



President's Letter



Spring is finally here! I thought that it would never come. Gone are the days of snow load concerns and getting home when it is dark. Coming are the days of frantic contractors needing design changes based on field conditions yesterday!

I had the privilege to work with a group of 6 seniors from UNH over the course of the last school year for their Senior Design Capstone Project, as I have for the past 5 years. They were assigned a bridge project that we currently are designing in our office and were charged with designing a solution. I didn't give them any of our plans, or let them know the "right" way to tackle a design project. We defined the scope and then it was up to them to figure out how to design the new bridge using the knowledge that they had gained in their classes, as well as guidance from their professors and us. The guidance that these teams receive is purely based on how much they inquire of us. For instance, I don't send them borings unless they ask. I want them to "run the show". As they inquire, we provide answers to their questions ranging from abutment design, to hydraulics, to site distance, to detailing and to presentation pointers.

I was incredibly encouraged by this group's enthusiasm for learning and their search for knowledge. They worked well as a team and all brought forth their best effort. Having been a college student once upon a time, I know those traits are nothing to be taken for granted. They weren't afraid to tackle the unknown or shy away from a challenging design problem. They asked so many questions that my colleague and I were left wondering, "Did we tell them too much?" They came up with a well thought out and practical solution for the design. They had their presentation down to a science when they came to present to my office. They even had their poster ready a week ahead of time so that we could review it and give them advice. Impressive! They performed at a poster presentation at UNH and placed first in the civil engineering group out of all of the senior design classes. I can assure you that this group deserved all of accolades that they received.

Working with this group was extremely refreshing and a reminder of the great opportunities that we as structural engineers get to face each day. I hope that this letter finds you encouraged and ready to face your next challenge!

Also, a friendly reminder that we will be voting on 3 nominations for the BOD at the May meeting.

Continued on next page

Inside this issue:

President's Letter	12
May Meeting Announcement	4
March Meeting Minutes	5-6
UNH Page	7

Special Points of Interest/ Reminders:

- *The next meeting is May 13th and includes an optional golf outing—See inside for details.*

President's Letter *continued from Page 1*

Thank you to all that currently support and volunteer for SENH! If you are interested in becoming more involved or have any questions or concerns, feel free to contact me at president@senh.org or (603) 647-2012.



NCSEA Online Member Portal

SENH members have received a letter from NCSEA describing the new online portal along with log-in information, including a temporary password. There's great member-only information and resources to be found here, as well as a central place to access your NCSEA activity and continuing education opportunities.

You can now customize your communications preferences with NCSEA by use of your portal (i.e. STRUCUTRE magazine, Structural Connections, continuing education announcements, etc.).

If you have not received a letter from NCSEA about your portal, or you have any comments or concerns about your portal use, please contact NCSEA and [Susan Cross](mailto:scross@ncsea.com) (scross@ncsea.com).

PR Committee Announces the 2015 SENH Scholarship Winners

The Structural Engineers of New Hampshire wishes to congratulate the UNH students who were selected to receive the 2015 SENH Scholarships. SENH's Public Relations Committee reviewed and ranked the applications for UNH Juniors in the Civil Engineering academic program that have demonstrated an interest in structural engineering through their choice of coursework. We selected **Bimochan Poudyal** and **Katelyn Welch** to receive \$500 scholarships based on their academic achievements along with their involvement in the academic community and extracurricular activities. They were invited to the Engineering Week Banquet in February as guests of SENH. They are also welcome as guests to any of our SENH meetings. If they take us up on that offer, please extend a congratulatory hand to these very deserving students.

Building Code Review Board Request for Input During Consideration of the 2015 I-Codes

In the coming months, the New Hampshire Building Code Review Board (BCRB) will be scheduling public hearings on recommendations to update the state building code to the appropriate 2015 I-codes along with the relevant current amendments (the BCR 300s). The board will be preparing exhibits specific to each of the 2015 codes and each amendment. The exhibits will be posted on the board's website along with the specifics for each hearing in order to solicit public input. Once the hearings have been held and public input sought, the board will vote on each of the amendments to decide which will be brought to the attention of the state legislature for their action. Updates to the next generation of codes will not occur without affirmative legislative action.

