

Agenda

Presented by David Harmanos

Soil Mechanics, Bearing Capacity, and Earth Retention

Understanding soil characteristics
Basic earth pressure theory
Bracing systems Tieback anchors
Soil nail walls Sheet pile and soldier pile walls
Secant pile and diaphragm walls
Top-down excavations
Using cofferdams

Reviewing Deep Foundation Types

Types of deep foundations
• Driven piles • Drilled shafts
• Auger cast piles • Others
Hybrid foundations
• Grouping piles • Selecting foundation type
Life expectancy, cost, soil conditions

Pile Design

Effective stress
Estimating axial capacity
Skin friction
• Granular soils and cohesive soils
End bearing
• Soil and rock
Uplift capacity Computing settlement
Down drag Lateral capacity design
Moment resistance Battered piles

Installation and Testing

Construction preparation
Construction techniques
Quality assurance/quality control
Field records
Pile testing
Performance/integrity
• Load test, PDA, CAP/WAP, PIT/PET
Restriking

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Deep Foundations and Excavations

Live, Interactive Webinar - Wed., December 30, 2020

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Learning Objectives

You'll be able to:

Consider the importance of soil characteristics, discuss earth pressure theory, and identify earth retention options for working on deep excavations.

Describe different types of deep foundations and hybrid foundations, and explore their applications.

Explore pile design considerations, including axial capacity, skin friction and end bearing.

Discuss installation practices designed for quality assurance and quality control.

Establish testing protocols to verify performance and integrity.

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Get an update on soil mechanics and earth pressure theory

Review deep foundation types, including driven piles, auger cast piles and drilled shafts

Discuss pile design and review the factors that impact performance

Learn about deep foundation installation

Explore test protocols to verify performance and integrity

Continuing Education Credits

Professional Engineers
7.0 PDHs

AIA
7.0 LU|HSW

Architects
7.0 HSW CE Hours

International Code Council
Pending



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Faculty

David Harmanos *Branch Manager at Hillis-Carnes Engineering Associates, Inc.*
Mr. Harmanos is a professional engineer with extensive experience in subsurface exploration, soil testing, infiltration testing, geosynthetics, and seismic and advanced analysis. His expertise includes commercial, industrial and institutional foundation design; retaining wall and steep slope design; sinkhole remediation; landfill design; site work; forensic engineering; LEED consulting; and construction quality control/assurance (CQA/QC). Mr. Harmanos is a graduate of Drexel University where he received both his BS and MS degrees in Civil Engineering (Geosynthetics and Geotechnical).

Hillis-Carnes performs geotechnical engineering consulting and laboratory testing services. Its construction services include evaluation of bearing materials, inspection of pile driving, slope inclinometer installation and monitoring, and retaining wall construction observation.

Webinar Information

Log into Webinar 8:30 - 9:00 am CST	Break 1:00 - 1:30 pm CST
Morning Session 9:00 am - 1:00 pm CST	Afternoon Session 1:30 - 5:00 pm CST

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Additional Learning

- Complying with the 2021 Commercial Provisions of the Energy Conservation Code**
- Tues., Dec. 15, 2020 | 8:30 am CST - 5:00 pm CST
- Complying with Fire Protection and Building Codes**
- Tues., Dec. 15, 2020 | 8:30 am - 5:00 pm CST
- Fire-Resistant Landscapes and Construction**
- Tues., Dec. 15, 2020 | 10:00 am - 5:00 pm CST
- Structural Forensic Engineering**
- Wed., Dec. 16, 2020 | 10:00 am - 1:45 pm CST
- Thurs., Dec. 17, 2020 | 10:00 am - 2:15 pm CST
- International Existing Building Code 2018**
- Wed., Dec. 16, 2020 | 8:30 am - 4:30 pm CST
- Structural Forensic Engineering**
- Wed., Dec. 16, 2020 | 10:00 am - 1:45 pm CST
- Thurs., Dec. 17, 2020 | 10:00 am - 2:15 pm CST
- International Residential Code 2018**
- Fri., Dec. 18, 2020 | 8:30 am - 4:45 pm CST
- Pavement Design**
- Fri., Dec. 18, 2020 | 9:00 am - 4:30 pm CST
- Preventing and Addressing Construction Defects and Failures**
- Mon., Dec. 21, 2020 | 8:30 am - 5:00 pm CST
- Special Inspections under the International Building Code Chapter 17**
- Mon., Dec. 28, 2020 | 9:00 am - 4:30 pm CST
- Residential and Small Commercial International Energy Conservation Code**
- Tues., Dec. 29, 2020 | 9:30 am - 4:30 pm CST

Continuing Education Credit Information

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Completion certificates will be awarded to participants who complete this event, respond to prompts and earn a passing score (80%) on the quiz that follows the presentation (multiple attempts allowed).

Registration

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