

DANIEL C. BRAHANA, PE
PRINCIPAL ENGINEER

SUMMARY OF QUALIFICATIONS

Mr. Brahana joined Geosystems Engineering, Inc. in 2000 as Vice-President and Principal Geotechnical Engineer. In this capacity, Mr. Brahana is responsible for managing and providing technical review for geotechnical and construction materials testing projects. Prior to joining Geosystems, Mr. Brahana served as principal engineer and president of SES Geotechnical, Inc. and senior engineer, principal engineer and geotechnical department manager in the Atlanta Branch of Law Engineering and Environmental Services, Inc. In his 20 years as a staff, senior and principal engineer, Mr. Brahana has performed geotechnical and construction inspection duties for over 500 new construction and existing projects in the southeastern United States. He has also worked on projects in Asia, the Caribbean and in Africa.

REGISTRATION

Professional Engineer, Georgia No. 18053
ICC Building Inspector, No. 7589

EDUCATION

B.S., Civil Engineering, Georgia Institute of Technology, Atlanta, GA, 1984
Graduate Studies in Geotechnical Engineering, Georgia Institute of Technology, Atlanta, GA, 1985-1986

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers
National Society of Professional Engineers
International Code Council

FIELDS OF EXPERTISE

Mr. Brahana has managed numerous geotechnical explorations for commercial buildings (low to high-rise), stadiums, industrial facilities, dams, harbor structures and water/wastewater treatment facilities. He has also worked in a wide variety of geological settings and performed and reviewed numerous geotechnical calculations for different soil conditions. Many projects have required direction and coordination of employees and subcontractors assigned to various field, laboratory and analytical tasks. Mr. Brahana has successfully managed specific geotechnical projects in the U.S. and abroad which generated fees in excess of \$100,000.

Shoring Design – Mr. Brahana has designed excavation support systems for more than 30 construction projects. Support systems have included soldier piles and lagging and sheet piling with both internal and external support.

Field Testing and Sampling - Mr. Brahana has performed numerous geotechnical field tests including dilatometer, pressuremeter, cone penetrometer, vane-shear, in-situ permeability, California Bearing Ratio and geophysical surveys (seismic refraction and resistivity). He has also observed other tests, such as seismic cone penetrometer, and geophysical borehole logging. He is very familiar with geotechnical drilling procedures.

Settlement Evaluation - Mr. Brahana has performed settlement analyses for a wide variety of structures ranging from buildings to tanks to dams. Analyses have involved the use of field test data (cone penetrometer, dilatometer, pressuremeter, etc.) and laboratory consolidation data. Analyses have been performed for geological conditions ranging from very soft clays of coastal regions to partially weathered rock of the Piedmont.

Piles and Piers - Mr. Brahana has experience with numerous foundation types including shallow footings, mats, augercast piles, drilled piers, and driven piles. He has performed and managed load testing of the different foundation systems listed above.

Failure Investigations - Mr. Brahana has evaluated several geotechnical-related failures. The projects include the piping failure of a 35-foot high earth dam on initial filling, failure of a large diameter combined sewer in Atlanta, Georgia, washout of a roadway embankment, and other smaller structural failures.

PUBLICATIONS / PRESENTATIONS

Performance of In Situ Testing Methods in Predicting Deep Foundation Capacity, Proceedings of the First International Conference on Site Characterization, Atlanta, Georgia, 1998.

Soil Displacement Piles In Coastal Deposits: A Case Study, Proceedings of the Twenty-Ninth Ohio River Valley Soils Seminar, October 16, 1998.

Prediction of Augercast Pile Capacities in Piedmont Residual Soils – ASCE Civil Engineering Conference & Exposition, Charlotte, North Carolina, October 20, 1999.

SELECTED PROJECT EXPERIENCE

Infectious Diseases Laboratory, CDC, Atlanta, Georgia: Design engineer for temporary and permanent shoring associated with a major expansion project at the CDC's Roybal Campus. Total shoring on the project was approximately 46,000 square feet. Shoring was for a variety of excavation conditions including a 30-foot deep utility tunnel, excavation immediately adjacent to an existing laboratory building with vibration-sensitive equipment and for a permanent basement wall. The project was completed in 2003. Owner: Centers for Disease Control.

The Paramount at Buckhead, Atlanta, Georgia: Design engineer for temporary shoring for a 35-story apartment building in Atlanta. Excavation was 30 to 50 feet deep to accommodate 5 levels of underground parking. An existing city street and apartment building were located adjacent to the site. In addition, a temporary dewatering system was designed for the project. The project was completed in 2004. Owner: The Hanover Company.

The Georgia Aquarium, Atlanta, Georgia: Design engineer for temporary shoring associated with construction of the Georgia Aquarium in Atlanta. Excavations are up to 35 feet deep and within 20 feet of the existing city streets. Approximately 20,000 square feet of shoring was required. The project is on-going and scheduled to open in 2005.

No. 10 Turbine Generator Project, Union Camp, Savannah, Georgia: Principal geotechnical engineer for expansion of Union Camp's Savannah facility. Services included foundation design recommendations for driven piles and a vibration study to evaluate the effects of pile driving on the existing nearby structures. The studies were performed in 1998. Owner and Client: Union Camp

Savannah International Trade and Convention Center: Principal geotechnical engineer for a new convention center and hotel on Hutchinson Island in Savannah, Georgia. Both projects are founded on soil-displacement piles. Project included extensive

pile-load testing, pre-loading of soft soils, sheet-pile bulkheads, and parking lot construction over very soft silts deposited over the last 50 years in an abandoned slip. The project was completed in 1999. Owner: City of Savannah (SITCC), Westin (Hotel).

Atlanta Olympic Stadium, Atlanta, Georgia: Project geotechnical engineer for 80,000 seat sports stadium, with the majority of the structure founded on friction and end-bearing augercast piles. A portion of the permanent and temporary seating was supported on shallow footings. This project included temporary and permanent dewatering, anchor-supported retaining walls and excavation bracing. The project was completed in 1996. Owner: Turner Sports

Hang Lung Plaza, Shanghai, China: Provided geotechnical consulting for a high-rise office development. The project consists of two office towers (45 and 55 stories) atop a low-rise (5-story) podium. Approximately 2300 drilled piers were used to support the development. Evaluations were performed for capacity and installation procedures of the project's 80-meter long drilled pier foundations. In addition, settlement analyses were performed for the entire complex. The project was completed in 1998.

U.S. Embassy Compound, Tunis, Tunisia: Project geotechnical engineer for a new embassy compound in Tunis, Tunisia. Provided on-site supervision of the field investigation and directed the laboratory testing. Performed geotechnical analyses and developed shallow foundation recommendations for the low to mid-rise compound. Detailed settlement analyses were required because of the presence of soft clay deposits associated with the Lake of Tunis. The study was performed in 1992. Owner: U.S State Department.