



## SEPTEMBER GENERAL MEETING

### The Structures of T-REX

No, you are not experiencing déjà-vu and the last newsletter's seminar article has not accidentally been reprinted. The Structures of T-REX program, originally scheduled to occur at SEAC's July meeting, has been rescheduled for this September.

The scale of the Transportation Expansion Project, or T-REX, Project in southeast Denver is overwhelming, and completion of an undertaking of this size nearly two years ahead of initial schedule is truly amazing. Presently, construction on T-REX should be complete at the end of 2006.

The list of improvements to be accomplished within T-REX is long: extensive addition of double-track light rail; construction of 13 Park-n-Ride stations; addition of through lanes from Logan Street to the C470 interchange on I-25; addition of lanes along stretch of I-225 between Parker Road to Aurora; construction of new light rail facility; reconstruction of eight interchanges; replacement and/or widening of numerous bridges; and improvement of ramps, acceleration lanes, shoulders, and highway drainage. Designs of thousands of structures are involved in completion of this highway work. We have all noticed the laterally-loaded piers forming retaining walls, and their architectural concrete

cladding, on either side of I-25. An attractive array of light rail stations, bridges, and parking facilities have been arising along the corridor.

We are fortunate to have **Jeff Stapleton**, Senior Project Manager for Carter & Burgess, joining us to discuss the project with us at our upcoming General Meeting. For the last 6 years, Jeff's focus has been working on the Transportation Expansion Project (T-REX) in Denver, Colorado. Mr. Stapleton was responsible for the initial preliminary design and EIS development thru writing the design criteria for both the structural and geotechnical portion of the "Request for Proposals" for the Design/Build teams.

Mr. Stapleton, as the Structural Design Manager for the T-REX project, is responsible for overseeing both the design and construction of all structural elements (bridges, tunnels, walls, etc.). Please join us to learn more about this significant project taking place within our community.



### Don't Miss Out

**Date:** Thurs. September 16, 2004 @ 7:30 am  
**Speaker(s):** Jeff Stapleton, Carter & Burgess  
**Location:** Renaissance Denver Hotel  
3801 Quebec Street  
(south of the I-70 and Quebec intersection)

Please e-mail your reservations to Caryn Bauer at: [cbauer@martinmartin.com](mailto:cbauer@martinmartin.com).  
**Reservations MUST be made By 12:00 on Monday, September 13, 2004.**

### Schedule

#### Mark Your Calendar (2004)

##### General Membership Meetings

(Breakfast 7:30 a.m.)

- January 15
- March 18
- May 20
- July 15
- September 16

##### Business Practice Committee Meetings

(Breakfast 7:30 a.m.)

- February 12
- April 8
- June 10
- August 12
- October 14

##### SEAC Board of Directors Meetings

(7:30 a.m.)

- January 8
- February 5
- April 1
- June 3
- August 5
- October 7

##### Annual Dinner Meeting

- November 4
- 6 - 9 p.m.

## Officers & Board Members



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*Information for inclusion in the newsletter  
must be received one month prior to the next  
general meeting.*

*Caryn L. Bauer*  
SEAC Executive Assistant

## Natalie's News.....

I am pleased to announce that the new and improved SEAC website is up and running again! Much thanks goes to **Richard Huddleston** for recommending and implementing several improvements to how our website will be run in the future. First, the address of the website is now [www.SEACOLORADO.ORG](http://www.SEACOLORADO.ORG) to accurately represent us as a non-profit organization. Also, we have changed domain and domain name server companies in order to ensure that no more lapses in service occur again.

A new category will be added to the site as well: minutes of the Task Force on Forensic Engineering meetings. Extensive documentation and communications have been generated from these meetings, so rather than fill the newsletter with this information, interested parties can review the documentation on the website. The next Task Force meeting will be held on September 23 at 10 am in room 1380 at 1660 Broadway in Denver.

Please take a minute to look at the **FALL SEMINAR** announcement included in this newsletter and add the event to your calendar. Organizers have been working hard to put together an excellent program! Three highly educational programs will be offered all for the price of one—the best deal in town! The morning will begin with a presentation of SEAC's newest publication, the 2004 Second Edition of [A Guide for Consulting Structural Engineering Services in Colorado: A Recommended Standard of Practice](#). Members of the Standard of Practice Committee have dedicated large,

consistent amounts of time to update the original 1987 edition. SEAC's membership now has the opportunity to share in the fruits of this labor.

Closing of the seminar will be a panel discussion with owner representatives and contractors, presented by the joint SEAC/AIA committee. Topics to be addressed in the discussion are of interest to Architects, creating a good opportunity to invite a client to the seminar.

An ongoing "vendors seminar" will be taking place during the event. These vendors are the companies providing the products and software of which we must stay abreast to be successful structural engineers. Half hour presentations will be given by vendors, plus tables containing literature and samples will be manned. Many of these products will also be of interest to attending Architects.

