

Newsletter of the Structural Engineers Association of Oregon

SEAO

9220 SW Barbur Blvd. No. 119 PMB #336 Portland, OR 97219 Phone: (503) 753-3075 E-Mail: jane@seao.org Website: www.seao.org

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Linked in

SEAO has a LinkedIn account and can be followed at <u>SEAO</u> <u>LinkedIn Page</u>.

CONNECTIONS

September 2023 Volume 23 Issue 1

Upcoming SEAO Meetings and Events:

September 14— September 15, 2023: SEA NW Conference Location: Hilton Bellevue, 300 112th Avenue SE, Bellevue, WA See Pages 7 and 13 through 15 for more information

Thursday, September 21, 2023: NWCMA Structural Masonry Design Seminar

Topic: Focus on 2021 IBC Chapter 21 and Material Standard TMS 402/602 Speakers: Ed Huston, Lane Jobe, Steve Hawk, John Hochwalt, and Adam Hutchinson Time: 7:20 am Check-in, 8:00 am to 4:30 pm Seminar Location: Crowne Plaza Portland-Lake Oswego, 14811 Kruse Oaks Drive, Lake Oswego, OR Cost: \$275 Register before September 7, \$315 Register after September 7. PDH: 8 Hours See Pages 5, 11 & 12 for additional information.

Tuesday, October 10, 2023: SEAO Chapter Lunch Meeting

Topic: OSU Cascades Academic Building 2 (AB2) & Installation of New Board for 2023-2024 Speaker: Catena Consulting Engineers Location: TBD Time: 11:30 am Check-in/Lunch Buffet; Noon-1 pm Program & Board Installation See Page 4 for new Board.

Thursday, October 12, 2023: OrSAP/ATC 20/45 Training

Location: Embassy Suites at Washington Square, 9000 SW Washington Square Road, Tigard, OR Speakers: Chris Wong, PE, SE, City of Hillsboro & David Tarries, PE, SE, City of Portland Time: Check-in at 7:30 am; Training from 8:30 am to 4:30 pm Cost: \$175; PDH: 6 Hours See Pages 6, 16, and 17 for more information

November 7— November 10, 2023: NCSEA Structural Engineering Summit

Location: Disneyland Hotel, Anaheim, CA See Page 3 for more information

Tuesday, November 14, 2023: SEAO Chapter Lunch Meeting (SAVE THE DATE)

Topic: Hartwood & SEAOSF Awardee Announcement Speaker: TBD; Location: TBD Time: 11:30 am Check-in/Lunch Buffet; Noon-1 pm Program

Tuesday, January 16, 2023: SEAO Chapter Lunch Meeting (SAVE THE DATE) Time: 11:30 am Check-in/Lunch Buffet; Noon-1 pm Program

Tuesday, February 13, 2024: SEAO Structural Engineering Awards Banquet See page 8 for more information. 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 2022/2023

President *Peder Golberg* James G. Pierson, Inc. Ph: 503.226.1286 peder@jgpierson.com

Vice President Jared Lewis catena consulting engineers Ph: 503.467.4980 jared@catenaengineers.com

Secretary *Christopher Carroll* SSOE Group Ph: 1.360.440.1071

Treasurer *Kylean Gunhus* Miller Consulting Engineers Ph: 503.246.1250 kylean@miller-se.com

Director Nisarg Mehta DCI Engineers, Inc. Ph: 503.242.2448 nmehta@dci-engineers.com

Director Sarah Johnson Akana Ph: 503.440.9368 sarah@mstructural.com

Past President David Linton Mackenzie Ph: 503.224.9560 dlinton@mcknze.com

Executive Secretary Jane Ellsworth SEAO Staff Ph: 503.753.3075 jane@seao.org



SEAO Members:

First, I want to say that I am amazed at how fast the year and my term flew by. I am now poised to move into the role of Past-Present and get the honor of welcoming our new 2023/2024 board at the end of our September board meeting. Jared Lewis will take over as President (moving up from V.P.); Christopher Carroll is our new Vice President; Nisarg Mehta will be Secretary; Kylean Gunhus is staying for his 2nd session as Treasurer; and Sarah Johnson for her 2nd session as one of the two Directors. Our new 2nd Director, whom I get to wel-

come to the board, is Elyssa Adams; and, of course, Jane Ellsworth, who remains in the role of our Executive Secretary, who had the task of helping me out all year-long steering the ship. This is also my last chance as president to thank JoMarie Farrell who can't get enough accolades for her time she puts into collecting all our information, creating, and then sending out our newsletters. I also wish David Linton, my term's past-president, thanks for his time spent on the board the past 3 years and assistance he provided during my time at the helm.

Looking back, I desired to accomplish during my term being able to feature and promote the education and knowledge that our own committees have to offer to our members. The other challenge I tried to tackle was being able to return our organization to a new normal, post pandemic, and bring back some of the old traditions. I had some successes and some disappointments in these goals. I do understand that virtual meetings and online seminars are here for good but having periodic inperson meetings, seminars, trade shows, plus some face-to-face social interaction needs to happen as part of developing a well-rounded engineer.

The board is still looking for some topics for future chapter meetings in 2024. We would invite any member to recommend a topic (or speaker) that would include a presentation of an interesting project, lesson learned, or any engineering related subject. We want to start next year's board off with a year full of interesting topics and get the yearly calendar of meetings finalized.

Peder

SEAO COMMITTEES

CODE ADVISORY COMMITTEE Seismic

Jonathan Knudtsen jknudtsen@wje.com

Wind OPEN CHAIR

Snow Load Andy Stember andy@jasenginc.com

Code *Eric Watson* eric@miller-se.com

Vintage Building Jennifer Eggers jennifer.eggers@holmesstructures.com

Special Inspections *Eric Watson* eric@miller-se.com

Mass Timber Eric McDonnell eric.mcdonnell@holmesstructures.com

Sustainability *Jo Ann Offill* joffill@mcknze.com

STRUCTURAL ENGINEERS EMERGENCY RESPONSE (SEER) David Tarries David.tarries@portlandoregon.gov

PROGRAM COMMITTEE Awards

Brynn Adkins badkins@tmrippey.com

Golf Tournament OPEN CHAIR

Conferences *Kevin McCormick* kevin@miller-se.com

ADVOCACY COMMITTEE Website Seth Thomas seth.thomas@kpff.com

Engineers Week *Michelle Juarez* michelle@miller-se.com

Young Member Forum *Eric Esqueda & Emma Olds* YMF.seao@gmail.com

SE3 Annabel Shephard shep.annabel@gmail.com

CONTINUING EDUCATION <u>COMMITTEE</u> Seminars *Andy Stember* andy@jasenginc.com

<u>MEMBERSHIP COMMITTEE</u> Newsletter *JoMarie Farrell* jomarie@equilibriumllc.com

Roster Jane Ellsworth jane@seao.org

DELEGATES

NCSEA & WCSEA/NWC David Linton dlinton@mcknze.com

Seth Thomas (Alternate) seth.thomas@kpff.com

NCSEA STRUCTURAL ENGINEERING SUMMIT NOVEMBER 7-10, 2023 HTTPS://WWW.NCSEASUMMIT.COM



This year's summit is being held at the happiest place on earth to network and learn with the happiest engineers around. Interact with and learn from leaders in the field, curious problem solvers, and expert speakers. Stay current on advancements and best practices in structural engineering and building and design codes—in education sessions and in the Exhibit Hall. Discuss technical, business, and industry challenges—and work toward solutions in a collaborative community. Build your business and leadership skills. Reconnect and network with those in your professional community.

