

The City of Calgary and the Alberta Low Impact Development Partnership proudly present the 14th Annual **Stormwater Management Courses**

Designing for Tomorrow

2014

February 18 to 21
Carriage House Inn, Calgary

training

Modelling with QUALHYMO with Dr. Charles Rowney | Erosion and Sediment Control - Submission Success and Emerging Issues | Design and Implementation of ESC for Large Projects with Dr. Jerald Fifield and Ms. Tina Wills | The Calgary Flood of 2013 | Streambank Bioengineering | Stormwater - Submission Success and Emerging Issues

certification

Certified Professional in Erosion and Sediment Control (CPESC) exam
Canadian Certified Inspector of Sediment and Erosion Control (Can-CISEC) course and exam

policy development

Municipal Water Policies on Stormwater Management - Have your say!
Hosted by Alberta Urban Municipalities Association (AUMA) and sponsored by the Insurance Bureau of Canada (IBC) | Featuring IBC's new Municipal Risk Assessment Tool

Product Expo

Sponsorships available



With the flood of 2013, all things water-related are attracting new interest and are under greater scrutiny than ever.

Whether you are a municipal councillor, or are involved in finance, risk management, policy, planning, design, construction, or operations, this year we have worked hard to assemble a broad program to help you excel in your field of expertise.

We hope you agree and will be able to make the time to participate.

Have a look and register promptly, as February will be here before we know it!

ESC35-CTY: Success in The City

Presented by: Water Resources - Erosion and Sediment Control Staff

Tuesday, February 18, 2014

8:30 a.m. to 4:30 p.m.

\$320 + GST

Do you design erosion & sediment control (ESC) planning documents for construction projects in the Calgary region, or are you involved in implementation, inspection and maintenance of ESC best practices? The City's ESC strategy is evolving, with a greater emphasis on managing stormwater quality and quantity during project construction phases. Learn how accurate, site-specific data (such as soil texture and hydrologic data) can better inform the design process. Review the cost-benefit relationships of practices such as pre-winter site stabilization and temporary sediment containment systems. There will be opportunities for participants to dialogue with the presenters throughout the day, along with local case studies.

SWM4-QLH: Modelling with QUALHYMO

Presented by: Dr. Charles Rowney

Tuesday, February 18, 2014

8:30 a.m. to 4:30 p.m.

\$320 + GST

QUALHYMO has been used for over two decades as one of the prime tools for sizing of stormwater management ponds and demonstrating the sediment removal by these facilities. Dr. Rowney, who was one of the two authors of this tool, has completely overhauled and updated the computational procedures in QUALHYMO, adding extensive procedures for the modelling of Source Control Practices, thus allowing for the full representation of LID within overall stormwater management. In addition, the model now has a visual interface and graphics capabilities which will be a relief to everyone who has had to struggle with the text files of previous versions! The course will discuss the changes made and new features added, and will demonstrate how the performance of LID can be modelled with a high degree of certainty. Participants will receive, FREE OF CHARGE, a copy of the current model, interface and test files, so bring your computer so that you can try out this new and improved version.



Dr. A. Charles Rowney has over 30 years of experience in water resources science and engineering. He has been active both as an academic and in private industry, and for the last decade he has practiced independently as ACR, LLC. Project and research experience has spanned Canada and extended across North America and Europe. He has a strong background in water resources planning, analysis, management and operation, including extensive BMP and LID experience. He is a current and accomplished water resources modeller, who routinely combines water resources knowledge and computing skills in environmental projects encompassing surface, subsurface, quality/quantity control and receiving water systems across the range of North American climate conditions and project requirements. As well as being an accomplished model user and implementer, he is a model developer who has many computer model development projects to his credit.

training



ESC2-DES: Design & Implementation of ESC for Large Projects

Presented by: **Dr. Jerald S. Fifield** and **Ms. Tina Wills**

FULL DAY

8:30 a.m. to 4:30 p.m.

\$370 + GST

This advanced course is for those who must be accountable for the design and/or review of effective large construction/development sediment and erosion control plans. Participants should have a working knowledge of mathematics, science, and/or engineering as well as a practical understanding of sediment and erosion control practices. The course will demonstrate how applying technical principles can assist in designing and identifying limitations of BMPs commonly found on large construction/development projects. Upon completion of the course, designers and reviewers will gain technical knowledge that will assist them in being professionally accountable for the design, review, and implementation of effective sediment and erosion control plans on large construction sites. This is a hands-on learning opportunity, so please bring your calculator and be prepared to take part. Your fee also includes a textbook.

