



EQUILIBRIUM

Newsletter of the Seattle Chapter
Structural Engineers Association of Washington

MARCH 2007

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Coming in April: Special Guest Speaker Event:

Glass Specialist
Charles Bostick
Seele New York
April 24, 2006 at the
College Club

ASCE GEOTECHNICAL GROUP TO HOST JOINT DINNER MEETING

Load and Resistance Factor Design (LRFD) is increasingly mandated for the geotechnical portions of civil engineering projects. Structural design codes for both steel and concrete are now formulated in terms of LRFD, and consistency would suggest that the same approach be used for both the structure and its foundation. There actually is a long history in the geotechnical literature of attempts to apply different factors of safety to different parameters, so the essential basis for LRFD ought to be congenial to geotechnical engineers. Some simple applications illustrate that the idea is reasonable. Unfortunately, developing appropriate LRFD factors for geotechnical applications is not a straightforward process. Early efforts simply tried to reproduce the same effects that were achieved by current methodologies, an approach that raises a question of why one should do a more complicated procedure to achieve the same result. More recently, LRFD methodology has been applied for pile design and lateral earth pressures. Some have suggested that for more complicated designs a direct use of reliability-based design may be more appropriate than LRFD. Discussion of these issues leads to some conclusions about where we are and where we are going.

Dr. John T. Christian is a consulting engineer in Newton, Massachusetts. He received his B.S., M.S., and PH.D. degrees from MIT. After teaching at

MIT, he joined Stone & Webster Engineering Corporation, where he eventually rose to Vice President. Since 1964 he has been in private practice. His work has covered much of the gamut of geotechnical applications, including numerical methods, slope stability, dams, nuclear power plants, dynamics, pipelines,

offshore structures, and vehicular tunnels. Recently he has worked on problems of reliability and probability in geotechnical engineering. He is a Member of the National Academy of Engineering, an Honorary Member of the American Society of Civil Engineers, and the 2003 Terzaghi Lecturer.

Meeting Information

Note: This meeting is hosted by ASCE Geotechnical Group. Please RSVP to them as directed below.

Topic: LRFD for Geotechnical Engineers: What is it, and what does it do for or to us?

Speaker: John T. Christian, P.E., Ph.D.

Date: Thursday, March 22

Place: Sheraton Bellevue, 100 112th Avenue N.E., Bellevue, WA

Time: 5:30 Social Hour
6:30 Dinner
7:30 Program

RSVP: Please RSVP with your dinner entrée preference (Chicken Picatta or Chef's Vegetarian) via:

Our website www.seattlegeotech.org;

Email to rsvp@seattlegeotech.org; or

Phone the receptionist at Shannon & Wilson at 206-632-8020

RSVP by 4:00 on Friday, March 16 for the advance RSVP rate. Cancellations and late RSVPs can be made until noon on Wednesday, March 21st. No shows will be billed.

Cost: Advance Reservation \$35
Reservations after March 16/at the door \$40
(public agency employees not reimbursed)
Students \$15
(If you are a student and would like to be sponsored, please specify when you RSVP.)

Pay: Pay via credit card online prior to noon on March 21st, or at the meeting by cash or check payable to "ASCE Seattle Geotechnical Group."

FROM THE BOARD: ANSI/TPI 1-2007 Consensus

Last week I participated in another meeting as a member (representing NCSEA) of the ANSI/TPI 1-2007 Committee for the National Design Standard for Metal Plate Connected Wood Truss Construction. This is the Standard referenced in Section 2303.4 of the IBC, and is the Design Standard used by the Wood Truss Industry for the multitude of computer generated individual truss design drawings many of us have reviewed as part of a wood truss shop drawing submittal. The committee is comprised of 50 engineers and other individuals representing metal plate suppliers, wood truss manufacturers, consulting engineers and other related industries.

Much of the committee's work has centered on Chapter 2, Design Responsibilities. This chapter of the Standard defines the responsibilities of the Owner, Registered Design Professional, Contractor, Truss Design Engineer, and Truss Manufacturer. Five years ago during the preparation of the ANSI/TPI 1-2002 Standard the independent consulting engineer profession was not represented. As a result the mem-

bers of the industry readily assigned the permanent truss member bracing responsibility to the "Building Designer" preparing the structural design documents. The situation is a little different now with four independent consulting structural engineers on the committee, resulting in what could be termed some energetic discussions regarding who should be responsible for specifying the permanent bracing for truss members.

As anyone that has been involved in a wood truss project has experienced, the responsibility for specifying bracing required for individual truss members is often problematic. The Registered Design Professional typically assigns the bracing responsibility to the Truss Manufacturer, and the Truss Manufacturer in his bid to the General Contractor typically excludes it from his scope of work. Shop drawing comments usually go back and forth, with the Truss Manufacturer referencing it as the Structural Engineer's responsibility in ANSI/TPI-1-2002 and the Structural Engineer referencing it as the Truss Manufacturer's responsibility in his Construction Docu-

ments and now Section 22303.4.2 of the 2006 IBC (read it, it purposely omits "design responsibilities" to be in accordance with TPI-1)." In some cases this has led to inadequate bracing or bracing not being installed at all, with serious consequences on a few projects.