Program Overview: Programming is focused on structural engineering content for both technical and non-technical practitioners and offers up to 14.5 hours of professional development. Specific content areas include best design practices, new codes and standards, recent project case studies, advanced analysis techniques, management and business practices, diversity and inclusion, resilience, and sustainability.

Venue & Local Information: Delight in this sleek, ultra-modern hotel that pays homage in sight and sound to the original lands of Disneyland Park. Stay in the Adventure, Fantasy or Frontier tower—and be surrounded by the wonder of Disneyland past and present. Check back soon for detailed information on room reservations, along with restaurant recommendations and fun places to explore, all within walking distance.

Awards Celebration: Each year, the NCSEA Awards Celebration spotlights the ingenuity, creativity, innovation, leadership, and service in the structural engineering world. Held on Thursday evening at this year's Summit, the celebration includes a reception, awards presentation, and after-party with food, drinks, and entertainment, along with opportunities to network with award winners and attendees. It is sure to be a memorable evening!

Exhibit Hall: Visit the largest structural engineering focused Exhibit Hall in the industry and discover countless solutions and resources to help you through your everyday challenges. Connect with industry partners. Learn about their products, services, innovations, and updates. All in a festive and interactive environment catered to you—the practicing structural engineer.

Registration: Visit <u>https://www.ncseasummit.com/registration2023</u> to register and reserve your room.

Schedule: Visit https://www.ncseasummit.com/program2023.

2023-2024 SEAO BOARD

The following members have been elected to this year's Board and will be installed at the October Chapter meeting:

President: Jared Lewis, Catena Engineers

With 24 years of structural engineering experience, Jared Lewis is a Principal at catena consulting engineers. His experience includes the design of and seismic renovations to buildings in the healthcare, higher education, and commercial office sectors. He is a SEAO



member since 1997, and has worked on the following committees of SEAO: Vintage Building Committee Member since 2004; Mass Timber Committee; and Ad Hoc Committee on sustainable concrete mix design. Born and raised in Oregon, Jared earned a BS in Civil Engineering and an MS in Civil Engineering from Portland State University.

Vice President: Christopher Carroll, SSOE Group



Christopher obtained his bachelor's degree in Civil Engineering from Portland State where he was the vice president of the university's branch of the ASCE. He formerly worked at Mackenzie in the structural engineering department primarily focusing on the industrial and high-tech markets. He recently joined SSOE Group. He has four

years of experience in the structural engineering field and hopes to use his time with SEAO to give back to the engineering community.

Secretary: Nisarg Mehta, DCI Engineers

Nisarg joined DCI Engineers' Portland office in 2018 after completing his Master's Degree in Civil Engineering at the UCLA. As a Senior Project Engineer at DCI, he works primarily on concrete and steel-modular mid-rise to high-rise buildings, with projects ranging from residential to commer-



cial and hospitality markets. Nisarg has over 5 years of experience in structural engineering and hopes to contribute to the engineering community in more than one way. He has served as the co-chair of SEAO's Young Member's Forum, a mentor at the ACE mentorship program of Oregon, and as a Director for SEAO's Board. His professional interests outside of work include advocacy for engineering and sustainability. He is a licensed PE and a certified LEED GA. When he is not at work, Nisarg enjoys reading, biking, and climbing.

Treasurer (Returning Board Member): Kylean Gunhus, Miller Consulting Engineers

Kylean joined Miller Consulting Engineers in 2016 after completing his bachelors degree in Civil Engineering at Oregon State University. He has worked on a variety of different projects. Recently, his focus has been on multi-family residential, seismic evaluations and upgrades, and concrete repairs. Kylean is passionate about providing the client with comprehensive and clear designs to ensure the project is com-



pleted smoothly. When he's not working (or working on his house), he is likely at the gym, skiing in the winter, or playing in a softball league with friends from college.

Directors:



Sarah Johnson (2nd Year of 2 year term)

Originally from Astoria, Oregon, Sarah graduated from the University of Washington with her MS in 2012. Her first design job was at Precision Structural Engineering in Klamath Falls. The company specialized in sustainable building materials, and she designed unusual projects, including

rammed earth buildings, lathe yurts, and treehouses. After gaining a few years of design experience, Sarah took a job with MGA Industrial, first working in their Cairo, Egypt offices, and then Calgary, Canada. After that, she moved back to the US to model tensile fabric structures for Big Top Manufacturing in Tallahassee, Florida. Sarah returned to Portland where she worked for DCI Engineers for two years before transferring to Munzing Structural Engineering, where she currently works as a project manager. Sarah also serves as Co-Chair for the SEAO Young Member's Forum.

Elyssa Adams, Holmes Structures (1st year of 2-year term)

Elyssa obtained her Bachelor's Degree in Architectural Engineering from Cal Poly San Luis Obispo, and her Master's Degree in Structural Engineering and Mechanics of Materials from UC Berkeley. After finishing school, Elyssa moved to Portland and joined the Holmes team where she has been for the last three years. She's currently working



on various mass timber projects, including a bit of testing down at Oregon State, and is part of the women-led team designing the new Seattle Storm Center for Basketball Performance. Elyssa has been a member of SEAO's SE3 Committee for the past year and volunteers with AFO's Architects in Schools program. She is excited about the opportunity to get more involved in SEAO and give back to the local engineering community.

Congratulations and many thanks to the incoming Board for the time and efforts they will provide over the course of the next year. We would also like to thank our outgoing board member, David Linton for his time and support of SEAO as the past president!

CONCRETE MASONRY DESIGN SEMINAR SEPTEMBER 21, 2023



The Northwest Concrete Masonry Association is sponsoring a newly updated full-day seminar on reinforced masonry design. It will focus on the requirements of the 2021 IBC Masonry Provisions and the referenced material standard TMS 402/602 codes. Both working stress and strength design of reinforced concrete masonry will be covered.

Learn how to use and interpret the building code through masonry building element design examples. Participants can earn 8 continuing education credits.

This is a practical design seminar for practicing engineers.

