

The Bulletin

ASCE / North Carolina Section

Volume 45 No. 3

Jan. / Feb., 2009

Mark your Calendar:

Feb. 15-21

Engineers Week

April 2-4

Carolinas Conference
UNC Charlotte

April 14

NC Infrastructure Report
Card Update Release and
Legislative Reception
NC Museum of Natural
Sciences
Raleigh

May 8

Spring Technical Session
Airport Marriott
Greensboro

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PRESIDENT'S ADDRESS

Joe Moore, PE

Mission: The North Carolina Section of ASCE will be the state's recognized source in promoting the Civil Engineering Profession by focusing on sustained career development, advocacy, and leadership growth while ensuring to protect the health, safety, and welfare of the public.

Advocacy Goal: Develop interest and participation within the membership for establishing reciprocal lines of communication between legislators and members.

Civil Engineers Leading the Way

As the country struggled through tough economic times, its people looked with anxious hope towards the incoming President. No one knew what he would do once he came to office. In the intervening time between election and inauguration he consulted with several professionals, including civil engineers, on ways to stimulate the private sector and get people working again. Within three months of inauguration, Franklin Roosevelt observed the very first



Civilian Conservation Corp (CCC) camp going into action. The concept behind the CCC was to employ unmarried men between the ages of 18 and 25 in the work of reforestation, sedimentation and erosion control, road building, bridge construction, park development, telephone line erection, waterline repair, and dam rehabilitation.

As always, ASCE has ways for you to become involved and answer the call of our most recent challenge.

Through oversight of civil engineers these men went on to learn marketable skills in surveying, drafting, and construction. By the end of its nine-year mission in 1942, the CCC had laid 89,000 miles of telephone lines, developed 52,000 acres of parks and campgrounds, restored 154 million square miles of stream and lake banks, and planted over 2 billion trees. Much like our depression-era response to the creation and oversight of the CCC, our community and legislators have traditionally looked to our profession to advise and consult on paving the way, spanning the divide, sustaining our natural resources, and sheltering against the storm.

(Continued on Page 3)

Member Profile by Brian Kane, EI, S&ME, Inc.

Scott Hancock, PE

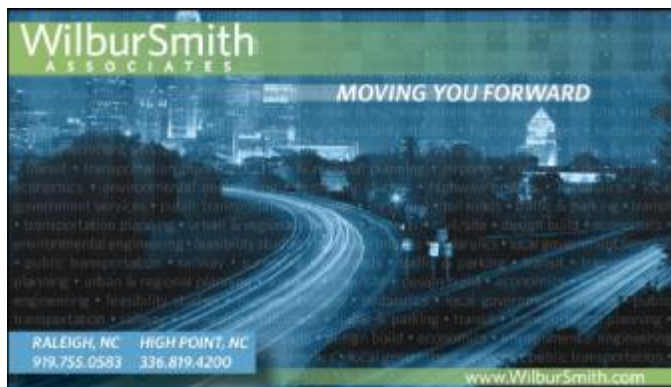
Scott Hancock is a Technical Principal and Chief Engineer with S&ME in Greensboro, North Carolina with over 30 years of experience managing multi-discipline projects, involving geotechnical explorations, construction phase testing and observations, environmental assessments, cultural resource surveys, wetlands, hydrologic studies, and civil design that require resources from multiple offices and sub-consultants.

He is originally from Jacksonville, Florida and received his Bachelor's and Master's degrees in Civil Engineering from the University of Florida in 1975 and 1976, respectively. After completing school, Scott worked on geotechnical aspects of nuclear power plants for Sargent & Lundy in Chicago, Illinois until 1978. He then went to work for Law Engineering, first in Columbia, South Carolina and then in Greensboro. He joined S&ME in 1999.

He has been a member of ASCE since 1976 and is also a member of the International Code Council. He was named an S&ME Technical Principal in 2007 and is currently developing a web-based construction materials testing and reporting system for company-wide use.

Scott has managed numerous large projects including construction materials testing for the Randleman Dam. He was able to save the owner \$400,000 through a RCC Mix Design program that significantly reduced the amount of cement used. He was also the Special Inspector for the Forsyth Medical Center North Parking Deck and North Pavilion, a five story cast-in-place, post-tensioned concrete parking deck and adjoining nine story cast-in-place concrete, post-tensioned patient building constructed simultaneously.

Scott has exploration, design, and construction experience for support of heavy loads using shallow foundations, mat foundations, driven pile foundations, drilled deep foundations, and ground improvement. He has experience with geophysical testing techniques, vibration mitigation, forensic investigation and remediation recommendations, expert witness testimony, construction materials testing, construction subgrade stabilization, and construction excavation design, planning, and implementation.



