

## **Saving the Memorial – Emergency Repairs to the Jefferson Memorial Seawall**

**Dr. Jesús Gómez, P.E., D.GE, and Darrell Wilder, P.E., of Schnabel Engineering, Inc.**

Settlement and lateral movement of the Jefferson Memorial seawall and plaza observed in 2006 prompted the National Park Service to close a portion of the memorial to the public due to safety concerns. The work at the Memorial is one of the first large projects under the American Recovery and Reinvestment Act 2009 to take place in DC.

Since the construction of the Jefferson Memorial from 1939–1943, the North Plaza and adjacent seawall have been subject to continued settlement. While the Memorial itself is founded on a network of deep foundations and grade beams, the surrounding areas were constructed on grade. The Ashlar Seawall, which separates the North Plaza from the Tidal Basin at the north end of the Memorial, is supported by vertical and battered timber piles. It is believed that the timber piles did not reach rock and, consequently, the seawall was also susceptible to settlement.

An extensive instrumentation program, consisting of piezometers, inclinometers, extensometers, and an optical survey began in 2006. The information gathered from the instrumentation on site led to the design of a movement mitigation plan that included demolition of the Ashlar Seawall

and construction of a new seawall. The new seawall foundation consists of a system of 48-inch-diameter caissons and inclined pipe piles. The plan will provide resistance to future vertical and lateral movement of the North Plaza and the new seawall. Repair to the seawall and plaza began in December 2009, with work completed in the summer of 2011. This presentation describes the original construction of the Memorial,

mechanisms of movement due to settlement and consolidation, the mitigation design, and documents the construction efforts through photographs.

**Dr. Jesús Gómez, P.E., D.GE,** is a Principal and Chief Engineer of the Geotechnical Group at Schnabel

Engineering, Inc., in West Chester, PA. He has over 25 years of design and construction experience and is a specialist in design of deep foundations and slope stabilization. Dr. Gómez is an Adjunct Professor at University of Delaware, and received the 2004 Shamsher

Prakash Award for Excellence in Geotechnical Practice.

**Darrell Wilder, P.E.,** is a Senior Associate Engineer in the Geotechnical Group at Schnabel Engineering, Inc., and has

over 12 years of design and construction experience in geotechnical projects specializing in stability analysis, earth retaining structures including multi-anchored systems and tied-back excavation support systems, deep foundations, and underpinning of existing structures. He also has extensive experience in design, installation and monitoring of geotechnical instrumentation. Mr. Wilder has BS in Civil Engineering



**Dr. Jesús E. Gómez, P.E., D.GE**



**Darrell Wilder, P.E.**

from Clarkson University (1997) and a MS in Civil Engineering from Syracuse University (1999).

Please join us when Dr. Gómez and Mr. Wilder present their unique insights. We will meet on **Tuesday, January 17, 2012**, at the **Hilton**

**Arlington**, 950 North Stafford Street in Arlington, VA, on the second floor in the Gallery Ballrooms. Parking is available at the hotel (\$8), at the Ballston Mall garage (\$1 after 6 p.m.), and on the street (free after 6 p.m.). This location is in the same block as the Ballston Station on Metro's Orange Line. Registration and network-

ing will be from 6:00 to 6:45 p.m., followed by dinner. The program will start around 7:15 and conclude by 8:30 p.m. The cost will be \$10 for students, \$35 for those who preregister, and \$45 for walk-ins. One Professional Development Hour (PDH) will be awarded to attendees. Click [HERE](#) to register. For questions, please contact John Casana at [john.casana@gmail.com](mailto:john.casana@gmail.com) or 703-377-8980. ■

## President's Corner

At this time of year, it is appropriate for us to count our many blessings: living in a free country, able to develop



our talents, and apply our skills to improve what we have inherited from past Americans. The American Society of Civil Engineers, National Capital Section (NCS) at its best, is a means to achieve that goal. As your President, I extend a hearty wish for a joyous holiday season, and a very prosperous New Year!

Sincerely,

John Casana, P.E.

## Joint Meeting on Design and Construction Quality Management

The ASQ Design and Construction Division (DCD) will be hosting a joint design and construction quality management meeting with the ASCE and the Transportation Research Board (TRB) at the TRB Annual Meeting in Washington, DC, January 22–26, 2012.

**Meeting Name:** Joint Design and Construction Quality Management Meeting of ASQ, ASCE, and TRB.

**Date and Time:** Wednesday, January 25, 2012, from 6:00 to 8:00 p.m.

**Who May Attend:** Anyone who is interested; bring your ideas.

**Cost to Attend:** None. The ASQ DCD will provide beverages and snacks.

**Registration:** If you plan to attend, please e-mail Danny Kahler at [danny.kahler@kahlerengineering.com](mailto:danny.kahler@kahlerengineering.com) or call 512-983-3453, so we can get an approximate head count.

**Location:** The Virginia B Room, Washington Marriott Wardman Park, 2660 Woodley Road NW, Washington, DC (next to the Woodley Park/National Zoo Station on Metro's Red Line).

**Agenda:** The intent is to have a joint meeting of various groups that are involved in design and construction quality management. These groups are primarily, but not limited to, the ASQ DCD, the ASCE Construction Institute, and the TRB Design and Construction Group. We're hoping to take advantage of the number of people who will be attending the Annual TRB Meeting that are involved with one or more of these groups, or members who live in the DC Metro area, or just practitioners who have an interest in this issue.

**Note:** Registration for the Annual TRB Meeting, normally \$915, is **FREE** to employees of sponsoring organizations, which is almost all of the Federal Government, plus a few non-profit transportation associations. (See the TRB Sponsors page at <http://www.trb.org/Finance/Sponsors.aspx>.) The entire TRB meeting could provide an attendee with several ASQ Recertification Units or PE Continuing Education Units. ■

## Volunteers Needed for Girl Scout Day at the National Building Museum

Volunteers are needed for Girl Scout Day at the National Building Museum (NBM) in Washington, DC, on **Saturday, January 28, 2012**. Volunteers will be assisting Girl Scouts and Brownies in building suspension bridges from straws and string. Two shifts are needed; a morning shift (9:30 a.m.) and an afternoon shift (12:30 p.m.).

