

Day One - Track Two

Wednesday, March 22nd, 2017

11:30 a.m. – 12:00 p.m.

Success of an Adaptive Management Program for Large Infrastructure Projects - A Case Study

Presenter: Michael Tredree, Dillon Consulting Limited

Biography



Michael is an environmental scientist with five years of experience in consulting, soil analysis, and riparian habitat conservation throughout Canada and the Caribbean. He provides technical field support and coordination involved in ground/surface water monitoring and sediment/erosion inspection and mitigation control at a number of solar parks and construction sites in the Lower Mainland of British Columbia and Ontario. He has also taken keen interest in endangered species regulation and policy (SARO).

Abstract

Adaptive Management has become a key feature of large scale subterranean infrastructure projects. These programs are required because complex sediment/erosion controls, frequent monitoring and continual improvement are necessary to protect sensitive natural environments and ensure compliance with Provincial and Federal regulations. The major potential concerns are sediment deposition and/or the release of industrial products into sensitive environments that include bird or fish habitats, protected lands, regulated watercourses and/or headwaters within the alignment. The importance of these features is evident from the requirements of the permits associated with the project. The Fisheries Act and Permit to take water (PTTW) for these infrastructure projects regulate water quality of any and all discharge waters for parameters that include total suspended solids (TSS), inorganics and industrial contamination.

The implementation of an Adaptive Management program is based on the following sequence for managing potential problems: identify the concern; design the mitigation; implement the design; and monitor the results. If mitigation worked, continue active monitoring – if it did not meet the objective, improve the design and continue through the steps until it works.

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This presentation will provide results from water quality testing over a period of 1 year and 7 months as a subterranean infrastructure project implemented an adaptive management program. The 'Boyne Trunk Sanitary Sewer Project' was featured in Canadian Underground Infrastructure (CUI) and was also recognized in 2016 with a Civil – Infrastructure 'Project of the Year' award by the Hamilton/Halton Engineering Committee.

Highlights of the presentation will include:

- Contractors' "field fit" design of sediment pond treatment vs. field tested results.
- Use of diffusers, absorbents, ecotanks, carbon filters and flocculents as higher (and higher) levels of mitigation
- Spills and cleanup results

Learning Objectives

1. Adaptive Management Strategy of proactive evaluation and problem solving;
2. Professional Collaboration and Respectful Communication; and
3. Site specific examples and real time results.