



The 45th Annual Drainage Engineers Conference

The 2013 Drainage Engineers Course and Conference at the Holiday Inn Guelph Hotel and Conference Centre.

- Friday, October 18 – Drainage Engineers Conference,

Drainage Conference Program

How to Reduce Construction Costs and Improve the Environment Using Trenchless Technologies – Mark Knight, Centre for the Advancement of Trenchless Technology, University of Waterloo

This presentation will discuss the role and benefits of well-established and proven trenchless construction methods for the installation, repair, and renovation of drainage structures. Case study examples will be presented to demonstrate how trenchless construction will reduce the triple bottom line – construction, social and environmental costs.

Garden Avenue Drain – Case Study – Kenn Smart, K. Smart Associates Ltd.

Work began on the Garden Avenue Drain in 2009 and progressed through a preliminary report to a final report. Construction was substantially completed in the Spring of 2013. Monitoring is ongoing. The project is in the County of Brant and serves as outlet for approximately 1,250± ha of primarily unmanaged urban development in the adjacent City of Brantford. The project has involved 1,800 m of extensive natural channel work complete with stone riffles, stilling pools and vegetated banks. Activities included 17 ha of clearing, 64,000 m³ of excavation, 17,000 tonne of large shot rock, 15,000 m³ of live staking, 230 m³ of gabions for one pool and 5 crossings.

Challenges included natural channel design, natural channel transitions, fibre optic lines, prior landowner/contractor conflict, long and steep haul routes, staging areas, minimizing field damage, 11 m span farm crossings in a natural channel, topsoil preservation, butternut trees, on site surplus material disposal, agency concerns (MTO, MNR, CA, DFO, MOE), Six Nations and archaeological involvement and assessing \$4,000,000 of cost.

Drainage Investment Group (DIG), Brett Ruck, Executive Director of Drainage Investment Group

2013 Drainage Engineers Conference – LandDrainageEngineers.com

This session will explain to attendees what the Drainage Investment Group is and why it is necessary. How DIG can help you with your engineered channels, municipal drains and similar projects across Ontario, and how this organization impacts land drainage going forward? Particular detail will be demonstrated with how municipalities, engineers and other agencies are able to utilize the services of DIG resulting in effectively reducing overall costs to projects and landowner's while enhancing environmental features.

Effective Sediment Control, Harry Reinders, R & M Construction

What are effective sediment and erosion control practices? Are they all effective? How does one decide which practice to use? Is there a time and place for working in the wet? What's the environmental footprint of sediment and erosion control? Harry will look at these questions and also talk about where we've been and where we're going in terms of stream realignment and techniques including vegetative restoration solutions. Effective ways of getting projects in the ground quickly and efficiently utilizing experienced contractors and teamwork will also be reviewed in this session.

Phosphorous & the Great Lakes: What This Emerging Issue Means for Drainage Engineers, Jackie McCall, Program Analyst, Ministry of Agriculture and Food and Ministry of Rural Affairs

Phosphorus is an essential nutrient for all living things, but too much of a good thing is usually bad somewhere along the line. Phosphorus is leaving the land and over-fertilizing the Great Lakes, causing over-abundance of undesirable algae and plants, resulting in clogged pipes and closed beaches. Farmland tile drainage and municipal drains are being blamed for hastening the arrival of phosphorus to the lakes. Drainage research for improved phosphorus management and innovative drainage solutions are increasingly needed as part of the toolkit to help keep phosphorus on the land and out of streams and lakes as long as possible.

Emotional Intelligence, Kristine Clark, Human Resources Management and Organizational Design, Ministry of Transportation

Emotional Intelligence is the ability to express and control our own emotions and also the ability to understand, interpret, and respond to the emotions of others. This session will provide participants with an overview of Emotional Intelligence, its benefits, and the competencies critical to its development.

MTO Drainage Design Tools, Hani Farghely, Senior Engineer, Hydrotechnical Design and Art Groenveld, Senior Engineer, Drainage Design, Ministry of Transportation

Provide an overview of new software design tools that have been developed by the ministry. The tools include an IDF (Intensity-Duration-Frequency) Curve Look Up program and the HiDISCD (Highway Drainage Infrastructure Sewer and Culvert Design) program. The IDF Curve Look Up program assists designers in developing suitable

storm events from which to design the drainage infrastructure while HiDISCD assists designers in assessing and selecting appropriate pipe materials for use in storm sewers and culverts.