

IIBEC- 05 May Spring Seminar
Italian Cultural Center
3075 Slocan Street Vancouver, BC

IIBEC President's Welcome	8:00-8:30	Speaker
Rooftop spaces – Issues and Solutions	8:30-9:30	Scott Croasdale, 4EA Building Science
Updating Scheffer's Climate Index	9:30-10:30	Leslie Peer, RJC Engineers
Coffee and Sponsorship Break	10:30-11:00	
Public Sector Procurement	11:00-12:00	Katy Fairley, BC Construction Association
Lunch	12:00-12:30	Lunch
Engineering Green Roofs for Rainwater Management	12:30-1:30	Dr. Karen Liu Next Level Stormwater Management

DESCRIPTION OF THE PRESENTATIONS

Rooftop Spaces – Issues and Solutions

Learning Objectives:

1. Understand common low-slope roof assemblies that occupied areas are built on.
2. Understand common design and construction issues on roofs that can occur as a result of being amenity spaces.
3. Understand the difficulties in fixing leaks in occupied roofs.
4. Learn techniques and approaches for addressing common challenges with occupied rooftops.

Updating Scheffer's Climate Index

Scheffer's Climate Index is used for assessing the potential of a region's climate to stimulate wood decay. Originally published in October 1971 after years of development, Scheffer's Index used historical precipitation and temperature data to predict the severity of wood decay across the USA. Updated versions of the Index have since been calculated for Canada, and the newer weather data shows the influence of climate change on the Decay Risk zones in Canada due to climate change. This paper uses recent weather data to calculate Scheffer's Index for various places in BC's interior and discusses the weather related risk of wood decay in climate zones in the interior compared to the coast.

Leslie Peer, Lisa Schoeberlein, Wendy MacDonald

Public Sector Procurement

Learning Objectives:

1. Understand what public sector procurement is
2. Know the different procurement types, as well as the construction delivery types that are seen and available.
3. Have an overview understanding of the trade agreements and best practices.

Engineering Green Roofs for Rainwater Management

Green infrastructure uses plant and soil systems to store, infiltrate and evapotranspire rainwater as in a natural hydrological cycle. Many Canadian provinces, including BC, are moving from grey to green infrastructure. Because of the lack of space at grade, designers are looking up to the many unused rooftops for solution. Green roof is an effective source control tool with multiple co-benefits to offer. The plants and substrate absorb rainfall and reduce runoff volume. As water percolates through the substrate, peak flow is delayed and reduced.

In this presentation, we will explain how green roofs contribute to volume reduction, as a Tier 1 method of capture per City of Vancouver's Rainwater Management Plan. We will explore ways to enhance water retention on green roofs without incurring excessive loads on the buildings. In addition, we will describe how to design detention green roofs through modeling to meet release rate targets and demonstrate via a Vancouver case study the resulting cost savings and illustrate the importance of a multi-disciplinary design approach.

Presenters:

Scott Croasdale, M.Eng., P.Eng., PE., 4EA Building Science

Scott is a Principal at 4EA and was instrumental in opening the Seattle office in the early 2000s. He regularly works on both U.S. and Canadian projects, leveraging lessons learned to benefit projects on both sides of the border. Scott works on all project types for both new and existing buildings. He is a generalist with a focus on thermal performance of walls, structural attachment of cladding, metal roof design in snow country, air barriers, and both focused and general investigations into building envelope performance problems.

Leslie Peer, PHD.D., P.Eng., FEC, RRC, RJC Engineers

Leslie Peer is a Principal in the Building Enclosure and Restoration Group at RJC Engineers. He studied structural engineering at University of Toronto and moisture physics at Cambridge University, and consults in the fields of materials engineering, façade engineering, and enclosure design.

Katy Fairley, BC Construction Association

Katy is an expert and adviser on topics related to project delivery, construction contracts and procurement best practices. She promotes and advocates for fair, open and transparent construction practices as Standard Practices consultant for the BC Construction Association. Additionally, Katy has worked with public and private owners to improve project delivery by defining strategies and risk mitigation for procurement and contract administration. Previously, Katy was a vice-president for a diversified general contractor and construction manager in southern BC. She served on the Board of Directors for multiple construction associations at a local, provincial and national level.

Dr. Karen Liu, Next Level Stormwater Management

Dr. Karen Liu is the Green Roof Specialist with Next Level Stormwater Management. She is a member of the CSA A123 Technical Committee responsible for numerous roofing standards and was a key participant in the research consortium that developed the national wind testing standard for vegetated roofing CSA A123.24. Karen serves on Green Roofs for Healthy Cities' Technical Committee, reviews green roof standards, and develops training programs for green roofing professionals. She also serves as a lay councillor for the Ontario Association of Landscape Architects. Karen is an experienced researcher and educator and conducted green roof research at both National Research Council in Ottawa and British Columbia Institute of Technology in Vancouver. As a former global product manager with a major German green roof company, she has extensive practical experience across North America, Europe and Asia.