



SEAU NEWS

The Newsletter of the Structural Engineers Association of Utah

Volume VI- Issue I September 2001

This newsletter is a monthly publication of the Structural Engineers Association of Utah.

Articles or advertisements appearing herein may be submitted by anyone interested in expressing a viewpoint on structural engineering.

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South Fort Meade Phosphate Mine, Fort Meade, Florida
Designed by Roberts & Schaefer Company

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SEPTEMBER EVENT

SEAU Fall Social

Presented by:
SEAU

Program Date:
Friday, September 21, 2001
6:30 p.m. Social Hour
7:00 p.m. Dinner
8:00 p.m. Entertainment

Location:
Park City Marriott Hotel

MESSAGE FROM THE BOARD

SEAU – A FIRST-RATE ORGANIZATION



By Steve Cohen,
SEAU Past President

In reviewing this past year I would like to thank the many who helped make it a success. At the risk of forgetting some of those who contributed many hours to SEAU over the past year, I'd like to thank the following:

Seismic Committee: Out of all of the committees that spent volunteer time for SEAU, I believe it would be hard to find a committee that spent half the time (with the exception of the Newsletter Committee) that this committee volunteered. Ken Willmore as the committee chairman had the committee meet almost monthly. Also on this committee were Barry Welliver, Don Barfuss, Kelly Calder, Carl Eriksson, Leon Tanner and Dave Pierson. The efforts of this group lead to most of the structural amendments made to the 2000 IBC Code (Yes, the IBC Code has been adopted. See comments below.) Among the more significant structural amendments was the modification made to section 1614.2. It reads as follows:
(21) Section 1614.2 is deleted and replaced with the following:

CONTINUED ON PAGE 4

NEW SEAU OFFICERS FOR 2001-2002

SEAU Board Members for the 2001-2002 Year

Office	Board Member	Telephone	FAX
President	James M. Williams	575-6455	575-6456
Vice President/President Elect	Dr. Larry D. Reaveley	581-6931	585-5477
Past President	Stephen Cohen	328-0278	328-0270
Secretary/Treasurer	Chris Barker	575-8877	575-8875
Member of the Board/Historian	Barry Arnold	782-6008	782-4656
Member of the Board/UEC Delegate	David P. Brown	943-5555	943-5848
Member of the Board/UEC Delegate Elect	Julie Ott	328-0278	328-0270



James Williams



Larry Reaveley



Chris Barker



Barry Arnold



David Brown



Julie Ott

MEMBER FORUM

FOCUS

Utah Structural Engineers provide a significant contribution to a wide variety of projects for commercial, government, industrial, and residential clients. Each month, SEAU would like to focus attention on the accomplishments, successes, and hard work of our Utah Structural Engineering firms. This month the focus is on:

Richards Consulting Group

Richards consulting Group, Inc. was originally established in October, 1985 using the name Richards-Field Consultants. The firm is located in the Sugarhouse Business District and employs a staff of seven with Jonathan W. Richards as President.

Richards Consulting Group offers structural design services for commercial, industrial, municipal, residential, recreational, and seismic retrofit/renovation projects. One of the firm's main emphases is on fun and unique projects such as; Golf Clubhouses, Ski Lodges, and Historical Structures.

Jonathan Richards is currently serving as chairman of the Professional Practices & Ethics committee of SEAU and has served as a member of the board and as past president.



CAMP CLOUD RIM

As featured in the May newsletter, Richards Consulting Group designed this new one level Girls' Scout lodge set on Lake Brimhall. Total square footage is approximately 17,000 square feet with wood frame

construction, combination manufacturer designed trusses and custom-built trusses, concrete foundations, piers and shear walls. The roof structure was designed to support snow loading relative to 10,000-ft. elevation.

GLENWILD



CLUBHOUSE

This project was the design of a new "luxury" clubhouse facility fit for a Tom Fazio-designed golf course, which includes cart

storage, pro-shop, locker rooms, restaurant, bar, offices and other miscellaneous amenities. Total size of this project is 31,000 square feet. It has a suspended concrete deck at the main level, dimensional framing, heavy timbers, miscellaneous steel and stone.



