

Benjamin Wright and the Birth of American Civil Engineering

A History & Heritage Evening with Steve Pennington

We are honored to have Steve Pennington, P.E. and M.ASCE, as our speaker for the evening. Steve currently serves as Chair of the National Capital Section's (NCS) History and Heritage Committee and is a corresponding member of ASCE's Committee on the History and Heritage of American Civil Engineering. He is also a member of the American Railway Engineering Association, the Society of American Military Engineers, the Society of Industrial Archaeology, and the Newcomen Society of Great Britain. At present, he also serves as Secretary of the Board of Directors for the Chesapeake and Ohio Canal Trust (the non-profit "friends" group working with the National Park Service for the preservation and care of the C&O Canal National Historical Park). Steve is Manager of the Mid Atlantic region for Geo Instruments Corporation, which specializes in the design, manufacture, and implementation of structural and geotechnical instrumentation systems.



Steve Pennington,
Chair, NCS History &
Heritage Committee

The topic of Steve's presentation is a look at the life and work of Benjamin Wright (1770–1842). In 1970, on the bi-centennial of his birth, Wright was designated the "Father of American Civil Engineering" by ASCE in formal ceremonies held in Connecticut, Wright's birthplace. Wright was bestowed that title for several reasons. He was the Chief Engineer on America's first significant public works project, the Erie Canal. Also, during his career he mentored many younger engineers assisting him and who would later lead engineering careers of note. Among them, to name a few, were John Jervis, Nathan Roberts, Canvass White, and Charles Ellet. In addition to his engineering work, Wright was also a supporter of the formation of a professional society for civil engineers. At early organizational meetings, Wright participated and served on the committee to draft a constitution for the organization. Unfortunately, he passed away in 1842, just ten years before ASCE would formally organize itself in 1852.

Wright's 50-year career spanned the post-Revolutionary War period from 1790 to 1840. At that time, other than training at West Point, America did not have formal programs of advanced engineering study. Training came through experience from working under men like Wright. And to their credit, Wright and the engineers of his generation accomplished a significant amount of work, helping fulfill America's "Manifest Destiny" and bring the country into



Benjamin Wright,
courtesy Francis
Delafield Wright,
III, and taken from
article by the late
Neal FitzSimons,
F.ASCE.

the industrial age. With Wright came the birth of American

civil engineering. Steve's presentation will look at Wright's career and offer a glimpse into his place in the history of the profession in America.

The May NCS meeting will be held on **Tuesday, May 17, 2011**, at the **Hilton Arlington**, 950 North Stafford Street in Arlington, VA, on the second floor in the Gallery Ballrooms. This location is in the same block as the Ballston Station on Metro's Orange Line. Registration and networking will be from 6:00 to 6:45 p.m., followed by dinner (choice of beef, chicken, or vegetarian). The program will start around 7:15 p.m. and close by 8:30 p.m. Please RSVP by May 12, 2011. The cost will be \$10 for students, \$30 for those preregistering, and \$40 for walk-ins. One Professional Development Hour will be awarded to attendees. Click [HERE](#) to register. For questions, please e-mail [Mark Leeman](mailto:Mark.Leeman). ■

Wright was the Chief Engineer on the Erie Canal.



President's Corner

This issue of the E-Update is the last one of the 2010–2011 year, which has been busy and eventful. The Section recently held its Annual Awards Banquet, where local projects, engineers, and students were recognized for excellence in civil engineering. The U.S.



Capitol Visitors Center was named the Outstanding Civil Engineering Project for 2011. It was also good to recognize the student scholarship winners and the outstanding seniors from the universities in the NCS territory. These young men and women are the future of the profession. We hope they serve the next generation well as they embark on their careers in civil engineering.

At the end of March, seven members of the NCS participated in ASCE's annual "Fly-In," whereby visits were made to congressional members to bring the input of the civil engineering community to Capitol Hill. This event brings ASCE members from around the country to the Hill to let our Members of Congress know about issues important to the Society and to share our positions on current and upcoming legislation. Although it is a period of relative austerity with respect to federal spending, ASCE members alerted congressional members to the importance of several programs related to infrastructure development and maintenance. We will have to wait and see how things unfold for the remainder of the 112th Congress.

This year's slate of Section meetings has been a tremendous success.