Over the last year the work group committee has tried to resolve these responsibility issues and expanded Chapter 2 from three pages in ANSI/TPI 1-2002 to over eight pages in the current ANSI/TPI 1-2007 proposal. There is still disagreement in a few areas between the two most active groups in the Chapter 2 work group committee, the NCSEA and the WTCA (Wood Truss Council of America). Both of these groups will attempt to craft another Chapter 2 draft for a second ballot at the end of this month.

By exchanging ideas and opinions, both our profession and members of the truss industry understand, although not necessarily agree, with the other's point of view. The discussions have also helped



produce a much more extensive and recently published BCSI (Building Component Safety Information) Guide to Good Practice for Handling, Installing, Restraining, and Bracing of Metal Plate Connected Wood Trusses (see www.sbcindustry.com). Lastly this debate has also developed many relationships with others across the country which are necessary in order that the ANSI/TPI 1-2007 document can achieve consensus and be referenced in its entirety in the 2009 IBC.

Wishing everyone a great month.

- Scott Douglas

The SEAW Seattle Chapter *Equilibrium* is printed monthly from September through May and is available online at www.seaw.org. Circulation by mail: approximately 550 copies. Articles, letters, and announcements are accepted by e-mail to seaw@seaw.org.

Advertising rates (prepaid, please): Help Wanted/Job wanted, \$50; Display ads: Quarter page, \$90; Half Page, \$120; Full Page \$150; inserts, pre-printed 8 1/2 X 11 inch flat, \$150. 10% discount for ads running two or more months. Deadline is the fourth Friday of the month. Contact SEAW for an Advertising Order Form.

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SEAW Seattle Chapter MEMBER Official Notice: Nomination Committee Results

The nominating committee has submitted the names of the following MEMBERS as candidates for the 2007-2008 Seattle Chapter Board of Directors:

President:

Shelley Clark

Vice President:

Scott Douglas

Andrew McGlenn

Directors:

Philip Brazil

Abdul Chahim

Peter Opsahl

Munikumar Vimiwala

Additional nominations may be made in writing by petition of at least five (5) MEMBERS to the SEAW office by March 23, 2007.

Candidates' statements and ballots will be mailed to MEMBERS in late March.

Election results will be announced at the April 24th Seattle/SW Chapter joint dinner meeting.

Thank you to the members of this year's nominating committee: Bob Anderson, Mark D'Amato, Andrew McGlenn, and advisor Ade Bright.

Questions & Answers

Licensed P.E. Asks: Why is a Structural Engineer Practice Act Important?

Dear SEAW Board Members:

... I am quite confused why you would want to limit the scope and ability of practicing Professional Engineers (after all, we pay the majority of SEAW dues/fees). Is this money related? Does SEAW stand to gain financially from this House Bill? Or, is it the upper echelon of the SEAW consists of licensed S.E.'s and they will benefit financially through the businesses for whom they work?

I would appreciate a response, because this legislation seems to address problems that really do not exist (unless you have plenty of examples to convince me otherwise). Building department oversight has become very strict in past years and seem[s] to be doing a good job. Your talking points sound and "feel"

really great, but somehow I do not think the SEAW is looking out for my best interest.

- Licensed PE

...[W]hy do we need to have a structural license to practice structural engineering?

Dear Licensed PE:

Years ago, engineers practicing structural engineering decided to define the branch of structural engineering as a specialty discipline, requiring two more years of experience and further examination. This standard of practice finally resulted in a statutory revision of RCW 18.43040 around the year 2000: "Structural engineering is recognized as a specialized branch of professional engineering". Formerly, it was controlled by the Washington Administrative Code (WAC).

For the last dozen years or so, the SEAW State Board has had a goal of instituting a Practice Act, whereby licensed structural engineers also will have statutory authority to practice on certain structures. This action follows the state of Oregon, among others. The reason for this bill is:

1. It finally gives the licensed structural engineers a legal basis for obtaining a structural license. Prior to that, it was either personal career development, or a local building official requiring a structural license.
2. It allows only structural engineers to work on significant structures, for public safety reasons. Shouldn't we have a specialty discipline working on our most important structures?
3. It does not limit licensed civil engineers from practicing on many types of buildings and structures, such as

four story buildings, and bridges up to 200 feet long. The goal of the Practice Act is not to limit the majority of the structural work performed by licensed civil engineers.

4. It keeps the bar in the same place, with respect to technical competence and education requirements for licensed structural engineers.
5. There is no financial interest from anyone for this action.
6. It is supported by AELC, ASCE, and the DOL.
7. It provides for consistency across the state when and where a licensed structural engineer is required on specialty structures.

Regards,

Robert Bourdages
Chair, SEAW Legislative
Committee

rbourdages@pdg-wa.com

Chapter News

Seattle Chapter Director Resigns, New Director Welcomed

The Seattle Chapter Board of Directors reluctantly accepted Robert Morrison's resignation from his duties as a 2006-2008 director. President Ade Bright extended the board's heartfelt thanks to Bob for his participation and valuable service to the chapter.

Runner-up, **Daniel Lake**, of Engineers Northwest has agreed to serve out the remaining year of Bob's term. Dan Lake is a Senior Structural Engineer with Engineers Northwest Inc., PS located near Greenlake.

