

January, 2014
Volume 18, Issue 5

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JANUARY DINNER

DATE: Thurs. Jan. 16, 2014 - 5:30 PM Registration, 6:00 P.M. Dinner & Presentation

LOCATION: Bridgewater
Conference Center, 10561 Sawmill
Dr, Powell, OH 43065

TOPIC: Columbus Zoo -
Constructing Africa!

Columbus Zoo and Aquarium visitors soon will have the chance to experience the African plain here in Central Ohio. The Zoo is currently developing a \$30.5 million dollar, 43 acre development that is scheduled to open this year. This 43 acre development is phase one of a plan to build up the 110 acres to the west of the zoo's 8-acre \$20 million polar bear exhibit that opened in 2010.



SPEAKERS:

Emily Wieringa - Project Engineer, Columbus Zoo & Aquarium

Alan Dinsmore - Project Executive, Messer Construction

MENU: Dinner Buffet

CPD: A certificate for one (1) Continuing Professional Development (CPD) hour will be issued.

COST: \$20 ASCE Members & Guests, \$15 ASCE Life Members, \$10 Students.

REGISTER: Registration is due by 5:00 PM on Mon., Jan. 13. Late registrations and walk-ins may not be accepted. Registration fees may apply for no-shows and registrants canceling after the deadline. To register for this event please contact Mark Seidelmann at 614-844-4015, or register@centralohioasce.com.

PAYMENT: The preferred method of payment is online (click [HERE](#)) before the registration deadline. Payment on the day of the event is available by cash or check payable to Central Ohio ASCE.



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LETTER FROM THE PRESIDENT

Central Ohio Section Members:

Happy 2014! Don't miss our upcoming educational and social activities to earn your much needed Professional Development Hours (PDHs), enhance your knowledge of Civil Engineering, keep up with new developments, or network! Here are a few upcoming activities:

On January 16th, we will meet for dinner at the Bridgewater Banquet and Conference Center in Powell. The presentation will highlight the Columbus Zoo's \$30.5 million dollar, 43 acre African Safari development that is scheduled to open this year. This 43 acre expansion is phase one of a plan to build up the 110 acres west of the zoo's 8-acre \$20 million polar bear exhibit that opened in 2010.

Let's go to Blue Jackets vs Washington Capitals hockey game! The event will be On January 30th at Nationwide Arena. We have reserved seating

for ASCE members and guests. Please see details in this newsletter and book early!

Here is a list of upcoming free webinars:

- Design of Geomembranes for Surface Impoundments
- Radar Rainfall Estimation for Modeling and Design

Feel free to provide us input on webinar subjects that you may be interested in. We will ensure that topics will be greatly useful ones and will earn you PDH's.

Regards,

Michael Navabi, PE, D.WRE, BCEE, F. ASCE

President – ASCE Central Ohio Section

President@CentralOhioASCE.com

BLUE JACKETS HOCKEY GAME



What: Blue Jackets vs. Washington Capitals

When: Thurs., Jan. 30, 2014

Where: Nationwide Arena

Cost: \$10members,\$15 guests

We have a group package of tickets to the Blue Jackets-Capitals game. Tickets are \$10 per member and \$15 per non-ASCE guest. We're accepting pre-payment using Paypal (click [HERE](#)). As these tickets usually sell for \$50 face

value, it's a heckuva deal! Prior to the game, we'll have a social for the game attendees put on by the Younger Members group at Brother's, so even if you don't want to go to the hockey game, please come out for drinks, food and fellowship!

You can pick up the tickets from Matt Baxendell at Brother's before the game. If you would like to go, please email Matt at Matt.Baxendell@woolpert.com. Contact Matt for more info or any questions.

2013 ASCE INFRASTRUCTURE SUCCESS

Looking back over 2013, ASCE has had many successes in making infrastructure a priority to celebrate, a few of which are:

1. The 2013 [Report Card for America's Infrastructure](#) was launched in March as a tablet and smartphone app gaining more traction with the media and decision makers than ever before and was even mentioned by President Obama during a "Rebuilding America" event at the Port of Miami.

2. Stephen Colbert showcased the uptick in America's Report Card grades as a "[Tiny Triumph](#)" on the Colbert Report in April taking the infrastructure message to a whole new audience.



3. The [Water Resources Development Act](#) which will greatly help our ports and inland waterways deal with their pressing needs is currently in the hands of a House and Senate conference committee, and we hope to see it enacted early in 2014 (stay tuned!).