We have had good attendance and members have told me they enjoyed the speakers. We finish off the year in May with a presentation from our History and Heritage Committee (HHC) on the life of Benjamin Wright (1770–1842), the father of American civil engineering. The speaker

will be Steve Pennington, an active member of the NCS and champion of the HHC. He is authoring a book on Benjamin Wright, which is scheduled to be released later this year. We look forward to this opportunity to hear from a member on this important figure in civil engineering. Note that the May meeting will be held at the Hilton Arlington, a new location (950 North Stafford Street, Arlington, Virginia 22203; Metro: Orange Line).

Another upcoming event scheduled for Saturday, May 14 (weather permitting; in case of rain, the make-up date is Saturday, May 21) is our next Boundary Stone fence restoration event, led by 2011's Community Service Award winner Stephen Powers. The ASCE-NCS has been championing efforts to preserve and restore this important civil engineering landmark. This spring, we hope to restore fences for at least three stones. Also, we will hold a Family Day outing that afternoon. This is an opportunity to socialize with other members of the Section after the service project. Whether you are able to participate in the Boundary Stone fence restoration project or not, you are encouraged to attend the Family Day picnic. Be on the lookout for announcements and details for this event.

Finally, I would like to say that I have very much enjoyed serving as the NCS President this year. Holding this office gave me a chance to interact with and meet many truly dedicated and committed engineers that work very hard to advance our profession and this Society. Their work helps improve the standard of living in our region and country. There would be no way to list all the people individually that contributed to such a successful year, so I will only say that collectively the members of the NCS have made my year as President very rewarding and enjoyable. I would like to thank all those that have contributed in the past to the Section to make it successful. The current Board of Directors was fortunate to build on their accomplishments.

After the May Section meeting, I would like to wish everyone a safe and enjoyable summer. It is a time to relax and spend some time with family. One event that I would like to make all members aware of is our summer planning meeting, traditionally held in July. This is a time when the Board plans upcoming activities for the year. The input of the members is valuable and welcomed. This is a great opportunity to get involved or suggest new ideas for the Section. Please contact me or any other Board member for information. The details of the meeting will be publicized once a date and time have been selected.

Sincerely,

Mark E. Leeman, P.E.

Newsletter

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Call 1-800-548-ASCE, email 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://www.asce-ncs.org> for a current list of NCS committees and chairs.

ACE Hosts 2011 Scholarship Awards Breakfast

Wednesday, May 25th, at the National Press Club

Join Keynote Speaker Stephen Ayers (Architect of the Capitol) and the Architecture, Construction, and Engineering (ACE) Mentor Program of DC/MD/VA on **May 25** from **7:30 to 10:30 a.m.** for its 2011 Scholarship Awards Breakfast at the National Press Club. We anticipate at least 300 architecture, engineering, construction, and real estate industry principals, managers, and professionals to be in attendance.

An annual architecture, engineering, construction, and real estate industry

networking event, the Scholarship Awards Breakfast raises scholarship funds for graduating, local area ACE high school seniors who will continue to pursue their industry studies at a university or trade program. To date, over \$320,000 has been raised for nearly 100 graduates. Additional details and registration can be found online at www.acementor.org/592.



The ACE Mentor Program is an architecture, engineering, and construction career mentoring program for high school students, grades 9–12. Mentoring throughout the school year, ACE of DC/MD/VA is an award-winning mentor program that exposes students to the industry with hands-on projects and field trips to professional offices and project sites. ■

NCS Well Represented at the 2011 OPAL Awards Gala

The 2011 ASCE Outstanding Projects and Leaders (OPAL) Awards Gala was held on March 31st at the Gaylord National Harbor, near Washington, DC. Members of the NCS attending included current Board Members, Section President Mark Leeman, and past presidents Dean Westman, Fernando Pons, and Ray Darvish.

This year's Outstanding Civil Engineering Achievement (OCEA) Award went to the Louisville (KY) Water Company's Riverbank Filtration Tunnel and Pump Station. This innovative water supply system provides a natural water treatment technology in which water contaminants are removed or degraded as Ohio River water moves through thick sand and gravel layers to pumping wells.

The Washington Dulles International Airport Main Terminal Automated People Mover Station was also featured

as an Outstanding Civil Engineering Achievement Finalist.

National Harbor, featured a few years ago at a NCS monthly meeting, includes stunning views of the new Woodrow Wilson Bridge, the 2008 OCEA Award winner.

The 2012 OPAL Awards Gala will be held on March 22, 2012, at the Renaissance Arlington Capital View Hotel. A limited number of seats for the Gala are purchased each year by the NCS. Please contact Mark Leeman if you are interested in attending. ■



From left to right: Alvaro Consculluela (newly elected ASCE Fellow); Mark Leeman, NCS President; Stephen Powers, NCS Director; Dean Westman, NCS past president; Kelly Cronin, NCS member; and Ray Darvish, NCS past president.

