

Agenda

Presented by *Bill Simpson, PE*

Retaining Walls: What They Do and How They Do It

Identifying and quantifying forces acting on retaining walls

- Weight of the wall
- Pressure from retained soil
- Pressure on foundation of wall
- Characteristics of soil
- Loads on retained soil
- Impacts of water—liquid and frozen
- Vibration
- Expansion/contraction

Equations and examples

Geosynthetics and Retaining Walls, Embankments and Slopes

Calculations and software

Types of retaining walls

Embankments

Slopes

Materials

Alternatives

Exercise

- Learn to visually identify geosynthetics as to type, method of manufacture, relative strength, relative permeability, and relative cost

Slope Stabilization Techniques

Examining slope failures

Slope stability analysis

Stabilization techniques

- Unloading
- Drainage
- Reinforcement
- Mechanical stabilization

Slope Stabilization Case Histories

Fundamental soil characteristics and slope instability

Engineering mechanics underlying slope instability

Geologic conditions and construction practices

Field observations to distinguish types of instability

Construction practices to improve or restore stability

Retaining Wall/Slope Failures and Fixes

How to prevent a potential problem or failure

How to recognize a potential problem or failure in the field

Typical causes of problems or failures with geotechnical structures

Case studies/examples of failures and repairs

Retaining Wall Design and
Slope Stabilization Techniques
Greensboro, NC - Tuesday, January 15, 2019



Halfmoon Education Inc.
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Learning Objectives

You'll be able to:

Identify and quantify the forces that act on slopes and retaining walls, including pressure from soil, and consider the impacts of ice and water.

Discuss types of retaining walls.

Review calculations and explore software options.

Evaluate geosynthetics and other reinforcements as to type, method of manufacture, relative strength, and relative cost.

Examine typical causes of retaining wall/slope failures.

Learn about crucial slope stabilization techniques including unloading, drainage, reinforcement and mechanical stabilization.



Retaining Wall Design and Slope Stabilization Techniques

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Review the forces acting on retaining walls, including pressure from retained soil, and consider the impacts of groundwater

Understand typical causes of failure for slopes and retaining walls and learn to prevent them

Identify geosynthetics as to type, method of manufacture, relative strength, permeability and cost

Utilize slope stabilization techniques such as unloading and mechanical stabilization

Get tips on preventing and fixing slope and retaining wall failures

Continuing Education Credits

Professional Engineers

7.0 PDHs

Architects

7.0 HSW Contact Hours

7.0 AIA HSW Learning Units

Landscape Architects

Credit Applied for/Pending in NC

7.0 LA CES HSW PDHs

Floodplain Managers

7.0 ASFPM CECS



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Faculty

Bill Simpson, PE *Engineered Earth Solutions, LLC*

Mr. Simpson is a geotechnical structure design specialist at Engineered Earth Solutions, LLC. He has designed and reviewed shop drawings for construction and repair of earth structures in the public and private sectors in over 30 states, and he consistently works on more than 1,200 projects and 10 million square feet each year. He performs site visits for new project reconnaissance, construction verification, and construction assistance. Mr. Simpson manages, supervises, instructs, and mentors a team of staff engineers to ensure strict deadlines are met for construction schedules while maintaining design and analysis accuracy. He works with owners, site designers, and contractors to provide designs which are not only structurally sufficient but also financially responsible. Mr. Simpson earned his B.S.C.E. and M.S.C.E. degrees from Georgia Institute of Technology.

Here’s what past attendees have to say about the program and speaker Bill Simpson:

“Love seeing the case studies (photos). Helps bring theory to life.” – *Architect*

“He kept us thinking. Relates very well to participants. Very personable.” – *Architect*

“The best seminar - great on theory and application.” – *Civil Engineer*

“Great seminar to understand retaining wall/slope stabilization.” – *Landscape Architect*

Seminar Information

Greensboro-High Point Marriott Airport

One Marriott Drive
Greensboro, NC 27409
(336) 852-6450

Registration	Lunch (On your own)
8:00 - 8:30 am	12:00 - 1:00 pm
Morning Session	Afternoon Session
8:30 am - 12:00 pm	1:00 - 5:00 pm

Tuition

\$279 for individual registration

\$259 for three or more registrations.

