

NSF 61 Spray-Applied Structural Epoxy Lining Installation – Merrick Road, Massapequa, New York

PA-AWWA's 71st Annual Conference

April 18, 2019 – Hershey Lodge and Convention Center

Joseph M. Fusillo, P.E. – The EADS Group

David Barnett – Spray In Place

NSF 61 Spray-Applied Structural Epoxy Lining Installation

- Spray Applied Epoxy Lining
 - Advantages
 - Approvals and Certifications
- Lining Installation
 - Technical Memorandum
 - Location
 - Design
 - Installation
 - Cost Savings
- Conclusion
- Questions

NSF 61 Spray-Applied Structural Epoxy Lining Installation

Spray Applied Epoxy Lining

- Advantages
- Approval and Certifications

NSF 61 Spray-Applied Structural Epoxy Lining Installation

ADVANTAGES

COST EFFECTIVE

- 50% to 75% less expensive
- Minimally non-invasive process
- No destruction to buildings or landscape
- Restoring pipes reduces energy costs

SAFE AND DURABLE

- Safe and protective barrier between the pipe and the water
- Prevents harmful elements from leaching into the water supply
- Chemical resistant, non-toxic epoxy lining
- Life expectancy of the epoxy is roughly 50 years

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ADVANTAGES

MINIMAL DOWNTIME

- Takes a fraction of the time of traditional methods

MINIMAL DISRUPTION AND OCCUPANT DISPLACEMENT

- Process is quick, quiet, minimally non-invasive, and rarely requires displacement of occupants
- Temporary bypass water systems can be installed to provide uninterrupted water

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ADVANTAGES

VERSATILITY

- Can be applied in any metal pipe in any building, structure, or environment, above or below ground
- Is used in the piping systems of hotels, high-rise condominiums, hospitals, restaurants, airports, schools, museums, U.S. Navy ships and commercial and industrial businesses
- Available for potable water pipes as well as hot water recirculation systems, fire sprinkler and fire suppression systems, chiller lines and HVAC systems.

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APPROVALS AND CERTIFICATIONS



- Certified ASTM 729 compliant
- Non-toxicity to marine and aquatic biological organisms



- Certified NSF/ANSI 61 compliant
- Assurance that product is safe for use in drinking water

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INSTALLATION – MERRICK ROAD

- Technical Memorandum
- Location
- Design
- Installation
- Cost Savings

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TECHNICAL MEMORANDUM

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TO: Jeff Swartz, General Manager – Belco Pipe Restoration
CC: Matt Berlin, Business Development – Belco Pipe Restoration
FROM: Joseph M. Fuzita, P.E., Director – Water Resources
SUBJECT: Technical Memorandum – Spray-Applied Epoxy Pipe Lining System
DATE: June 1, 2015

1.0 Purpose

The purpose of this Technical Memorandum (TM) is perform a general review of the Warren Environmental S-301 Spray-Applied Epoxy Lining System (WES-301) as installed by Belco Pipe Restoration (Belco).

This review will ultimately be submitted to the Nassau County Department of Health (NCDH), Suffolk County Department of Health Services (SCDHS), and the Suffolk County Water Authority (SCWA) to obtain authorization to utilize WES-301, as installed by Belco, on potable water lines (transmission and distribution) that make up the infrastructure in Nassau and Suffolk Counties.

1.1 Background

Warren Environmental, by his line of business since 1961, then believes in the design, manufacture, development, and sales of their patented equipment and both performance spare parts and great products. WES-301 is manufactured by Warren