Speakers: Ed Huston, Lane Jobe, Steve Hawk, John Hochwalt, and Adam Hutchinson
Time: 7:20 am Check-in, 8:00 am to 4:30 pm Seminar
Location: Crowne Plaza Portland-Lake Oswego, 14811 Kruse Oaks Drive, Lake Oswego, OR
Cost: \$275 Register before September 7, \$315 Register after September 7.
PDH: 8 Hours

Find more information on topics covered and speakers on pages 11 and 12. Register <u>https://www.nwcma.org/continuing-</u>education/seminar/.

ASK A QUESTION, GET AN ANSWER

Do you have a code question you would like to ask the Wind Committee or Snow Committee?

SEAO is pleased to provide a simple way for Q&A's with technical committees. Email questions to jane@seao.org, and SEAO will direct your question to the appropriate committee chair for a response.

Questions and their answers will be made anonymous and available to the membership on the website <u>www.seao.org</u>. Committees include: Seismic, Wind, Snow, Code, Vintage Building, and Special Inspections.

UPCOMING DUES REMINDER

Annual dues for SEAO membership are due on October 31, 2022. Website will open for paying dues on October 1, 2023.

Renewal Dues:

Member (licensed PE in Oregon): \$125 Affiliate Member (unlicensed): \$110 Student Member (full-time student in Civil or Structural Engineering): \$20 Life Members, Retired Members/Affiliates, or Professors: \$25

More information will be provided in October's newsletter for payment options.

OREGON SAFETY & ASSESSMENT PROGRAM (ORSAP) SEMINAR THURSDAY, OCTOBER 12, 2023

Fall OrSAP/ATC 20/45 training opportunity:

The State of Oregon has recently created the Oregon Safety Assessment Program (OrSAP) after the passing of House Bill 2206 in 2019. The program creates a verified and maintained list of credentialed Building Safety Evaluators (BSEs) that can be called out in an emergency. Building safety evaluations follow the ATC 20 Post-Earthquake Safety Evaluation of Buildings and ATC 45 Safety Evaluation of Buildings after Windstorms and Floods procedures. Copies of these documents can be ordered off the FEMA website: <u>Applied Technology Council Online Store (atcouncil.org)</u> and can be included in registration for additional fee (only available to early registrants). We highly encourage that you obtain a copy of these manuals prior to the training.

The training and credentialling meets FEMA standards and provides a resource for jurisdictions in need following a disaster. The system can be used to credential government employees that can be shared between jurisdictions in smaller emergencies and for qualified volunteers that can be called up and deployed when a state of emergency is declared. Qualified volunteers would typically be licensed engineers and architects of varying levels of experience. Government employees would commonly be certified inspectors and plans examiners employed by a jurisdiction. This OrSAP training course provides a mixture of ATC 20 and ATC 45 training, a basic overview of FEMA's National Incident Management process, as well as Oregon specific hazards and Or-SAP functionality. As OrSAP does not yet have a formal standard training course this course will follow the Cal OES SAP training with additional slides for OrSAP.

Speakers: Chris Wong, PE, SE, City of Hillsboro Community Development Department and David Tarries, PE, SE, City of Portland Bureau of Development Services & SEAO Structural Engineers Emergency Response (SEER) Committee Chair.

Location: Embassy Suites Hotel & Conference Center, 9000 SW Washington Square Road Time: 8:30 am to 4:30 pm Cost: \$175 (Register by October 5, 2022); \$200 (After October 5, 2023) PDH: 6 hours

SEER UPDATE

The new OrSAP program continues to take shape in Salem. The website has been up for awhile if anyone wants to take a look. After completing training, applicants will go to this site to fill out the application form: <u>Oregon State Police : Oregon Safety Assessment Program : Office of the State Fire Marshal : State of Oregon</u>. There have been a few hybrid trainings held this year. Some have been a combined OrSAP/Cal OES SAP training and others have been ATC 20/45 with an OrSAP module. Both options have taken about a day.

Fall OrSAP/ATC 20/45 training opportunity: There will be an OrSAP/Cal OES SAP training offered through SEAO on October 12, 2023, at the Embassy Suites at Washington Square in Tigard, Oregon. The training will cover ATC 20 and 45 with specific information on the OrSAP program. Those in attendance will be able to apply on the OrSAP website for inclusion in the OrSAP system and receive an ID card. As there is still no formal OrSAP standalone training, the session will be paired with Cal OES SAP training, so applicants will also be entered into the Cal OES SAP system, if desired. Cal OES SAP also issues an ID card with registration. Please reach out to seer@seao.org if you have interested in taking the course. More information on this training option will be provided in the future.

Other training opportunities: Our neighbors in Washington state (Washington Emergency Management Division) have provided funding for some FEMA NETAP web-based training that is open to Oregon residents. If you are interested in FEMA P-154 or FEMA P-50 training, among others, there are some options available. The website has a list of courses with registration links. NETAP Training List - Pacific Course Sharing Zone - 2023.pdf - Google Drive. An ATC-20 training is on the list for August. The ATC-20 training could be used in conjunction with an additional OrSAP specific module training (about 90 minutes) to apply for OrSAP registration. The ATC 20 path could be used instead of taking the OrSAP/ ATC20/45 training in October, but an additional OrSAPspecific module with a few ATC 45 slides would be needed before names could be presented to OrSAP for approval. seer@seao.org Please email or David.tarries@portlandoregon.gov if you have interest in this approach to getting OrSAP credentialed.

Please email SEER or David Tarries at emails listed above if there are any other OrSAP training questions or comments.

NCSEA GRANT OPPORTUNITY

Artificial Intelligence (AI) has been selected as the topic for the 2023-2024 National Council of Structural Engineers (NCSEA) Innovation in Structural Engineering Grant. NCSEA is seeking individuals who are interested in helping develop an AI foundation for the structural engineering profession. The initiative aims to identify and support groundbreaking advancements in the field of artificial intelligence (AI) through the following objectives:

- Provide Education: Provide structural engineers with information on the latest developments in AI as it relates to the profession and outline future areas of study in future areas surrounding this topic.
- Foster Innovation: Encourage structural engineers to explore, develop, and implement innovative AI solutions that enhance the efficiency, accuracy, and longevity of structural engineering practices.
- Promote Collaboration: Foster collaboration between structural engineers, AI experts, and other industry partners by encouraging the exchange of ideas and expertise to drive progress in the field.
- Address Industry Challenges: Address key challenges faced by the structural engineering industry through the application of AI technologies, including ethical and legal areas.

This year's NCSEA Innovation in Structural Engineering Grant presents a unique opportunity for structural engineers to push the boundaries of their field by understanding and leveraging AI technologies. By providing financial support, technical guidance, and a platform for knowledge sharing, this year's program aims to catalyze transformative advancements in the profession and foster collaboration within the structural engineering community and between industry partners.

To review the complete Request for Application document, click here. To apply for the 2023-2024 NCSEA Innovation in Structural Engineering Grant, click here. This Grant Program is just one of the many efforts supported the **NCSEA** Foundation. by

Applications must be submitted by October 20, 2023.

