

Structural Engineers of NH

January 2006



Serving New Hampshire

Next Meeting

Wednesday

JANUARY 11, 2006

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Manchester, NH**

SENH PRESIDENT'S LETTER...

It's hard to believe the Holiday Season is upon us! Knowing how busy everyone is this time of year, I want to remind everyone that our first meeting occurs early next year with an RSVP date of January 6th. Please reply early to Deb Coon via mail or email, as she will not be available by telephone over the holidays.

Dues Renewal

As we begin a new year, we also begin a new dues renewal period. The organization is good financial shape, so the dues will remain unchanged in 2006. A renewal form is attached to this newsletter; please renew by January 31st. Copies of the 2006 budget will be available at the January meeting.

FHWA Covered Bridge Manual

For those who reserved a covered bridge manual, January 11th is the last day to either pick up the manual, or make arrangements to have it delivered. At the January 11th meeting, the remaining manuals will be available on a first come, first serve basis. Contact swjohnson@vhb.com to make arrangements prior to the January meeting.

Upcoming Meetings and Seminars

Hilti USA will present a non product specific seminar January 19, 2006 on "The Concrete Capacity Design Method for Post-Installed Anchors" in Boston, MA. (3½ PDH) Early Registration ends December 22nd. SENH members receive a \$25 discount (send a note with the registration indicating SENH membership). http://www.us.hilti.com/holus/modules/editorial/edit_singlepage.jsp?contentOID=146651

National Engineers Week is Feb. 19-25, 2006. The highlight of this year's event will be an awards banquet and exhibition held on Thursday, Feb. 23, 2006 at the Radisson Hotel at the Center of New Hampshire in Manchester. www.nhspe.org

The NH-ASCE History & Heritage meeting on Thursday March 16th will feature the restoration of the French-Atwood Barn in Bedford (conversion from a farm structure to a branch of the Laconia Savings Bank). For further information go to www.ascenh.org

The Professional Development Committee is working on a business practices meeting featuring Zweig-White Consulting for the SENH March Meeting, date to be determined.



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Member of

Upcoming Meetings and Seminars (continued)

The NH Society of Professional Engineers is now posting a combined calendar for engineering events within the state. Go to <http://www.nhecal.org/> to view these events.

“The NCSEA Winter Institute will be held in Jacksonville, Florida February 10th and 11th. Additional information is attached included at the back of the newsletter.”

NH Legislature

The SENH Board is currently tracking several bills on this year’s legislative calendar. Below is a brief description of each bill. If you have comments or additional information on any of these bills, please pass them on to a Board member.

- HB 1142 – a measure establishing a committee to study whether a general business license should replace the licensure of trades and professions.
- 2006-S-2026-R – adding the International Residential Code 2000 in the definition of the state building code.
- 2006-H-2620-R – a measure relative to membership on certain professional boards.
- 2006-H-2621-R – a measure relative to the regulation of landscape architects.
- HB 1347 – a measure defining licensure, registration, or certification of regulated professions.

As always, if you have any questions regarding SENH, what’s planned for the future, or suggestions on how to improve our organization, please don’t hesitate to contact any member of the Board of Directors.

Sincerely,
Structural Engineers of New Hampshire

Steve W. Johnson, P.E.
President



Structural Engineers of New Hampshire Meeting Attendance

DATE: November 17, 2005

PLACE: Red Hook Brewery, Portsmouth, NH

RE: Site Class Determination and Structural Considerations for Seismic Design Using IBC
(2.0 PDH Assigned)