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LOCATION



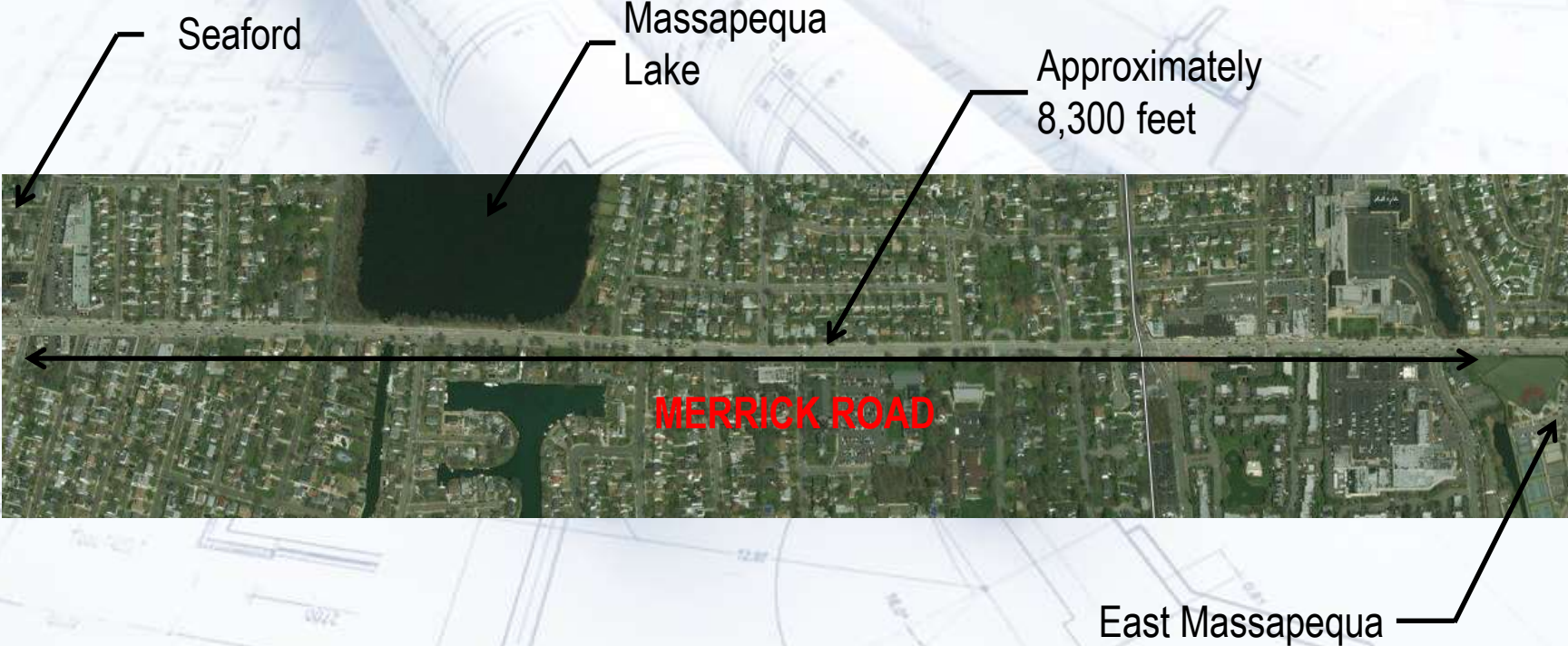
LONG ISLAND, NEW YORK



MASSAPEQUA, NEW YORK

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LOCATION



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DESIGN

- 700 foot length (max)
- Design around existing valves
- Design based on NCDPW road opening permit requirements

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INSTALLATION – MERRICK ROAD

- Eight (8) Step Process
 1. Open bell holes
 2. Closed Caption Television (CCTV)
 3. Clean
 4. Closed Caption Television (CCTV)
 5. Line
 6. Install either valves or sleeves
 7. Close bell holes
 8. Test

