

WATER/WASTEWATER TODAY II: HEAR FROM THE EXPERTS

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The Cutler Flow Way Phase 2 Conveyance System is ongoing in Biscayne Bay on the Atlantic coast of South Florida.

Winning Water Challenges

Wide-ranging, innovative solutions address urgent water issues

By Linda Mastaglio

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chloride is identified as the target pollutant impacting both surface and groundwater resources.

Removing Radioactive Particles in Missouri Water System

The city of Pineville, Mo., recently completed upgrades to its drinking water systems, including the use of a special process to remove radioactive particles from the city's inactive Mountain Ridge Well so it could be safely returned to service. The project also included construction of a 200,000-gallon water tower. The nearly \$2.6-million project was primarily funded by \$1.8 million in financial assistance from the Missouri Dept. of Natural Resources. Additional capital was provided through a \$594,000 loan from the Drinking Water State Revolving Fund, with the remainder secured from various sources.

Stretching the Limits for Water System Solutions

Water system obstacles and challenges are having a profound effect on the water/wastewater industry today. Organizations serve as change agents that are rising up to meet these issues head-on. Here are a few examples from leaders in the field.



Barbara Martin,
WCDA Executive
Director: Aging water infrastructure—and ensuring adequate funding to address our

water infrastructure needs—remain critical water sector challenges. Problems of such significance and scale benefit from the approach that collaborative project delivery provides by advancing efficient, effective and affordable solutions that provide safe and sustainable water for communities. Through our education, advocacy and research programs, the Water Collaborative Delivery Association (WCDA) develops and shares best practices that help water sector stakeholders leverage the power of collaboration and build better projects, together.



Mark McNichol,
Director of Sales,
Structures Unlimited: Two significant challenges impacting the water/wastewater

industry are maintaining and upgrading equipment within often harsh and difficult-to-access environments, alongside the constant pressure to reduce operational costs, including energy consumption. Our firm confronts these obstacles directly with our specialized removable skylight system. For access, these all-aluminum and fiberglass units are custom-sized for specific equipment yet are lightweight enough to be removed by the same crane used for the machinery, drastically simplifying maintenance logistics in corrosive settings. Impacting operational costs, their high insulation and translucency provide abundant natural daylight, eliminating the need for artificial lighting during daytime maintenance, leading to tangible energy savings and supporting greater operational efficiency.



Matt Reaves, Matt
Reaves, President of
Plant Operations,
Garney: When we look at the long-term needs of the industry,

workforce development remains a growing challenge. The workforce is changing, and as more experienced tradespeople leave the field, there's a greater need to bring in and train the next generation. There's a clear gap in hands-on roles—not because interest is gone but because exposure and education around the trades aren't as common as they once were, and that's something the industry needs to address.



Pete Buchholz, PE,
CCM, First Vice
President, Hill
International: Water/wastewater infrastruc-

ture has always been a priority for owners, and today we are seeing programs and projects that not

only look to maintain existing infrastructure and accommodate growth, but to also ensure that our water sources are protected for future generations through the use of new technology, more sustainable practices and proactive source management. ♦

By the Numbers: U.S. Water Infrastructure*

The American Society of Civil Engineers (ASCE) released its 2025 Report Card for America's Infrastructure in March. It assigned a C- for drinking water infrastructure, which is the same score it earned in 2021; a D+ for wastewater infrastructure; and a D for stormwater infrastructure.

- More than 90% of the U.S. population relies on public water systems.
- The average age of the more than 2 million miles of underground pipes in the U.S. is 45 years. The increasing age raises the risk of water main breaks, water supply disruption and potential contamination of drinking water.
- There is a water main break in the U.S. every two minutes on average, or 240,000 a year, resulting in the loss of more than 6 billion gallons of treated water every day.
- There are more than 9 million lead service lines still in use. To address this critical public health risk and expedite removal of lead from drinking water supplies across the country, in 2023, the EPA set a 10-year deadline to replace all lead service lines.
- Drinking water systems need more than \$625 billion in the next two decades to reach a state of good repair.

The complete 2025 Report Card can be found at: infrastructurereportcard.org/cat-item/drinking-water-infrastructure.

*Source: ASCE



Delivering Tomorrow's Water Networks

By **Pete Buchholz**, PE, CCM, First Vice President, Hill International, Inc.

As the public's attention to clean and safe drinking water grows, so do the opportunities and challenges owners face in delivering water to their customers. Aging water and wastewater infrastructure remains a key priority for agencies and operators. Addressing both antiquated equipment and deteriorating facilities requires significant capital investment for owners, with new challenges emerging, such as the increasing need for water source protection.

Water source protection is now driving innovation and adaptation, but also represents significant challenges that will compete for limited resources. For the first time in the history of the American Water Works Association's State of the Industry Survey, 2024 saw the top priority of the industry shift to water and/or watershed source protection as the impacts of climate change

and ongoing droughts present ongoing risks. This focus was supported by the USDA's National Resources Conservation Service in their 2023 National Resource Concern List and Planning Criteria, which listed 31 risks specific to water source protection, ranging from drifted snow to heavy metal pollutants.

Thankfully, the industry is addressing both source protection, aging infrastructure and other challenges proactively. In the American Midwest, for example, owners are undertaking improvement programs to modernize equipment, upgrade treatment processes to address emerging contaminants such as PFAS and microplastics and develop new processes for the management, disposal and beneficial reuse of treatment residuals. They are also increasing reservoir capacity, making dam improve-

ments, incorporating more automation and enhancing security. These programs will facilitate meeting the growing demand and address treatment requirements for the constantly evolving regulatory landscape.

Major water and wastewater improvement programs necessitate a holistic approach to planning, design, management and construction. Providers who execute their programs through an over-arching strategy that emphasizes risk management best practices and leverages the latest management technologies and techniques will be able to deliver their projects and programs with greater cost effectiveness, while providers who bring in industry subject matter experts with an understanding of tomorrow's challenges will see significant ROI in the long run. ♦

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Don't Wait for the Storm: Implement Early 'Pumparedness' Strategies

By **Amanda Smith**, Thompson Pump and Manufacturing Company



Enhance storm readiness with quality pumps.

While the official start of hurricane season just began on June 1, the season is showing signs of early activity, thanks to the unusually warm waters in the Atlantic, Caribbean and Gulf Basins. With tropical experts at Colorado State University predicting 17 named storms this year, community leaders are urged to

proactively prepare.

As a leader in heavy-duty dewatering and bypass pumps for municipalities, emergency managers and rental partners, we recommend strategies to enhance storm readiness and to avoid the potential for widespread disruption. Here are seven keys:

1. Inspect and service pumps to catch issues early.
2. Maintain equipment, including fittings and hoses.
3. Clean out drains and culverts to prevent blockages.
4. Lower water levels in ponds and reservoirs.
5. Check fuel supplies before shortages occur.

6. Stock up on spare parts for emergency repairs.
7. Identify high-risk areas to prioritize response.

Taking time now to inspect, service and stock your systems helps reduce downtime, protects critical services and ensures your community and customers stay safe and operational during the storm.

An ISO 9001, 45001 and 14001 Certified company, Thompson Pump and Manufacturing Company is dedicated to producing new and innovative dewatering and construction pump products and continually seeks innovative and creative talent to join the team. For more, visit thompsonpump.com. ♦

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Managing your next project is ours.

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