



# EQUILIBRIUM

Newsletter of the Seattle Chapter  
Structural Engineers Association of Washington

APRIL 2006

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## DUES INVOICES:

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## Have You Visited the New Website?

The New SEAW Website and online Membership Database have enjoyed quite a bit of activity since it was unveiled last month. Members are logging in and using the site to sign up for meetings, make changes to their address information, and access other services the site has to offer. Content will continue to be added, so keep visiting!

**Member log in:** Entrance to the members-only portion of the site requires a login name and password. By default, your login name is your e-mail address, and your password is your first name. Once you've accessed the members-only portion, you can click on "My Membership" on the maroon menu bar and reset your login information.

**Online Membership Directory:** From the members-only site, click on "Directory." From this page you can search for members or companies by chapter, by last name, or by company. Not sure of the spelling? Just enter a portion of the name. Want to view everyone belonging to the Seattle Chapter? Click on the "Seattle Directory" in the gray sub-menu bar. Be sure the "Search Individuals" radio button is selected, then click the "Search" button without entering any further information. The resulting list contains the entire chapter mem-

## EARLY MEETING, LATE NEWSLETTER: April Meeting Notices Mailed Separately

By the time our April *Equilibrium* hits the streets, it will be time for the Annual Seattle/Southwest Chapter joint dinner meeting, so meeting notices were mailed & e-mailed separately. Members will gather at the Radisson Hotel in SeaTac to hear a program entitled "What Structural Engineers Need to Know about Concrete Mix Design and Specifications", by Michelle Wilson, Manager of Education and Product Development of the Portland Cement Association. Ms. Wilson's presentation will cover the use and application of specifying concrete in accordance with ACI 318 "Building Code Requirements for Structural Concrete", ACI 301 "Specifications for Structural Concrete" and ASTM C 94 "Standard Specification for Ready-Mixed Concrete" for concrete construction.

For this month's free Mini-Seminar, Scott Beard of the City of Tacoma is scheduled to present "The Best Tricks and Calculation Saving Methods for Using the New Wind Code."



bership. Click on a member's name to view his/her contact information and e-mail link.

**Pay Your Dues Online:** By the time you read this, you will have received your 2006 Dues invoice by e-mail (or by mail for those who haven't listed an e-mail address). You can choose to pay online using your VISA/Mastercard, or print out your invoice and mail it with your check. Because the dues are being invoiced so late this year, your speedy payment will be greatly appreciated by our Treasurer and Administrator!

**Questions?** If you're having trouble signing on, registering for an event, or looking for specific information, just send me an e-mail or give a call at 206/682-6026—I'll be glad to help.

**Next month:** Meeting registration!

-Lynnell Brunswig, SEAW Administrator  
[seaw@seaw.org](mailto:seaw@seaw.org)

## Annual Life Member & Spouse Meeting

**Date:** Tuesday, May 23, 2006  
**Place:** College Club  
505 Madison Street, Seattle  
**Time:** 5:30–6:30 Social Hour  
6:30–7:30 Dinner  
7:45–9:00 Program

Plan to attend Seattle Chapter's year end Life Member/Spouse meeting. We'll honor our Life Members, present the Engineer of the Year Award, and recognize the efforts of SEAW volunteers. This year's guest speaker will be comedian Frank King, quarter-finalist on *Star Search* (he lost to a puppet). Billed as "the best thing to happen to after-dinner since dessert," King is a Certified Speaking Professional who has written for Jay Leno, Joan Rivers, and Dennis Miller. Watch for details in the May newsletter!

## FROM THE BOARD: Canopies – Environmentally Sensible Structures

Canopies, by definition, provide protective covering from various elements such as sunshine and, specifically in the north-west, rain. It is needless to be reminded that in Seattle, we get our fair share of precipitation through most months of the year and wind driven rain during some parts of the year. In fact, if you look out right now as you are reading this article, chances are it is raining. In downtown Seattle, it is not uncommon to see pedestrians dodging from canopy to canopy along the buildings, or shoppers and bus commuters crowding under canopies, although they are few and far between, in an attempt to stay dry.

Over the years, I have designed a variety of canopies ranging from building entry canopies to train canopies. I am a firm believer in the need for canopies. Lately, as I walk around downtown Seattle, not only have I been noticing all the different styles and shapes of canopies along the various buildings, but I've also noticed they aren't very plentiful, and few are functional. I have finally managed to map out a 'stay partially dry' navigation route from my office to some of the places I frequent.

There are interesting characteristics in the existing canopies

along various building faces in downtown Seattle. There are skimpy ones that are barely wide enough to cover a person. There are stepped canopies that look really attractive but have little or no overlap to prevent pedestrians from being dribbled on. There are spaced canopies that provide intermittent protection, and teasers that appear as if they continue around a building, but the corner is clipped out. What's the point?

Then there are those that are only over the main entrance. What's that for ... employee smoke breaks? Worse yet, there are the narrow ones above display windows. Not many people can comfortably window-shop while being rained on. There are the fancy glass types that have open spaces at the adjoining segments, and don't forget the really high ones that are outside the zone of protection. What purpose do these serve?

One would think that in a city like Seattle, with its frequent inclement weather, building owners and designers would customarily incorporate functional canopies into the building design. It is my understanding that sometime in the past there was a city requirement for buildings in the shopping district of down-

town Seattle to provide some form of shade around new buildings. That requirement does not seem to be in effect today.