4. Major infrastructure funding legislative initiatives took off in several states including Maryland, Massachusetts, Pennsylvania, Virginia, Vermont, Wyoming, Texas, and Maine.

5. [Several new bills](#) were introduced that would start improving the nation's infrastructure: The Partnership to Build America Act (H.R. 2084), which could re-shape the way infrastructure in the United States is financed; the UPDATE Act (H.R. 3636), which would increase investment in transportation infrastructure through an increase in the federal gas tax/user fee; the BRIDGE Act (S. 1716)/National Infrastructure Development Bank Act (H.R. 2553), both of which would facilitate infrastructure investment through creation of a national infrastructure bank.

6. Five states – North Carolina, Oklahoma, Kansas, Missouri, and Washington- put out [state-based Infrastructure Report Cards](#) challenging their state's leaders to get to work on the infrastructure issues in their area.

2014 STEM EXPO



What: 2014 STEM Expo
 When: Saturday, February 22, 2014
 9:00 AM - 1:00 PM
 Where: The Metro School (Ohio State campus)

The ASCE Central Ohio Section Younger Member Group is hosting a STEM Expo at the Metro School on the Ohio State Campus on Saturday, February 22, 2014 to conclude Engineer's Week. The Younger Member Group



is seeking local STEM companies to sponsor hands-on, STEM related activities for the event. The goal is to expose K-8 students to the world of Science, Technology,

Engineering, and Math through fun and interactive activities.

Rather than seek monetary sponsorship, we invite local STEM professionals to organize an activity on behalf of their employer. Sponsoring an activity is an easy and great way to get involved in this educational and outreach event. Activity sponsor responsibilities would include:

- Developing a fun, interactive STEM related activity
- Obtaining funding through your employer for the activity materials, if necessary
- Facilitating the activity at the STEM Expo event (typically 2-3 people are needed)

Information for the event, including a list of sponsors and the planned activities can be found at <http://www.centralohioasce.com/STEM-Expo>

We have reached out to the local STEM community through distribution of a dozen Professional Society local chapters and hope to have a diverse selection of activities. Please help us make this a great community event. Event T-Shirts will be available for activity sponsors for a cost of \$12 per shirt.

Contact STEMexpo@centralohioasce.com to RSVP, sponsor an activity, order T-Shirts, or submit questions. We thank you for your support!



PE REFRESHER COURSE

What: 2014 Civil Engineering PE Refresher
 When: Jan. 21 - Feb.13, 2013
 Tuesday/Thursday Nights
 7:30 PM - 10:30 PM

Where: OSU Campus, 426 Hitchcock Hall

Cost: \$600. Full refund (less \$50 processing charge) for any cancellation/withdrawal prior to the first class meeting date. No refunds for partial attendance. Checks or money orders payable to The Ohio State University.

Registration: Minimum of two weeks in advance. If enrollment does not meet the minimum required, the course will be cancelled and all money will be refunded.

Parking: There is a fee for parking in the OSU garages. A map can be found on OSU's webpage at <http://www.osu.edu/map/>.

Textbooks and Notes: No text is specified for this course; participants are encouraged to refer to the

textbooks that they used in their formal education. Copies of lecture notes will be provided. Participants will be given a copy of the *PE Civil Sample Questions and Solutions* book from the National Council of Engineering Examiners (NCEE).

Topics Covered:

- Structural Analysis
- Reinforced Concrete and Structural Steel Design
- Transportation Engineering
- Environmental Engineering
- Geotechnical Engineering (tentative)
- Construction Management
- Engineering Economics
- Hydraulics & Hydrology

Contact Information:
 Ed McCaul
 College of Engineering
 Phone: 614-292-7931
mccaul.1@osu.edu



CIVIL ENGINEERING ACHIEVEMENT AWARD

Ohio Outstanding Civil Engineering Achievement Award Criteria

The award is given annually to a Civil Engineering project, not an individual or firm, to recognize the contribution of the many engineers who have worked on the project.

Selection is based on how the project demonstrates the application of civil engineering skills and its contribution to civil engineering progress and mankind. Judges will consider the following criteria: (1) contribution to the well-being of people and communities, (2) resourcefulness in planning and in the solution of design problems, (3) pioneering use of materials and methods, (4) innovations in construction, (5) impact on the physical environment, unusual aspects, and esthetic values, and (6) the project's potential adverse effects. The nomination should look frankly at the project's potential problems.

