

Agenda

Defining Geotechnical Project Requirements/Expectations

- Commercial vs. residential construction
- Defining project scope of service
- Planning geotechnical investigations

Evaluating Building Sites

- Soil mechanics overview
- Site and subsurface exploration methods
- Laboratory soil testing
- Analysis and design considerations

Preliminary Evaluation of Foundation Alternatives

- Bearing capacity and tolerable settlement
- Difficult soil conditions
- Effects of load types and soil types
- Subgrade improvement alternatives

Geotechnical Analysis of Settlement/Heave

- Consolidation theory
- Soil swell/collapse
- Analysis methods

Geotechnical Shallow Foundation Design

- Spread footings
- Mat foundations
- Hybrid foundations
- Shallow, frost-protected foundations
- Lateral earth pressure
- Shallow subgrade improvement
- Special foundation design considerations
- Building code commentary

Factors Impacting Shallow Foundation Performance

- Earthwork, grading, and soil improvement
- Dewatering and drainage
- Earthwork practices/cold weather earthwork

Engineering Inspection/Testing

- Role of the geotechnical engineer during construction
- Site Inspections
- Quality control/quality assurance testing

Questions, Special Topics, Examples

Shallow Foundation Design and Construction

Missoula, MT - Friday, March 29, 2019



Halfmoon Education Inc.
PO Box 278
Altoona, WI 54720-0278

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Learning Objectives

You'll be able to:

- Evaluate** building site soils and determine bearing capacity.
- Understand** how settlement and heave impact geotechnical design.
- Evaluate** different types of shallow foundations, including spread footings, mat foundations and hybrid foundations.
- Review** factors impacting shallow foundation performance such as grading, soil improvement, drainage and dewatering.



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- Define** geotechnical project requirements for commercial and residential construction
- Evaluate** building sites using site exploration and laboratory testing
- Review** foundation alternatives
- Learn** about geotechnical shallow foundation design and performance
- Understand** site inspections and quality control testing

Continuing Education Credits

- | | |
|---|---|
| Professional Engineers
7.0 PDHs
MSE Approved | Contractors
Non-Credit Continuing Ed. |
| Architects
7.0 HSW CE Hours
7.0 AIA HSW Learning Units | |





Jon Hepfner, P.E. *Big Sky Subsurface- Belt, MT*

Mr. Hepfner is a senior geotechnical engineer with over 20 years of geotechnical experience in Montana. Mr. Hepfner was a senior project level engineer and a minority stockholder of NTL Engineering and Geoscience; founded and operated Big Sky Drilling, a geotechnical and environmental drilling company; and is currently the president and founding member of Big Sky Subsurface, a geotechnical and materials engineering consulting firm. Big Sky Subsurface performs all manner of geotechnical engineering and materials testing services throughout Montana and is equipped with subsurface drilling and testing capabilities as well extensive, state-of-the-art field and laboratory testing equipment/capabilities. Mr. Hepfner has conducted geotechnical field investigations, performed engineering analysis, and prepared geotechnical recommendations and engineering reports for projects including transportation/roadway design, bridge foundations, utility and infrastructure design, deep and shallow foundations, slope stability, hydroelectric and storage dams, historic structure restoration, retaining walls, rockfall hazard mitigation, feasibility studies, and forensic investigations. He has also performed design-build consulting services, construction management, construction observation, quality control management, geotechnical forensic studies, field load testing, and drilling consulting services.

Brian Williams, P.E., P.G. *Terracon Consultants, Inc. – Great Falls, MT*

Mr. Williams is a senior geotechnical engineer and geologist with approximately 37 years of experience in the intermountain northwest region. Mr. Williams holds a bachelor of science degree in Geological Engineering and a master of science degree in Civil Engineering from the South Dakota School of Mines and Technology. He currently works for Terracon Consultants and has provided foundation analysis and design for projects ranging in scale from single-story, light duty structures to large industrial facilities, bridges, and nuclear facilities. He has performed slope stability studies for open pit mines, earth dams, and municipal reservoir foundations, and has completed site characterization and design studies on major U.S Department of Energy and Defense projects. Mr. Williams’ field experience includes development and implementation of exploration plans for large projects, including drilling, geophysical exploration, geologic mapping, and large-scale sampling programs. Mr. Williams has worked for several large engineering firms and has a broad range of experience and expertise in geology, geophysics, and geotechnical engineering.

Seminar Information

Courtyard by Marriott Missoula
4559 North Reserve Street
Missoula, MT 59808
(406) 549-5260

Registration
8:00 - 8:30 am
Morning Session
8:30 am - 12:15 pm
Lunch (On your own)
12:15 - 1:15 pm
Afternoon Session
1:15 - 5:00 pm

Tuition
\$289 for individual registration
\$269 for three or more registrants from the same company at the same time.
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.

Continuing Education Credit Information

This seminar is open to the public and offers 7.0 PDHs to professional engineers and 7.0 HSW continuing education hours to architects all states. Educators and courses are not subject to preapproval in Montana. The Montana Society of Engineers has approved this course for 7.0 PDHs.

This seminar has been approved by the America Institute of Architects for 7.0 HSW Learning Units (Sponsor No. J885). Only full attendance can be reported to the AIA/CES.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York architects.

This seminar offers a continuing education opportunity to construction contractors but has not been submitted to any state contractor licensing board for continuing education approval.

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.

Additional Learning

Webinar Series

Special Inspections

- **Introduction to Chapter 17: Special Inspections**
Wed., Feb. 13, 2019, 11:00 AM -12:30 PM CST
- **Soils and Foundations**
Wed., Feb. 13, 2019, 1:00 -2:30 PM CST
- **Reinforced Concrete and Structural Steel**
Thurs., Feb. 14, 2019, 11:00 AM -12:30 PM CST
- **ACT Ceiling Grid, Epoxy Anchors, and Fire Penetrations**
Thurs., Feb. 14, 2019, 1:00 -2:30 PM CST

For more information 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 \$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.

Registration

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How to Register	Registrant Information
Online: www.halfmoonseminars.org	Name: _____ Company/Firm: _____ Address: _____ City:_____State: _____ Zip_____
Phone: 715-835-5900	Occupation: _____ Email: _____ Phone: _____
Fax: 715-835-6066	Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____
Code:	Name: _____ Occupation: _____ Email: _____ Phone: _____
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278	
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 - **\$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.

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

Credit Card Number: _____

Expiration Date: _____ CVV2 Code: _____

Cardholder Name: _____

Billing Address: _____

City:_____State:_____ Zip: _____

Signature: _____

Email: _____

