



**48<sup>th</sup> Annual Conference of the Northeast  
States Geotechnical Engineers  
October 23-25, 2007  
John Hancock Hotel & Conference  
Center  
Boston, MA**



*Welcome to Boston! Boston, first incorporated as a town in 1630, and as a city in 1822, is one of America's oldest cities, with a rich economic and social history. What began as a homesteading community eventually evolved into a center for social and political change. Boston has since become the economic and cultural hub of New England. We hope you enjoy your stay!*

***Tuesday October 23, 2007***

- 10:00 – 1:00            ***Registration***
- 12:00 – 1:00            ***Lunch***
- 1:00 – 1:20            ***Welcome*** – Nabil Hourani, P.E., *MassHighway Department*
- 1:30 – 3:00            ***Keynote Presentation*** - The Interface of Underground Construction with the Urban Environment  
– Marco Boscardin, *Boscardin Consulting Engineers, Inc.*
- 3:00                      ***Break***
- 3:15 – 4:00            Slope Stabilization using Soil Nails – Joseph Blair, P.E., *New Hampshire DOT*
- 4:00                      ***Adjourn***
- 5:15                      ***Welcome Reception*** – *Maggiano's Little Italy Boston, MA*

***Wednesday October 24, 2007***

- 7:00 – 8:00            ***Breakfast***
- 8:00 – 9:00            Soil Nail Launcher Presentation – Kim Ruckman, *Soil Nail Launcher, Inc.*
- 9:00 – 10:00          The MassHighway Geotechnical Manual – Nabil Hourani, P.E., *MHD*
- 10:00 – 10:30        ***Break – Group Photo***
- 10:30 – 11:00        Jet Grouted Foundation for Railroad Bridges – Justice Maswoswe, *Geotechnical Engineer, FHWA*
- 11:00 – 12:00        Scoby Hill Landslide – Bob Burnett, P.E., *Director GEB, NYS DOT*
- 12:00 – 1:00            ***Lunch***
- 1:00 – 4:30            ***Workshop*** - Design and Construction of Continuous Flight Auger (CFA) Piles for Highway  
Projects – Silas Nichols, P.E., *Senior Geotechnical Engineer, FHWA Resource Center*
- 4:30                      ***Adjourn – State Geotechnical Engineer's Meeting***

***Thursday October 25, 2007***

- 7:00 – 8:00            ***Breakfast***
- 8:00 – 9:00            Surprises & Solutions When Driving Piles in Mountain Valleys of VT – Chris Benda, P.E., *Soils and Foundations Engineer, Vermont Agency of Transportation*
- 9:00 – 9:30            SPT Energy Measurements with PDA – Laura Krusinski, P.E., *State of Maine Department of Transportation*
- 9:30 – 10:00          ***Break***
- 10:00 – 11:00         DS: QA/QC – Peter Connors, P.E., *MHD*
- 11:00 – 12:00         Development and Implementation of Early Detection Systems for Ground Movements – Don J. DeGroot, Sc.D., P.E., Associate Professor, Jeffrey Lloyd, *VTrans/UMass Amherst*
- 12:00 – 1:00          ***Lunch***
- 1:00 – 2:00            Quality Assurance Issues: Geofoam and MSES Backfill – *Don Dwyer, P.E., Associate Soils Engineer, NYS DOT*
- 3:00                    ***Historic Duck Tour*** - You've never toured Boston in anything that comes close to Boston Duck Tours. The fun begins as soon as you board your "DUCK", an authentic, renovated World War II amphibious landing vehicle. You'll cruise by all the places that make Boston the birthplace of freedom and a city of firsts, from the golden-domed State House to Bunker Hill and the TD Banknorth Garden, Boston Common and Copley Square to the Big Dig, Government Center to fashionable Newbury Street, Quincy Market to the Prudential Tower, and more. And, as the best of Boston unfolds before your eyes, your ConDUCKtor will be giving you lots of little known facts and interesting insights about our unique and wonderful city.
- And just when you think you've seen it all, there's more. It's time for "Splashdown" as your ConDUCKtor splashes your DUCK right into the Charles River for a breathtaking view of the Boston and Cambridge skylines, the kind of view you just won't get anywhere else.

## **Design and Construction of Continuous Flight Auger (CFA) Piles for Highway Projects**

Silas Nichols, P.E.  
Senior Geotechnical Engineer  
FHWA Resource Center

Continuous Flight Auger (CFA) piles have been a popular foundation choice in the United States private sector, and in international private and public sector work for several years. Recently, a number of State DOT's have begun to approve CFA piles on a project-specific basis considering technical feasibility, suitable project conditions, project performance requirements, construction quality control and assurance procedures, and cost.

During a recent AASHTO/FHWA International Scan Tour on Accelerated Methods for Construction of Bridge and Embankments Foundations, CFA pile systems were identified as a technology with a very high probability for successful implementation in this country to reduce cost and accelerate construction of highway projects. CFA pile systems were observed to be significantly faster and less expensive for certain applications than current deep foundation alternatives used for structure support and ground improvement. Several concerns and technical issues have been identified in existing US practice and the FHWA has developed guidance to address them.

This workshop will introduce CFA piles for use on highway projects. Specifically, the workshop will cover equipment, materials and construction techniques for pile installation; recommended methods for estimating the static capacity of piles; QC and QA procedures including the development and use of automated monitoring equipment; and development of specifications. The workshop is designed to cost effectively facilitate implementation of CFA piles for highway projects.