

ASCE, PHILA. SECTION MEETING SCHEDULE 2011-12 — WINDING DOWN...

The ASCE, Phila. Section Meeting program for the upcoming season is wrapping up. After March, there will be one regular meeting remaining, on April 12, which will be a multi-topic event similar to that conducted last April, at the same venue as last year's (Villanova Conference Center).

Also, planning for our annual Spring Social is in process. More information on this will be provided in the March edition of *THE NEWS*.

SCIENCE FAIRS COMING UP — WANT TO BE A JUDGE?

The Delaware Valley Science Fairs will be conducted on **Wednesday, April 4**. The location remains the same as last year, the **Greater Philadelphia Expo Center** in Oaks. The Section will once again participate in the Fairs and offer four Special Awards for projects that have a Civil Engineering theme, with two awards for Grades 6 through 8 and two for Grades 9 through 12.

As usual, judges are needed for this effort. The judging will require you to spend most, if not all, of your day (approximately 8 AM to 3 PM) at the Fairs, examining and short listing possible projects in the morning and then interviewing the students who assembled them and finalizing the selections in the afternoon. It is always a very interesting and enlightening experience.

If you are interested in being a Special Awards judge for the Section please contact **Chris Rood** at chris.rood@aecom.com. You will also need to register for this and this can be done through the Fairs' website, www.dvssf.org.

For more information on the Fairs please visit the above website.

We hope you can join us for a rewarding and interesting day.

THANKS TO OUR SPONSORS !

Our Section Sponsorship Program is an ongoing success, with 19 firms currently participating in this program. We appreciate the financial commitment and support these firms have demonstrated for the benefit of the Section, and we extend a heartfelt, special and collective THANKS to each sponsor accordingly.

If you have an interest in joining our sponsorship program, please contact **Bob Wright** at newseditor@asce-philly.org for more details.

FEBRUARY JOINT DINNER MEETING

American Society of Civil Engineers, Philadelphia Section
American Society of Civil Engineers, New Jersey Section, South Jersey Branch

THURSDAY, FEBRUARY 16, 2012

Crowne Plaza Hotel Philadelphia-Cherry Hill

2349 W. Marlton Pike (at Cuthbert Blvd.), Cherry Hill, NJ.

Cocktails 5:30 PM • Dinner 6:30 PM • Meeting Presentation Follows

SUBJECT: Master Plan for the Central Delaware – Transforming Philadelphia's Waterfront

SPEAKER: Sarah Thorp, Director of Planning, Delaware River Waterfront Corporation

RESERVATIONS MUST BE SUBMITTED BY **THURSDAY, FEBRUARY 9**. Please make your reservations through South Jersey ASCE's system (rsvp@sjasce.org). The Philadelphia Section will NOT be accepting any reservations for this meeting.

The cost of dinner will be \$35 per member or guest, \$15 per ASCE Student Member. Payment will be accepted at the door. Walk-ins will be subject to acceptance on a space-available basis. THERE IS NO GUARANTEE THAT SPACE WILL BE AVAILABLE IF YOU DO NOT RESERVE A SPACE.

The Delaware River Waterfront Corporation (DRWC) recently completed a 2-year, \$1.5 million planning effort for six miles of Philadelphia's Delaware River waterfront. This award-winning plan makes recommendations for land use, transportation, and open space, and includes an economics strategy for implementation.

DRWC embarked on the master planning process in 2009 in order to provide a framework of land use, open space, economic, transportation, and development recommendations for the Central Delaware waterfront, utilizing DRWC resources and a \$1 million grant from the William Penn Foundation.

The underlying principle of the plan is that scarce public funding should be used strategically to build infrastructure such as parks, roads, and trails to create value in severely challenged, previously industrial waterfront parcels and therefore incentivize private development on the waterfront. Additionally, the plan proposes diverse uses such as port/industrial, residential, mixed-use, civic, and entertainment along the six miles of the waterfront.

The plan includes: a network of civic and public spaces developed as distinctive public amenities supported by a public financing strategy focused on initial public investments in basic infrastructure (streets, utilities and public parks and trails); accommodations for diverse land uses along the waterfront, new development which maintains a character consistent with current Philadelphia building vocabulary and quality of adjacent neighborhoods and also matches near-term market conditions, and; a multimodal transportation and transit plan that includes facilities for streetcar/

Continued on Page 3

Resolve to attend ALL Section Meetings!

MARCH JOINT DINNER MEETING

American Society of Civil Engineers, Philadelphia Section
American Society of Civil Engineers, Lehigh Valley Section

THURSDAY, MARCH 8, 2012

SUBJECT: Pennsylvania Turnpike Northeast Extension Reconstruction and Widening Program

The location and other details will be provided in the March edition of *THE NEWS*.