BLACK DIAMOND LODGE

Structural design was for three, 5-story, multi-family luxury condominium unit buildings. Total size of the buildings is approximately 160,000-square feet consisting of moment frame/concrete shearwalls, steel framed with suspended slabs and

underground parking structures. A permanent tie back wall system was incorporated in the site retention and a void between buildings and site walls were used to eliminate earth pressure on the buildings.



OGDEN CITY MUNICIPAL BUILDING RENOVATION

Complete seismic upgrade and renovation of a twelve story, non-ductile concrete historic building built in 1939. The innovative approach of "fitting" new steel eccentric braced frames through the existing structure was used to reduce conflicts with historic preservation. The application of fiberwrap composites for strength and ductility was also used. Ogden Municipal Building was recognized by the

Intermountain Contractor as the "Best Of 2000" for large restoration projects over \$15 million.

MESSAGE FROM THE BOARD (continued from page 1)

1614.2 Change in Occupancy. When a change of occupancy results in a structure being reclassified to a higher Seismic Use Group, or when such change of occupancy results in a design occupant load increase of 100% or more, the structure shall conform to the seismic requirements for a new structure.

Exceptions:

1. This is not required if the design occupant load increase is less than 25 persons and the Seismic Use Group does not change.
2. Specific detailing provisions required for a new structure are not required to be met where it can be shown an equivalent level of performance and seismic safety contemplated for a new structure is obtained. Such analysis shall consider the regularity, overstrength, redundancy and ductility of the structure within the context of the specific detailing provided. Alternatively, the building official may allow the structure to be upgraded in accordance with the latest edition of the "Guidelines for Seismic Rehabilitation of Existing Buildings" or another nationally recognized standard for retrofit of existing buildings.

This wording better defines the nature of the change of occupancy that triggers a seismic retrofit and includes reference to other standards for use in retrofits. In the future we hope to expand the types of buildings to be included in mandatory seismic retrofits beyond those involved in a "Change of Occupancy". With the help of several proactive building officials (Anne Von Weller to name one) and Walter Arabasz, the director of Seismograph Stations at the U of U, efforts are being made to get the legislature to make seismic retrofits of hospitals and essential facilities a mandatory statute.

Technical Committee: Was involved in updating SEAU's snow study for inclusion in the state amendments to the 2000 IBC. On this committee were Russell Merrill (Committee Chairman), Robert Pyle, Richard Warren, Kim Robinson, Frank

Potter and Chris Barker. This committee has also been studying the 2000 IBC wind provisions and an alternate method for determining snow loads as developed by Carl Eriksson.

Program Committee: Newland Malmquist did a marvelous job organizing our programs throughout the year.

Newsletter Committee: Scott Adan donated many hours to making the SEAU monthly newsletter a quality publication.

Ethics Committee: Unfortunately, the SEAU Board, partially at the prompting of several building officials, turned in a request to investigate a licensed engineer (not a SEAU member) for what was considered to be substandard engineering design and drawings. Jonathan Richards, at the Board's request, assembled the information necessary to begin the investigation. While I'm glad to report the engineer in question is no longer practicing in our state, I am disappointed with DOPL's investigation department's efforts to follow up on our complaint.

Outside of our organization, Eric Kankainen served on the Uniform Building Code Commission and Brent White and several SEAU members served on the Structural Advisory Committee to the Uniform Building Code Commission. Norm Bennion and Sarah Winkler have been very involved in UEC. We would like to recognize the outstanding service of these SEAU members in these other organizations.

I'd to thank the members of the board that I served with, namely, Parry Brown, James Williams, Dave Pierson, Chris Barker, Dave Brown and Dave Alter. You can see by the list of names that we had to use full names when talking to a "Dave".