In April, the BCRB considered the 2015 *International Residential Code for One- and Two-Family Dwellings* (2015 IRC) sub-committee's recommended updates to the state building code that included the 2015 IRC along the relevant amendments, many administrative in nature. Exhibits were prepared and a public hearing scheduled for June 12, 2015. Similarly, at the May 8th meeting the BCRB, will be considering the 2015 *International Building Code* (2015 IBC) sub-committee's recommendations for updates with the expectation that those exhibits will also be scheduled for a public hearing on June 12th.

For structural engineers of the most significant changes probably occur in Chapter 35, which lists referenced standards - many that were updated. One of biggest impacts of jumping from the 2009 IBC to the 2015 would be you can no longer delay buying and implementing the referenced [ASCE 7-10, which will change the way you calculate wind forces](#). Note, there is a new version of ICC 600-14, Standard for Residential Construction in High-Wind Regions referenced in IBC 2015.

Building Code Review Board Request for Input During Consideration of the 2015 I-Codes *Continued*

To ease the burden on your wallet (or company credit card) the American Wood Council provides free view-only pdfs of their referenced standards online, so designers do not have to buy each new edition every time the code changes. The Cold-formed Steel Engineers Institute has many free downloadable American Iron and Steel Institute (AISI) framing standards as view-only pdfs. And here is a link to the [Complete Revision History to the 2015 I-Codes](#) (from the 2012 I-codes) for you insomniacs out there.

The BCRB has sent letters out to many organizations, including SENH, to seek their input during this phase of the process. The Code Advisory Committee of SENH is one of the interested parties that may choose to offer their input, however anyone may present their opinion at a BCRB hearing or offer up written statements to the board. Consider this your formal invitation to attend any of the hearings or meetings of the BCRB. Meetings are held at 10:00 AM on the second Friday of each month. Public hearings are typically scheduled to occur within that same time frame with notices posted on the website. Free public access to the 2015 codes can be found here <http://codes.iccsafe.org/I-Codes.html>

Any individual or group can also choose to suggest amendment(s) to the state building code for the BCRBs consideration. It is the board's desire that these suggestions be directed toward the proposed 2015 I-codes, although technically there is nothing stopping you from presenting suggested amendments to the 2009 codes. The forms are present on the BCRB website. These forms do not need to be presented in sync with the various sub-committee activities, however the BCRB wishes to conclude this round of hearings associated with the 2015 I-code updates in the fall and have a well-considered recommendation presented in a bill request to the legislature shortly thereafter.

Respectfully submitted, Linda K. McNair-Perry, P.E., SECB, and BCRB member

NH Architects and Engineers Emergency Response Task Force,

Submitted by Robert R. Champagne, P.E.

Just over two years ago, I informed you of this newly formed group of Engineers, Architects, Building Officials and Contractors. The group was established as a disaster organization resource available to the State of New Hampshire's Homeland Security and Emergency Management (NHHSEM) for rapid mobilization during times of disasters and emergencies.

One of the main hurdles we have been trying to address is the liability associated with volunteer efforts of licensed Engineers and Architects. Because of our exposure to professional liability the task force has been pursuing legislation to protect us from civil litigation for volunteer services rendered in an emergency.

Legislation expanding the Good Samaritan law to Architects and engineers was filed last year and passed the Senate, but did not make it through the House. This year, we again filed legislation, but started with the House. The House passed the legislation last month, and the bill is now going before the Senate Judiciary Committee with a hearing scheduled for Wednesday April 28.

This legislation is essential for us to be protected during volunteer efforts provided following a disaster or emergency. We are asking that you contact your Senators and voice your support for this important legislation. As many of you may be aware, we have tried to get this legislation passed many times in past years. We are very close this year and just a few calls/emails may make a difference. If you read this article before 4/28/15, you can voice your support by contacting the Judiciary Committee Chair, Senator Sharon Caron at the number below. You can email letters to Ms. Susan Duncan (committee aid) at susan.duncan@leg.state.nh.us.

Letters should be addressed to:

Senator Sharon Carson, Chair, Senate Judiciary Committee
Room 106 State House / 107 North Main St.
Concord, NH 03301
603-271-1403

After the Senate Judiciary Committee vote, correspondence can be through your respective Senators.