SEA NORTHWEST CONFERENCE SEPTEMBER 14-15, 2023

The Seattle Chapter of SEAW is excited to be the host for the 2023 Northwest Conference, "Innovation in Structural Engineering," taking place this year at the Bellevue Hilton on September 14 and 15.

This promises to be a stimulating and inspiring event. SEA members from Oregon, Washington, Idaho, Montana, and British Columbia will be attending. The conference will feature:

- 17 presentations and 38 vendor exhibitors.
- An extraordinary Social Event hosted by SEAW Young Members Group with food, beverages, games, and prizes. CSI will be partnering as the Anchor Sponsor. A great opportunity to connect with everyone on a different level.
- A tour of the Amazon Spheres is being planned as a Wednesday afternoon event before the Conferencedetails forthcoming.

Registration and additional information can be found at: 2023 SEA NW Conference — SEAW. See pages 13 through 15 for the complete conference schedule.

The 2023 SEA Northwest Conference Steering Committee includes: Chun Lau (chair), Scott Douglas (Technical Subcommittee Chair), Shalini Prochazka, Darrell Staaleson Michelle Yee, and Jessica Lim.

Any questions please feel free to contact R. Scott Douglas at sdouglasscott@gmail.com.



https://www.seaw.org/2023seanwconference · Free hotel parking

SEA NORTHWEST CONFERENCE

Benefits

- Opportunity to Visit Seattle Attractions
- Discount Registration thru August 01
- Most Affordable SEA Conference
- Reconnect with SEAO Colleagues and Meet new Members from Neighbor SEA's
- Collaborate, Exchange Ideas, Share Challanges Eleven Main Presentations plus Six Exhibitor
- Presentations 14.0 Professional Development Hours Trade Show with 38 exhibitors providing contacts,
- resources and solutions for everyday problems Πí

Flexibility to attend: · Full conference or one day registration



WIND COMMITTEE UPDATE BY: SETH THOMAS, WIND COMMITTEE MEMBER

Oregon Special Wind Region: Updated Wind Speeds

Historically, establishing the wind speeds in special wind regions defined in ASCE 7 is left up to the local jurisdiction. In Oregon, these are established by the state Building Codes Division and have remained static for several code cycles.

After the significant reduction in wind speeds in ASCE 7-16 (adopted in the 2019 OSSC) wind speeds in the special wind regions are now typically 25-35mph higher than those in the adjacent non-special wind region areas. This results in wind pressures that can be 50-90% higher. This is even before any exposure and topographic factors have been applied. Starting back in 2018 as part of the 2019 OSSC adoption process the SEAO Code Committee has been working on mapping these regions as part of a code change proposal. This process eventually involved partnering with SEAW to do the same for the Washington SWR.

In late June SEAO/SEAW finally finished the process of raising money for this effort and commissioning and completing the study. As a result of these studies, there are significant reductions/eliminations of the special wind regions across both states. Since that time we have been working with Oregon Building Codes Division to allow for a path of early adoption of these reduced wind speeds, since this will not be adopted in ASCE 7 until the 2028 version (2030 IBC, 2031 OSSC).

On August 9th, the Building Codes Structures Board approved an interim amendment for the reduction in wind speeds across many of our SWR matching the results of the study. This will go into effect on October 1st of this year. See Pages 18 and 19 for the struck-through and underlined version of the changes. The special wind regions in the Columbia River Gorge, Redmond/Bend area, and Klamath falls area are all essentially eliminated by defaulting to wind speeds matching the adjacent area. The special wind region at the coast will remain, but some counties will see a slight reduction in wind speed.

Our partners in Washington are still working on amending their state code, but we have reports showing that similar reductions will occur. Both states are submitting these reports to the ASCE 7 Wind committee for inclusion in the 2028 edition.

We would like to thank our sponsors (Weyerhaeuser, NCSEA, Port of Portland, and PacTrust). Without their financial support, we could not have completed this study.

2023 SEAO EXCELLENCE IN STRUCTURAL ENGINEERING AWARDS

The SEAO Awards Committee has opened the SEAO website to accept submissions for the 2023 awards consideration. Projects must have been completed in 2021, 2022, or 2023.

Submission deadline is end of day on December 19, 2023.

Award categories include:

- New Buildings Under \$10M
- New Buildings \$10M to \$40M
- New Buildings Over \$40M
- Renovation/Retrofit
- Special Use Structures

The awards banquet will be held on Tuesday, February 13, 2024.

Visit <u>https://www.seao.org/committees/advocacy/awardscommittee</u> to see the Awards Committee web page and to begin your submission(s). Don't forget to login to access the website to start your submission. For ease on the submission process, you can start, stop, and save your work as you create your submission.

Eligibility requirements include:

- 1. Project must have completed construction during the calendar years of 2021, 2022, or 2023.
- 2. At least one member of the design team, research team, or a principal of the firm responsible for entry must be a member of SEAO.
- 3. Entries may be of any size, type, and location.
- 4. Projects may be submitted into one category only. SEAO reserves the right to reassign the category, should it meet the criteria for more than one category.
- 5. Each company may submit up to two projects per category (10 projects total).

We especially encourage small firms to submit their projects. The 2021 Awards judges awarded a small firm with 3 awards.

We want to see what you have been working on! Start thinking about a project or projects you want to submit for consideration or visit the link above to begin your submission (s).

September 12, 2023, 10 am Pacific Time (Fee for Webinar) What Happens in Vegas . . .

Speaker: Kevin T. McOsker, P.E., Vice President of Technical Sales, ICC As an engineer working for a Building Department in Las Vegas for 30 years, there has been a number of interesting projects that shaped my career in public service. The presentation shares the highlights, challenges, and learning experiences from the start of my building department career to the end. (1.25 PDH)

September 14, 2023, 10 am Pacific Time (FREE Webinar & PDH) <u>3rd Annual Structural Engineering Innovation & Excellence Webinar</u> <u>Series—New Buildings < \$30 Million: m.o.r.e. Cabin</u>

Speaker: Daniel Bonardi, P.E., Dan Bonardi Consulting Engineers The m.o.r.e. CLT Cabin is a 900 s.f. private retreat on a hill overlooking a lake in La Pêche, Québec. The cabin touches the site at only two points: a small concrete storage building supports the cabin at the top of the hill; a steel mast supports the opposite end. The cabin cantilevers 25 ft beyond the mast. The structure consists primarily of glulam members and cross-laminated timber panels (CLT). The webinar will discuss why mass timber was chosen over steel as the primary structural material, how the glulam members and CLT panels were combined to create a stiff box beam structure, and mass timber connection details. (1 PDH)

September 19, 2023, 10 am Pacific Time (Fee for Webinar) Managing Risks in Adjacent Demolition, Excavation, and Construction

Speakers: Justin M. Spivey, P.E., FAPT, APT RP, and Francis E. Harrison, P.E., Wiss, Janney, Elstner Associates