A 1987 graduate of the University of Washington, Dan is a lifetime Washington resident, growing up on Vashon



Daniel Lake

Island. Dan has designed a variety of commercial structures, remodels, and upgrades all across the country as well as projects in Canada and Mexico. He is a licensed Structural and Civil Engineer in the State of Washington.

Mark Your Calendar

- Mar 23** Deadline for April *Equilibrium*
- Mar 22** Chapter Board Meeting
ASCE Hosts joint dinner meeting at Sheraton Bellevue: LRFD for Geotechnical Engineers
- Mar 26** **SEAW Board election ballots mailed to MEMBERS**
return your vote by April 20
- Apr 3-4** Pacific Northwest Bridge Inspectors' Conference
capps.wsu.edu/bridgeinspectors
- Apr 21** ASCE Seattle Section Geotechnical Group Spring Seminar
<http://www.seattlegeotech.org>
- Apr 24** **Seattle Chapter Special Guest Speaker Event**
Charles Bostick, Seele New York
Chapter Board Election results
- May 18** **SEAW State Board of Trustees Meeting**
- May 22** **Seattle Chapter Life Member/Spouse meeting**

LOOKING AHEAD:

- Sep 13-15** **Seattle Chapter hosts the Northwest Conference**

Can Ethics Be Taught?

One of the toughest attitudes to address about ethics is “You can’t teach ethics to adults. You either have them or you don’t.” Ironically, I sometimes hear this view from individuals who are responsible for continuing education or professional development programs—in other words, people who are responsible for the character education programs of licensed professionals. Those who espouse this attitude have essentially given up on the notion that adults can be taught new skills or improve the ones they have. While it may be true that it is difficult to change attitudes once they are ingrained, research studies indicate it is entirely within the realm of possibility that we can learn new skills and behaviors, including ethical decision making skills..

Psychology professor Lawrence Kohlberg studied moral devel-

opment. He theorized and later demonstrated through his research that ethical decision making skills can not only be taught, but can also be developed and enhanced. His theory suggested that there are at least six stages of moral development:

- Stage 1 moral thinkers believe that you should do the right thing because otherwise you will get in trouble.
- State 2 thinkers believe you should do the right thing so that others will give you something in return.
- Stage 3 thinkers believe that you should do the right thing so that people will like you.
- Stage 4 thinkers emphasize the importance of laws and rules and believe that following those guidelines is important for an orderly society.
- Stage 5 thinkers are critical thinkers who believe that a

society’s laws may be flawed. They believe in possible exceptions to the rules.

• Stage 6 thinkers believe in universal ethical principles that go beyond a particular society’s rules.

Research studies indicate that while it is difficult to bring about a significant change in an adult’s level of ethical reasoning in an artificial environment, such as a classroom, it is, nevertheless, possible. Business and education college majors, for example, experience the largest gains in ethical reasoning skill development when exposed to appropriate ethics education programs.

Researchers have also determined the following:

- Individuals must go through stages in sequence. Individuals do not skip from Stage 1 to Stage 3, for example. This finding is true regardless of the cultural or regional background of study participants.
- Generally, stage development is not reversible. Once individuals have reached Stage 4, as an example, they will use Stage 4 as their dominant navigational style for handling ethical dilemmas. Stage 4 thinking, by the way, is the typical navigational style for adults.

• Individuals can’t comprehend moral reasoning at a stage more than one beyond their own. For example, a Stage 2 adult (“I will do this for you if you do something for me”) may understand Stage 3 reasoning (“What will the neighbors say?”), but they will not appreciate or understand Stage 4 (“If everyone just did what they wanted, our society would fall apart.”) It is best to reason with individuals based on their own level of development.

• Stage development occurs when one’s cognitive outlook is inadequate to cope with a dilemma. Bonafide change occurs when we confront

real—not hypothetical—ethical problems at home and at work. We realize that our former method of dealing with problems no longer resolves the problem to our satisfaction. For example, teenagers who typically use Stage 3 thinking (“I wonder what my friends would think” may not find Stage 3 reasoning appropriate or satisfying when their friends ask them to experiment with drugs. As another example, Stage 4 scientists who are on the verge of human cloning (“I must follow the law”) may find that level of reasoning inadequate when there are no laws or guidelines to follow. What we can do in the classroom and at the office is orient and train adults to be ready for ethical dilemmas by giving them many opportunities to learn and discuss ethical decision making strategies.

• Individuals are cognitively attracted to reasoning at one level beyond their own. In other words, while we may be unable to mimic the conduct of individuals more advanced in their reasoning skills, we can still be inspired intellectually by those who are more mature in their judgement and in their behavior.

It is this last finding that is most compelling. Our attraction to ethically superior people suggests not only that we are capable of being taught, inspired and led, but also that individuals who are more advanced in their reasoning skill have the obligation to speak up, teach, and lead.

-Deborah H. Long, Ed.D., DREI

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February Meeting Recap

Stadium High School Castle Renovation Topic of February Meeting

By Karen Damianick

K Casey Caughie, PE, from Magnusson Klemencic Associates, was the featured speaker at the February Seattle Chapter SEAW dinner meeting. He gave an interesting presentation on the Tacoma Stadium High School retrofit, renovation and modernization that was completed in 2006. Though the entire project entailed demolition of existing buildings as well as new building construction, he focused on the work done on the historic castle building. This building has been around in one form or another since 1890, and as a high school since 1906. The building overlooks Commencement Bay and has been featured in such movies as "10 Things I Hate About You." Although perfect for teaching fictitious students, the

building was struggling to keep up with modern classroom requirements and safety guidelines.