PRESIDENT'S MESSAGE

ASCE Headquarters recently asked our Section to become a signatory to a letter supporting upcoming transportation legislation. I'm happy to say that our Section's board voted unanimously to support ASCE Headquarters and become a signatory to the letter.

I'll paraphrase ASCE's email, as well as the letter. Congress has until March 31 to pass a new law investing in our country's surface transportation infrastructure. The Americans for Transportation Mobility, a coalition led by the US Chamber of Commerce, of which ASCE is a member, has put together a letter that was delivered on January 23, when the House and Senate reconvened.

The letter calls on Congress to Make Transportation Job #1 and pass a highway, transit, and safety bill that, at a minimum, maintains investment levels before the current law expires on March 31, 2012. The long-delayed reauthorization of federal highway and public transportation programs is a major piece of unfinished business that can provide a meaningful boost to the US economy and its workers, and already has broad-based support.

To grow, the US must invest in infrastructure. It's about jobs, safety, and competitiveness. Other countries are investing heavily in infrastructure. They are eating our lunch. (This is me speaking.) In the meantime, our infrastructure, most of which was built 40-50-60 years ago—and helped us become the powerful nation we are—continues to crumble, costing us lost time and revenue. The longer we wait to repair our infrastructure, the more it will cost us to do the repairs. If your roof has a little leak now, and you repair it now, your problem will be averted for a small investment on your part; however, if you ignore it, you'll probably have to make a major investment replacing the entire roof.

I've urged you before, but I urge you again. If you're tired of potholes, wasting your time in traffic, or wanting better transit service, please contact your Congressperson. Here is a link from the Headquarters website that will connect you with your Congressperson: <http://www.asce.org/Government-Relations/Government-Relations/>

In my last letter, I mentioned that I was going to give my nephews Sean and Ryan forehead flashlights. I did, and they were a big hit. They even figured out that you could make them pulse or give a steady light. When I was leaving my niece's home on Christmas night, Ryan looked up at me and said, "I love what you gave me."

Sincerely,

Ann M. Tomalavage, P.E., PMP, LEED AP
President, ASCE, Philadelphia Section

STEEL MANUAL UPDATE

Thursday February 16

Philadelphia - Location TBD

8AM – 5PM

SEMINAR SUMMARY:

The 2010 AISC Specification for Structural Steel Buildings and the 14th Edition Steel Construction Manual are both available now. You won't want to miss this one-day seminar where the new editions of these publications will be discussed. The important changes and clarifications that have been incorporated into these documents will be explained, as well as a review of other key portions of the Specification and Manual. Design examples illustrating many provisions of the Specification and use of the Manual will be included. The Manual is available for purchase with this seminar for \$100 (a \$350 value)!

SPEAKER: Louis F. Geschwindner, PhD, PE, former AISC Vice President of Engineering and Research and Professor Emeritus of Architectural Engineering at Penn State University.

Attendees will receive 8.0 PDH's.

All ASCE members can register at the AISC member price!

Register Early! Register by **February 7** to receive a \$50 discount on all seminar pricing!

Please visit www.aisc.org/seminars for more information!

PSPE DELAWARE COUNTY ENGINEERS WEEK DINNER

The Pennsylvania Society of Professional Engineers (PSPE), Delaware County Chapter, has scheduled its 2012 Engineers Week Dinner for **Thursday, February 16**, at the **Towne House Restaurant**, 117 Veterans Square, Media. In addition to the recognition of Engineers Week, the Chapter will be honoring its Delaware County Engineer of the Year and other awardees.

Section Member **Joseph Martin, Ph.D., PE** will be cited as the **2012 Delaware County Engineer of the Year** at this event. Joe is a professor at Drexel University and well-known to many in our Section as a colleague and teacher (and sometimes both).

The evening begins with a social hour at 6 PM, followed by dinner at 7 PM (choice of chicken parmesan or crab cakes), and the meeting program at 8 PM. The cost of the event is \$30 per person. Reservations are due by **Friday, February 10** (no reservations will be accepted after that date and no purchases at the door will be permitted). Reservations can be made through **Gwen Himes** (ghimes@trafficpd.com, 610-326-3100).

Our Section is aware that this, unfortunately, conflicts with our February Section meeting, for scheduling reasons beyond our control.

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ENGINEERS WEEK – COMING SOON!

The Delaware Valley Engineers Week Committee will be celebrating **Engineers Week 2012** from **February 17 through February 25** and will continue its schedule of three events which will highlight the various contributions of Engineers and Engineering students in the Delaware Valley. Please note this information in your calendar and plan to participate.