NAME	ORGANIZATION	NAME	ORGANIZATION
Dana Michael Adams, P.E.	Opechee Construction Corp.	Tom Kilrain	Kimball Chase
Geoffrey R. Aleva, P.E.	Civil Consultants	Paul Kirby, P.E.	TFMoran, Inc.
Matthew Allen, P.E.	JSN Associates, Inc.	Dave Konieczny, P.E.	Pyramid Engineering, P.C.
Alex Azodi, P.E.	Omega Structural Engineers	Kristofer Kretsch, P.E.	SPS New England, Inc.
Scott Babbidge	W.R. Grace	Matthew J. LaBrecque, P.E.	PCI Architecture
Roderick D. Bard, P.E.	Stahlman Group, Inc.	Steve Long, P.E.	Opechee Construction Corp.
Jason Blais, P.E.	Opechee Construction Corp.	David A. Macolini, P.E.	JSN Associates, Inc.
Andy Blaisdell	Haley & Aldrich	Nathan Maher, P.E.	JSN Associates, Inc.
Jay H. Brown, P.E.	Structural Systems, Inc.	Anthony P. Manzi, P.E.	
Robert R. Bussiere, P.E.	Bussiere Engineering	Donald F. Mayo, P.E.	Donald F. Mayo, P.E., Inc.
John Byatt, P.E.	CLD, Inc.	Chad B. Michaud, P.E.	S.W. Cole Engineering, Inc.
Wayne Chadbourne	Haley & Aldrich	Kenneth W. Milender	Miller Engineering & Testing, Inc.
Robert Champagne	Kimball Chase	Raymond G. Morin, P.E.	Raymond G. Morin, P.E.
Normand G. Cote, Jr., P.E.	NGC Structural, LLC	Robert F. Myers	Carroll Concrete
Tony Coviello, P.E.	JSN Associates, Inc.	Todd Neal	SEAM Member - Becker Structural Eng
Cheryl W. Coviello, P.E.	Appledore Marine Engineering, Inc.	Cindy W. Noret	Structural Systems, Inc.
Edward F. Decelle	Structural Systems, Inc.	Linda McNair-Perry, P.E.	GV Engineering, LLC
Khaldoun Doukma, P.E.	JSN Associates, Inc.	Neil J. Rapoza	Civil Consultants
Robert H. Durfee, P.E.	Hoyle, Tanner & Assoc., Inc.	Ethan Rhile	SEAM Member - Becker Structural Eng
Fred Emanuel, P.E.	Emanuel Engineering, Inc.	Stephen Richard	Steffensen Engineering Assoc., Inc.
Roger W. Gayer, P.E.	Structures Unlimited, Inc.	Richard E. Roberts, P.E.	Foley & Buhl Engineering, Inc.
Daniel L. Gelin, P.E.	Gelin Structural Engineering, LLC	Richard A. Rouleau, P.E.	Consultant
Derek J. Gilbert, P.E.	TFMoran, Inc.	Kyle Roy, P.E.	Kimball Chase
Paul Goldberg, P.E.	PCI Architecture	Hossein Salehkhrou, P.E.	JSN Associates, Inc.
Carl L. Goldknopf, P.E.	GV Engineering, LLC	Paul Sbacchi, P.E.	Kimball Chase
Martin Gorham, P.E.	JSN Associates, Inc.	Matthew A. Severson, P.E.	Parsons Transportation Group
Scott L. Harmon	S.W. Cole Engineering, Inc.	Ken Severy	SEAM Member - Bath Iron Works
Robert S. Hartford, P.E.	Kalwall Corporation	Peter Steffensen, P.E.	Steffensen Engineering Assoc., Inc.
Steve W. Johnson, P.E.	Vanasse Hangen Brustlin, Inc.	Jeffrey L. Tirey, P.E.	Tirey & Associates, P.C.
James Karmozyn, P.E.	H.E. Bergeron Engineering	Jeffrey S. Trexler, P.E.	Trexler Engineering
Roger Keilig, P.E.	HTE Northeast, Inc.	Bryson T. Welch, P.E.	Becker Structural Engineers
Dominic Kelly, P.E.		Sarah Zoni	JSN Associates, Inc.
Thomas T. Kendrick, P.E.	Parsons Transportation Group		

SENH November 17, 2005 - Meeting Minutes

I. BUSINESS PORTION OF MEETING:

The meeting was called to order by President Steve W. Johnson, PE, at 7:25 pm, after the social time and dinner.

1. Treasurer, Jim Karmozyn, PE, reported that the SENH account had balance of \$12,372.
2. New Member Applications Approved: Neil Rapoza (Associate Member) was introduced.
3. CE: SENH website now lists conferences and CE courses. Please notify Bob Busby of upcoming events for posting. Upcoming
 - a. The Structural Engineers' Buildings Conference & Expo, to be held December 1 and 2, 2005, in Chicago
 - b. Hilti USA, "The Concrete Capacity Design Method for Post-Installed Anchors", Boston, MA. Jan 19 (SENH discount)
4. Bob Durfee, PE, our NCSEA delegate, provided highlights of NCSEA National Conference Kansas City. (on website soon.):
 - a. Linda Hall Library is large public library with a strong engineering and technology collection, made even stronger by the acquisition of the Engineering Societies Libraries in 1995. Engineers may access the library for research. Website: www.lindahall.org
 - b. Design of cold form steel structures is based on provisions of AISI-North American Specification for the Design of Cold Form Structural Members which deals with members and connections but does not cover built-up trusses, erection tolerances, field cuts or notches in members or assemblies. SFA & AISI will produce new standards to deal with this.
 - c. Minimum Antiterrorism Standards: design requirements for blast/progressive collapse design of military buildings.
 - d. IBC is now adopted in 44 states. California will switch from NFPA to IBC.
 - e. NCSEA's Advocacy Committee is distributing new Structural Engineering posters. Let Bob know if you want to take a poster to a High School that is not already covered - 33 of the 40 he brought back from Kansas have been spoken for.
 - f. The focus of the NCSEA Winter Institute will be Antiterrorism Design for Structural Engineers, Wind Engineering, and Seismic Provisions of SEI/ASCE 7-05. More information can be found on the NCSEA website.
 - g. Structure Magazine is now at 12 issues a year. The magazine is in need of finding articles from members.
 - h. NCSEA has 40 member organizations with a goal of having all 50 states represented.
 - i. NIST reported that wind recorders placed in advance of the hurricane indicated that wind speeds did not exceed the current IBC but may have exceeded earlier design codes. The majority of damage was caused from storm surge and flooding. Significant damage was caused by flying debris such as stone from ballasted roofs.
 - j. The NCSEA Certification Board reports that they currently have 863 members with 1,000 more applications pending.
 - k. It was noted that structural engineers can join ASCE and have all their dues go to SEI if they designate as such.
5. Steve J. introduced the speaker.

