



CONNECTIONS

October 2013 Volume 14 Issue 2

Newsletter of the
Structural Engineers
Association of Oregon

SEAO
9220 SW Barbur Blvd.
No. 119
PMB #336
Portland, OR 97219

Phone: (503) 753-3075
Fax: (503) 214-8142
E-Mail: jane@seao.org

Web site: www.seao.org



Upcoming SEAO Meetings and Events:

Wednesday, October 30, 2013: SEAO Lunch Meeting

Topic: Glass 101: Background Design Theory, Design Thought Process

Speaker: Andrea Hektor, KPFF Consulting Engineers

Location: Governor Hotel, Second Floor, Portland, Oregon

PDH Credit: 1 hour

Time: 11:30 am check-in & social, 12:00 pm lunch & program

See page 3 for more information.

See page 7 for sponsor information.

October Meeting Sponsor:



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Thursday, October 17, 2013: SEAO YMF Happy Hour

Location: Rogue Hall, 1717 SW Park Avenue, Portland, Oregon

Time: 5:30 pm to 7:30 pm

See page 5 for more information on YMF events and contacts.

Thursday, November 7, 2013: SEAO YMF Lunch Meeting

Location: KPFF Consulting Engineers, 111 SW 5th Ave, 26th Floor Conference Room, Portland, Oregon

Time: 12:00 pm to 1:00 pm

See page 5 for more information on YMF events and contacts.

Tuesday, November 12, 2013: SEAO Fall Seminar

Topic: ASCE 41-13: The New Standard for Evaluation **AND** Retrofit

Speaker: Robert Pekelnicky, SE, Degenkolb Engineers

Location: Abernethy Center, Oregon City, Oregon

PDH Credit: 8 hours

Time: Registration opens at 7:30 am, Seminar from 8:30 am to 4:30 pm

See pages 10 and 11 for seminar information and registration form.

Thursday, November 21, 2013: SEAO YMF Happy Hour

Location: To Be Determined but Save the Date

Time: 5:30 pm to 7:30 pm

See page 5 for more information on YMF events and contacts.

CONNECTIONS is a monthly publication of the Structural Engineers Association of Oregon, published to disseminate current news to our membership and others involved in the profession of structural engineering. The opinions expressed reflect those of the author and, except where noted, do not represent a position of SEAO.

Send membership inquiries to:
9220 SW Barbur Blvd.
No. 119
PMB #336
Portland, OR 97219

BOARD OF DIRECTORS

President

Amit Kumar
Bureau of Development Services
City of Portland
503.823.7561
amit.kumar@portlandoregon.gov

Vice President

Jennifer Eggers
KPFF Consulting Engineers
Ph: 503.227.3251
jennifer.eggers@kpff.com

Secretary

Dominic Matteri
Kramer Gehlen & Associates
Ph: 503.693.1621
dominicm@kga.com

Treasurer

Shelly Duquette
City of Portland
Ph: 503.823.4961
shelly.duquette@portlandoregon.gov

Director

Mike Bair
Weyerhaeuser
Ph: 503.853-4638
mike.bair@weyerhaeuser.com

Director

Jason Thompson
Catena Consulting Engineers
Ph: 503.467.4980
jason@catenaengineers.com

Past President

Aaron Burkhardt
KPFF Consulting Engineers
Ph: 503.227.3251
aaron.burkhardt@kpff.com

Executive Secretary

Jane Ellsworth
SEAO Staff
Ph: 503.753.3075
Fax: 503.214.8142
jane@seao.org

PRESIDENT'S MESSAGE: A NEW SEASON

By: Amit Kumar, P.E.



As the new board takes over the reins of SEAO, on behalf of the Board I would like to thank the membership for providing us the opportunity to serve. I would be remiss if I did not recognize and thank some of the outgoing members who have contributed to SEAO with an extraordinary sense of commitment. Ed

Quesenberry retired from the board after serving three years on the board as Vice-President, President and Past President. Although retired from the board, Ed continues to serve as SEAO's delegate to NCSEA, the Western States Council, and the Northwest Council. Thank you Ed, for your dedicated service. Don Ellsworth left the board after being on the board for two years as Director. Thank you Don, for your wise counsel and your commitment to SEAO. I would also like to thank my predecessor, Aaron for his leadership last year at the helm of SEAO and his continued service on the board as the Past-President. Before serving on the board, Aaron was instrumental in the development and implementation of the effort to redesign our website. The website you see now with all the bells and whistles is largely due to Aaron's effort. Thank you for your commitment to SEAO.