My opinion, when written in the form of a drawing note, would be that:

- Continuous shelter, of any configuration, shall be provided along sidewalks and bent around all corners.
- When shelter cannot be continuous, minimum shelter lap shall be as shown on lap table.
- Shelters shall have a minimum cover of X feet and a maximum height of Y feet above sidewalk grade, unless otherwise shown on the plans.
- Shelters shall be provided on all exposed faces of new buildings adjacent to sidewalks in the financial and shopping districts of the city. In existing buildings, a minimum of Z shelters shall be provided whenever the value of building improvement is more than X dollars.
- At other districts of the city not included above, provide shelters as required by the owner.

Next time you work with a design architect, don't just



look at the technical aspects of canopy design, but also its functional aspects. Incorporate your non-technical and practical experience as well as your technical knowledge into the design. Think not just public safety, but also public comfort and convenience, and give this valuable input and your opinions to your clients. We need to help our buildings and our city achieve a pedestrian friendly environment.

Ade Bright—Vice President,  
2005-2006  
ab@brighteng.com

*Ade Bright is the Founder and President of Bright Engineering, Inc, a structural engineering consulting service established in 1997. A member of SEAW since 1985, Ade is 2005-2006 Vice President of the Seattle Chapter.*

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

Except where noted, opinions expressed in this newsletter reflect those of the author and do not reflect or represent the position of SEAW. Portions of this newsletter may be reproduced provided credit is given.

### JOIN A COMMITTEE TODAY!

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\*Denotes Statewide Committee

# Company Spotlight: MA Wright, LLC

Mike Wright is a structural engineer with over 25 years of engineering design, peer review, and project management experience. In April of 2004, he started M.A. Wright, LLC, a structural engineering services company that focuses on seismic issues as they relate to existing and new structures. Passing the two-year mark this month, MA Wright recently moved into a new office at 11<sup>th</sup> & Pike on Capitol Hill. Mike was joined by a structural engineering intern, Nathan Canney, and has immediate plans to hire an additional engineer, with additional growth planned in the coming year.

Mike received his BSCE in 1980 and his MSCE in 1981, both from Purdue University. He moved to the Pacific Northwest in 1984 to work at Boeing. His desire to work on building structures led to a transfer to the facilities group and then on to structural engineering consulting. For the past 13 years his practice has focused on seismic issues related to new and existing buildings, some of which were on the National Registry of Historic Places. While serving as a Principal at Swenson Say Fagét, he was the Engineer of Record for the rehabilitation of the Washington State Legislative Building in Olympia. He is a licensed structural and civil engineer in Washington.

Mike has been involved with SEAW since 1990, having served on the Earthquake Engineering Committee; he continues to serve on the Exam and joint WABO/SEAW committees.

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*Chad Green, P.E., SEAW Member since 2002, is our Company Spotlight Coordinator. If you would like to see your company in the spotlight, e-mail him at [chad.green@kpff.com](mailto:chad.green@kpff.com).*

## PROJECTS



Image courtesy of Weinstein A/U Architects

### Piston & Ring, Seattle

MA Wright is the structural engineer and Weinstein A/U the architect for the redevelopment of this 1920s two-story concrete-and-timber structure into a restaurant and retail center. The building utilizes the original long-span timber trusses, timber floors, and concrete walls. Also included is a new wood-framed mezzanine, outdoor terraces, and a lower level retail space. The seismic upgrade includes new steel braced frames and connections between the timber diaphragms and the original perimeter concrete walls.

### Georgetown City Hall, Seattle

MA Wright performed a seismic evaluation of the existing masonry building that originally served as the Georgetown City Hall and Fire Station. The architect was Miller Hayashi. The structure was seismically upgraded in the mid-1980s. As a result of the new evaluation, additional modifications to the seismic retrofit were performed. The second floor was redeveloped into office space, including the installation of an elevator.

Photo courtesy of Mike Wright



### TVW Building, Olympia

MA Wright is the structural engineer and Barnett Schorr the architect for the design of the new media center for Television Washington (TVW).

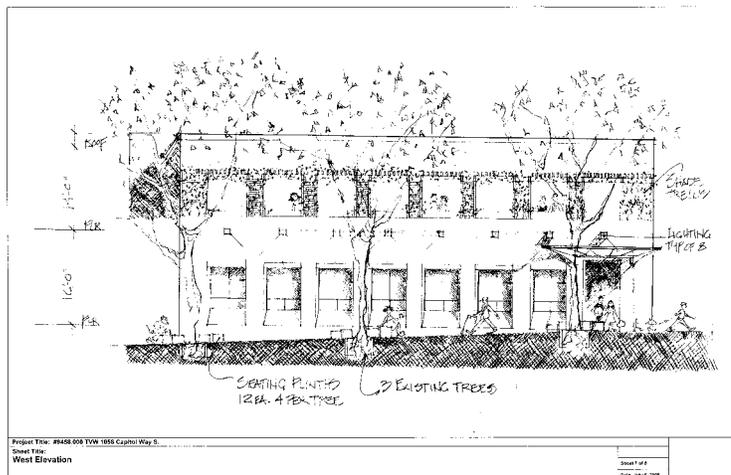


Image courtesy of Barnett Schorr Architects

TVW broadcasts public meetings and sessions of the Washington State Legislature. The facility is a concrete-and-steel building that utilizes a portion of the façade from the original building, which was built in the 1920s. Acoustic and vibration considerations for the production studio were incorporated into the design.

# Meeting Recaps

## March Meeting: Digging Deeper – The Washington Mutual-Seattle Art Museum Tower

By Karen Damianick

The Washington Mutual-Seattle Art Museum Tower at the corner of Second and Union in downtown Seattle is rising quickly and it all started with a big hole in the ground. That hole was between 65 and 90 feet deep and would eventually support the 42-story, 565-foot-tall tower. Doug Lindquist, Associate Geotechnical Engineer at Hart Crowser; Joe Taflin, Civil Senior Design Engineer; and Hans-Erik Blomgren, Associate at Magnuson Klemencic Associates, presented the story of the Washington Mutual-Seattle Art Museum excavation and tower at the joint SEAW and ASCE Geotechnical Group dinner meeting on Tuesday, March 28th.