Construction in dense urban environments and other zero-setback conditions has the potential to impact adjacent and adjoining properties. With effective planning and communication, the risks of demolition, dewatering, excavation, and construction next to existing structures can be evaluated and managed, reducing the likelihood of damage and disputes between property owners. Many of the same physical risks also apply where a building is demolished or constructed next to an existing one with the same owner, for example, a building addition. Proactive reviews—as well as reactive investigations and repairs—are often challenging and interdisciplinary projects, with considerations ranging from geotechnical and structural to building enclosure and life safety. The presenters will identify frequently encountered issues ranging from foundations (support of excavation, groundwater management, and vibration) to walls (party walls, opening protection, and seismic separations) to roofs (snow loads, roof drainage, and crane overswings). Code compliance issues and allocation of responsibility and risk between property owners will also be discussed. (1.5 PDH)

October 3, 2023, 10 am Pacific Time (Fee for Webinar) <u>Cross-Laminated Timber Diaphragm Design for Wind and Seismic</u> Resistance

Speaker: Scott Breneman, PhD, P.E., S.E., Woodworks

The use of cross-laminated timber (CLT) as structural floor and roof panels has seen incredible growth in the US over the past decade. However, its use as part of a seismic and wind force-resisting system—either as a diaphragm or shear wall—has only recently been recognized in design standards. This has resulted in designing CLT diaphragms through alternative means or using a recognized structural system, such as nailed wood structural panels or concrete, as the diaphragm. This webinar will introduce new provisions for CLT diaphragm design,

in the American Wood Council's 2021 Special Design Provisions for Wind and Seismic (SDPWS), which is the code-referenced standard providing guidance on CLT diaphragms. Following a discussion of the new SDPWS provisions, CLT diaphragm detailing options and design examples will be presented in order to apply practical design techniques and discuss structural detailing challenges and solutions. (1.5 PDH)

October 12, 2023, 10 am Pacific Time (FREE Webinar & PDH) <u>3rd Annual Structural Engineering Innovation & Excellence Webinar</u> <u>Series—Forensic/Renovation/Retrofit/Rehabilitation Structures ></u> <u>\$20 Million: Climate Pledge Arena</u>

Speaker: Matt Farber, P.E., S.E., Thornton Tomasetti

Climate Pledge Arena is an 800,000-square-foot, mostly below-grade venue that will hold more than 17,000 fans for hockey, basketball, concerts, and other events. What makes this project stand out from other large renovations is the preservation of the historically landmarked, 44-million-pound roof structure and exterior curtain wall. The near-total demolition of the structure below the roof presented several complex challenges. Most notable among these was how to demolish the structure and excavate 680,000 cubic yards of soil to make way for construction of a new world-class below-grade arena, all while temporarily supporting the roof structure above it. Complicating matters further were the arena's location in a high seismic zone, the project's aggressive schedule, and the owner's commitment to making it the first net-zero certified arena in the world. (1.5 PDH)

October 17 & 18, 2023, 10 am to 1 pm Pacific Time (\$75 Webinar) CalOES Safety Assessment Program—Day 1 and Day 2 Training

Speakers: Klaus Perkins, P.E., S.E., Bennett & Pless and Colby Baker, NCSEA SEER Committee

This California Office of Emergency Services (CalOES) Safety Assessment Program (SAP), presented by NCSEA, is based on ATC-20/45 methodologies and forms. This SAP training course provides engineers, architects and code-enforcement professionals with the basic skills required to perform safety assessments of structures following disasters. Licensed design professionals and certified building officials will be eligible for SAP Evaluator certification and credentials following completion of this program and submission of required documentation.

October 19, 2023, 10 am Pacific Time (Fee for Webinar) Use of the Multi-Period Response Spectrum in ASCE 7-22

Speaker: Scott Neuman, P.E., S.E., KPFF Consulting Engineers ASCE 7-22 introduces a new method for calculating seismic demand parameters on buildings which uses a multi-period design response spectrum. This presentation will compare seismic demands using both methods and demonstrate how to use the multi-period spectrum to calculate seismic demand parameters. (1 PDH)

There are also recorded webinars that can be purchased for professional development hours (PDHs) online at <u>https://www.pathlms.com/ncsea/events#on-demand-events-content</u>

CATENA CONSULTING ENGINEERS

Structural Engineer Portland, OR

catena consulting engineers provides the personal environment of a small firm while providing the opportunity to work on a variety of projects. Our projects vary in size from a single day's effort to large projects with construction values in excess of \$300 million. You will gain design experience in concrete, steel, timber, and masonry buildings and will work on a wide variety of project types including buildings created for healing, learning, living, and interacting.

Due to the technical complexity and challenge of many of our projects, we seek engineers that hold a Masters degree, and that have a desire to learn, grow, and be challenged. U.S. citizenship is preferred. We are currently seeking engineers at all levels of experience in structural engineering for buildings.

For a detailed advertisement and to submit your resume, visit our website <u>http://www.catenaengineers.com/</u>opportunities/

PACE ENGINEERS

Structural Engineer & Project Manager Lake Oswego, OR

PACE is growing our structural engineering team to deliver unique and challenging project designs for our clients in the public and private sectors. We are recruiting engineers at all experience levels who will be empowered to share and grow their skills within a collaborative and respectful working environment. Our current structural team includes nine (9) SEs or PEs and five (5) structural designers. We partner with our civil engineers and surveyors to complete projects throughout the PNW, the Mountain West, and beyond. Project types include hydraulic structures for potable water systems; roadway, pedestrian, and utility bridges; building and nonbuilding structures; and contractor and vendor services. Our family-first, client service culture cultivates technical, PM, BD, and managerial growth in a hybrid work environment.

PACE is a team of 130 civil and structural engineers, surveyors, and GIS professionals located in Lake Oswego, OR and Kirkland, Everett, and Wenatchee, WA. See <u>www.paceengrs.com</u> or contact HR manager, Karmell Dawson at <u>karmelld@paceengrs.com</u> for more information.

JACOBS ENGINEERING

Intermediate Structural Engineer Corvallis, OR

As a member of our team, you will perform structural design for facilities including water and wastewater pump stations, treatment facilities for water and wastewater plants and conveyance systems. Duties include analysis, design, technical writing, and construction drawing markup/detailing, and specification production.

What You'll Need:

- Bachelor's Degree in Civil Engineering, Structural emphasis
- At least 5 years of experience in designing structures
- Experience working in multi-discipline project teams
- Oregon Professional Engineer License (PE) or licensed in another State & ability to get Oregon reciprocity within 6 months

Ideally, You'll Also Have:

- Master's Degree in structural engineering
- Structural Engineer (SE) License
- Experience with water and wastewater treatment plants, pump stations, and conveyance systems

Visit: <u>https://jacobs.taleo.net/careersection/ex/jobdetail.ftl?lang=en&job=WES0003ZL</u> to learn more and to apply online.





