register, please visit www.nassco.org/events. ♦

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Oct. 11, 8 am EST

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Trainer: Michael Lukas

Oct. 12, 8 am MST

Virtual

Includes PACP

Trainer: Brandon Conley

Oct. 12, 8 am PST

Virtual

Includes PACP

Trainer: Michael Lukas

Oct. 17, 8 am CST

Virtual

Includes PACP, LACP, MACP

Trainer: Bryan Ballard

Oct. 18, 8 am EST

Virtual

Includes PACP, LACP, MACP

Trainer: John Jones

Oct. 18, 8 am CST

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Includes PACP, LACP, MACP

Trainer: Michael Lukas

Oct. 18, 8 am PST

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Trainer: Brandon Conley

Oct. 25, 8 am EST

Virtual

Includes PACP, LACP, MACP

Trainer: Brandon Conley

Oct. 25, 8:30 am MST

Virtual

Includes PACP, LACP, MACP

Trainer: Sammy Maestas

Nov. 1, 8 am CST

Virtual

Includes PACP, LACP, MACP

Trainer: Brandon Conley

Nov. 7, 8 am EST

Virtual

Includes PACP, LACP, MACP

Trainer: Jerry Weimer

Nov. 8, 8 am MST

Virtual

Includes PACP

Trainer: Brandon Conley

Nov. 15, 8 am EST

Virtual

Includes PACP, LACP, MACP

Trainer: John Jones

Nov. 15, 8 am PST

Virtual

Includes PACP, LACP, MACP

Trainer: Brandon Conley

Nov. 29, 8 am EST

Virtual

Includes PACP, LACP, MACP

Trainer: Brandon Conley

ITCP Training

Oct. 10, 8 am MST

Rock Springs, Wyoming

Includes ITCP-CIPP

Trainer: Rocky Capehart

Nov. 7, 8 am EST

Virtual

Includes ITCP-CIPP

Trainer: Lou Krch

Nov. 28, 8 am CST

Virtual

Includes ITCP-MR

Trainer: Tim Back

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OTHER CLASSES FORMING

Contact one of the trainers listed above if you are interested in having a class at your facility or in your area.

PEOPLE/AWARDS

The Rhode Island Infrastructure Bank awarded more than \$630,000 in grants for stormwater management projects in the **city of East Providence, city of Pawtucket and town of Little Compton**. The funds are from the Sewer Overflow and Stormwater Reuse Municipal Grant Program.

The **Southwest Butler Stormwater Planning Group** (Pennsylvania) received a Governor's Award for Local Government Excellence.

Mike Huffman, stormwater division manager, received the inaugural Hendersonville Sustainability Hero Award. The honor celebrates a city of Hendersonville (North Carolina) employee or team who champions sustainability in the city and surrounding community. ♦

CALENDAR

Aug. 29-31

StormCon 2023, Sheraton Dallas Hotel. Visit www.stormcon.com.

Sept. 11-13

California Stormwater Quality Association Annual Conference, Paradise Point Resort, San Diego. Visit www.casqa.org.

Sept. 13-15

Indiana Association for Floodplain and Stormwater Management Annual Conference, Belterra Casino Resort, Florence. Visit inafsm.net.

Oct. 3-4

American Public Works Association-Utah Chapter Fall Conference and Stormwater Expo, Mountain America Expo Center, Sandy. Visit utah.apwa.net.

Oct. 4-6

Southeast Stormwater Association 2023 Regional Stormwater Conference, Hilton Head Marriott Resort & Spa, Hilton Head Island, South Carolina. Visit seswa.memberclicks.net.

Oct. 17-20

Utah Floodplain and Stormwater Management Association 2023 Conference, Cedar City Courtyard Marriott Hotel. Visit www.ufsma.org.

Oct. 24-26

Tennessee Stormwater Association Annual Conference, Montgomery Bell State Park, Burns. Visit www.tnstormwater.org.

Nov. 1-2

Wisconsin Association for Floodplain, Stormwater and Coastal Management 2023 Conference, Hyatt Regency Hotel, Green Bay. Visit www.wafscm.org.

Municipal Sewer & Water invites your national, state or local association to post notices and news items in this column. Send contributions to editor@mmswmag.com.

Have a story idea?

