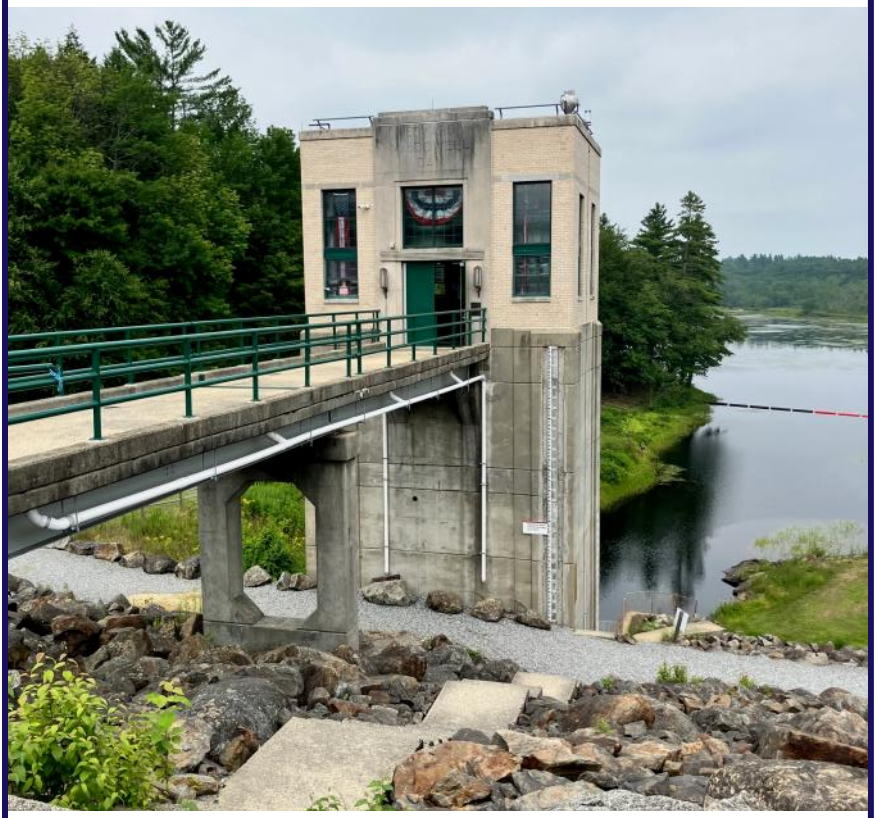
NHWWA

NH WATER WORKS ASSOCIATION

Journal

Volume 2, Fall 2025



Edward MacDowell Dam, Peterborough, NH.

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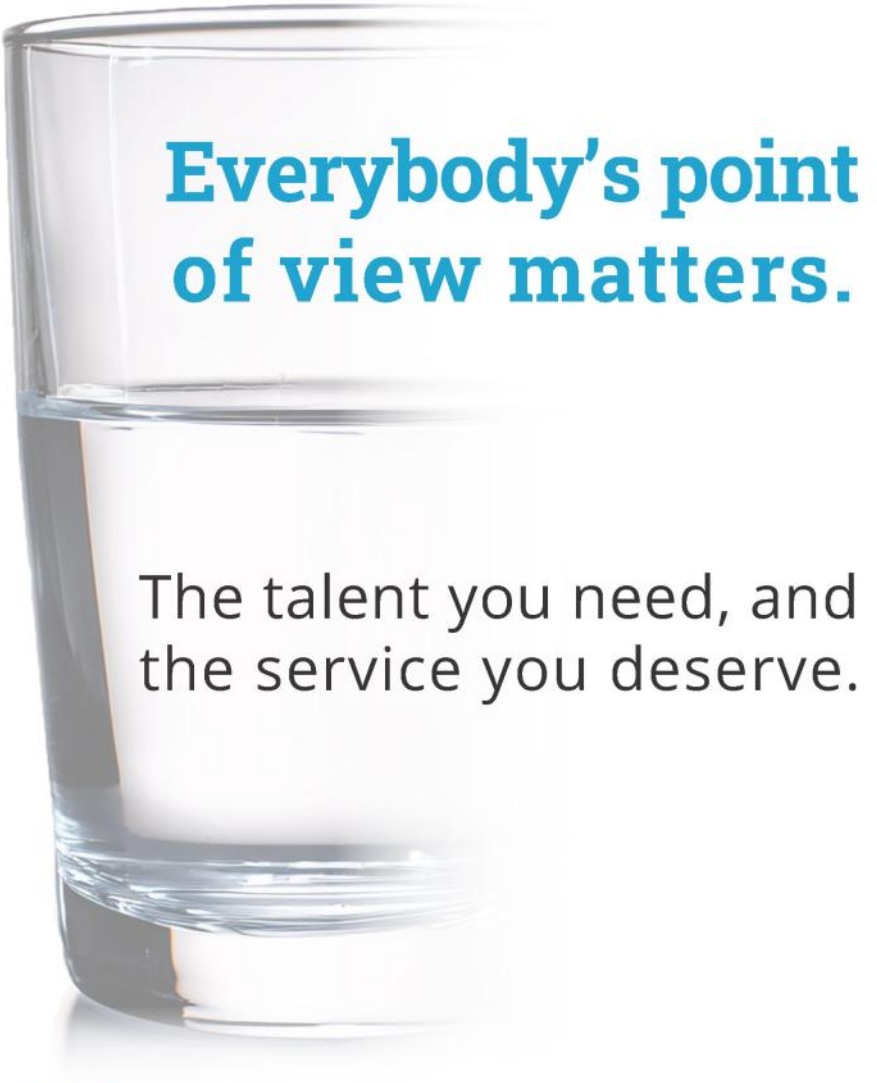