A bronze plaque will be awarded to the winning Ohio Project to be mounted in a prominent location at the project site. The presentation ceremony will provide an excellent opportunity for publicity and recognition.

Guidelines for Eligibility

Only projects meeting the following requirements in the calendar year of the award are eligible:

1. Bridges, tunnels, waterway structures, roads (other than toll roads) are eligible only when carrying traffic. The time of dedication or final completion is not important.
2. Toll or similar regional roads may be entered for the year's award when it is 75 percent complete. Any portion in use may be eligible on its own merit.
3. Water supply, flood control, and power dams are eligible when ready to take the full design head of water. For power dams, it is not important when power goes on line.

4. Power plants, including nuclear, are eligible when power goes on line.
5. Buildings and structures are eligible when ready for use.
6. Airports and similar large developments are eligible when a structure or feature is operational. However, such structures or features must stand on their own merit in the competition with no consideration given for the overall project. The entire project may be considered for the year's award when it is 75 percent operational in its initial stage.
7. Any portion of a water supply and waste control project may be eligible in its year of completion, but that portion will be considered on its own merits, not as representing the overall project. Where only additional units, similar to those already functional, remain to be completed, the entire project may be considered for the year's award when it is 50 percent operational in its initial stage.
8. Military projects are eligible for their civil engineering aspects.
9. The judges will determine eligibility for projects that do not fall within any of the above categories. Ohio Council will give the judges as much latitude as possible in determining eligibility and making their final selection.
10. No project or component part thereof is reconsidered after receiving an award.

Submittals

Entries should be submitted to the Ohio OCEA Chair, Al Esser, no later than 5:00 PM, Friday, February 28, 2014. An entry form and additional information can be found at <http://ohioasce.org/OCEA>.

If you have any questions concerning your project's eligibility or how to submit your nomination, please call Al Esser at 440-256-6500, or send e-mail to esser@sme-usa.com.

CALL FOR CAD INSTRUCTION VOLUNTEERS

Beginning in January, the ASCE Younger



Member Group will be presenting instructional Autodesk Civil3D Computer Aided Design (CAD) seminars on the campus of the Ohio State University. The seminars will introduce the students to drafting software and provide an introductory level of instruction to familiarize students with the skills necessary of a typical entry-level engineering position. While we're planning initially on bi-weekly sessions, any assistance from the Central Ohio Section to help supplement our teaching group would allow us to add more lessons for the students. This is also a great way to see prospective interns in action learning valuable job skills. Please contact Matt Baxendell (Matt.Baxendell@woolpert.com) if you're interested in taking part.

FREE WEBINAR - GEOMEMBRANES

What: Free Webinar - 1.5 PDH

When: Tuesday, Jan. 14, 2014

11:30 AM - 1:00 PM

Bring your own lunch

Where: S&ME

6190 Enterprise Court

Dublin, OH 43016

Topic: Design of Geomembranes for Surface Impoundments

RSVP: To JDross@smeinc.com by Mon., Jan. 13, 2014.

*Open only to Central Ohio Section Members.

*Seating is limited to the first 25 people.

Surface impoundments are used to contain (either temporarily or permanently) all types of liquids and quasi-liquids. In addition to the obvious (potable water, industrial waters, grey waters, various sludges) there are 206,000 hazardous liquid impoundments in America. Quasi-liquids like sewage sludge, dredged sediments, and coal combustion residuals are also necessarily contained materials. For all of these materials, geomembranes as a single or double-lined barrier system hold the key toward a successful containment system. After a brief background, this webinar progresses step-by-step through the design process of surface impoundments. The progression begins with geometric considerations and then deciding upon a preferred cross-section. Regulations, where appropriate, will be mentioned. The all-important choice of geomembrane type is addressed using a benefit-to-cost analysis for resin type and this is then followed by an analytic design for thickness. Details regarding subgrade stability and cover soil stability are then presented. The termination of the geomembrane insofar as runoff and anchor trench design, are presented. Lastly, allowable leakage values and details of the relatively new "electrical leak location survey" are presented.