Over the coming year, we would like to recognize members who dedicate and selflessly contribute to SEAO's cause, please get involved and help in any way you can.

As I look forward to the year ahead, one of my main priorities will be to get the general membership more involved in SEAO's activities and increase member participation. Towards that end and to encourage your participation, we are going to be raffling a two-day fully guided fishing trip on the Rogue River courtesy of Mike Bair, SEAO board member and Director. Every time you attend the monthly SEAO dinner/lunch meeting or a seminar you will be entered into a drawing that will be held at the end of the year. The more meetings and seminars you attend the more chances you have to win. Believe me, this is an experience you do not want to miss and will cherish whether you are an avid fisherman or a novice. So start by registering for this month's lunch meeting.

The meeting this month promises to be both exciting and informative. We have all seen and marveled at the magnificent glass structures, especially in Europe and Australia, but have been afraid to use glass as a structural material. Andrea Hektor in her talk will give us some insight into glass properties, design and analysis. Given some of the projects that seem to be coming to Portland like the new Apple store, where glass is a predominant structural material, this appears to be a timely topic for discussion and will generate new interest in this field. Do not miss this opportunity to learn

about some of the key principles in designing with glass. Monthly dinner/lunch meetings and bi-annual seminars are perhaps one of the most tangible benefits of being a member of SEAO. We on the Board would like your input and feedback on how SEAO could better support our members and our profession and what additional services and programs we can provide to better serve you--the members. We appreciate your ideas and suggestions on additional programs.

A few of the priorities I would like to focus on in the coming year are:

1. Explore ways to provide members more opportunities to be involved in the profession. The Structural Engineers Associations in California are very active in the code development, research and developing position papers. It would be nice if our members were afforded similar opportunities. We will try to explore ways to work collaboratively with SEA's in California and maybe partner with them.
2. I would also like our SEER committee to develop an emergency response plan, work with jurisdictions in Oregon and neighboring states, and establish a protocol on how SEAO could offer structural engineering services in the event of a catastrophic event.
3. Our YMF committee was perhaps the most active committee last year. I would like to commend them on their efforts and encourage them to continue to expand their activities.
4. Complete negotiations with the State of Oregon, publish new snow load maps, and launch the interactive lookup maps on SEAO's website. A lot of effort has been expended on this project and we are in the final stages of completion. We will make every effort to make the snow load maps and manual available for use as soon as possible.

Lastly, I would like to end on another programming note. In November, SEAO is organizing a seminar on the new ASCE 41-13 standard for evaluation and retrofitting of existing buildings. This standard is a combination of the old ASCE-31 and ASCE-41. In my interaction with several of you, it is apparent to me that there is a lot of apprehension about the use of ASCE 31 and 41. For projects within the City of Portland, we are encouraging engineers to use ASCE 31 and 41 for seismic upgrades of existing buildings. Many of you have asked for assistance in use of these documents so I hope this seminar, which will be conducted by one of the authors of this standard, will be useful and will help dispel apprehension associated with this standard. Details are attached with this newsletter.

Enjoy the start of Fall and here is hoping for a fruitful year ahead.