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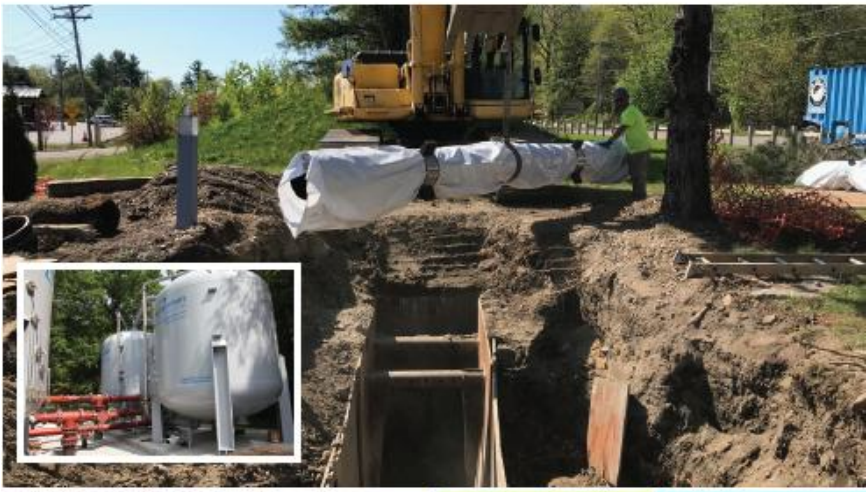

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JOURNAL

Volume 2, Fall 2025

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New Hampshire Water Works Association: Supporting Safe and Sustainable Water Practices for the Future

An Overview of the Organization, Its Mission, and Its Impact

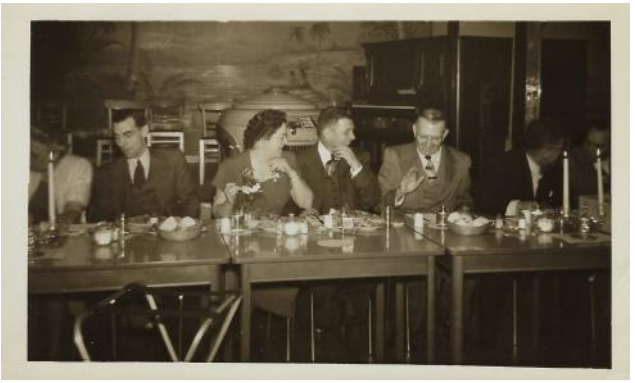
By President and CEO Sam Currier

Introduction

The New Hampshire Water Works Association (NHWWA) stands as a vital organization dedicated to ensuring the safety, reliability, and sustainability of water resources throughout the state of New Hampshire. As one of the leading professional associations in the region, NHWWA plays a multifaceted role in supporting water utilities, educating the public, advocating for sound water policies, and fostering collaboration among industry stakeholders. This article provides an in-depth look at NHWWA, exploring its history, mission, programs, and the crucial impact it has on the state's water infrastructure and communities.

History and Formation

The roots of the New Hampshire Water Works Association date back to the early 20th century, a period when the need for organized water management and professional collaboration



Undated photo from an early NHWWA meeting.

became increasingly apparent. Over the decades, NHWWA has evolved from a small group of municipal water professionals to a robust statewide association, encompassing a diverse membership that includes municipal water utilities, private companies, engineers, scientists, and vendors. The association was established with the goal of uniting those responsible for providing safe and reliable drinking water, sharing knowledge, and advocating for best practices.

Mission and Core Objectives

The mission of the NHWWA is centered on promoting the highest standards of water quality, safety, and service for all residents and businesses in New Hampshire. The association is committed to supporting its members through education, networking opportunities, and legislative advocacy. Its core objectives include:

- Education and Training: Providing workshops and seminars to enhance the skills and knowledge of water professionals, as well as trainings to prepare individuals for the NH water certification exams.
- Advocacy: Representing the interests of water utilities before state and federal policymakers, ensuring that regulations and funding decisions reflect the needs of local communities.
- Networking: Facilitating collaboration among members, industry

experts, and government agencies to solve common challenges and share innovative solutions.

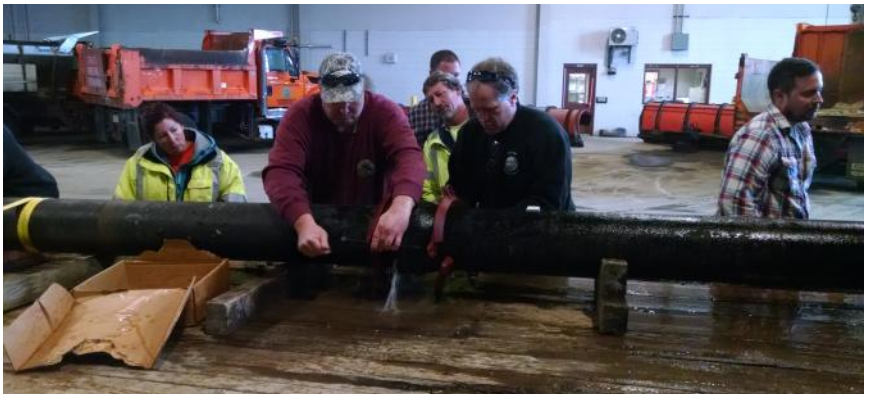
- Public Outreach: Engaging with the public to raise awareness about the importance of water conservation, infrastructure investment, and source protection.

Programs and Services

NHWWA's programs are designed to address the wide-ranging needs of water utilities, operators, and related professionals. Some of the most significant programs and services include:

Operator Training and Certification

One of the association's cornerstone efforts is its comprehensive training for water operators and exam preparation courses for new or advancing water operators. NHWWA offers regular workshops and courses covering topics such as water treatment, distribution, safety protocols, regulatory compliance, and emerging technologies. These programs ensure that operators remain up to date with the latest industry standards and are well-equipped to safeguard public health.

