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President's Message



This is a wonderful time of year where the kids are off from school, construction is in full swing, the days are long and hot, and you probably get to travel for a vacation or two.

Summer is upon us, and as you take your trips to the beach, cruises around the world, and hikes in your local parks, keep an eye out for ASCE Historic Civil Engineering Landmarks. The ASCE website at <http://www.asce.org/landmarks> contains a searchable list of the over 200 designated landmarks worldwide. A few of the designated landmark projects are right here in Central PA, with several more within the state of PA. If you visit any of the landmarks be sure to get a picture with the plaque or at the landmark and share it at the ASCE Facebook page.

Thank you!

Simple words, but meant with the sincerest of gratitude. I want to take this last newsletter President's message and simply say, thank you.

To all the members of the ASCE Central PA executive board and chairs, thank you for the time and dedication you have shown to the Section and the members.

To the members of the Central PA Section, thank you for the engagement, time, work, volunteering, involvement, attendance at activities, and for your support of the engineering profession.

To Chris Smith and all the Past Presidents of the Section, thank you for providing an example and a lasting legacy for the organization and for its success in the future.

To all the people that don't get recognized, but make our events happen, thank you.

It has been a pleasure to serve as President for the Section for the last year and, in closing, I would ask that you get involved with ASCE. The list is almost endless, but there are plenty of ways to support the Section: attend an event, update your information on the National website, read the Civil Engineering magazine, become a board member, host a civil engineering booth at a school career fair, volunteer for the PA Report Card, become involved in the discussions on ASCE collaborate, share your profession as a mentor to high school or college students. Looking back at the last year, there was just shy of 50 events on the calendar, averaging 4 events each month. The opportunities are available, please take advantage of them, as you are able, to promote this profession and the important work that is accomplished by engineers.

So, THANK YOU, and I wish Gary the best of luck in the coming year as President.

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April Dinner Meeting

Submitted by Paul Lewis, Geo-Institute Co-Chairs

The Susquehanna Valley Chapter of the Geo-Institute was privileged to host the April ASCE Central PA Section dinner meeting. The event that was held on Wednesday April 12, 2017 at the Park Inn by Radisson in Mechanicsburg, PA. The presenter was Silas Nichols - Principal Geotechnical Engineer for the Federal Highway Administration's Office of Infrastructure.

Silas is responsible for providing leadership and direction for the FHWA National Geotechnical Team through policy development, technical guidance development, and coordination with industry and professional groups.

His topic "Visions for a Geotechnical Future" focused on issues impacting the future of transportation geotechnics and included broad research topics and deployment efforts led by the Federal Highway Administration and its partners that are intended to reshape the geotechnical landscape.



Structural Engineering Institute (SEI) Holds 1st Annual ½ Day Technical Conference

Submitted by Michael McGowan, P.E., Structural Engineering Institute Chapter Chair

On Tuesday, May 16th, 46 engineers attended the 1st annual ½ day technical conference held at Gannett Fleming, Inc. in Camp Hill, PA. The event was geared towards practicing structural engineers involved in the design and construction of buildings. Four one-hour long sessions were provided with attendees earning 4.0 PDH credits.

Seminar topics included masonry, precast concrete, anchors, and steel joists. A summary for each session follows:

"Cutting Edge: Masonry Codes and Standards" by Sam Rubenzer, FORSE Consulting. Project consultant with International Masonry Institute (IMI). This seminar described the development process of the TMS 402 Building Code Requirements & TMS 602 Specification for Masonry Structures. Attendees learned about the relationship between the IBC and the TMS 402/602 code and reviewed select changes incorporated into the 2011, 2013, and 2016 TMS 402/602 code. Discussion included the likely impact from these code changes to masonry design and construction. Attendees also learned to identify how to implement the new provisions to produce cutting edge masonry design.



"Total Precast Building Systems" by Tom Holmes, Executive Director Mid-Atlantic Precast Association (MAPA). Participants explored precast concrete building design solutions. They learned about precast, prestressed concrete structural products, how they are manufactured, and quality assurance procedures. Attendees also explored examples of structural precast concrete integrated solutions for a wide variety of markets and learned the full potential of loadbearing architectural precast units.

"Selecting and Designing Post-Installed Anchors for the Proper Base Material" by Justin Streim, P.E., Simpson Strong-Tie, Inc., ICI Field Engineer. This presentation explained how concrete, masonry, and steel base materials affect post-installed anchorage design and selection. Attendees received an overview of the types of anchors which are suitable for each base material in addition to how and why post-installed anchors were developed for each base material.

"Joist Design from the Supplier Perspective" by Keith Juedemann, Canam-Buildings, Regional Sales Manager. Engineers request information from the joist supplier on a daily basis. Attendees learned from the supplier engineer what are the most commonly discussed design and construction topics. Keith provided answers to these questions and provided perspective on information that the Engineer of Record's design drawings should include.

