

Agenda

Presented by Gary R. Brown

Stormwater Management System Objectives and Design Considerations

- Complying with stormwater regulations
- Site assessment
- Preparing stormwater pollution prevention plans
 - Stormwater goals
 - Design considerations

Stormwater Basin/Underground System Design

- Selection criteria
 - Impact area
 - Watershed and terrain considerations
 - Stormwater contents
 - Community and environmental factors

Choosing Basin Types

- Detention basins
 - Stormwater routing, sediment handling, outlet
- Retention ponds
 - Stormwater routing, sediment handling, soils and vegetation
- Infiltration basins
 - Stormwater routing, sediment and chemical handlings, soils and vegetation

Choosing an Underground Storage System

- Retention systems
 - Stormwater routing, sizing, design criteria
- Detention/infiltration systems
 - Stormwater routing, infiltration, sizing, design criteria

Sustainable Best Practices in Stormwater Detention/Retention

- Naturalizing detention/retention basins
- Small detention areas vs. large detention area
- Rain gardens
- Underground storage and water reuse options

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

Audio recordings of this seminar are available for purchase starting at \$269. See registration panel for more information and please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

Stormwater Basins and Underground Systems
Fort Washington, PA - Monday, April 29, 2019

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Learning Objectives

You'll be able to:

- Learn about** preparing stormwater pollution prevention plans.
- Comply** with stormwater regulations.
- Discuss** selection criteria for stormwater basins and underground systems including impact area, watershed and terrain considerations and stormwater content.
- Evaluate** retention and detention/infiltration systems.
- Consider** sustainable best practices including rain gardens, underground storage and water reuse.



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Stormwater Basins and Underground Systems

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Understand stormwater management system objectives
Identify design considerations
Examine sustainable best practices in stormwater detention/retention

Discuss rain garden and water reuse options
Explore basin types
Learn how to choose an underground storage system

Continuing Education Credits

Professional Engineers
6.5 PDHs

Professional Geologists
6.5 PDHs

Architects
6.5 HSW Continuing Ed. Hours
6.5 AIA HSW Learning Units

Landscape Architects
6.5 HSW Clock Hours
6.5 LA/CES HSW PDHs
5.0 New Jersey CE Hours

Certified Floodplain Managers
6.5 CECS



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Faculty

Gary R. Brown *President of RT Environmental Services, Inc.*

Mr. Brown is president of RT Environmental Services, Inc., an environmental services firm located in King of Prussia, Pennsylvania. He is a professional engineer (P.E.) in 20 states, and he has been practicing environmental engineering in Pennsylvania and New Jersey since 1973. He is also a qualified environmental professional (Q.E.P) with over 30 years of diversified engineering experience, including 22 years of engineering management experience. Mr. Brown has worked in the waste management industry and designed stormwater facilities since 1978. He has completed expert work on state and federal court cases as well.

Additional Learning

Webinar Series

HEC-RAS Webinar Series

- **Hydraulic Principles and Applications**
Tues., April 2, 2019, 11:00 AM - 1:00 PM CDT
- **Working with the HEC-RAS User Interface**
Tues., April 2, 2019, 1:30 - 3:00 PM CDT
- **Water Surface Profiling**
Wed., April 3, 2019, 11:00 AM - 1:00 PM CDT
- **Steady Flow Surface Profile Demonstrations**
Wed., April 3, 2019, 1:30 - 3:30 PM CDT

Wood Construction

- **Design Specifications, Building Codes and Design Values**
Thurs., April 4, 2019, 11:00 AM - 12:30 PM CDT
- **Structural Sawn Lumber, Composite Lumber and Laminated Timber**
Thurs., April 4, 2019, 1:00 - 2:30 PM CDT
- **Prefabricated Wood I-Joists Trusses**
Fri., April 5, 2019, 11:00 AM - 12:30 PM CDT
- **Connectors and Fire Protection Design**
Fri., April 5, 2019, 1:00 - 2:30 PM CDT

Off-Grid Master Class

- **Off-Grid Master Class, Part I**
Wed., April 17, 2019, 11:00 AM - 2:15 PM CDT
- **Off-Grid Master Class, Part II**
Thur., April 18, 2019, 11:00 - 2:15 PM CDT

Soil Engineering

- **Introduction to Soil Engineering**
Thurs., April 25, 2019, 11:00 AM - 12:30 PM CDT
- **Design of Excavation Support Systems**
Thurs., April 25, 2019, 1:00 - 2:30 PM CDT
- **Slope Repair Techniques**
Fri., April 26, 2019, 11:00 AM - 12:30 PM CDT
- **Soil Engineering after College: Practical Approaches to Foundations and Retaining Structures**
Fri., April 26, 2019, 1:00 - 2:30 PM CDT

For more information and other online learning opportunities visit: www.halfmoonseminars.org/webinars/

Registration

Stormwater Basins and Underground Systems

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How to Register	
Online: www.halfmoonseminars.org	
Phone: 715-835-5900	
Fax: 715-835-6066	Code:
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	
Complete the entire form. Attach duplicates if necessary.	
Registrant Information	
Name: _____	
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Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.	
() I need special accommodations. Please contact me.	

Seminar Information

Hilton Garden Inn Fort Washington

530 W. Pennsylvania Avenue
Fort Washington, PA 19034
(215) 646-4637

Registration	Lunch (On your own)
8:00 - 8:30 am	12:15 - 1:15 pm
Morning Session	Afternoon Session
8:30 am - 12:15 pm	1:15 - 4:30 pm

Continuing Education Credit Information

This seminar is open to the public and provides 6.5 PDHs to professional engineers and geologists and 6.5 continuing education hours to architects in most states, including Pennsylvania. Educators and courses are not subject to pre-approval in Pennsylvania.

This event is approved by the American Institute of Architects for 6.5 HSW Learning Units (Sponsor No. J885). Only full attendance can be reported to the AIA/CES.

This course offers 6.5 HSW clock hours to Pennsylvania landscape architects. It is approved by the Landscape Architecture Continuing Education System for 6.5 HSW PDHs. Only full attendance can be reported to the LA/CES.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP0000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York landscape architects. The New Jersey State Board of Architects has approved this course for 5.0 continuing education hours for landscape architects.

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

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!

Audio recordings of this seminar are available for purchase starting at \$269. See registration panel for more information and please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

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
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

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.

Tuition

() **I will be attending the live seminar.** Single Registrant - **\$289.00**. Three or more registrants from the same company registering at the same time - **\$269.00** each.

() **I am not attending.** Please send me the self-study package:

Downloadable MP3 Audio/PDF Manual for **\$269.00**.

CD/Manual Package for **\$289.00**.

(S&H included. Please allow five weeks from seminar date for delivery)

Checks: Make payable to HalfMoon Education Inc.

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