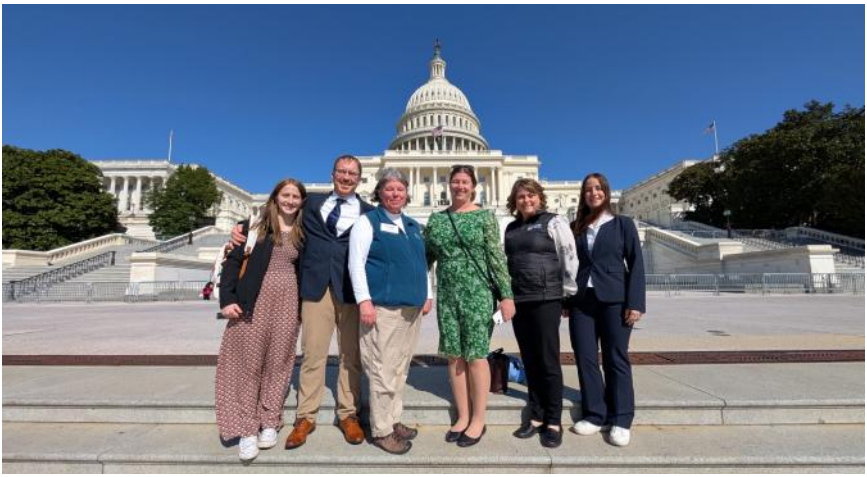


Annual Expo and Networking Events

The NHWWA organizes an annual expo, technical sessions, and networking events that bring together water professionals from across the state and beyond. These gatherings provide invaluable

opportunities for knowledge sharing, professional development, and collaboration. Attendees can participate in presentations by industry experts, panel discussions on pressing water issues, and vendor exhibitions showcasing the latest products and services.

Legislative and Regulatory Advocacy



Given the complex regulatory landscape surrounding water management, NHWWA plays an active role in advocating for policies that support sustainable water practices and infrastructure investment. The association regularly engages with lawmakers, regulatory agencies, and other stakeholders to influence legislation on issues such as funding for water projects, drinking water standards, and environmental protection. Its advocacy efforts help ensure that New Hampshire's water systems have the resources and regulatory clarity needed to operate effectively.

Key Issues and Challenges

The water industry faces a host of complex challenges, and NHWWA is at the forefront of efforts to address them. Some of the most pressing issues include:

- Infrastructure Renewal: Much of New Hampshire's water

infrastructure, including pipes, pumps, and treatment facilities, is aging and in need of repair or replacement. NHWWA advocates for increased investment and innovative solutions to ensure the continued reliability of water services.

- Water Quality and Contaminants: Emerging contaminants such as PFAS (per- and polyfluoroalkyl substances) pose new risks to water safety. The association provides resources and guidance to help utilities monitor, evaluate, and address water quality concerns.
- Source Protection: Protecting the state's lakes, rivers, and groundwater sources from pollution and overuse is a major priority. NHWWA collaborates with environmental organizations and government agencies to promote sustainable management and conservation.
- Workforce Development: Recruiting and retaining skilled water professionals is an ongoing challenge, especially as many in the industry approach retirement age. NHWWA's educational initiatives help attract new talent and ensure the workforce is prepared for the future.

Community Engagement and Public Outreach

Recognizing that public awareness is key to successful water management, NHWWA engages in outreach initiatives aimed at informing residents about the value of water and the importance of

conservation. The association produces educational materials, hosts community events, and collaborates with schools to promote STEM careers in water-related fields. By fostering a culture of stewardship, NHWWA helps ensure that citizens are active participants in protecting their water resources.

Collaboration and Partnerships

NHWWA does not work in isolation; it is part of a broader network of organizations committed to water excellence. The association partners with state and federal agencies, environmental groups, research institutions, and other professional associations to advance shared goals. These partnerships amplify the impact of NHWWA's initiatives and help align efforts across the region.