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Cub Scout Day at the National Building Museum

NCS volunteers and friends participated in Cub Scout Day activities on April 11th at the National Building Museum (NBM) in Washington, DC.

Our Section sponsored the Water Filter Experiment activity while the Building Museum staff conducted other creative engineering activities for over 400 scouts and friends. Scouts learned about the basics of water treatment processes and then tried building their own slow sand filter with sand, gravel, and activated carbon in a kitchen funnel.

The NCS actively seeks to encourage young people to learn about

engineering and consider it as a career. All of the participating Scouts learned that water doesn't just come from a faucet and gained a greater appreciation of the technology of our modern life.

Education of the next generation of engineers is the responsibility of all ASCE members. NCS offers numerous volunteer activities throughout the year, including Scouting Days at the NBM (Girls Scouts and Cub Scouts) and Family Engineering Day. ASCE-NCS field trips, including fence restoration efforts and clean-ups at the Federal City Boundary Stones are also appropriate for young people.

The NCS wishes to thank all of the 2011 Cub Scout Day volunteers, including:

Tim Garland
Vanessa Aririguzo
L.J. Sauter, Jr.
Hamid Karimpour



Dean Westman explains the process.

Sadari Walters
Jenny Zhen
Imran Sayed
Mike Houlihan
Dean Westman

And finally, we want to extend our deep appreciation for the efforts of Marcia Quigley, Derrick Davidson, and 19 United States Air Force Academy cadets from Cadet Squadron 11. ■



A U.S. Air Force Academy cadet goes one-on-one with two young scouts.



Scouts with their slow sand filters.

NCS History & Heritage Committee Field Event

Join us on **Saturday, May 21, 2011**, for a site visit to the Queen Anne Bridge on Queen Anne Bridge Road—a circa 1890 Pony Truss bridge over the Patuxent River—in Prince George's County, MD. For additional information, please e-mail [Bernie Dennis](mailto:Bernie.Dennis). ■

The Queen Anne Bridge in Prince George's County, MD.

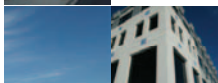


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Engineered Problem Solving

ASCE's National Historic Civil Engineering Landmarks

The Thomas Viaduct between Relay and Elkridge, MD

(Geographic Coordinates: Latitude: 39° 13' 19.63" N, Longitude: 76° 42' 46.98" W)

The March newsletter featured the Bollman Truss Bridge—ASCE's first National Historic Civil Engineering Landmark (NHCEL), designated in 1966. Now, 45 years later, the Thomas Viaduct (which is just 10 miles north of the bridge) has been approved as an ASCE NHCEL.

The Baltimore and Ohio Railroad (B&O), the nation's first common-carrier railroad, was chartered in 1827 with construction commencing at Mount Clare in Baltimore, MD on July 4, 1828. Charles Carroll of Carrollton, 91, and the sole surviving signer of the Declaration of Independence, turned over the first spade of earth for the new enterprise. Interesting side note: On the same date, President John Quincy Adams turned the first spade-full of earth in ceremonies at Little Falls, MD, for the Chesapeake & Ohio (C&O) Canal, which was chartered in 1825. Construction of the B&O westward from Baltimore would have significant implications for the ultimate fate of not only the C&O Canal but the canal era in general.

Construction of the B&O's Baltimore Terminal Line running south out of Baltimore reached Relay, MD and turned west, forming the "Old Main Line" following the shoreline of the Patapsco River through Ellicott City. It is here that the line forked and construction of the branch to Washington, DC began on July 1, 1833.

Just beyond the fork, the Washington Branch had to bridge across the Patapsco River and Patapsco Valley between Relay and Elkridge, MD. The B&O's directors authorized John McCartney, the low bidder and hard-working contractor from Ohio, to start



"Viaduct on Baltimore and Washington Railroad" engraved by H. Adlard after a picture by W.H. Bartlett, published in *American Scenery*, about 1840 (Steel engraved antique print, with recent hand coloring).

work at the bridge on July 4, 1833. The bridge was named the Thomas Viaduct in honor of Philip Thomas, the first president of the B&O, and the man who initiated its construction. A young 27-year-old B&O engineer named Benjamin Latrobe, Jr., was selected to design the bridge.

