

RHODE ISLAND FORUM ON TRENCHLESS TECHNOLOGY

Thursday, 05/25/2017

Narraganset Bay Commission, One Service Road, Providence, RI 02905

Host: Margaret Goulet, Narraganset Bay Commission

8:30 A.M. – 4:00 P.M

NOTE:

Attendees can earn up to 4.5 PDHs

AGENDA

8:30 Coffee and reception

8:30 MINI-EXHIBITION OPENS

9:00 – 9:10 WELCOME AND INTRODUCTIONS

TECHNICAL PRESENTATIONS

9:10 – 9:50 #1 Recent Advances in Trenchless Technology, Direct Pipe Method Design and Construction Applications... Jon L. Robison, GeoEngineers

9:50 – 10:30 #2 Condition Assessment Techniques for Water and Sewer Pressure Mains... John Matthews, Louisiana Tech

10:30 - 10:40 Break

10:40 – 11:20 #3 Learned from the Fort Point Channel Drone Inspections... Jonnas Jacques, Kleinfelder

11:20 – 12:00 #4 Geopolymer Lining Systems for Storm and Sanitary Large Diameter Pipe Rehabilitation... Scott Naiva, Milliken Infrastructure Solutions

12:00 – 12:30 LUNCH

12:30 – 1:10 #5 CIPP Resin Technology Continues to Expand... Bill Moore, AOC

1:10 – 1:50 #6 Fold and Form PVC Liners for Culvert Rehabilitation... David Ohayon, IPEX USA LLC

1:50 – 2:00 Break

2:00 – 2:40 #7 Emergency Sewer Force Main Rehabilitation in Valley Forge National Historical Park... Susanne Lockhart, CH2M

“MUNICIPAL PARTICIPANTS ONLY” SESSION

2:40 – ? Discussion and information sharing

4:00 MINI-EXHIBITION CLOSSES

4:00 pm Adjourn

Technical Presentations

- Title:** #1 Recent Advances in Trenchless Technology, Direct Pipe Method Design and Construction Applications
- Presenter:** Jon L. Robison, GeoEngineers
- Duration:** 40 min
- Abstract:** Within the last decade, Direct Pipe has proven its usefulness as a new method to install steel pipeline in a continuous, curved sections. Combining aspects of microtunneling and horizontal directional drilling (HDD) technologies, Direct Pipe can be used to install steel pipe at shallow depths and through geologic conditions incompatible with the HDD method. Additionally, Direct Pipe allows for pre-launch fabrication and testing of the entire pipe string, and for launch and reception pits to be located at or near the ground surface, reducing shoring and dewatering expenses associated with conventional straight-line microtunneling. This presentation will share key aspects of geotechnical and geometric feasibility, and steel pipe design along with Direct Pipe installation construction experiences.
- Title:** #2 Condition Assessment Techniques for Water and Sewer Pressure Mains
- Presenter:** John Matthews, Louisiana Tech
- Duration:** 40 min
- Abstract:** This presentation will provide an overview of the available techniques for performing condition assessment on water mains and sewer force mains. The overview will include technology descriptions, advantages, and limitations and will include a case study of a recent project in Howard County, MD.
- Title:** #3 Learned from the Fort Point Channel Drone Inspections
- Presenter:** Jonnas Jacques, Kleinfelder
- Duration:** 40 min
- Abstract:** This presentation will review the two-part inspection performed to evaluate the potentially cost-saving use of remote-controlled drone technology to investigate connections tied to the Roxbury Canal Conduit (RCC). The RCC is a tidally influence, reinforced concrete box culvert carrying a combination of groundwater base flow, storm flow from the local drainage system and combined sewer during certain storm events to the Fort Point Channel in Boston, MA. The presentation will review the objectives, costs, and findings of the two inspections and to provide recommendations for future inspections.
- Title:** #4 Geopolymer Lining Systems for Storm and Sanitary Large Diameter Pipe Rehabilitation
- Presenter:** Scott Naiva, Milliken Infrastructure Solutions
- Duration:** 40 min
- Abstract:** Asset owners and engineers throughout the world are in search of cost-effective and environmentally friendly solutions that serve infrastructure issues. Geopolymers have long been known to provide enhanced physical performance to traditional cementitious binders with the added advantages of significantly reduced greenhouse emissions and superior chemical resistance. However, they have not generally been contractor-friendly. This paper will review a geopolymer mortar system that has been used in the U.S. since 2011, and will highlight design engineering testing and both storm and sanitary sewer projects that have been completed local to the forum.

- Title: #5 CIPP Resin Technology Continues to Expand**
Presenter: Bill Moore, AOC, LLC
Duration: 40 min
Abstract: The first CIPP installation in 1971 used a general purpose Orthophthalic polyester resin. More than 40 years later, tests on that original liner still show outstanding properties retention and confirm excellent product performance. Decades later, resin manufacturers and CIPP installers have adapted their respective products to changing requirements. The resins used in CIPP applications continue to improve and the portfolio of products has expanded to allow installers to tackle even more challenging applications. Resin producers continue their research and development efforts to meet the growing needs of CIPP installers around the world.
- Title: #6 Fold and Form PVC Liners for Culvert Rehabilitation**
Presenter: David Ohayon, IPEX USA LLC
Duration: 40 min
Abstract: Fold and Form PVC Liners have been in use for over 25 years, and have become a well accepted method for sewer and culvert rehabilitation. They have especially gained traction as the preferred structural rehabilitation method for culverts and other environmentally sensitive areas, since there is no release of odors or flushing of chemicals (such as Styrene) of any kind during installation. PVC also provides a minimum 50 year service life, resistance to chemicals, abrasion resistance and low friction for improved hydraulic flow. Several case studies will be discussed as part of the presentation
- Title: #7 Emergency Sewer Force Main Rehabilitation in Valley Forge National Historical Park**
Presenter: Susanne Lockhart, CH2M
Duration: 40 min
Abstract: Tredyffrin Township faced three catastrophic failures of a 30-inch Prestressed Concrete Cylinder Pipe (PCCP), the Wilson Road Sewage Force Main (WRFM), between 2012 and 2014. The second and third failures occurred only 42 days apart affecting a major intersection. The majority of pipe is located within the national park, and the pipe alignment also parallels Valley Creek, which is an exceptional value trout stream. The compromised pipe alignment is also adjacent to Washington's Headquarters, which is one of the most culturally sensitive and valuable areas of the park. This presentation includes an overview of pipe failure risk reduction actions and field assessment for contributing factors to the pipe failures. The assessment work included pressure monitoring, hydraulic modeling for surge, soils analysis for corrosive soils, and forensic materials testing. Additionally, we will review the decision process that led the Township to pursue Compressed Fit Lining as the rehabilitation methodology of choice for the Wilson Road Force Main. The goal was to identify a "tried and true" method that was cost competitive, trenchless and preserved or increased capacity within the existing 20-foot easement running through the national park. By the close of 2016, the project was complete. This project has been an exercise in working quickly and decisively with commitment from the project team to make this project successful.

Mini-Exhibition: Selected Vendors TBA