II. TECHNICAL PRESENTATION

Dominic Kelly, PE, Staff Consultant with Simpson Gumpertz & Heger, Inc and member of ASCE Seismic Task Committee and 2005 IBC Seismic Committee presented "Tips for Seismic Design in NH". To determine if earthquake design really is necessary in NH you need to compare historic data for the region with similar earthquake zones (1993 Scotts Mills Earthquake in Oregon) and with areas far enough away from the epicenter of a major quake that will have similar ground accelerations (example Loma Prieta -- epicenter that is about 70 miles from San Francisco). Based on this information earthquake design is relevant to NH. The objective of seismic design in accordance with the 2003 IBC is to prevent collapse in an earthquake with 2% PE in 50 years (once in 2500 year event) and to address life threatening falling hazards. This represents 2/3 of the "big event". Code issues and updates to be aware of: There has been a big change from the 1996 maps (ASCE 7-02, IBC 2000, IBC 2003) to the 2002 maps (ASCE 7-05, IBC 2006). The 2002 maps have significantly less values along the Atlantic Seaboard (about 10% lower and S_1 is 20% lower). Six Site Classes: Class A for hard rock through Class F for very poor soils. Classes are progressively softer (lower shear wave velocity) soils. Base classification on top 100 ft of soil and rock. Site Class F requires site specific evaluation. Methods to determine site class include shear wave velocity method (using seismic cross hole test, seismic down hole test, spectral analysis of surface wave test, or seismic cone test) weighted average blow count method, and undrained shear strength method. Calculating site class by shear wave velocity (S of layer thicknesses/ S times for a shear wave to through each layer) -- include rock layers less than 100 ft deep. Calculating site class by standard penetration resistance (weighted average blow count method) is convenient, but correlation between site amplification and blow counts is more uncertain than the correlation with shear wave velocity (rock is to be included). Determining site class by undrained shear strength method is rather conservative, but for clays/cohesive soils it is usually better than standard penetration resistance method and the correlation between site amplification. The undrained shear strength is more uncertain than the correlation with shear wave velocity (although rock layers are not considered in code procedure, but rock can be incorporated by geotech). Seismic Design Category (SDC) depends on the 0.2 second (short period) and 1 second design spectral response accelerations, seismic use group (occupancy category), and site class. Seismic Force Resisting Systems: SCBF and EBF's are good choices for SDC D. SDC B and C may result in the most economical structure. If the building is on deep foundations, foundation costs may be reduced, which may result in the most economical building even if the structural steel costs are a little higher. Typical Braced Frames in New England include R-of-3 which cannot be used in SDC D or above. CBF and R-of-3 Braced Frames advantages include fabricators have more flexibility, contractors expect this type of steel structure, smaller connections, and less design time is required. Disadvantages are less reliable performance, CBF currently requires design for tensile capacity of the brace although ASCE 7-05 addresses this issue. ASCE 7-05 includes a new simplified design procedure that is applicable to bearing wall and frame systems for Site Class A, B, C or D and is $< \text{ or } = 3$ stories with at least two lines of resistance in each direction. In conclusion the objective of collapse prevention is worth achieving.

Contact linda@gvengineeringllc.com , if you would like a detailed synthesis of the information presented including charts/graphs.

2.0 PDHs for the technical presentation were earned by attendees.

Respectfully submitted, Linda K. McNair-Perry, P.E., Secretary, SENH

JANUARY MEETING ANNOUNCEMENT

NEXT MEETING: Wednesday January 11, 2006

PRESENTATION: **“Grade-Supported Floor Slabs”**, Michael Harris, PNA Construction Technologies, Inc.

