



ASCE

ILLINOIS SECTION

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ILLINOIS SECTION NEWSLETTER

Mailed to all ASCE-IS dues-paying members

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Illinois Section — Zone III — District 8

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**Submission deadline
for the February Newsletter
is Jan. 15, 1998**

Management of Projects – 1998

The Management Group presents this compilation of recent article excerpts from Civil Engineering magazine as ready reference in project management and affiliated processes.

Design with the Internet

"Engineering and construction firms are making use of this capability to include far flung team members in up-to-the-minute design decisions and to manage multiple, simultaneous projects all over the country with a close degree of control. On the local level, the ability to post data from almost any machine to be read by almost any machine is speeding the permitting process and giving city engineers tighter control over their resources.

In many of these cases, the line between intranet and the Internet blurs, and a firm will use documents that include internal data, such as billing rates, as well as external data, such as supplier specifications, both of which are updated as their sources, accounting, and the manufacturers change them.

"When it comes to sharing design documents such as drawings over the Web, developers are creating new graphical formats that are a small fraction of the size of conventional CAD files, requiring less time to download and view over the Web but still retaining important features. Both AutoDesk, San Rafael, Calif., and Intergraph, for example, feature Web formats that produce vector graphics that, unlike bit maps, remain crisp as the user zooms in and out."

(CE 06:97; pgs 40-41)

Design/Build

"How risky for the designer is contractor-led design/build? Potentially very risky, say many designers experienced in design/build."

But the panelists who attended a risk-management meeting held

recently at San Francisco's Advanced Management Institute say the project delivery system offers opportunities for managing risk not available with traditional design/build approaches.

The panel came up with the following "best practices" to help architects and engineers handle risk in contractor-led design/build (There are nine).

"If design/build is the revolution in construction today, then designer-led design/build is the counter-revolution.

"So says Mark Friedlander, a partner in the construction law group of the Chicago law firm Schiff Hardin & Waite and a proponent of a new formula for designer-led design/build. According to Friedlander, it's a formula that makes a designer-led team at least as logical — and in fact more profitable — than its contractor-led counterpart. And that holds true as well when insurance issues come into play."

(CE 09:97; pgs 57, 59)

Mobilization Costs

"Call it subtraction by addition. Advancing construction money to mobilize construction equipment and other resources can be a smart way for owners to cut their final project costs, but it can also expose them to considerable financial risk."

"On projects such as these, where mobilization costs are likely to be high, it may be in the best interests of all parties for the owner to bear the financial risk associated with mobilization. The reasoning is simple: without a contractual provision that provides for payment of these costs, the contractor will include the cost of mobilizing (and the associated finance charges) in the bid for the work.

"As is true for most contract provisions, determining the optimal advance-for-mobilization strategy involves a compromise. Each owner

(Continued on Page 2)

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(Continued from Page 1)

needs to reflect on its risk philosophy and balance the difficulty of drafting and administering the advance-payment-for-mobilization plan against the value of avoiding financing costs that would otherwise be included in the contractor's bid."

(CE 08:97; pgs 54, 56)

Delay Claims

"Many contractors, owners and design professionals are finally becoming aware of and sensitive to the high cost and substantial risks associated with litigating delay claims. As a result, the construction industry has spawned new ideas focused on their prevention and more efficient resolution. Two of the most notable are partnering and alternative dispute resolution (ADR). In addition, more sophisticated delay evaluation techniques have evolved to combat creatively constructed opinions with fact-based determinations of the impact, if any, of the late decisions and other delays alleged to be attributable to the design professional. It is now possible for informed, proactive design professionals to shape a future where the likelihood of delay claims is decreased and the costs of resolving those that do occur are minimized."

(CE 03:97, pg 60)

2000 Management

"Much more than just a computer problem, the year 2000 bug will cause managerial, legal and financial headaches of every stripe in the next few years. The time to gear up is now."

"The inventory of systems likely to be affected is seemingly boundless. Air

traffic control programs, train schedules, financial transactions, and global positioning systems are just a few. Experts estimate that up to 90% of all existing programs will be affected. The problem will carry from system to system, as flawed systems pass flawed data on to otherwise accurate ones.