Each registration includes a 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.

Additional Learning

Webinar Series

Residential Energy Code

- **Introduction to the Residential Energy Code and Mandatory Requirements**
Thurs., Dec. 6, 2018, 11:00 AM - 12:30 PM CST
- **IECC Residential Building Envelope Requirements**
Thurs., Dec. 6, 2018, 1:00 - 2:30 PM CST
- **IECC Residential HVAC Requirements**
Fri., Dec. 7, 2018, 11:00 AM - 12:30 PM CST
- **International Energy Conservation Permit Pathways**
Fri., Dec. 7, 2018, 1:00 - 2:30 PM CST

Deep Foundations

- **Deep Foundation Site Evaluation**
Weds., Dec. 12, 2018, 11:00 AM - 12:00 PM CST
- **Overview of Deep Foundations**
Weds., Dec.12, 2018, 12:30 - 2:00 PM CST
- **Deep Foundation Pile Design**
Thurs., Dec. 13, 2018, 11:00 AM - 12:30 PM CST
- **Deep Foundation Installation and Testing**
Thurs., Dec. 13, 2018, 1:00 - 2:00 PM CST

Stormwater Management Systems

- **Stormwater Infrastructure Practices**
Weds., Dec. 19, 2018, 11:00 AM - 1:00 PM CST
- **Infiltration Management Techniques**
Thurs., Dec. 20, 2018, 11:00 AM - 1:00 PM CST

NFPA 70E Series

- **NFPA 70E, Part I**
Weds., Dec. 26, 2018, 11:00 AM - 3:30 PM CST
- **NFPA 70E, Part II**
Thurs., Dec. 27, 2018, 11:00 AM - 3:30 PM CST

Seismic Design and Construction

- **Seismology and Building Codes**
Thurs., Dec. 27, 2018, 11:00 AM - 3:30 PM CST
- **Seismic Design of Building Structures**
Fri., Dec. 28, 2018, 11:00 AM - 3:30 PM CST

For more information visit:

www.halfmoonseminars.org/webinars/

Continuing Education Credit Information

This seminar is open to the public and offers 7.0 PDHs to professional engineers all states, including North Carolina. HalfMoon Education is an approved engineer continuing education provider in North Carolina (S-0130).

This course also offers a continuing education opportunity to architects and landscape architects in most states. HalfMoon Education has applied for continuing education approval for North Carolina landscape architects, which is under review.

This event is approved by the American Institute of Architects Continuing Education System for 7.0 HSW Learning Units (Sponsor No. J885) and the Landscape Architecture Continuing Education System for 7.0 HSW PDHs. Courses approved by the AIA qualify for North Carolina architects. Only full attendance can be reported to the AIA/CES and 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), and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York architects and landscapes architects.

The Association of State Floodplain Managers has approved this event for 7.0 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 the Audio from the Live Seminar as a Self-Study Package!

An audio recording of this seminar is available for \$289. Allow four weeks from the seminar date for delivery. Please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

Registration

Retaining Wall Design and Slope Stabilization Techniques

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How to Register		Registrant Information
Online: www.halfmoonseminars.org		Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip _____ Occupation: _____ Email: _____ Phone: _____
Phone: 715-835-5900		Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____
Fax: 715-835-6066	Code:	Name: _____ Occupation: _____ Email: _____ Phone: _____
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278		Name: _____ Occupation: _____ Email: _____ Phone: _____
Complete the entire form. Attach duplicates if necessary.		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.

Tuition

() **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

() **I am not attending.** Please send me the self study package for **\$289.00**.

Downloadable MP3 Audio/PDF Manual

CD/Manual Package

(Please allow four weeks from seminar date for delivery)

Checks: Make payable to HalfMoon Education Inc.

Credit Card: *Mastercard, Visa, American Express, or Discover*

Credit Card Number: _____

Expiration Date: _____ CVV2 Code: _____

Cardholder Name: _____

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City: _____ State: _____ Zip: _____

Signature: _____

Email: _____