Benjamin Henry Latrobe, Jr. (1806–1878), the son of well-known architect Benjamin Henry Latrobe, spent most of his early life in Washington, DC, where his father was chief architect for the U.S. Capitol building. He and his older brother (John) studied two years at Georgetown College, and after the death of his father in 1820, Benjamin studied mathematics at St. Mary's College, graduating with high honors in 1824. Benjamin then studied law

at the offices of Baltimore attorney Charles F. Mayer and briefly practiced with his brother. In 1826, he moved to Salem County, NJ, where he briefly practiced law, then studied surveying and engineering. He returned to Baltimore in 1829 where his brother John, a junior counsel with the B&O, helped get him a job on the railroad in civil engineering starting at the bottom; Benjamin

measured broken stones for ballasting on the track west of Ellicott's Mills at \$1.00 a day.

Because of his knowledge and skill in the profession, Latrobe rose quickly through the ranks. By 1836, his title was Principal Assistant Engineer for the B&O. In the early 1830s, he and Chief Engineer Jonathan Knight had surveyed the line for the Washington Branch of the B&O, from Baltimore to Washington, DC.

In his 1993 book *The Great Road: The Building of the Baltimore and Ohio, the Nation's First Railroad, 1829–1853* (Stanford University Press, Chicago), James D. Dilts says: "The bridge that Benjamin H. Latrobe, Jr., designed to cross the Patapsco River Valley

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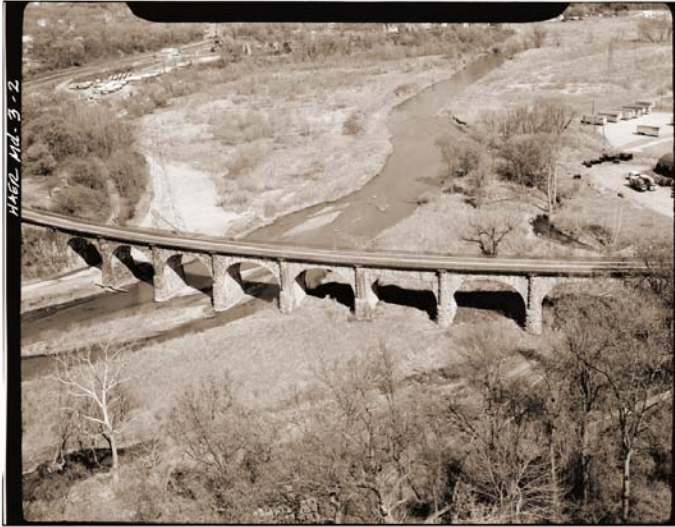
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ASCE's National Historic Civil Engineering Landmarks

continued from page 5



1977 aerial photo showing the curved viaduct structure—view looking southeast. From the [HAER Collection](#).



1970 photo looking north at the east side of viaduct from Levering Avenue. From the HAER collection.

between Relay and Elkridge, at the beginning of the Washington Branch, was unprecedented in America. When it was completed on July 4, 1835, at a cost of about \$200,000, it became the nation's largest bridge and the first built on a curving alignment. The viaduct of rustic masonry was 704 feet long, including the approaches, and 26 feet wide. The roadway was 66 feet above water level and each of the eight arches spanned a little over 58 feet. The piers, 15 feet thick at the waterline, tapering in to 10 feet at the spring of the arch, were faced with engaged columns and capitals. At both ends of the bridge there were huge stone abutments with battered walls and buttresses. The configuration was dictated by the curve of the line at that point, which had a radius of 1,273 feet, 4.5 degrees; and was the sharpest on the Washington Branch." In Chapter 12, Dilts give a

good presentation of the design and construction challenges addressed by Latrobe and McCartney.

The B&O's Washington Branch opened on August 25, 1835—the first railroad into Washington—and remained the only railroad serving DC until after the Civil War. In March 1842, Latrobe became Chief Engineer of the B&O, and continued his career with the railroad. The Thomas Viaduct is the oldest multiple-arch, curved railroad bridge in the U.S. The bridge continues to be used today; scores of CSX freight trains pass over the viaduct daily, as do MARC commuter trains hustling passengers between Baltimore's Camden Station and Union Station in Washington.