Northwest Concrete Masonry Association Presents STRUCTURAL MASONRY DESIGN SEMINAR

Plan now to attend. This newly updated full-day seminar will focus on the requirements of 2021 IBC Chapter 21 and the referenced material standard TMS 402/602. Both working stress and strength design of reinforced concrete masonry will be covered. Learn how to interpret and apply the building code through masonry building element design examples. Participants can earn continuing education credit.



SEPTEMBER 7, 2023 SPOKANE, WA



SEPTEMBER 21, 2023 PORTLAND, OR



SEPTEMBER 27, 2023 SEATTLE, WA

SEMINAR TOPICS

Masonry Materials Code Overview Beam & Column Design Out-of-Plane Walls In-Plane Walls Anchor Bolts Masonry Veneer Constructability Quality Assurance Limit Design

SEMINAR TIMES

Check-in begins at 7:30 a.m. The seminar will be presented from 8:00 a.m. to 4:30 p.m.

Morning coffee service, lunch, and afternoon break refreshments are provided.

SEMINAR MATERIALS

All participants will receive a seminar workbook, which includes a bound set of course notes and masonry technical bulletins.

Other design reference material and masonry design aids will be available for purchase at special seminar prices.

CONTINUING EDUCATION

Certificates of attendance listing contact hours that can be used for continuing education PDH units will be issued.

The seminar will be registered with the AIA.

SPEAKERS



Ed Huston, P.E., S.E. Huston Structural Engineering Seattle, WA



Lane Jobe, P.E., S.E. Miller Consulting Engineers Portland, OR



Steve Hawk, P.E, S.E. Coffman Engineers Portland, OR



John Hochwalt, P.E., S.E. KPFF Consulting Engineers Seattle, WA



Adam Hutchinson, P.E. Northwest Concrete Masonry Association Toledo, WA

REGISTER ONLINE AT <u>NWCMA.ORG/SEMINAR</u>



Northwest Concrete Masonry Association STRUCTURAL MASONRY DESIGN SEMINAR

Please plan to participate. Register today! Participants can earn continuing education credit. You can register online at <u>nwcma.org/seminar</u> or by mailing this completed form. Registration will not be confirmed until registration fee is received. **Please complete one application per person.**

SEMINAR SELECTION

SEPTEMBER 7, 2023 SPOKANE, WA CENTERPLACE REGIONAL EVENT CENTER	SEPTEMBER 21, 2023 Portland, OR Crowne Plaza Portland - Lake Oswego	SEPTEMBER 27, 2023 SEATTLE, WA McMenamins Anderson School, Bothell
To save, register by August 24, 2023	To save, register by September 7, 2023	To save, register by September 13, 2023
EES AND SIGN-UP		
Name:		
Company:		
Email:		
Address:		
City/State/Zip:		
Space is limited; please register early! Early registration fee is \$275 - save by regi 14+ days before your seminar.	Registration Fee @ \$275 stering Late Fee (add \$40)	5 \$ \$
Add \$40 for registrations received fewer th days in advance.	aan 14 Total Due	\$

Check or Money Order enclosed (payable to Northwest Concrete Masonry Association)

For credit card payments, please register and pay online at <u>nwcma.org/seminar</u>

REFUND POLICY

Substitutions are accepted at any time. If you notify us that you are unable to attend 7 or more business days before the seminar we will refund your registration fee. Cancellation requests received between 4-7 business days before the seminar will be subject to a \$75.00 administrative fee. No refunds will be given for cancellations received 3 business days or fewer prior to the seminar or for "no shows."

CONFIRMATION

You will receive confirmation of your registration, including the date, location, and address of your seminar. Please register early. *If insufficient enrollment necessitates canceling the seminar, all paid attendees will receive registration refunds.*

SPONSORS



Northwest Concrete Masonry Association | P.O. Box 790, Toledo, WA 98591 | 425.655.0719 | nwcma.org

REGISTER ONLINE AT <u>NWCMA.ORG/SEMINAR</u>

2023 SEA NORTHWEST CONFERENCE

SCHEDULE as of JULY 15, 2023

Wednesday September 13, 2023				
1:00 p.m 4:00 p.m.	SEAW State Board Meeting (Invitation Only)			
4:00 p.m 5:00 p.m.	NCSEA Board of Directors Meeting with SEAW State Board (Invitation Only)			
Kickoff & Main Speaker P	resentations are 55 minutes including 5 to 10 minutes for Q&A followed by a 5 minute break			
Exhibitor	Presentations are 30 minutes including 5 minutes for questions and answers			
	Thursday September 14, 2023			
7:30 a.m 5:00 p.m.	Registration			
7:30 a.m 8:30 a.m.	SEA Northwest Conference Delegate Meeting (Invitation Only)			
7:30 a.m 8:30 a.m.	Breakfast			
8:00 a.m 9:00 a.m.	Kickoff Presentation - Lessons in Creativity: Jack Christiansen's Innovative and Efficient Structural Designs (1.0 PDH) Tyler Sprague , Ph.D., P.E., LEED AP Associate Professor, University of Washington			
9:00 a.m 10:00 a.m	Engineering for Elephants: A Structural Safari (1.0 PDH) Ed Quesenberry, S.E. Founding Principal, Equilibrium Engineers LLC			
10:00 a.m 10:30 a.m.	Exhibitor Presentation - BRBF State-of-the-Art: Global Stability, Fatigue and Resiliency (0.5 PDH) Brandt Saxey, S.ETechnical Director, CoreBrace (Premier Sponsor)			
10:30 a.m 11:00 a.m	Coffee Break - Vendor Exhibits			
11:00 a.m 12:00 noon	Design of Slender Transparent Structures Using Glass (1.0 PDH) Richard Green P.E., CPEng (Australia), IntPE APEC Engineer Founding Principal, Green Facades			
12:00 noon - 1:00 p.m	Lunch - Vendor Exhibits			
1:00 p.m 1:30 p.m	Totem Lake Connector Bridge (0.5 PDH) Matt Baughman, P.E., S.E. Associate Project Director, COWI			

1:30 p.m 2:00 p.m.	<i>Exhibitor Presentation</i> - Unordinary Tubular Connections (0.5 PDH) Cathleen Jacinto, P.E., S.E Structural Engineer, FORSE Engineering - Technical Consultant to the Steel Tube Institute
2:00 p.m 2:30 p.m	Coffee Break - Vendor Exhibits
2:30 p.m 3:30 p.m	Innovation in Your Engineering Practice and How it Intersects with Insurance, Claims and Litigation (1.0 PDH) Stan Pease, CRM, CIC, CCLA - President, Shipley & Pease Insurance Lindsey M. Pflugrath, Hon. AIA, Attorney at Caircross & Hemplemann PS
3:30 p.m 4:00 p.m	Exhibitor Presentation - Behind the Curtain: Steel Design Tips from the Mill (0.5 PDH) Kim Olson, P.E - Structural Manager, Construction Solutions, Nucor
4:00 p.m 5:00 p.m.	Creating a Culture of Belonging through DEI Practices (1.0 PDH) Laura Lindeman, P.E. (Moderator) – Structural Project Manager, Coughlin Porter Lundeen Lisette Terry, P.E. – Associate, Degenkolb Engineers Marcus Freeman, P.E. – Senior Design Engineer – MKA Kellie Filips – Project Engineer - PCS Structural Solutions George Theo, MS - Associate Principle, Dir. of Human Resources, Coughlin Porter Lundeen
5:00 p.m 5:30 p.m	Break - Vendor Exhibits
5:30 p.m 7:30 p.m	YMG Social Reception and Activity (Anchor Sponsor - CSi)

