

Day Two - Track One

Thursday, March 22nd, 2018

3:00 p.m. – 3:30 p.m.

Smart Blue Roof Applicability in the IC&I Sector for Rainwater Attenuation and Retention

Presenter: Bernadeta Szmudrowska, Credit Valley Conservation

Biography



At Credit Valley Conservation (CVC), Bernadeta Szmudrowska is an Integrated Water Management Specialist responsible for implementing green infrastructure and Low Impact Development projects. Prior to her time at CVC, Bernadeta obtained her Masters of Engineering as well as Masters of Environmental Science from the University of Toronto.

Abstract

There are significant limitations to the amount of stormwater which can be cost-effectively managed within existing urban areas exclusively on public lands. As an adaptive and innovative stormwater management approach to climate change (particularly flood and drought conditions), smart blue roofs address rooftop stormwater runoff at the source. Smart blue roofs, a form of real-time stormwater source control, provide centralized water supply and stormwater infrastructure on IC&I sector private properties. The IC&I sector spans 20-30% of an urban area and is comprised of large buildings with extensive flat roof areas with paved surfaces and a relatively small percentage of open space. As a result, IC&I lands generate the largest runoff volumes per unit area of all urban land use categories. By retrofitting existing flat roof IC&I sector buildings with smart blue roofs, the capacity and resiliency in the municipal stormwater system increases and there is an offset of potable water use through rainwater reuse practices. Smart blue roofs have the potential to reduce vulnerability to climate change impacts for the municipality, community and IC&I sector. This presentation will introduce smart blue roof design, operation and maintenance considerations as well as integration with building management systems and applicability to the IC&I sector.

Learning Objectives

1. Gaining knowledge about a new innovative approach to stormwater management using smart blue roofs;
2. Understanding the importance of climate change adaptation and resiliency for flood and drought conditions; and
3. Exploring various blue roof designs coupled with rainwater harvesting cisterns and building management system integration.