

Agenda

Presented by Bill Simpson, PE

Retaining Walls: What They Do and How They Do It

- Defining “the wall”
- Identifying forces on a retaining wall
- How to account for and resist soil pressure
- How water pressure impacts a retaining wall
- The properties of the soil that contribute to the wall design
- Equations and examples

Geosynthetics and Retaining Walls, Embankments and Slopes

- Properties of common geosynthetics
- How an MSE wall differs from other wall types
- Discussion of different blocks, reinforcement, and their interaction
- Design code requirements for an MSE wall
- Geosynthetic properties for use in slope stabilization
- Equations, calculations, and examples of internal stability of an MSE wall

Unreinforced Slope Stability Analysis

- Fundamentals of slope instability
- Soil and geological mechanics related to slope instability
- How geologic conditions affect slope stability
- Observations of slope instability
- Construction practices to improve or restore slope stability
- Equations, calculations and example of an unreinforced slope

Reinforced Slope Stability Analysis

- Geosynthetic properties for use in slope stabilization
- Deep seated stability analysis
- Equations, calculations, and example of using geosynthetics to reinforce a slope
- Soil properties and conditions that contribute to slope stability
- Material required for the exposed face of the slope to maintain long term stability

Retaining Wall/Slope Lessons Learned

- Preventing problems or failures of walls and slopes through improved site layout
- Commonly overlooked design code requirements related to retaining wall layout and design
- Roles and responsibilities of the design and construction team to ensure structure success
- Typical causes of problems or structure failure
- Recognizing and preventing a problem during construction
- How water (both surface and below ground) affects an earth structure
- What measures to take during construction to ensure long term earth structure success
- Case histories and examples of failed structures

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Retaining Wall Design and Global Stability Analysis: Rocky Mountain Region
Live, Interactive Webinar - Tuesday, February 22, 2022

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Learning Objectives

You’ll be able to:

- Explore** how water pressure impacts retaining wall.
- Examine** geosynthetics and retaining walls, embankments and slopes.
- Discuss** construction practices to improve or restore slope stability.
- Learn** about using geosynthetics to maintain long term stability of slopes.
- Learn** to prevent common problems during retaining wall construction.
- Identify** the measures to take during construction to ensure long term earth structure success.



HalfMoon Education Live Webinars

Retaining Wall Design and Global Stability Analysis: Rocky Mountain Region

Live, Interactive Webinar - Tuesday, February 22, 2022



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|---|---|
| Identify the forces on a retaining wall | Use geosynthetics to effectively reinforce slopes |
| Discuss types of geosynthetics for use in slope stabilization | Discuss the roles and responsibilities of the design and construction team to ensure earth structure success |
| Learn about soil and geological mechanics related to slope instability | Review lessons learned from slope and retaining wall case histories |

Continuing Education Credits

- | | |
|--|---|
| Professional Engineers
7.5 PDHs | Landscape Architects
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LA CES Pending |
| Architects
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Faculty



Bill Simpson, PE
Geotechnical Structure Design Specialist at Gradelta Engineering
Mr. Simpson founded Gradelta Engineering in 2020 with the intent to help clients better understand the combination of geotechnical and structural engineering that he has worked with for the past 20 years. He earned his B.S.C.E. and M.S.C.E. degrees from Georgia Institute of Technology. Mr. Simpson currently provides engineering services to contractors and fellow engineers for earth structure pricing, along with the plans and calculations needed for construction. He frequently consults with clients regarding the optimal structure type and location on the construction site to minimize risk and maximize useable space. Mr. Simpson also works in the education sector providing not just seminars such as this one, but also acting as a subject matter expert creating study guide and test prep content for the NCEES Professional Civil Engineer exam. He has also worked with lawyers and insurance companies during forensic investigation and lawsuits surrounding retaining wall and slope failures. Mr. Simpson's hope is that through the instructional services that he currently provides, slopes will remain stable and retaining wall failure will be eliminated.

Webinar Information

Log into Webinar 8:00 - 8:30 am MST	Break 11:55 am - 12:25 pm MST
Morning Session 8:30 - 11:55 am MST	Afternoon Session 12:25 - 4:55 pm MST

Tuition
\$289 for individual registration
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Additional Learning

How to Think Like a Bee: Creating Pollinator Habitat
- Mon, Jan 24, 2022 | 3:00 - 4:30 pm CST

Erosion and Sediment Control
- Tues, Jan 25, 2022 | 8:30 am - 5:00 pm CST

A Drainage Technology Update
- Tues, Jan 25, 2022 | 10:00 am - 12:00 pm CST

How to Calculate Soil Volumes for Cut and Fill
- Wed, Jan 26, 2022 | 1:30 - 4:30 pm CST

Using the U.S. Public Land Survey System
- Wed, Jan 26, 2022 | 9:00 am - 1:30 pm CST

Seismic Design and Construction
- Thurs, Jan 27, 2022 | 8:30 am - 5:00 pm CST

Stormwater Best Management Practices
- Thurs, Jan 27, 2022 | 8:30 am - 5:00 pm CST

Continuing Education Credit Information
This webinar is open to the public and offers 7.5 PDHs to professional engineers, and 7.5 HSW continuing education hours to architects and landscape architects licensed in Montana. Courses and providers are not subject to preapproval in Montana.

Engineers, architects and landscape architects seeking continuing education credit in other states will be able to claim the hours earned at this webinar, in most cases. Refer to specific state rules to determine eligibility. No credit is offered to landscape architects in New Jersey.

The American Institute of Architects Continuing Education System has approved HalfMoon Education as a sponsor of continuing education (Sponsor No. J885). This course has been submitted for AIA CES approval. Only full participation is reportable to the AIA CES.

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Introduction to HEC-HMS Modeling
- Mon, Jan 31, 2022 | 8:30 am - 5:00 pm CST

How to Identify Soil Types
- Tues, Feb 8, 2022 | 10:00 am - 12:00 pm CST

Estimating the Cost of Sitework
- Wed, Feb 9, 2022 | 7:30 am - 3:30 pm CST

Pumping and Piping Systems
- Thurs, Feb 10, 2022 | 11:00 am - 2:15 pm CST
- Fri, Feb 11, 2022 | 11:00 am - 2:15 pm CST

Construction Contract Workshop
- Thurs, Feb 10, 2022 | 9:00 am - 5:00 pm CST

Project Management for Engineers
- Fri, Feb 11, 2022 | 8:30 am - 5:00 pm CST

Drones in Construction
- Wed, Feb 16, 2022 | 8:30 am - 4:30 pm CST

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Registration

Retaining Wall Design and Global Stability Analysis: Rocky Mountain Region

- Live Webinar - Tuesday, February 22, 2022

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