Good views of the Thomas Viaduct are available through the entrance to the Patapsco Valley State Park, off U.S. Route 1 at South Street, just north of Elkridge, MD. There was

a 175th-anniversary celebration in July 2010, and CSX, the Maryland Department of Natural Resources, and several other organizations are interested in restoring the structure with an overall goal of creating a Thomas Viaduct Park. For more information, contact the Friends of the Patapsco Valley Heritage and Greenway at patapscoheritagegreenway.org or by phone at 410-480-0824. If you visit the Patapsco Valley State Park, after viewing the Thomas Viaduct, be sure to continue a bit further into the park to see an interesting pedestrian suspension bridge over the river.

Final note: ASCE's Maryland Section is making plans for a NHCEL plaque ceremony. The NCS History and Heritage Committee members will be notified of the date so we can attend and get a good view of this Civil Engineering treasure. ■

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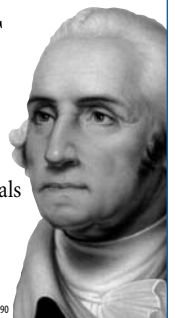
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Seminar for Federal Officials on Sustainable Site Solutions Using Manufactured Concrete Products

Federal officials are invited to attend a free seminar "Sustainable Site Solutions Using Manufactured Concrete Products" on **May 19, 2011**, at the Capital Hilton in Washington, DC. The event, sponsored by the National Concrete Masonry Association and the Interlocking Concrete Pavement Institute, will take place from 8:00 a.m. to 3:30 p.m.

Manufactured Concrete Products such as articulating concrete blocks, interlocking concrete pavements, permeable interlocking concrete pavements, and segmental retaining walls provide innovative and attractive site



design opportunities with low life-cycle costs. This seminar provides design tools to implement these paving and wall systems to meet a range of federal requirements, and includes leading project examples.

The seminar offers AIA- and ASLA-approved continuing education credits, and is targeted to specifiers, program and project managers, engineers,

architects, construction managers, facilities managers, conservationists, researchers, and other professionals associated with government transportation and building projects.

Registration is complimentary, and a continental breakfast and lunch are included. For more information, e-mail Gabriela Mariscal at gmariscal@ncma.org, or call (703) 713-1900. ■

The ASCE-NCS Scholarship Trust—Fund Sources

NCS records indicate that since the establishment of the Scholarship Trust in 1988, over \$280,000 has been awarded. The source of these funds may be of interest.

The ASCE-NCS Scholarship Trust is a separate entity within the Section and answers directly to the NCS Board of Directors. The Scholarship Trust Board of Trustees is comprised of 4 members each serving a three-year term, plus an NCS Board-appointed representative and the Chair of the Engineering Education Committee, each serving a one-year term. To date, the NCS Board-appointed representative has been the immediate Past President of the Section. This Board is responsible for managing the Trust and awarding scholarships annually. Funds for these scholarships come from five sources.

Trust Principal Interest

Scholarship awards are derived from the annual interest on the Trust's \$100,000 principal. However, the interest alone is not sufficient to cover the awards annually. So the Trust depends on several other sources of annual funding.

Memorial Endowments

In 2000, the Scholarship Trust Board established Memorial Trust Funds in the account. The concept of a memorial trust is that for an endowment of \$20,000 (or more), the Scholarship Trust will agree to award an annual memorial scholarship in the amount of \$1000 (minimum) in the name of the fund. Values of individual awards are determined each year based on the endowment principal and the overall performance of the Trust funds. Currently we have four Memorial

Trust scholarships: Gail Hathaway, Harold Williams, John Hummel, and James Harland. A brief biography of each engineer is given to the scholarship recipient and is included in the Annual Award Banquet Program. **All NCS members are encouraged to consider a Memorial Endowment in their estate planning.**

Corporate Sponsorship

The Trust benefited for many years from a generous Corporate Scholarship by Clark Construction in the amount of \$5,000. In years past, this annual contribution enabled the Board to award higher individual scholarships, several as high as \$5,000. **The Trust welcomes firms who would like to sponsor a scholarship in the amount of \$1,000 per year (or more).**

Annual Membership Contributions

Each year, with the ASCE dues renewal, members have an opportunity to contribute \$25 to the NCS Voluntary Section Contribution. The NCS Board has directed that the Voluntary Contribution funds go directly to the Scholarship Trust. Each year these contributions total between \$3,000 and \$5,000. Again, **all NCS members are encouraged to consider the Voluntary Section Contribution in their annual dues payment. Additionally, Life Members are encouraged to consider giving at a higher level with their annual renewal since they no longer pay the full dues.** In today's troubled economy, these voluntary contributions are greatly appreciated.