The NCS will supply all building materials, pictures, and educational

materials. The NBM will supply refreshments at lunch time. Just bring your energy!

The NBM is located on Metro's Red Line at the Judiciary Square Station. Parking is also available at the NBM. Contact Dean Westman at [dwestman@wralp.com](mailto:dwestman@wralp.com) to volunteer or for more information. ■



## Newsletter

**L.J. Sauter, Jr., Editor**  
Telephone: 202-502-8205

**February 2012 Issue Deadline:**  
January 13, 2012

**To Submit Articles:**  
[laurence.sauter@ferc.gov](mailto:laurence.sauter@ferc.gov)

**Address Changes:**  
Call 1-800-548-ASCE, email [member@asce.org](mailto:member@asce.org), go to <http://www.asce.org>, or write: ASCE – Membership, 1801 Alexander Bell Drive, Reston, VA 20191. Remember to include your membership number.

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### Committee Chairs

Please refer to the NCS website at <http://asce-ncs.org> for a current list of NCS committees and chairs.

# ASCE's Annual 2012 Conference in Montreal, Quebec, Canada

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## Got Bonjour?

Show the civil engineering world your panache and expertise by being a presenter at ASCE's 142nd Annual Civil Engineering Conference in Montreal.

With a cutting-edge conference theme of **"Civil Engineering in the New Global Economy"** and a world crossroads location of Montreal, there are certain to be sessions and events that spark ideas for new solutions to worldwide challenges and emerging markets. Or, hear topics and discussions

on matters you will be facing in the future; stay ahead of the competition.

Meet us in Montreal, Quebec, Canada on **October 18–20, 2012**. Better yet – be a session presenter and share your professional insights and Industry Best Practices with the best and the brightest civil engineers and engineering students.

Heed the **Call for Presentations** right now! The deadline for receipt of proposals was **December 16, 2011**. Submissions will be reviewed and

session status will be sent to the Lead Contact in late February, 2012.

Visit the **ASCE Conference website** to download all the information necessary to submit your session ideas for the Call for Presentations at ASCE's 142nd Annual Civil Engineering Conference.

For specific questions regarding the Call for Presentations, please contact Naomi Romanchok at 800-548-2723, x-6110, or [nromanchok@asce.org](mailto:nromanchok@asce.org).

**Mark Your Calendars Now!**



## 2012 ASCE-NCS Automation Award Nomination

**Submission Deadline: Tuesday, February 14, 2012**

This annual award recognizes either private-industry initiatives/projects or public projects/legislation/programs in the Washington, DC, metropolitan area that advance or promote efficiency, consistency, standardization, and/or excellence through the use of automation during the planning/design, construction, and/or operations/maintenance of infrastructure or the built environment. This award program is a joint effort between the ASCE-NCS (<http://asce-ncs.org>) and George Mason University (<http://www.gmu.edu/org/asce/>).

### Award/Recognition Criteria

The initiative, project, or proposed/enacted legislation/program (the Nomination) *advances or promotes*

*efficiency, standardization, and/or team collaboration through the use of automation* during one or more lifecycle phases of the built environment:

- planning/design,
- construction, or
- operations/maintenance.

The Nomination *adopts a long-term view*, consistent with the length of time the built-environment serves those investing in it, and places heavy emphasis on the impact of the choice of technology made in delivering long-term value in terms of efficiency, standardization, and/or team collaboration.

The Nomination is located within the geographical limits of the NCS in the jurisdictions of Montgomery

County, Prince George's County, Loudoun County, Fairfax County, City of Alexandria, Arlington County, or District of Columbia.

### Deadline for Submissions

Tuesday, February 14, 2012 (6:00 pm)

### Award/Recognition Announcement

T.B.D., 2012 (GMU-ASCE Special Event)

For more information or to submit a nomination, contact Amanda Tevis on behalf of the Chair, ASCE-NCS Automation Committee, at [atevis@ram-corp.com](mailto:atevis@ram-corp.com). ■

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## Section Member Elected Distinguished Member

The ASCE recently recognized the accomplishments of **Sidney O. Dewberry, P.E., L.S., Dist.M.ASCE**, a NCS member, by electing him a Distinguished Member, Class of 2011.

Sidney O. Dewberry is the Founding Partner and Chairman of Dewberry, an 1,800-employee firm with more than 40 locations. Mr. Dewberry's leadership in urban infrastructure development has been extraordinary. In 55 years of practice, Dewberry continues to leave its signature on civil engineering practice and urban development in the mid-



Photo by David Hathcox/ASCE

Atlantic states. The firm, among other achievements, laid the groundwork for the development and implementation of the master plan for the northern Virginia suburbs of Washington, DC. Mr. Dewberry's engineering leadership has been recognized repeatedly with appointments to influential strategic planning commissions in the National Capital Region, including, among them, service on the board of the Greater Washington Board of Trade, chairman

of the Governor's Regional Economic Development Advisory Council for District 6 (Northern Virginia), director of the Air & Space Heritage Council, and member of the Northern Virginia Transportation Alliance. Mr. Dewberry is the former chairman of the Arlington County, VA, Planning Commission, and the former chairman of the Fairfax County, VA, Engineering Standards Review Committee.

Mr. Dewberry's appreciation of the challenges in achieving the highest quality in land development led him to author the *Land Development Handbook*. This text, now in its third edition, is used in land development engineering education at George Mason University, Virginia Tech, and numerous other universities. He was also the lead founding member of the Engineers and Surveyors Institute, which fosters collaboration between private-sector engineers and local review boards, and which has raised the level of project submissions through its training programs for local practitioners.