Lindquist began the evening by describing the geotechnical considerations for the site, including underpinning the existing Seattle Art Museum

(SAM); areaways from old Seattle; limited right of way; and the railroad tunnel under the city. Displacement-based design was used in the design of the tie-backs anchors, but in one corner, where the existing railroad tunnel limited tie-back length, internally braced soldier piles were installed. Inclinoimeters placed in the structure indicated that the assumed design model was approximately accurate at depth, though it varied at the surface due to modeling assumptions. The design seismic forces were determined with a site-specific design response.

Taflin was the shoring consultant for the project. He discussed some of the challenges for shoring up the site. These included the previously discussed railroad tunnel, a 102-inch diameter sewer that ran near the site, existing footings that were outside the property line, and a utility vault that

prevented some shoring from going up near the top of the wall.

Finally, Blomgren discussed the tower structure. The lateral system for the tower is a combined concrete shear wall core and a buckling restrained braced frame (BRBF) system at the lower levels. The lateral system forces were determined based on human perception of movement of the building during wind forces. The BRBF system supplemented the concrete core because, due to the building dimensions, the concrete core was ineffective at the lower levels. The BRBF system con-

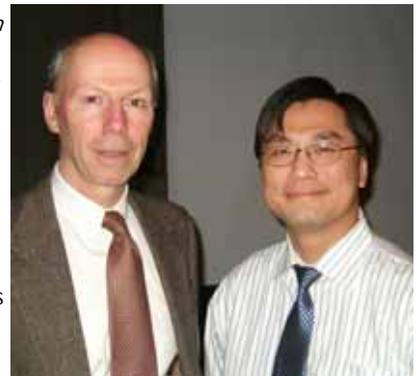
tains a steel core that is used to resist axially applied loading and is encased by concrete within a steel tube. The steel core is not bonded to the concrete so it can fully develop the axial capacity of the steel cross-section. The system exhibits excellent hysteretic behavior in both tension and compression. The braces are pin-connected to the structure at each end.

*Karen Damianick is a structural engineer with KLD Engineering in Seattle, WA. She has been an SEAW professional associate member for three years and is currently serving on the newsletter committee. Karen may be contacted at [kdamianick@gmail.com](mailto:kdamianick@gmail.com)*

## Mini-Seminar Highlights Seattle Landslide Hazards

Story and photo by Scott Adan

Bill Laprade, Engineering Geologist and Vice President of Shannon & Wilson, and William Bou, Geotechnical Engineer with Seattle Department of Planning and Development (DPD), were the guest presenters for March's mini-seminar. The presentation, "Developments in Slide Susceptible Areas in Seattle" was a primer for the SEAW/ASCE Geotechnical Group Joint Meeting.



*Mini-Seminar Presenters Bill Laprade (l) and William Bou (r)*

Laprade began the presentation describing the landslide hazard in Seattle, where historical records of destructive landslide events date back to the late 1800s. The typical Seattle landslide occurs on hillslopes along Puget Sound and Lake Washington coastlines. This topography is classified as the typical Seattle ridge profile. The ridge profile consists of pre-Vashon glacial and non-glacial sediments overlain by Vashon till and Lawton clay. "Landslides occur in the Seattle area for a number of reasons," said Laprade. "Those reasons include topography, geology, human activities, and water, water, water," joked Laprade.

Block fall, high bluff peel-off, deep-seated at contact, deep-seated through contact, and shallow colluvial slides of earth

and debris are common types of Seattle landslides. Inventories compiled of historical Seattle landslides highlight areas prone to landslide activity. Geologic, coastal, and landslide-specific maps of the Seattle area have been created. A large number of slides have a human influence. Excavating, pushing around soil to create level spots, building roads, or installing downspouts that discharge water onto slopes are common causes of landslides when the ground gets oversaturated.

Laprade continued by presenting several recommendations to avoid landslide occurrence. The don't list included placing fill (including yard debris) or concentrating water on a slope,

*Continued on page 6*

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## Cold-Formed Steel Framing Seminar Draws Crowd

By Dean Peyton

Over 125 people attended SEAW's seminar on Cold-Formed Steel Framing held on March 16th. The seminar was popular given the significant growth of cold-formed steel framing in just the last decade. Cold-formed framing is not only competing with timber framing for one- to five-story structures, but is also being used to push the limits of light framed projects up to eight and even nine stories.

Previously, codes and standards were quiet on the subject of cold-formed steel design; now there are three referenced standards specifically for cold-formed steel found in the 2003 IBC. That family of documents has grown to five in the 2006 IBC. The current standards are: General Provisions, Header Design, Truss Design, Wall Design, and Lateral Systems Design. These Standards can be purchased through the AISI web site or more directly use

the following link ([http://www.steel.org/Content/NavigationMenu/Construction/CodesandStandards/Codes\\_and\\_Standards\\\_.htm](http://www.steel.org/Content/NavigationMenu/Construction/CodesandStandards/Codes_and_Standards\_.htm)).

The seminar featured a number of prominent speakers. An introduction to the world of cold-formed steel framing was presented by Dean Peyton, PE, of Anderson Peyton Structural Engineers. An overview of roof, floor, and wall systems was presented by Nader Elhaji, PE, of the National Association of Home Builders Research Center. Dr. Reynaud Serrette, Associate Chairman of Civil Engineering, Santa Clara University, presented lateral shear wall system alternatives. Project sharing was provided by Blaze Bresko PE, SE, of Swenson Say Fagét; and Scott Douglas, PE, SE, of DCI Engineers, indicating local trends in the use of commercial cold-formed framing systems for three-, four-, and five-story

structures. A concluding question-and-answer panel was moderated by Charlie Griffes, PE, SE, of CT Engineering, to clear up misconceptions

about framing with cold-formed steel. Fourteen vendor display tables were set up to share design information specifically directed at cold-formed steel related materials, connectors, fasteners, and lateral system solutions.