Past Presidents Collection

Each year the NCS Past Presidents meet at a reception before the Awards Banquet. Through tradition, the Past Presidents take up a collection for the Scholarship Trust. This collection generally contributes between \$300 and \$1,000. ■

(Editor's Note: This is the third of three articles prepared by Bernie Dennis on the history and workings of the NCS Scholarship Trust. Bernie served as President of the NCS in 1996 and is presently Chairman of the Scholarship Trust. If you have questions regarding the Trust or its operation, or if you would like more information on a Memorial Endowment or a Corporate Sponsorship, please contact Bernie at berniedennis@mindspring.com)

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.

What's All the Noise about Cloud Computing? Explore the Opportunity!

"The Computer Corner," a monthly column by Ranjit S. Sahai, P.E., F.ASCE

If you could run your entire business with tools that are just as easy to setup as an Internet e-mail account, would you?

If you aren't sure or if you think it is an unlikely scenario, read on.

The National Institute of Science and Technology (www.nist.gov) defines Cloud Computing as an automated delivery model for computing resources such as servers, storage, and software. A private cloud is for your exclusive use. A public cloud shares its resources across multiple customers.

Computing Resources on Demand

The commoditization of data processing capability is creating a fundamental shift in the technology industry. You no longer need to invest in the hardware, software, and technical expertise needed to setup servers to automate core business needs. You can setup and deploy e-mail and online storage in a matter of minutes by using self-service ordering portals from numerous technology vendors. Automated systems take care of setting up your account, deploying your resources, and billing you for the services. This is cloud computing in action. And it's going beyond e-mail and storage.

Use of cloud-based platforms to deliver business solutions is growing among the entrepreneurial software provider community. Amazon was among the first to gain traction among software developers with its Amazon Elastic Compute Cloud (EC2) web service that provides resizable

A key characteristic of cloud computing is its ability to deliver resources on demand.

compute capacity on which to build software applications. Microsoft's Windows Azure™ is the compute and storage platform on which developers can write and deliver software. This means that the number of software applications that are delivered over the

Internet and billed for resource usage (similar to how a public utility operates) will continue to increase. Industry-specific applications that cater to the needs of restaurants, credit unions, professional services, and non-profits are beginning to embrace cloud platforms.

Line-of-Business Solutions Online

The steps you take to market your business, to service your customers, and to bill for your services are typically made more efficient through integrated software applications referred to as "line-of-business" solutions. Examples of such solutions include: your timesheet/accounting/Enterprise Resource Planning (ERP) software;

You will be able to do more and more of what you need to do with cloud computing solutions.

your Website, if you use it to generate leads and capture sales orders; your patient scheduling system; your CRM application; etc. Whereas e-mail and storage were the first wave of cloud solutions I became aware of and embraced, I am watching a growing number of line-of-business solutions heading to the cloud.

Replicon Web Timesheet was originally available only as an on-site solution. It is now available only as a cloud service. Planet DDS offers its comprehensive dental practice management software as a Software-as-a-Service (SaaS) delivered over the Internet. Microsoft Dynamics AX, GP, SL, and NAV are available only as on-site solutions today, but Microsoft promised its partners at the Convergence Conference in April 2011 that work is underway to deliver these ERP applications as cloud services over the course of the next several years, much like Microsoft Dynamics CRM is today. I expect the migration of line-of-business solutions to the cloud to accelerate.



Device-Agnostic Service Delivery

Another characteristic of cloud computing is its ability to deliver resources over the network on a broad range of devices such as smartphones, tablets, and computers. Much like you have been able to access e-mail on your phone or computer, the day is fast approaching when you, whether as a seller or a buyer, will be able to conduct more and more of your business online using the device of your choosing.

Conclusion

The automated delivery of computing resources, where no human intervention is needed to initiate or receive the resources, is growing all around you. When you factor in the expenses you would incur to setup and deploy the resources yourself, the savings that accrue are unquestionable. Information Technology as a utility service model is here to stay. One thing you must keep in mind though is that the more you rely on cloud computing, the greater your need for Internet bandwidth.

About the Author

Ranjit S. Sahai of RAM Consulting Corporation has been writing on computer topics since 1987 and has authored five books. He is the Chair of the ASCE-NCS Automation Committee. He welcomes comments, suggestions, and feedback via e-mail. Visit the **Contact Us>Committee Chairs** page at www.asce-ncs.org or the **Contact Us** page at www.rcare-solutions.com to send a message to him. ■

March Meeting Recap

NCS Sustainability Awards and Keynote Address

It was another successful Sustainability Meeting for ASCE-NCS. A group of more than 80 members and students gathered at the Hyatt Crystal City to learn about the entries for the NCS's Sustainability Awards and hear the keynote presentation by Craig Farkos.