In order to upgrade the interior as well as the underlying structure, extensive testing was done to determine the composition of the existing structure. In addition to testing, old manuals such as the Kidder-Parker Architects' and Builders' Handbook, which went out of print in 1934, helped to give structural values for some of the materials no longer used in construction, such as cast iron, wrought iron, old wood timber, arched brick floors, and belly rod trusses.

The major seismic structural upgrades performed by adding concrete shear walls, bracing the brick chimneys, and adding shear capacity and tie-downs to the roof and attic structures. Each of these projects demanded flexibility in design and

implementation since the existing building still provided many surprises even after testing. An integral part of the process was the

design of bracing and scaffolding to support the building between removal of old structure and installation of new.

Stadium High School Castle Building was made safer and more functional while still retaining the historic character of the building. In many ways, the historic character of the building was enhanced by adding or exposing features that were removed or covered up at some point in the building history, but uncovered during construction. The renovation was completed in time to for the school to celebrate its



Tacoma's Historic Stadium High School

one hundredth year in 2006, and the school is again fit to be an integral part of the Tacoma School District for many years to come.

Karen Damianick is a structural engineer with KLD Engineering in Seattle, WA. She has been an SEAW professional associate member for over three years and is currently serving on the newsletter committee. Karen may be contacted at <kld@kldengineering.com>

2007 Northwest Conference Plans Underway

Members of the Conference Steering Committee of SEAW's Seattle Chapter are busily making arrangement for the 2007 Northwest Conference which the chapter will host September 13-16 at the Sheraton Hotel, Downtown Seattle.

Technical topics under consideration include: ASCE 7 Seismic Design; Design Considerations for Non-Structural Elements; Foundation Design, and more. In addition, vendors will be on hand to display and demonstrate their products and services.

Now, we realize we can't have all work and no play—so a myriad of social opportunities are also in the works. It is our hope to make this conference an accessible, beneficial, and enjoyable event for all.

Mark your calendar now for September 13-16!

Have You Paid Your Dues?

We're Nearing the Halfway Mark!

Thank you to our members who have responded to the e-mailed dues invoices, which were sent in mid-February. At this writing, roughly 220 of our 480 dues paying Seattle Chapter members have paid their 2007 membership dues, with about 35% of those paying online.

YOU CAN HELP!

We're aiming for 100% paid before the summer break. To pay your dues online, sign in as a member on the website at <www.seaw.org>. [Default log-in name is your e-mail address, password is your first name (up to eight letters)] Click the "My Membership" tab, then the "Renew Membership" tab in the gray menu bar. A pull-down box will show you any outstanding invoices. Select your invoice and follow the prompts to pay your dues.

Meetings, Seminars and Announcements

ASCE Seattle Section Geotechnical Group 24th Annual Spring Seminar

April 21, 2007
University of Washington

The Geotechnical Group of the ASCE Seattle Section is pleased to announce its 24th Annual Spring Seminar. A one-day symposium will be held at the UW to honor Dr. Robert D. Holtz, on Saturday April 21, 2007 at the University of Washington. Well-known for his research, educational, and professional achievements, Bob Holtz is also an esteemed member of our engineering community. The symposium will feature some of Bob's mentors, colleagues and former students speaking on a range of topics.

Scheduled speakers include Bob's mentors Clyde Baker (STS Consultants, Ltd.), Mike Jamiolkowski (Technical University of Torino) and Ray Krizek (Northwestern University), who was Bob's Ph.D. advisor. Bob's long-time colleagues Milton Harr (Purdue University), Barry Christopher (Christopher Consultants) and Steve Kramer (University of Washington) are also scheduled to speak. Presentations by some of Bob's many former students, including Dana Humphrey (University of Maine) and An-Bin Huang (National Chiao Tung University), will round out the day.

The range of topics, the experience and stature of the speakers and the opportunity to honor Dr. Holtz's achievements are certain to make this symposium of interest to current students, recent graduates, and experienced engineering and construction professionals alike.

Registration information will be available at <http://www.seattlegeotech.org>

For further information contact: AH (Tony) Rice c/o Golder Associates Inc. 425/883-0777 ext 2104, or email: trice@golder.com

2007 Pacific Northwest Bridge Inspectors' Conference

"New Developments in Bridge Inspection:

April 3 – 4, 2007

Sheraton Portland Airport Hotel, Portland OR

The Pacific Northwest Bridge Inspectors' Conference provides a forum for bridge inspectors located throughout each of the Pacific Northwest states to share information, innovations, creative ideas, and tricks of the trade.

Conference information and online registration is available at capps.wsu.edu/bridgeinspectors, or by phone at 253-445-4575. Early registrations must be postmarked by March 18, 2007.