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INSTALLATION – MERRICK ROAD



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INSTALLATION – MERRICK ROAD



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INSTALLATION – MERRICK ROAD



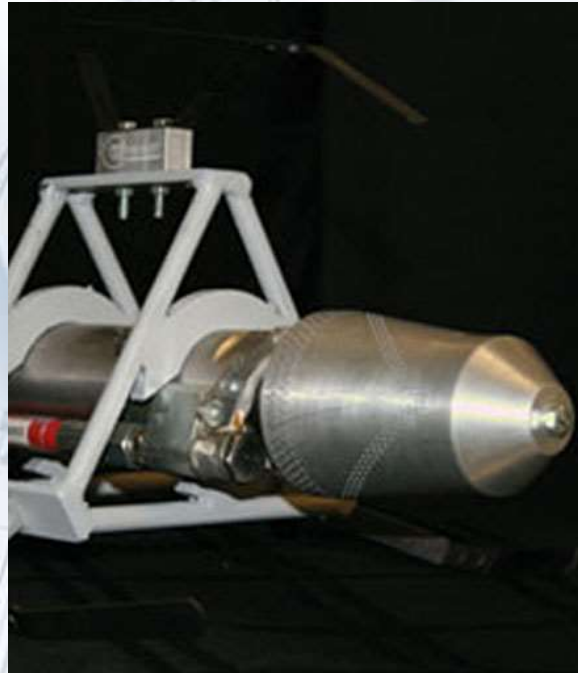
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INSTALLATION – MERRICK ROAD