The seminar was well received with many review comments indicating that additional seminars would be desirable. SEAW will be working on a more detailed design seminar to be presented next year. Those interested in participating on a cold-



Speakers and committee members: back row from left: Dean Peyton, Blaze Bresko, Tom Lee, Charlie Griffes. Front: Nader Elhaji, Scott Douglas, Reynaud Serrette.

formed steel committee should contact SEAW.

If you are interested in purchasing a presentation binder, they are available while supplies last through the SEAW office (contact Lynnell Brunswick at [seaw@seaw.org](mailto:seaw@seaw.org)).

*Dean Peyton is a Principal of Anderson-Peyton Structural Engineers. He has been a member of SEAW since 2005 and was instrumental in the production of the Cold Formed Steel Seminar.*

## ATC-20 Seminar Highlights Post-Earthquake Safety Assessments

By Scott Adan

David Swanson, Director of Structural Engineering at Reid Middleton, and Paul Brallier, Associate at KPFF Consulting Engineers, were the guest presenters for the SEAW-sponsored ATC-20 Training Seminar held on Tuesday, March 21st. The seminar, "Post-Earthquake Safety Assessment of Buildings," was presented in the Wyckoff Auditorium on the Seattle University campus. Swanson is chairman of the Emergency Preparedness Committee for SEAW and Brallier is a member of the same committee.

The Applied Technology Council (ATC) is a nonprofit corporation established in 1973 through the efforts of the Structural Engineers Association of California. ATC's mission is to develop engineering resources and applications for use in mitigating the effects of natural and other

hazards on the built environment.

ATC-20 provides procedures and guidelines for the safety evaluation of damaged buildings. The procedures and guidelines are written specifically for volunteer structural engineers, as well as building inspectors and structural engineers from city building departments and other regulatory agencies, who would be required to make on-the-spot evaluations and decisions regarding the continued use and occupancy of damage buildings.

Swanson began the seminar by describing the three distinct safety-evaluation procedures within the ATC-20 methodology. The three procedures include rapid evaluation, detailed evaluation, and engineering evaluation. "The rapid evaluation is the first and many times the only safety

evaluation performed," said Swanson. "This type of evaluation is often cursory in nature because there are insufficient personnel available to perform more thorough inspection," added Swanson.

After undergoing a safety evaluation, buildings are posted with one of three placards: inspected, restricted use, or unsafe. The posting lets owners, occupants, and the public know whether inspected buildings are safe for use. The use of judgment is essential in the evaluation of damaged buildings. Not every dangerous situation that may be encountered is covered by the ATC methodology. "For those situations where no guidance has been provided, the inspecting teams must rely on their collective experience and judgment," said Swanson.

Both Swanson and Brallier went on to explain the inspection and posting procedures

for buildings constructed in a variety of structural materials including wood, masonry, tilt-up, concrete, and steel. Unreinforced masonry (URM) structures, particularly bearing-wall structures, are the most hazardous forms of construction found in the Seattle region. For example, after the Nisqually earthquake in 2001, a number of URM building experienced significant damage. Many of the buildings were posted unsafe after being inspected by ATC trained personnel.

Each seminar participant received a field reference document developed as part of the ATC-20 project. The Field Manual is intended to be taken into damaged areas and used by those trained in the ATC-20 methodology. Each seminar participant will also be listed in the SEAW database as having received ATC training in the event that disasters strike in Seattle or surrounding regions.

## 2006 Popsicle Stick Bridge Competition

By Jacqueline Putt

The 11th Annual Popsicle Stick Bridge Competition, held on February 24, 2006, was a huge success. There were 123 students that competed on 39 different teams. The competition is put on by the Younger Member Forum (YMF) of the American Society of Civil Engineers and is held in conjunction with the Puget Sound Engineering Council's Engineering Week Fair.

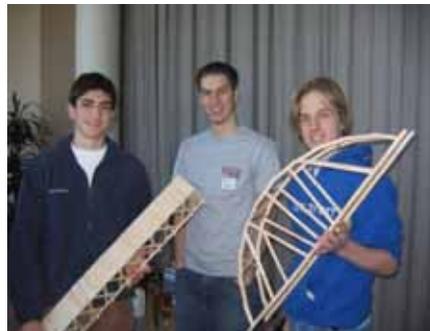


Students from Chief Sealth High School watch their bridge break as Rob Whitacre (Gravitec Systems Inc.) provides commentary and Victor Cruz (Seattle Public Utilities) operates the test machine.



Museum of Flight contest stage

This year, the competition and the fair were held at the Boeing Museum of Flight. This was the first time that this venue was used, and it provided a great backdrop for the events. In addition, YMF was able to fund entry admission into the museum for each student that competed and one teacher from their school.



Students from Eastlake and Renton high schools show off their bridges alongside Seattle University volunteer, Todd Kortus.

The students made bridges by using only popsicle sticks and white glue. The overall winner needed to produce a bridge that is not only efficient (load-to-bridge weight ratio), but is also aesthetically pleasing since both of these categories are used to determine the best

bridge. In addition, bonus prizes were awarded for strength (largest load) and best-estimated load.