Friday September 15, 2023		
7:30 a.m 8:30 p.m.	Registration	
7:30 a.m 8:30 p.m.	Breakfast - Vendor Exhibits	
8:30 a.m 9:30 a.m	Using Applied Research for Update of Seismic Evaluation and Retrofit Methods (1.0 PDH) Terry Lundeen, P.E., S.E. Principal, Coughlin Porter Lundeen	
9:30 a.m 10:00 a.m	<i>Exhibitor Prersentation</i> - Innovations That Improve Functional Recovery of Steel Moment Frames (0.5 PDH) Justin Marshall, PhD, P.E President, DuraFuse Frames	
10:00 a.m 10:30 a.m.	Coffee Break - Vendor Exhibits	
10:30 a.m 11:30 a.m.	Seismic Isolation of the Terminal Core Roof at the Portland International Airport (1.0 PDH) Reid Zimmerman P.E., S.E. Technical Director, KPFF	
11:30 a.m 12:00 noon	Exhibitor Presentation: Steel Connection Design Using Finite Element Analysis (0.5 PDH) Dave Eckrote, P.E Director, IDEA StatiCaUS LLC	

12:00 noon - 1:00 p.m.	Lunch - Vendor Exhibits
1:00 p.m 2:00 p.m	The Lateral System Design of the Artise: Bellevue's First Building with Vicsous Fluid Dampers (1.0 PDH) Scott Erickson, P.E., S.E. Principal, DCI Engineers Seattle
2:00 p.m 2:30 p.m.	Exhibitor Presentation - A Simplified Approach to the Design of New Moment Frame Structures with Viscous Dampers (0.5 PDH) Nathan Canney, PhD - Director of Structural Engineering, Taylor Devices
2:30 p.m 3:00 p.m.	Coffee Break - Vendor Exhibits
3:00 p.m 4:00 p.m	A Comparison of Project Approaches in Mass Timber (1.0 PDH) Adam Jongeward, P.E., S.E. DCI Enginers, Portland
4:00 p.m 5:00 p.m.	Designing with Complex Geometries (1.0 PDH) Robert Baxter, S.E. Principal, MKA
5:00 p.m.	Conference Closes

Oregon Safety & Assessment Program (OrSAP) Including ATC 20 and ATC 45

Hosted by the Structural Engineers Association of Oregon (SEAO) & ASCE SEI Oregon

Date:	Thursday, October 12, 2023 – 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 Oct. 5, 2023) Students \$75 (Includes Notes) – Must show current student ID No refunds after 12:00 noon Thursday, Oct. 5, 2023 		
Location:	Register early; Maximum 100 peopleEmbassy Suites9000 SW Washington Square RdHotel and Conference CenterPortland, Oregon (503) 644-4000		
	Continuing Education: SEAO has recommended this seminar for 6 PDHs		
Speakers:	Chris Wong, PE, SE, City of Hillsboro Community Development David Tarries, PE, SE City of Portland Bureau of Development Services		
	Chris Wong, PE, SE, is a licensed civil and structural engineer in Oregon and California. Chris has 18 years of experience in structural design, evaluation, and structural plan review of building structures. He is currently a structural engineer for the City of Hillsboro Community Development Department. He is a member of the Structural Engineers Association of Oregon (SEAO) Structural Engineers Emergency Response (SEER) subcommittee and has been active over the past two years assisting with the development of the Oregon Safety Assessment Program (OrSAP) building safety evaluator training.		
	David Tarries, PE, SE, is a licensed civil and structural engineer in Oregon, California, and Washington. David has 20 years of experience in structural design, evaluation, and structural plan review of building structures. He is currently a structural engineer for the City of Portland Bureau of Development Services. He is chair of the Structural Engineers Association of Oregon (SEAO) Structural Engineers Emergency Response (SEER) subcommittee and has been active over the past six years promoting the development of an Oregon Safety Assessment Program (OrSAP) from legislation to training and deployment.		

Fall OrSAP/ATC 20/45 training opportunity: The state of Oregon has recently created the Oregon Safety Assessment Program (OrSAP) after the passing of House Bill 2206 in 2019. The program creates a verified and maintained list of credentialed Building Safety Evaluators (BSEs) that can be called out in an emergency. Building safety evaluations follow the ATC 20 Post-Earthquake Safety Evaluation of Buildings and ATC 45 Safety Evaluation of Buildings after Windstorms and Floods procedures. Copies of these documents can be ordered off the FEMA website: <u>Applied Technology Council Online Store (atcouncil.org)</u> and can be included in registration for additional fee (only available to early registrants). The training and credentialling meets FEMA standards and provides a resource for jurisdictions in need following a disaster. The system can be used to credential government employees that can be shared between jurisdictions in smaller emergencies and for qualified volunteers that can be called up and deployed when a state of emergency is declared. Qualified volunteers would typically be licensed engineers and architects of varying levels of experience. Government employees would commonly be certified inspectors and plans examiners employed by a jurisdiction. This OrSAP training course provides a mixture of ATC 20 and ATC 45 training, a basic

overview of FEMA's National Incident Management process, as well as Oregon specific hazards and OrSAP functionality. As OrSAP does not yet have a formal standard training course this course will follow the Cal OES SAP training with additional slides for OrSAP.

