

March 2013 Newsletter



THE STRUCTURAL ENGINEERS ASSOCIATION OF TEXAS

DALLAS CHAPTER

www.seaot.org

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Tom Scott, P.E.
Lucas Ponce, P.E.
John Turner, P.E.
William (Bill) Light
Bradford Russell, P.E.

Meeting Info

Date: March 26, 2013

Doors open and

networking: 6:00 p.m.

Dinner: 6:30 p.m.

Program: 7:00-8:00 p.m.

Location:

Cityplace Conference Center
2711 North Haskell
Dallas, TX

Cost:

Members: \$30

Non-Members: \$35

Students: \$10

No Meal: \$10

The meal is now buffet style.

Parking is included with your registration. Pick up a validated parking ticket at the registration table.

Reservations

Please RSVP by **12 noon on Monday, March 25, 2013.**

Cancellations must be made by the same day and time.

Register [on-line](#)

Please indicate the names of all attending.

"The New Parkland Hospital"

Tuesday, March 26, 2013 7:00 to 8:00 p.m.

Presentation Overview:

At 54 years old, Parkland Memorial Hospital was outdated and 50 percent too small for the current volume of patients – over a million visits per year. Much of the utilities infrastructure was in need of replacement. The facility did not meet current code and was inefficient to operate, overcrowded, and functionally deficient. Physical limitations in the hospital often made it necessary to park patients' beds in the hallways while they waited for treatment. Some treatments were limited to certain days of the week to manage the number of people in the facility. With the County population expected to double by 2025, Parkland Hospital needed replacing in order to meet Dallas County's future healthcare needs.

Catalyzed by a 2008 bond initiated by the Dallas County Commissioners Court, the design of a complete replacement for the aging Parkland Hospital began with a target completion date in late 2014. The new \$1.27B campus will include both inpatient and outpatient services housed in a 2.1M square foot facility.

A small piece of verbiage in the Texas Department of Health code – requiring daylight in all rooms with newborn babies – drove a large aspect of the building design. To accomplish this design, special attention was required in the design, detailing, and construction of post-tensioned concrete transfer girders. This presentation will include an overview of the structural system of the new hospital with an emphasis on the transfer elements.



March
meeting
sponsor:



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March 2013 Newsletter

"The New Parkland Hospital" (continued from page 1)

Upcoming Chapter Events

Next chapter meetings:

April 23, 2013

ACI 117 Tolerances

Eldon Tipping, PE

May 21, 2013

TBPE Ethics Update

Mr. C. W. Clark, P.E., Director of Compliance & Enforcement

Mr. Clif Bond, Supervising Investigator for the Board

Future chapter meeting dates:

June 25

September 24

November 19

March Speakers:

Craig Rios, PE

Mr. Rios has a B.S. Degree in Civil Engineering and a M.S. Degree in Structural Engineering both from The University of Texas at Austin. After graduating from UT, Craig moved to north Texas and joined the Dallas office of Datum Engineers, Inc. Working in the Healthcare/Special Structures studio his project experience has involved design in steel, wood, conventionally reinforced and post-tensioned concrete. Notable projects he has worked on include the presented Parkland Hospital, Irving Convention Center, and UNT Business Leadership Building.



Bryan Haverhals, PE

Mr. Haverhals is a Project Manager with AG&E Associates and has over 10 years of experience in construction and structural design of office buildings, parking garages, hospitals, mission-critical data centers, surgery centers, bridges, and specialty structures. Mr. Haverhals has extensive knowledge of various construction materials such as steel, CIP concrete, post-tensioned concrete, masonry, and timber. Mr. Haverhals holds a Bachelor of Arts degree in Mathematics from Northwestern College in Iowa, a Bachelor of Science in Civil Engineering from Washington University in St. Louis, and a Master of Science in Structural Engineering from The University of Texas at Austin.