The winners this year were:

First Place: Garrett Lumens, Port Angeles High School

Second Place: Luke Anderson, Amy Hyatt, Natasha Stevenson, Olympic Christian School

Third Place: Tasha Smith, Lindsay Mixer, Mary Brezler, Olympic High School

Best Estimated Load: Jerika Bingaman, Megan Gates, Mountlake Terrace High

Strongest: Garrett Lumens, Port Angeles High School

Overall, the room was filled with a lot of excitement as everyone watched in anticipation to see how much load each bridge would hold. There were large snaps and broken popsicle sticks were flying everywhere. The students had a great experience and learned a little bit about the world of engineering.

## Mini-Seminar Highlights, continued from page 4

denuding vegetation (including removing stumps), cutting into the toe, and installing irrigation systems near slopes. The do list included maintaining drainage, performing periodic inspections, and being alert during and following storms.

Continuing on the general topic, Bou introduced the DPD's Geotechnical Group. The group consists of three geotechnical engineers who review and inspect site development applications for construction projects within the City of Seattle. The geotechnical engineers include Dean Griswold, Robert McIntosh, and Bou. The group evaluates construction projects for compliance with the Environmentally Critical Areas (ECA) Ordinance and the Stormwater, Grading, and Drainage Control Code. The group assists both land use and code enforcement staff with site issues, and provides site review for short plats,

Master Use Permits, complaints, and violations.

"Our primary function is to avoid events like the La Conchita or Laguna Beach landslides in California," said Bou. "Of the recent slides in Seattle, none occurred at a site developed solely under the new ECA ordinance, suggesting that they may be providing a safeguard against slide hazards," added Bou. The ECA regulations provide for and promote the health, safety, and welfare of the general public and promote safe, stable, and compatible development that avoids adverse environmental impact and potential harm on the parcel and to adjacent property, the surrounding neighborhood, and the drainage basin. The regulations require complete stabilization of all portions of a site that are disturbed or affected by the proposed development, including all development

coverage and construction activity areas.

To conclude, Bou outlined a number of mitigation options to provide stabilization for a site. The options included shallow and deep subsurface drainage, pile foundations, retaining walls, and anchorage systems. Mitigation also emphasizes public education in an effort to help property owners, many of whom are new to Seattle and its hills, to understand how to prevent landslides from damaging their homes, their neighbors' homes, and public streets, utilities, parks, and other property.

*Scott Adan, PE, is a structural engineer with KPFF Consulting Engineers in Seattle, WA. He is a professional associate member and is the Editor of the Equilibrium. He also is a member of the Earthquake Engineering Committee. Scott can be contacted at scott.adan@kpff.com.*

## Volunteer Opportunity Rebuilding Together

Are you a skilled carpenter, painter, or gardener? Know how to run a Skilsaw or a hammer? Looking for something to do with a Saturday? The Seattle Section of ASCE is once again looking for a few volunteers to help rehabilitate a house for Rebuilding Together on Saturday, April 29th.

For the small price of a simple, one-day commitment, you can help ASCE rehabilitate the home of a local family so that they may continue to live in warmth, safety, and independence. Rebuilding Together helps people, particularly the elderly, individuals with disabilities, and families in need with home repair projects to keep them safe, warm and able to stay independent in their homes.

This is the sixth year in a row that Seattle ASCE is sponsoring

-see "Rebuilding", page 9

## Meetings, Seminars

### Concrete University in Tacoma on May 4th

The Puget Sound Concrete Specifications Council and the Northwest Chapter of the American Concrete Pavement Association (ACPA) are teaming with the AIA Southwest Washington to present "Concrete University" on May 4th. The full-day seminar will run from 8:30 a.m. to 4 p.m. at the Sheraton Tacoma Hotel. Attendees will receive seven hours of AIA Learning Units in HSW.

Sessions will include: an in-depth review of what makes concrete work; discussion on concrete applications for LEED and sustainability; information on designing and constructing concrete pavements; discussion of admixtures, additives, and sealers, with review of the ASTM specifications; recommendations for field observations and inspections to ensure quality control; and a panel discussion on concrete specifications, with responses to your specification and design questions.

Sessions will be led by Andrew Marks, PE, Managing Director of the Concrete Council; Jim Powell, PE, Executive Director of ACPA's Northwest Chapter; and Jim Tobin, Construction Services Director at ACPA.

The cost to attend is \$65 if registered by April 21st and \$75 thereafter. Registration includes lunch and a binder of seminar materials. Further information and registration forms are available on the AIA Southwest Washington website at [www.iasww.org](http://www.iasww.org)

### ASCE Seattle Geotech Group offers One-Day Soft Ground Engineering

The Geotechnical Group of the ASCE Seattle Section is pleased to announce its 23rd Annual Spring Seminar titled "Soft Ground Engineering" to be held at the University of Washington campus from 8:00 am to 5:00 pm on Saturday, May 20, 2006. The keynote speaker, Dr. Don DeGroot (Professor of Engineering at the University of Massachusetts-Amherst) will be joined by Dr. Demetrios Koutsoftas (the 2004 Ralph Peck Lecturer) and other local, national, and international soft ground engineering experts. The seminar will be of interest to current students, recent graduates, geotechnical specialists, owner's representatives, and construction professionals. Topics will include subsurface characterization techniques, staged con-

struction methods, types of instrumentation, and options for soft ground improvement. Detailed case studies will be presented to illustrate these concepts, including a history of the failures on the Great Salt Lake Causeway in Utah. To receive more information or to obtain a registration form, please either visit our website at [www.seattlegeotech.org](http://www.seattlegeotech.org), send an email to Michael Harney at [harney@u.washington.edu](mailto:harney@u.washington.edu), or write to the "ASCE Seattle 23rd Annual Spring Seminar c/o Shannon & Wilson, Inc., 400 N 34th Street, Suite 100, Seattle, WA 98103".

