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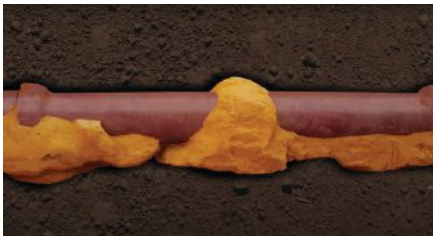
2021 Pipe Relining  
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# INFILTRATION CONTROL GROUTING COMMITTEE

BY JOHN MANIJAK

**S**ewer grouting is new again. The proven trenchless technology has been a staple in the sewer industry since the early 1960s and while a lot of the processes have remained the same, the concepts and techniques have changed dramatically over the last 10 years.



NASSCO's Infiltration Control Grouting Committee (ICGC) has released a new video that provides an overview of sewer grouting and the processes that are employed to eliminate inflow and infiltration (I&I) while creating pipe stabilization. I&I represents significant operational costs to storm and wastewater system owners. When allowed to exist over time, the additional water added to the system not only increases collection and treatment costs but decreases the total system capacity, contributing to sanitary sewer overflows, basement backups, property damage and public health issues. Infiltration is also the leading factor contributing to the breakdown and removal of the pipe bedding and backfill materials that provide pipe support, causing damage in the form of pipe movement and loss of structural integrity.

A six-minute video (which can be viewed at [nassco.org/videos](http://nassco.org/videos)) is filled with new animations, pictures and more that help visually describe the processes that are involved in mainline, lateral and manhole grouting.

ICGC is also busy with other activity to build awareness for grouting. The NASSCO specification guideline for "Pressure Testing and Grouting of Sewer Joints, Laterals and Lateral Connections" describes the processes of sewer grouting for engineering specifications. After its release in 2014,

ICGC members were prompted to create two completely different specifications for grouting. ICGC has also completed the final review process and is anxiously awaiting the release of two documents in the fall of 2021, replacing the 2014 single specification.

The first, "Pipeline Packer Injection Grouting Master Specification" is the culmination of a six-year effort to define the process of capital grouting. This technique of testing and sealing mainline joints and laterals is a stand-alone process aimed at creating a cradle-like grout formation promoting pipe stabilization in the bedding and a volumetrically significant, long-term, water seal outside the pipe, increasing the life cycle of a sewer system. Capital grouting methods are soundly based on actual soil-grout matrix formations observed while sealing pipes in different bedding materials using various gel times and solids concentrations. Included with the new release is an interactive grout goal calculator which will help engineers and inspectors determine the correct gel times and installation amounts necessary to achieve the expected long-term results.

The second document, "Pipeline Packer Injection Pre-Rehabilitation Grouting Master Specification" redefines the process of stopping infiltration for the purpose of installing other rehab methods – for example: Cured-in-place pipelining. These practices focus on placing a minimum amount of grout in the pipe gasket space and immediately outside the pipe defect.



Scheduled to be released in September 2021 is the newest version of NASSCO's Safe Operating Procedures and Policies (SOPP) for grouting. Recognizing the need for a unified safety program across the industry, members of ICGC formed a workgroup of contractors, manufacturers and distributors to redevelop a single program aimed at the protection of grout handlers and installers. After a final review by NASSCO's Health and Safety Committee, the document will serve as a common basis for all grouting safety certification programs prior to the product distribution and the recertification from each manufacturer.

The long-awaited Grout Test Cell Findings whitepaper will be released in late 2021. Several years ago, ICGC members constructed a full-size, above-ground mockup of a sewer trench and pipe installation. Three separate pipe defects were recreated to investigate the grout movement outside the pipe after injection. The test cell allowed for the use of different bedding materials (sand, clay and stone) that supported the pipe. Various gel times and grouting methods were employed during the study and the results were carefully excavated. The data collected along with the photographs and video documentation of the stabilized masses that resulted from the various injections will help further the acceptance that, when applied properly, a technology exists that is a reasonable and reliable method of applying engineering principles to the design of a pipe stabilization and infiltration removal program.

Article was provided by **John Manijak** with Michels Corp., who is also chair of the NASSCO Infiltration Control Grouting Committee.