His prominence and leadership in engineering practice and urban development have been recognized at both the local and the national levels with a host of awards. At the local level, these have included election into the Washington Business Hall of Fame and receipt of the Northern Virginia Community Foundation Founders Award. At the national level, he has been recognized in the U.S. House of Representatives Congressional Record with both a salute to Sidney O. Dewberry and a Lifetime Achievement Recognition.

Mr. Dewberry's deep commitment to higher education, and in particular, to civil engineering education, has

been exceptional. His understanding of the symbiotic link between education and economic development led to his appointment to the Virginia Business-Higher Education Council and appointment by the governor of Virginia to serve on the Blue Ribbon Commission on Higher Education. He was instrumental in the founding of George Mason University, and of the Urban Systems Engineering Department, now known as the Department of Civil, Environmental, and Infrastructure Engineering. He has provided strategic guidance to the university as rector of the George Mason University Board of Visitors, member of the George Mason University Foundation Board of Trustees, and his past appointment to the Governor's Commission for the Future of Higher Education in Virginia. He has also provided major financial support to the university and to the department. His good works have been recognized by receipt of the university's highest awards, including the George Mason University Mason Medal. He has also been recognized by his alma mater, The George Washington University, which has honored him with induction into their School of Engineering and Applied Science Hall of Fame.

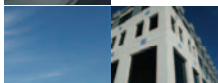
Distinguished Membership is the highest award the Society may confer, second only to the title of ASCE President. Members or Fellows elected to this prestigious and highly selective list have attained acknowledged eminence in a branch of engineering or its related arts and sciences. To learn how you can nominate an outstanding professional for Distinguished Membership, please visit <http://www.asce.org/awards> or contact [awards@asce.org](mailto:awards@asce.org). ■

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## Engineers Without Borders-USA DC Chapter

Engineers Without Borders-USA (EWB-USA) is a non-profit humanitarian organization established to partner with developing communities worldwide in order to improve their quality of life. This partnership involves the implementation of sustainable engineering projects, while involving and training internationally responsible engineers and engineering students and fostering responsible leadership. The organization has over 12,000 members across 250 dedicated chapters, including university chapters on 180 campuses in the United States, working on 350 projects in more than 45 developing countries.

The DC Chapter of EWB-USA spreads both the vision and the mission of EWB-USA by partnering with disadvantaged



### ENGINEERS WITHOUT BORDERS-USA WASHINGTON DC PROFESSIONAL CHAPTER

communities to improve their quality of life through environmentally and economically sustainable engineering projects. We engage developing communities in resolving particular infrastructure needs that the community itself has identified. Projects include but are not limited to the design and construction of water distribution, wastewater treatment, sanitation, energy, and shelter systems. The overall objective in every project is to incorporate and train the community in all phases of the sustainable projects to ensure ownership, appropriateness, and long-term effectiveness. Our membership consists of professionals and students from a variety of professions including engineering, public health, anthropology, geology, business, communications, graphic design, and business. Students are involved in every



step of the process, enabling them to learn firsthand about solutions to the problems of the developing world. We also work together with EWB-USA Student Chapters at Howard University, The George Washington University, and Catholic University to improve the quality of life in various communities worldwide.

EWB-USA offers the opportunity to use your professional skills to help communities meet their basic human needs. It also provides a great opportunity to gain leadership and project management skills. The DC Chapter has two ongoing projects: a water distribution system and health promotion program in Santa Clara, El Salvador, and a drinking water and wastewater project in Shaghat, Armenia.

There are many ways to get involved with EWB-USA. You can:

- join our Santa Clara or Shaghat project teams (approx. 5–10 hours/month),
- join our communications, outreach, or fundraising committees (approx. 2–5 hours/month), and/or
- provide technical expertise and plan review to our projects (as needed, approx 1–3 hours/quarter)

You are welcome to attend our monthly meetings on the 6th floor of The George Washington University Hospital, the next of which will be held on January 19, 2012, at 7 p.m. Details on our meetings, projects, and other activities can be found at: <http://www.ewb-dc.org>. ■

*(Editors note: The NCS monthly meeting in February will feature a review of EWB-USA DC's efforts over the last seven years in Santa Clara. See the meeting preview article on page 14.)*

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## 5th Annual Transportation & Infrastructure Convention

The ASCE-NCS is pleased to announce that we are participating as a National Co-Host Organization for the 5th Annual Transportation & Infrastructure Convention, March 7-9, 2012, in Washington, DC, on Capitol Hill. The Convention is a three-day event that has attracted the most prestigious registrants and speakers from 25 states, nine countries, and over 30 national and international trade associations and interest groups.

The purpose of the Convention is to educate policy makers concerning the current transportation issues at the local, state, and national levels. The Convention is unique, in that it brings together the leading transportation and



infrastructure officials from the current Administration, Congress, and State legislatures, providing us the opportunity to dialogue personally with those who have a direct influence on future policy decisions of the nation.

The Convention will feature a number of prominent speakers. Among those already confirmed are **Corrine Brown**, U.S. Congresswoman FL; **Chaka Fattah**, U.S. Congressman PA; **Frank Guinta**, U.S. Congressman NH; **Ed Pastor**, U.S. Congressman AZ; **Nick Rahall**, U.S. Congressman WV and ranking member of the Transportation and Infrastructure Committee; **Mort Downey**, Former U.S. Deputy Secretary of Transportation; **Richard**

**Geddes**, Associate Professor, Cornell University; **John Horsley**, Executive Director of AASHTO; **Karen Phillips**, Vice President of Public and Government Relations, CN; and **Paul Priestman**, Director of Priestmangoode.