NEES Offers Free Webinar on Wood-frame Construction

The Network for Earthquake Engineering Simulation (NEES) and the Earthquake Engineering Research Institute (EERI) have teamed together to offer an online webinar addressing how to mitigate earthquake risk in woodframe construction. "The NEESWood Project: Performance Based Seismic Designs for Mid-Rise Wood-frame Construction" will focus on NEESWood research implications including:

- What happened when a two-story townhouse, mounted on twin shake tables, was subjected to earthquake simulations
- How new earthquake engineering analysis software will influence earthquake damage evaluation
- What types of performance-based seismic designs are proving effective for woodframe buildings

• Next steps for research, including six-story building shake table tests.

Each topic will be presented from the research angle by John W. van de Lindt, Colorado State University, and then Kelly Cobeen, Cobeen & Associates, will address how each topic and the project as a whole may influence earthquake engineering practice.

There are several ways to participate:

- live via WebEx on Wednesday, April 4 at either 12 – 1:30 Eastern or 12 – 1:30 Pacific time
- in person at NEES headquarters in Davis, CA at noon Pacific time
- download it after April 4

To register for any of these options, please visit

<http://www.nees.org/ebrownbag/>

American Institute of Steel Construction Seeks Nominations for 2007 Steel "Sabbatical"

(Chicago, IL) – Structural engineers who enjoy sharing their expertise and experience now have a unique opportunity to do so at the highest level of their profession with the 2007 American Institute of Steel Construction (AISC) Steel Sabbatical. AISC is currently seeking nominations to fill the position, which will enable the selected candidate to interact with engineers and construction specialists around the country, all while contributing to the advancement of their profession. In addition to sharing knowledge and solutions in daily exchanges with engineers, fabricators, and others involved in the design and construction of steel buildings, the selected candidate will also: help AISC develop the next AISC Specification and Steel Construction Manual; meet hundreds of engineers and construction specialists involved with AISC's commit-

tees; and build on their own extensive knowledge of the profession. Charlie Carter, AISC's Chief Structural Engineer, notes, "Can you, or someone you know, explain—in clear and concise terms—why it's called lateral-torsional buckling? When burrs need – and don't need – to be removed in bolted connections? Are you the person other engineers go to for solutions? If so, we want to hear from you." The 2007 Steel Sabbatical is a paid position that will be structured to suit the specific situation of the selected candidate. For more information and to nominate a candidate, interested engineers should contact Charlie Carter at 312.670.5414 or email him at carter@aisc.org

The American Institute of Steel Construction, Inc., headquartered in Chicago, is a not-for-profit technical institute and trade association established in 1921 to serve the structural steel design community and construction industry. More information on AISC and structural steel may be found online at www.aisc.org.

Call For Entries: Excellence in Concrete Awards

The 39th Annual Excellence in Concrete Awards program for 2007 will be held at the Bellevue Hyatt Regency on May 3rd. Almost 5,000 EIC entry forms have been mailed and a PDF of the 2007 EIC brochure and entry form is available at www.washingtonconcrete.org to make sure you have a chance to enter your award winning projects. Now is the time to review your projects over the last 2 years and enter them in one of the 8 award categories. Remember we always are looking for great examples of residential decorative concrete, ICF homes, and the new Sustainable Merit category; projects where concrete has been used to meet LEED and Sustainable construction criteria.

Deadline for Entries is March 30th so don't delay !!!

Continued, back page

Opportunities

Structural Engineers

rfa structural engineers is seeking a structural engineer with at least three years of design experience to join our team in Seattle. We are a dynamic family friendly firm run by one of Seattle's top professional engineers Robert J. Fossatti.

Our office is located in downtown Seattle. We have a relaxed work environment that has "First Friday's", where everyone is invited to dine together at one of Seattle's many spectacular restaurants.

We offer an outstanding compensation and benefits package that includes medical, dental, vision, disability and life insurance. We also pay for 90% of your spouse and dependents insurance premiums, without a waiting period!

You will also be eligible right away for the company quarterly bonus program!

You will work directly with some of Seattle's best architect's working on a broad range of projects that include both commercial and residential buildings.

Fax your resume for immediate consideration to (206) 615-

7737, or email to mla-casse@rfaengineers.com. To learn more about rfa structural engineers, visit our website at www.rfaengineers.com

Structural Engineers

Peter A Opsahl Structural Engineering is a young, dynamic and growing Seattle firm. We are located in the Capitol Hill area and are currently looking for Structural Engineers with 2 to 5 years of experience. A competitive salary and benefits package is offered. We have a flexible and relaxed work environment and our projects cover all material types. Please email admin@paostructural.com with letters of interest and resumes.

Staff Engineers



Structural Engineering design firm seeks outstanding individuals to fill immediate openings for Staff Engineers in both our Seattle and Tacoma offices. All experience levels

considered and encouraged. We're a mid-size dynamic company recognized for our team work, creativity and innovation. We combine a very progressive benefits package with a fun, flexible and informal office culture. Email resume@swensonsayfaget.com or fax attention Blaze Bresko at 206-443-4870. No phone calls please.

