

Structural Engineers of NH

March 2003 Newsletter



Serving New Hampshire



Next Meeting

Thursday

March 20, 2003

Business Practice Panel Discussions

Courtyard Marriott,
Grappone Conference
Center
Concord, NH

SENH PRESIDENT'S LETTER...

Hello SENH:

I hope all of you are enjoying the last of winter as we look forward to spring. Unfortunately, the visually challenged rodent from Punxsutawney saw his shadow, but warmer weather is around the corner, nonetheless. Read on to see what SENH has planned for the upcoming months.

March 20th Meeting

SENH'S next meeting is Thursday, March 20th at the Courtyard Marriott, Graponne Conference Center in Concord. This meeting is a follow-up to the highly successful meeting held in March 2002 and will again be a "round table" discussion of various business practice issues. The meeting announcement is included in this newsletter. RSVP soon!

Happy St. Patrick's Day



Call for Entries - NCSEA 2003 Excellence in Structural Engineering Awards Program

It is that time of year to let NCSEA know about the challenging building and bridge design project that our members have undertaken. Project awards for various categories of projects will be announced at the NCSEA Annual Conference in Denver, Colorado on October 25, 2003. SENH has budgeted \$500 to sponsor one (1) or more project entry fees upon review and endorsement of the application by the SENH Board of Directors. Application packages are due to SENH by May 31, 2003. See the SENH website (www.senh.org) for a link to the downloadable application.

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SENH Board of Director Nominees

The Board of Director terms of Ben Tirey, P.E., Dave Konieczny, P.E. and Roger Gayer, P.E. will expire in May 2003. The SENH Board of Directors nominates the following individuals to fill these positions:

- Roger Gayer, P.E.
- Steve Johnson, P.E.
- Alex Azodi, P.E.



Member of

SENH Board of Director Nominees (continued)

According to Article VII, Section I, additional nominations signed by three (3) or more members may be received by the Board of Directors until March 31, 2003. Board of Director positions will be voted on at the May 2003 Annual Meeting.

May 8, 2003 - SENH Seminar - Floor Vibrations Tom Murray, P.E.

On May 8, 2003 from approximately 8 am to 12 pm, SENH will sponsor and host a seminar on floor vibrations presented by Tom Murray, P.E. Additional details for this seminar will be presented at a later date. Tentatively the seminar will be held at the Highlander Inn at the Manchester Airport. Tom will be making this presentation to the Structural Engineers of Connecticut (SEACT) on the afternoon of May 7, 2003. SENH and SEACT will share the costs of travel, lodging etc. for Tom on his stay.

Return of the Newsletter Joke?

A mathematician and a physicist are trying to measure the height of a flag pole using a long tape measure.

The mathematician takes the tape measure, walks up to the flag pole, and begins to shimmy up the pole. A short way up, he slips and falls down.

The physicist notices a ladder lying nearby in the bushes. He leans the ladder against the pole, but it reaches only half way up. He climbs the ladder and tries to shimmy up from there, but he also slips and falls.

While they sit near the pole scratching their heads, an engineer walks by, so the mathematician and the physicist tell him their problem.

The engineer notices a crank at the base of the flag pole. He turns the crank, and the flag pole tilts over until it lies on the ground. The engineer stretches out the tape measure, cranks the pole back up, and tells the mathematician and the physicist, 'It is 15 feet.'

As the engineer walks off into the distance, the mathematician looks at the physicist and says, "Isn't that just like an engineer? You ask him for the height, and he gives you the length."

I hope to see you all on March 20th in Concord

Very Truly Yours

Structural Engineers of New Hampshire

Matthew J. Low, P.E.