**Participating as a National Co-Host Organization allows our members to register for the Convention at the discounted government rate!** To register, please go to [www.transportationsummit.com](http://www.transportationsummit.com). We are excited to be a part of this spectacular event, and **we strongly encourage you to join us in Washington, DC, this March.** For further information about the 5th Annual Transportation & Infrastructure Convention, please contact Karen Brown at 214-750-0123 or [kbrown@dean.net](mailto:kbrown@dean.net). ■

## Capital Science 2012, March 31-April 1

Presented by The Washington Academy of Sciences and its Affiliates

On Saturday and Sunday, March 31 – April 1, 2012, The Washington Academy of Sciences and its Affiliates will hold the fifth in the series of our biennial pan-Affiliate Conferences, Capital Science 2012. This will be the first CapSci to be hosted by a consortium of the three universities that line the University Corridor on Glebe Road in Arlington, VA – Virginia Tech, The George Washington University (GWU), and Marymount University. (All three sites are near the Ballston Station on Metro's Red Line.) Registration and plenaries will be held at the new Virginia Tech facility at 900 North Glebe Road. Additional classrooms will be next door at GWU and at Marymount, just across Fairfax Drive.

With over 20 of our Affiliates participating, the Conference will serve as an umbrella for scientific presentations, seminars, tutorials, and talks. These pan-Affiliate Conferences underline the fact that the Washington, DC, area is not only the political capital of the country but, in many respects, the nation's intellectual capital – with several major universities and government laboratories that are the homes of an astonishing number of Nobel laureates. We believe that showcasing the intellectual muscle of the area will help provide the support needed to continue to build and keep the United States at the forefront of scientific achievement.

As we get closer to the Conference, additional information – including Conference highlights, a list of participating societies, schedule of presentations, abstracts of talks, and registration information – will be posted as it becomes available. Fees and instructions for presenters, including the timeline for submissions, are available now.

Complete information is available at <http://www.washacadsci.org/capsci12/body.htm>, including dates, fees, etc.

**Even if you are not a member of a participating Affiliate, plan to attend the Conference. It is certainly among this area's premier events.** ■

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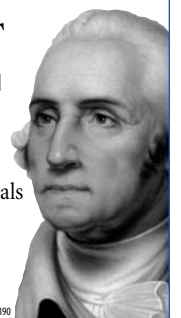
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# Training Workshop on Post-Disaster Safety Evaluations

Sponsored by ASCE's Committee on Critical Infrastructure and  
ASCE's National Capitol Section, in Cooperation with the California Emergency  
Management Agency and the Applied Technology Council

**Additional Sessions Added on Thursday and Friday, February 9 and 10, 2012**

**Location: ASCE Headquarters, Bechtel Conference Center,  
1801 Alexander Bell Drive, Reston, VA 20191**

Due to popular demand, additional sessions are being made available for this training (originally held in December 2011). This training workshop will review the procedures used for post-disaster evaluation of buildings and help you develop the necessary skill to properly assess damaged buildings and infrastructure following a major disaster. Participants will learn current methods for performing post-disaster safety evaluations and will practice building evaluation triage on real-life examples of damaged buildings from recent earthquakes, wind storms, and floods in the United States and Pacific Rim countries.

Post-Disaster Safety Evaluation of Buildings (ATC-20/45) is the de facto standard for safety evaluations of buildings and infrastructures throughout the United States and the Pacific Rim. This training is critical for our country's disaster preparedness and resilience. Trained volunteer engineers and inspectors are needed in the aftermath of large-scale disasters to evaluate the safety of buildings and critical infrastructure. Civil and Structural Engineers play a key role in the disaster response and recovery for our nation's communities.

The training workshop materials are based on **ATC-20: Procedures for Post-Earthquake Safety Evaluation of Buildings** and **ATC-45: Safety Evaluation of Buildings After Wind Storms and Floods**. These materials were developed to evaluate the safety of damaged buildings and infrastructure after earthquakes, winds, and floods. The procedures are written specifically for architects, engineers, building officials, contractors and others in the building industry that would be called upon to make on-the-spot safety evaluations regarding the continued use, entry, operation, and/or occupancy of damaged buildings and infrastructure.

## Training Topics

### ATC 20/45 & Post Disaster Safety Evaluations

- A detailed presentation of ATC-20/45 with examples of damaged buildings from earthquakes and wind storms in California, Florida, Louisiana, Washington, China, Japan, and Taiwan.
- How do buildings structurally react to earthquake forces and other extreme loading?
- What are green, yellow, and red placards and what do they mean?
- When and how do you assess and post a building?
- How to triage evaluations and postings after an earthquake.

### Rapid Evaluation & Assessment Program (REAP)

- A description of components of the REAP.
- How to use the REAP.
- Illustrate how building instrumentation and monitoring will work in conjunction with the REAP.
- Disaster scenario walkthrough.

Participants completing the entire training will earn **6 PDHs** and those possessing a U.S. Professional Engineer's license will be eligible to be registered as **California Emergency Management Agency Safety Assessment Program Evaluators**.

The registration fee for this workshop is **\$50** for ASCE members and **\$100** for nonmembers. **The registration deadline is Monday, January 30, 2012; NO ONSITE REGISTRATIONS WILL BE ACCEPTED.** Registration fees include all workshop materials and a box lunch. Workshop participants will also receive a copy of the companion pocket-sized ATC-20-1 and ATC-45 field manuals that summarize the post-earthquake, post-windstorm, and flood safety evaluation procedures in a brief, concise format designed for ease of use in the field. The Field Manuals are intended to be taken into damaged areas and used by those trained in the ATC-20-1 and ATC-45 methodology. Click [HERE](#) to register for this workshop.

For additional information, contact Catherine Tehan at [ctehan@asec.org](mailto:ctehan@asec.org) or 703-295-6026.



# NCS Volunteers Set New Record in Boundary Stone Site Restoration Effort

## October Event Completed Six Fence Restorations; Media Coverage Ramping-Up

On Saturday, October 22, 2011, a group of 47 volunteers lead by NCS member Stephen Powers, P.E., tackled fence and ground restoration at the largest number of boundary stones yet: six stones had their fences scraped, primed, painted and their grounds cleaned and mulched! Volunteers from the ASCE-NCS, the District of Columbia Association of Land Surveyors (DCALS), the Daughters of the American Revolution, AECOM, Metro, Howard University, and many local citizens came out to participate for this most worthy preservation effort. Please see pages 9–11 for photos of the sites and the volunteer teams.