I know that there are others who should be included because of their service (i.e. Brent Maxfield for one), but that is the risk one takes in getting specific with names. I would like to recognize the efforts made by the staff in my office. Anyone that has been in my position knows that at times when organizing a function (i.e. SEAU Fall Social and the 2000 IBC seminar) that it takes the efforts of many people to make it a successful activity. Without the dedicated staff in my office, these functions would not have run as successfully as they did.

SEAU made an important organizational change this year by adding a permanent Executive Director position. This is a paid position and is currently being run by Peggy Ogzewalla. Many of you may have already noticed that we are sending out some of our announcements using a fax broadcast system. This is one of the many services that Peggy will provide for our organization. Any of our SEAU members who have served on the SEAU Board in the past recognize the great amount of time the board spends simply trying to figure out how last year's board performed a simple task like printing the membership directory. By having Peggy providing a continuity between the constantly changing SEAU Board members, the board members will be able to spent more time focusing on SEAU's needs and not on administrative items.

And finally, as mentioned briefly above, the 2000 IBC has been officially adopted. The statement of the adoption of this code can be found in the "Utah Uniform Building Standards Act Rules R156-56-701" and partially reads as follows"

The 2000 edition of the International Building Code (IBC) as modified by Chapter 11 of the 2001 edition of the Supplement to the International Building Code, promulgated by the International Code Council, and

amendments adopted under these rules together with standards incorporated into the IBC by reference shall become effective on January 1, 2002.

This marks a significant change in the design practice that we are used to following in the UBC.

Throughout the coming year SEAU will focus on changes that this code will bring into our daily design practice. On September 20, 2001, SEAU will be sponsoring an all day masonry seminar which deals with the design of masonry as found in

the IBC. Watch the newsletter for announcements of future seminars on the IBC.

If any SEAU members have a particular subject that you would like to see us cover on the IBC, please contact one of the SEAU Board members.

If you would like to obtain the State of Utah amendments to the IBC these can be downloaded from the State of Utah web site. This web site can be found by going to the UBC Commission's page found at

http://www.commerce.utah.gov/opl/ubc_commission.html. After finding the web page click on the "Statues & Rules" button and go the "Utah Uniform Building Standards Act Rules R156-56" reference. The amendments included in this document start at section 704. This document is included in Adobe Acrobat format and MS Word format. Good Luck!!

Again, thanks to the many who help make SEAU a first rate organization.

UPCOMING EVENTS

2001 WESTERN COUNCIL OF STRUCTURAL ENGINEERS ASSOCIATIONS ANNUAL BOARD MEETING

The Western Council of Structural Engineers Associations is holding its annual board meeting in Park City, Utah, this year on September 20 and 21, 2001.

Thursday, September 20 – Reception & Registration, Legacy Lodge, Park City Mountain Resort
 5:30-6:00 p.m. Social Hour
 6:00-7:00 p.m. Dinner
 7:00 p.m. Opening Address

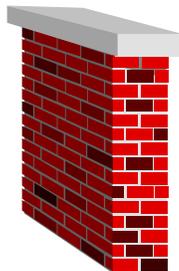
Friday, September 21 – WCSEA Board Meeting, Park City Marriott Hotel
 9:00 a.m.-12:00 p.m. WCSEA Board Meeting
 12:00-1:00 p.m. Lunch
 1:00-3:30 p.m. WCSEA Board Meeting
 Cost: Thursday Opening Reception \$50.00, Companion - \$40.00
 Friday Board Meeting – Free
 Saturday Golf - \$51.00

Please call Danelle at the SEAU Office 321-0259 to register for any of these activities. Make hotel reservations, if you plan to stay either or both Thursday and Friday nights, with the Park City Marriott Hotel (435) 615-4564.

STRUCTURAL MASONRY CODE ONE DAY SEMINAR

Sponsored by the Utah Department of Commerce, ACI, The Masonry Society, and SEAU, this is a one-day intensive course on how to design and specify masonry structures utilizing the 1999 Masonry Building Code and Specification. The International Building Code (IBC) adopts the Masonry Code by reference.