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Other Area Organizations

SEAoT Fort Worth

Monthly Meeting

Wednesday, March 27, 6:15 pm
at Pappas Burger in Fort Worth

ACI Northeast Texas

Monthly Meeting

Thursday March 21
<http://aci-netx.com> for more

Secretary's Note

Make this newsletter more valuable to everyone. Please submit your news, events, career changes and promotions, and articles to:

jturner@crsi.org

ICC eCodes AVAILABLE FOR SEAoT MEMBERS!

All SEAoT members may now access IBC 2009 and IBC 2012 codes online!
[Click here](#) to find out more (log in required to access codes)

President's Message

By Tom Scott, P.E.

As I mentioned in the January newsletter, one of the initiatives I'm most excited about this year is reaching out to the younger engineers in our industry. We are all part of a great profession that can be very technical, creative and even artistic, while at the same time requiring you to employ communication skills to either prove your knowledge, negotiate a fee or mediate a reasonable compromise between the contractor and architect. Anyone who sticks with it can spend a lifetime learning the intricacies and nuances.

Part of SEAoT's mission statement is to "Provide and encourage strong professional development." Where else can we do this more effectively than with the younger engineers in our midst? They are eager to learn and are often longing for a mentor. The role of the structural engineer in building projects has grown substantially in the past 30 years, and it is everyone's duty to pass along their own hard-earned knowledge if we are to develop the future leadership and help our profession to grow. Over the past four years the number of new structural engineers has dropped significantly due to reduced hiring. This means younger engineers may not have the peer group within their office there once was. For those, and those just entering the profession, we need to give a little special attention to ensure them the same opportunities so many of us were afforded. Our Dallas SEAoT chapter will start with a special Young Member happy hour. This will give them an opportunity to network with other peers outside their office and start making the connections and friendships that can last through their career and beyond. In addition to this, we are planning a joint gathering between the young member groups of our SEAoT chapter and the local AIA chapter to assist with the all-important business networking. What else you ask? Well, we have a few more ideas that I'm really excited about and will share as they get finalized. In the meantime, keep your eyes open for announcements on the previously mentioned events and feel free to pass along any other suggestions.

I hope to see everyone at our next chapter meeting.

Tom Scott tscott@jqeng.com

SEAoT Younger Members and Prospective Younger Members:

You are invited to attend the SEAoT Dallas Chapter Younger Member Happy Hour on Thursday, March 21, 2013, at the Texas Land & Cattle Steak House, located at 3130 Lemmon Avenue in Uptown Dallas, from 5:30 PM to 8:00 PM.

Contact Ian Babcock if you have questions: ibabcock@lafp.com

Please join us for the opportunity to meet and mix with fellow younger structural engineers practicing in the Dallas area. We will be relaxing in a private area enjoying complimentary drinks and appetizers, as well as a chance to win a special door prize.

Please feel free to invite other prospective younger members who may not have been copied on this email.

Hope to see you there!

March 2013 Newsletter

Resilience and the Structural Engineer

With some recent, high-profile weather disasters, there is renewed focus on building features that make occupants and communities safer. The notion of resilience applies to both individual buildings and communities as a whole. In the wake of Hurricanes Katrina and Sandy, we are seeing that entire communities can be dispersed for long periods (or permanently). Greensburg, Kansas was devastated to the point that the entire town had to be rebuilt in order to survive. Many communities might simply disappear follow such an event. Without essential services, including access to groceries, fuel, clean running water, and electricity, people may not be able to rebuild a community. Many people will simply pack up the few items they have remaining, and move away from the memories and community they may have known for a lifetime, if they survive the event.

The International Code Council (icc-safe.org) promotes disaster ready construction through its building codes which address seismic hazards, hurricanes, and flooding. They also publish the Wildland Urban Interface Code to address wildfire risk for buildings in wooded areas. The International Building Code (IBC) is a minimum code that is predicated primarily on life safety. Code-compliant buildings frequently suffer extensive damage in code-level events, but the occupants are generally safe until they can evacuate. The codes intend only to save the occupants, not the building. As an example, buildings built to comply with the seismic provisions of the IBC will most likely sustain serious damage in lesser earthquakes, and may require significant structural rehabilitation or complete reconstruction.