Looking Ahead: The Future of Water in New Hampshire

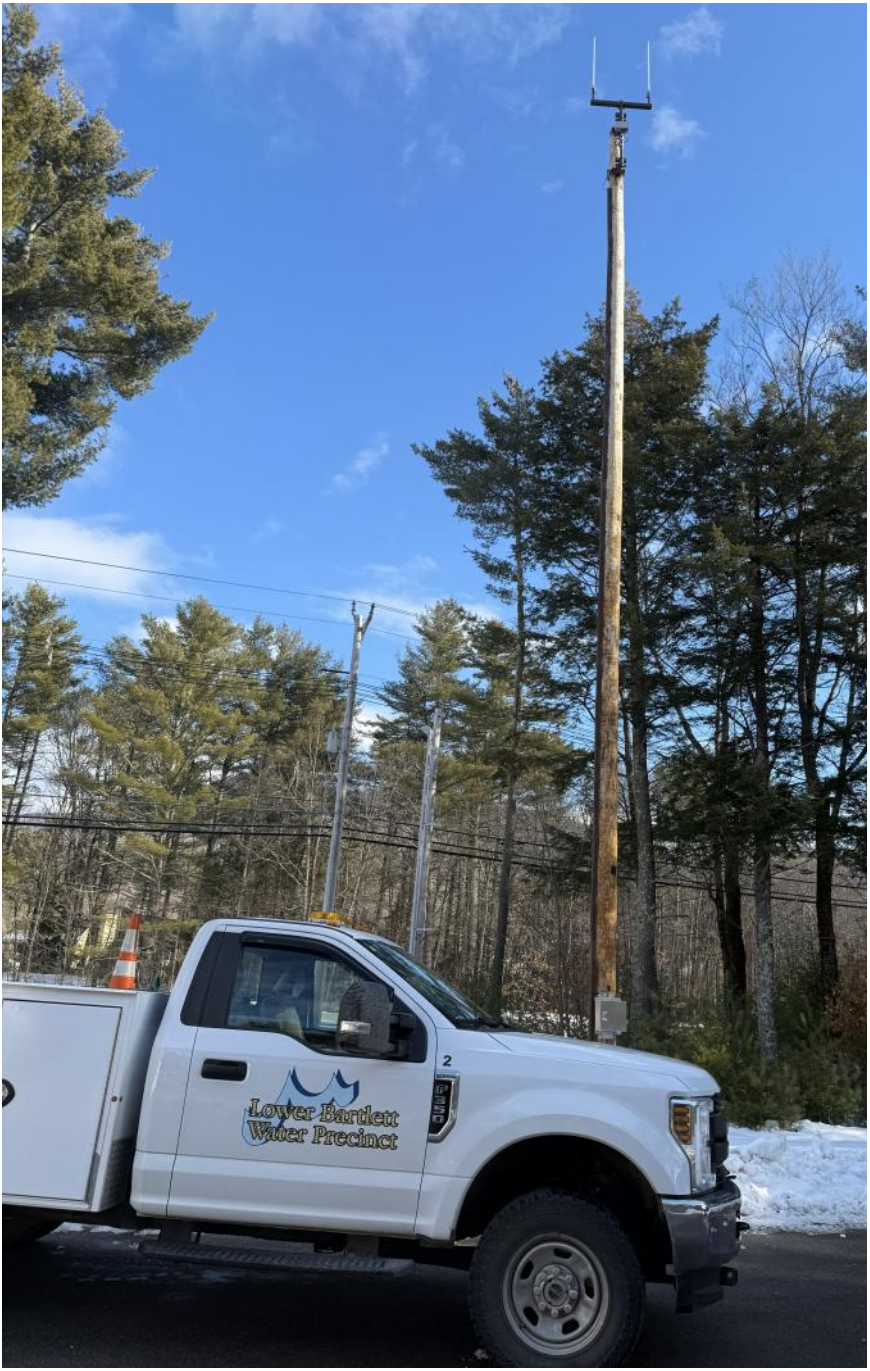
As New Hampshire continues to grow and evolve, the demands on its water systems will intensify. NHWWA is poised to play a pivotal role in guiding the industry through the challenges ahead, from climate change and population growth to technological innovation. The association's commitment to education, advocacy, and collaboration will be essential in ensuring that New Hampshire's water remains safe, affordable, and accessible for generations to come.

Conclusion – We Are Here for You

The purpose of this overview is rooted in a commitment to transparency. Looking ahead, my primary objective for our association is to clearly define leadership roles and responsibilities. We are fortunate to have a highly capable Board of Directors guiding the organization, as well as a dedicated group of instructors who contribute to our annual training programs.

NHWWA remains steadfast in its mission to grow, deliver high-quality educational resources, and maintain a clear focus on our objectives. I am particularly proud that industry leaders are actively involved in preparing the next generation of water works professionals. As a new generation stands ready to assume leadership roles within both the association and water utilities across New Hampshire, it is essential that we foster their involvement and development.

To ensure the continued success and growth of NHWWA, we must encourage emerging leaders to participate in committees, deliver presentations, and contribute articles. These activities serve as important steppingstones, providing valuable experience and strengthening both the association and its members. I invite you and your colleagues to become actively involved in NHWWA and help shape the future of water works in New Hampshire.



Lower Bartlett Water Precinct truck in front of one of their AMI collectors.

Metering Modernization, Acoustic Leak Detection, and Asset Management in a Small New Hampshire Mountain Water System - Lower Bartlett Water Precinct's In-House Transition to Ultrasonic AMI

By Liam Flaherty

BACKGROUND

The **Lower Bartlett Water Precinct (LBWP)** serves a small mountain community comprised of year-round residences, seasonal homes, and short-term rentals. Like many New Hampshire water systems, LBWP operates with limited staffing and depends on long-range planning to maintain reliability, fiscal stability, and a high level of customer service.

LBWP's notable metering history dates back to 1989–1990, when the precinct completed a turnkey meter installation project with MBS, deploying touch-read technology considered high-end at the time. That system provided decades of dependable service and reflected an early commitment to full system metering.

SYSTEM REVIEW AND ASSET MANAGEMENT FOUNDATIONS

In 2012, a water audit identified elevated unaccounted-for water. LBWP responded with a system-wide review of distribution piping, customer service lines, and metering. The evaluation concluded that customer service lines were the primary contributor to losses, with only minimal issues identified in the distribution system.

Composite testing of meters showed most units remained within AWWA accuracy standards (approximately 95–101 percent); however, they were already more than 22 years old. While technically compliant, the meters no longer supported evolving operational needs.

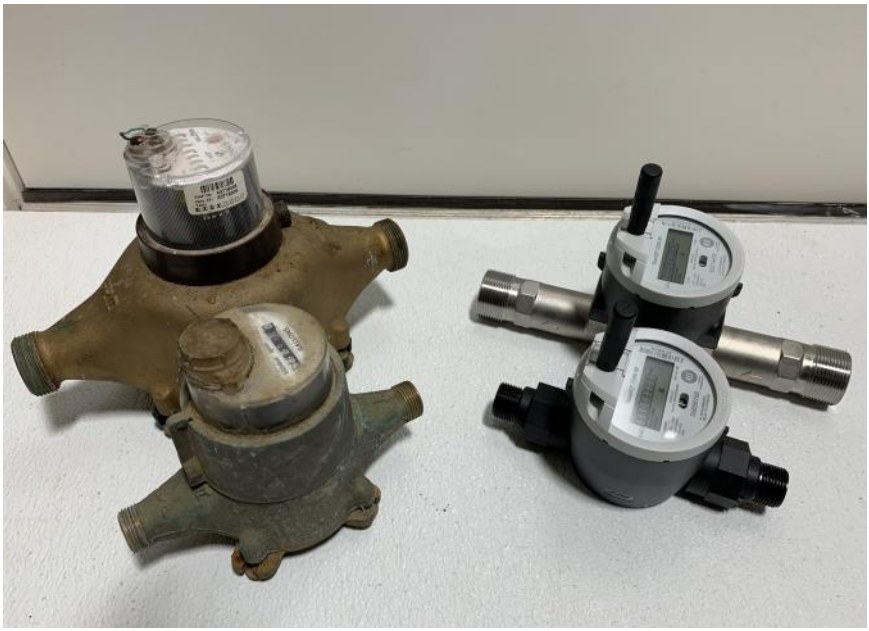
A pivotal step occurred in 2014, when LBWP updated its Master Plan and implemented a formal Asset Management Plan, including funding non-capital reserve accounts for future meter replacement and other system components. This early financial planning ultimately enabled the precinct to pursue the correct technological fit without fiscal constraint.