Matthew J. Low, P.E.
President



Structural Engineers of New Hampshire Meeting Attendance

DATE: January 16, 2003

PLACE: Eastern Bridge Steel Fabrication Plant, Claremont, NH

RE: Tour of Eastern Bridge Steel Fabrication Plant
(2.0 PDH Assigned)

NAME	ORGANIZATION	NAME	ORGANIZATION
Dana Michael Adams, P.E.	Opechee Construction Corp.	Lisa M. Martin, P.E.	CLD, Inc.
Jason Ayotte	Hoyle, Tanner & Associates, Inc.	William McEleney	NSBA
Paul M. Becht, P.E.	H. L. Turner Group	Mark McLeod	H. L. Turner Group
Jean-Guy Beliveau	University of Vermont	Raymond G. Morin, P.E.	Consultant
Jason Blais, P.E.	Opechee Construction Corp.	Donald F. Mayo, P.E.	Donald F. Mayo, P.E., Inc.
Roland J. Boucher, P.E.	Boucher Engineering Consultant	Michael Mozer	Parsons Transportation Group
Sara Bradley, P.E.	Stewart Structural Engineering	Linda McNair Perry, P.E.	CLD, Inc.
Robert L. Brungraber, PhD, P.E.	Benson Woodworking Co., Inc.	Athanasia Robinson	Vanasse Hangen Brustlin, Inc.
Robert S. Busby, P.E.	Kalwall Corporation	Larry Rolwes	Parsons Transportation Group
Steven F. Delia, E.I.T	McFarland-Johnson, Inc.	Richard M. Rooney, P.E.	CLD, Inc.
Paul R. Duquette, P.E.	Dufresne-Henry	Jim Spaulding	H. L. Turner Group
Robert H. Durfee, P.E.	Hoyle, Tanner & Associates, Inc.	Bruce D, Stewart, P.E.	Stewart Structural Engineering
Roger W. Gayer, P.E.	Structures Unlimited, Inc.	John G. Stockton, P.E.	URS Corporation
Timothy L. Grant, P.E.	TL Grant Engineering Consulting	Roger M. Thibodeau, P.E.	Twin State Engineering
Robert S. Hartford, P.E.	Kalwall Corporation	Benjamin E. Tirey, P.E.	Str. Eng Consultant
William Hickey	H. L. Turner Group	Emile Troup	
Jeffery T. Klien	Vanasse Hangen Brustlin, Inc.	Chris Turgeon	Jesseman Associates, P.C.
David J. Konesko	TFMoran, Inc.	Edward Weingartner, P.E.	McFarland-Johnson, Inc.
Kris Kretsch	Vanasse Hangen Brustlin, Inc.	Bryson T. Welch	CLD, Inc.
Steve Long, P.E,	Opechee Construction Corp.	Leonard Zabilansky	
Matthew J. Low, P.E.	Hoyle, Tanner & Associates, Inc.		



Structural Engineers of New Hampshire Meeting Attendance

DATE: January 16, 2003

PLACE: Ascotney Mountain Resort, Brownsville, VT

RE: Design Guidelines for Aesthetic Design of Steel Bridges
(1.5 PDHs Assigned)