Structural Engineers Spokane

DCI Engineers is one of the fastest-growing engineering firms on the West Coast, and was named as one of the 2006 "Best Firms to Work For" by Structural Engineer magazine. Our Spokane office is actively seeking structural engineers of all experience levels who would like the opportunity to work for the top structural engineering firm in a city consistently voted one of the most livable and affordable in the nation. Please email your resume to mlindsay@dcengineers.com

Structural Project Manager Bellevue

DCI Engineers is currently seeking Structural Project Managers for our Bellevue office. Applicants should be able to demonstrate abilities in team management and communication, project planning, scheduling, writing, organization, documentation, coordination, contracting and budgeting. Experience with all building materials and building types preferred. Projects will be diverse including commercial, mixed use and residential. PE Required. Please submit resumes to: resumes@dcengineers.com or via mail to HR @ DCI Engineers 10900 NE 4th St, Ste 1200, Bellevue, WA 98004.

Structural Engineers

DLR Group, an employee-owned national A/E design firm has an opening in our downtown Seattle office. Design-minded structural engineer with building design experience wanted. Leadership position available for individual interested in working in an

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STRUCTURAL ENGINEERS WANTED!

Cannon Associates is a multidisciplinary consulting firm that has been serving clients throughout California for over 30 years. We encourage professional development and value balance between personal and professional life. We have offices in San Luis Obispo, Santa Maria, and Bakersfield, California. Our projects include residential, commercial, and industrial buildings and non-building structures.

We are looking for Structural Engineers with experience in structural analysis, design, and detailing of residential and/or commercial buildings; design experience in timber, concrete, steel, and masonry structural building systems; proficiency with engineering software. PE required. Visit www.cannonassociates.us for detailed descriptions.

Senior Structural Engineers require 12 years experience and project management skills. SE preferred. **Structural Engineers** require 7 years experience and project management skills preferred.

This position is based in our San Luis Obispo office. Nestled in the beautiful Central Coast of California, San Luis Obispo provides great schools, low crime rates, minimal traffic, and a small town atmosphere.

Are you are ready to be part of a dynamic team and work on exciting projects? Then send your resume to **Marshall Pihl**, HR@cannonassociates.us. Fax to: (805) 781-0915 or call (805) 544-7407. We offer relocation assistance, competitive salaries, full benefits, and an outstanding work environment. EOE

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INTEGRUS Architecture is committed to maximizing employee opportunities in a stimulating and energetic atmosphere. We strive to make a lasting impact on the communities we serve, maintaining the highest standard of integrity. If you value these ideals, consider a career with us. Current openings include:

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U.S. Navy PSNS Parking Garage



SeaTac Airport Seismic Improvements Program

Career Opportunities for Structural Engineers

**Live in the north end? Thinking of moving to the north end?
Would you like a reverse commute?**

Imagine living only minutes away from your office and not having to spend hours per day away from your family commuting to Seattle or Bellevue for work.

Reid Middleton is an employee-owned and -focused structural and civil engineering firm with a 53-year history of design excellence. Our north-end location offers an easier, more convenient and affordable life-style poised within one of the country's most dynamic consulting engineering markets.

Reid Middleton engineers are encouraged to be leaders in their design practice and to embrace technology to solve problems to help our clients succeed. We are experts at creating outstanding solutions by providing the right balance of technical expertise, leadership, management, and teamwork.

If this sounds interesting to you and you have a BSCE or MSCE we would like to help you build your career within our diverse and dynamic firm. PE preferred for candidates with five or more years experience. Send your resume to jobs@reidmiddleton.com

Project Types:

- Aviation
- Civic/Public
- Federal/Military
- Historic
- Academic
- Healthcare
- Commercial
- Transportation/Bridge
- Parking
- Waterfront

Services

- Structural Engineering
- Civil Engineering
- Seismic Design
- Parking Consulting
- Transportation Engineering
- Protective Design
- Sustainable Design

ReidMiddleton

728 - 134th Street SW
Suite 200
Everett, WA 98208
www.reidmiddleton.com
EOE

Opportunities

integrated design office. Collaborative design environment in an open, diverse, A/E environment. Opportunity for BIM software design experience. PE/SE preferred.

Interested? Submit resume to seattle@dlrgroup.com. DLR Group is an AA/EEO firm.

Engineers

Seattle Structural

Seattle Structural PS Inc is a downtown Seattle firm looking for engineering candidates at all experience levels. Share in our vision of client-based service and hard working enthusiasm on diverse and challenging projects in the US and overseas. Join our collaborative staff of 10 in one of Seattle's most vibrant office towers, specializing in public, commercial, retail, industrial and specialty projects. We offer excellent benefits and stimulating work in a casual environment. Visit our website at www.SeattleStructural.com

Send resumes to: Pete Pawlak, PE, 1420 Fifth Avenue, Suite 425, Seattle, WA 98101. 206-343-3000 phone, 206-343-3013 fax. PPawlak@SeattleStructural.com

Engineers



As AHJ Engineers celebrates over 22 years of providing quality structural engineering services in the northwest, Boise, Idaho continues to enjoy a steadily growing economy and a reputation as a hotbed for development for years to come. Forbes Magazine, 2005, calls it the "Best place in the USA for business and careers".

We are expanding our team to provide increased capacity in the design of new, significant structures and historic restorations. We offer a flexible, encouraging work environment in which talented professionals can achieve their unique career objectives as well as pursue their personal goals.

We are seeking eager EIT's, as well as proven Project Engineers that are technically competent and can express their knowledge to our clients both verbally and through their work. The successful candidate must enjoy proactive teamwork, have a personal commitment to excellence, the

ability to manage multiple projects and a passion for creating quality structures.