### ACI Spring Seminars: Anchorage to Concrete May 9, 2006, Seattle

One-day seminar for engineers and designers. Attendees will learn how to design structural connections to concrete. The design of anchorages to concrete has traditionally been in "no-man's land" between the concrete code and the steel code. ACI 318 now contains Appendix D that provides detailed design requirements for anchorages to concrete. This seminar will include an introduction to the design requirements of ACI 318-05 Appendix D, and the post-

installed anchor qualification requirements provided in ACI 355.2. You will work through detailed design examples that will demonstrate how the design requirements of ACI 318-05 Appendix D are implemented. Complimentary publications, a \$116.00 value, include: ACI 355.2/355.2R-04, Excerpts from 318-05, and Course Notes.

### Concrete Slabs on Ground May 18, 2006, Seattle

One-day seminar for specifiers, architects, contractors, building owners, and government agencies. Attendees will learn to design, specify, and build quality concrete floors. This seminar will

cover short- and long-term geotechnical concerns, and how to avoid floor moisture problems; designing low-shrinkage concrete mixtures with good finishability; minimizing problems due to curling, shrinkage, and joint problems while maximizing economy; design and build any one of the nine classes of floors, with appropriate F-numbers, troubleshoot slabs, and know the differences between the six types of slabs on ground. Complimentary publications, a \$205.00 value, include: ACI 302.1R-04, ACI 360R-92(97), industry-related articles, and Course Notes.

Register online for ACI Seminars at [www.concreteseminars.com](http://www.concreteseminars.com) or by phone (248) 848-3815.

**SEA NW Conference**  
July 20 - 22, 2006  
Skamania Lodge

Hosted by  
**SEA of Oregon**

See preliminary announcement  
on the SEAW Website  
[www.seaw.org](http://www.seaw.org)

Engineering in the Land of Earth, Wind, and Ice

## Opportunities

### Structural Engineers

Degenkolb Engineers, a leading structural engineering firm, is looking for talented engineers to join our Seattle and Portland offices. As recognized leaders in seismic engineering, we offer a diverse, challenging mix of projects on both new and existing structures. Our growth is rooted in the career development of our engineers to leadership positions. We also offer an excellent salary and benefits package (medical, dental, vision, profit sharing and 401(k), transit benefits, etc). Currently, we are looking for:

1. Entry-level engineers with a M.S. in Structural Engineering. Experience in structural/seismic engineering analysis and design of buildings is a plus.
2. Licensed engineers with a M.S. in Structural Engineering, PE license, and 2-8 years of successful experience in structural/seismic engineering, analysis and design of buildings. SE license is a plus.

For more information about us, please see our website at [www.degenkolb.com](http://www.degenkolb.com). EOE.

To apply, send a narrative letter about yourself with your current resume to:

[recruitsea@degenkolb.com](mailto:recruitsea@degenkolb.com) or to Degenkolb Engineers, Attn: Human Resources, 620 SW 5th Avenue, Suite 1100, Portland, OR 97204-1425.

### Structural Engineers

## Seattle Structural

Seattle Structural PS Inc is a growing firm with a bright, seasoned engineering staff. Among what we consider to be our strengths are our emphasis on client service, the diversity and complexity of projects and the collaborative interaction of our 10 professional staff. We are looking for engineer candidates with 8+ years of experience that can share in our vision of client-

mind interest and hard working enthusiasm. Located in downtown Seattle with opportunities to work on both domestic and international projects (Asian languages are a plus) we could be just the kind of change that you're looking for.

Send resumes to: Pete Pawlak, PE, 1411 4th Ave Suite 760, Seattle, WA 98101. 206-343-3000 phone; 206-343-3013 fax [PPawlak@SeattleStructural.com](mailto:PPawlak@SeattleStructural.com)

### Structural Engineers

Are you interested in exciting projects that challenge your ability? Rapid growth potential? Exceptional compensation? Look no further.

Cary Kopczynski & Company (CKC) has immediate career openings for experienced, motivated structural engineers and project managers. Exceptional compensation is available for qualified individuals. CKC also offers a comprehensive benefit

*-Continued next page*

# Opportunities, Cont'd

package. Benefits include an Incentive Compensation Plan, 401k Plan, and medical, dental, optical and disability. Visit us at [www.CKCPs.com](http://www.CKCPs.com)

Contact Melissa Shelton: [melissas@ckcps.com](mailto:melissas@ckcps.com); Cary Kopczynski & Company 10500 N.E. 8<sup>th</sup> Street, Suite 800, Bellevue, WA 98004 Phone: 425/455-2144, Fax: 425/455-2091

## Engineer Positions Open

Washington Group International is a leading engineering, construction, and management solutions company. We are seeking the following for our work on hydroelectric and water resources projects in our Bellevue, Washington Office:

**Mechanical Engineer** (job code: OSDE5062): Responsible for design engineering, leading engineering and drafting team for production of construction documents. Requires BS in Engineering, 7+ years in designing hydroelectric projects. Must be a licensed Professional Engineer.

**Manager of Engineering** (job code: OSWA5003): Responsible for overall technical performance, quality of engineering and design, project management, engineering resource manage-

ment, compliance monitoring, and procurement of hydroelectric equipment. Requires a BS in engineering (MS or PhD. preferred), minimum 15 years engineering experience in design, start-up & testing hydroelectric / water resource projects, at least 5 years supervisory capacity. Must be a licensed Professional Engineer.

Washington Group International offers competitive salary and benefits programs. To apply, visit: [www.wgint.com/careers](http://www.wgint.com/careers) and first complete a candidate profile, then apply specifically for the position, enter the job code listed above in the keyword search box.

