Retaining Walls: Purpose and Wall Type Selection

S. Chiang

What is a retaining wall and what does it do?

Retaining wall vs. reinforced slope

Selecting the proper type of retaining wall for a given application:
- Fill walls vs. cut walls
- Material parameters influencing wall selection
- Wall facing options
- Costs

Parties involved in retaining wall selection, design, construction, and quality control

Cut Walls

K. Morrison

Types of cut walls and hybrid walls

Focus on soil nail walls:
- Wall design methodologies and force diagrams
- Wall stability: internal / external / global
- Temporary wall vs. permanent wall
- Design parameters and how to determine them
- Geotechnical exploration program
- Verification testing
- Impact of water and wall drainage design
- Other design considerations

Introduction to shored MSE (SMSE) wall

Fill Walls

S. Chiang

Types of fill and backfill walls

Focus on mechanically-stabilized earth (MSE) walls:
- Wall design methodologies and force diagrams
- Wall stability: internal / external / internal compound / global
- Types of reinforcement
- Design parameters and how to determine them
- Geotechnical exploration program
- Impact of water and wall drainage design
- Other design considerations

Construction, Monitoring, and Stability of Retaining Walls

K. Morrison

Contracting methods for retaining wall construction

Roles and responsibilities

MSE walls: construction sequence, monitoring, and testing

Soil nail walls: construction sequence, monitoring, and testing

Factors affecting wall stability (e.g., drainage, geologic conditions, construction activity, maintenance)

Case histories

Understand how to select the proper type of retaining wall for a given application

Identify the parties involved in retaining wall selection, design, construction and quality control

Examine cut walls, hybrid walls, fill walls and backfill walls

Learn about design of mechanically-stabilized earth walls

Explore factors affecting wall stability including drainage, geologic conditions and construction activity

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Denver, CO • Thursday, April 3, 2014
**About the Seminar**

**Thursday, April 3, 2014**

Doubletree Hotel Denver  
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$269 for one or $249 each for three or more from the same company, registering at the same time. Each registration includes one copy of *Retaining Wall Design and Construction*.

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**Faculty**

Sean Chiang, Ph.D., PE, Principal, Ground Engineering Consultants

Dr. Chiang is experienced with geological investigations and geotechnical analysis and design. His education and experience have provided him with a broad knowledge of geotechnical engineering and construction. His experience ranges from engineering consultation, project coordination and planning, to data analysis and engineering design for various types of foundation systems and retention structures. He has experience with slope stability, earth embankments, groundwater and seepage, static and dynamic pile testing, seismic analysis, and pavement design. As a project manager/engineer, he has been in charge of numerous geotechnical projects ranging from major transportation structures, dams and levees, industrial, commercial, and retail facilities, to residential developments. Dr. Chiang is the principal in charge on engineering design and evaluation of various types of geotechnical structures at the firm, and he is an advanced instructor for segmental retaining wall installers certified by the NCA.

Kimberly Finke Morrison, PE, BG Morrison Geotechnical Solutions, Inc.

Ms. Morrison is president and principal geotechnical engineer at Morrison Geotechnical Solutions, Inc. She has over 15 years of consulting experience on a variety of geotechnical, civil, environmental and construction projects, and she specializes in the environmentally-responsible design of mine waste facilities for clients worldwide. However, her expertise extends well beyond the mining industry. She has designed numerous soil nail retaining walls and mechanically-stabilized earth walls. Notably, she served as the lead investigator for the development of a design guideline for the Federal Highway Administration on an innovative retaining wall system, termed a shored mechanically stabilized earth (SMSE) wall. Ms. Morrison has authored or co-authored more than 20 technical publications, ranging from retaining wall design to liner system design, mine waste facility design, geotechnical exploration, and mentoring. She is a registered professional engineer in Colorado, New Mexico, Arizona, Wyoming and Utah, and she is a registered geologist in Missouri.