The Bulletin

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President's Message (Continued from Page 1)

This expectation, as well as our very identification as “civil” engineers, developed by emerging past our military origins and providing and meeting the needs of our “civilization”. As always, ASCE has ways for you to become involved and answer the call of our most recent challenge.

Legislative Fly-In and Drive-In

Every spring, ASCE holds the Government Relations Leadership Training Program in Washington, D.C., an intensive two-day program that provides participants with an inside look at the political process. Beginning with briefings on the latest civil engineering issues pending in Congress, participants also visit with their Representatives and Senators on Capitol Hill to educate and lobby them on the issues. On March 25-26, a delegation of ASCE members from North Carolina (David Peterson, Vish Chervu, Matt Fogleman, Barry Mitchell, and Eric Rysdon) will fly to Washington to learn more about the political process and talk with Representatives and Senators. On April 14, we'll have a similar delegation visit the General Assembly.

Infrastructure Report Card

While our group is on Capitol Hill for the Leadership Training Program, ASCE will release the latest version of the Infrastructure Report Card. The Report Card is an assessment by professional engineers of the nation's status in 15 categories of infrastructure. On the North Carolina level Grant Autry and Ron Geiger of our Southern Branch have pulled together a team of engineers to specifically assess the infrastructure within our state. This team (RD Odell, Larry Mitchell, David Peterson, and Jim Kessler) will release their report card on the same day as the National Report Card and then formally present the report to the General Assembly on April 14. That evening, we'll host the legislators at our annual reception in the N.C. Museum of Natural Science.

Anyone interested in walking the halls of Capitol Hill or the General Assembly, learning first hand how policy is crafted, wishing to help out with the Legislative Reception, or simply finding out how to stay informed of key issues affecting our profession should contact Vish Chervu our Legislative and Public Affairs chairperson (Vish.Chervu@jacobs.com).

As we reach the mid-point of our activities for this year, I hope all of you will take time to strongly consider how you can take advantage of these opportunities.

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Project Highlight by Jesse R. Jacobson, PE, Project Engineer, S&ME, Inc.

Harrah's Cherokee Casino Expansion

Harrah's Casino in Cherokee, North Carolina, is undergoing the largest expansion in its 10 year history. The expansion consists of a 22-story hotel tower, several casino floor expansions, a new events center, two parking garages, a central electric plant, and a spa.

The site is located in a valley on the southern edge of the Great Smoky Mountain National Park. The site geology is composed of a transitional zone between the surrounding mountainous terrain and the alluvial flood plain that makes up the valley floor. Subsurface conditions typically consist of varying thicknesses of fill overlying alluvial soil, residual soil, partially weathered rock, and rock. The fill and alluvial soils frequently contain cobbles and large boulders that range in size up to several feet in nominal diameter. The residual soils and partially weathered rock are very thick in some areas, and the depth to consistently high quality rock is highly variable.

All of the major structures associated with the expansion will be supported by deep foundations. This will require roughly 2,500 individual piles. Assuming an average depth of 40 feet, this equates to 100,000 linear feet of pile. On past projects, micropiles were used to support heavy concentrated loads due to their capability to penetrate the variety of materials encountered during installation. In order to reduce cost, an auger-cast pile foundation system was evaluated and then selected in place of micropiles. The typical installed pile is an 18-inch diameter continuous flight auger-cast pile designed to support a 200 ton compression load and withstand a 10 ton lateral and uplift load. Due to the difficult drilling conditions, the pile contractor, Berkel & Company, used a very large crane-mounted drill rig with a torque capacity of 90,000 ft-lbs to penetrate the alluvial zone. In some cases, however, premature auger refusal was encountered, requiring extensive predrilling with a 20-inch diameter rotary percussive downhole hammer to penetrate boulders and lenses and layers of rock.



(Continued on Page 6)

SAVE THE DATE! Tuesday, April 14, the update to the NC Report Card on Infrastructure will be released and there will be a Legislative Reception at the NC Museum of Natural Sciences in Raleigh. Plan to attend for a chance to meet your representatives in the NC House and Senate.

NORTH CAROLINA SECTION



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Branch News

The **Eastern Branch** January lunch meeting was held on January 15th at the NC State University Club in Raleigh. The speaker was Joe Milazzo, II, P.E. and his presentation was entitled "The State of Mobility – Winter 2009 Update." We had 65 members and non-members attend the meeting. One PDH was awarded. Lunch-time announcements highlighted the January 10th Future City Competition and holiday toy drive as well as the upcoming E-Week activities and joint meeting with other professional organizations.

