

Impacts, Improvements and Innovations: Community Resiliency

- 8:15 – 8:45 **Registration and Continental Breakfast**
- 8:45 – 9:00 **Seminar Opening – Rui DeCarvalho**
- 9:00 – 9:45 **Weather Gone Wild: How Can Canada Adapt?**
Natalia Moudrak (Intact Centre on Climate Adaptation)
The costs of extreme weather in Canada have escalated to historical highs. Flooding is one of the key drivers behind this trend, leading to increased insurance premiums, business disruptions, growing risk of mortgage defaults, lawsuits and mental stress among those impacted. But how can we reduce risk and become more resilient? This presentation will outline the formidability of the extreme weather challenge in Canada, explain how nationally recognized standards drive resilience, and how natural infrastructure can play a role in disaster reduction.
- 9:45 – 10:15 **The New CSA Z800-18 Guideline: Basement Flood Protection and Risk Reduction, Dan Sandnik (Institute of Catastrophic Loss Reduction)**
The purpose of the guideline is to offer a comprehensive scope of solutions for homeowners to minimize the risk of basement flooding due to climate change. The guideline covers solutions for new as well as existing buildings and offers mitigation measures and best practices to reduce the risk of flooding as well as reduce damages as a result of a potential flood. The guideline covers measures to reduce the risk of basement flooding and to mitigate the effects on property, public safety, and public health.
-
- 10:15 – 10:30 **Break**
-
- 10:30 – 11:00 **First Nation Infrastructure Resilience, Elmer Lickers (Ontario First Nations Technical Services Corporation) and Dr. Guy Félio (Stantec)**
The First Nations Asset Management Toolkit is a streamlined version of the recognized Engineers Canada Public Infrastructure Engineering Vulnerability (PIEVC) Protocol and is the first tool of its kind that uses Asset Condition Reporting System (ACRS) and other First Nations infrastructure data (inventory, condition, and remaining life) in the process. The toolkit allows communities to integrate climate related risks and asset management best practices to better manage community infrastructure over the assets full life-cycle. This presentation will describe how the toolkit was developed to assess the vulnerability of First Nations infrastructure as a result of extreme weather events and future climate uncertainty, and tools for a wide range of climate hazards, including linking asset management processes using existing First Nations infrastructure data.
- 11:00 – 11:30 **Climate Change Impacts Infrastructure Servicing Our First Nations, Matt Pazner (Neegan Burnside)**
Across the country First Nation communities are impacted by climate change and it is affecting their ability to provide and maintain basic infrastructure. In parts of the country, some communities that have historically relied on surface water are facing droughts and water shortages.
- 11:30 – 12:00 **Creating a Resilient City, Jane Welsh (City of Toronto)**
The Toronto Green Standard is Toronto’s sustainable design requirements for new private and city-owned developments. The standard consists of tiers of performance measures with

Impacts, Improvements and Innovations: Community Resiliency

supporting guidelines that promote sustainable site and building design. The Toronto Green Standard will be discussed within the framework of resilience efforts being undertaken in the City of Toronto.

12:00 – 1:00	Lunch
1:10 – 1:40	<p>Strengthening SCADA Systems and Communication Networks in the Face of Climate Change, Tyler Dupp (Eramosa)</p> <p>In the face of climate change, the potential for disruptions to communication networks and increasing regulatory scrutiny, municipalities in Ontario have been rising to the challenge to harden their supervisory control and data acquisition (SCADA) systems and communication networks. While a one-size-fits-all solution doesn't work for every municipality, there are many options available to address these challenges. Using the latest technology or in some instances leveraging and enhancing what you already have for your SCADA system, it is possible to build in redundancy for data collection and communications. These options can range from manually initiated backup systems up to complete hot standby automated options.</p>
1:40 – 2:10	<p>Inflow and Infiltration (I/I) in New Subdivisions in Ontario, Barbara Robinson (Norton Engineering Inc.)</p> <p>In recent years, sources of inflow and infiltration (I/I) originating in new construction have been identified. In a 2015 to 2017 study of Unacceptable I/I in New Subdivisions in Ontario, data on recent flow monitoring from the downstream end of new subdivisions were collected from municipalities. In 34 out of 35 subdivisions, unacceptable levels of I/I were observed.</p>
2:10 – 2:25	Break
2:10 – 2:40	<p>Regulatory Changes: Transforming an Existing Anaerobic Digestion Wastewater Treatment Plant into a Resource Recovery Facility, Indra Maharjan (Ontario Clean Water Agency)</p> <p>Wastewater treatment plants (WWTP) with the anaerobic digestion (AD) process have a huge potential for generating methane gas that can be enhanced and converted to Renewable Natural Gas (RNG). RNG has great economic value and emission reduction potential compared to other uses of methane. There are about 70 plus WWTPs with the AD digestion process in Ontario. The Ontario Clean Water Agency (OCWA) being the largest operating authority in this sector has been exploring innovative technologies that can recover the gas from AD and convert it to RNG.</p> <p>This presentation will explain the existing regulatory environment in Ontario, upcoming regulatory changes, and provide project example of how an existing AD WWTP was transformed into a Resource Recovery facility including a discussion of the barriers and risks in the entire process. OCWA partnered with City of Stratford and Suez Water Technologies & Solutions to enhance the existing digestion process at the Stratford WWTP with a biological hydrolysis process and the AD process was supplemented by source-separated organics collected within the City of Stratford.</p>
2:40 – 3:20	Wrap up and networking