SEAO Committees

Seismic

Jason Thompson
Jason@catena.com

Wind

Jim Riemenschneider
jimr@vlmk.com

Snow Load

Andy Stember
andy@jasenginc.com

Code

Eric Watson
eric@millers-se.com

Vintage Building

Wade Younie
wyounie@dc-engineers.com

Special Inspection

Ray Miller
ray@millers-se.com

SEER

Shelly Duquette
emergencyresponse@seao.org

Website

Aaron Stoeck
Aaron.stoeck@kpff.com

Legislative

Paul Kluvers
pkluvers@gmail.com

Engineers Week

Michelle Chavez
michelle@millers-se.com

Young Member Forum

Seth Thomas & Phil Davis
setht@wrkengrs.com
davisphillipm@gmail.com

Monthly Meetings/Programs

David Gilroy
dgilroy@strongtie.com

Golf Tournament

Conferences

Kevin McCormick
kevin@millers-se.com

Seminars

Andy Stember
andy@jasenginc.com

Professional Development

Newsletter

JoMarie Farrell
jomarie@equilibriumllc.com

Roster

Jane Ellsworth
jane@seao.org

NCSEA

Ed Quesenberry
edq@equilibriumllc.com

WCSEA/NWC

Ed Quesenberry
edq@equilibriumllc.com

Maser, OBOA, BDS

Ron Vandehey
ron@millers-se.com

OCTOBER LUNCH MEETING ANNOUNCEMENT

WEDNESDAY, OCTOBER 30, 2013

Meeting Sponsor: Trus Joist Engineered Wood Products

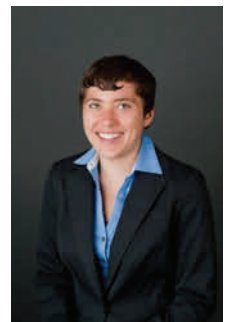
Topic: Glass 101, Background Design Theory, Design Thought Process

Glass is a unique material from a design standpoint and is not commonly covered in university courses in the US. Additionally, there is very little printed material that provides solid design guidance. Despite this there has been a trend towards more opacity in architecture both nationally and internationally, and there is immense opportunity for design of unique structures- small or large- made of glass.

This seminar will help familiarize engineers with the underlying concepts of glass as a structural material and the basics of glass design. Because it is a brittle material and subject to spontaneous failures that may not be related to imposed stresses, glass design requires an additional thought process related to redundancy and post-breakage behavior that is not required by other materials. The design process as outlined in ASTM E1300 is also somewhat vague and does not provide appropriate guidance when designing elements more complicated than a standard window pane. Following this meeting, attendees should have a basic understanding of glass as structural material.

Speaker: Andrea Hektor, PE, SE, Associate at KPFF Consulting Engineers

Andrea Hektor joined KPFF in 2006 after earning both her bachelor's and master's degree in engineering from Cornell University. Over her 7 years at KPFF, she has worked on a wide variety of projects, from mixed-use towers in Portland's South Waterfront to seismic retrofits of historic buildings, educational facilities and visual arts centers. She was recently named an Associate at KPFF.



Andrea enjoys the challenge of finding structural solutions that allow architectural concepts to be realized in finished buildings. She has led the analysis and design of the elegant poured concrete façade of the Clyfford Still Museum in Denver, CO; the glass tension wall of the New Court Building in Long Beach, CA; and the seismic retrofit of a 1915 Federal Building as the new home for Pacific Northwest College of Art.

She has a particular interest in unique and non-typical structures. KPFF's work with Benson Industries as engineer of record has expanded to include not just standard aluminum mullion design, but design of glass fin wall structures and structural calculations for atypical glass pane support conditions. Given the lack of both code resources and readily available educational materials related to engineering of glass, Andrea attended the 2013 Glass Performance Days Conference to gain a more in-depth understanding of structural glass. Included in the program was a two-day course on glass as a structural material and glass design. Since returning from the conference, Andrea has endeavored to share this information with other engineers and to present the possibilities for use of structural glass with architects.

Location and Times:

Governor Hotel, 2nd Floor, 614 SW 11th Avenue, Portland, OR

The MAX Light Rail System stops just a block away from the hotel (The Galleria stop) and Portland's Streetcar stops right outside the hotel. Smart Park is located at SW 10th and Yamhill about two blocks from the hotel.

Check-in & Social: 11:30 am Lunch & Program: 12:00 pm

Cost: Lunch and Program

\$32 — Prepaid Members
\$40 — Prepaid Non-Members
\$18 — Students

Reservations:

Pre-registration is required. You can register and pay online at www.seao.org before 11 am, Friday, October 25. You can also register with Jane Ellsworth via phone at (503)753-3075 or via Email: jane@seao.org. Note: No-shows will be billed.