The Eastern Branch once again is gearing up for this year's E-Week taking place on February 15th through 21st. Reuben Jones will be this year's branch E-Week coordinator and the branch plans on coordinating middle school outreach in campaigning for an understanding and interest of engineering and promotion of math and science at school.

The Eastern Branch Board met on one (1) occasion since our last report: on January 6th at CH2M HILL's Raleigh office. The Younger Member Group also is in the planning process for the branch's annual Carolina Hurricanes outing as well as involvement in Habitat for Humanity in the Raleigh area.

If you are interested in volunteering time to work for the promotion of your profession in civil engineering, please contact one of the Eastern Branch board members. Our contact information is on page 3 in this issue of The Bulletin and on our website.

The **Coastal Branch** lunch meeting was held January 13th at Golden Corral in Jacksonville. This is not our normal meeting place. We met here to help reach the members from the northern areas of our branch. This was a great idea. We had many people turn out that do not normally show up.

The meeting opened with branch President Mark Arcuri, PE reminding everyone to renew his or her memberships. Then E-Week was discussed. John Klein, PE will coordinate the E-Week activities this year. He asked for people to volunteer. Steve Kelly gave the treasurers report. This gave rise to a discussion about what to do with the large amount. One idea was to fund a scholarship. Other ideas can be e-mailed to the branch board. The luncheon meeting fees need to be raised. Steve said that the fees need to be raised to \$15.00 and \$20.00. Then the meeting site was discussed. Carolina Barbeque was the site with the most interest. However the Murrayville location was preferred to the College Rd. location due to a bigger meeting room.

Our section Governor David Peterson, PE spoke about goals for local branches. He handed out the ASCE Strategy Management presentation from the Governors Orientation.

The speaker was Larry Sneed, PE with Coastal Carolina Resource Group, Inc. talked about stormwater BMP design. His company does stormwater BMP maintenance. He focused on what was working in the field long term and how to design BMPs that worked.

After the branch meeting the Coastal Branch Board of Directors met. Governor Peterson was also in attendance. The board discussed about the goals Governor Peterson suggested. With the successful meeting in Jacksonville, the board also discussed having one or two meetings a year in Jacksonville, New Bern or Morehead City. The discussion then turned to sending Andrew Isenhour EI, President-Elect to the next leadership conference in February and sending someone to the Washington Fly-in in March. Andrew has since registered and will attend the Leadership Conference. Jesse Jordan, PE and Barry Mitchell, PE have both since applied to attend the Fly-In, though they currently wait approval.

John Klein and a dozen volunteers from our branch will visit math and science classes at middle schools in Pender County in support of E-Week.

The next gathering for the Coastal Branch will be the annual local joint society meeting, which is being held February 18, 2009 from 11:30 to 1:00 overlooking the Waterway at Bluewater Grill, 4 Marina St in Wrightsville Beach. The meeting this year is hosted by The Society of Manufacturing Engineers (SME). The topic is NC Nuclear Fuel Recycling Technology and Issues.

Campus Adventures: Student Chapter of ASCE at NC A&T State University

The ASCE student chapter at North Carolina A&T State University finished off the 2008 school year with a bang. Events during the fall semester ranged from resume workshops and car washes to Raffle tickets sales.

Since our mission is to apply our civil engineering skills for the betterment of society, one of our most exciting volunteering events was the 2008 FIRST Lego League competition. FIRST Lego League is an international non-profit organization whose aim is to inspire kids to pursue their interests in science and technology fields.

We understand that we could not have achieved these activities without the generous support from our sponsors.

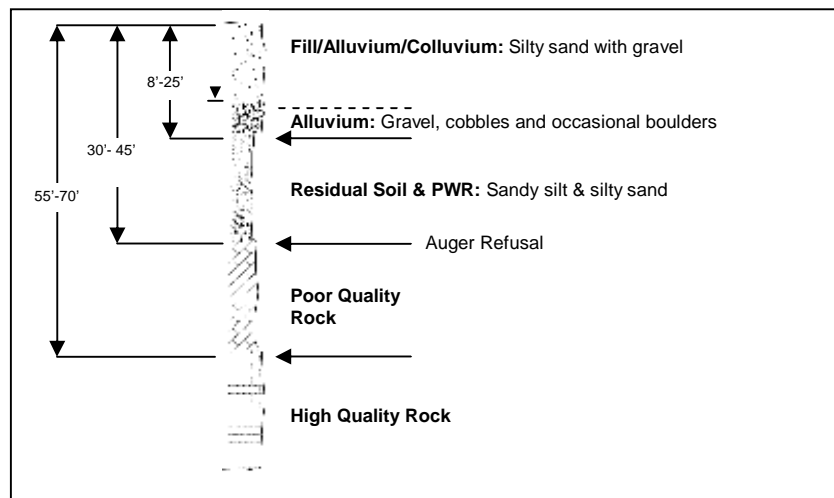
Our biggest sponsor was the ASCE North Carolina Section. Holding their board meeting at our school on Friday November 14, 2008, they left an everlasting impression on the Civil and Architectural engineering students. During the morning session they held their board meeting and following that was lunch and a question and answer discussion for the students. We really appreciate the career related advice and the motivation. Some students even changed their whole career path after hearing the informative personal experience from the professionals.

