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Albanese D&S, Inc. Completes Last Phase of Important MWRA Water Project

H-Piles and MegaBrace support system at intersection of Main Street and South Street, Stoneham, MA

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200,000 residents in six towns North of Boston now have redundancy (back-up) for the 75-year-old Northern Intermediate High Service Pipeline

Albanese D&S Family (L-R): Pietro Ciano, Andrea Ciano, Giovanni Albanese, Andrea Ciano, Jr., and Gilda Albanese

Albanese D&S, Inc. Sets its Sights on the NIH Pipeline

UCANE member Albanese D&S, Inc. has a long history of performing successful water and sewer projects for the Massachusetts Water Resources Authority (MWRA) since the company was founded in 1991. When the MWRA started designing and planning to create redundancy for the Northern Intermediate High (NIH) water system, Albanese D&S took notice. According to company president Giovanni Albanese, "We were pleased to see that the MWRA recognized the value of these needed improvements."

The Need for Redundancy

Creating redundancy for the NIH water system has been a priority of the MWRA since the design for it started nearly 20 years ago. The lines were old, the pipes were large (up to 48" in diameter), some of the pipe materials were suspect, and the demand for MWRA water North of Boston was increasing. If any part of the old 5-mile transmission system experienced a sudden failure, the ability to provide drinking water to some or all of the six MWRA communities could be severely limited - or lost- until emergency repairs could be made. The typical demand for the six MWRA communities that rely on the NIH is 10 million gallons per day.

Finding a route for a large diameter pipeline through the heavily congested urban areas North of Boston was a difficult task. Major disruptions to traffic and interference with local businesses would be unavoidable, and was not well received by any community. Making matters worse was the fact that preliminary borings along every potential route revealed heavy bedrock that would require considerable blasting. MWRA and town officials reluctantly realized how the Town of "Stoneham" got its name.

After years of community meetings and agreements to include as many mitigation requests as reasonably possible for the type of work involved, MWRA officials finally made their case to the impacted communities, and established the pipeline route. Between design, management, inspection, and construction costs, the MWRA design consultants estimated the NIH redundant pipeline to total $85 million. The first of the four projects that would ultimately create a redundant pipeline - and water security to nearly 200,000 residents - broke ground in 2014.

The final design of the NIH redundant pipeline was comprised of four separate projects to be bid over a period of four years. The first project put out to bid was Contract 7066 and it included 2,400 feet of new 36-inch pipe extending from Stoneham to Reading along West St. That $2.5 million project was bid in 2014 and won by UCANE contractor P. Caliacco Corp.

Albanese D&S was the low bidder on the next three phases of the NIH redundant pipeline.

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PROJECT NO. and DESCRIPTION	PROJECT VALUE	BID DATE	# of BIDS	LOWEST BIDDER
Contract 7471				
Woburn -Reading Section 110	$12.3M	Dec. 2015	8	Albanese D&S
8,800 ft of 36-inch Pipe				
Contract 7478				
Stoneham and Conn.to Wakefield	$18.2M	Nov.2016	7	Albanese D&S
7800ft - 48-inch; 3000ft -12-16"; Meter 96				
Contract 7067				
Stoneham Sect. 89 & 29; Conn.to Gillis PS	$25.2M	Jun-17	5	Albanese D&S
14,000ft - 48-inch Pipe				

Andrea Ciano and Giovanni Albanese

Hammering rock in Stoneham

Trailer delivering 48-inch pipe with poly wrap to crew.

Installing 48-inch butterfly valve and vault on Route 28.

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Contract 7067

Contract 7067 was designed by Stantec's Burlington office. "We were excited when the bids were read," says Albanese D&S Estimator and Project Manager Pietro Ciano. "This project was complex in both scope and scale and our bid was competitive as we were only 3% below the second bidder. Our construction yard was all set up, and we had two years of experience with both the engineers and the communities under our belt."