Lastly, I would like to thank RMSCA for including SEAC in our first combined meeting. Although its occurrence was due to a scheduling mistake, the combined meeting was a success, and mention of future combined meetings was made. It would have been unfortunate to miss either Larry Kloiber's presentation on shear connections or the rescheduled program for September on T-REX.

*Hope to see you there.*



# SEAC Fall Seminar

Plan ahead for the all-day, three topic fall seminar held by the Structural Engineers Association of Colorado. An outline of sessions follows, with more information to come soon.

- 7:30-8:00 Sign in and buffet breakfast
- 8:30-10:00 Presentation of the 2004 Second Edition of **A Guide for Consulting Structural Engineering Services in Colorado: A Recommended Standard of Practice**  
Copies of the new publication, updated by SEAC's Standard of Practice Committee, will be distributed, and revisions/additions to the original 1987 edition explained.
- 10:00-5:00 **Vendor Seminars:** ongoing half hour presentations by up to 20 structural product vendors. Booths will be arranged for attendee's perusal and distribution of literature.
- 12:00-1:00 Sit-down lunch, sponsored by RISA Technologies
- 3:00-4:30 **What do Owner's Reps and Contractors think of the state of Colorado's Architectural and Structural Engineering design community?** A panel discussion organized by SEAC's Architectural committee, of owner's reps and contractors covering procurement methods; the value placed on the quality of the design team, integrated 3D building models and sustainability issues; expectations of the design team's documents in terms of level of contingencies and extent of change orders. **Bring an Architectural colleague with you at no additional charge.**

**When: Thursday, October 28, 2004**

**Where: Renaissance Denver Hotel on Quebec St., Denver**

**Cost:** \$75 for SEAC Members  
\$100 for non-members  
\$10 for students (rebated with application for membership)

**RSVP:** Caryn Bauer – Martin/Martin, Inc.  
12499 West Colfax Avenue  
PO Box 151500  
Lakewood, Colorado 80215  
303.431.6100 Ext. 403  
fax 303.431.6866  
[cbauer@martinmartin.com](mailto:cbauer@martinmartin.com)

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## NCSEA CODE ADVISORY UPDATE

I wanted to take a chance to give you all an update on the work of your NCSEA Code Advisory Committee. The CAC is busy working towards an August 20, 2004 Code Change Proposal deadline for the 2006 IBC and IEBC. All four sub-committees (Seismic, Quality Assurance, Existing Buildings, and General Engineering) have already met once or twice this year.

A joint meeting of the leadership of the NCSEA-CAC, ASCE 7, and BSSC has produced a joint proposal which will seek to replace most of the environmental load provisions in the IBC with a reference to

ASCE 7-05, with the exception of the triggering mechanisms. In snow that means only the ground snow load map will remain. In wind, the wind speed map and exposure definitions will remain. In seismic, only the items needed to determine a Seismic Design Category will stay. All other material will be by reference to ASCE 7-05. In this way, a user can determine from the IBC if certain code provisions triggered by environmental parameters are in effect, however, they must go to ASCE 7 to perform the actual load calculations. This change advances NCSEA's

goal of making the two model building codes as similar as possible by the use of reference standards. The NFPA 500 Code already uses this approach. In addition to these proposals, the sub-committees are working on other proposals to improve the IBC and IEBC as well. In an effort to keep the member SEA's and their code committees informed of the CAC's actions, we will be posting the drafts of the proposals that are ready, as well as the joint proposal on the NCSEA web site early next week. In this way, the membership can comment on the ideas the CAC has come up with. Realize that time is short so you only have a week or so to make your comments.

Please forward this email to your local code committee or interested members. Their comments can be addressed directly to the subcommittee chairs or to myself:  
Seismic - David Bonneville - [dbonne@degenkolb.com](mailto:dbonne@degenkolb.com)  
Quality Assurance - Jim Robinson - [mail@robinsonengineers.com](mailto:mail@robinsonengineers.com)  
Existing Buildings - Mel Green - [mgreenassoc@earthlink.net](mailto:mgreenassoc@earthlink.net)  
General Engineering - Ed Huston - [huston@smithhustoninc.com](mailto:huston@smithhustoninc.com)

*Thanks for your help,  
Jim Delahay*

# Rocky Mountain Prestress and Stresscon Corporation To Host A “Celebration of Precast/Prestressed Concrete”

## And You Are Invited To The Party

It was exactly 50 years ago that the fledgling precast/prestressed concrete industry, less than 5 years old and beginning to make the design and construction world aware of its presence, decided to create a national association to carry its banner. That was 50 years ago; now our industry represents one of the most viable, exciting, and influential building systems, not only in this country, but throughout the world. Whether structural or architectural, precast/prestressed concrete is found everywhere and used in every kind of structure, and now it is time to gather our thoughts, look back, and enjoy the moment.