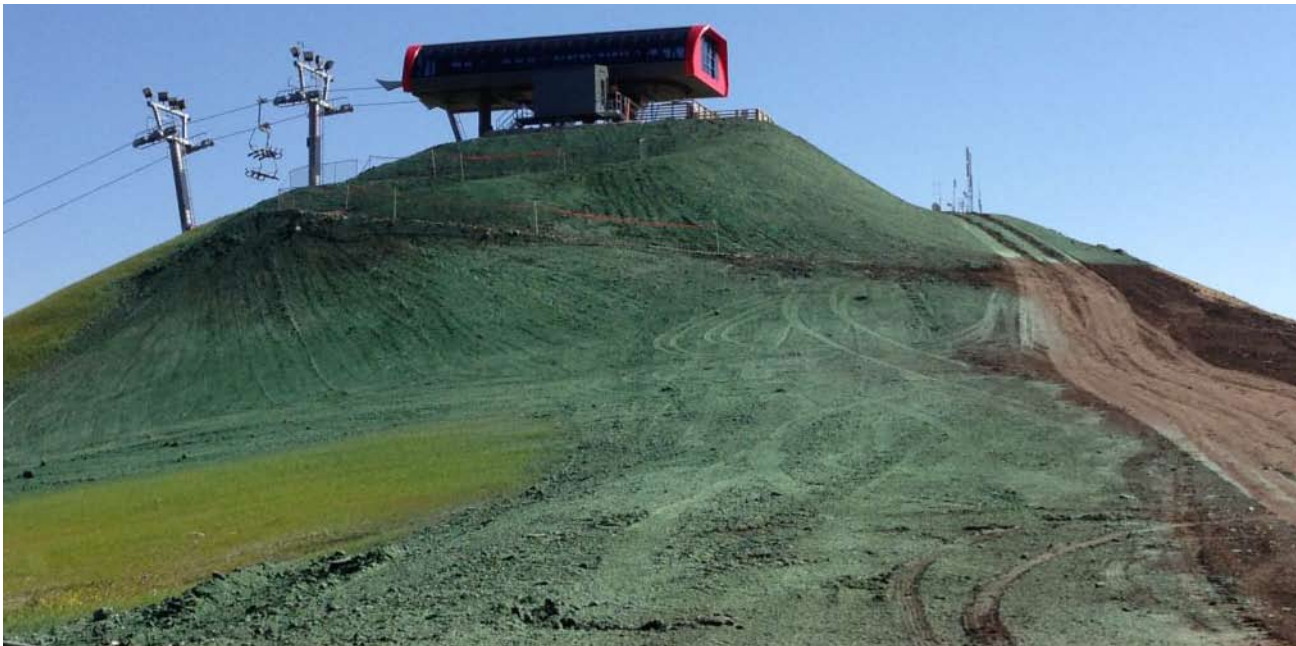


Since 1982 when **Dr. Jerald Fifield** started HydroDynamics Incorporated, he has been actively involved with drainage, sediment and erosion control, water rights and nonpoint pollution control. Through his company, he develops sediment and erosion control plans, completes drainage analysis, provides inspection services and teaches about controlling sediment and erosion on construction sites. Jerry has authored numerous professional papers, researched sediment and erosion control products, and written sediment and erosion control manuals for designers and field manuals for inspectors and contractors.



Tina Wills has been working as a consultant at HydroDynamics Incorporated since earning her degrees in Civil and Mechanical Engineering from the Colorado School of Mines in 1999. She is involved with research for expert testimony, works on SWP-PP development, and completes construction site inspections. Tina also assists with drainage assessments, develops sediment and erosion control plans for contractors, coordinates activities associated with sediment and erosion control, analyzes drainage issues for homeowners, and teaches about controlling sediment and erosion on construction sites.

training





SWM4-FLD: Calgary Flood of 2013

Presented by: Mr. Frank Frigo and guests

Wednesday, February 19, 2014

8:30 a.m. to noon

\$170 + GST

There have been, and will be, numerous discussions of the June 2013 flood that devastated parts of Calgary and southern Alberta. Was this event unprecedented? Should it change our view of the hydrology of our watersheds? This course will delve into the watershed dynamics and weather conditions that contributed to the event, comparing it to other events that have occurred since Calgary was settled, or that have happened in nearby jurisdictions. It will also discuss the actions taken before, during and after the 2013 flood; pleasant and unpleasant surprises; focusing on what has been learned. How will the City of Calgary move forward with flood rehabilitation and flood mitigation works? Come with your questions and relive those anxious days of June 2013 with some of those who gave their all to minimize the flood's impacts on Calgary.