Beyond the momentum shown by the growing number of volunteers, our efforts over the past 18 months are starting to gain some serious attention in the media. In early October, WETA TV 26 aired its series *More Unusual Attractions – The WETA Guide*, which included a portion dedicated to the boundary stones and the effort led by

Powers to restore the fences. The NCS effort was also referenced in the DAR publication *American Spirit* (May/June 2011), the Northwest Current newspaper (October 26, 2011), the Greater Greater Washington (October 25, 2011), and, most recently, Civil Engineering Magazine (December 2011, p. 41).

Additionally, the effort is being recognized at online sites including:

- the DCALS website (<http://dcals.org/DC%20Boundary%20Stones%20Restoration%20Project.shtml>),
- George Washington's Mt. Vernon Estate (<http://www.georgewashingtonwired.org/2011/11/02/video-washington-boundary-stones-preserved/>), and
- YouTube (<http://youtu.be/17PuoBxJEvu>).

Of course, the effort is covered as one of the NCS "Special Projects" on our own website ([http://asce-ncs.org/index.php?option=com\\_content&view=article&id=23&Itemid=19](http://asce-ncs.org/index.php?option=com_content&view=article&id=23&Itemid=19)).

We hope you will consider helping out with future fence restoration events. **The next effort will be on Saturday, May 19, 2012, when we hope to restore TEN sites!** We now have 13 fences restored and only 21 to go! We will also be working with the necessary parties to install new fences at the stones where there are damaged fences or no fences at all. And don't forget the work that needs to be done at SE#4 getting that stone back in the ground or the work at the SE #8 site getting the replica stone raised from its below-ground position and reset on the surface.

The NCS wishes to express its deep appreciation to all the volunteers who took part in the October 22 event and looks forward to the next event in May 2012! For further information or to sign-up for the May 19 event, contact Stephen Powers at [Stephen@design-powers.com](mailto:Stephen@design-powers.com) or at 703-528-8296.

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## November Meeting Recap

### Ms. Karen Durham-Aguilera Presents on 2011 Mississippi River Floods

Ms. Karen Durham-Aguilera, P.E., SES, Director of Contingency Operations and Office of Homeland Security, Headquarters, U.S. Army Corps of Engineers (Corps), presented on the historic 500-year flooding along the Mississippi River and its tributaries in April and May of 2011. The presentation, sponsored jointly by ASCE-NCS and the American Water Resources Association (AWRA), National Capital Region, was given to a sold-out

audience on November 14 at the Arlington Hilton.

Ms. Durham-Aguilera provided an overview of the Corps' organization and how it prepared for and implemented responses to the onslaught of flooding. The Corps' massive \$13.9 billion Mississippi River and Tributaries (MR&T) Project was discussed, including its origins after the Great Flood of 1927, its conceptual approach and design, and the degree of protection

that it provides to more than 4.5 million persons. The events leading up to the Corps' unprecedented decision to breach three floodways simultaneously was presented, including video footage of the releases and their aftermath. Overall, the Corps' handling of the historic flooding is viewed by many as a demonstration of the success of the MR&T Project.

Presentation materials including video footage may be found on the NCS website at [www.asce-ncs.org](http://www.asce-ncs.org). ■



Ms. Karen Durham-Aguilera, P.E.



AWRA National Capital Region section President C. Mark Dunning, DCM



AWRA National Capital Region section President-Elect Nate Beil, KCI



Peter Rabbon, U.S. Army Corps of Engineers

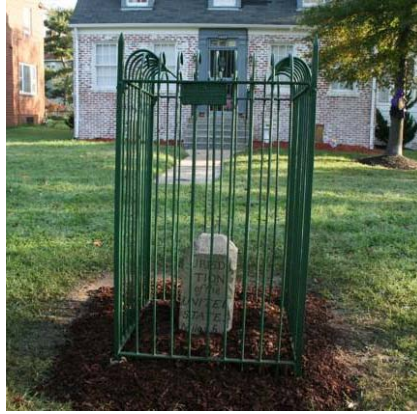


**NCS Volunteers Set New Record in Boundary Stone Site Restoration Effort**

*continued from page 8*



NE stone #5, before



NE stone #5, after

This fence was originally installed and dedicated by the 'Constitution' D.C. Chapter of the Daughters of the American Revolution (DAR), on October 20, 1917, meaning that the restoration effort took place two days past the 94th anniversary of this fence.



NE stone #5 volunteers: Group leaders James Ley and Eric Mendelsohn (both 2-time volunteers), Patty Clark (Fairlington Historical Society), Oluka Collins, Steven Sloan, Kamaria Hakeem, and Ciara Parrott.



NE stone #6, before



NE stone #6, after

This fence was originally installed and dedicated by the 'Livingstone Manor' DC Chapter of the DAR, on June 2, 1916, making the fence over 95 years old.



NE stone #6 volunteers: Sara Guerrero, Stephen Braks, John Muller, Mary Lee Sheahan & Marci Hilt (representatives from the DAR), Ryane Rollock, and Ebunoluwa Sanu.



SE stone #5, before



SE stone #5, after

This fence was originally installed and dedicated by the 'Louisa Adams' DC Chapter of the DAR (c. 1916).



SE stone #5 volunteers: Group leader Lonnie Murray, Cherrelle Thomas & Kevon Ticer (both Howard University students). This fence was restored by ASCE-NCS volunteers in October 2010, but the weeds here grow at a tremendous rate.

## NCS Volunteers Set New Record in Boundary Stone Site Restoration Effort

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NE stone #2, before



NE stone #2, after

The original fence was installed and dedicated by the 'Major L'Enfant' D.C. Chapter of the DAR, date unknown (c.1916). The current fence was placed by the Descendants of '76 Chapter of the DAR (c.2003) and is maintained by the Friends of Takoma Park.



NE stone #2 volunteers: Meg Jonas, Diana Kohn, Doug Alspach, George Gogel, Corine Jackman, and Kaisha Benjamin. Many thanks to Diane Kohn for telling the team about some of the local Takoma Park history and recent history with the stone/site.