AWARDS AND PROCLAMATION LUNCHEON FRIDAY, FEBRUARY 17

DoubleTree Hotel, Center City

The Awards and Proclamation Luncheon includes:

- A poster session with presentation of student paper winners from 11:00 AM to 12 noon prior to the Luncheon
- Engineers Week Awards and Scholarships will be presented
- Engineers Week proclamations will be displayed
- Project and individual awards of all participating Engineering societies in the Delaware Valley will be recognized
- The Engineer of the Year and Young Engineer of the Year will make brief remarks

YOUNG ENGINEER SOCIAL EVENT TUESDAY, FEBRUARY 21

Yards Brewery, 901 N. Delaware Avenue

This event will be a happy-hour type event at a location geared to younger Engineers. The Young Engineer of the Year will make brief remarks.

CELEBRATION OF ENGINEERING RECEPTION THURSDAY, FEBRUARY 23

Pyramid Club, Center City

The culminating event of Engineers Week will be a social/networking gala event to celebrate Engineering, with cocktails, appetizer stations, and dessert stations. Other features of the event include:

- Award recipients will be honored with posters, exhibits, and running PowerPoint presentations in the networking area
- Future City Competition Regional winners will display their first place model
- The Engineer of the Year and Young Engineer of the Year will provide brief remarks, followed by a brief recognition of the Hall of Fame award recipient

More information will be provided on price, location, and other details in the coming months. Please visit www.dvewc.org for up-to-date announcements.

As always, **volunteers are needed!** If you are interested in volunteering for one of the many activities of Engineers Week, please visit www.dvewc.org.

MY PESSIMISM EXTENDS TO THE POINT OF EVEN SUSPECTING THE SINCERITY OF THE PESSIMISTS.

– Jean Rostand

FOUR HOPEFULS FOR NATIONAL PRESIDENT-ELECT

Just as the 2012 presidential election is already in full swing, so is the process of choosing the next President-Elect of ASCE National. Four members have thrown their hats into the ring as nominees, to be narrowed to two official nominees by the Society's Board of Direction Nominating Committee before being put to a vote by members this summer. The four hopefuls will meet members attending this year's three Multi-Regional Leadership Conferences and make their cases at town hall-type forums. For members who will not be at these conferences, live video of the conference in Kansas City will be streamed on ASCE's website on February 11.

These are the candidates for 2013 President-Elect, to advance to ASCE President for 2014:

- **Randall S. Over, PE, F.ASCE**, Ohio Department of Transportation Construction Engineer based in the Cleveland area.
- **Garland P. Rose Jr., PE, D.WRE, F.ASCE**, former chairman emeritus of Barge Waggoner Sumner and Canon of Nashville, TN, now retired.
- **Thomas R. Walther, PE, F.ASCE**, former transportation advisor at TEC Design in Eau Claire, WI, now retired.
- **Michael H. Wenning, PE, F.ASCE**, bridge department manager at American Structurepoint, Inc., in Indianapolis, IN.

Read the bios and vision statements each has submitted - in-depth profiles appear in January's *ASCE NEWS*. Voting for the two official nominees will open **June 15** and close **August 14**, with results announced shortly thereafter. Eligible voters at the membership grade of Associate or higher must be current on their dues as of May 15. Students and Affiliate Members are not eligible. Online voting credentials will be emailed in June, so be sure your membership profile includes a valid email address.

To comment on the election and the nominees, write to board@asce.org.

CALL FOR NOMINATIONS FOR SECTION OFFICERS

If you have an interest in being a part of the Section's governance, your opportunity has arrived. In accordance with the Constitution and Bylaws of the Section, President **Ann Tomalavage** will be appointing a Nominating Committee to recommend a slate of officers for all Section elective offices for the 2012-13 administrative year. The positions which will be open for nominees are President Elect, Vice President, Secretary, Membership Secretary, and at least three Director positions.

Please feel free to nominate yourself or a colleague if you are interested in serving the Section in one of these capacities. We are looking for hard-working, dedicated volunteers who have fresh ideas.

The deadline for nominations is **Friday, February 24**. Any inquiries or nominations should be submitted to the Section's Secretary, **AnnMarie Vigilante**, whose contact information is given on page 2.

FEBRUARY DINNER MEETING

Continued from Page 1

transit, vehicles, bicycles, and pedestrians that shapes and serves walkable communities and links waterfront destinations to each other, connects waterfront residents to employment centers, provides at-grade service to Center City, and is an integral element of the regional transportation network. It contains a phasing strategy which concentrates initial public funding and therefore development on nodes of public land near transit and other assets in order to generate a critical mass of activity in key locations as well as to pace development so that it corresponds with projected absorption rates. It will serve as a catalyst for high-quality private development on priority sites in supporting Philadelphia's transformation to a 21st century lifestyle city.

DRWC has already begun implementation of the plan with the recent completion of the Race Street Pier, the Race Street Connector, and various other waterfront projects.

