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When: **April 16, 2013, Tuesday**
5:45 PM – 6:15 PM Social time/Dinner
6:15 PM Start of Presentation

Where: **Kentucky Engineering Center**

Topic: **A Case Study – A Secant Pile Wall Excavation Support System in Soft Clay**

Speaker: **L. Sebastian Bryson, Ph.D., P.E.**

Dr. L. Sebastian Bryson joined the Department of Civil Engineering at the University of Kentucky in August 2006. He previously taught at Ohio University for four years. He received his Ph.D. from Northwestern University, his Master of Engineering degree from Howard University and his Bachelor of Science degree from the Florida A and M University/Florida State University College of Engineering. Prior to entering into academia, Dr. Bryson worked as a design manager and project manager for CH2M HILL, Inc., an international engineering consulting firm. While at the firm, he completed environmental and civil infrastructure projects in about fifteen states that included all aspects of planning, designing, and construction. Previous to CH2M HILL, Dr. Bryson was a Highway Research Fellow for the Federal Highway Administration's (FHWA) Turner-Fairbank Research Center, and earlier was a research engineer at the Los Alamos National Laboratory in Los Alamos, NM. Dr. Bryson's research interest focuses on applied geotechnics and includes field instrumentation and monitoring of constructed facilities, in-situ response of earth structures, performance prediction of supported excavations, in-situ and laboratory testing of soils, and soil improvement and ground modification. Current research projects include; deformation-based design methodology, response of geotechnical systems to extreme loads, sensor geotechnics, and geotechnical sustainability. Dr. Bryson teaches an undergraduate course in Foundation Engineering and graduate courses in Advanced Soil Mechanics, Advanced Foundation Engineering, and Stability of Earth Slopes. Dr. Bryson is a registered professional engineer in the states of Wisconsin, Illinois, Michigan, Indiana, and Ohio.

Excavation for the Chicago and State Subway Renovation Project was undertaken within1.3 m of the shallow foundations of the Frances Xavier Warde School. The excavation extended down into the soft to medium stiff Chicago clays to a depth of 12.2 m. The excavation support system consisted of a 0.9-m thick secant pile wall, one level of cross-lot bracing and two levels of tiebacks. Field performance data collected for the excavation support system included lateral soil movements, pore pressure readings, and support system loads. The building movements were monitored with optical survey points established on interior columns and on exterior walls. In addition, visual inspections of building damage were performed throughout the project. The support system performance data suggests that excavation-related settlement behind a support wall can be estimated reasonably well from inclinometer data. The building response data showed that less than 50 percent of the building settlement was due to excavation-induced stress relief and the settlements extended beyond the secant pile wall a distance approximately equal to the depth of the secant pile wall.

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KGEG DUES:
KGEG dues of $10 are now due for next year. Our dues run from October to October. Send checks payable to KGEG to Adam Hacker, Stantec, Inc., 1409 North Forbes Road, Lexington, KY 40511-2050