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raising the bar UNDERGROUND

SURVIVAL IN THE TRENCHES

Keeping crew members safe around excavations requires vigilance against complacent behavior

By **Ronnie Freeman**

There are many hazards in our industry and one of the most dangerous places our workers can find themselves in is an excavation. Trenches have many hazards based on the depth and width of the trench, soil type, if there is water in the trench, buried utilities like gas and electrical, and moving machinery around the trench.

These hazards and many others create what could be a very unsafe working environment. However, one of the biggest concerns is when employees become complacent to these hazards. Complacency is defined as self-satisfaction especially when accompanied by unawareness of actual dangers or deficiencies. When employees are so “used” to working around hazards that they become numb to those hazards we have a real problem on our hands.

When employees become complacent, they may not realize the real dangers of the work they’re performing or they might not notice a change in the environment that could be disastrous to them. Another issue with being complacent is that employees can start working on autopilot, especially when they have done these tasks so many times in the past. Unsafe acts account for about 90% of workplace injuries and incidents, and becoming complacent is one of the top contributors to unsafe acts.

Employees must be trained and constantly reminded to think about what their task is and the hazards that they face each day. Having a daily trench checklist can be one way to help ensure employees are thinking about the hazards before they start digging. Having employees review the checklist and complete it together creates a teamwork approach and helps hold each employee accountable as well.

The following are some other reminders for keeping employees safe in the trenches and avoiding the complacency trap:

- Always ensure there is a safe way to enter and exit a trench. A ladder is required if the trench is 4 feet or deeper.
- Trenches must have cave-in protection (shoring, sloping, shielding) when the trench is 5 feet or deeper.
- Keep materials and spoil piles at least 2 feet away from the edge of the trench.
- Be on the lookout for standing water and other hazards such as overhead power lines, encumbrances such as trees, buildings or signs that are close to the trench.
- If you are working on foot, be aware that vehicles and equipment have blind spots. Always make eye contact with the operator to ensure the operator sees you. Never assume this.
- Never enter a trench unless it has been properly inspected by a competent person.
- Removing slip and trip hazards like tools, hoses and cords when they are no longer needed.
- Be aware of traffic conditions and have a proper work zone set up.
- Make sure utilities are properly located before digging starts.
- Keep in mind that OSHA inspectors are required to stop and inspect any trenching and excavation job site that they may pass by. Be prepared to answer questions like who is in charge of the job site. They are really wanting to know if you have a competent person on site.

In conclusion, trenches can be made safe to work in if each employee on the job site remains aware of the surrounding hazards and takes the steps to mitigate the hazards. Overcoming complacency is a step in the right direction. ♦

Employees must be trained and constantly reminded to think about what their task is and the hazards that they face each day.





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The cloud-based **Sentinel PRO** monitoring system with supporting app from **Sensaphone** provides 24/7 remote monitoring of equipment and environmental conditions at water and wastewater facilities. Users can easily view data values in real time, set alarms, acknowledge alerts and review data from their mobile device. The system seamlessly interfaces with any processing equipment that uses a PLC with Modbus sensors. It supports both Modbus RTU-485 and TCP protocols and can monitor up to 64 Modbus registers and 12 different digital or analog status conditions — including flow rate, power, pump status, tank level, turbidity, pressure, temperature, humidity and water leaks. The system immediately notifies users via text, email or call when sensor readings move outside of preset parameters. It is available with internet or cellular connectivity. **877-373-2700; www.sensaphone.com**



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BEST PRACTICES FOR MANAGERS

The impacts of responsive, engaged leadership extend beyond the workplace

By **Ken Wysocky**

The results of a new study performed by Perceptyx, a company that specializes in employee surveys and people analytics, should serve as a wake-up call for managers: 24% of 1,500 employees polled say they currently work for the worst boss they've ever had.

Worse yet, the study found that people working for their “worst boss ever” are three times more likely to be disengaged than those with good managers and almost four times more likely to say they intend to quit within 12 months.

The key behavior that garnered either a worst- or best-boss ranking? Responsiveness, says Lisa Sterling, chief people officer at Perceptyx.

“A key takeaway from the study shows a very high correlation between overall responsiveness and whether employees feel they work for a great leader versus not such a great leader,” she explains. “In fact, leaders who are less engaged and less responsive are 25 times more likely to be identified as a bad boss.

“And on the flip side, those rated very strongly for connectivity and responsiveness are five times more likely to be identified as good boss,” she adds.