In the mid 1940's, shortly after the end of World War II and with reconstruction a major issue, concrete came to the forefront. Cement was plentiful and soon became the major construction material. During that time prestressed concrete came on big, flourished, and advanced the technology rapidly. It was in 1950 that Professor Gustave Magnel of Belgium, who had come to the United States several years earlier, helped engineer the first prestressed concrete structure in this country in Philadelphia. The Walnut Lane Bridge still stands today, a testament of what was to come.

Shortly after Magnel's accomplishment, which was largely an in-place structure, pioneers started to come forward, striving to develop a technique by which prestressed products could be manufactured in a plant, then transported and erected anywhere a need arose. A staunch effort was launched in Denver by Jack and Leonard Perlmutter, who then teamed up with Mike Altenberg, also of Denver, and together they founded Prestressed Concrete of Colorado. The next step was to align themselves with an innovative and enterprising engineer, and that is where local structural engineers George Hanson and Orley Phillips came in. This small band then partnered with John A. Roebling, a producer of steel reinforcing strand, and soon a dream was only a short distance away. A manufacturing plant took hold in Colorado, plants soon turned up all over the country, and the rest is history.

To commemorate the 50<sup>th</sup> anniversary of PCI, prestress plants throughout the country will be hosting tours of their facilities, serving lunch, and awarding prizes to attendees. Both Rocky Mountain Prestress and Stresscon will host tours in September, details shown later in this notice. Architects, engineers, designers, building owners and developers, college and university faculty, students, and government officials are invited.

Guests will don hard hats and safety glasses and tour the precast manufacturing floor for an overview of how precast concrete products are made, where they are used and the types of projects that benefit from precast concrete technology. Attendees will walk through the production process, see live demonstrations and gain knowledge of how designs come to life in precast, prestressed concrete. They will learn about quality control procedures, touch product samples and see a variety of finishes and textures. It's an opportunity to stand next to full-size precast concrete products and to meet those who design and produce them. At lunch time an educational session on precast/prestressed concrete will be held, with 4 Learning Credits available for those who desire. In addition, commemorative pins will be given, each with a trademark number, some of which are lucky numbers and winners of selected door prizes.

Following are the schedules for the tours:

Stresscon Corporation in Colorado Springs

Friday, September 17, 2004, from 11:30 AM to 3:30 PM

Please RSVP prior to Sept. 10 by calling Dorothy Olson at 719-390-5041

Plant is located at 3210 Astrozon Blvd.

Rocky Mountain Prestress in Denver

Thursday, September 30, 2004, from 12:00 noon to 5:00 PM

Please RSVP prior to Sept. 23 by calling Kathy Ramsey at 303-964-7035

Plant is located at 5800 N. Pecos St.

We are very proud to be hosting this 50<sup>th</sup> anniversary, and would be most happy if you would join us for the festivities. Until then, we look forward to seeing and meeting you on the above dates.

# Announcements

## REMINDER

SEAC's Board of Directors has unanimously approved accepting advertisements for job openings to be printed within its newsletter. It was agreed that providing such information would be beneficial to our membership: employers and employees. Price to list an advertisement is \$100. Please contact Caryn Bauer at [cbauer@martinmartin.com](mailto:cbauer@martinmartin.com) to place an ad.

**KPFF Consulting Engineers, Inc.** seeks an experienced structural engineer for its new Denver office. Minimum requirements are six years of building design experience and professional registration in Colorado.

As one of the largest structural firms in the country, KPFF has a long history of technical innovations, quality customer service and high ethical standards. Each office operates independently to provide a small office atmosphere where employees can receive individual attention while taking advantage of the overall firm's manpower resources, technical expertise and stability. We believe that our employees should be able to practice their profession with a minimum of organizational restrictions.

We are looking for enthusiastic and talented people to join our team. If you are interested in this exciting opportunity, please e-mail, fax, or mail your resume *in confidence* along with a cover letter to:

KPFF Consulting Engineers  
7900 East Union Avenue, Suite 1100  
Denver, Colorado 80237  
P: 303-217-4519, F: 303-217-4879  
[elizabeth.jones@kpff.com](mailto:elizabeth.jones@kpff.com)

For more information,  
please visit our website at  
[www.kpff.com](http://www.kpff.com)



## Volunteers Needed

The Chief Building Official for the City of Denver is requesting two volunteers from the structural engineering community to be members of the City of Denver Chapter 61 Committee. The intent of the Chapter 61 Committee is to allow for cost-effective and efficient renovation of existing buildings that are at least 30 years old which may not meet the strict letter of present building and fire codes, but that still meet basic life-safety standards. The Committee members review submittals for the renovation and reutilization of these older existing buildings and grant exceptions to the letter of the code to allow these structures to continue their useful life.

The engineers should have expertise in lateral stability of structures and expertise in unreinforced masonry buildings and shall be appointed to the committee to advise the committee on those subjects. This engineer shall be a non-voting member unless appointed as a voting member by the Mayor.

Those interested please contact:

**Peter Bemelen** – Chief Building Official  
City and County of Denver  
Community Planning and Development – Development Services  
201 W. Colfax Ave., Dept. 205  
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