Frank Frigo is a Water Resources Engineer focused on applied hydrology, river hydraulics, river morphology, flood and erosion protection, floodplain modelling, water control structures design and construction and drainage analyses. Since 2008, Frank has been involved with the River and Drainage portfolio within the City of Calgary's Water Resources business unit, leading hydraulic modeling, flood protection, river flood preparedness planning and response, watershed monitoring, bank restoration, drainage and water supply projects and initiatives.

SWM4-DES: Stormwater Design Brilliance

Presented by: Mr. Bert van Duin and guests

Wednesday, February 19, 2014

1:00 p.m. to 4:30 p.m.

\$150 + GST

Still having a hard time getting your stormwater management reports approved? In this course aimed at consulting engineers and approvals staff, we will demystify the world of stormwater management. Specific attention will be paid to the new Frequency Analysis Procedures, how to apply the interim stormwater targets, and the new amendments to the 2011 Stormwater Management & Design Manual, and other recurring challenges observed since the introduction of the 2011 Manual. Attendance at this course is highly recommended, as Water Resources approvals staff have noted that interactions tend to go more smoothly with those who have attended past courses.



Bert van Duin received his M.Sc. in Civil Engineering from Delft University of Technology in The Netherlands. Working first in Toronto and soon heading west, he spent more than two decades in consulting on the analysis, planning, design and management of urban drainage, stormwater management and watershed management projects. Since joining Water Resources Infrastructure Planning in 2009, he has been guiding the practical implementation of source control practices, having written the Source Control Practices Handbook for The City some years prior. He is a founding member and past-President of the Alberta Low Impact Development Partnership Society.



training



ESC36-CIS: Canadian Certified Inspector of Sediment & Erosion Control

Presented by: **Mr. Robert Wills**

Thursday, February 20, 2014

8:00 a.m. to 5:00 p.m.

fees and registration

Friday, February 21, 2014

8:00 a.m. to noon

through TRCA

This 1.5 day training course covers roles and responsibilities, background information, inspecting best management practices, regulations and compliance, and conducting construction site inspections. Can-CISEC is a certification program offered by the Toronto and Region Conservation Authority (TRCA) and CISEC, Inc. Launched in 2005, the CISEC program is the leading certification program of its kind in the U.S. and, in May 2011, TRCA launched the CISEC-Canada program. Participants will have the opportunity to take part in classroom exercises reviewing ESC plans and reports. Upon completion of the training course, participants will have the option of writing a four-hour certification exam. The Training Course Fee is \$500 and the non-refundable Exam Fee is \$250 (applicable taxes are extra). Anyone is welcome to attend the training course; however, if you intend to write the certification exam you will need to fill out an application form and submit your 3 references to TRCA by **January 24th, 2014**. Please submit complete application package to: adelaney@trca.on.ca. Registration and details are available at <https://www.thelivingcitycampus.com/workshop/certified-inspector-sediment-and-erosion-control-calgary-feb-2014>.

SWM4-BIO: Bioengineering within a Stream Environment

Presented by: **Mr. Pierre Raymond and Mr. L.S. Hundal and guests**

Thursday, February 20, 2014

8:30 a.m. to 4:30 p.m.

\$320 + GST

Join experienced streambank restoration design and construction professionals who will share their local and international experience on this emerging engineering practice. Soil Bioengineering is the use of live plant materials, often combined with conventional engineering structures such as rock, geogrids, and large woody debris. It is designed to perform an engineering function such as surface slope stabilization, streambank protection, soil erosion and seepage control, reduction of sediment delivery and habitat enhancement. In this course you will explore techniques and options involved in restoration, reclamation and stabilization of streambanks using a combination of structural materials, vegetative cuttings, plantings, and other specialized techniques, including how to approach difficult-access sites by minimizing disturbance and using specialized equipment. Maintenance will also be discussed. Gain local design context, and learn how local soil, hydrology, morphology, construction specifications/tendering and planting factors can be key to the success of streambank rehabilitation projects.



Since founding Terra Erosion Control Ltd. in 1996, **Pierre Raymond** has focused on soil bioengineering, biotechnical slope stabilization, erosion control and riparian habitat restoration. His expertise has taken him to projects in Peru, Nepal, and France. Closer to home, Pierre has been involved in the development of The City of Calgary's streambank restoration guidelines and in the design and implementation of multiple applications of vegetated riprap for streambank and stormwater outfall protection for the City of Edmonton. Pierre's experience includes biotechnical stabilization prescriptions, implementation, maintenance and monitoring. He has a strong background in supervision of construction machinery, road deactivation practices and implementation of riparian habitat restoration and mining reclamation.