PDH Credit: One PDH has been recommended for this program.

Meeting Proudly Sponsored by:



SEPTEMBER MEETING PROGRAM RECAP

PORTLAND-MILWAUKIE LIGHT RAIL TRANSIT PROJECT & WILLAMETTE RIVER CROSSING

Summary By: David Tarries, P.E.

Speakers: Robert Barnard, Trimet Director Portland-Milwaukie LRT Project & Ralph Salamie, Project Sponsor for Kiewit Infrastructure West

Overview:

Robert Barnard is the Trimet Director for the Portland-Milwaukie LRT Project. He has worked at the Portland Department of Transportation for 15 years before directing this project and prior to that he worked at ZGF Architects. He has degrees in architecture, construction management, and architectural studies. While with PDOT he worked on projects like the Aerial Tram and Lloyd District transportation improvements.

Ralph Salamie is a project manager with Kiewit Infrastructure West Company and has previously worked with the American Segmental Bridge Institute.

The Portland-Milwaukie LRT is a 7.3 mile light rail extension from PSU to Park Avenue in Clackamas County. The project has 10 stations, 2 park and ride structures, and 10 elevated structures with a new bridge over the Willamette being the most visible and critical. It passes through the South Waterfront and the Central East Side Industrial Districts where it crosses the Willamette River. The project crosses the river between the Markham and Ross Island bridges and is the first new bridge over the Willamette in 40 years. The new structure will accommodate light rail, buses, cyclists, and pedestrians, but will be closed to vehicular traffic. It will have stations on both sides of the river at OHSU and at OMSI with access to greenways along the river for pedestrians and cyclists. The project will open on September 12, 2015.

An extension of the current light rail system into Portland's Southeast has been discussed for over 20 years. This new project is the result of effectively collecting funding from donors and local jurisdictions and pushing for a solution. Southeast Portland has a high ridership and Trimet has worked hard to expand MAX service from the area to the downtown hub. The project currently under construction is about half way through the schedule as well as the budget. As of August 2013 the project had expended \$39.6 million of the \$1.16 billion committed to it.

The project will bring employment to the region both now and in the future. Currently 454 firms worked on design and construction including 119 Disadvantaged Business Enterprises (DBE's). It is estimated that 14,500 jobs will be created by creation of the new line. In the future the line's presence will spur redevelopment and growth in areas adjacent to the line. Two of the largest benefactors of the line will be the South Waterfront, the Central East Side Industrial Districts. At grade stops in those locations will provide easy access to OHSU and the aerial tram, OMSI,

the Portland Opera, and the Oregon Rail Heritage Foundation. Creation of the line is a critical part of their plans to expand into the areas along the banks of the Willamette. In addition, the bridge will provide access to popular pedestrian and cycling paths along the east and west sides of the river.

Willamette River Crossing:



A key to the success of this project is the crossing at the Willamette River. The first step to completing the project was to determine where the bridge should go. The preliminary design team looked at existing bridges in the area and decided they were already congested and not good candidates for a new light rail line. Building a new bridge required a good location. Criteria for the new site were influenced greatly by how much a new rail line would spur development. In the end, the areas near OHSU and OMSI were selected as the best areas for the new bridge. The alignment needed to have at grade stations on each end in order to maximize the effect of the project in revitalizing the areas and providing easy access on and off the line.

The next step following site selection was determining the bridge style to be used. The crossing had height and width requirements and the structure needed to fit with the regional architecture. The team focused on delivering a bridge that is aesthetic, functional, and affordable. A viable solution had to meet all of these criteria. The bridge needed to be high enough for river traffic, primarily barges and the Portland Spirit at this location on the Willamette. It needed to have a main span wider than other bridges in the area to accommodate the merger of the Holgate Slough channel into the Willamette River channel at Ross Island. It needed to have a way for pedestrians and cyclists to get over the river, in addition to trains and buses, while meeting ADA grade requirements and still maintaining stations at grade on either bank. Combine this with river depth near the banks for pier placement, erosion and wild life habitat concerns on the banks, and even environmental contamination concerns near Zidell Marine on the west bank, and the pier locations were quite limited. Each bridge type has optimal span lengths controlling pier placement. The stipulations on pier placement at this site helped to reduce the number of bridge types that were available for the crossing. In the end a cable stayed bridge was selected as the most favorable solution capable of meeting all the requirements.