When asked how they would describe their worst boss, 48% said “incompetent” and “unsupportive,” followed by “disrespectful” (28%) and “unfair” (27%), according to the study.

Wide ramifications

Worse yet, those working for their worst boss were two times more likely to have negative health impacts, such as poor sleep, lost productivity or increased alcohol consumption, and twice as likely to find it more difficult to enjoy other elements in their lives, Sterling says.

“I found it very surprising that the lack of managers’ responsiveness drives such profound implications outside of work,” she says. “I think that many leaders don’t recognize how they show up in terms of being available and insightful or being good mentors or coaches.

“Unfortunately, it’s far more common for leaders to be less engaged and less responsive because we’re having less real-life interactions,” Sterling continues. “And at the same time, we are getting hit by communications in many different ways, which creates an environment where it’s more challenging for leaders to show up the way we want them to show up.

“So managers need to be more thoughtful about those communication channels they use — talk more about how we leverage technology to deliver more personalized communications.”

Sterling believes employees are fatigued by communication technologies such as Zoom and Slack. Especially during the pandemic, managers embraced those technologies for communication, but haven’t stepped back to consider whether they’ve made people’s jobs — or lives — better or even enhanced communications.

A personal touch

So what can managers do to ensure they get rated as a best boss? They can start by having regular team meetings and being more deliberate about holding one-on-one sessions with direct reports. Those who do so are 43 times more likely to be judged as a best boss, according to the study.

Recognizing employee achievements also ranks high on the list. It’s critical to acknowledge when employees do a good job because it helps build good relationships when employees know their work is appreciated, Sterling says.

“Another key piece is sharing information and explaining to employees how their work contributes to the overall success of the organization,” she reports.

Positive feedback and coaching also is vital. It’s important to tell people what they’re good at as well as point out areas where they need coaching. The study also

showed a disconnect here: 27% of employees felt their managers could use some kind of training to be better coaches, but only 17% of managers felt they needed it.

High expectations

In defense of managers, however, Sterling agrees that this is one of the most challenging times to be a leader in an organization, especially given the growing predominance of digital communications.

“The space created with more of a digital-first approach to working is putting a squeeze on leaders and making it more difficult for them to be present the way they need to be,” she notes. “We also see more clients putting employees into leadership roles earlier in their careers, so there’s a greater chance they lack leadership maturity.

“That makes it difficult for them to show up as a great leader.”

As such, it’s time for organizations to “over-invest” in some of the most basic elements of leadership, she says.

“We’ve also seen a shift in employee expectations in all industries. They expect a lot more, not just from their leaders but from their organizations, than they did just a few short years ago.

“The pendulum has swung from employer-led organizations to employee-led organizations and it’s hard to keep up with that.”

The study also showed that 48% of managers say their jobs as leaders have become more difficult in just the last year and 40% say they’re under more pressure from both their direct reports and their upper management.

Employee retention

Overall, organizations need to be more deliberate about who they select as leaders; some people just shouldn’t be managers, regardless of their experience or how much an organization has invested in them, Sterling notes.

“We also have to continually invest in their knowledge, skills and capabilities,” she adds. “Skill sets become outdated very fast these days and expectations shift fast, too, so we have to put the pedal down, so to speak, to invest in leaders because they’re closest to the people who are closest to the business and its partners and customers.”

What are the risks if organizations stand pat? For one, they’ll lose a competitive edge in the war for top talent in a tight labor market. They’ll also be more prone to employee turnover.

“People are less apt to stay at organizations where there are unhealthy relationships between employees and leaders,” Sterling notes. “People leave leaders, not organizations ... and they’re just not as willing anymore to tolerate conditions that don’t meet their expectations.

“There’s definitely a high correlation between organizations with high levels of engaged employees and how they outperform their competitors. Most organizations are successful because of their people, so we have to make sure that their experiences live up to expectations.” ♦

We invite readers to offer ideas for this regular column, designed to help municipal and utility managers deal with day-to-day people issues like motivation, team building, recognition and interpersonal relationships. Feel free to share your secrets for building and maintaining a cohesive, productive team. Or ask a question about a specific issue on which you would like advice. Call editor Luke Laggis at 800-257-7222, or email editor@mswmag.com.

“People are less apt to stay at organizations where there are unhealthy relationships between employees and leaders.”

