

THE STRUCTURAL COMMITTEE

PRESENTS ON **O**CTOBER **2**ND:

"Leadership Within and Beyond the Industry"

The role structural engineers must play outside the design process to control their own destiny and insure the future of the profession.

International trends affecting the practice of structural engineering in the U.S. are reviewed and the steps needed to deal with them are outlined. They require more than mere debate among ourselves, within the confines of the structural engineering community. What is needed is more involvement by structural engineers both as industry and as community (public) leaders - and an increase in the visibility and stature of structural engineers. Ways to accomplish this are presented.

Featured Speaker: Richard G. Weingardt, P.E.

- · CEO and chairman of Richard Weingardt Consultants, Denver, CO
- 43 years of engineering experience
- M.S. Structural Engineering, 1964, University of Colorado, Boulder
- · B.S. Civil-Structural Engineering, 1960, University of Colorado, Boulder
- · Licensed in 26 states
- Many award winning projects check out web site: *www.weingardt.com*
- Has received several engineering awards
- Author of a number of books as well as monthly contributor to Structural Engineering Magazine

Location: Anthony's Restaurant 72nd and F Street

- Times: 5:30-6:30.....Social Hour 6:30-7:30.....Dinner 7:30 - ?....Meeting and Program
- Menu: Petite Club Sirloin, Orange Roughy, Lasagna, Chicken Breast Parmaginana

PRICE: \$20.00/PERSON

Spouses and guest welcome RSVP by Monday, September 29 to Steve Kathol 402.493.4800 skathol@schemmer.com in Omaha or Brad Levich 402.466.3911 balevich@terracon.com in Lincoln

Highlights of This Issue:

Annual Structural Conference

Hazardous Dams in Nebraska

Younger Members' Barbecue

The Who's Who of The NE-ASCE section.

Changes in This Year's Newsletter

The Nebraska Civil Engineer

"More Than You Want to Know ... and the Magic Box" From the President - Mark Stark, P.E.



Mark Stark, P.E. NE-ASCE President

I never took a creative writing course that I really enjoyed, but I did learn a few things including that you've got to make the title interesting if nothing else. I just wanted to share a few thoughts with you in this, my first "President's Comments." I've been thinking about what I could put in this article and a number of thoughts are going through my head as I write this. First, I think that Fall is the best time of the year in eastern Nebraska. The humidity is gone and the trees are great. I always am amazed at the fact that at one time there were no trees in Nebraska. Hard to believe when you look around today.

Next I want to talk about the upcoming year and the exciting things that I hope we can accomplish. I will have a few general themes for my articles this year that reflect the goals of my tenure as president. For those of you who were not able to attend the annual meeting last May, the two goals for the year are to increase attendance at monthly meetings and secondly, to complete the Report Card on Nebraska's infrastructure. Both goals are guite substantial when you sit back and

think about them-but with your help they are both attainable.

Did you know that we have 490 members in the Nebraska Section and that of the 490, only 70 of those folks live west of York? Out of the 420 members that live east of York, we typically have 30 to 40 members that regularly attend meetings. I'd like to see that number increase for a couple of reasons; the most important being that one of the best things about organizations such as ASCE is that members have the opportunity to interact and network with one another. What better way to learn about your particular field than by talking to your peers and more experienced engineers?

Meetings are usually the third Thursday of the month and occupy the evening by the time we finish dinner and enjoy the featured speaker. I realize that we all have busy lives with too much to do and too many places to be, but after all it is only one evening a month. Another aspect of this that may or may not have occurred to you is that the average membership cost is just over \$300 per year. That is a lot of money for a magazine subscription and an organizational membership on your resume.

During the 2003 Nebraska Legislative session, I served as the ASCE representative to the Professional Engineers Coalition and learned a tremendous amount about the legislative process and the importance of becoming involved in the process. As you are all aware, the state is in serious economic trouble and legislators are looking anywhere they can to save a buck or two. Legislators, just like anyone else, tend to take our water and wastewater systems, highways, dams, and other infrastructure for granted since it has always been there and has always performed. As I listened to testimony this last session, it became apparent to me that the report card could help rate our infrastructure here in Nebraska. This can work for all of us in one of two ways. If a particular topic is graded poorly, we can remind the legislators that more money needs to be spent to bring the topic up to standard. If the topic should be graded well, we can always explain that funding should remain so that the level of service does not deteriorate. Either way this is a win-win situation. The areas that I'm proposing we study are:

- 1. Roads
- 2. Bridges
- 3. Aviation
- 4. Drinking Water
- 5. Wastewater
- 6. Dams
- 7. Solid Waste
- 8. Hazardous Waste
- 9. Energy (including Nebraska's portion of the Power Grid)

ASCE National estimates the report card takes about six months to complete using data that is public information. The committee will develop a grading system using criteria suggested by ASCE National. I'm looking for people who would be interested in developing the report card. So far **Diane Hofer**, **John Cambridge**, **Carter Hubbard**, and **Marie Maly** that have expressed an interest in helping and I hope that you'll consider helping too. Please e-mail me at mstark@OAConsulting.com if you are interested.