(Continued on Page 9)

YOUNG MEMBER FORUM ACTIVITIES

By: Phil Davis & Seth Thomas

Thursday, October 17th: Happy Hour at the Rogue Hall, 1717 SW Park Avenue, Portland, Oregon. From 5:30 to 7:30 pm. Bring a friend, coworker, or both and enjoy a beer and some food while getting to know some other young professionals in our area.

Thursday, November 7th: YMF Lunch Meeting at KPFF Consulting Engineers, 111 SW 5th Avenue, 26th Floor Conference Room. From noon to 1:00 pm. Join us for our bi-monthly lunch meeting to discuss future events and activities. This is a great way to get involved.

Thursday, November 21st: Happy Hour. Location to be determined. From 5:30 pm to 7:30 pm. Save the date.

SEAO YMF Education Outreach Needs Your Help!

Last year the YMF gave presentations on structural engineering to 34 classrooms reaching over 1,000 middle school and high school students in the Portland area. This year we want to go even bigger, but we need your help. Our goal this year is 1,500 students which means we need to find more schools and teachers to go visit. If you know of a middle school or high school teacher who is interested in having a couple of YMF members come to their class and give a short presentation about what structural engineering is and what we do and follow the presentation up with a fun activity let us know. Interested teachers should contact Seth Thomas at (setht@wrkengrs.com).

YMF Website Info: YMF now has an updated website and the address is <http://www.seao.org/committees/youngmembers/>. Please visit our website for more information on YMF events and information.

CHANGES TO SEAO BY-LAWS

SEAO's by-laws require that any proposed changes be presented to the membership at least one month prior to the vote. The Board of Directors has voted to put several changes before the membership to be voted on in October. Jane Ellsworth has copies available for your information. You can contact Jane at 503.753.3075 or email her at jane@seao.org.

Please read the changes as you will be asked to vote on these changes when you receive your dues notice in October.

NEW LIFE MEMBER PAUL KLUVERS, PE, SE

Paul Kluvers, PE, SE

Vice President/General Manager, Cascade Design Professionals (a division of Cooper Zietz Engineers)



While some people find their way into the engineering profession accidentally, Paul was born into it, with an engineer for a father and an architect for a grandfather. It also became evident that a curiosity for the way things work, and a care about how people interact with nature, would serve him well in working with design teams and clients. The culmination of that curiosity and care would be especially noted in the opportunities he's had to work with various Native American tribes and groups, which make up a significant part of his 30-plus years of experience.

Paul began his career in engineering as a draftsman for Frank Honey and Associates in 1972, while he attended classes at Portland State University. Over the years and with several consulting firms in the Portland area, he has expanded his skills into design and project management, eventually focusing on projects involving water, wastewater, transit, dams and fisheries throughout the western United States. He has been with Cascade Design since 2003, after a short stint as Assistant Chief Engineer for the Oregon Department of Fish and Wildlife.

Paul's involvement in SEAO began in 1980, serving as Treasurer, Vice President, and President (1999-2000). He has been active in several committees, and was part of the legislative effort in 2000 on behalf of the Structural Engineers Bill. Paul graduated from Portland State with a BS in Structural Engineering and is licensed as a Structural Engineer and Civil Engineer in Oregon and four other states. Paul is also a member of the American Society of Civil Engineers.

Besides the engineering profession, Paul's passions also include photography and travel, which have included several trips to Europe, as well as Africa and Mexico. Paul is also an avid writer, expanding his repertoire from technical reports and proposals into poetry and essays. He is currently working on a novel about his family's experiences during World War II in Holland.

Paul has two adult children. His daughter Kristin is a sales rep for a wine importer, and son David is a web developer.



Photo taken in 1975, when Paul became a US citizen.