This was Central PA SEI's first technical conference. We look forward to growing this event and making it even better in 2018.

If you have any questions or comments, or would like to become more involved in the Central PA Section of the ASCE Structural technical committee/Structural Engineering Institute, please contact Mike McGowan at (717) 763-7211 or mmcgowan@gfnet.com.

Rail Line Gets New Life

By Sergio Flores, *American Infrastructure Magazine*



After an unfortunate event at the Paulsboro Bridge in New Jersey, Mechanicsburg, PA based Modjeski and Masters, Inc. designed an efficient and effective replacement to support the rail line.

Freight railroads have played a crucial role in America's infrastructure development. With New Jersey's proximity to major ports in Philadelphia and New York, and abundant natural resources, it is an ideal place for railroad development. The industrial town of Paulsboro, situated along the banks of the Delaware River, remains a key link in Conrail's busy Penns Grove Secondary line, which serves southern New Jersey.

Built in 1917, the former structure of Paulsboro Bridge, which carried the line over Mantua Creek, was a historically significant 'A-frame' swing bridge; a structure that was once common among other rail lines in the region. In November 2012, seven freight train cars derailed at the Paulsboro Bridge over Mantua Creek.

Bridge experts Modjeski and Masters, Inc. (M&M) were called on by Conrail to assist with restoring safe operations of the railroad. According to Rich Jackson, Deputy Project Manager for M&M, the derailment damaged the overhead A-Frame and rendered swing operation impossible. M&M provided engineering assistance to Conrail to convert the former swing span to a fixed span. Conrail then asked M&M to design a more permanent solution with a new movable bridge.

Following an emergency field response and inspection, M&M worked with Conrail to reopen the formerly movable bridge as a fixed bridge. This temporary fix ensured safe operation of the railroad until a more permanent movable bridge could be constructed. This new structure would need to be constructed on the same alignment and with as little interruption to rail traffic as possible.

“Our problem solvers determined that a new vertical lift bridge with a lift span length of 70-foot would be the optimal design for this location” said Jackson. “M&M coordinated with a team of in-house experts and sub-consultants to provide the most efficient and effective bridge design for this location. Constant communication with all stakeholders was key to the success of this project.”

The new structure featured a vertical clearance increase of two-feet; a stringer, floor beam, thru-girder lift span system with an open tied deck to minimize lift weight; and, was designed to accommodate a slight increase in rail traffic speed.

To facilitate construction and minimize railway disruption, the approach was to fabricate, assemble, and test the lift span, tower, and counterweight off-site while the new substructure unite were installed on-site. M&M provided construction support throughout the construction process that started in November 2013 and was completed in September 2014.

The new lift span was floated into place and the tower, counterweights, and ropes were installed with the new lift span in place and rail traffic restored. Jackson stated, “This addressed issues that were facing railroad infrastructure across the nation and the world. As demands increase for higher train loads and faster delivery, the infrastructure of many aging systems needs to keep up. This new structure has the capability to meet higher train loads and increased speeds that were not possible on the former structure. It also reduced the maintenance time and cost that was associated with the former structure.”

Reprinted from May/June 2017 Issue. Link to article:

<http://www.penpubinc.com/magazine/online/2017/AI/MayJun/?page=26>

Proposed PA Biennial Professional Registration Fee Increase for Engineers, Surveyors, and Geologists

Summary provided by the Pennsylvania Council of Professional Geologists

The state board overseeing Engineers, Surveyors, and Geologists has a budget and expenditures. The costs for the state board to operate are to be covered by the biennial registration fees paid by Engineers, Surveyors, and Geologists. Currently, the operating costs for the state board exceed the revenue being garnered by the biennial registration fees (i.e., they are operating in a deficit). Accordingly, the state board has requested an increase from \$50 to \$100 in the biennial registration fees for Engineers, Surveyors, and Geologists. The proposed increase in the registration fees will be implemented for the 2017-2019 biennium period. Based upon revenue projections, such a fee increase will gradually pay-down the current deficit and cover the board’s operation expenses through the 2025-2027 biennium period. At that time, if the projections hold, the Board will be required to again evaluate the need for a fee increase.