TECHNOLOGY REVIEW AND THE "CORRECT FIT"

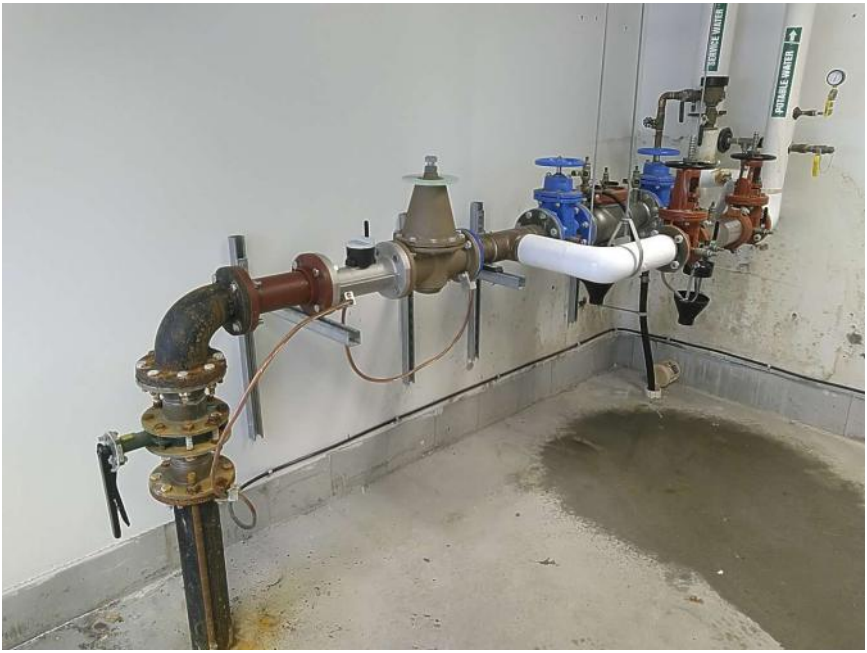
By 2023, more than 30 years after the original meter installations, LBWP initiated a structured review of its metering and reading system. The objective extended beyond meter replacement and focused on aligning technology with operational goals.

Primary drivers included:

- Real-time and near-real-time data acquisition
- Utility-side and customer-side usage monitoring
- Acoustic leak detection capabilities
- Improved customer service responsiveness



Old meters vs new.



New meter installation in a commercial setting.

It became clear during this process that AMR systems could not meet these objectives. Real-time alarming, continuous data access, and advanced analytics required the deployment of a complete AMI platform.

LBWP selected ultrasonic meters with integrated AMI and acoustic functionality from Kamstrup, with regional supply and support provided by Everett J. Prescott, Inc.

IN-HOUSE IMPLEMENTATION AND OPERATIONAL EFFICIENCY

The meter change-out project was completed entirely in-house over a single summer by:

- Two system operators
- One billing administrator
- One superintendent

Completing the project internally allowed LBWP to control scheduling, customer coordination, and quality assurance while minimizing outside labor costs. It also accelerated staff familiarity with the system, data tools, and network functionality.

CONCURRENT GIS AND SERVICE LINE INVENTORY DEVELOPMENT

A significant additional benefit of the in-house approach was LBWP's ability to conduct a systematic GIS and service line inventory project concurrently with meter replacement.

While crews were inside customer homes, LBWP collected and verified critical infrastructure data, including:

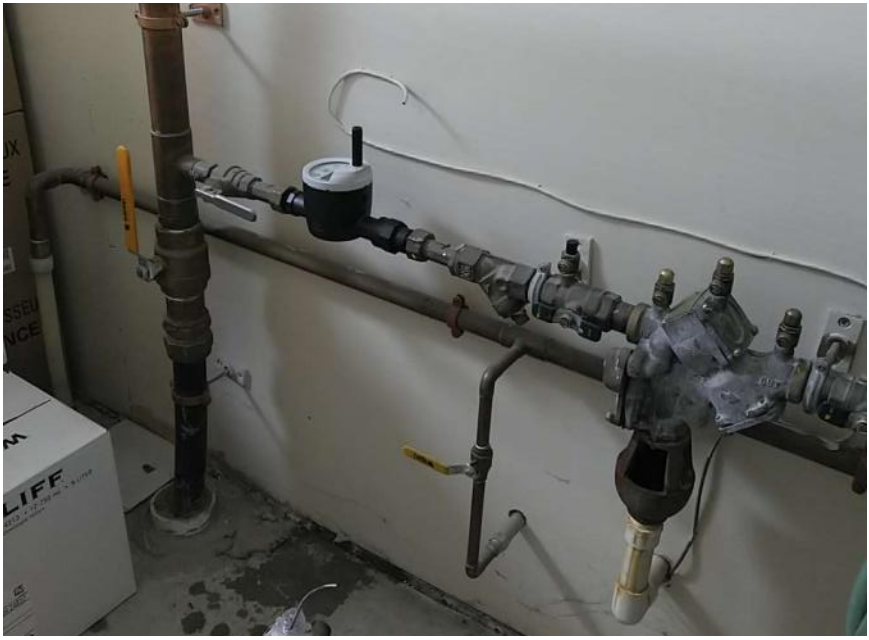
- Meter location and attributes
- Service line material, size, and configuration

Meter location in a pit.

