

Agenda

Presented by Chris Zamaites, P.E., CFM, CPESC, ENV SP

Stormwater Management System Objectives and Design Considerations

- Complying with stormwater regulations
- Site assessment
- Additional considerations: siting, outlet location and control, and tributary areas
- Stormwater control measures and total suspended solids (TSS) removal

Stormwater Conveyance Systems and Detention

- Impact area
- Watershed and terrain considerations
- Stormwater quality
- Community and environmental factors

Types of Stormwater Storage

- Detention basins
 - Stormwater routing, sediment handling, outlet, variations of storage
- Retention ponds
 - Stormwater routing, sediment handling, soils and vegetation
- Infiltration basins
 - Stormwater routing, sediment and chemical handlings, soils and vegetation
- Operation and maintenance of stormwater detention systems

Choosing Storage System -

Underground Storage Benefits vs. Conventional Storage

- Site topography, restrictions, outlet considerations
- Retention systems
 - Stormwater routing, sizing, design criteria
- Detention/infiltration systems
 - Stormwater routing, infiltration, sizing, design criteria, treatment options for TSS removal

Preparing Stormwater Pollution Prevention Plans

- Stormwater goals
- Design considerations

Sustainable Best Practices in Stormwater Detention/Retention

- Naturalizing detention/retention basins
- Atypical storage: rain gardens, french drains, dry wells
- Underground storage, water reuse options, recharging ground water table

**Stormwater Basins
and Underground Systems**
Columbus, OH - Friday, October 25, 2019

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Learning Objectives

You'll be able to:

Comply with stormwater regulations when designing stormwater management systems.

Consider detention basins, retention ponds, infiltration basins, and underground storage.

Understand how site topography, terrain, and community factors impact stormwater basin design.

Discuss unique stormwater storage such as rain gardens, french drains, and dry wells.

Get tips on preparing stormwater pollution prevention plans.



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Stormwater Basins and Underground Systems

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Review the objectives of stormwater management systems and identify design considerations

Discuss stormwater conveyance and detention systems

Understand different types of stormwater storage systems

Consider the benefits of underground storage of stormwater versus conventional storage

Learn about sustainable best practices in stormwater detention, retention and infiltration

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Faculty

Chris Zamaite, P.E., CFM, CPESC, ENV SP *Burns & McDonnell, Chicago*

Ms. Zamaite is a senior civil engineer with Burns & McDonnell in Chicago. She has 28 years of experience with planning and design covering municipal infrastructure; commercial, residential, and recreational development; along with planned community design. Ms. Zamaite’s experience includes utility design/relocation for water transmission and distribution systems; sewage collection; and stormwater management systems including that for arterial, collector and local street systems. Included with the aforementioned design work are floodplain evaluation and management, utility relocation, hydrology and hydraulics, earthen dam inspections, stream modeling with scour countermeasures, erosion and sediment control, and regulatory compliance associated with local planning and zoning ordinances, stormwater ordinances, and other applicable regulatory criteria from local to federal levels. Ms. Zamaite’s hydrologic and hydraulic modeling experience includes HEC 1, HEC 2, WSP2, WSPRO, WIN TR-20, TR 55, SWMM, HEC-RAS, HydroCAD, SewerCAD, StormCAD, Culvert Master, and Flow Master.

Seminar Information

Crowne Plaza Columbus North - Worthington	Registration	Lunch (On your own)
6500 Doubletree Avenue	8:00 - 8:30 am	12:15 - 1:15 pm
Columbus, OH 43229	Morning Session	Afternoon Session
(614) 885-1885	8:30 am - 12:15 pm	1:15 - 4:30 pm

Tuition
\$289 for individual registration
\$269 for three or more simultaneous registrations.

Included with your registration:
Complimentary continental breakfast and printed seminar manual.

Receive a reduced tuition rate of \$101 by registering to be our on-site coordinator for the day. For availability and job description, please visit www.halfmoonseminars.org.

How to Register

- Visit us online at www.halfmoonseminars.org
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Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the self-study package. You may also send another person to take your place.

Additional Learning

Webinar Series

Commercial Solar Peaker Batteries

- **Commercial Solar Peaker Batteries, Part I**
Wed., Sept. 4, 2019, 11:00 AM - 2:15 PM CDT
- **Commercial Solar Peaker Batteries, Part II**
Thurs., Sept. 5, 2019, 11:00 AM - 2:15 PM CDT

Commercial Provisions of the International Energy Conservation Code

- **Commercial Provisions of the International Energy Conservation Code**
Wed., Sept. 11, 2019, 11:00 AM - 1:00 PM CDT
- **IECC Provisions for Commercial Building Envelopes**
Wed., Sept. 11, 2019, 1:30 - 4:00 PM CDT
- **IECC Provisions for Commercial Building HVAC Systems**
Thurs., Sept. 12, 2019, 11:00 AM - 12:00 PM CDT
- **IECC Provisions for Commercial Building Lighting**
Thurs., Sept. 12, 2019, 12:30 - 2:00 PM CDT

International Building Code

- **Building Code, Building Classification and Special Requirements**
Thurs., Sept. 12, 2019, 11:00 AM - 12:30 PM CDT
- **Mixed Use Buildings, Construction Types and Locations**
Thurs., Sept. 12, 2019, 1:00 - 2:30 PM CDT
- **Allowable Heights/Areas and Means of Egress**
Fri., Sept. 13, 2019, 11:00 AM - 12:30 PM CDT
- **Fire Rated Construction and Fire Protection Systems**
Fri., Sept. 13, 2019, 1:00 - 2:30 PM CDT

Tree Preservation

- **Keys for Success in Tree Preservation**
Tues., Sept. 17, 2019, 11:00 AM - 1:00 PM CDT
- **Tree Root Morphology and Patterns**
Tues., Sept. 17, 2019, 1:30 - 3:30 PM CDT
- **Trees as Design Elements and Construction Strategies**
Wed., Sept. 18, 2019, 11:00 AM - 1:00 PM CDT
- **Tree Protection and Post Construction**
Wed., Sept. 18, 2019, 1:30 - 3:30 PM CDT

For more information visit:
www.halfmoonseminars.org/webinars/

Continuing Education Credit Information

This live lecture presentation is open to the public and offers 6.5 continuing professional development hours/PDHs to professional engineers and 6.5 HSW contact/continuing education hours to architects in all states. This course offers 6.5 HSW contact hours to landscape architects in most states, including Ohio. Educators and courses are not subject to preapproval in Ohio.

This seminar is approved by the American Institute of Architects Continuing Education System for 6.5 LU|HSW (Sponsor No. J885) and the Landscape Architecture Continuing Education System for 6.5 HSW PDHs. Only full attendance can be reported to the AIA/CES and LA/CES. Visit www.halfmoonseminars.org for complete AIA/CES information under this course listing.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700 North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York engineers, architects and landscape architects.

The Association of State Floodplain Managers has approved this activity for 6.5 CECs.

This course offers a continuing education opportunity to construction contractors. It has not been approved by any state contractor licensing board.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Can’t Attend? Order the Manual and Audio from the Live Seminar as a Self-Study Package!

A full recording of this seminar is available for \$289, which includes shipping and handling. This learning method does not qualify for the continuing education credit for Ohio architects, landscape architects, engineers AIA or ASLA. Please allow five weeks from the seminar date for delivery.

Registration

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How to Register	
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Tuition

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