All volunteers are welcome to our regular meetings and training seminars/courses. I would be happy to provide additional information to any and all who may be interested. I can be reached via email at bob@summitengineeringinc.com.

SENH MAY MEETING ANNOUNCEMENT

- NEXT MEETING:** Wednesday, May 13, 2015
- PRESENTATION:** **Helical Screw Piles In Soil**, by **Pat Haffert**, Danbro Distributors, Philadelphia, PA. This presentation is an overlook on all aspects of the helical pile industry. The goal is to spread the knowledge of the helical pile world and educate professionals to view them as a strong deep foundation system. Using many case histories and a pictorial adventure the industries future in feasibility, engineering design and overall advantages is discussed.
- SPEAKER:** **Pat Haffert** has 42 years of experience in the publishing, advertising, public relations, and construction industries. He has spent the last 16 years at Danbro Distributors, the exclusive distributors for Chance Helical Products in the Northeast. Pat regularly provides professional support services including presentations to engineers and architects for PDH credits.
- PLACE:** The Derryfield Restaurant
625 Mammoth Road
Manchester, NH 03101
- DIRECTIONS:**
- FROM THE NORTH:**
Take I-93 South to exit 8 (Wellington Road). At the end of the exit, take a right. At the first set of lights, take a left onto Mammoth Road. Derryfield Golf Shop is located a few hundred yards on the left.
- FROM THE SOUTH:**
Take I-93 North to exit 8 (Wellington Road). At the end of the exit, take a right. At the second set of lights, take a left onto Mammoth Road. Derryfield Golf Shop is located a few hundred yards on the left.
- AGENDA:** 5:30 pm-6:30 pm Registration/Social Hour
6:30 pm-7:30 pm Dinner
7:30 pm-7:45 pm Business Meeting
7:45 pm-9:00 pm Presentation
- DINNER:** Buffet with choice of Grilled Salmon or Chicken Marsala.
- COST:** SENH Member: \$50.00 Non-Member: \$55.00 Full Time Student: \$15.00 - 'no-shows' will be billed at full amount.
- RSVP:** by Friday, May 8, 2015. There will be a \$5.00 late fee for anyone wishing to RSVP past this date.
- Please send check payable to "Structural Engineers of New Hampshire" with list of attendees to:
- Hoyle, Tanner & Associates, Inc.
Attn. Deb Coon
150 Dow Street
Manchester, NH 03101
dcoon@hoyletanner.com
- NOTE:** 2.0 PDHs have been assigned for attendance to this program. Attendees are responsible for ensuring their check-in on the attendance list upon arrival at the meeting. Some members will be **golfing** before the meeting. To join in, please email Rebekah Gaudreau at gaudreaurj@pbworld.com no later than May 11th to be included on emails regarding any golf plans.

March Attendance List & Meeting Minutes

How New Trends in Wood Construction Comply with the Building Code

University of New Hampshire (2.0 PDH's)