NE stone #4, before



NE stone #4, after

This fence was originally installed and dedicated by the 'Elizabeth Jackson' D.C. Chapter of the DAR, November 18, 1916, making it coming up on it's 95-year anniversary next month.



NE stone #4 volunteers: Group Leader Dr. Bob Efimba (4-time volunteer), Ron Deneau, Deb Schwartz, Jennifer Okafor, Max Jordan Nguemeni, Ellwood Lane, Samrakshak Lamichhane, and Mallory Lambert. Special thanks to Dr. Efimba for rounding-up so many Howard University student engineers and making this event so well attended.

## NCS Volunteers Set New Record in Boundary Stone Site Restoration Effort

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NW stone #9, before



NW stone #9, after

This fence was originally installed and dedicated by the 'Margaret Whetten' D.C. Chapter of the DAR, date unknown (c.1916).



Volunteers at NW stone #9: Bill Nell, Bob Fuller, Allen Schiffer, Vicki Walker, Martin Mamawal, Frank Cantwell, and Marian Kopecky. This team installed new bolts as well as painting the fence.



North Cornerstone, before



North Cornerstone, after

This fence was originally installed and dedicated by the 'State of Maryland' Chapter of the DAR, on April 14, 1916, making the fence over 95 years old.



Volunteers at North Cornerstone: Group leader Tim Summerall (DCALS; 3-time volunteer), Clif Grandy, Wei Zhang, Bill Nell, Paul Alade, Oluwaseun Ademuwagun, Allen Browne, Eva Santorini, and Lukas Pestalozzi. This team also spent time clearing the woods of trash, debris, and fallen tree limbs. We were honored that representatives from the Current (Cal Straumsheim & Bill Petros) and Mt. Vernon Estate (Becca Milfeld) were onsite to report on the goings-on. Many thanks to all the neighbors who came out to help with the effort!

Thanks also to Scott Wolf, Bill Nell, and Marian Kopecky who assisted with spreading mulch at the sites on Sunday.

## 2012 ASCE-NCS Sponsorship Opportunities

The NCS very much appreciates the professional communities' support of the ASCE and the civil engineering profession. Locally, the NCS needs your help today to provide quality education, student scholarships, and public outreach on behalf of the profession.

The Section is committed to assisting civil engineering students with scholarships through its Scholarship Trust. Surplus funds from the section will, in part, be contributed to the Scholarship Trust. Therefore, your contributions will assist to defray operational costs for the Section and support civil engineering students in our region.

In 2011, the NCS re-structured its sponsorship opportunities to include a new meeting sponsorship as well as our traditional newsletter and Annual Awards Banquet sponsorships. Rather than asking multiple times for support, the NCS now offers a new tiered sponsorship packages to aid you in determining your annual support level. The tiered packages offer additional discounts to help you to remain a visible partner with the ASCE-NCS throughout the year. Visible recognition for your support is a key part of the program.

### Sponsorship Categories

To assist you in selecting the level of support appropriate for your firm, we have outlined our specific sponsorship opportunities below. A discussion of our new partner program also follows to describe the discounts available to our key partners.

**Newsletter Sponsor:** Exposure to almost 3,300 members 8 times per year through a 3-inch by 5-inch business card posting in the NCS newsletter. As we do not accept advertising, only sponsors may have access to the opportunity to support the newsletter efforts.

**Cost: \$350.**

**Annual Awards Banquet Sponsor:** With attendance at the banquet typically exceeding 150, we must rely on the generosity of firms such as yours to offset the cost of supporting a quality event to properly honor deserving individuals. In addition to recognizing individuals for exceptional service to the community and profession, each year the NCS awards scholarships to outstanding students from our local universities. As in previous years, several thousand dollars in scholarships will be awarded at the Banquet this year.

As a part of your sponsorship, your firm will be recognized in the event program, on a display board located within the banquet hall, on our website, and in our newsletter. As a thank-you for your donation, you will receive one or two free admission tickets to the Banquet for \$300 and \$500 donations, respectively. We will need your *company logo* in electronic format; please forward it to L.J. Sauter, Jr., at [laurence.sauter@ferc.gov](mailto:laurence.sauter@ferc.gov) by March 1, 2012.

The NCS Awards Banquet is scheduled each year for a Tuesday in April (this year, April 17, 2012) in Arlington, VA. The location will be selected and announced in early 2012. The ASCE

National President is typically our keynote speaker at this event. **Cost: \$300 (one Banquet admission) and \$500 (two Banquet admissions).**

**Meeting Sponsor:** For 2012, you have the new opportunity to share your materials with attendees as a meeting sponsor. Sponsorship of one of our (non-banquet) Section meetings entitles your organization the opportunity to exhibit promotional materials on a display table before the meeting and receive a thank you from NCS in both our newsletter and from the podium. Limited numbers of meeting sponsorships are available each month; contact John Casana at [john.casana@gmail.com](mailto:john.casana@gmail.com) to confirm your slot early. **Cost: \$150 per meeting.**

### ASCE-NCS Partner Program

The Partner Program was developed to provide exclusive opportunities and reduced pricing to those who become a true partner to the ASCE-NCS by sponsoring multiple programs each year. The partner program has been tiered to help you select the most popular combinations of program support. All sponsorships remain available a la carte as we have offered in the past. The chart below was developed to assist you in selecting the level most appropriate to your needs.