## Structural Design Engineer

J-U-B ENGINEERS, INC. a Northwest regional Consulting Engineering firm with offices in the States of Washington, Oregon, Idaho, Utah and Colorado has an opening for a Structural Design Engineer in its Coeur d'Alene, Idaho office. Minimum qualifications for the position are either an EIT with a Master of Science degree in Structural Engineering, or a PE with a minimum of five years of design experience in building/

architectural projects. Applicants may send a resume to J-U-B's regional office at 7825 Meadowlark Way; Coeur d'Alene, ID 83815 or check out the posting on J-U-B's web site at [www.jub.com](http://www.jub.com).

## Adventure Opportunity

Are you a creative and motivated structural engineer? Are you tired of sitting in the asphalt jungle miles away from your favorite outdoor activities? Do you want to live and work in your own hometown community? Step into a great opportunity with a small and growing engineering company in Cle Elum, Washington. 2-8 years design experience with wood, steel, and masonry required. P.E., AutoCAD, and retrofit experience desired. Send resume and salary history today: Craig Sill, P.E., Stone River Engineering Company 111 Wright Avenue, Suite B Cle Elum, WA 98922

[stoneriver@inlandwireless.com](mailto:stoneriver@inlandwireless.com)

## AutoCAD Designer

AutoCAD position open at an established South King County civil and structural consulting engineering firm. We are looking for a designer with 3 years' experience with emphasis on both civil and structural applications. Some of the skills required are X-Ref control, layer control and efficient drafting proficiency with an ability to meet deadlines. Our firm provides engineering services for a wide variety of commercial projects ranging from light industrial, tilt-up warehouses, retail/commercial and other building designs for both the public and private sector. We recently upgraded to autoCAD 2006. Variety, competitive salary, 401K Plan and benefits package will be awarded to the right candidate. Salary DOE. Email to [ddormier@ruperteng.com](mailto:ddormier@ruperteng.com).

## Structural Engineer

Tetra Tech/KCM, Inc. ([www.tetrattech.com](http://www.tetrattech.com)) has specialized in municipal engineering, architecture, and applied science in the Pacific Northwest for over 60 years with a focus on facilities/buildings, water, wastewater, surface water, and fisheries for mostly public clients. We are seeking a self motivated structural engineer with 2-5 years of design experience to join our Engineering Services Group. The ideal candidate will have design/analysis experience with structural steel and concrete structures. Experience

with timber and masonry is a plus. BSCE and E.I.T required, P.E. and AutoCAD experience preferred. We offer competitive wages, benefits and the opportunity for growth. Please email resumes to:

Shirley.fiorito@tetrattech.com, or Fax: (206) 883-9301. EOE.

## Structural Engineer

Established South King County consulting firm needs a structural engineer with up to 5 years experience in varied commercial design. PE is desirable. Applicant must have a working knowledge of structural engineering software applications, excellent communication skills and familiarity with AutoCAD (v. 2006). Permitting experience would be beneficial. We offer a competitive salary with 401K Plan and benefits package. Email resume to [jrupert@ruperteng.com](mailto:jrupert@ruperteng.com)

## Senior Structural Engineer

Exeltech Consulting, Inc. is seeking a Senior Structural Engineer to work in our Seattle Pioneer Square office. Applicant must have 5-10+ years building design experience & be a licensed PE. Must have strong technical skills and ability to build and maintain client relationships. Project types include residential, commercial, and mixed-use for private and public clients. Exeltech is a growing, progressive office that puts value on design quality & professional growth. Competitive salary benefits package. Send letter & resume to [hr@xltech.com](mailto:hr@xltech.com).

## Bridge Engineer

HDR is an architectural, engineering, planning and consulting firm that excels at complex projects and solving challenges for clients. More than 4,000 employee-owners, including architects, engineers, consultants, scientists, planners and construction managers, in over 100 locations worldwide, pool their strengths to provide solutions beyond the scope of traditional A/E/C firms.

The primary duties of the Structural Engineer will be to perform complex assignments exercising judgment in evaluation, selection, and modification or standard engineering techniques and procedures. The Structural Engineer will provide planning, analysis and design for all aspects of transportation projects. He/she will be responsible for the management of key aspects

*Continued on page 9*

looking for a **NORTH END** opportunity?

*DCI Engineers in Everett offers an alternative to the hustle, hassle and headache of commuting South.*

DCI Engineers' Everett Office is looking for **Structural Project Engineers and Managers** with 1-7 years of experience in computer analysis, building design and evaluation. Good communication skills are required. Experience with commercial, retail and/or multi-family design; all building materials preferred and concrete building experience is a plus. P.E. preferred.

Please send cover letter and resume to:  
DCI Engineers  
3120 Colby Ave., Suite 100  
Everett, WA 98201  
Fax: 425-252-1699  
Email: [tbean@dc-engineers.com](mailto:tbean@dc-engineers.com)

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# Opportunities, Cont'd

of bridge projects (steel plate girder, pre-stressed girder, seismic displacement ductility, segmental, and cable.) Additionally, he/she may plan, organize and supervise the work of staff and act as a technical resource and mentor to junior staff members.

Experience Required:

- BS degree in Civil/Structural Engineering required; Master's degree preferred
- Professional Registration (PE or SE) required
- 10-15 years experience with all aspects of bridge engineering and design
- Proficiency with Microsoft Office Suite.
- Prefer knowledge of design software such as Lrsa or equivalent, LPile, PCA Column, Conspan. Knowledge of MathCAD, AutoCAD and/or Microstation

Keywords: Structural Engineer  
Apply Online:

<http://www.gojobs.com/seeker/aoframeset.asp?JobNum=544990&JBID=1404>  
Employer JobCode: 060089

## 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 to [bbresko@swensonsayfalet.com](mailto:bbresko@swensonsayfalet.com) or fax attention Blaze Bresko at 206 443-4870. No phone calls please.