Webinar Outline

- Background
- Geometric considerations
- Typical cross sections
- Geomembrane selection
- Thickness considerations
- Subgrade and cover soil stability
- Runout and anchor trenches
- Leakage through geomembrane holes
- Summary and conclusion

Learning Outcomes / Benefits

- Recognize the scope and range of lined surface impoundments
- Understand design methodology for surface impoundments
- Learn appropriate site selection methods; various optional geosynthetic cross-sections; idiosyncrasies of different geomembrane types; various design details (thickness, soil stability, anchor trenches); as well as leakage scenarios
- Understand the various regulatory agency allowable leakage rates
- Know the "electrical leak location survey" method will be described and discussed
- Understanding the scope and range of lined surface impoundments
- Discuss the various optional cross-sections vis-à-vis different geosynthetic materials, including geomembranes, geosynthetic clay liners, geotextiles, geonets, and geocomposites
- Present design models (with numeric examples), for geomembrane thickness, subgrade stability, cover and stability, runoff and anchor trench design
- Learn various regulatory agency allowable leakage rates and describe the relatively recent method of leak location, which is conducted before the surface impoundment is put into service

BEST JOBS



U.S. News and World Reports has named the Civil Engineer as one of the best jobs, coming in at #9 in the technology sector and #26 overall, scoring a 6.9 out of 10. The maga-

zine cites the observable results as one of the benefits of the job, quoting former ASCE president Andrew Herrmann, "To create things, to actually see them being built ... it's very rewarding to see the results of what you saw on paper. It gives you a lot of personal satisfaction."

The versatility of career paths was also noted as a positive, with a range of disciplines available,

private or public sector, design, construction or teaching, and technical or administrative options available.

The Bureau of Labor and Statistics projects 19.4% growth of the profession through 2020. The upward mobility is rated above average, and the stress level of the profession is considered average. Civil engineers claim an unemployment rate of less than five percent, with the median salary being \$77,990.



FREE WEBINAR - RAINFALL ESTIMATION

What: Free Webinar - 1.0 PDH

When: Friday, Jan. 31, 2014

12:00 PM - 1:00 PM

Bring your own lunch

Where: Stantec

1500 Lake Shore Drive, Suite 100

Columbus, OH 43204

Topic: Radar Rainfall Estimation for Modeling and Design

RSVP: To Mark.Seidemann@stantec.com by Wednesday, January 29, 2014.

*Open only to Central Ohio Section Members.

*Seating is limited to the first 25 people.



Webinar Outline

- Review rain observation with rain gages
- Introduction to radar rainfall estimation
- Merging rain gage and radar rainfall estimates
- Using gage adjusted radar rainfall in modeling and design applications
- A glimpse to the future

Learning Outcomes / Benefits

- Gain a new perspective of traditional rainfall measurement
- Understand the basics of radar rainfall estimation
- Learn how rain gage and radar data are combined to improve rainfall estimation
- Understand the strengths and weaknesses of radar rainfall estimation
- Learn how to improve hydrologic modeling and design using radar rainfall estimates
- Improve understanding of rainfall measurement
- Learn to navigate around challenges, traps, and pitfall associated with radar rainfall estimation
- Gain perspective on the current state-of-the-art in rainfall estimation
- Learn practical approaches for utilizing radar rainfall estimation
- Learn about applications with historical, real-time, and forecast radar rainfall

Hydrologists and engineers are modeling watersheds and designing water infrastructure based on sampling the tiniest of points in the rainfall field at rates of "parts per billion." Practitioners are forced to interpolate what actually falls between the gages to estimate total volumes of incoming rainfall. With the deployment of National Weather Service Doppler Radars in the 1990s, a new method of estimating rainfall emerged. Radar could "see" between the gages, providing a high resolution view of the spatial variability of rainfall. This webinar provides an introduction to radar rainfall estimation and the merging of radar and rain gage data to improve rainfall estimation. Key challenges, pitfalls, and traps facing radar rainfall users are discussed along with strategies to navigate around them.

ENVISION SUSTAINABLE PROFESSIONALS

The Institute of Sustainable Infrastructure (ISI), founded jointly by ASCE, ACEC, and APWA, has



announced the milestone of reaching 1000 credentialed Envisions Sustainability Professionals (ENV Sps) in North America. These ISI credentialed practitioners are trained to use the Envision rating system as a guide to address sustainability dimensions in the design, construction, and operation of an infrastructure project. ENV SPs work together with project design teams from both the public and private sectors to provide technical expertise and guide the team on ways of improving the sustainability

metrics of projects. The Envision sustainable infrastructure rating system is applicable to all types, sizes and complexities of civil and private infrastructure, and is already providing useful sustainability ratings in infrastructure projects such as stormwater management, roads, watershed projects, water and wastewater, airports, and rail systems.