Date: Thursday, September 20, 2001.
 Time: 8:00 a.m. – 5:00 p.m.
 Location: The Yarrow Hotel & Conference Center
 1800 Park Avenue, Park City, Utah
 Cost: \$100.00 including lunch and breaks
 Handout publications are extra. Contact the SEAU Office for reservations and publications.



SEISMIC DESIGN OF STEEL BUILDINGS

Sponsored by AISC, this seminar will be presented by Thomas A. Sabol, Ph.D., S.E., and will familiarize you with the latest provisions on the use of steel in building structures in high-seismic applications, including the new FEMA 350 Guidelines, "Recommended Seismic Design Criteria for New Steel Moment-Frame Buildings", and the AISC "Seismic Provisions for Structural Steel Buildings" with Supplement No. 2. A short overview of FEMA 353 will also be presented. A set of handouts will be given to each attendee and lunch will be provided.

Date: Thursday, November 8, 2001.
 Time: 8:00 a.m. – 4:30 p.m.
 Location: Salt Lake City Marriott Downtown
 Cost: \$170.00 – AISC member
 \$200.00 – Non member

For more information about the seminar or to request a brochure be mailed to you, please contact Carol Pivonka at pivonka@aiscmail.com or visit AISC's web site at www.aisc.org under continuing education.

BULLETIN BOARD**BULLETIN BOARD OLYMPIC FEATURE**

Each month from this issue to the 2002 Winter Games, the SEAU News will be highlighting an Olympic venue, particularly with respect to the structural engineering aspects of the venue. This month's feature is the following:

**Salt Lake Ice Center
(A.k.a. The Delta Center)**



After months of conceptual design meetings and negotiations with potential lenders, Sumitomo trust and the Redevelopment Agency of Salt Lake City saw the vision of Larry H. Miller and agreed to fund the new multi-purpose home of the Utah Jazz. Construction of the Delta Center began in June of 1990.

Unlike normal facilities of this type that usually require 24 to 30 months of construction the Delta Center was completed in just 15 months and 24 days, just in time for the 1991/92 season opener for the Utah Jazz.

The facility has a footprint of approximately 743,000 square feet. The structural frame for the arena consists of about 37,400 cubic yards of concrete and about 7.6 million pounds of reinforcing steel in addition to nearly half a million CMU blocks. The roof structure has a total weight of approximately 3 million pounds. The exterior consists of 2,692 individual panes of glass covering 83,000 square feet and is complemented by an elaborate system of synthetic stucco panels.

A significant milestone in the construction of this project was the erection of the roof system. To minimize the impact on other trades, a system for erecting the roof trusses was devised which concentrated the activity at one end of the building. The ten 92-ton steel trusses were trucked to the site in sections and field assembled. Once the first two trusses had been placed using a pair of "ringer cranes" working outside the northeast end of the building, the third truss was assembled on the ground and lifted into place 114 feet above the arena floor onto two 12 inch Teflon pads each bearing on a stainless steel track. As each 345 foot long and 27 foot high truss was erected and

connected to the previously installed trusswork, the entire assembly was jacked inward 35 feet to make room for the next truss.

The world spotlight will be on the Delta Center during the 2002 Olympics as it serves as the venue for both figure skating and short track speed skating.

CODE BOOKS AVAILABLE

**ARE YOU READY FOR
IBC 2000 ?**

IBC 2000 will be adopted as the official building code by the state of Utah beginning January 1, 2002. SEAU has a limited supply of code books available for \$55.00 each. Contact either Julie Ott or Stephen Cohen at 328-0278 to secure your copy.

**CONTACT SEAU**

For any information concerning the Structural Engineers Association of Utah or association activities, contact:



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Peggy Ogzewalla, Executive Director

SEAU WEBSITE UPDATE – CALL FOR PHOTOS**PUT YOUR PROJECT ON THE INTERNET !**

The SEAU web site has been up and running for several months. (Have you visited it yet?) All SEAU members have a chance to be a part of the information super highway by contributing to our website.