NAME	ORGANIZATION	NAME	ORGANIZATION
Dana Michael Adams, P.E.	Opechee Construction Corp.	Dave Konieczny, P.E.	Pyramid Engineering, P.C.
Jason Ayotte	Hoyle, Tanner & Associates, Inc.	Kris Kretsch	Vanasse Hangen Brustlin, Inc.
Alex Azodi, P.E.	Stahlman Engineering	John Lens	Geodesigns, Inc.
Paul M. Becht, P.E.	H. L. Turner Group	Steve Long, P.E.	Opechee Construction Corp.
Jean-Guy Beliveau	University of Vermont	Matthew J. Low, P.E.	Hoyle, Tanner & Associates, Inc.
H. Edmond Bergeron, P.E.	H.E. Bergeron Engineers	Lisa M. Martin, P.E.	CLD, Inc.
Jason Blais, P.E.	Opechee Construction Corp.	William McEleney	NSBA
Roland J. Boucher, P.E.	Boucher Engineering Consultant	Mark McLeod	H. L. Turner Group
Sara Bradley, P.E.	Stewart Structural Engineering	Raymond G. Morin, P.E.	Consultant
Robert L. Brungraber, PhD, P.E.	Benson Woodworking Co., Inc.	Donald F. Mayo, P.E.	Donald F. Mayo, P.E., Inc.
Robert S. Busby, P.E.	Kalwall Corporation	Linda McNair Perry, P.E.	CLD, Inc.
Steven F. Delia, E.I.T	McFarland-Johnson, Inc.	Athanasia Robinson	Vanasse Hangen Brustlin, Inc.
Paul R. Duquette, P.E.	Dufresne-Henry	Larry Rolwes	Parsons Transportation Group
Robert H. Durfee, P.E.	Hoyle, Tanner & Associates, Inc.	Richard M. Rooney, P.E.	CLD, Inc.
Fred Emanuel, P.E.	Emanuel Engineering, Inc.	Jim Spaulding	H. L. Turner Group
Jason L. Gallant, P.E.	Jesseman, Gallant & Associates	Bruce D. Stewart, P.E.	Stewart Structural Engineering
Roger W. Gayer, P.E.	Structures Unlimited, Inc.	John G. Stockton, P.E.	URS Corporation
Timothy L. Grant, P.E.	TL Grant Engineering Consulting	Roger M. Thibodeau, P.E.	Twin State Engineering
Robert S. Hartford, P.E.	Kalwall Corporation	Nancy Thibodeau, P.E.	
William Hickey	H. L. Turner Group	Benjamin E. Tirey, P.E.	Str. Eng Consultant
Steve W. Johnson, P.E.	Vanasse Hangen Brustlin, Inc.	Emile Troup	
James Karmozyn, P.E.	H.E. Bergeron Engineers	Chris Turgeon	Jesseman Associates, P.C.
Jeffery T. Klien	Vanasse Hangen Brustlin, Inc.	Edward Weingartner, P.E.	McFarland-Johnson, Inc.
David J. Konesko	TFMoran, Inc.	Bryson T. Welch	CLD, Inc.
		Leonard Zabilansky	

SENH January 16th Meeting Minutes

I. BUSINESS MEETING: The meeting began at 7:00 pm, after the social time and dinner, and ended at 7:10 pm.

1. Matt Low thanked ASCE for the joint meeting.
2. Jim Karmozyn gave a treasurer's report: 1/1/02, year start at \$2,988; 12/31/02 \$3,000 balance.
3. Matt Low announced that Art Rose is the new Legislative Committee Chairman; currently the Committee has no members. Art Rose is retiring from HTA. No updates from the Professional Development Committee. The Business Practice Committee needs a new Chairman and Committee members.
4. Dave Konieczny announced the March SENH meeting, a panel discussion with Jeff Tirey, Jeff Nawrocki and Fred Emanuel. Questions and discussion topics will be taken at the door when attendees arrive. The meeting will be in Concord, possibly the Grappone Center, the first or second week of the month.
5. Matt Low announced that SENH is working with NHOEM. OEM approached SENH to assemble a roster of Reservists to evaluate buildings in disaster circumstances. SENH is considering the possibilities. Specifics of Reservist training are under discussion.
6. Matt Low announced new member Anthony Manzi, Emanuel Engineering.
7. Matt Low announced renewals of SENH membership. Seventy have not renewed out of about 184. The Board of Directors will try to track down late renewals.
8. Matt Low announced the Engineers Week Awards Banquet on February 20, 2003.

II. TECHNICAL PRESENTATION

Emile Troup, P.E., SSFNE, gave a presentation on advancements in High Performance Steel. He described the HPS Update, 10/22/02, from the HPS Steering Committee. He announced the AISC Lecture Series on Practical Design of 2 to 20 Story Buildings on February 25 in Portland ME and on February 26 in Concord NH. Emile described the ten year history of HPS. HPS70W grade composition was finalized in 1995. AASHTO included HPS in its Design Code in 1999. HPS 100 was finalized in 2000. There are 175 HPS bridges under design, construction or in use in the U.S. The Steering Committee is composed of members from FHWA, AISI and the US Navy Ship Building Research Group. A1010 is a proprietary Bethlehem Steel semi-stainless steel and will be part of the A709 Specification. HPS has extraordinary toughness properties and high weathering resistance. The benefit of these properties needs analysis. The ASTM A709-01 Specification was trailed by AASHTO M270 by a year. Designs in HPS are typically driven by deflection and live load criteria and control. Gas metal and flex cord are the primary welding techniques for HPS. The AWS Specification is being updated for HPS for a future release. Most designs combine HPS and 50W steels. 7:40 pm