The massive project involved nearly 14,000 feet of 48-inch ductile iron pipe and nine large buried vaults containing 48-inch valves. There would also be 2,500 feet of 8-inch local water mains and 22 new 8-inch valves. All of that work would take place in Stoneham. A mile of the route would be along heavily traveled Main Street (MA Highway Route 28), which consists of mostly commercial businesses. Part of the route would be through residential streets and part would be through parkways (Pond Street and Woodland Road) controlled by the MA Department of Conservation and Recreation (DCR). Excavation depths for the large (48-Inch) pipe ranged from 10 feet to 22 feet. The deep cuts would necessitate blasting of bedrock along much of the route. Multiple crews with large excavators would be required along with extensive traffic detours on a daily basis.

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Connection of 48-inch pipes on Main Street

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"We had permits from Stoneham, the MWRA, DCR, and MassDOT," said Site Superintendent Andrea Ciano, Jr. "We had so many restrictions that it was difficult at times to make progress. We needed as many as 12 traffic details per day to set up our work zones and manage the detours." Andrea credited MWRA Construction Coordinator Jerry Sheehan for his assistance with the communication between all the agencies and various police departments that kept the traffic (and the job) moving.

The Contract would not allow stockpiling of excavated materials or stringing of pipe along the roadways and roads needed to be open to traffic at the end of the day. This required lots of trucks to haul material and two dedicated tractors and trailers with drivers to rehandle and deliver each piece of 48" X 20' long pipe and all precast structures to the crews. Large pipe means large trench boxes and wide excavations. Making the site passable for traffic at the end of the often long workday was a daily challenge.

According to Giovanni Albanese, the toughest part of the project was dealing with the ledge removal that was required along about half of the 2.5-mile route. "Between the rock pre-drilling operations, the trench blasting operations, and the 15,000 lb. demo-hammers, we were not very popular with some of the abutters along the route," said Giovanni. "Eventually everyone understood that these sometimes-unpleasant operations were necessary to get the pipe into the ground. We removed over 16,000 cubic yards of hard rock in Stoneham alone."

Per Andrea Ciano, "The entire company put a lot of time and effort into these jobs and I think we gained a new level of respect from everyone associated with the NIH projects. We are extremely proud of how we handled this work." Giovanni Albanese was also quick to praise the performance of Albanese D&S Superintendents Paul Tierney, Pete Luciani, and David Laramee who all worked on the projects. "This Stoneham job required all hands-on deck," said Giovanni. "Our crews once again proved they are among the best in the business."

Project Manager Pietro Ciano also gave credit to other UCANE members who played key roles in the NIH projects. The massive precast concrete vaults were provided by Concrete Systems, Inc. (Nashua NH), the ductile iron piping and valves were delivered by E.J. Prescott, Inc. (Middleton), and castings were provided by EJ (Brockton). UCANE Contractor Albanese Brothers, Inc. (Dracut) provided a pipeline crew for the Stoneham job and the project signage and safety equipment was handled by Liddell Brothers, Inc. (Halifax). UCANE member Benevento Companies (Wilmington) supplied the concrete, sand and gravel, and the hot mix. "Our company tries to do business, whenever possible, with our fellow UCANE Associate members," says Pietro, proudly.

With Contract 7471 starting up in April of 2016 and Contract 7067 being completed in June of 2020, Albanese D&S spent more than four continuous years working on the NIH water system for the MWRA. The company worked year-round on these three difficult projects and provided between two to five of their own main line crews plus multiple subcontractors to get all work completed within the contract's time limits. Albanese D&S successfully installed approximately 32,000 feet of new large diameter water mains in some of the most congested streets north of Boston. For the MWRA communities of Stoneham, Reading, Wakefield, Woburn, Winchester, and Wilmington, the potential of losing water for residents and businesses due to a pipe failure is now dramatically diminished.

Traffic setup by Liddell Brothers - Main Street

Predrilling rock on Main Street

UCANE is proud to count Albanese D&S, Inc. as a 30-year member of UCANE. We congratulate them on their impressive performance on the MWRA's NIH pipeline projects and we wish them continued success in the years ahead. ■