



The Canadian Society for Civil Engineering
The Canadian Geotechnical Society



London & District Section

2018/2019 Program

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GREAT PRICES!

Pricing to attend an individual meeting:

- **CSCE/CGS Member** **\$30**
- **Non-member** **\$35**
- **Student** **\$20**

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Member Dinner Card	\$180
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Cards can be purchased at the September, October and November meetings.

*Contact Julian Novick @ 519-850-0020 x 104,
(Email: julian@wastell.ca) for more details.*

Notes about Meetings

- *Events are held at Fox and Fiddle, located at King St. and Wellington St. (Citi Plaza).*
- *Parking validated for Citi Plaza lot.*
- *Cash bar is available.*
- *Networking opportunity starts at 5:45 pm.*
- *Dining at 6:30 pm*
- *Presentation at 7:15 pm, followed by Q & A.*

2018/2019 PROGRAM

Wednesday September 19th, 2018

**Design and Construction of Burgoyne Bridge -
Unique Staging for a Unique Bridge**

Presenters: Nelson Guiot (CA, Resident Engineer);
Sameh Salib, P.Eng. and Brent Archibald, P.Eng.
(Designers of Record); Parsons

Wednesday October 17th, 2018

High Speed Rail in Ontario

Presenter: Jennifer Graham Harkness, P.Eng.; MTO

Wednesday November 21st, 2018

Port Stanley Harbour Lands Redevelopment

Presenter: Lloyd Perrin, Director of Physical Services;
Municipality of Central Elgin

Wednesday January 16th, 2019

Blakfriars Bridge Rehabilitation

Presenter: Chris Haines, P.Eng.; Dillon Consulting

Wednesday February 13th, 2019

**Ground Improvement Techniques for Challenging
Soils**

Presenter: Neil Isenegger, P.Eng.;
Geosolv Design/Build Inc.

Wednesday March 20th, 2019

**Western University Civil and Environmental
Engineering Design Project Winners**

Presenters: Winning teams of 4th Year Western
Engineering Students

Wednesday April 17th, 2019

Airfield Pavement Performance - Issues & Answers

Presenter: Keith Foster, P.Eng.; Englobe

Wednesday September 19th, 2018: Nelson Guiot (*CA, Resident Engineer*); Sameh Salib, P.Eng. and Brent Archibald, P.Eng. (*Designers of Record*); Parsons

Design and Construction of Burgoyne Bridge - Unique Staging for a Unique Bridge

A unique staging was utilized for the construction of a signature bridge for the Burgoyne Bridge replacement project located in St. Catharines, Ontario. The project involves the replacement of an existing 100-year old high level truss bridge spanning over Twelve Mile Creek and Highway 406 with a new 125m main arch span, twin deck steel box girder viaduct structure. The central arch is flanked by the two decks which are continuous over 7 spans from end to end of the 333m long structure. The project requirement for maintaining traffic during construction, while replacing the existing structure on an alignment within the footprint of the existing bridge, resulted in a unique and innovative approach to the overall bridge design and construction staging. The design incorporates both bridge decks into a single structure within the arch span during the last stage of construction. The culmination of the construction involved a sophisticated sequencing to install the arch tie and stay cables and perform the final load transfer of the bridge decks into the completed arch system. This innovative and unique approach to design and construction staging has proven to be an integral approach to meeting the project objectives.

Wednesday October 17th, 2018: Jennifer Graham Harkness, P.Eng.; *Executive Director (A) High Speed Rail, Ministry of Transportation Ontario*

High Speed Rail in Ontario

Opportunities and challenges for the proposed High Speed Rail project (details will be provided before presentation).

Wednesday November 21st, 2018: Lloyd Perrin; *Director of Physical Services, Municipality of Central Elgin*

Port Stanley Harbour Lands Redevelopment

As a result of Transport Canada's "Ports Asset Transfer Program" (PATP), the Port Stanley Harbour was acquired by the Municipality of Central Elgin in September 2010. Under municipal ownership of what was previously a working commercial port on the north shore of Lake Erie, the municipal vision is to transform approximately 16.3 hectares of water front property into a culmination of open parkland, residential and commercial development while supporting both the vibrant commercial fishery that calls Port Stanley home and an active recreational boating community. This large master planning initiative requires strategic thinking and municipal investment to deal with legacy contamination of historic harbour uses, aging marine infrastructure, and master servicing initiatives. This presentation will outline how the Municipality of Central Elgin has made strategic investment to date in one of the largest municipally owned land holdings on the Great Lakes waterfront and a vision to transform these lands into desirable spaces for residents and tourists alike all while navigating approvals from senior provincial and federal governments.

Wednesday January 16th, 2019: Chris Haines, P.Eng.; *Associate, Dillon Consulting Limited*

Blackfriars Bridge Rehabilitation

Constructed in 1875, Blackfriars Bridge (London, Ontario) is the oldest metal bridge on the Ontario Heritage Bridge List and one of the oldest surviving bowstring arch-truss bridges in North America. The 219 foot single-span bridge was constructed of wrought iron, just before the widespread emergence of steel as the metal of choice for truss bridges, and it exhibits many unique features of its time. In 2018, construction was undertaken to rehabilitate and extend the life of the bridge, involving removal of the bridge from its bearings, disassembly, fabrication in shop conditions and re-erection of the bridge, with an aim to restoring as much of the overall member configuration and appearance as possible, including removal of plates added in the 1950s which obscured its original appearance. Project challenges in analysis, design and construction, the use of hot riveting, evaluation of the original abutments, and erection methods will be discussed.

Wednesday February 13th, 2019: Neil Isenegger, P.Eng.; *Pre-Construction Manager, Geosolv Design/Build Inc.*

Ground Improvement Techniques for Challenging Soils

“All the good building sites are gone” and land owners/developers are looking for cost effective solutions to help them develop the remaining challenging soil sites. Traditionally, the options for dealing with structurally challenging soils has been limited to either over-excavation or deep foundation systems. These approaches can often be challenged by physical site constraints, environmental regulations, aggressive project schedules, and tight project budgets.

On today’s projects, design teams can now also consider numerous ground improvement methods to manage the risk of poor soils for their clients. These ground improvement techniques can generally fall into three categories: Dynamic Compaction Methods, Aggregate Pier Systems, and Rigid Inclusion Systems. Understanding how each of these techniques work, where they can be applied (and where they can’t), and their impact to the over-all project will help design teams provide their clients with effective solutions on their future project sites.

Wednesday March 20th, 2019: 4th Year Engineering Students; Western University

Western University Civil and Environmental Engineering Design Project Winners

For more than 20 years the City of London and Western Engineering have partnered to engage 4th year students in a capstone design competition. Student teams work on real-world projects proposed by the City with the support of Faculty and external advisors. The final designs highlight innovative materials and construction techniques while providing value and aesthetic benefit to the City. In this presentation, winning teams from this year’s City of London Competition will present their designs.

Wednesday April 17th, 2019: Keith Foster, P.Eng.; *Director of Expertise, Englobe*

Airfield Pavement Performance - Issues and Answers

This presentation will address the growing relationship between low bid price and pavement quality, the impact of climate change on asphalt concrete pavements, increased occurrence of Alkali-Silica Reactivity (ASR) in concrete pavements, and the effect of non-availability of airfield facilities on pavement maintenance and restoration. The impact of design, selection of materials, Quality Management, and QA/QC on the long-term performance of airfield pavements will also be addressed.