But, there is a trend to design important buildings with a view to either allow continuous operations before, during, and after these events, or to require little or no structural rehabilitation in order to begin using the building again. Hospitals are necessary to help in the aftermath of a disaster, while providing shelter for patients which cannot be evacuated. New York City's Bellevue Hospital was evacuated and out of service for three weeks, and was not in full operation for three months due to Hurricane Sandy. With a little different design strategy, such problems may be avoided. A "code-plus" approach gives owners and designers a way to mitigate

damage before an event. The strategies vary from increased design loads or margins of safety (like height above flood elevation), to planning for a structure to stay elastic through an entire seismic event.

The Insurance Institute for Business and Home Safety (IBHS, ibhs.org) has programs to promote the construction of buildings which will require less repair following severe weather events, fires, and earthquakes. The FORTIFIED programs help building owners make informed choices when deciding how safe to make new buildings. Programs are available for new and existing homes, and light commercial buildings. The strategies in these programs are to provide a greater margin of safety against multiple hazards. Most of the guidance for homes is based on wood frame construction, since that the most popular type of residential structure.

When visiting the IBHS website, be sure to click on the link to the videos of how a wildfire sets a house on fire or how a code-compliant house fails in heavy wind. It may change the way you view your role as a designer.

-John Turner



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New SEAoT Dallas Members

Please welcome our six new members to the chapter:

Mr. Kasenda Wongso, P.E.
JQ

Mr. Nathan Cole, P.E.
Parkin Perkins Olsen Consulting Engineers

Mr. Abhijit Kulkarni
Texas Tech University

Mr. Subhasis Banerjee, P.E.
BETA, Inc.

Mr. Andrew Rudeen, EIT
Nelson Architectural Engineers, Inc.

Mr. Dong Kim, EIT
Raymond L. Goodson Jr., Inc.

Texas Task Force 2

Several of your fellow SEAoT engineers are part of the Dallas-based, state urban search and rescue team, Texas Task Force 2. These volunteers will participate in about 80 hours of training this year, on topics such as stabilizing collapsed structures, field-engineering methods to reduce risk to rescuers, and monitoring structures in real-time as rescuers work to locate and save victims.

These disaster engineers are qualified as FEMA/USACE Structures Specialists, deploying alongside canine teams, physicians, and rescue specialists, when called upon by state or federal authorities:

Joel Adair
Brad Cheshire
Frank Griffin
Tom Isbicki
Asma Momin
Michael Osburn
Jeramie Rittiluechai
John Turner



February SEAoT Dallas Meeting Recap

Thanks to all those who attended our first lunch meeting of the year. Fifty-six attendees enjoyed a good meal, some networking, and an excellent presentation about avoiding progressive collapse, research about causes and prevention, and possible upcoming changes to the design criteria. Dr. David Stevens, PE, presented summaries of several research projects, including one where the reinforced concrete research structure redistributed forces such that it stood strong after removing two adjacent columns above the ground level. The presentation highlighted some design strategies to avoid progressive/disproportionate collapse, and presented examples. Currently, design guidance is described in US Army Corps of Engineers (USACE) Unified Facility Criteria (UFC) 4-023, but USACE is looking to discontinue further development of that document. The Structural Engineering Institute (SEI) has established a new standards committee to develop a design standard for disproportionate collapse to replace UFC 4-023. SEI also has a new technical committee on disproportionate collapse to collect and disseminate research and state-of-the-art guidance to engineers.

Dr. Stevens was a principal developer of UFC 4-023 and is committee chair of the new technical committee.





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State President	William A. Wallace
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SEAoT

Dallas Chapter

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Notice!

We currently provide our newsletter by electronic format only! This helps us control our costs as well as saving paper and keeps unnecessary paper off your desk. If you know of anyone who is interested in receiving the Dallas Chapter newsletter and meeting announcements, and isn't on the e-mail list, send the contact information to John Turner at jturner@crsi.org. Please be sure to update us if your e-mail address changes so that you can continue to receive our newsletters and stay in touch with the Dallas Chapter.

Thank you for your assistance!