ISI launched the Envision tool as a new comprehensive sustainable infrastructure system to assist planners, designers, owners and builders to plan, construct, operate and rate infrastructure to increasing levels of sustainability and resource efficiency. It has been embraced by over 400 public agencies, companies and universities since its launch in 2012, with approximately 20% of those credentialed hailing from public sector organizations.

2013-2014 CENTRAL OHIO ASCE MEETINGS

Meeting Date	Topic	Group(s)	Location	Coordinator
Thursday January 16, 2014 Dinner	Zoo Safari	ASCE	Bridgewater Conference Center	Mike Mazzoli Kevin Carpenter
Thursday February 20, 2014 Lunch	Engineers' Week	All	Bridgewater Conference Center	Engineering Week Committee
Thursday March 20, 2014 Lunch	Ohio Utilities Protection Service	ASCE	TBD	Mark Seidelmann
March 2014 Lunch	ASCE Central Ohio Section Annual Spring Seminar - Oil and Gas Water Resources	ASCE	Cambridge, OH	AJ Smith
Thursday April 17, 2014 Lunch	ASCE National President- Elect Robert Stevens	ASCE	OSU	Bob Redfield/ Carolyn Merry
Thursday May 15, 2014 Lunch	Columbus Biofilters / Annual Awards Lunch	ASCE	TBD	Greg Barden
T.B.D. June 2014 Dinner	2014-2015 Planning Meeting	ASCE	Tommy's Pizza, Dublin, Ohio	ASCE
Friday June 13, 2014 Lunch/Dinner	Annual Golf Outing	ASCE	Darby Creek Golf Club	Jim Pajk (ASCE)

SHALE ENERGY ENGINEERING CONFERENCE

What: Shale Energy Engineering Conference

When: July 21-23, 2014. Registration opens February, 2014.

Where: Pittsburgh, Pennsylvania

ASCE's Shale Energy Engineering Conference will highlight the engineering issues related to shale oil and gas production, provide a platform to review the current status of regulatory

requirements in this area, and identify and promote the most cost effective and environmentally sound ideas, innovative solutions, and emerging technologies related to water resources management, geological and geotechnical aspects of shale gas development, and broader infrastructure components of the shale oil and gas exploitation cycle.

Click [HERE](#) for more information.

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Web: www.centralohioasce.com

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BOARD MEETING

Our Next Board Meeting

Will Be 11:30 AM

January 30, 2014

Location: Prime AE

3000 Corporate Exchange Dr.
Columbus OH 43231

EMPLOYMENT OPPORTUNITIES

As a service to our members and colleagues who may be seeking employment opportunities, we have provided links directly to *Human Resources* or *Careers* pages on the company website below. Please click any of the company logos to visit the site. We thank the companies below for their support of the Central Ohio Section of ASCE.

The ASCE National website also provides employment assistance with hundreds of job

postings and additional resources. Please click the image to the right to visit the webpage.



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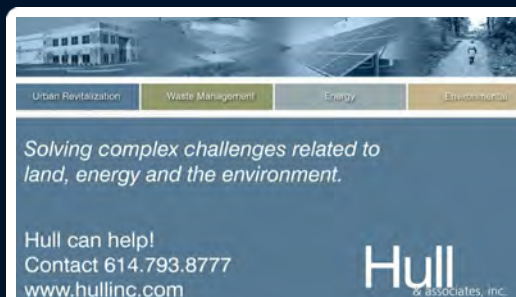


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OHIO CONSTRUCTION CONFERENCE

What: Ohio Construction Conference



When: March 13, 2014

Where: The Ohio Union - 1739 North High St.

Costs: \$160-\$255

The conference will bring together a mix of industry leaders in the commercial construction community - representing owners and facility managers, architects and engineers, contractors and subcontractors, and industry suppliers in a

constructive, collaborative conference aimed to benefit each component of a project team.

Programming will include sessions on: The Industry's Economic Outlook, Integrated Project Delivery, Wrap-Up Insurance Programs and Professional Liability Insurance, Pre-Fabrication Trends, Workforce Development and Construction Reform Updates.

For additional information, click [HERE](#).

OUR PROFESSIONAL SPONSORS

Thank You

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