Next month we'll learn about the magic box so stay tuned!

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Hazardous Dams in Nebraska

A glance at an aerial photo of nearly any portion of eastern Nebraska will likely reveal at least a handful of ponds or lakes, often varying widely in size and shape. Even in the semi-arid western portions of the state, an occasional lake or farm pond can be found. Most of these lakes or ponds are formed by dams. There are more than 2,000 permitted dams in the state. This does not include impoundments that are less than 25 ft in height or have a temporary storage capacity less than 50 acre-ft. In all, there is an average of approximately one permitted dam for every 835 people in our state. Given this ratio of human bodies to water bodies and the benefits of waterfront property, it is no small wonder that many of these dams are in close proximity to houses, businesses, roads, and other infrastructure. This is often evident in and around the cities of Nebraska. Lakes and ponds near urban areas often become surrounded by residential, commercial, and industrial developments. With flood flows controlled below the dam, downstream development also begins to further encroach on the riparian zone, reducing the capacity of the stream to convey flood flows downstream from the dam.

Dams in Nebraska are classified as "High", "Significant", or "Low" hazard dams based on the type and extent of damages that could occur should the dam fail. "High" hazard dam failures would be expected to result in loss of life, "Significant" hazard dam failures would result in damage to important resources, and "Low" hazard dam failure would result in only limited damage to minor resources. Therefore, the higher the hazard classification of a dam, the more stringent the design and construction safety standards are. The permitted dams are built to the appropriate hazard classification at the time of dam construction. Approximately 85% of dams in Nebraska are designed to "Low" hazard standards. Approximately 10% of dams are designed to "Significant" hazard standards. Just under 5% of dams in Nebraska are designed to "High" hazard standards.

Development does occur downstream from "Low" or "Significant" hazard-dams in Nebraska. Often, downstream landowners are unaware of the hazard classifi-

-Carter Hubbard

cation of the upstream dam and the risks associated with development downstream from the dam. However, there is another impact of downstream development, of which, the downstream landowners are often unaware. Downstream development can change the hazard classification of a dam.

In Nebraska, the dam owner is responsible for the operation and maintenance of the dam. The Nebraska Department of Natural Resources (NDNR) is responsible for inspecting the high hazard dams in Nebraska, assessing the appropriate hazard classification for the structure, and notifying the owner of the dam of any deficiencies or defects. If deficiencies or defects are found, NDNR orders the owner of the dam to take "necessary action" to correct those deficiencies and defects so that the dam is operated and maintained in a safe condition. When a dam hazard classification is upgraded due to downstream development, the "necessary action" can include a complete redesign and rebuild of the dam or decommissioning and removal of the entire dam. The costs of these actions often far exceed the original construction cost of the dam, creating a tremendous financial burden for the owner of the dam. With Natural Resource Districts and private landowners in possession of nearly 95% of all dams in Nebraska, the potential economic burden for all Nebraskans is enormous.

The Lower Platte South Natural Resources District (LPSNRD), in coordination with other local and state agencies, is currently taking steps to address this growing problem. Currently, the LPSNRD has drafted a resolution recommending that the Nebraska Legislature form a committee, headed by NDNR, to look at potential solutions to the problem. The resolution will be put forth to the Nebraska Association of Resources Districts this fall for their review. If accepted, the resolution will be advanced to the Nebraska Legislature.

Information presented in this article was based on the draft resolution from the LPSNRD entitled "Development Below Existing Dams" and 2000 U.S. Census Bureau statistics.

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NE ASCE Younger Members are having a BBQ!

Sunday, September 28, 2 pm

Come one, come all! Bring your colleagues, your significant others, your classmates! You don't even have to be a "Younger Member," just hungry. Details to follow... check the **website:** neasce.org and click on the Younger Members link on the left. Questions? Contact Lindsay or Marie 402-493-4800 or ymg@neasce.org

Do You Know a New Face in Civil Engineering?

ASCE is seeking nominations of dynamic, young engineers as 2004 New Faces of Civil Engineering, a recognition program sponsored in cooperation with National Engineers Week.