Liv Hundal is a hydrotechnical engineer with AMEC Environment & Infrastructure and has over 30 years of experience in a variety of river-related projects. He has a Post Graduate Degree in Hydraulic Engineering from Delft, Netherlands, and a B.Sc. in Civil Engineering from the University of Calgary. He has experience in flood and erosion control, watershed assessment and stream restoration, bioengineering, sediment yield assessment, fisheries habitat enhancement, stream morphology, hydrometric monitoring and watershed modelling. He has considerable knowledge in river morphological processes, sediment transport and, in particular, river regime studies of erosion and scour processes.

training



EXM1-CPE: Certified Professional in Erosion and Sediment Control (CPESC) EXAM

Proctored by: Mr. Graham Tait
 Friday, February 21, 2014

8:00 a.m. to 1 p.m. (CPESC)

8:00 a.m. to 11 a.m. (CPESC-IT)

\$50 seating fee

The CPESC Review Course is not being offered this year at this event, however you can still take the exam. You must have approval from the CPESC Administrative Office to write this exam. **Approval is gained through the CPESC Application process, which takes at least 45 days.** If you are re-writing the exam contact CPESC regarding re-testing requirements and fees. Approved calculator required. Information and required forms are available at <http://www.cpesc.org/>. Please note that the seating cost for the exam is separate from the CPESC application fee. Payment for seating is through the Eventbrite registration website.

EXM2-CIS: Canadian Certified Inspector of Sediment and Erosion Control (Can-CISEC) EXAM

Proctored by: Mr. Robert Wills
 Friday, February 21, 2014

1:00 p.m. to 5:00 p.m.

fees to TRCA

Anyone is welcome to attend the training course offered on Thursday and Friday a.m.; however, if you intend to write the certification exam you need to fill out an application form and submit your 3 references to TRCA by **January 24th, 2014**. Please submit complete application package to: adelaney@trca.on.ca. See details at <https://www.thelivingcitycampus.com/workshop/certified-inspector-sediment-and-erosion-control-calgary-feb-2014>.

certifications

CHOOSE YOUR ESC COURSE FIT

Are you field staff for a contractor, or responsible for field inspection for a consulting firm? Choose:

Can-CISEC Course

Can-CISEC Exam

Are you an ESC Designer, Project Engineer, Environmental Consultant, or Project Manager? Choose:

ESC for Large Construction Sites

CPESC Exams

Note that ESC for Large Construction Sites is NOT official prep for the CPESC exam. There is crossover in the material, but if you are new to CPESC, you should obtain the CPESC Exam Review Manual. If you do not have enough experience to qualify for CPESC, there is also a CPESC-IT classification.



SCHEDULE AT A GLANCE

ROOM	TUESDAY 18	WEDNESDAY 19	THURSDAY 20	FRIDAY 21
Victoria - Surrey	ESC Success in the City	ESC for Large Construction Projects	Can-CISEC course	Can-CISEC course
				Can-CISEC exam
Clarence - Phaeton	QUALHYMO	Calgary Flood of 2013	Stream Bioengineering	AUMA - Have your say!
		Stormwater Design Brilliance		
Desert Palms	Product Expo	Product Expo	Product Expo	CPESC exams

Interested in a display space or table at our **product expo**? Display space is \$300 +GST per day. Displays do not include access to sessions. **Day sponsorships** include the opportunity to loop a silent powerpoint over lunch in one room of your choice. \$750 +GST. Register online.



SWM4-PLC: Municipal Water Policies on Stormwater Management – Have your say!

Multiple Presenters

Friday, February 21, 2014

8:30 a.m. to 4:30 p.m.

hosted by AUMA and sponsored by IBC

We are excited to participate in Alberta Urban Municipalities Association's (AUMA's) stormwater policy development project, and invite you to a day sponsored by the Insurance Bureau of Canada (IBC) to explore risk management and policy matters for municipal stormwater management. This session will explore the ins and outs of creating an ideal policy environment for effective stormwater management. With pressures like urbanization, climate variability, water scarcity, and aging infrastructure, what is the potential for improvements to infrastructure, management practices, and regulatory standards to enhance performance? Alberta municipalities are invited to discuss these questions and more. During this interactive session participants will be invited to provide input on AUMA's stormwater policy development.

The session will also feature presentations from IBC and ALIDP on stormwater risk management. IBC will offer its insights on flood mitigation in a changing climate, including an overview of their recently released Municipal Risk Assessment Tool. ALIDP will present an introduction to low impact development and provide examples of how it is being used to effectively manage water quality and quantity.



policy development