Over the next few months, in addition to preparation for the 2009 Carolinas Conference, our chapter will be participating in the Habitat for Humanity of Greater Greensboro, uploading a new student-ran website as well as go-carting and playing paintball

Project Highlight (Continued from Page 4)

Subsequent load tests have illustrated that this unconventional construction method performs satisfactorily in supporting the required loads.

To date, over 1,500 auger-cast piles have been installed. Construction of one parking garage and the new events center is complete. Pile installation is currently underway for the second garage, and the new hotel tower is scheduled to begin foundation construction in June of this year.



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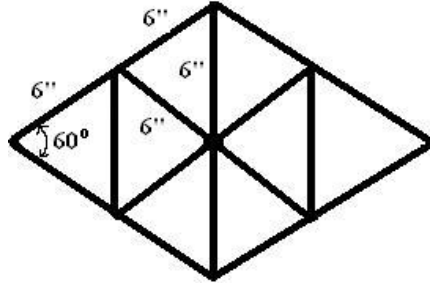
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SAVE THE DATE! Friday May 8, 2009 is the date for the Spring Technical Session at the Greensboro-High Point Airport Marriott in Greensboro, NC. Look for more information on speakers, session details and registration in the coming months.

Problem Corner

The answer to the last issue is a rhombus with 8 equilateral triangles with 60° angles. All sides of the triangles are 6". Todd Sessions, PE, Ken Oliver, PE, Don Kline, Chris Jackson, EI, and Hunter Butler, EI got the correct answer.



This month's problem:

A man has just finished painting his house and needs something. He goes to a hardware store and asks for help in finding what he needs. The clerk shows him where the objects are and tells him that they cost \$1 each. The man says: "I'm taking 600, so here's \$3." What did he buy?

Please send your answer to krines@mbpce.com or mail to Keith Rines, MBP, 3101 Poplarwood Ct, Suite 301, Raleigh, NC 27604.

Region 4 Report

by David B. Peterson, PE, RK&K

The Region 4 Governors met on February 7 & 8, 2009 in Cherry Hill, NJ. The Region 4 Governor/Delegate scheduled meetings for 2009 are as follows: March 27 & 28 at Indianapolis, IN which includes an all day Public Relations Training Seminar and September 18 & 19 at Williamsburg, VA. Any NC Section member willing to attend as a delegate should contact me or Joe Moore.

The **2009 ASCE Infrastructure National Report Card** was released two months early this year on January 28, 2009 with **Five Key Solutions** to help raise the grades of America's infrastructure. The full Report Card will be released on **March 25, 2009**. The Board of Direction will reduce the field of three candidates for President-Elect on April 23, 2009. Garland Rose, PE a candidate for President-Elect from Region 4 will be in Greensboro on May 8, 2009 at the NC Section Spring Technical Seminar. This year there will probably be more than one candidate for President-Elect of ASCE. Also, the national board adopted the Resolution on Levee Certification and adopted revised Public Policy statements on Bridge Safety and Greenhouse Gases.

The ASCE Fly-In to Washington, DC will take place on March 25 & 26 the same time as the full Infrastructure Report Card release. In North Carolina we will update our 2006 Infrastructure Report Card on the web and reprint the Report Card for distribution to our Legislators on April 14, 2009. The Legislative Reception will take place that same evening in Raleigh, NC. Please make every effort to attend our Drive-In reception this year. We will use the Report Cards to continue to educate the public and policy makers about the critical needs facing our state's infrastructure.

I appreciate the opportunity to serve on the Region 4 Board of Governor's as your North Carolina Section Governor. Please feel free to contact me about any issues concerning ASCE at the branch, section, region or national level. As Governor, I am serving as your bridge (communication link) between the National Board of Direction and the North Carolina Section Board from October 2008 to October 2011. (phone: (919) 878-9560, email: dpeterson@rkk.com).



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Year	2008			2009								
Month	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Section BOD												
Coastal				13	18							
Eastern	16	13		15	19	19	16	21		16		17
Northern												
Southern												
Western												
Bulletin Deadline		14		16		13		15		17		18