Boise is a vibrant city where the arts thrive, the sporting events are intense and the recreational opportunities are endless. If your interest is piqued, e-mail your resume to: dhaugland@ahjengineers.com or mail to AHJ Engineers, 12501 W. Explorer Dr., Suite 100, Boise, ID 83713.

Structural Engineers

AHBL is seeking ENTRY LEVEL STRUCTURAL ENGINEERS in both Seattle and Tacoma offices! Our structural group is a leader in the region and works on a wide variety of projects, ranging from post-tensioned concrete mid-rise buildings to single story heavy timber framed construction. Each engineer is fluent in the design of all structural systems and materials, and works on all aspects of a project.

The success of our organization is the knowledge, talent and longevity of our staff. We hire for the long term. Virtually all of our engineers were hired as entry-level and have chosen to work their entire careers at AHBL. We work closely with our entry level engineers to continue their professional development. Our training process resulted in over 90% of our engineers passing the Structural Engineers exam on their first attempt.

Successful candidates will have a minimum BS in Civil Engineering, heavy emphasis in structural related coursework, Familiarity with IBC is desired, Strong written & verbal communication.

SUMMER INTERNSHIP OPPORTUNITY!

The successful candidates should have completed junior level course work in Department of Civil Engineering.

Send resume w/cover letter to: AHBL, Attn: Office Manager, 2215 N. 30th Street, #300, Tacoma, WA 98403, or e-mail: careers@ahbl.com. EEO employer.

Sr. Structural Engineer

Beyaz & Patel is a consulting engineering firm specializing in structural engineering of water, wastewater and transportation infrastructure projects. Since inception in 1975, we have earned a strong reputation for providing exceptional engineering services.

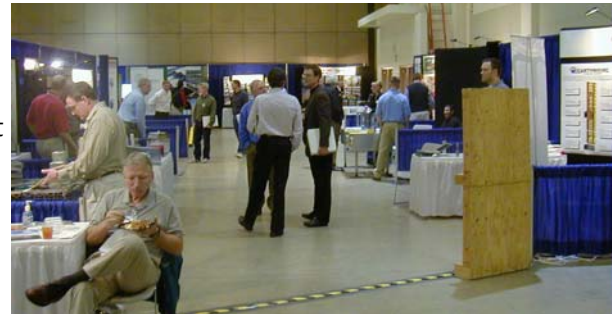
SEAW SW Tradeshow

The 11th Annual SEAW Southwest Chapter Architectural and Engineering Educational Tradeshow

was held February 13th at the Tacoma Dome Exhibition

Hall. This year there were 52 vendor displays, 11 technical seminars, which

were standing room only, over 200 attendees, great door prizes and complimentary food and refresh-



ments. The Tradeshow is the primary fundraiser for SEAW Southwest Chapter.

All proceed from this event go towards scholarships and an equipment grant for Saint Martin's University in Lacey.

Our Seattle office is seeking a highly qualified and capable structural engineer with 5-10 years of experience for interesting and varied structural projects. Typical structural projects include wastewater and water treatment plants, facilities buildings, bridges, seismic analysis/retrofit of public works facilities, field engineering for on-call and construction management services, engineering studies, cost estimating and preparation of Contract Documents. A PE is desirable, but not required.

Beyaz & Patel is a friendly, small firm highly regarded in its fields of expertise, and has been providing quality structural services on public sector projects for 25 years (15 in Seattle). We offer very competitive salaries, excellent benefits, and responsibility commensurate with desires and experience, and opportunities for growth.

Please contact Administrator, Beyaz & Patel, Inc., 2820 Northrup Way, Suite 120, Bellevue, WA 98004, (425) 827-7116 (phone), (425) 827-7886 (fax), or bmantz@beyazpatel.com

HELP WANTED ADS are accepted through the fourth Friday preceding the publication month. The cost for text ads is \$50 per insertion **pre-paid**, with a 10% discount for ads running two or more consecutive months. Ad copy should be limited to 180 words or less and must be submitted by e-mail. Advertising order forms and information about display advertising, can be found online at http://www.seaw.org/resources_newsletter.cfm.

Help wanted ads must be purchased through the newsletter to be included in the SEAW online job board.

BROWN AND CALDWELL

BECOME PART OF AN ENVIRONMENTAL ENGINEERING and CONSULTING FIRM WHERE YOU CAN DELIVER YOUR FINEST WORK.

Brown and Caldwell, a nationally recognized environmental engineering and consulting firm has an excellent career opportunity for a Structural Engineer to join our Seattle, Washington office. Are you a self-directed person who values challenging work and a creative learning environment? If so, then come be a part of our team! We are looking to hire immediately.

Structural Engineer III - Requisition #14-30-06-211

Responsibilities: Provide detailed structural engineering on design projects for new and existing water and wastewater treatment systems, as well as other types of structures. Support project design teams and other engineers in development of specifications, detailed drawings, reports and plans.

Qualifications: BS degree in engineering (civil with structural emphasis) and a minimum of five years of experience with industrial structures is preferred. Master Degree in structural engineering is desirable. Washington PE Required, SE preferred.