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INSTALLATION – MERRICK ROAD



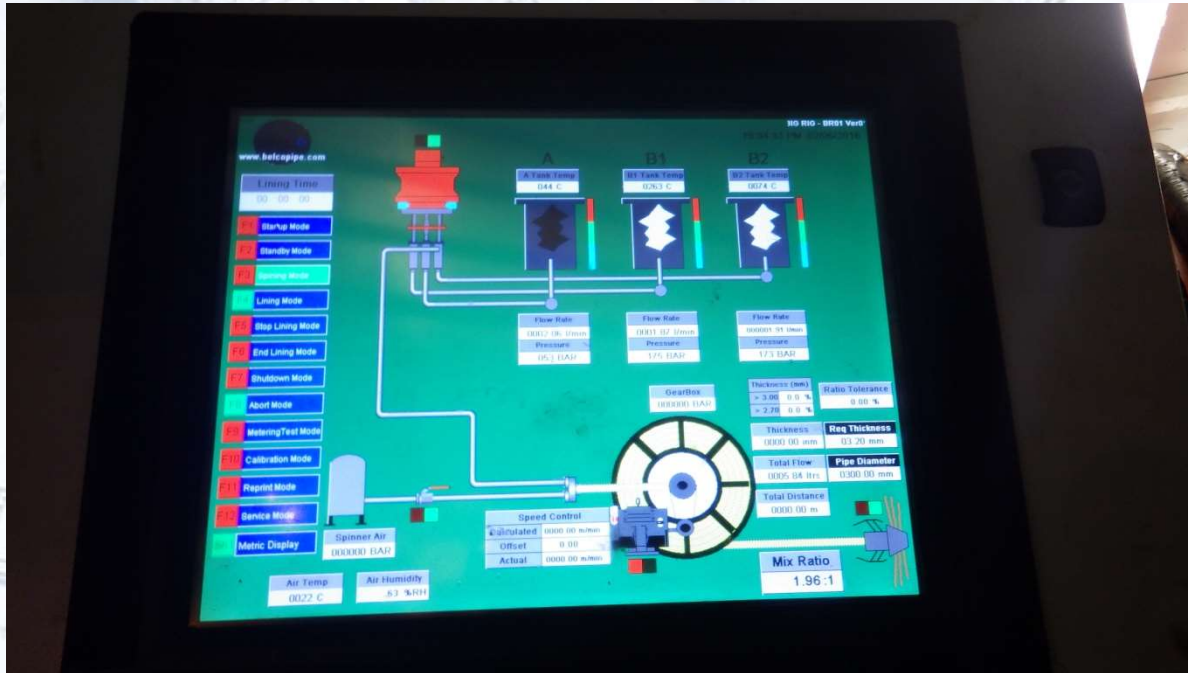
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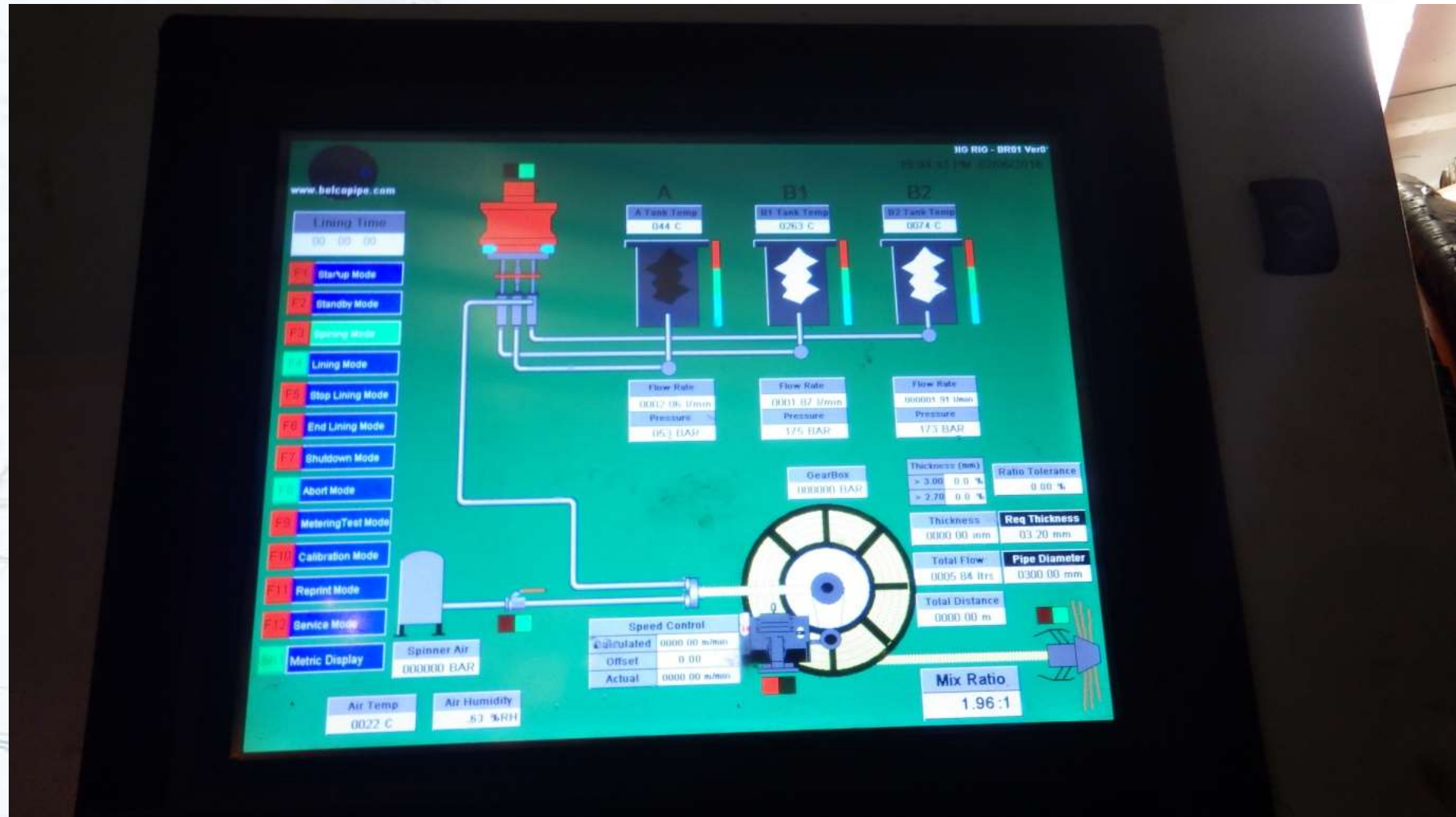
INSTALLATION – MERRICK ROAD



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INSTALLATION – VIDEOS





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COST SAVINGS

Open Cut Restoration

- Estimated \$4.5 million 20 week construction period

Epoxy Lining

- \$2.0 million final cost with a 10 week completion

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CONCLUSION

- Restored a 2-mile long, 100-year old water main with minimal disruption
- Successfully lined despite adverse conditions, such as trapezoidal sweeps and canal crossings
- Cost savings of approximately 55% of traditional rehabilitation methods

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Questions

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