Paul Kluvers with Life Member Award at September Dinner Meeting, joined by Fellow SEAO Member Lauren Thomas (left) and Guest Karen Morgan (right)

Congratulations, Paul. SEAO wanted to show their appreciation of all your efforts past, present and future by bestowing the title of Life Member upon you at the September dinner meeting. Thank you, Paul, for all you do for the benefit of the membership and the profession.

EMPLOYMENT OPPORTUNITIES

STRUCTURAL ENGINEERS

- New Zealand locations
- Work on high profile projects
- Learn from the experts
- Award winning consultancy

Holmes Group Limited is an internationally recognized company based in New Zealand, Australia and California. Their New Zealand based structural and civil engineering consulting firm, Holmes Consulting Group, is looking for structural design engineers experienced in seismic design and retrofit for their Christchurch office; however, other New Zealand locations will also be considered.

Your work will be diverse, design based, client facing and include all aspects of a "consulting" service. You will be involved with assessing, strengthening and retrofitting existing buildings as well as designing new structures. It is an exciting time for those passionate about buildings and design.

We are looking for people with 8 years+ design experience, with a PE, for permanent positions.

If you are interested and have the appropriate qualifications and experience, then please send as one pdf document cover letter and resume to hcg-hr@holmesculley.com.

STRUCTURAL ENGINEER

VLMK Consulting Engineers is seeking a structural engineer with 3 to 7 years of relevant experience in the design of wood, concrete, masonry, and steel structures. Candidate must have excellent communication skills and be proficient in AutoCAD with BIM/Revit experience preferred. VLMK offers competitive salaries, excellent benefits, and profit sharing opportunities. If you'd like to know more, please submit a resume to am-yt@vlmk.com.

SEISMIC EVENTS

ASCE Webinars (www.asce.org)

Friday November 1, 2013, 8:30 to 10:00 AM PST.
Design of Masonry Shear Walls.

Wednesday November 6, 2013, 9:00 to 10:00 AM PST.
Seismic Assessment and Design of Sewers.

NEES Webinar (<http://nees.org>)

Thursday October 31, 2013, 12:00 – 1:30 PM PST. Research to Practice Webinar: Use of Deep Soil Mixing to Enhance Pile Lateral Resistance.

AISC Seminar (www.aisc.org)

Thursday November 7, 2013, Portland, OR (Location TBD).
Seismic Design Manual and Application of the 2010 AISC Seismic Provisions.

OCTOBER MEETING SPONSOR INFORMATION



Trus Joist™ brand Engineered Wood Products are manufactured by Weyerhaeuser and include TJI® joists, Microllam® LVL, Parallam®, and TimberStrand® LSL products. Mike Bair, a newly-elected SEA0 board member, is the local Trus Joist™ Technical Representative and has carried that role through several business name changes since he began in 1988 (i.e. Trus Joist MacMillan, Trus Joist a Weyerhaeuser Business, iLevel, and now Weyerhaeuser/Trus Joist EWP). Come on by his table at the October meeting and see what's new.

CHANGE TYPE: Addition

CHANGE SUMMARY: A new section, definition and notation for ice loads on ice sensitive structures have been added to the International Building Code in order to provide consistency with ASCE 7-10.

2012 CODE: 202 Definitions.

ICE-SENSITIVE STRUCTURE A structure for which the effect of an atmospheric ice load governs the design of a structure or portion thereof. This includes, but is not limited to, lattice structures, guyed masts, overhead lines, light suspension and cable-stayed bridges, aerial cable systems (e.g., for ski lifts or logging operations), amusement rides, open catwalks and platforms, flagpoles and signs.

1602 Definitions and Notations

D_i = Weight of ice in accordance with Chapter 10 of ASCE 7.

W_i = Wind-on-ice in accordance with Chapter 10 of ASCE 7.

SECTION 1614 ATMOSPHERIC ICE LOADS

1614.1 General. Ice-sensitive structures shall be designed for atmospheric ice loads in accordance with Chapter 10 of ASCE 7.