We offer a competitive salary, benefits and 401(k). For more details visit us at www.browncaldwell.com. Please reference position/requisition number in cover letter and e-mail mthullen@brwncald.com. We value workforce diversity. EOE/AA.



Introducing...

NCSEA Member Organizations

Hello to All NCSEA Member Organization Delegates and Members!

The text you are now reading is here to introduce our thoughts for a new quarterly newsletter, from the National Council of Structural Engineers Associations, and directed toward you, the Member Organizations. Its content is essentially to be used to distribute information among you. We will be the conduit for your information and ideas.

As you have all noticed, structural engineering has become a growing and dynamic profession. Dynamic? Just look at how fast the codes change. And NCSEA is here to keep up with it, and to help everyone keep up with it, too. This e-publication will not attempt to replicate, or take tasks away from, other information sources already available to us. **STRUCTURE** and Monthly Moments will still be around, as will all of the other unnamed publications. We'll just be here to help direct the needful to the source. We will present **Structural Connection** as an e-publication, that is, it will be sent out only in electronic format. We will send it out four times per year.

What we are going ask is that, if your organization has come across or developed any items that you believe will be of interest to the other Member Organizations or structural engineers, please share!

Have you found a good source for technical information? Send it to us; we'll put it in.

Has your organization come up with an idea for helping to identify the needs of your membership? Send it to us; we'll put it in. Most of your organizations already have a monthly publication. Just snip (figuratively speaking) the good ones out and send them in. We will sort through it and get it published.

Code Notes

I hope to have a section dedicated to Building Codes. We will include information you may have of where to get code answers, or clarifications. Surely there is plenty to ask here. I hope that we'll be able to find some answers as well.

Feedback and Discussion

I also want to offer a question-&-answer-dialogue column. This will be where you can ask questions of the NCSEA Board of Directors, or comment on current issues and by-laws. Kind of a "What's-NCSEA-doing-for-us" section. We can also open dialogue between some MO's, if you'd like.

This is a publication for the Member Organizations. You can make it to fit your needs. Your contributions will be what make this e-publication. Please give us some feedback. Tell us what you think and what you'd like to see in these pages. Are you already inundated with information? Tell us that, too! Circulate this publication to your membership and ask them for input. Thank you, and we look forward to a long-running and informative "Structural Connection".

Jerry D. Coombs, PE
Editor

Note: Due to space constraints, we are able to print just page one of the five-page new NCSEA quarterly newsletter "*Structural Connection*". The full version is posted on our website along with the online issue of this month's *Equilibrium*. To view them, visit <www.seaw.org> and click on "Resources."



**STRUCTURAL ENGINEERS ASSOCIATION
of WASHINGTON • Seattle Chapter**

PO Box 44 • Olympia WA 98507 • 206/682-6026 • www.seaw.org

Committees & Chairs

House/Program	Ade Bright	Earthquake Eng	Mike Valley	Presentations/Awards	Brian Glover
Code Advisory	John Tawresey	Legislation	Robert Bourdages	Professional Practices	open
Exam Liaison	Ed Huston	Wind Engineering	Don Scott	Emergency Prep	Dave Swanson
Refresher Course	C. Chevy Chase	Finance & Auditing	Ted Smith	Public Information	Steve Arnold
Scholarship	Bill Mooseker	Newsletter	open	Building Committee	Philip Brazil

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Meetings, Seminars cont'd

2007 Structures Congress: New Horizons & Better Practices

May 16-19 2007
Westin Long Beach
Long Beach, California

The 2007 Structures Congress is designed to give structural engineers the information to embrace "better practices" as we build and achieve "new horizons". This Congress will give you information from research and practice in some 90 quality technical sessions, offered in 9 tracks:

- 4 Practical Design Tracks—Bridges, Buildings, Existing Structures, and Non-Building Structures & Non-Structural Components
- 2 Research Frontiers Tracks
- A Business Practices & Development Track

- A Codes & Standards Track
- A Specialty track, featuring the 2007 Forensic Engineering Congress

Additional offerings include plenary session, pre-Congress seminars, Diversity Workshop and reception, Poster Sessions, Networking Events and Exhibit Hall.

For complete details, visit www.structurescongress.org

WABO Education Institute

The Washington Association of Building Officials will hold its 6th Annual Education Institute April 2 through 6, 2007 at the Hilton Conference Center in Vancouver Washington. Details and registration information can be found at www.wabo.org/AEIRegistration2007.htm

Membership

APPLICATIONS FOR MEMBERSHIP

Lily Iftner
Construction & Structural Investigation LLC
BSCE 1997 U of Washington
Licensed PE, Washington
Class: Professional Associate

Suzanne Knudson
Reid Middleton
BS 2006, University of WA
EIT, Washington
Class: Associate

Douglas Prindle
CG Engineering
BSCE 2000, Washington University
St Louis
Licensed PE, Washington
Class: Professional Associate

Julie Sandoz
CG Engineering
BSCE 2006 Washington State U
EIT Washington
Class: Associate

Griffin Thornock
Magnusson Klemencic Associates
BSCE 2004, University of WA
MS Structural 2006, Stanford
EIT Washington
Class: Associate

APPLICATIONS ACCEPTED

Eric Anderson,
Professional Associate

Robert P. Baxter,
Associate