Lisa Sterling

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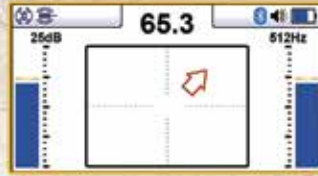
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FLOW CONTROL AND MONITORING

By Craig Mandli

Remote station monitoring helps protect trout

Problem:

Herbert Holt Park is the home of Gatlinburg's Trout Rearing Facility, which is Tennessee's only municipal trout farm. The biggest problem they have are leaves clogging the intake, which causes the wet well to get too low. When this happens their airburst system cleans the intake screen before the pumps come back on. Sometimes the air burst cannot keep up and the system gets into a cycle of pumping then stopping to clean to a point that the compressor runs out of air completely and the fish have extended periods without freshwater.

Solution:

Southern Sales suggested the **AccuDose AccuWatch RMC-2000** remote monitoring system. The system provides low cost, real-time data with free cellular internet connection. It provides seven digital and four analog 4-20 ma inputs. Each analog can be configured for monitoring wet well levels, tank levels, pressure, flow, current, etc. It is a cloud-based IIoT system. There is no installed or purchased software required. It is a solution that is not only inexpensive but also easy to install and maintain.



RESULT:

The facility now has the ability to monitor any four analog values as well as seven digital inputs with an eighth digital monitoring power fail. They also have the option of installing a 4-20 mA output module or an RS485 MODBUS module. The cost is a fraction of what they and others have paid for their SCADA sites with less security and functionality. "With the RMC-2000 I can remotely monitor the water level as well as the pump runtimes, which I use together to time the cleaning cycles and have someone on scene before an emergency call takes place, which greatly reduces our risk of fish loss," says Travis Williams, facility manager.

866-310-1055; www.accu-dose.com

Radar measures municipal water in Puerto Rico

Problem:

Hurricane Maria walloped Puerto Rico in 2017. The island's water system, with 114 water treatment plants, was damaged, leaving half the island without water. Between 2017 and 2023, Puerto Rico experienced five more hurricanes and three tropical storms making water repairs a challenge.

Solution:

The country wants to repair and modernize with technology like water level storage sensors and software by **BinMaster Level Controls** to help monitor inventory. At one plant, 12 CNCR 210 liquid radar sensors were installed. A stainless steel wall-mounting bracket designed to accommodate the 1.5-inch NPT threading is bolted to the cement structure of each holding tank. Wiring, completed via the 0.5-inch NPT wiring connection, sends a 4-20 mA signal to BinCloud software. The compact radar level reliably measures excessive humidity, steam, vapor and is unaffected by noise. The 80 GHz technology accurately measures up to 26 feet. It

Integrated data improves stormwater management

Problem:

With unpredictable weather on the rise, the city of Raleigh, North Carolina, stormwater division had seen an increase in resident-submitted service requests for sinkholes and flooding. These stormwater backups and weather-induced issues can have a major impact on infrastructure health, shortening asset lifespans and requiring more frequent maintenance.

Solution:

Using **WinCan's** sewer inspection integration with **Trimble Cityworks Asset Management** software, Raleigh CCTV transportation analyst Don Hickman simplified and automated work order creation and data ingestion, resulting in shorter customer response times and improved safety of public assets. "Miskeying of facility IDs on pipe segment references is normally a huge problem that's hard to catch, but by having data come directly out of GIS, through Cityworks, and into WinCan, we prevent those mistakes from happening," Hickman says.



RESULT:

As workflow efficiencies increase, customers experience shortened response times and automated prioritization processes. "When we started this process, only 0.5% of our assets had been inspected," Hickman says. "Since then, with our pole camera and crawler, we've gone from 0.5% to 5.5% in just two years. And with the related maintenance work to address the defects we found, we moved from 75 to 80% fixes in our grading system to much lower condition grades." Hickman added that the first basin inspected with this workflow was the city's oldest, and its grade went from 4.3 to 3.3, which he expressed is "huge on a scale of 1 [best] to 5 [worst], especially in an area where pipes are over 100 years old." 877-626-8386; www.wincan.com

features a two-wire 4-20 mA output and with either a 1.5-inch threaded or straight NPT connection. It can measure liquid levels through a plastic storage tank wall or an IBC container.