Sarah Thorp joined the DRWC staff in October 2009 to manage the Master Plan for the Central Delaware Waterfront. Previously she was the Executive Director of the Delaware River City Corporation, a nonprofit implementing over \$32 million in waterfront park and trail projects on the riverfront in Northeast Philadelphia. She moved to Philadelphia in 2003 to attend graduate school at the University of Pennsylvania's School of Design after serving for 10 years in the US Navy as a Naval Aviator. She holds a bachelor's degree in civil engineering from the University of Iowa and a master's degree in historic preservation from the University of Pennsylvania.

For more information on the Hotel location and directions, visit www.ichotelsgroup.com/h/d/cp/1/en/hotel/cpcrw/transportation?start=1

TRAINING/CONTINUING EDUCATION OPPORTUNITIES

NTM Engineering will conduct a two-day session on BMP's for Erosion and Sediment Control Plans which will include the use of the new PADEP Erosion and Sediment Control BMP Manual. This will be held in King of Prussia on **February 22 and 23** (two all-day sessions worth 16 PDH's). Seating is limited and the registration deadline is **February 10**. Please visit www.ntmtraining.com to register and for additional information and details.

I WOULDN'T SAY IT'S COLD, BUT EVERY YEAR WINNIPEG'S ATHLETE OF THE YEAR IS AN ICE FISHERMAN.

– Dale Tallon, former National Hockey League player

JANUARY DINNER MEETING

January 18, 2012

Radisson Valley Forge Hotel – King of Prussia
New Jersey Turnpike Interchanges 6 to 9 Widening Program

by Robert Wright, Editor

Our first meeting in the new year got off on a different “foot”, so to speak. We were greeted with a sunny but brisk day, unusual for us this season as our meeting nights have been rainy ones thus far. Maybe the trip to the wilds of King of Prussia made the difference? At any rate, nearly 200 attendees, representing the Delaware Valley Section of the American Society of Highway Engineers (ASHE) and our Section (and in some cases, both) braved the traffic and made the trip to the Radisson Valley Forge Hotel to hear about the major undertaking to widen the New Jersey Turnpike. For our Section, this would be an update on the presentation we had at our joint meeting with the South Jersey Section almost two years ago (February 2010).

Delaware Valley Section President Don Stark opened the meeting, followed by grace led by Delaware Valley Section Past President Curt Shugars and the customary recitation of the Pledge of Allegiance. Section President Ann Tomalavage offered her welcome and made a few announcements on upcoming Section events.

After dinner, Delaware Valley Section Board Member and Past Section President Bob Wright (this guy gets around!) introduced the evening’s featured speaker, John Keller, Program Manager of the New Jersey Turnpike Authority (NJTA), the “point person” on the Turnpike Interchanges 6 to 9 program.

A LARGE PROJECT!

Mr. Keller noted that this effort is the largest active roadway project in the Western Hemisphere. It is on schedule and \$400 million under budget, remarkably for an effort valued at \$2.5 billion. He added that the keys to this success were to build a good team, get to know the people on that team, and empower team members to do what must be done. He also advised that if schedule is pushed the scope and budget will control themselves.

Mr. Keller attributed some of the success to attention to the need to celebrate project milestones, which gives team members a sense of accomplishment and motivation. He has found that the various processes and reviews should be timed to keep things in motion – one example he cited is the flow of invoices, which often get stalled on different desks for no apparent reason, and how efforts to keep things moving minimized these stalls. Another area of success has been in the standardization of methods, details and similar items, so that different construction sections look the same. This was done deliberately for a number of reasons that would be explained as the presentation continued.

Mr. Keller presented the project’s facts and figures — 35 miles of the Turnpike are affected, with the project adding 170 lane miles and 100 structures, to be able to handle traffic projections for 2030. The project will widen 25 miles of

roadway from 3 lanes directional to 6, with a dual inner/outer roadway system (3 lanes in each direction for mixed traffic on the outer side, 3 lanes directional on the inner side for cars only). This covers the segment from Exit 6 to Exit 8A. The last 10 miles, from Exit 8A to Exit 9, will add one outer lane to the current 5 lane directional (3 inner/2 outer) section, with the result that the Turnpike from Exit 6 (Pennsylvania Turnpike) through to Newark will be at least 12 lanes wide. A side benefit will be that the current backup that often occurs where the 5 lanes neck down to 3 will be gone. Traffic reports do not even cite the location, merely calling it the “merge”.

The project was broken into 8 design sections with an average dollar value of each contract at approximately \$20 million. Mr. Keller stated that the construction estimate of the entire program is \$1.5 billion itself. A total of 25% of this is directed to small business enterprises (SBE’s). HNTB is serving as the program manager for the Turnpike.