Listed below is an overview of the timeline regarding the past and planned actions for implementing the biennial Professional Registration Fee increase:

| | |
|---------------------------------|------------------|
| Proposed Regulation Received: | May 04, 2015 |
| PA Bulletin Publish Date: | May 16, 2015 |
| Close of Public Comment: | June 15, 2015 |
| Final-Form Regulation Received: | June 14, 2017 |
| Final Due By: | June 15, 2017 |
| IRRC Comments Due: | July 15, 2015 |
| Public Meeting Date: | August 24, 2017 |
| Published as Final: | To be Determined |

Excerpt from the "Regulatory Analysis Form" filed with the Independent Regulatory Review Commission (IRRC) on June 14, 2017 providing information to justify an increase in the biennial professional registration fees for Engineers, Surveyors, and Geologists:

At the Board's meeting on March 12, 2014, representatives from the Department of State's Bureau of Finance and Operations (BFO) presented a summary of the Board's actual revenue and expenses for fiscal years 2006-2007 through 2012-2013 and projected revenue and expenses through fiscal year 2026-2027. At the end of fiscal year 2012-2013 (a non-renewal year), the Board had accrued a deficit of approximately \$660,000. BFO projected that, without an increase in the renewal fee, at the end of fiscal year 2016-2017 (a non-renewal year), the deficit would swell to approximately \$2,270,000 and would continue to grow thereafter. BFO projected that the Board's biennial expenses would increase from a total of \$2,704,000 in fiscal years 2013-2014 and 2014-2015 to \$3,228,000 in fiscal years 2020-2021 and 2021-2022. With approximately 32,200 licensees at that time, BFO projected that these expenses would increase from \$85 to over \$100 per licensee per biennium. Therefore, the Board determined that it was necessary to raise fees to meet or exceed projected expenditures, in compliance with section 9(a) of the act. As a result, the Board voted at its March 12, 2014, meeting to propose increasing the biennial renewal fees from \$50 to \$100.

BFO recently reported that the Board's actual expenses were \$1,394,146 in fiscal year 2013-2014 and \$1,227,117 in fiscal year 2014-2015. BFO also reported that the Board's actual revenue was \$1,787,824 in 2013-2014 and \$228,467 in 2014-2015, resulting in a biennial deficit of \$604,972. BFO further reports that the Board's actual expenses were \$1,366,832 in fiscal year 2015-2016 and are projected to be \$1,284,000 in fiscal year 2016-2017 and that its actual revenue was \$1,809,692 in fiscal year 2015-2016 and is projected to be \$224,000 in fiscal year 2016-17, resulting in an estimated biennial operating deficit of \$617,140. BFO further projects that, without an increase in the renewal fee, the operating deficit in the 2017-2019 biennium will be \$687,000, and continued to increase each biennium to \$1,426,000 by the 2025-2027 biennium, adding to the accumulated deficit. Without the proposed increase, BFO projects that the accumulated deficit will soar to \$6,416,926 by the end of fiscal year 2026-2027.

By increasing the renewal fee to \$100 beginning with the 2017-2019 biennium, BFO projects that, following an additional operating deficit in the 2015-2017 biennium, there will be an operating surplus of \$1,022,000 in the 2017-2019 biennium that will be used to recoup part of the accumulated deficit. Based upon BFO's projections, the new biennial renewal fee should be sufficient to recover the accumulated deficit by the end of fiscal year 2021-2022. BFO further projects that the amount of the operating surplus each biennium will continue to decrease as follows: \$853,000 in the 2019- 2021 biennium; \$674,000 in the 2021-2023 biennium; \$484,000 in the 2023-2025 biennium; and \$283,000 by the 2025-2027 biennium. Expenditures are expected to outpace revenues and become an operating deficit during the 2027-2029 biennium or shortly thereafter. At that time, if these projections hold, the Board will be required to again evaluate the need for a fee increase.

The entire brief can be read/downloaded via the following link:

<http://www.irrc.state.pa.us/docs/3097/AGENCY/3097FF.pdf>

Calling All Volunteers! It's PA Infrastructure Report Card Time Again!

Submitted by Jason Bowes, P.E. Government Relations Chair

In 2006, the four PA ASCE Sections (Central PA, Lehigh Valley, Philadelphia and Pittsburgh) prepared the first PA Report Card for Infrastructure, which examined the condition of Pennsylvania's infrastructure and provided recommendations regarding improving future performance. The Report Card was revised in 2010 & 2014 (<http://www.pareportcard.org/>) and, based on a desired 4-year cycle, will be revised again in 2018. ASCE National recently released its 2017 Infrastructure Report Card (<http://www.infrastructurereportcard.org/>). One of the main purposes of the Report Cards is to educate both the general public and our elected officials about the state of our infrastructure, a task we are already faced with as stewards of our Nation's infrastructure.

The time has come for us to start working on the 2018 Report Card for Pennsylvania's Infrastructure. Our target release date is May 2018, possibly to coincide with a legislative day at the Capitol to share our hard work.