The New Faces of Engineering program promotes the accomplishments of young engineers by highlighting their engineering contributions and the resulting impact on society.

See www.asce.org for more details. Entries are due Oct. 15th.

Heading to the Husker game? Need a place to park?

Park in the ASCE Student Chapter lot! Half your parking fee (\$10/car) goes directly to the Student Chapter!

DIRECTIONS:

From Holdrege and 17th St head SW. Around the curve it will be the first left. Watch for signs!

Two Time Future City National Champions ?



Last Year ASCE sent a local Future City Team to the Nationals. We'd all like to see a repeat of this. The youth participating this year need your engineering expertise and experience.

Kirby Woods, the Future City Coordinator, would like to invite you to participate in this exciting program and help teach today's youth what we can do with engineering. Volunteers are needed to be Mentors and Judges. This is an all around fun event. If you are interested please contact regional coordinator Kirby Woods, P.E., at 402.533.6550 or kdwoods@oppd.com

Changes for This Year's Newsletter.

- A Note from the editor.

This year, to increase involvement among members and sponsoring companies I would like to add a *project spotlight* and an **editorial section**.

The Spotlight would feature a project you or your company is particularly proud of. Up to one page filled with project challenges, solutions, general facts, and photos. The hope in this is to spread general awareness among fellow engineers as to what's happening around the state of Nebraska.

The editorial section will be for all ASCE members to write and express various opinions on topics that relate to civil engineering Including new legislation or professional standards.

Submittals for both the project spotlight, and the editorial section can be e-mailed to **peggy-m@lrainc.com** Submittals will be published as space permits in the newsletter. Companies that have placed ads in the ASCE newsletter will receive precedence on the "project spotlight."

The Nebraska Civil Engineer

Calendar of Events

<u>September:</u>

28 - Younger Members Bar - B - Que with student chapter, Mahoney State Park 2:00 P.M.

<u>October:</u>

2 - September Meeting, Anthony's Restaurant 72nd & F Street

3 - Structural Conference, Peter Kiewit Conference Center

31 - FAC, Time and Place TBA

November:

12-15 - National Civil Engineering Conference & Exposition, Nashville, TN

22 - Explore Competition (Younger Members) Times and Place TBA



<u>Mentor a Child</u>

"One mentor, one person, can change a life forever – and I urge you to be that one person." - PRESIDENT GEORGE W. BUSH

Boys and Girls Town needs your help. There are many students that need the one on one attention that can only be given by a mentor. Having been a mentor myself over the past year, I can say the experience is a rewarding one.

Mentoring at Boys and Girls town is on a one on one basis. Mentors are paired with the same student each week to work on Math skills ranging from Basic math to Algebra.

A Mentoring session is just under one hour a week, time slots range from 8 AM to 3 PM. For more information contact Chris Hyvonen at 402.498.3041

Notice to the Underwriters of "The Nebraska Civil Engineer"

Thank You to all those who have contributed to NE-ASCE by underwriting.

Notices to renew ads have been sent out. The proceeds from your contribution will be used to offset the costs of printing and distributing the newsletter, as well as to help fund local ASCE programs that include student scholarships, ASCE legislative efforts, outreach events to elementary and high school students including the Future City and Balsa Wood Truss competitions, continuing education seminars and monthly programs for engineers, and other efforts to enhance the status of engineers on a local, state, and national level.

For those who have not renewed their support this year, please do so soon! The deadline for next months newsletter is October, 10th. ASCE greatly appreciates your support.

Contact **Ben Higgins** with any questions at 402.441.7589 or bhiggins@ci.lincoln.ne.us

Get Involved with the Explore Competition

We're looking for volunteers for the **ASCE/BSA Explore! Design-Build Competition**. This year the project is BOATS Each team will be given various supplies to build the best boat that can hold a certain amount of weight.

We need volunteers for **Team Mentors**, **Judges**, and **Floaters**. If you are interested, please contact Lindsay Madsen 402-493-4800 or *Imadsen@schemmer.com*

The Competition will be **Saturday** morning, **November 22**, 2003 in Omaha.





Thank you to the businesses that support this newsletter through their contributions. For underwriting information, contact Ben Higgins, Fund-Raising Committee Chair, at (402) 441-7589 or bhiggins@ci.lincoln.ne.us

Many of our former contributors have not yet renewed their support for ASCE. Please send contact Ben Higgins to continue your support. Ads received on or before October 10th will be included in the October News Letter.

The Nebraska Civil Engineer

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