This year's NCS Sustainability Award winner is **Sidwell Friends Middle School, Washington, DC**. Their renovation and addition transformed an original 55-year-old, 33,000 square foot, facility into a state-of-the-art 3-story, 72,000-square-foot sustainable teaching environment. Storm water management, waste-water recycling, and solar electricity generation systems, typically hidden from sight, are exposed, allowing students to observe their interrelationship with natural resources, local habitat, and the built environment. Sidwell Friends became the first LEED Platinum-rated K-12 school building in the country, and the first LEED Platinum-rated building in Washington, DC.

This year's highly qualified nominees for the NCS Sustainability Award included:

■ **Forrester Construction Company**—Ranked among the Top 50 Green Contractors by *Engineering News-Record*, Forrester projects include four newly constructed DC Public Libraries—all are LEED Silver pending. Forrester also contributes to the community through programs such as the Success After School Internship Program, DOES Summer Employment Program, and Discover Construction, a partnership with Anacostia High School.

■ **RiverSmart Program—DC Department of the Environment**—This program assists building owners to implement storm water controls via education and cost-sharing. Program achievements to date include: 1,413 storm water audits conducted; 975 rain barrels installed; 92 rain gardens installed; 683 trees planted; 379,000 square feet of green roof installed; and performance of 32 building projects and 25 school yard projects.

■ **National Park Service (NPS)**—The NPS developed an Environmental Management System (EMS) for the headquarters office, located at the Main Interior Department Building. The EMS plan is called the "Green Parks Office Plan," and identifies goals and timeframes. This project advances and promotes sustainable development by creating an innovative and replicable approach for all NPS offices to minimize the impacts of daily operations.

The evening was capped off by the keynote presentation of Craig Farkos of Michael Baker, Jr. and a member of ASCE's national Sustainability Committee. Farkos began by summarizing how the design-build-operation community started incorporating sustainability into its work and how ASCE has treated sustainability up to now.

Farkos then began looking forward and described how ASCE's Sustainability Committee was committed to providing engineers with the tools and knowledge to implement these principles into their designs and projects. He stressed that in the age of the internet



Craig Farkos presents the Annual Sustainability keynote address.

and instant communications, information dissemination is both easier and more challenging than in previous times and that engineers need to be engaged in the process. In fact, with the wealth of information available to engineers, public officials, and the general public, engineers may be confronted with individuals that have far more information, if not knowledge, than in past times. Farkos told the audience that engineers have to be "comfortable with the messiness of the process" that this new situation brings.

One of the interesting concepts Farkos presented was that engineers could no longer think in terms of discrete, static values in their analyses and calculations. Instead, they need to bring time into the equation and think in terms of rates, flows, etc. Sustainability metrics should not be judged at a single point in time, but rather by how things change (improve or degrade) with time. This is the real challenge to civil engineers for incorporating sustainability into their work.

As if to address a criticism some may advance towards implementation of sustainable design, Farkos claimed that leaders in this area will see a financial benefit for their efforts. He described the value proposition of sustainable design as coming from three broad categories: cost reductions from process improvements and efficiency, being ahead of the market as an "early adopter," and the visible goodwill and legitimacy organizations receive when they implement these concepts.

The sixth annual Sustainability Meeting provided an opportunity to recognize and share knowledge in the field of sustainability as it related to civil engineering. The members got to learn about how practitioners are implementing sustainable design into real-world, local projects. Further, the membership got to learn about ASCE's vision of the future of sustainability from one of its own. ■



Entries for the Annual Sustainability Award, from left to right: John Casana, NCS Vice President; Rebecca Stack, DC RiverSmart Program; Tyler Rogers, representing the National Park Service; Michael D. Benton, P.E., representing Sidwell Friends School; and representatives of Forrester Construction Company.

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Younger Members Committee Seeks Nominations for 2011 Employer Recognition Award

ASCE's national Committee on Younger Members (CYM) is seeking nominations for the **2011 Younger Member Employer Recognition Award**. This award was created to recognize employers who support young engineers and assist with their personal development. The CYM also awards two Superior Employer Recognition Awards (one public, one private) to the nominees

who best display exemplary support of young engineers in their organizations. A list of winning organizations will be submitted for inclusion in a Society publication and in the Younger Member Newsletter.