March 24, 2015

Name		Organization	Name		Organization
Daniel	Agan	University of New Hampshire	Aaron M.	Lachance, P.E.	Hoyle, Tanner & Assoc., Inc.
Geoffrey R.	Aleva, P.E.	Civil Consultants	Thomas E.	Lamb, P.E.	TFMoran, Inc.
Anabelle L.	Allen	Hoyle, Tanner & Assoc., Inc.	Stephen M.	Leonardo	University of New Hampshire
Matthew	Allen, P.E.	JSN Associates, Inc.	Benjamin	Longchamp	
Joe	Asencio	University of New Hampshire	Jonathan M.	Longchamp, P.E., SECB	Daigle Engineers, Inc.
Alex	Azodi, P.E., SECB	Omega Structural Engineers	Josh	Lund, P.E., SECB	McFarland Johnson, Inc.
Daniel	Bard	Summit Engineering, PLLC	Ewen I.	MacKinnon	University of New Hampshire
Nicholas	Batemena	University of New Hampshire	Dave	Macolini, P.E.	Becker Structural Engineers
Erin	Bell	University of New Hampshire	Kyle	Mallory	University of New Hampshire
Lily	Beyer	Summit Engineering, PLLC	Shaun	McKenna	University of New Hampshire
Josif	Bicja, P.E.	Hoyle, Tanner & Assoc., Inc.	Ricardo	Medha	University of New Hampshire
Jacob	Blunden	University of New Hampshire	Josh	Mele	University of New Hampshire
Pat	Bogle	University of New Hampshire	Matthew	Mullen	TFMoran, Inc.
Sean F.	Brown	Parsons Brinkerhoff	Marc	Nummerlin	Tirey & Associates, P.C.
Taylor	Buchalter	University of New Hampshire	Larry	OBrien P.E.	Gelinas Struct. Engineering
Robert S.	Busby, P.E.	Kalwall Corporation	Linda McNair-	Perry, P.E., SECB	Hoyle, Tanner & Assoc., Inc.
Eric	Casey	University of New Hampshire	Jonathan	Proulx	University of New Hampshire
Zachary	Chabot	University of New Hampshire	Marshall	Ramini, E.I.T.	Summit Engineering, PLLC
Robert	Champagne, P.E., LEED	Summit Engineering, PLLC	Neil J.	Rapoza, P.E.	Civil Consultants
Gregory	Clauson	Hoyle, Tanner & Assoc., Inc.	Stephen	Richard	Steffensen Engineering Assoc., Inc.
Aidan	Cleaves	University of New Hampshire	Marc	Rivard	American Wood Council
Nathaniel	Colp	University of New Hampshire	Stephen	Rosenberg	University of New Hampshire
Lou	Cote	Steffensen Engineering Assoc., Inc.	Richard A.	Rouleau, P.E.	UNH Facilities
Tony	Coviello, P.E., S.E.	Summit Engineering, PLLC	Adam	Sampson, E.I.T.	Becker Structural Engineers
Joaquin	Denoya, P.E.	TFMoran, Inc.	Tyler	Shedd	University of New Hampshire
Russell	Fink	University of New Hampshire	John	Showalter	American Wood Council
Christopher R.	Fournier, P.E.	HEB Engineers, Inc.	Michael J.	Sievert, P.E., SECB, LEED	MJS Engineering, P.C.
Thomas A.	French, P.E.	French Engineering, LLC	Peter	Steffensen, P.E., SECB	Steffensen Engineering Assoc., Inc.
Rebekah	Gaudreau, P.E.	Parsons Brinkerhoff	Bethel A	Stephens, P.E.	Steffensen Associates
Roger W.	Gayer, P.E.	Structures Unlimited, Inc.	Adam M.	Stockin, P.E.	Parsons Brinkerhoff
Dan L.	Gelinas, M.S., P.E., SECB	Gelinas Structural Engineering, LLC	Megan	Suffel	University of New Hampshire
Geoffrey	Glover	University of New Hampshire	Jeffrey L.	Tirey, P.E., SECB	Tirey & Associates, P.C.
Connor	Golden	University of New Hampshire	Jeffrey S.	Trexler, P.E.	Trexler Engineering
Martin	Gorham, P.E., LEED	Gorham Structural Engineering, PLLC	Ben	Van Deventer, E.I.T.	Becker Structural Engineers
Scott	Hartford, P.E.	Kalwall Corporation	Bryson	Welch	Becker Structural Engineers
Brittany	Holebrook	University of New Hampshire	Samuel I.	White	McFarland Johnson, Inc.
Patrick	Horrigan, E.I.T.	Becker Structural Engineers	Daniel	White	University of New Hampshire
Jeffery R.	Karam, P.E., LEED	Evergreen Structural Engineering, PLLC	Chris	Williams, P.E. S.E.	Becker Structural Engineers
Tom	Kilrain, P.E.	Department of Navy	Ross	Wood, P.E.	CHA Companies
Melinda	Kline	University of New Hampshire	Shokoufeh	Zargal	University of New Hampshire
Absubacar	Konate	University of New Hampshire			

Business Portion of the Meeting

SENH President Adam Stockin opened the membership meeting.

