

Main Presenter: Michael Johnson

Abstract Title: Innovative solutions locating a Heavy Flow sewer as a part of a SUE Mapping Investigation & The design impact on a trenchless project

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Abstract:

Objective: The main objective of this presentation is to introduce and update the participants on effective techniques used within the Subsurface Utility Engineering (SUE) field. The inclusion of SUE during the planning of trenchless projects It will provide insight into some of the most effective techniques available including how and when to utilize them.

Procedures: The technologies and techniques that will be reviewed include: Electromagnetics, sondes, GPR, CCTV, Acoustic, Dowsing, Bowen Technique, probing and more. Discussions will be focused on general technologies and techniques and not particular manufacturer brands. We will also explain how that information can then be used to create composite utility drawings following the CI/ASCE 38-02 and the CSA S250 standards.

Results: The presentation will highlight the various techniques explaining the criteria used for choosing the technologies and techniques used to Verify the location of the South Trunk Interceptor. We discuss how they are used, why they are effective and when they are effective. We will highlight the pros and cons that were weighed for each one technology proposed and provide a reason that will allow participants to understand why this particular technique was used.

Conclusions: Following the presentation participants will have a strong understanding of their options available for mapping of utilities during the planning phase. They will understand the basics behind how to determine which options are the most effective and it was used in a real world applications .They will also have an understanding of how the information can then be translated into a CAD drawing or GIS format using the CI/ASCE 38-02 and then was used to mitigate conflicts dealing with design change during the planning phase.

Implications: The use of these techniques is widely important for a variety of asset management, capital works and trenchless projects. The cost benefits associated with utilizing these effective SUE mapping techniques has been shown by the University of Toronto Study to save approximately \$3.41 for every \$1 invested. There is a strong need for better more reliable mapping and an understanding of these techniques and technologies is extremely valuable.