In addition to the widening of the mainline Turnpike, Interchanges 7A (a busy junction with Interstate 195) and 8 are being completely revised. The northbound on-ramp to the Turnpike from the toll plaza at Interchange 7A will be realigned to provide a direct two-lane connection in place of the current loop ramp to address the high volume of traffic using this ramp. At Interchange 8, the toll plaza and connections to local roads will be moved from the west side of the Turnpike to the east side to provide more efficient linkages to the local roads and remove a congestion point. Mr. Keller added that the toll plaza work is a bit more complicated as it must be done in phases to keep the toll plazas fully functioning at all times. The mainline widening is all on new alignment and has minimal impact on thru traffic.

CHALLENGES

The design efforts included the development of standard procedures, processes and methods that did not exist previously and which were somewhat confused when the Turnpike and Garden State Parkway were brought under the NJTA umbrella. Mr. Keller highlighted the importance of this to having the different design and construction sections meet and look the same.

A total of 32 construction contracts are envisioned. Since the construction phase began in 2009, 27 contracts have been awarded to date. Mr. Keller reported that over 340 right-of-way parcels had to be acquired, with the last one cleared the day before this meeting. Major utility relocations had to be undertaken as a first push, with major pipelines and fiber optic lines paralleling the Turnpike. In a significant portion of the project length, a Public Service Electric high-tension line is nearly right alongside the roadway, and the utility lines had to be moved beyond the electric line corridor (the lines could

not share this right-of-way). A myriad of environmental and other permits had to be obtained as well.

Mr. Keller outlined the construction management component of the work, with 3 CM firms for specific segments and a constructability firm to develop estimates, gauge available resources to size bid packages, and develop reasonable bonding requirements. Approvals and submissions were bundled and this resulted in a savings of nearly 24 months in review processes. All processes are monitored through electronic reporting systems.

Mr. Keller admitted that a project of this complexity was expected to have issues. The noted relocation of pipelines and fiber optic cables was an early major effort. Construction had to be scheduled and sequenced in a logical fashion to have the least impact on users. A public outreach program and website were developed. All project approvals and public documentation were posted on the website, so any challenges to the project from local communities and/or affected residents could be addressed as necessary.

Over \$500 million of the work has been completed to date. The project is anticipated to be complete and open to traffic in 2014. The last element of the work will involve moving traffic to the newly-completed sections and the resurfacing of the current roadway, which will become the inner lanes in the new scheme.

QUESTIONS AND ANSWERS

Since the effort will add a significant amount of new impervious surface, a total of 68 stormwater basins are being constructed to account for this.

The noted \$400 million saved, partly a result of current market conditions in the highway construction industry, will be used to allow other planned improvement projects to be advanced on the Turnpike and Parkway.

Delaware Valley President Stark, along with the roomful of attendees, thanked Mr. Keller for an insightful and informative evening.

PSPE PHILADELPHIA ENGINEERS WEEK BANQUET

The Pennsylvania Society of Professional Engineers (PSPE), Philadelphia Chapter, will conduct its **2012 National Engineers Week Banquet** on **Saturday, February 25** at the **Springfield Country Club** (400 West Sproul Road, Springfield). This event will recognize, promote and celebrate the role that Engineers fill in the Greater Philadelphia Region.

The price per person is \$60.00 (\$75.00 for reservations made after **February 17**). Reservations can be made on the Chapter’s website, www.pspe-philly.org, using PayPal. Sponsorships and table-top exhibits are also available.

SPECIAL HONORS FOR TWO SECTION MEMBERS

We are proud to congratulate two of our own who will be cited during Delaware Valley Engineers Week. We hope you can join us at one or all of the Engineers Week events (see the separate article on this) at which they will be honored.

With the upcoming installation of our own **Tim Haahs** as the Delaware Valley Engineer of the Year, our Section has scored a “trifecta” of sorts, grabbing three major Engineers Week awards. We are proud to see this happen and congratulate these individuals on their accomplishments.

DELAWARE VALLEY YOUNG ENGINEER OF THE YEAR – CATHY FARRELL

Catherine Golata Farrell, PE is an assistant project manager in the transportation department at Michael Baker Jr., Inc. in Horsham. Since joining Baker in 2002, Cathy has worked on roadway, highway and trail jobs for PennDOT, townships and community groups in the Philadelphia area. Her hands-on approach and attention to detail helps her take projects from conception through implementation, touching all project phases from proposal to preliminary engineering and final design, to bid preparation and post design services.

Cathy thrives in seeing her projects materialize from ideas to tangible improvements that benefit society. Her most recent accomplishment was serving as the assistant project manager for the Gustine Lake Interchange project, a \$20.8 million American Recovery and Reinvestment Act project that replaced 4 structurally deficient bridges and the removal and replacement of a fifth bridge with a signaled intersection in an urban interchange. During construction, she was the point of contact for all project-related questions. She also served as the roadway task manager on the award-winning Route 202 Section 701 Parkway project, where she designed a 1.8 mile long limited access roadway on new alignment recently constructed in suburban Montgomery County (2010 ASHE Project of the Year award and 2010 MASITE Project of the Year – Honorable Mention).