## M.A. Wright, LLC



M.A. Wright, LLC, a Capitol Hill structural engineering firm specializing in existing buildings (evaluations, tenant improvements, seismic upgrades) is in need of a staff engineer. This is a permanent, full-time position with flexible work environment and benefits. Two to ten years of experience is desired. Salary - DOE. Please see our profile in this issue of Equilibrium.

Please reply to:  
[mike@mawright.com](mailto:mike@mawright.com)



## ENGINEER II - BRIDGE & STRUCTURAL DESIGN

Department of Transportation  
Road Services Division

Hourly Rate Range: \$27.66 (entry) - \$35.07 (top)

Job Announcement No:  
06SB5698

CLOSE: 4/21/06

The Engineer II position will support the Bridge & Structural Design Unit with project management, design,

review of plan, specification and estimates, bridge load ratings and bridge inspections. The Engineer II position will also perform structural design, analysis, and prepare plans, specification and estimates for bridges, walls, and other roadway structures under the direction of the Senior or Bridge Engineer. For complete job announcement and application instructions, visit <http://www.metrokc.gov/kcdot/jobs/> EEO.

## Rebuilding Together - from page 6

a house. Our home this year is located in the Central District, just off East Madison Street. Tasks include repairing a breezeway; rebuilding a deck; rehabilitating a stone walkway; painting the exterior; and debris removal. We will also need some help picking up materials, helping with lunch, and hauling household waste to the transfer station.

Breakfast, snacks, and lunch will be provided and each participant will be supplied with an official Rebuilding Together T-Shirt. Please contact James Le ([james.rebuildtogether@gmail.com](mailto:james.rebuildtogether@gmail.com)) by Friday, April 21st. We'd like a head count as early as possible to ensure we have enough T-shirts and refreshments.

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Participate in our expanding portfolio... DCI Engineers is a dynamic, team-oriented structural and civil engineering firm in downtown Bellevue. Our diverse project list ensures you will be working on exciting, high-profile and challenging projects. If you are a structural engineer or structural CAD designer with a desire to advance your career, please send your resume and cover letter to [HR@dc-engineers.com](mailto:HR@dc-engineers.com)

- Structural Project Manager with 6+ yrs
- Structural Engineers with 0 - 5+ yrs
- Structural CAD Designers

Visit our careers page at [www.dci-engineers.com](http://www.dci-engineers.com) for more details.

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Civil Engineers  
Structural Engineers  
Drainage Engineers  
Project Managers

DMJM Harris offers an excellent salary and benefits package including - 401(k), Stock Purchase Program, Health, Life, Dental, Tuition Reimbursement, Career Advancement Opportunities, Savings Plans, Referral Bonuses and more. This is an excellent opportunity to advance your career through involvement in a variety of assignments on a wide array of challenging and rewarding high-profile projects

DMJM Harris is an Equal Opportunity Employer.

Please forward resumes to our Corporate Recruiter:  
[Pam.hoebener@dmjmharris.com](mailto:Pam.hoebener@dmjmharris.com)

Visit our website at [www.dmjmharris.com](http://www.dmjmharris.com)



**STRUCTURAL ENGINEERS ASSOCIATION  
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**Committees & Chairs**

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Code Advisory	John Tawressey	Legislation	Robert Bourdages	Professional Practices	Bob Morrison
Exam Liaison	Ed Huston	Wind Engineering	Don Scott	Emergency Prep	Dave Swanson
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## Calendar

### SEAW & Related Organizations' Events

- Apr 19** Seattle Chapter Board Meeting 3:00 PM  
Dinner Meeting: Seattle and SW Chapter joint meeting hosted by SW Chapter
- May 9** ACI Anchorage to Concrete [www.concreteseminars.com](http://www.concreteseminars.com)
- May 19** SEAW State Board of Trustees Meeting—12:00 noon, College Club of Seattle
- May 20** Building Engineering Committee Meeting  
Philip Brazil, chair 425/741-3800, [pbrazil@reidmidd.com](mailto:pbrazil@reidmidd.com)
- May 20** ASCE Geotech Group: Soft Ground Engineering Seminar.  
[www.seattlegeotech.org](http://www.seattlegeotech.org)
- May 23** Annual SEAW Life Member & Spouse meeting
- May 27** YMF Meeting: for info contact Mark Pierepiekarz at 425/430-0500, [mrp@mrpengineering.com](mailto:mrp@mrpengineering.com) or Andrew McGlenn, 206/682-0081, [mcglenn@jacobssf.com](mailto:mcglenn@jacobssf.com)
- June 27** Seattle Chapter Board Meeting, noon, College Club
- July 20-23** SEA Northwest Conference: Skamania Lodge, Stevenson WA. Save the dates and plan to attend!

## Membership

### APPLICATIONS FOR MEMBERSHIP

- |   |  |
|---|--|
| <p><b>Julene Esvelt</b><br/>I.L. Gross Structural Engineers<br/>BS '98, MS '99, Washington State University<br/>Licensed SE, Washington<br/>Class: MEMBER</p> | <p><b>Timothy Ulmen</b><br/>PAO Structural Engineering Inc<br/>BSCCE 2002, Seattle University<br/>Class: Associate</p> |
|---|--|

### APPLICATIONS ACCEPTED

- Reinstatement:**  
Sandro Kodama, MEMBER

**SEA NW Conference**  
July 20 - 22, 2006  
Skamania Lodge

Hosted by  
**SEA of Oregon**

See preliminary announcement  
on the SEAW Website  
[www.seaw.org](http://www.seaw.org)

*Engineering in the Land of Earth, Wind, and Ice*