Note that we have included two items exclusive to partners within the program. The first item is a thank-you within the newsletter in two issues per

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PARTNER SUPPORT PROGRAM	Platinum Level*	Gold Level	Silver Level	A la carte
<b>1. Newsletter Sponsor</b>				
Business card recognition in 8 issues	Included	Included	Included	<b>\$350</b>
Partner Level thank-you in 2 issues	Included	Included	Included	Not available a la carte
<b>2. Annual Awards Banquet Sponsor</b>				
2 complimentary passes to the Banquet	Included	Included		<b>\$500</b>
1 complimentary pass to the Banquet			Included	<b>\$300</b>
<b>3. Meeting Sponsor (per meeting)</b>				
Live 3-minute presentation at meeting	Included	Not Included	Not included	Not available a la carte
Exhibit and table display of materials	Included	Included	Not included	<b>\$150</b>
<b>4. \$100 Contribution to Scholarship Fund</b>				
	Not Included	Not Included	Not included	<b>\$100</b>
<b>TOTAL</b>	<b>\$1,000</b>	<b>\$700</b>	<b>\$450</b>	<b>Over \$1,300</b>

\*Only 7 Platinum Level Sponsorships are available to provide a focus on only one Platinum Partner per meeting.

## Securing Mobile Devices

The Computer Corner by  
Ranjit S. Sahai, P.E., F.ASCE

For the purposes of this article, mobile devices are:

- smartphones, namely, cellular phones with computer-like functionality. Examples include iPhones, Android phones, Blackberry phones, and Windows phones;
- tablets, namely, slate-like electronic devices that are larger than smartphones and run purpose-specific applications (“apps”). Examples include iPads, Android Tablets, and Blackberry Playbooks; and
- laptop/notebook and Netbook computers that run traditional desktop computer operating systems such as Microsoft Windows and Apple OS X.

The networking and remote access features in these popular mobile devices enable employees and consumers alike to stay in touch with co-workers and family members and with data and other technology resources at office and at home, even when away. This convenient data access, when properly utilized, makes a company’s workforce more productive whether in the office or on the road. However, this convenient data access is not without risk: risk of data loss or theft when a mobile device is lost; risk of data corruption when a device is attacked by malware; and risk to data access by unauthorized individuals through a security breach of the device.

It has become increasingly important to manage this risk with tools and policies while continuing to enjoy the benefits of using mobile devices.

### Common Security Risks

Mobile devices, being portable, are connected to networks wirelessly. Data, as it travels over the air is typically less secure than when it travels over wired networks. Information traveling over the air is at risk of interception.

Mobile devices, due to their small size and light weight are easily left unattended and more easily prone to loss. Because these devices have internal storage capability, they can store sensitive or proprietary data that can be compromised if lost or stolen.

Mobile devices, being portable, easily move out of secure networks implemented within enterprises. Once out of the secure corporate environment, they can become more vulnerable as they are no longer controlled by electronically delivered security controls.

Mobile devices, due to the feature-rich microprocessors that power them and their increasing popularity as data access devices, are also at risk of attack from malware.

With integrated cameras that can capture images and objects in motion, and microphones that can transmit voice, these devices give eavesdropping that can be activated by malicious software a whole new dimension.

### Common Strategies for Risk Mitigation

To secure mobile devices, a best practice is to inventory devices that are to be allowed access to data over the network. This is followed by configuration of the network so it allows data access to only inventoried devices. Additionally, the use of wireless data encryption protocols, like WPA2 helps ensure that data is encrypted during transit from source to destination to protect against risk or interception.

Smartphones, such as the Blackberry devices from RIM that are managed by the Blackberry Enterprise Server, and Windows phone devices that are managed by Exchange ActiveSync have features that allow the storage in these devices to be remotely wiped clean by system administrators should the devices be lost or stolen. Also, operating systems such as Windows 7 Ultimate, and secure storage devices from several vendors come with drive encryption features that can be enabled to protect sensitive information in case of device theft or loss.

Automated data backup to cloud storage from mobile devices, utilization of passwords or PINs to access a mobile device after a period of inactivity, and the implementation of smartphone data protection services from carriers are common strategies used to mitigate the risk of data loss.



Mobile Devices are Becoming Increasingly Popular in Business Settings

Image Source: <http://www.younify.co.uk/images/mobile-devices.png>

Though not as prevalent as on desktop and notebook/netbook computers, anti-virus and malware protection applications for iPhones/iPads and Android Smartphones/Tablets are emerging in the market place. Using such applications from reputable vendors reduces the risk from malware attacks. Mobile app management tools that allow enterprises to manage which mobile applications will be allowed access to network data and resources are also becoming more prevalent in enterprises.

### Conclusion

The use of sound security policies and common sense when using mobile devices, coupled with data encryption protocols, centralized security management, and use of independently tested and proven security software can help mitigate the risk to data when using mobile devices.

### About the Author

Ranjit has been writing on computer topics since 1987 and has authored five books on CAD (MicroStation and AutoCAD). His next book (sixth) is on success in life and business (Be-A-Teacher.com). He is the founder of RAM Corporation and the Chair of the ASCE-NCS’s Automation Committee. He welcomes comments and feedback via e-mail. To e-mail the author, visit the **Contact Us>Committee Chairs** page at [www.asce-ncs.org](http://www.asce-ncs.org) or the **Contact Us** page at [www.rcare-solutions.com](http://www.rcare-solutions.com).

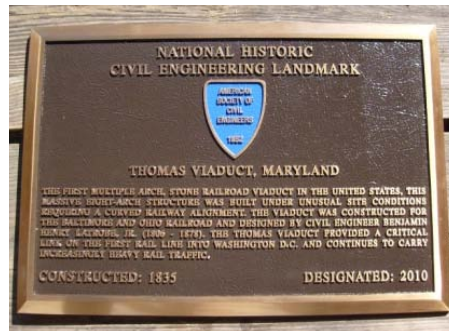
## National Historic Civil Engineering Landmark Dedication Ceremony for the Thomas Viaduct

A dedication ceremony sponsored by the Maryland Section of the ASCE was held on November 5, 2011, at Patapsco Valley State Park in Elkridge, MD, near Baltimore. ASCE President Andrew Herrmann, Maryland Section President Christina Guzman Casole, CSX Chief Engineer for Maintenance Tod Echler; and several local political figures spoke at the ceremony. Each extolled the remarkable history and service of this wonderful structure. Also in the crowd of about 30 were nine members of the NCS History & Heritage Committee.