Although she grew up outside of Baltimore/D.C. and spent her high school years in the Chicagoland area, Cathy returned to the East Coast to earn her Bachelors of Science in Civil Engineering and Masters of Science in Civil Engineering from Villanova University in 2003 and 2006 respectively. Since then, she has been active in the Section, volunteering as the Membership Secretary and the PDH Committee Chair, as well as in the Younger Member Forum. She participates in the Engineers Week planning committee by spearheading the Young Engineer Social. In addition, she is a member of the American Society of Highway Engineers and the Engineers' Club of Philadelphia.

Her involvement does not stop with professional society organizations. At Michael Baker Jr., Inc. she led the effort to create a corporate wide mentoring program. To help boost employee morale, she planned social and volunteering

events for the Horsham and Philadelphia offices. She is an active member with the Pi Beta Phi Sorority Alumni Club and served as the President of their House Corporation for six years. Additionally, she volunteers with St. Alphonsus Parish's Aids to Friends Ministry where she prepares meals for the elderly.

Cathy resides in Dresher with her husband Tim (also a Civil Engineer) and their son, Dean. In her free time she enjoys cooking, exercising, skiing, and spending time with friends and family.

DELAWARE VALLEY ENGINEERING HALL OF FAME – CARL BAUMERT

Carl A. Baumert, Jr., PE, has worked as a Professional Engineer for nearly 60 years, directing the Structural Engineering of major new building and renovation projects. His technical proficiency, creativity, and penchant for history have left a lasting impression on the design and construction community in Philadelphia and at large. A registered Engineer since 1958, Carl served as principal of Keast & Hood Co. from 1963 to 1995. He continues working in Keast & Hood's Philadelphia office, where he focuses on historic restoration and rehabilitation projects, including participation since 1991 as the lead structural consultant for the multi-disciplinary restoration team for City Hall.

Early in his career, Carl developed an interest in historic buildings and in solving myriad problems involving their structure and exterior envelope. That led to an appointment to the ASCE Committee on the Assessment and Rehabilitation of Buildings in 1982. As part of that committee, he participated in the development and writing of the landmark standards for building condition assessment.

Carl's project experience is both extensive and varied, including work for the University of Pennsylvania, Harvard University, Philadelphia Museum of Art, Erie Federal Building, US Custom House, William Trent House, and Union League. He has worked on numerous monuments and landmarks including Fire Island Lighthouse, Perry's Victory, Fort Mifflin, and the relocation and reconstruction of Gruber Wagon Works. His work for historic churches has ranged from new facilities and renovation at Church of the Advocate to timber truss repairs at Robert Smith's Saint Peter's Church and Christ Church in New Jersey. New construction projects have included the five-story J.C. Penney store in Philadelphia and Module 5 and 6 Chiller Buildings at the University of Pennsylvania.

Carl earned a Bachelor of Science in Civil Engineering from Drexel Institute of Technology (now Drexel University) in 1951. He served in the US Army Corps. of Engineers from 1951-53 at Fort Belvoir, VA, and in Korea where he was a platoon commander and battalion recon officer. He is a registered Professional Engineer in 14 states.

Carl has spoken and written for organizations including the National Council of Structural Engineers Association, National Science Foundation, Traditional Buildings Conference, and STRUCTURE magazine. He is a life member of ASCE and former chairman of its Standards Com-

mittee for Structural Condition Assessment and Rehabilitation of Buildings. He is also a member of the American Society for Testing and Materials, the Association for Preservation Technology International, the Delaware Valley Association of Structural Engineers, and the American Institute of Steel Construction.

ANACE*

Some information on how engineers are being innovative, using materials a little differently. Thanks to various sources for this information.

PAVING IN ALASKA

Like alchemists with an especially grubby laboratory, researchers at the Alaska University Transportation Center have spent the past four years working to transform powder into rock.

The work, which is done at the University of Alaska Fairbanks, is about much more than curiosity. With the help of industrial binders, glues and plastic fibers, AUTC hopes that its work can transform the way roads and runways are built in rural Alaska. If they can figure out how to use local silt for roadbeds instead of barging in expensive gravel, it would save the state millions of dollars.

A road built last summer outside Wasilla offers one of the biggest reasons for optimism yet. The experimental 500-foot patch patch near Horseshoe Lake is notable because it isn't made out of gravel or asphalt. It's a combination devised by AUTC researchers of local silt, plastic fibers, solid soil binders and a liquid that looks like heavy cream. Mixed together, they make a solid material with almost rock-like consistency.