RESULT:

"The plant manager said he's very happy with the radars," says Luis Anton, BinMaster International sales manager. "They plan to upgrade more plants as they rebuild." 800-278-4241; www.binmaster.com

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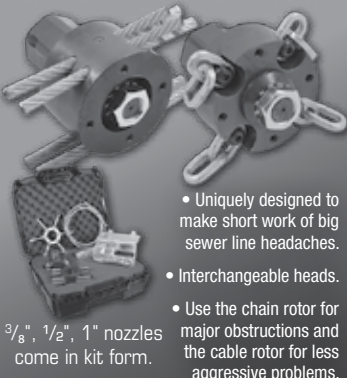
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MUNICIPAL SEWER & WATER

AMR system leads to faster meter readings

Problem:

West Slope Water District in Portland, Oregon, has an integrated water meter and radio, resulting in the radio having to transmit from 12 to 36 inches underground. Two of the variables that affect radio propagation are metal and water. West Slope gets a lot of rain, making it common for meter boxes to have water inside much of the year. The integrated radio, when combined with water in the meter box, forced crews to drive every street slowly and even stop to wait for meter reads to come into the reading software. This made monthly meter reading more time-consuming than it needed to be.

Solution:

West Slope has been replacing old meters when they fail with the **Mueller Systems modular AMR System**. The AMR migratable radio antenna is separate from the register, connected via an industry-standard inline Nicor connector. It is installed high in the meter pit, above most, if not all, water that may be in the meter box. This placement ensures a stronger signal for meter reads. These new radios provide efficient, long-range two-way communication. LoRa — short for long range — is resistant to most interference in the 900 MHz band, ensuring readings are reliable. This allows utilities to drive every other street and at the speed limit.



RESULT:

The new modular AMR system is over three times faster than the older meters, a significant time saving that enables crews to attend to other tasks. The new radios are also easier to install, and are easier to maintain due to their modularity. **800-423-1323; www.muellersystems.com**

Wet gas flowmeter solves biogas moisture, corrosion and accuracy issues

Problem:

The engineers at a Midwestern wastewater treatment plant found that wet, sticky biogas was causing a corrosion issue affecting the flow sensors of their existing gas flowmeters, leading to over-range and poor accuracy measurement issues. They believed a mixture of carbon dioxide, water and trace amounts of hydrogen sulfide were corroding the 316 stainless steel sensors.

Solution:

The applications team at **FCI - Fluid Components International** suggested that its **ST100A Wet Gas MASter Flow Meter with corrosion-resistant Hastelloy C-276 sensor tips** would solve both problems. The shielded mechanical design of FCI's wet gas sensor shunts water vapor away before it reaches the sensor and prevents any water vapor from collecting on the sensor head to avoid corrosion and any measurement accuracy or consistency issues. By shunting moisture, condensation and water droplets away from the ST100A's thermal mass flow sensor, accurate gas flow measurement is maintained while minimizing errors that could occur from a cooling effect on the sensor that might cause a spike or false high reading.



RESULT:

The flowmeters were installed in 2021 at the plant and have performed without issue since then. This meter can be calibrated to measure virtually any wet gas composition, and mixed, dirty and specialty gas. **800-854-1993; www.fluidcomponents.com**

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Phosphate monitoring keeps costs down and levels in check

Problem:

When the wastewater treatment plant for the city of Madison, Indiana, received a new phosphorus limit of 1.0 ppm, the staff of 12 assessed the plant's treatment processes and determined that biological reduction alone wouldn't be enough to meet the new limit.

Solution:

The decision was made to add a chemical-feed program to the process. Since frequent rain events increase flow but dilute the concentration of phosphorus entering the plant, plant leadership ruled out flow-based feeds. They instead selected a **ChemScan mini oP Analyzer** from **In-Situ** for its large, blockage-resistant sample tubing, internal self-cleaning features and low cost of ownership. Installed at the point of effluent, it measures phosphorus levels leaving the plant in 15-minute increments and adjusts the chemical feed accordingly.