Bill McEleney, P.E., National Steel Bridge Alliance, AISC, gave a presentation on Design Guidelines for Aesthetic Design of Steel Bridges. He described HPS/50W as a feel good investment with concrete decks as tried and true economically and deflection as the primary concern, particularly vibration. He listed design criteria as clear structural system, good proportion, good order, evidence of forces, abutments & piers, integration into environment, space above bridge, color & texture, and lighting. The first five criteria are structural and lead into the last four criteria. Bill described each criteria and provided examples. The bridge must look stable and trustworthy. The proportion of slenderness should be increased: the ratio of span to structure depth should be 25 to 30:1. Use continuous girders. A span length to pier height ratio of 6:1 is aesthetically pleasing. An odd number of spans is better than an even number. Do not place a pier in the deepest part of the valley. Haunched girders have a good visual aesthetic: depth at pier to depth at midspan should be about 2:1. The slope of the haunch should follow the moment diagram and inflection points. A large deck overhang is aesthetically pleasing. The shadow conceals the girder depth. The overhang should be 30 to 40 percent of the girder spacing, up to 4 feet. Bill defined good order as minimizing the number of directions and the number of surfaces, repetition of angles in shape and form, clean lines, covered utilities. The flow of forces in the bridge structure should be evident to the casual observer. Abutment height should be moderate and the abutment shape should project into the span. Pier caps should be shaped to minimize end projection. Pier thickness should be one quarter to one half the structure depth. Pier width/span length should be 1:8; one column is better than two. Two columns should be the maximum number of columns per pier. Integrate the bridge into the environment. Gather community input and scale proportions to surroundings. Above bridge elements are pylons and railings. Parapet height should be one quarter to one half the girder depth or use shadow to breakup proportions. Color, texture and lighting are not structural engineering criteria. Simplicity is the key to attractive aesthetic bridge design. Refine pure structural shape. Use the bare minimum. Use architectural ornament only as the exception.

Meeting adjourned at 8:25 pm.

Minutes Approved: 2/6/03 Respectfully submitted, Benjamin E. Tirey, P.E., Secretary, SENH

MARCH MEETING ANNOUNCEMENT

- NEXT MEETING:** Thursday, March 20, 2003
- SUBJECT:** Business Practice Panel Discussion: SENH is honored to present members and long-time business owners Fred Emanuel, P.E., Jeff Nawrocki, P.E. and Jeff Tirey, P.E. as our guests to lead a panel discussion of business practice topics of interest to structural engineers. The discussion will commence with opening remarks and continue thereafter with questions and comments from the membership.
- PLACE:** Courtyard Marriott, Grappone Conference Center, 70 Constitution Avenue, Concord, NH, 03301 Phone: 225-4949
- DIRECTIONS:** From I-93 North: take Exit 15 W (393), go over I-93, take a right at first light (Commercial Street), follow Commercial Street and take a right onto Constitution Avenue, take a left into the Courtyard parking lot.
- From I-93 South: take Exit 15 W (393), take a right at first light (Commercial Street), follow Commercial Street and take a right onto Constitution Avenue, take a left into the Courtyard parking lot.
- AGENDA:** 5:15 Social Hour
6:15 Dinner
7:00 Business Meeting
7:15-9:00 Presentation and Discussion
9:00 Adjourn
- DINNER:** Buffet including: New England Clam Chowder, Garden Salad, Red Bliss Potato, Baked New England Scrod, Yankee Pot Roast, Apple Pie, Apple Crisp, Coffee and Tea
- COST:** Member: \$30.00 Non-Member: \$35.00 Full Time Student: \$20.00
- RSVP:** March 14, 2003 All Reservations Must Be Honored
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 (603) 669-5555
- NOTE:** 2.0 PDH's have been assigned for attendance to this program. Attendees are responsible for ensuring their check-in on the attendance list upon arrival at the dinner meeting.
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