

Agenda

Presented by David Harmanos, P.E., LEED AP

Shallow Foundation Science

Science of shallow foundation design

- Early trial and error
- Advent of theoretical soil mechanics
- The new branch of civil engineering: geotechnical

Evaluating Building Sites

Role of experts in site evaluation process

Site examination techniques

Soil mechanics overview

Soil sampling and testing

Review of laboratory and field results

Shallow Foundation Design

Possibility of subsidence

Shallow foundations on sand

Foundations on clay

Special soil/site conditions

Spread footings

Mats

Shallow Foundation Construction

Grading and soil improvement

Dewatering and drainage

Excavation and underpinning

Complying with building codes

Managing Special Situations in Foundation Design and Construction

Foundations on expansive and stratified soils

Maintaining slope stability

Retaining walls and basement walls

Diagnosing and Repairing Foundation Problems

Causes of foundation damage

Repair techniques

- Supporting interior floors
- Mudjacking
- Deep grouting
- Underpinning
- Soil stabilization

Shallow Foundation Design, Construction and Repair

Syracuse, NY - Friday, July 26, 2019

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Learning Objectives

You'll be able to:

Evaluate soil conditions on building sites.

Discuss the construction of foundations on sand and clay, and understand the effects of settlement and consolidation.

Explore techniques for grading and soil improvement.

Discuss the use of spread footings and mat footings.

Study design of foundations on expansive and stratified soils.

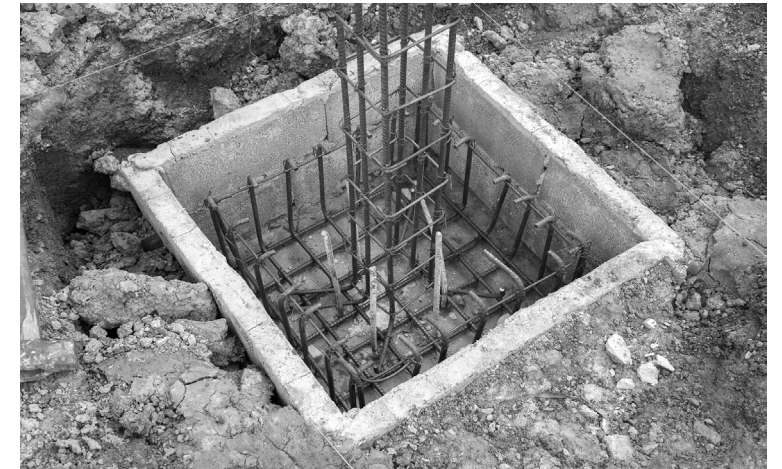
Review causes of foundation damage and evaluate repair techniques.



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Shallow Foundation Design, Construction and Repair

Syracuse, NY - Friday, July 26, 2019



Review the science of shallow foundation design

Learn how to evaluate building sites

Discuss soil conditions, slope stability, excavation and drainage

Explore spread footings and mats

Get tips on the design of basement walls and retaining walls

Analyze foundation problems and repair techniques

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6.5 AIA LU|HSW Learning Units

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Branch Manager at Hillis-Carnes Engineering Associates, Inc.

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.

“Good seminar. Mr. Harmanos is an asset to your program.” – *Geotechnical Engineer*

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