RESULT:

The analyzer allows the plant to confirm compliance in real time. Its low-maintenance operation also enables the plant's small staff to use their resources efficiently and direct labor where needed. The plant uses polyaluminum chloride to precipitate influent phosphorus, which binds to phosphorus and adds to the sludge layer. Better chemical control also helps reduce cost by minimizing sludge production. **800-446-7488; www.in-situ.com** ♦



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Franklin Electric names Greg Levine VP and president, global water

Franklin Electric announced that Donald Kenney, vice president and president, global water, will be retiring after nearly 32 years with the company. Kenney was a driving force behind Franklin Electric’s Global Water growth and strategy over the last decade. Greg Levine joined Franklin Electric in July from Nidec Corp., where he served as president of the motion control and drives business for the past six years. Before working at Nidec, Levine held senior engineering roles at Emerson for 15 years. In his new role, Levine will be responsible for Franklin Electric’s global water systems business.



Greg Levine



Don Kenney

Plastics Pipe Institute presents Lifetime Achievement Award

Plastics Pipe Institute presented Donna Stoughton with its Lifetime Achievement Award in recognition for her many years and number of contributions to the industry. Stoughton, who recently retired from WL Plastics, was the first woman to chair the organization’s board of directors since it was founded in 1950. During her 20-year affiliation with PPI, Stoughton served and chaired numerous technical and other committees. PPI President David Fink presented the award during the group’s annual membership meeting held in Maui during May.



Donna Stoughton

State of Georgia selects I20Water PWS Portal

I20Water has been selected to manage the data and submittal of Georgia’s lead service line inventories. The state’s procurement of I20Water’s software grants all Georgia water systems individual licenses to access the Public Water System Portal, which serves as a centralized database to store, format and submit LSL data in accordance with the U.S. Environmental Protection Agency’s Lead and Copper Rule Revisions and federal and state reporting requirements.

Asahi/America opens new fabrication facility

Asahi/America opened its newly constructed Louisiana-based fabrication shop in Paulina with customers, partners, employees and local government officials in June. The new facility focuses on large-scale thermoplastic pre-fabrication and is known as Asahi/America — PPI, a division of Asahi/America. Construction of the 59,000-square-foot facility finished in late 2022 and will add over 36,000 additional square footage and will improve efficiencies of large-scale and complex prefabrication piping projects. Asahi/America initially expanded its fabrication capabilities and operational capacity during the acquisition of Performance Plastics in 2018.



Asahi/America Facility

Christine Kirby to chair committees for AWWA

Lockwood, Andrews & Newnam senior associate Christine Kirby has been chosen to lead two committees for the American Water Works Association. Kirby is the new chairperson for the committee on protective interior coatings for valves and hydrants within the AWWA Standards Council. She is also now leading the sustainable infrastructure committee within the organization’s Technical and Educational Council. As the chair of both committees, she will serve as an objective facilitator and collaborate with AWWA members and staff. She is a licensed P.E. in seven states: Texas, Nevada, Ohio, Wisconsin, Oklahoma, Maryland and Utah.



Christine Kirby

NTMWD recognized with Exemplary Source Water Protection Award

The North Texas Municipal Water District was recognized by the American Water Works Association as the recipient of its 2023 Exemplary Source Water Protection Award for Large Water Systems. This honor acknowledges organizations in North America that have successfully developed and are implementing exemplary source water protection programs. The award was presented during the AWWA Annual Conference and Exposition in Toronto, which took place in June.

CWA receives investment from Ohio

The Cleveland Water Alliance received a \$4 million investment from the state of Ohio to build out the next phase of its test beds and further develop its water economy workforce. With this funding, CWA has secured over \$10 million from state, local and federal partners to generate innovative answers to global freshwater issues and accelerate the Great Lakes region’s water economy. Over the last two years, funding from the state of Ohio, the U.S. Department of Commerce and Cuyahoga (Ohio) County supported the building of the physical infrastructure of CWA’s telecommunications network.

BlueConduit LSL free cost estimator

Water utilities nationwide are working to find and replace their lead service lines without knowing how many are in their system. To help utilities plan, water analytics pioneer BlueConduit launched a free LSL count and replacement cost estimator. The tool, part of BlueConduit Starter, combines machine learning with public records to estimate the number of unknown lead service lines at the water system level. It also provides an initial cost estimate so cities can plan ahead, meet the EPA’s LCRR requirements, and apply for funding. Google.org and The Rockefeller Foundation provided support so that BlueConduit Starter can be provided free of charge to utilities. The new water system-level tool is available to utilities and utility staff, and is a separate offering from BlueConduit’s subscription platform, which creates address-level predictions. ♦

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