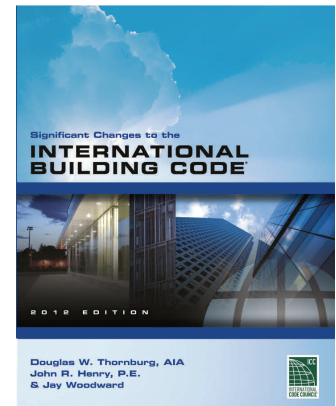
CHANGE SIGNIFICANCE: Section 10.1 of ASCE 7-10 requires atmospheric ice loads to be considered in the design of ice-sensitive structures. The term “ice-sensitive structure” is defined in Section 10.2 of ASCE 7-10 and this definition has been added to the IBC. Having the definition in the IBC provides the technical basis for determining which structures are ice-sensitive and are required to be designed for ice loads in accordance with the applicable provisions in ASCE 7-10. The new Section 1614 references Chapter 10 of ASCE 7-10 for the determination ice loads on these structures. The LRFD load combinations in Section 1605.2.2 and ASD load combinations in Section 1605.3.1.2 have been modified to include ice loads where applicable. Where atmospheric ice loads must be considered in the design, these code sections cross reference ASCE 7 Section 2.3.4 for LRFD and Section 2.4.3 for ASD respectively.

1614, 202

Atmospheric Ice Loads



Load combinations involving ice loads



This new code provision is from the Significant Changes to the International Building Code, 2012 edition, authored by John Henry, PE, Doug Thornburg, AIA and Jay Woodward. The book is available at iccsafe.org/store.

Use ID # 7024S12.

SEPTEMBER MEETING PROGRAM RECAP (CONT.)

PORTLAND-MILWAUKIE LIGHT RAIL TRANSIT PROJECT & WILLAMETTE RIVER CROSSING

The cable stayed design was refined to meet the needs of this project. The tower shapes, viewing platforms at the piers, the width of bike/pedestrian paths, and aesthetic lighting were all things that were important in determine the bridge layout.

Trimet worked with HNTB to determine the alignment of the new line and put together a proposal package for design build teams. Kiewit Infrastructure West Company won the contract with TY-Lin as the designer. They had the difficult task of determining how to construct this bridge considering all the special requirements, and additionally hindered by the construction window. The Willamette River has a 4 month open water construction window strictly required by state and federal authorities. If the window was missed the project would be delayed for a year until the river opened again. By the time construction started 34 permits needed were collected with just days to spare.

TriMet's requirements for the bridge were very specific for the design team. They had a vision of what they knew they wanted in terms of both use and aesthetics. The river clearance at high water had to be at least 175 feet, the bridge grade needed to meet ADA for pedestrians, at grade stations needed to be maintained at each end, in addition the height of the towers also had limits lower than typical cable stayed bridges. The final design has anchor blisters for the stays at the middle of the deck span that are recessed so the minimum mid-span clearance could be met. The bridge piers, and associated maximum span, are set in close proximity of the project navigation limits to reduce the span and help with deflection and the effects of having the shortened pier towers. The contractor was able to realize a cost savings by engineering smaller piers than the RFP that are still fully capable of supporting all applicable loads. These loads also included stabilization of soil at the river banks. The foundation piles were designed to resist soil lateral load from the river banks during an event so that the bridge itself would not be damaged and only the approaches would need to be repaired.

Cofferdams were installed at the pier locations so displacement piles could be oscillated in place. As an example of site specific design and construction complications, all fish trapped after placement of the cofferdams had to be removed as part of the in water work permit acceptance requirements. Nearly 200 live fish were removed from the cofferdams on this project.

A slip form system was used to construct the lower towers at the piers and special deck formwork was used to avoid overstressing the smaller pier design with eccentric construction loads. After reaching the deck level, construction was broken into two shifts to maximize production. The day shift worked on the bridge deck construction and the night shift worked on the tower construction. This separation provided the safety of avoiding construction overhead on the tower while deck workers were below. Balanced cantilever deck construction is normally completed with an under-slung form traveler, but work on this bridge was completed using

a less expensive modified conventional traveler developed to avoid loading the deck and instead loading the bridge deck girders and avoiding the stay cables and blisters. Deck construction was completed in 16-foot segments with one on each side of each pier. After each section was completed the travelers were "lifted and shifted" to the next segment. The travelers typically support about 250 million pounds.

