LAKE TOWNSEND DAM GEOLOGIC AND GEOTECHNICAL CHARACTERIZATION

Speaker: Gerald Roblee, P.E., Schnabel Engineering

Talk and Dinner: Thursday, October 18, 2007

Natty Greene's Pub and Brewing Company
Greensboro, North Carolina

Association of Environmental and Engineering Geologists - Carolinas Section

Meeting:

Place:	Natty Greene's Pub and Brewing Co. – 345 South Elm Street; Greensboro, NC
Date:	**Thursday, October 18, 2007**
Time:	6pm social hour, 7pm dinner, 8pm speaker
Program:	Lake Townsend Dam Geologic and Geotechnical Characterization
Cost:	Member/Non-member $25, Student $10

Reservations: Please make reservations with Richard Lovett by Monday, October 15, 2007.
Phone: 336-852-4903
E-mail: Richard_Lovett@golder.com

Or you may also mail reservation to:
Richard Lovett
Golder Associates NC
The Wingate Building
4900 Koger Boulevard
Greensboro, NC 27407

Abstract:

Lake Townsend Dam Geologic and Geotechnical Characterization

In 1966, the City of Greensboro had the Lake Townsend Dam constructed to augment the City's available water supply. Lake Townsend Dam consists of a gated concrete spillway and integral intake/pump station flanked by earth embankments. Prior to 1980, major concrete elements of the dam, particularly the concrete spillway piers, began exhibiting cracking. The City attempted repairs of these areas to prevent further cracking and concrete deterioration without success. An investigation completed in 2006 by Jewel Engineering revealed that the cracking distress was caused by alkali-silica reactivity (ASR) in the concrete of the spillway and that dam rehabilitation and/or replacement was needed. Schnabel Engineering South, P.C. (Schnabel) was retained by the City in 2006 to develop rehabilitation or replacement alternatives and design the selected alternative.

This presentation discusses the geologic and geotechnical characterization of the dam and site performed by Schnabel. Field explorations were performed to evaluate the performance of the existing dam as a hydraulic barrier, develop an understanding of the subsurface conditions, and to evaluate how the site development, grading, and operations may impact dam rehabilitation. Field exploration techniques used for the dam included:

- Test Borings in soil and rock
- Six-inch diameter concrete cores through the concrete spillway
- Vibrating wire piezometers to measure water pressure upstream and downstream of seepage cut-offs
- Cone Penetration Testing
- Seismic Refraction
- Ground Penetrating Radar (GPR), and
- Test Pits

About the Speaker:

Gerald Robblee, P.E., has extensive experience as a geotechnical Project Manager and Project Engineer. He is an Associate Engineer with Schnabel Engineering in Greensboro, NC and concentrates on geotechnical aspects of infrastructure projects.

Since receiving his master's degree in civil engineering in 1988 from Worcester Polytechnic Institute, he has provided geotechnical services for a wide range of projects including dams, levees, tunnels, pipelines, building foundations, earth retaining structures, seismic studies, and landfills. Mr. Robblee has worked in the northeast, southeast, and southwest and is a registered professional civil engineer in four states and a registered geotechnical engineer in California

Directions:

Natty Greene's Pub & Brewing Co., 345 S. Elm Street, Greensboro, NC 27401

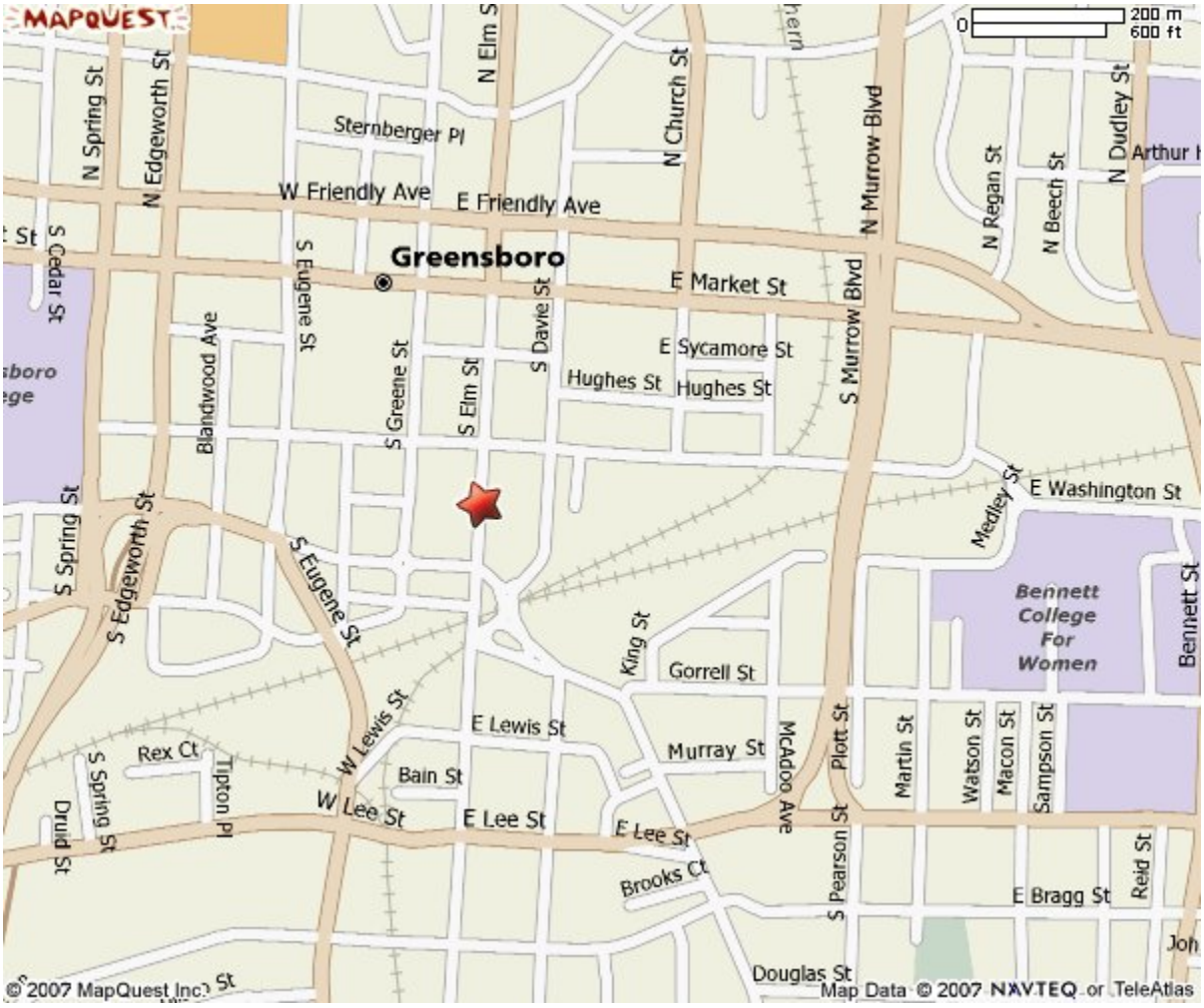
From the East or West:

Take I-40 to Exit 218B, Freeman Mill Road North (also labeled as Coliseum Area). Go about 2-1/2 miles on Freeman Mill Road (the name will change to Edgeworth as you travel north) to Washington St., Turn right on Washington and go 5 blocks to S. Elm St. Turn right onto S. Elm, go about ½ block and park in the free public parking lot on the right. The meeting will be in a private room on the third floor.

From the South:

Take I-85 North and exit onto Business I-85 (about mile marker 120), then take Exit 122 (US 220, Future I-74). This will turn into Freeman Mill Road North, then to Edgeworth as you travel north. Go about 4 miles to Washington St., Turn right on Washington and follow the directions above.

To return to the interstate, go back the way you came on Elm and Washington St, passing over S. Edgeworth to S. Spring St.(dashed black arrows on detail map).



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Association of Environmental and Engineering Geologists - Carolinas Section

Registration Deadline is Monday, October 15, 2007

Name:_____

Organization:_____

Address:_____

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Please mail your registration to Richard Lovett – Golder Associates NC, The Wingate Building. 4900 Koger Boulevard, Greensboro, NC 27407. Questions? Call Rich at (336)852-4903 or email at Richard_Lovett@golder.com.