In its ongoing effort to improve the SEAU Web site, both as a tool to interest the general public in the structural engineering profession and to provide a showcase for its members, the Web site committee has instituted a plan to use photos of members' projects as "decorations" for the site. To this end, the

committee is putting out a call to all members' firms for digital photographs of their favorite projects.

Ideally, we are looking for actual photographs of substantially completed buildings, although renderings of not-yet-complete projects, or photos of completed structural frames will also be considered. We are not looking for detail photos of things such as connections or components at this time. Please note that you must have license to use the photographs for any purpose, and must grant SEAU the license to use the photo for digital publication via the Web site. Your

submission of a photo will imply that this is the case.

Please submit your photos, preferably in JPEG format, via e-mail to Dave Cassett – dcassett@reaveley.com. Please include the name of the project, when constructed, and the firm name in your message. The committee will evaluate the photos and begin incorporating them into the site.

Please feel free to contact Dave Cassett at 486-3883, or dcassett@reaveley.com, if you have any questions.

BULLETIN BOARD**SEAU MEMBERSHIP APPLICANTS**

The following individuals have submitted applications for approval by the SEAU membership committee for new members:

1. Chandra Clyde, *Associate*
2. Paul W. McMullin, *Associate*
3. Christopher Pfeiff, *Associate*
4. Mark Robinson, *Associate*
5. Michael Buehner, *Professional*
6. Steven Carlson, *Professional*
7. David Cassett, *Professional*
8. Matthew Deamer, *Professional*
9. Mark Mainridge, *Professional*

THIS SPACE FOR RENT

The newsletter can be an excellent forum to advertise and target a very select group of professionals. To find out more contact:

Jerod Johnson, c/o Reaveley Engineers & Associates, Inc.,
1515 South 1100 East, SLC, UT 84105, Phone 486-3883,
Fax 485-0911
Email: jjohnson@reaveley.com

FROM THE EDITOR

As the new editor for SEAU NEWS, I would like to express my appreciation to Scott Adan, past editor, for his efforts in setting up the current format of the newsletter and for his help in showing me the ropes. Hopefully, this issue will go out without any errors, glaring or otherwise, and you, the reader, will not notice any bumps in the transition. I would also like to thank Rick Seelos and Jerod Johnson on the newsletter committee who put together the member focus and special feature articles, and Julie Ott, Newsletter Committee Board Representative, for their invaluable help.

Any critiques or suggestions are always welcome. If you have any comments, please feel free to contact me. I am excited for this opportunity to help promote our state association and our profession in general.

Mike Buehner P.E.
Newsletter Committee Chairperson



SEAU Presents:

SEAU FALL SOCIAL

Friday, September 21, 2001

6:30 p.m. Social Hour

7:00 p.m. Dinner

8:00 p.m. Entertainment



Location:

Park City Marriott Hotel
1895 Sidewinder Dr., Park City, Utah

Dress: Semi-Casual

RSVP: SEAU Office (801) 321-0259

Cost: SEAU Members – no charge, Guests \$25.00

SEAU has set aside rooms at the Park City Marriott Hotel for Friday night, September 21, and tee times at the prestigious Park City Golf Course beginning 9:00 a.m. Saturday morning September 22 for any members interested in staying the night and/or golfing. Room rates are \$87.10 w/ tax, single or double occupancy, and green fees are \$51.00 per person for 18 holes and a cart. Please make room and golf reservations with the Park City Marriott Hotel (435) 615-4564 or 1-800-234-9003. Be sure to mention you are with SEAU. See you there!

STRUCTURAL ENGINEERS ASSOCIATION OF UTAH

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Board of Directors

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Barry Arnold, *Member of the Board/Historian*

Julie Ott, *Member of the Board/UEC Delegate Elect*