Retaining Wall Design and Slope Stabilization Techniques

Tempe, AZ - Thursday, April 23, 2020

You’ll be able to:

**Identify** and quantify forces that act on retaining walls.

**Explore** different types of retaining walls and applications for each.

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

**Analyze** slope stability and evaluate slope stabilization techniques, including unloading, reinforcement and mechanical stabilization.

**Review** case studies of retaining wall and slope failures and repairs.

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

Get tips on preventing retaining wall/slope failures

Utilize slope stabilization techniques such as unloading and mechanical stabilization

**Continuing Education Credits**

- **Professional Engineers**: 6.5 CE Hours
- **Landscape Architects**: 6.5 LA/CES HSW PDHs
- **Architects**: 6.5 AIA LU|HSW
- **Floodplain Managers**: 6.5 ASFPM CECs
- **Contractors**: 6.5 Continuing Ed. Hours

**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
- Impacts of water—liquid and frozen
- Vibration

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, permeability and relative cost

**Slope Stabilization Techniques**

Examining slope failures

Slope stability analysis

Stabilization techniques

- Unloading
- Reinforcement
- Draining
- Mechanical stabilization

**Slope Stabilization Case Histories**

Fundamental soil characteristics and 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

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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 1200 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.” – Landscape Architect

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

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

**Seminar Information**

<table>
<thead>
<tr>
<th>Courtyard Tempe Downtown</th>
<th>Registration</th>
<th>Lunch (On your own)</th>
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</thead>
<tbody>
<tr>
<td>601 South Ash Avenue</td>
<td>8:00 - 8:30 am</td>
<td>12:00 - 1:00 pm</td>
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<tr>
<td>Tempe, AZ 85281</td>
<td>Morning Session</td>
<td>Afternoon Session</td>
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<tr>
<td></td>
<td>8:30 am - 12:00 pm</td>
<td>1:00 - 4:30 pm</td>
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**Tuition**

- $299 for individual registration
- $279 for three or more simultaneous registrations.

**Included with your registration:**

- Complimentary continental breakfast and printed seminar manual.
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*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**

- **Foundation Damage and Repair**
  - Design & Geo-Environmental Loading, Building Codes, Soil Properties. Wed., March 6, 2020, 8:00 AM - 12:30 PM CST
  - Foundation Slab-Wall Design and Construction. Wed., March 6, 2020, 1:00 - 2:30 PM CST
  - Evaluation of Foundation Slab Damage and Repair Alternatives. Thurs., March 5, 2020, 11:00 AM - 12:30 PM CST
  - Evaluation of Foundation Wall Damage and Repair Alternatives. Thurs., March 5, 2020, 1:00 - 2:30 PM CST

- **Solar Photovoltaic Project Design and Development, Part I**
  - Wed., March 4, 2020, 11:00 AM - 1:00 PM CST

- **Solar Photovoltaic Project Design and Development, Part II**
  - Thurs., March 5, 2020, 11:00 AM - 2:15 PM CST

**International Residential Code**

- **Development and Enforcement of International Residential Code**
  - Thurs., March 12, 2020, 11:00 AM - 12:00 PM CDT
  - IRC Building Planning and Shell Construction, Part I
  - Thurs., March 12, 2020, 10:00 - 12:30 PM CDT
  - IRC Building Planning and Shell Construction, Part II
  - Fri., March 13, 2020, 11:00 AM - 12:30 PM CDT
  - IRC Energy Efficiency and Building Systems
  - Fri., March 13, 2020, 1:00 - 3:00 PM CDT

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

**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 $279. 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.

**Registration**

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**How to Register**

- Online: www.halfmoonseminars.org
- Phone: 715-835-5900

Fax: 715-835-6066

Mail: HalfMoon Education, Inc., PO Box 278, Altoona, WI 54720-0278

For more information and other upcoming seminars and products. Your email will not be sold or transferred.

**Registrant Information**

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Occupation: ____________________________

Email: ____________________________

Phone: ____________________________

**Additional Registrants:**

Name: ____________________________

Occupation: ____________________________

Email: ____________________________

Phone: ____________________________

**Tuition**

- I will be attending the live seminar. Single Registrant - $299.00. Three or more registrants from the same company registering at the same time - $279.00 each.
- I am not attending. Please send me the self-study package: Downloadable MP3 Audio/PDF Manual for $279.00
- CD/Manual Package for $299.00
- USB/Manual Package $299.00

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

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