PLACE: **Puritan Backroom Restaurant and Function Center**, Daniel Webster Highway, Manchester, NH.
Phone 666-9893

DIRECTIONS: I-93 to Exit 9S in Manchester (Routes 3 and 28), Daniel Webster Highway. Restaurant is on the left 1.5 miles south of the interchange. Function Center shares parking lot with the restaurant. Conference Suite B at the Function Center.

AGENDA: 5:30 pm-6:30 pm Social Hour
6:30 pm-7:15 pm Dinner
7:15 pm-7:30 pm Business Meeting
7:30 pm-8:50 pm Presentation

DINNER: Cornucopia Buffet; Ham, Lasagna, Chicken Tenders.

COST: Member: \$35.00 Non-Member: \$40.00 Full Time Student: \$30.00

RSVP: by Friday, January 6, 2006

Please send check payable to “Structural Engineers of New Hampshire” with list of attendees to:

SENH
P.O. Box 226
Manchester, NH 03105-0226
Contact: Deb Coon, Administrative Assistant, (603) 669-5555

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



At the invitation of Structural Engineering Institute (SEI) Alex Azodi of SENH attended the events in Phoenix, Arizona on December 2 and 3, 2005. The first day was the welcome general session with schedule, purpose, general information, and presentation of a few projects with major local importance, and the second day was the meeting for the chairs of local Structural Technical Group.

SEI LOCAL ACTIVITIES DIVISION
MEETING OF LOCAL STG and CHAPTER CHAIRS

DECEMBER 2 & 3, 2005

Phoenix, Arizona

This was the Fifth annual meeting of the SEI. The goal of this event was to provide an opportunity to share ideas about local group functions, share resources, learn to improve programs, hear how various problems are being solved in other parts of the country, and brainstorm about issues and concerns in specific regions and in structural engineering in general.

Currently, New Hampshire does not have an official SEI section. SENH functions purely for the interest of structural engineers and represents all aspects of structural engineering in New Hampshire. In the last three years Alex Azodi, Board member of SENH, has been representing the NH structural engineers in this event.

This year, approximately 20 chairs representing 20 states attended the event. Each local group representative shared information on their group's activities, successes, membership, attendance, and other related topics. The top two topics that were on almost everyone's agenda were:

- 1- How to raise funds for the organization in order to help serve the members in more and better ways. Most common ways are providing seminars, finding sponsors for events, and charging fees for advertisements in the newsletter and on the web.
- 2- What type and how to get low cost seminars for the membership. SEI is currently working on a program to help.

Included in the agenda were:

1. Summary of local activities groups: Each state representative discussed the activities of their chapters including challenges, successes and failures.
2. Update on SEI activities:
 - a) Board of governor priorities:
 - i) Continuing education program
 - ii) Improvement to Structural Congress
 - iii) International activities
 - iv) Education of students about SEI
 - b) Risk management Convocations
 - c) Activities of SEI Committees
 - d) Organizing Structural Engineers nationally to Assist in Disaster Recovery:
States are encouraged to start their emergency volunteer team of professionals, work with the legislators to enact Good Samaritan laws, and establish communication with state OEM.
3. Institutes affiliation with Local groups.
4. ASCE Low-Cost Continuing Education Opportunities.
5. Open Forum for Discussions of topics and issues of importance to structural engineers.

Submitted by Alex Azodi, NH delegate, SENH board member

Please Contact Alex Azodi at omegaengineering@tds.net if you would like additional information



SENH 2006 Dues Renewal Notice



Member of

Renewal dues are as follows:

Member: \$ 40.00

Associate Member: \$35.00

Student Member: \$20.00

Please make check payable to SENH, and send with completed bottom portion of this form to:

SENH
P.O. Box 226
Manchester, NH 03105-0226

BY January 31, 2006

**If sending one check for more than one person, please fill out a slip for each person.*

PLEASE FILL OUT BOTTOM PORTION COMPLETELY, THIS FORM IS USED FOR CONFIRMING AND UPDATING LISTS!

Please check one:

Member

Associate Member

Student Member

NAME _____

FIRM _____

ADDRESS _____

PHONE _____ FAX _____ **E-MAIL _____

P.E. YES NO WHICH STATE(S) _____

Check # _____ Check Amount \$ _____

Please indicate below if you would like to serve on one or more of the following committees.

Professional Development Committee _____

SE Image Promotion _____

Code Committee _____

Other (Please Specify) _____

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Please send my newsletter via regular mail.



**STRUCTURAL ENGINEERS
OF NEW HAMPSHIRE**

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Manchester, NH 03105-0226

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