- Customer-side plumbing connections
- Alignment between field conditions and legacy records

This effort resulted in the creation of a high-confidence GIS layer representing both the entire meter population and customer service lines. The updated GIS dataset now supports:

- Improved asset management and capital planning
- Faster leak investigation and repair response



New meter install in a residential building.

- Enhanced regulatory and reporting readiness
- More accurate modeling and system analysis

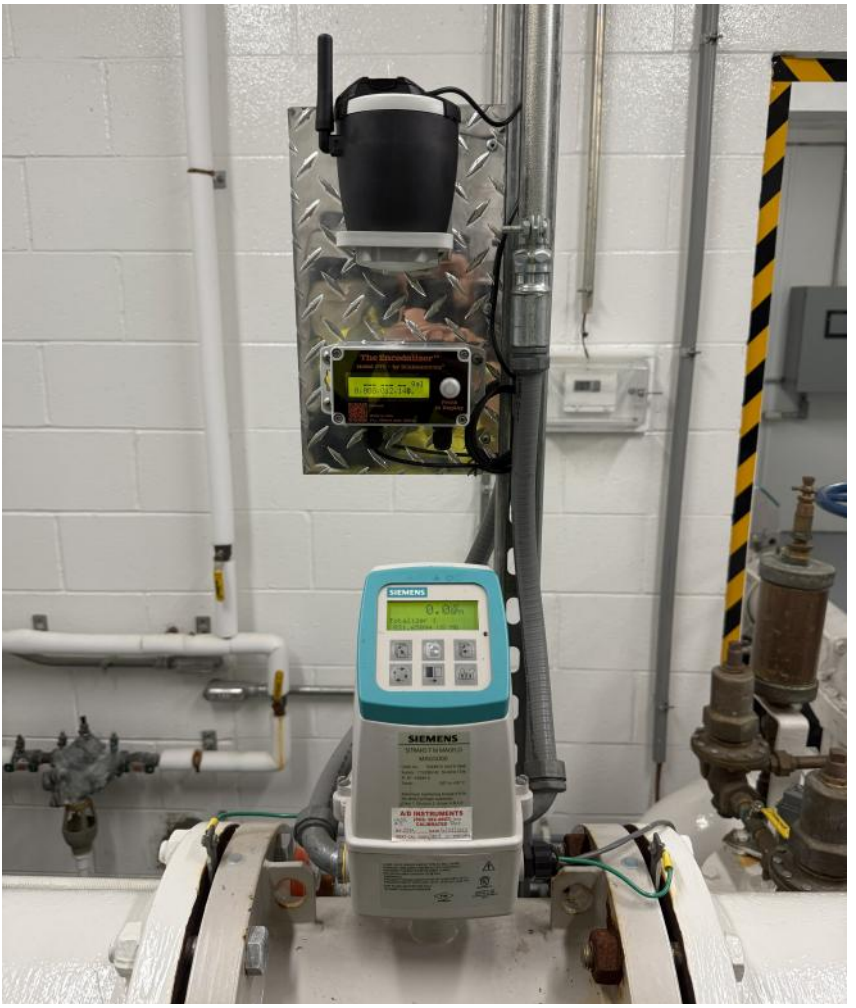
By combining meter replacement with GIS verification, LBWP avoided the cost and disruption of a separate inventory project and significantly strengthened its system knowledge base.

LICENSED AMI NETWORK AND REAL-TIME DATA

LBWP deployed a licensed AMI network, providing real-time alarming and 100 percent hourly meter reads across the system. This represents a fundamental shift from billing-cycle visibility to continuous operational awareness.

Hourly data availability has materially improved LBWP's proactive approach to customer service, allowing staff to:

- Identify abnormal usage patterns quickly
- Notify customers of potential leaks or continuous flow



SCADA Metrics on well meter with AMI Radio.

- Resolve billing inquiries with precise usage data
- Improve overall level of service and responsiveness
- Identify freezing temperatures before the line freezes

For a small utility, this level of visibility has transformed day-to-day operations.

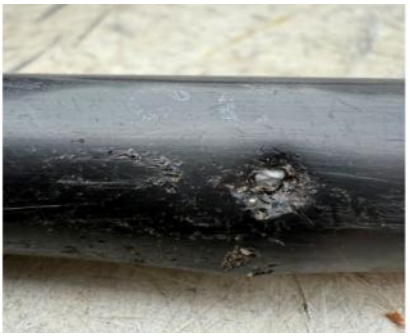
ACOUSTIC LEAK DETECTION AS A KEY BENEFIT

One of the most valuable system features has been acoustic leak detection (ALD). Kamstrup's ultrasonic meters sample sound in the water column every 55 minutes. These frequent samples establish a stable "noise floor" for each service connection.

Deviations from this baseline provide high confidence in identifying leaks, even on Polyethylene, PVC, and Asbestos Cement lines, which are traditionally difficult to assess using conventional methods.

PROMPT DETECTION OF A HIGH-PRESSURE LEAK

Shortly after deployment, an acoustic alert identified a service-line issue on Aspen Lane. Investigation revealed a 1/8-inch scour hole on a line operating at approximately 125 psi.



Damaged pipe from Aspen Lane leak.

Estimated leakage was approximately 3 gallons per minute, equating to ~1.5 million gallons annually. The leak showed no surface indicators and would likely have persisted undetected without acoustic monitoring.

NUT HATCH ROAD: CUSTOMER SERVICE LINE FAILURE

A second alert on Nut Hatch Road led to the discovery of a lateral crack in a poly service line. Estimated leakage was approximately 35 gallons per minute, or ~18.4 million gallons per year.

The ability to identify this failure underscores the value of frequent acoustic sampling and baseline noise modeling—particularly for service line materials where leaks are challenging to locate.