The Thomas Viaduct is one of the oldest and largest stone arch railroad



Tod Echler, CSX Chief Engineer for Maintenance, and ASCE President Andrew Herrmann with plaque at base of viaduct as train passes overhead.



NHCEL plaque.

bridges in the world. The structure was designed by Baltimore & Ohio Railroad Chief Engineer Benjamin H. Latrobe, Jr., and completed on July 4, 1835. The 614-foot-long stone arch structure includes a unique (for the era) curved alignment. Despite its design and construction almost 176 years ago, it continues to service daily railroad traffic and loads beyond the designer's imagination. The CSX Railroad currently owns the bridge and expects another 100 years of service from the structure. A memorial plaque was dedicated at the ceremony and will be mounted near the viaduct in the future. ■

*(Editor's note: The Thomas Viaduct was featured in the May 2011 edition*



Echler and Herrmann with plaque.



ASCE-MD Section President Christina Guzman Casole and ASCE President Andrew Herrmann.

*of the NCS Newsletter. Thanks to Dean Westman and Bernie Dennis for contributing this report.)*

## Engineers Without Borders USA Comes to the NCS in February

Greg Hermandorfer and Julio Vargas to Review Seven-Year Effort in El Salvador

Cantón Santa Clara, El Salvador, a rural, agricultural community (pop. 3,165) with approximately 400 households distributed over 4 square kilometers, suffers from water-related illness associated with limited access to potable water and poor hygiene practices. Since



Constructing the water holding tank.

2004, the DC Chapter of Engineers Without Borders-USA (EWB-USA DC) has been working with the community, making 10 trips to assess community needs/assets, test soils and water, and begin construction on a community-wide system to distribute clean water. Construction of the main system is expected to be complete by the end of the year, with connections to individual homes and drainage improvements to be constructed in 2012. Greg Hermandorfer and Julio Vargas will present on the success EWB-USA DC has had working with the community, future trips to Santa Clara, and ways you can get involved with EWB. Mr. Hermandorfer is a civil EIT who graduated from Virginia Tech and is currently an assistant project manager with Foulger-Pratt Contracting. Mr. Vargas is a mechanical EIT who graduated from the University of Maryland-College Park



Constructing the water pipeline.

and is currently working for IBM as a hardware safety compliance and regulatory engineer.

Please join us for this presentation at the Hilton Arlington in Ballston, VA, on **February 21, 2012.** ■

## 2012 ASCE-NCS Sponsorship Opportunities

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year. This exclusive call-out will highlight your commitment to the NCS by listing your support by level within the program. The second item is only available to those who select the Platinum level of partnership. These companies

have the unique opportunity to address the attendees of one NCS meeting (excluding the Awards Banquet) through a 3-minute welcome at the beginning of the meeting. This is a unique opportunity to share the capabilities

of your firm, in person, with the ASCE-NCS members in attendance at our meeting. Only seven Platinum Level Sponsorships are available each year – allowing a focus on only one company per meeting. ■

## Upcoming Events *(Also available on the NCS website under the Events tab)*

### January 17

NCS monthly meeting at the Hilton Arlington: Dr. Jesus Gomez and Darrell Wilder of Schnabel Engineering will present a talk on the emergency repairs to the seawall at the Thomas Jefferson Memorial in Washington, DC. (See newsletter lead article.)

### January 19

DC Chapter of Engineers Without Borders USA meeting. 7 p.m. at the George Washington University Hospital. For further information, visit the DC EWB-USA website at <http://www.ewb-dc.org>. (See newsletter article.)

### January 25

Joint Design and Construction Quality Meeting of the ASQ, ASCE, and TRB. The Virginia B Room, Washington Marriott Wardman Park, 2660 Woodley Road NW, Washington, DC, 6–8 p.m. Registration is free, but please contact [danny.kahler@kahlerengineering.com](mailto:danny.kahler@kahlerengineering.com) if you plan to attend. (See newsletter brief.)

### January 28

Girl Scout Day at the National Building Museum. Volunteers are needed for two shifts, beginning at 9:30 a.m. and 12:30 p.m. Contact Dean Westman at [dwestman@wrallp.com](mailto:dwestman@wrallp.com) to volunteer or for more information. (See newsletter brief.)

### February 9

Post-Disaster Safety Evaluations Training Workshop. This one-day workshop returns after a sold-out session in December 2011. ASCE Headquarters, Reston, VA. \$50 for ASCE members; \$100 for nonmembers. The registration deadline is Monday, January 30, 2012. **No onsite registrations will be accepted.** For additional information, contact Catherine Tehan at [ctehan@asec.org](mailto:ctehan@asec.org) or 703-295-6026. **An additional session will be conducted on February 10** at the same site. (See newsletter article.)

### February 21

NCS monthly meeting at the Hilton Arlington. This program will focus on the efforts of the DC Chapter of Engineers Without Borders-USA in El Salvador over the last seven years. (See newsletter brief.)

### March 7–9

5th Annual Transportation & Infrastructure Convention, Capital Hill in Washington, DC. For further information, contact Karen Brown at 214-750-0123 or [kbrown@dean.net](mailto:kbrown@dean.net). (See newsletter brief.)

### March 31–April 1

Washington Academy of Sciences and Affiliates Capital Science 2012, to be held at three university sites in Arlington, VA. More information is available at <http://www.washacadsci.org/capsci12/body.htm>. (See newsletter brief.)

## Employment Clearinghouse

*The ASCE-NCS provides the Employment Clearinghouse as a free service to its membership. The Clearinghouse allows members to post short notices for available positions or candidates seeking employment. All employers listed herein are equal opportunity employers. If*

*you have questions or would like to post a position, please contact the Employment Conditions Committee, National Capital Section ASCE, 8502 Buckhannon Drive, Rockville, MD 20854-3503; phone: 301-983-9777; fax: 301-983-1953; or e-mail [sassi22@verizon.net](mailto:sassi22@verizon.net).*