Nominations must be postmarked by **August 1, 2011**. The nomination form, which describes the award in detail, is available on the web site at [http://](http://www.asce.org/uploadedFiles/Young_Member_Groups_-_New/2010%20ASCE%20CYM%20Employer%20Recognition%20Application.doc)

www.asce.org/uploadedFiles/Young_Member_Groups_-_New/2010%20ASCE%20CYM%20Employer%20Recognition%20Application.doc. Questions or comments may be directed to Douglas Knapp, P.E., M.ASCE, at douglas.d.knapp@usace.army.mil. ■

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

May 11-13

HEC-RAS Computer Workshop for Unsteady Flow Applications. Held in conjunction with the [ASCE EWRI Institute](#) at the Radisson Plaza Lord Baltimore in Baltimore, MD. ASCE members, \$1,485; nonmembers, \$1,695. Attendees will receive 2.4 Continuing Education Units (CEU). Click [HERE](#) for more information.

May 12

2011 Washington Academy of Sciences Annual Meeting and Awards Banquet. Registration: \$50 until noon on May 6, \$60 (members and non-members) thereafter. For further information, e-mail banquet@washacadsci.org.

May 12-13

Financial Management for the Professional Engineer. Held at the Hilton Garden Inn Baltimore Inner Harbor in Baltimore, MD. ASCE members, \$1,225; nonmembers, \$1,445. Attendees will receive 1.4 CEUs. Click [HERE](#) for more information.

May 14

NCS boundary stone fence repair/restoration event. Come and be a part of history as we tackle three more stones in the NW-SW quadrants! Contact Stephen Powers at (703) 417-0091 or stephen@design-powers.com. Also, join friends and colleagues at the **NCS family picnic** near one of the boundary stone sites after our work is completed. Come to either event or BOTH. Picnic planning is being headed-up by Fady Afif (Afif@bv.com), who is looking for a couple of volunteers to help out.

May 17

NCS monthly meeting: History and Heritage presentation by Steve Pennington to focus on Benjamin Wright, the Father of American Civil Engineering. (See newsletter article.)

May 19

Sustainable Site Solutions Using Manufactured Concrete Products, a free seminar for Federal officials, will be held at the Capital Hilton, Washington, DC, from 8:00 a.m. to 3:30 p.m. For further information, e-mail Gabriela Mariscal at gmariscal@ncma.org or call (703) 713-1900. (See newsletter brief.)

May 21

NCS History and Heritage Committee site visit to the Queen Anne Bridge in Prince George's County, MD. Inspect a circa 1890 Pony Truss bridge over the Patuxent River. For additional information, please e-mail [Bernie Dennis](mailto:Bernie.Dennis).

May 25

2011 Annual ACE Scholarship Awards Breakfast. Held 7:30-10:30 a.m. in the 13th floor Ballroom of the National Press Club, Washington, DC. The Keynote speaker will be Stephen T. Ayers, AIA, LEED AP, Architect of the Capitol. For additional information, visit www.acementor.org/592 or write to washingtondc@acementor.org. (See newsletter brief.)

June 2-3

Load Rating of Highway Bridges. Held at the Radisson Hotel Reagan National Airport in Arlington, VA. ASCE members, \$1,235; nonmembers, \$1,455. Attendees will receive 1.4 CEUs. Click [HERE](#) for more information.

June 23-24

Risk-Based Seismic Design and Evaluation. Held at the Radisson Hotel Reagan National Airport in Arlington, VA. ASCE members, \$1,225; nonmembers, \$1,445. Attendees will receive 1.6 CEUs. Click [HERE](#) for more information.

September 15-16

Design and Renovation of Wood Structures. Held at the Hilton Garden Inn Baltimore Inner Harbor in Baltimore, MD. ASCE members, \$1,275; nonmembers, \$1,495. Attendees will receive 1.4 CEUs. Click [HERE](#) for more information.

September 15-16

Liability of Engineers: How to Stay Out of Trouble. Held at the Radisson Plaza Lord Baltimore in Baltimore, MD. ASCE members, \$1,195; nonmembers, \$1,415. Attendees will receive 1.4 CEUs. Click [HERE](#) for more information.

September 29-30

Deep Foundations: Design, Construction and Quality Control. Held at the Radisson Hotel Reagan National Airport in Arlington, VA. ASCE members, \$1,265; nonmembers, \$1,485. Attendees will receive 1.4 CEUs. Click [HERE](#) for more information.