



Sustainability Performance Quality and Trust

3M™ Water Pipelines

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American Water Takes Holistic Approach to Water Pipe Management

In 2014, New Jersey American Water (NJAW) decided to scale up their asset management program for their Maplewood and Millburn distribution systems. According to the company, over 15%, or 1,300 miles (2100 km), of their 8,700 miles (14000 km) of pipe are between 100 and 140 years old and nearing the end of their useful life. Also, over a four year period, the two communities had a total of 106 main breaks, and some pre-1960 cast iron main had developed mineral deposits (tuberculation) that decreased water volume and caused discoloration, especially during higher flow conditions.

NJAW's goal was to take a proactive approach by replacing or repairing any pipes that were showing significant signs of wear. At the same time, they needed to avoid disruptions to their end users, improve or protect water quality and extend asset life, all while managing rising material and labor costs and maximizing the miles of water pipe they could rehabilitate within their budget and timeframe.



Customer Response:

New Jersey American Water was one of the first companies to work with 3M on polyurea linings in cast iron pipe and is excited to be using the current product (3M™ Scotchkote™ Pipe Renewal Liner 2400) on multiple pipeline rehabilitation projects. This product allows NJAW to cost effectively invest in renewing our pipelines, restoring full flow and pressure and virtually helping to eliminate water quality issues with minimal service disruption to our customers.

– Donald Shields, Vice President of Engineering, New Jersey American Water

To meet their goals, they first needed to identify the pipes requiring work. They determined the remaining service life of their mains using an acoustic condition assessment, a technology that uses sound waves to measure pipe wall thickness. The assessment indicated approximately 30% of the tested pipes had 10 years or less of remaining life, evidence of more deterioration than anticipated.

New Jersey American Water prioritized the affected sections. Then, working with the 3M pipe rehabilitation product and support team, NJAW reviewed their design criteria and determined the appropriate action, either pipe replacement or rehabilitation. In many cases, pipe rehabilitation with

3M™ Scotchkote™ Pipe Renewal Liner 2400 offered a less invasive and less costly solution.

As a trenchless solution, Scotchkote Liner 2400 can be applied while minimizing community disruption and cost. It is a quick curing polyurea formulation. Pipes can be returned to service usually within one day, with boil notices.

The process used for this project has become a model throughout American Water, which, as the largest U.S. investor-owned water and wastewater utility, owns water and wastewater facilities in 16 states.

3M and TaKaDu Team Up to Offer Advanced Infrastructure Management to Water Utilities

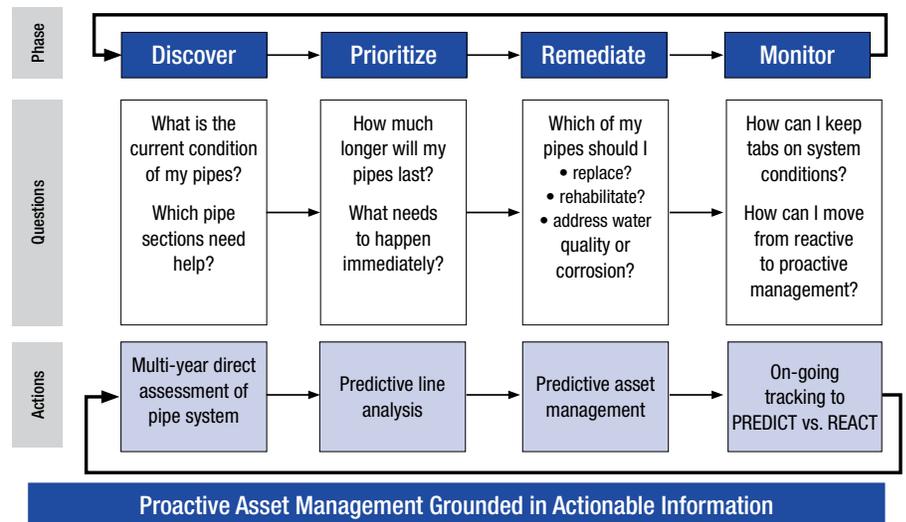
3M and TaKaDu recently signed an agreement to jointly market their technologies to help water utilities improve efficiency, reduce water loss and ultimately save water. The agreement with TaKaDu is an important step in realizing 3M's vision of a SMART-enabled water infrastructure. The advanced analytics of TaKaDu's Event Management Solution help utilities detect and manage events such as leaks, bursts, asset deterioration and operational failures and evaluate which pipes should be repaired, while 3M™ Scotchkote™ Pipe Renewal Liner 2400 offers a cost effective repair solution.

TaKaDu's Event Management Solution can be integrated across the utility from the analyst monitoring the network to the executive team considering long-term strategic investments. It can be implemented quickly, usually within weeks. TaKaDu's innovative solution is

currently deployed by water utilities in Europe, Australia, Latin America and the Middle East and has earned notable water industry commendations, including the World Economic Forum Technology Pioneer Award and the 2013 Sustainia Award.

3M currently has a small strategic equity investment in TaKaDu. By combining their strong commitment to improving water efficiency and their technological advances, both companies can accelerate global sales, while benefiting the water sector worldwide.

For more information, visit www.3m.com/water/renew/ or www.TaKaDu.com.



3M's Vision: Smart-enabled water infrastructure management

3M™ Scotchkote™ Pipe Renewal Liner 2400 Now Approved for 36 inch (900 mm) Diameter Pipe

3M Scotchkote Liner 2400 has been used historically in pipes with internal diameters ranging from 4 inches to 24 inches (100 to 600 mm). But recently, after evaluating several combinations of lining apparatus, we determined that successful linings can be performed on pipes up to 36 inches (or 900 mm), when the proper equipment and procedures are followed.

When lining pipes between 24 and 36 inches (600-900 mm) in diameter, the proper minimum flow rate and the appropriate spray head parts should be selected by your Authorized Applicator. Also, the lining thickness for corrosion protection, water quality and structural enhancement may be different than for smaller pipes. Your Authorized Applicator can reference *“3M Scotchkote Pipe Renewal Liner 2400 Design and Application Guide”* and can contact their 3M representative for guidance.



Lining a 36-inch Pipe with 3M™ Scotchkote™ Pipe Liner 2400 in the 3M Lab

Visit <http://www.3M.com/water/renew> to:

- Review case studies
- [View a list of our authorized applicators](#)
- Contact us with questions or comments
- Learn more about product and applicator training

Upcoming Events

Join Us at WEFTEC

Join us at [Water Environmental Federation Technical Exhibition and Conference \(WEFTEC\)](#)



3M™ Scotchkote™ Pipe Renewal Liner 2400 will be featured at the Innovation Pavilion and Theater, Hall A, booth 358 during WEFTEC.

September 28 – 30, McCormick Place, Chicago Illinois

Also, visit our booths at:

ISTT International No Dig Conference	Istanbul, Turkey	September 28 – 30
Atlantic Canada AWWA Conference	St. John, Newfoundland	October 4 – 7
AWWA Water Infrastructure and Expo	Bethesda, Maryland	October 13 – 16
California/Nevada Annual Conference	Las Vegas, Nevada	October 26
North Carolina AWWA and WEA Annual Conference	Raleigh, North Carolina	November 15 – 18

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