The results are intriguing to the Alaska Department of Transportation and Public Facilities, which manages 258 airports throughout the state. The cost of maintaining those facilities in remote areas is often staggering because there's no available source for gravel.

By experimenting with various formulas in recent years, they're getting closer to finding the perfect recipe. The various industrial binders tested so far include items that look like talcum powder, dry cement, white school glue and shredded plastic bags. Various types of silt from around the state — from Kwigillingok, Fairbanks and near Tok, among other places — are also being included to see what works best to bind each together.

There's still plenty of work that needs to be done before the silt-binding process becomes an accepted road-building material in the state. It still needs to pass a variety of real-world tests and environmental reviews before its use becomes widespread, but the results so far are extremely promising.

DISH DETERGENT TO MOVE BRIDGES

The Nevada Department of Transportation recently worked with a contractor and design firm to premiere the state's first use of the slide

FINANCING INFRASTRUCTURE IN PENNSYLVANIA

With much discussion at the Federal level regarding a National Infrastructure Bank, as well as news reporting on a few proposals at the state-level to generate additional funding for surface transportation throughout the Commonwealth, we, as Engineers, must be knowledgeable about the mechanisms available to provide the dollars for future projects. Lately, market-based financing has dominated public and private debate on how best to provide funding for local, state and federal infrastructure.

Historically, the Federal Government levied taxes and fees to users of and/or commodities associated with infrastructure, such as the state and federal fuel taxes for surface, rail, marine and air transportation and the federal excise tax on coal for environmental improvements. These are examples of a "Pay-Go" model for funding infrastructure maintenance, improvements and repairs or construction of new assets.

At the State and Local levels of Government, historically, taxes and fees are levied for infrastructure maintenance, minor improvements and repairs. For new assets or large capital projects, state and local governments will finance debt in the form of bonds. A Municipal Bond, used for nearly two centuries in the United States, is issued by a Government in financial markets to obtain significant, one time, short-term funding from investors – typically in the Millions of Dollars. In return, the Government provides guaranteed, tax-free principal and earned interest to the investors over a period which can extend far beyond the duration of construction.

However for more than two decades in Pennsylvania, the Pennsylvania Infrastructure Investment Authority (PennVest) has provided grants and low-interest loans to municipal authorities, local governments and private companies for water and wastewater management. And, since 1998, PennDOT has administered the Pennsylvania Infrastructure Bank (PIB) providing grants and low-interest loans to local governments, authorities and private companies for transportation projects, such as highways, bridges, railways, and airports.

These forms of debt financing broadly operate as a Revolving Loan Funds program. By definition, most Infrastructure Banks and Authorities perform in this manner. These Funds begin with "start-up" money, and then balance their lending for projects and revenues from borrowers. Most Banks and Authorities encourage private investment to complement the public funds, as well as to provide grants to "needy" projects that are funded by revenues generated from interest and fees on the loans they provide.

Although existing Infrastructure Banks and Authorities have operated successfully in the Commonwealth and maintain high financial ratings from third-party rating agencies, there are limitations to their size, type and overall project scope. They do not supplant the taxes and/or user fees required for continual operation and maintenance of our local infrastructure.

In summary, Infrastructure Banks and Funding Authorities have value and offer significant capital to state and local governments to fix our failing infrastructure where conventional user fees and municipal bonds are not feasible. However, significant, short-term, and continual capital investment in our infrastructure should neither supplant nor reward deferment of its operation and maintenance.

ASCE, through a statewide alliance of the four Pennsylvania Sections, will continue to push for and support increased investment levels and appropriate long-term solutions for our transportation and public works infrastructure that are desperately needed at this time.

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100th ANNIVERSARY UPDATE

As we look forward to our 100th Anniversary next season, we are continuing to develop celebratory events and programs to cite this special occasion. Last month, we opened a competition for submissions for a special commemorative logo which is intended to be prominently displayed at all Section events and correspondence during our 100th year. We have received several submissions and our logo committee is busy reviewing these as you read this.

The submitted logos and themes (due January 31) will be posted to the ASCE Philadelphia website for voting by members during February. The results of the voting will be provided to the Board for final approval.

The member or company who submitted the winning logo/theme will receive two (2) complimentary tickets to all Section-hosted events during the 100th Anniversary season (2012-13).

We will also shortly be posting more information on special events and activities that will be scheduled to celebrate our 100th season. Please watch *THE NEWS* and our website for updates.

ANACE*

Continued from Page 5

technique to replace two Interstate 15 bridges. The process involved using hydraulic jacks, metal beams and Dawn dish soap. Bridge slides don't yet have Engineering guides, so "It's kind of an art at this point," said Marty Strganac, the state Department of Transportation's resident Engineer.