The stays were filled with grease to protect the cables from corrosion and allow for future replacement (after the 100 year life has expired). The cables were tensioned using the monostrand stressing system which is an isotension system that keeps tension in all strands the same. Each cable was routed over the towers through ducts at the tops instead of using terminations, which reduced the cost of the piers.

Conclusion:

Current construction on the project is proceeding on schedule. Ten of the twenty segments of the main span have been constructed and the approaches are well underway. Now that crews have had a chance to work through many of the challenges associated with the bridge the schedule for the rest of the structure is under a much smaller threat of delay. The spans are due to be complete during the summer of 2014, with rail alterations and aesthetic improvements, including 178 lights that will change color with water temperature, height, and speed, to continue for the following year. Portlanders will have a great vantage point to watch the completion of this significant addition to the cityscape so don't miss the chance to stop and take a look. The bridge and the Milwaukie MAX line will be open to the public in September of 2014. More information on the entire Portland-Milwaukie LRT Project can be found at <http://trimet.org/pm/index.htm>.

SEAO FALL SEMINAR

ASCE 41-13 Standard Seminar (Combines ASCE 31-03 and ASCE 41-06)

Presented by the Structural Engineers Association of Oregon (SEAO)

Date: **Tuesday, November 12, 2013 – 8:30 AM to 4:30 PM**
Registration Opens at 7:30 AM (Lunch Included)

Cost: \$175 SEAO Member (Includes Class Notes) \$225 Non-member
\$25 Late Fee (if registration received after November 5, 2013)
Students \$55 (Includes Notes) – Must show current student ID
No refunds after noon Tuesday, November 5, 2013

Register early; Maximum 100 people

**Program to be Taped
by Limelight Video**

Location: **The Abernethy Center**
606 15th Street
Oregon City, Oregon 97045
(503) 722-9400

Continuing Education: SEAO has recommended this seminar for 6 PDHs (4 PDHs for Viewing Video)

Speaker: **Robert Pekelnicky, PE, SE, Degenkolb Engineers**

Bob specializes in making community and business infrastructure resilient against earthquakes, explosions, and other hazards. He is a recognized leader in the field of earthquake engineering and devotes a lot of his time to developing better performance based earthquake engineering methodologies, building codes and standards. Outside of his technical activities, Bob advocates for public policies that promote disaster resilient cities. He served as the vice-chair and secretariat for the standards update committee. His leadership was instrumental in this monumental combination of two standards into one and the 100 technical changes which were also made to the standard. He has recently been elected chair of that committee.

Summary:

The seminar details the new ASCE 41-13 standard, which is a combination of ASCE 31-03 and ASCE 41-06. The new standard provides a unified method for evaluating and retrofitting existing buildings for earthquakes and eliminates significant inconsistencies between the two previous standards. This presentation will act as an introduction to the new standard and a primer on its use. Attendees will learn about the underlying philosophy and history of the ASCE 31 and 41 standards. They will also learn how ASCE 41-13 eliminates inconsistencies between ASCE 31-03 and ASCE 41-06 and some of the 100 major technical changes that occurred in the standard.

Speaker is from the Structural Engineers Association of California (SEAOC)

Questions: Andy Stember (503) 657-9800

ASCE 41-13 Standard Seminar (Combines ASCE 31-03 and ASCE 41-06)

Registration Form

Register Online at www.seao.org or

Send to: SEAO
PO Box 2958
Vancouver, WA 98668
(503) 753-3075

Make Checks Payable to:
SEAO

(503) 214-8142 (fax) SEAO

Firm Name: _____

Firm Address: _____

Phone _____

Name of Attendee(s) _____

of Attendee(s) _____ @ \$175.00 / each = \$ _____
(Nonmember \$225.00)

of Late Fees _____ @ \$25.00 / each = \$ _____

of Students _____ @ \$55.00 / each = \$ _____

of Videos _____ @ \$150.00 / each = \$ _____

_____ @ \$ / each = \$ _____

Total Enclosed = \$ _____

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