We suggest that you purchase the ATC books at atcouncil.org

Questions:	Andy	Stember	(503)	657-9800
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Oregon Safety & Assessment Program (OrSAP) Including ATC 20 and ATC 45

Registration Form

Register Online at <u>www.seao.org</u> or

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

Make Checks Payable to: SEAO

Firm Name:		
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Firm Address:

Phone _____

Name of Attendee(s)

# of Attendee(s)	@ \$175.00 / each = (Nonmember \$225.00)	\$
# of Late Fees	@ \$25.00 / each =	\$
# of Students	@ \$75.00 / each =	\$

Tot	\$	
Visa Or Mastercard (go to	www.seao.org to regist	er online)

TABLE 1609.3					
BASIC DESIGN WIND SPEED, V, FOR RISK CATEGORY I, II, III AND IV BUILDINGS AND OTHER STRUCTURES					

COUNTY	RISK CATEGORY I BASIC DESIGN WIND SPEED, V (MPH)	RISK CATEGORY II BASIC DESIGN WIND SPEED, V (MPH)	RISK CATEGORY III BASIC DESIGN WIND SPEED, V (MPH)	RISK CATEGORY IV BASIC DESIGN WIND SPEED, V (MPH)
Baker	97	103	110	114
Benton	90	96	102	107
Clackamas	92	98	105	109
Clackamas special wind region ^a	115 <u>92</u>	120 <u>98</u>	130 105	130 <u>109</u>
Clatsop	91	96	102	107
Clatsop special wind region ^a	125 <u>115</u>	135 <u>120</u>	145 <u>130</u>	145 <u>135</u>
Columbia	91	97	103	107
Columbia special wind region ^a	115 <u>91</u>	120 <u>97</u>	130 <u>103</u>	130 <u>107</u>
Coos	89	95	101	106
Coos special wind region ^{a,b}	115 ^b	120 ^b	130 ^b	130^b 135
Crook	93	100	106	111
Crook special wind region ^a	100 93	110 100	115 106	115 <u>111</u>
Curry	88	94	101	105
Curry special wind region ^a	125 115	135 120	145 130	145 <u>135</u>
Deschutes	93	99	106	110
Deschutes special wind region ^a	100 93	110 <u>99</u>	115 <u>106</u>	115 <u>110</u>
Douglas	91	97	103	108
Douglas special wind region ^{a,b}	115 ^b	120 ^b	130 ^b	130 ^b 135
Gilliam ^d	94 ^ª	100 ^d	107 ^d	111 ⁴
Grant	95	100	107	113
		-		-
Harney	94	101	108	112
Hood River ^e	92°	98°	105°	109e
Hood River special wind region ^a	<u>92</u>	<u>98</u>	<u>105</u>	<u>109</u>
Hood River N.45.5° special wind region ^{a,e} Hood River S.45.5° special wind region*	115 °	120 ^e	130 °	130 °
	100	<u>110</u>	115	115
Jackson	90	96	103	107
Jefferson	93	99	106	110
Jefferson special wind region ^a	<u>100 93</u>	<u>110 99</u>	<u>115 106</u>	<u>++5 110</u>
Josephine	89	95	102	106
Klamath	91	98	104	108
Klamath special wind region ^a	115 <u>91</u>	120 <u>98</u>	130 <u>104</u>	130 <u>108</u>
Lake	93	99	106	111
Lane	91	98	105	110
Lane special wind region ^{a,b}	115 ^b	120 ^b	130 ^b	130 ^ь <u>135</u>
Lincoln	90	96	102	106
Lincoln special wind region ^a	125 <u>115</u>	135 <u>120</u>	145 <u>130</u>	145 <u>135</u>
Linn	92	98	104	108
Malheur	96	102	109	113
Marion	92	98	104	108
Morrow ^d	94 ^ª	101 ^d	108 ^d	112 ^d
Multnomah ^e	92°	98°	105°	110 ^e
Multnomah special wind region ^{a,e}	115 ° 92	120 ° 98	130° 105	$\frac{130^{e}}{110}$
Polk	90	97	103	107
Sherman ⁴	93 ⁴	99 ⁴	105 ⁴	111 ⁴
Tillamook	93	99	100	107
Tillamook special wind region ^a	$\frac{91}{125}$ <u>115</u>	135 <u>120</u>	<u>102</u> <u>145</u> <u>130</u>	145 <u>135</u>
Umatilla ^e	95°	102°	109°	113°
Union	96	102	109	113
Wallow ^a	97	103	110	115
Wasco ^d	93 ^d	99 4	106 ^d	110 ^d
Wasco special wind region ^a	100 <u>93</u>	110 <u>99</u>	<u>115 106</u>	115 <u>110</u>

TABLE 1609.3—continued					
BASIC DESIGN WIND SPEED, V, FOR RISK CATEGORY I, II, III AND IV BUILDINGS AND OTHER STRUCTURES					

COUNTY	RISK CATEGORY I BASIC DESIGN WIND SPEED, V (MPH)	RISK CATEGORY II BASIC DESIGN WIND SPEED, V (MPH)	RISK CATEGORY III BASIC DESIGN WIND SPEED, V (MPH)	RISK CATEGORY IV BASIC DESIGN WIND SPEED, V (MPH)
Washington	91	97	103	107
Wheeler	94	100	107	111
Yamhill	91	97	103	107

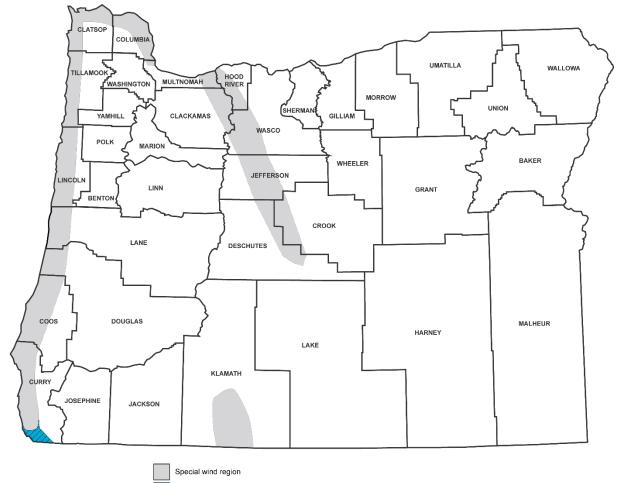
For SI: 1 mile per hour = 0.45 m/s.

a. Refer to Figure 1609.3 for mapped special wind regions.

b. The basic design wind speed for buildings and structures in this region with full exposure (wind exposure category D) to Ocean winds shall be 125 mph for Risk Category I, 135 mph for Risk Category II, and 145 mph for Risk Categories III and IV.

e. The basic design wind speed for buildings and structures in this region with full exposure (wind exposure category D) to Columbia River Gorge winds shall be 125 mph for Risk Category I, 135 mph for Risk Category II, and 145 mph for Risk Categories III and IV

d. The basic design wind speed for buildings and structures in this region with full exposure (wind exposure category D) to Columbia River Gorge winds shall be 115 mph for Risk Category I, 120 mph for Risk Category II, and 130 mph for Risk Categories III and IV.



Special wind region - see note b

(The blue shaded area will be a gray hatched pattern)

FIGURE 1609.3 SPECIAL WIND REGIONS – OREGON ^{a, b}

- a. Sites on the perimeter periphery of the identified special wind regions shall be verified using https://hazards.atcouncil.org. the ASCE 7 Hazard Tool: https://asce7hazardtool.online.
- b. Basic design wind speeds shall be obtained from Table 1609.3; see Notes b, c and d for buildings and structures with full exposure (wind exposure category D) to Ocean or Columbia River Gorge winds.
- b. This portion of the special wind region in Curry County extends 15 miles inland from the Pacific Coast and is not identified on the ASCE 7 Hazard Tool.