I have stepped up to Chair the committee for the 2018 Report Card for Pennsylvania's Infrastructure. We need volunteers to make the 2018 Report Card happen. The Report Card process is primarily a result of volunteer efforts. In fact, the 2014 PA Report Card was highly praised by ASCE National and became a model for other States. We would like, for the most part, to mirror the ASCE National Infrastructure Report Card, which included 16 target areas: Dams, Drinking Water, Hazardous Waste, Levees, Solid Waste, Waste Water, Aviation, Bridges, Inland Waterways, Ports, Rail, Roads, Transit, Parks and Recreation, Schools and Energy. The 2018 Report Card could potentially reach to 18 categories by splitting Rail between Freight & Passenger as well as the addition of Aviation.

We will be using the methodology established by ASCE for the National Report Card & used in PA in 2014. There is an ASCE State Report Card Guide Book to give us an idea about the scope or work required to complete the Report Card. ASCE Headquarters also has an excellent group of resources who are standing by to help us.

Ann Tomalavage of the Philadelphia Section led the charge in 2014. She has kindly shared her experience with me, and has volunteered to serve as Vice Chair/Technical Lead. I'd like to follow the organizational structure of having a Champion for each of the Report Card categories. Each category Champion should be an ASCE member in good standing. Individual team members do not have to be ASCE members. One of the first things we will do as a team will be to decide on our topics. The champions will then each be responsible for finding volunteers for their respective topics, who can help with the research and analysis. There is a long list of past Report Card volunteers who may be interested in helping out again. Each individual ASCE Section, as well as the PA State Council itself, will also be working to fill teams for each category. The champions and I will hold regular conference calls on status and problem-solving. The champions will be responsible for communications within their respective teams and for reporting during our champions' conference calls.

I'm calling on you to step-up with me to be either a Champion or a subject area volunteer. Ideally, the Champions should be ASCE Members in good standing who are active in one of the PA ASCE Sections with an interest in their respective target area. The anticipated time commitment for champions is about 4 to 8 hours per month. The subject area volunteers will work with these champions to complete the necessary work within each target area. These volunteers would not have to be ASCE members and the time commitment could vary based on their availability. We would like to see involvement by students and Younger Members. My goal is to have participation in each of the topics from each of the Sections, whether as champions or subject area volunteers. This is why I need your help! Over fifty volunteers worked to simply create the 2014 Report Card. That doesn't include the dozens of volunteers associated with the

release and outreach. I'd like to hold a kick-off meeting with the champions in late September/early October in the Harrisburg area. Tentative date for this meeting is Saturday, September 30th. More information on the kick-off meeting will be available soon.

I have created a short SurveyMonkey survey for all volunteers interested in helping with the Report Card in some fashion. Please take a minute to complete the following survey, which will help track our volunteer pool.

<https://www.surveymonkey.com/r/VHRYNCY>

Please do not hesitate to reach out to me (Jason Bowes) at jbowes@gpinet.com or 570-703-0458 for more information or with any questions.

Thank you for your time, commitment to ASCE and consideration on this important initiative.

I hope that you will join us!

Announcement



ASCE Region 2 Assembly

Saturday, November 4th, 2017
University of Pittsburgh



All Sections, Branches, Younger Member Forums, Student Chapters, Faculty Advisors and Practitioner Advisors are strongly encouraged to attend the 2017 Region 2 Assembly which is scheduled for Saturday, **November 4, 2017** in Pittsburgh, Pennsylvania at the **University of Pittsburgh**.

There will be professional development opportunities through presentations on current engineering design practices, a chance for interaction between students, professors and practitioners and the opportunity to learn more about what ASCE can do for you.

Please plan on sending a representative or a few emerging leaders from your Section to the Assembly. We encourage the Sections to mentor new leadership from Younger Member Groups and Student Chapters at this event.

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New and Events

| Event | Date | Location |
|---|------------------|---|
| Annual Knoebel's Picnic | July 22, 2017 | Knoebel's Grove Amusement Park |
| Capital Region Water Treatment Plant Tour | July 28, 2017 | Water Services Center, 100 Pine Drive, Harrisburg, Pa |
| ASCE/ASHE/WTS Picnic and Casino Nite | August - TBD | Lower Allen Township Park |
| ASCE 2017 Region 2 Assembly | November 4, 2017 | University of Pittsburgh |

The summer and fall schedule is growing daily, please visit <http://sections.asce.org/central-pennsylvania> for more information.

Jobs postings are included on the Section Website at <http://sections.asce.org/central-pennsylvania/node/10>

Address Change? Questions About ASCE?

If you are an ASCE member, and wish to update your address information, please visit: www.asce.org/myprofile.

If you are a member of ASCE, and have questions, please email them to: centralpa.asce@gmail.com.

Questions about the ASCE Central PA Section Newsletter? Send an email to Jason Taylor, Newsletter Editor, at jtaylor@sqcivil.com.