Cracked pipe causing leak on Nut Hatch Rd.

OUTCOMES AND LESSONS LEARNED

Key outcomes include:

- Immediate reductions in real water losses
- Improved billing accuracy and transparency
- Enhanced customer communication and trust
- A significantly strengthened GIS and asset inventory
- A higher overall level of service

LBWP's experience reinforces several lessons relevant to New Hampshire water systems:

- Early asset management funding enables better decisions
- Combining projects maximizes staff efficiency
- Acoustic leak detection is especially valuable on poly services
- Real-time data supports proactive, customer-focused service

CONCLUSION

The Lower Bartlett Water Precinct's in-house transition to ultrasonic AMI demonstrates that advanced metering, acoustic leak detection, and asset intelligence are achievable for small New Hampshire water systems. By aligning long-term planning with modern analytics and leveraging in-house staff, LBWP improved system reliability, reduced losses, enhanced customer service, and built a robust GIS foundation for the future.

Liam Flaherty is the New England Regional Director at EJ Prescott.

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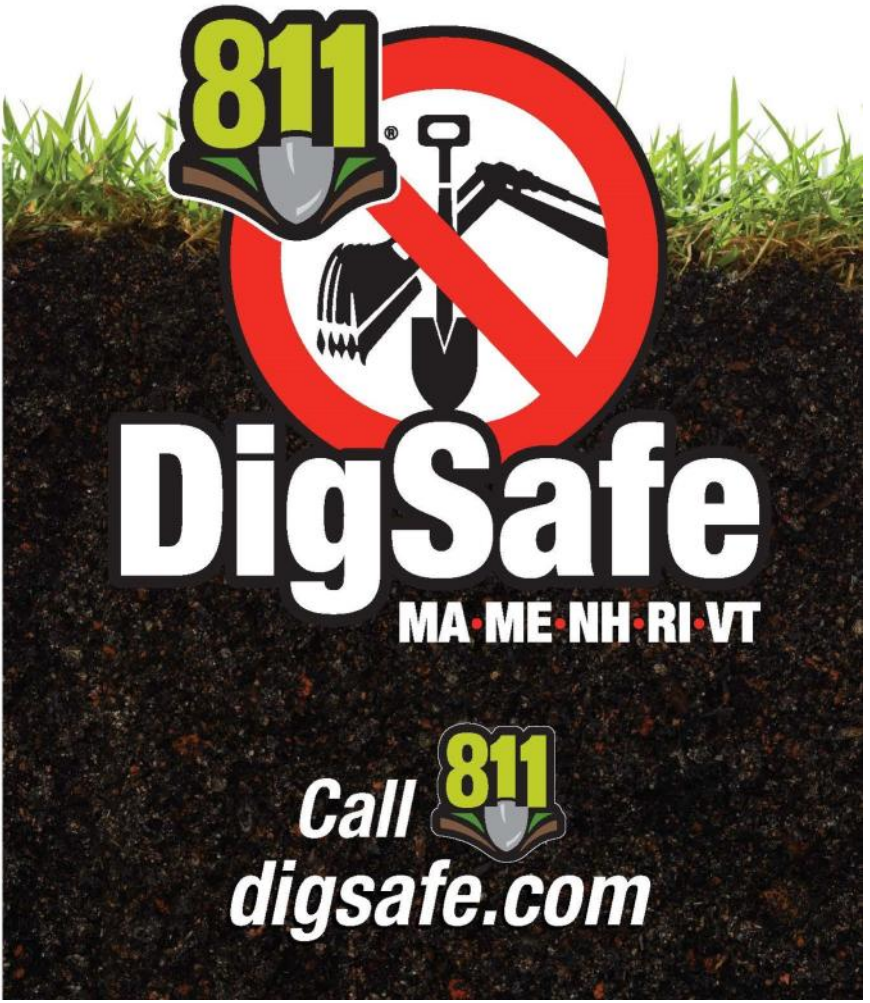
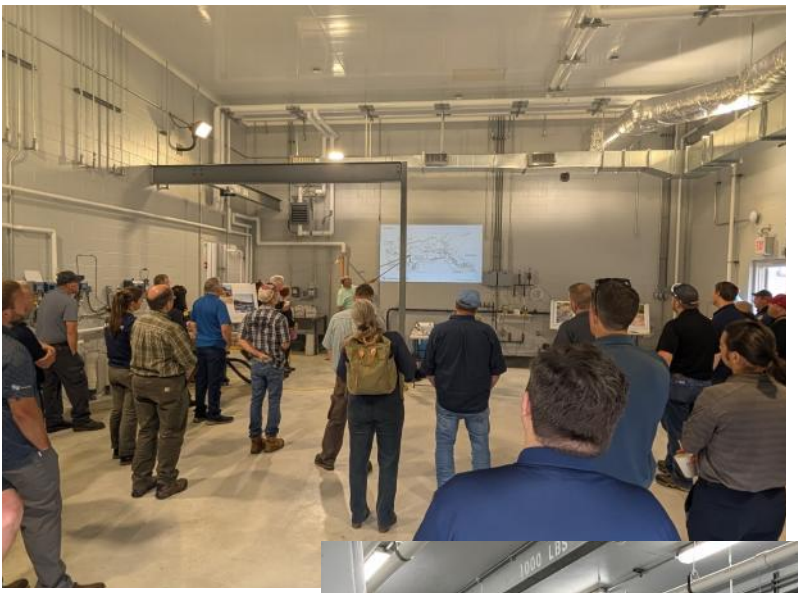
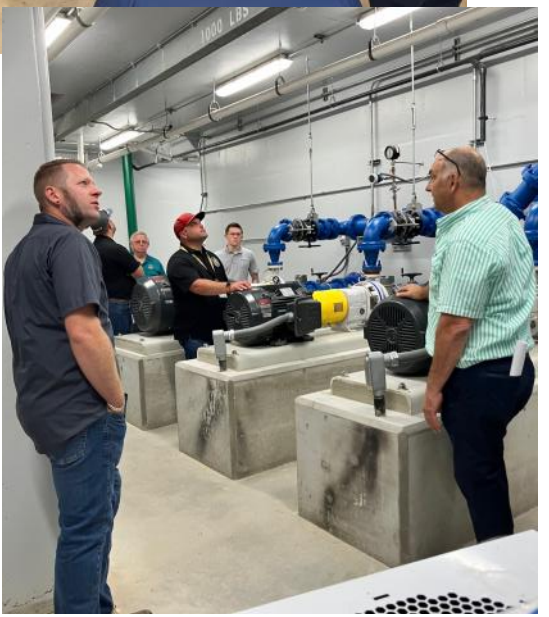