Traditional bridge construction, i.e. removing the existing bridge and constructing the new one in a piecemeal fashion to allow continuous traffic movement, would have taken over a year to complete. In this case, the new bridges were able to be built on temporary platforms adjacent to the existing ones (in many cases there isn't enough space available to do this), much like railroad structures are handled.

We don't know if Dawn dish soap was specified by name, or if an approved equal was permitted [Ed.].

TOILET-TRAINING CONCRETE MIXES?

Contractors bidding on projects for the City of Bellingham, WA, have the option of adding a new element to concrete mixes—toilets. The city wants recycled aggregate in concrete flatwork projects to catch on, so much so that Engineers have experimented with using crushed toilets in a new "poticrete" mix. They unveiled the first stretch of sidewalk sporting poticrete in late September.

During a recent project, a contractor crushed the toilets and worked them into a standard mud mix. The angular pieces of porcelain proved tough to finish, so he upped the sand content and added in more crushed river rock to balance out the light porcelain. After 28 days, the sidewalks set at 4,000 psi, well above the required 3,000 psi and on level with the strength of the city's regular mud mix.

The Transportation Research Board says it hasn't seen anything like this before. Dr. John Haddock, a Purdue University School of Civil Engineering professor, says while he hasn't seen crushed toilets in Portland cement concrete, he has seen them in hot-mix asphalt. His only concerns revolve around unproven strength, durability and absorption. "I don't know if any of these three concerns are valid for sidewalk PCC, but they are concerns that should be addressed," he says.

In Bellingham, those involved agree the project has proven successful, but will monitor the area for a year, which also has driveways that receive heavy truck traffic, to ensure it doesn't do "weird things." They hope that it holds up—if it doesn't, they will move it out of high-traffic areas for future use—and that they don't discover finish issues that force them to revisit the mix. They do expect the poticrete to perform on par with traditional concrete mixes.

With no cost savings to the gravel companies, City staff note that the benefit lies in diverting waste product from a landfill and will require a large municipality mandating it as a spec for it to catch on.

*ANACE – Almost Nothing About or Concerning Engineering

TECHNICAL GROUPS/CHAIRS

Information on the ASCE, Philadelphia Section's Technical Groups is given below. Director **Keith Yamatani** will be coordinating the activities of the Groups. If you have any topics that you think would be of interest to the Groups, please feel free to pass this information along to the appropriate Group Chair.

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We welcome **Mike Radbill** as our new Chair of the **Engineering Management Group**. Mike is a Vice President and Practice Leader of the National Construction Consulting practice at Urban Engineers at the firm's headquarters in Center City. Mike has over 35 years of experience in construction consulting, claims handling, project management and related duties.

YOUNGER MEMBER FORUM NEWS

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ANNUAL WINTER SOCIAL

As advertised last month, the YMF will be conducting our **Annual Winter Social** on **Monday, January 30** at **McGillin's Olde Ale House** in Center City. A report on this always-popular and successful event will be provided in the March edition of *THE NEWS*.

CONSTRUCTION - SPRING 2012

The YMF will be participating in the **2012 Construction** this spring. This annual design and build competition requires participants to construct amazing structures made entirely from canned food. Cans are acquired through fundraising efforts, then after the judging, awards, and a week-long display, everything is donated to local food banks. If you would like to join the team or get more information, please contact **Chris Gray** at cgray@timhaahs.com. Stay tuned for more details.

DVEW YOUNG ENGINEERS SOCIAL - FEBRUARY 21 (SAVE THE DATE)

As noted elsewhere in this edition, the third annual Delaware Valley Engineers Week (DVEW) **Young Engineer Social** will be held on **Tuesday, February 21** at **Yards Brewery** from 6:00 PM to 9:00 PM. The event, which is hosted by the Delaware Valley Engineers Week Committee, will honor the 2012 Delaware Valley Young Engineer of the Year, **Cathy Farrell, P.E.** (2009-10 YMF president). The event will also serve as a great networking opportunity for young Engineers of all disciplines. Please check the DVEW website, www.dvewc.org, for more details.

We hope to see you there!

UPCOMING EVENTS

The YMF board meets monthly to develop new events and several are currently in the works. Check back frequently for updates.

To keep up-to-date on all our upcoming events, sign up to join our mailing list by emailing our secretary at secretary@ymfphilly.org.

Also, for a compiled list of some additional engineering events happening in the area, please visit the event calendar on the Engineers' Club of Philadelphia's website (www.engrclub.org).

ANY WORD YOU HAVE TO HUNT FOR IN A THESAURUS IS THE WRONG WORD. THERE ARE NO EXCEPTIONS TO THIS RULE.

— Stephen King

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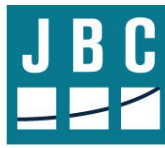
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