- Bob Champagne gave a brief budget update and urged all attendees to pay their dues.
- Adam presented a couple upcoming seminars in April in Maine and Massachusetts. He also said that Tim May will be coming to NH in August for a seminar on building serviceability.
- Alex Azodi provided an update on the Code Advisory Committee. The committee is active and has several issues they need to work on. He stated that the committee is seeking new members to help with examining prescriptive guidelines for PV roof loads and reviewing the 2015 NH amendments for the Building Code Review Board.
- Adam presented the three nominees for the three open board positions: Paul Sbacchi, Tom French, and Chris Fournier.
- Adam stated the next meeting will be May 13 at the Derryfield in Manchester with a presentation on Helical piles. Becky Gaudreau asked that those who would like to play golf before the meeting to email her.
- Adam was pleased to provide and update that Yoram Eilon has committed to speak at the joint meeting about his work in the design of One World Trade Center.
- Josif Bicja then introduced the presentations.

March Attendance List & Meeting Minutes
How New Trends in Wood Construction Comply with the Building Code
University of New Hampshire (2.0 PDH's)
March 24, 2015
Continued

Presentations

UNH Concrete Canoe Team

The team's theme is "Big Kips sink Ships". The team is constructing a 14 foot long canoe using folding construction. The concrete mix contains glass aggregate and placing in two 3/8 inch layers with steel mesh reinforcement between the layers. The concrete testing has reached 2800 psi, better than the design of 2000 psi goal. The regional competition is April 24th and the team is seeking financial support for this competition and plans to attend the national competition.

UNH Steel Bridge Team

The team is constructing a 1/10 scale arch bridge. The bridge was designed by the students and utilizes a twist lock tension connection developed by previous UNH steel bridge teams. The bridge is currently in fabrication. The team looks to compete at the regional competition at Merrimack on April 10 and 11. The team is seeking financial support for the regional and hopefully the national competition.

How New Trends in Wood Construction Comply with the Building Code – John "Buddy" Showalter, American Wood Council

He provided an overview of a variety of current and new wood products and techniques and discussed how they may be applied to your future building designs and how they are being used in projects across the nation today to comply with the International Building Code (IBC). Included in this presentation was information on the application and advantages of: Advanced Framing,

Panelized Walls, Mid-ply Shear Walls, Heavy Timber Braced Frames, Structural Insulated Panels (SIPs), Composite Floor Systems, Cross-Laminated Timber (CLT) and advances in FRP reinforced wood products.

Cross-Laminated Timber (CLT) – Mark Rivard, Woodworks

Mark introduced the product of CLT and presented key aspect of the IBC that provide for opportunities to apply CLT is more applications. He presented the advantages of CLT for fire resistance, connection types, acoustics, and building enclosure benefits. He also reviewed some of the tall CLT buildings that have been completed, those in progress, and impressive buildings in conceptual phases.

Respectfully submitted by Christopher Fournier, PE, SENH Board of Directors Secretary.

Updates from the University of New Hampshire - 2015 Steel Bridge Competition

The 2015 New England Steel Bridge Competition brought in many competitive schools ready to take on the challenge of this year's rules. This year specifically had a major change in the allowed dimensions of the bridge, connection types, and the process in which the bridge is put together. The construction methods this year not only allowed all builders to run and construct at the same time, but also build the bridge over "dry land" and then swing the structure into place. There were many very creative build orders used by various teams.



The UNH Steel Bridge Team took a brand new approach to the basic girder bridge UNH has utilized for years. The seniors felt inspired to take on the challenge of something new and different with the allowances the new rules provided. This year's team designed and fabricated an impressive looking arch bridge with innovative connections. A twist connection was reinvented from the 2012 bridge design and used on the tension chord and compression plate connections in the arch. The builders were able to construct the bridge in under 25 minutes with only four builders. The build order flowed perfectly and the teamwork during construction was flawless.



The bridge weighed in at about 240lbs and looked as sturdy as can be. Unfortunately, the team's hope for making the top 3 came to a devastating end with only 20lbs left to load on the bridge. Just before placing the last channel of weight the top chord of the arch started to deflect in towards the center of the bridge. With the added torque of the arch member on the verge of buckling it caused a weld to pop on the tension chord and down it came on to the safety buckets below. Along with a handful of other schools, UNH was sadly disqualified from the competition, but they didn't go down without a fight!

Even though the 2015 bridge didn't make it doesn't mean that the team has lost hope for future years. The number of students involved is very promising. There is no doubt in my mind that next year's team will come to the New England competition with just as much ambition, if not more. I look forward to seeing what inspires them next year!

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