Construction Day 2025

On August 6th, we traveled to the western part of the state for our annual Construction Day trip. We were anxious to learn more about the joint water treatment plant and distribution system between Peterborough and Jaffrey. This is the fist example of a joint project of this type between two towns in New Hampshire.

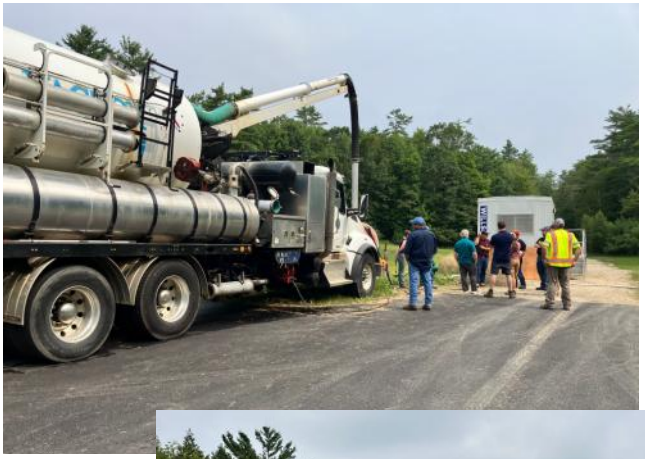




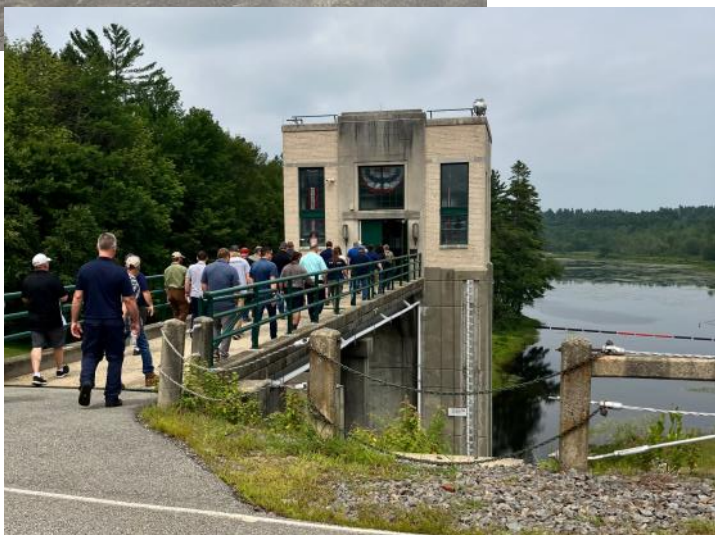
Peter Pitsas of Underwood Engineers provided an excellent presentation about the joint project followed by tours of the treatment facility. We also visited the well site and saw a vac truck demonstration. After lunch at the MacDowell reservoir, we were treated to a

tour of the U.S. Army Corps of Engineers' Edward MacDowell Dam.

We then traveled to the Concord Water Treatment Plant to view a number of vac trucks and met with NHDES staff to discuss the funding options for purchasing equipment for pipe replacement in relation to LCRI.



Thank you to our host communities, Peterborough and Jaffrey!



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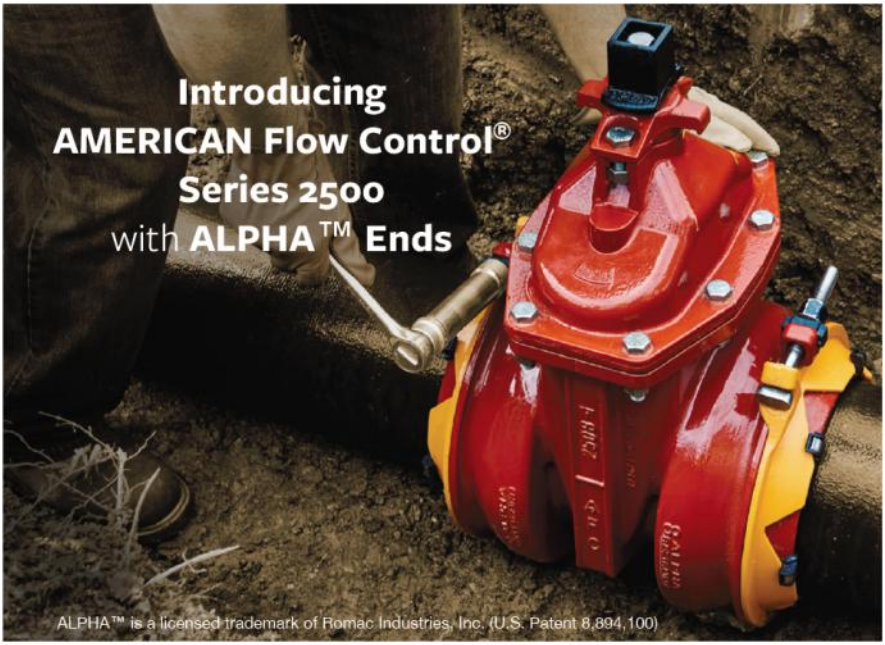

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