"In the event that the year 2000 problem cannot be resolved in time, the company should prepare contingency plans to deal with the internal and external consequences. Customers, shareholders, lending institutions and other affected parties should be warned. If possible, agreements waiving or limiting the company's liability should be struck with those parties."

(CE 11:97; pgs 58-59)

Presentation Guidelines

"The first step is to find out as much as you can about the audience. Who will be sitting on the search committee? Have you presented to them before? Can someone on your team make reference to a prior job they worked on together?

"It often pays to adapt some of your presentation to the interests and concerns of the audience. For example, if you know that there will be three former rail officials on the committee, you might want to have your track expert give a short section of the presentation.

"You're not there to lecture the client, although that's often what presenting teams end up doing. A presentation is a sales pitch. You're there to incite the committee to action. You want them to choose your team to design that LRT system, build that bridge or complete that corridor study.

"The selection committee wants to learn something about the people they are going to be working with for the next couple of years. And, all other things being equal, they are going to choose the team they like the best. So be personable. Loosen up your talk. Flavor the proceedings with your team's personal strengths and styles.

"The committee has (or should have) read your proposal beforehand. Your biggest mistake will be to try to cram everything from the proposal into your presentation. Focus on the highlights and leave the details for the panel to ask during the question-and-answer period – on their clock.

"You want to inspire the committee to hire you. So it's important to do more than recite dry facts. Show your passion for your work. Communicate your excitement for the project. Demonstrate the vibrancy of your team, the elegance of your design, the stunning efficiency of your work plan.

"Be prepared for anything and everything.

"You really can't be over prepared. You should know your talk inside out so that by the time you present the material it is second nature.

"Your team is made up of individuals, often from other companies, all with their own strengths and weaknesses. Yet you want to look and feel like a real team that has worked together before and will do so successfully on the project at hand.

"To make sure this happens, pay attention to the other speakers when they are presenting. Look alive, alert and responsive to your fellow team members."

(CE 11:97; pgs 51, 52)

P.E. Review Course Videotape Program

The next P.E. examination will be April 24, 1998. Beginning in February, the ASCE Illinois Section – Younger Member Group (YMG) is offering an eight-week Civil Engineering Exam Review Videotape Program. The program is a product of ASCE National's Continuing Education Service and consists of 23 hours of videotape filmed during an ASCE P.E. review class.

Participants will meet Wednesdays from 5:30 p.m. to 9:00 p.m. in downtown Chicago. The program

begins Feb. 25, 1998 and ends April 15, 1998. The civil engineering subjects covered are: Exam Overview, Hydraulics and Hydrology, Structural Analysis and Design, Sanitary Engineering, Soils, Transportation, Surveying and Economics.

Each subject is presented on video tape by an experienced engineer. The program includes a comprehensive reference manual with example problems. Volunteers from ASCE Illinois Section may be available to answer questions.

The \$175 cost includes the reference manual, dinner and soft drinks. If you are interested in the program, please register by faxing or e-mailing your name, address, company name, phone number and fax number to Don Wittmer at (312) 930-9063 or dwwittmer@hntb.com. Call Don at (312) 930-9119 for more information. The registration deadline is Feb. 20, 1998.

PRESIDENT'S NOTES

Civil Engineers have greatly benefited from technological advances the last 20 years. Changes in surveying equipment; computer hardware and software for drafting, accounting and analysis; fax machines; and telecommunication systems have helped to improve the speed and methods by which we provide services. Access to the Internet is now common in our homes and offices and is a valuable way of obtaining and transferring information.

As many of you know, the Illinois Section has its own web page on the Internet which is maintained by the Section Communications Committee (<http://www.mcs.com/~isace/>). It is our goal that the web page become the primary information source for the Section's activities. We are currently modifying the site to include a calendar of upcoming Group and Section luncheons, dinners and seminars.

From our existing web page, the ASCE National web page can be accessed (www.asce.org/index.html). The Northwestern University and University of Illinois-Chicago (UIC) student chapters also have web pages which have useful information on their activities: (www.civil.nwu.edu/asce/) and (www2.uic.edu/stud_orgs/prof/asce/), respectively.

Board Members have expressed interest in posting (and possibly distributing) our Section newsletter via the Internet in a more timely and cost-effective manner. Perhaps in the future, the Groups can post seminar or dinner flyers and registration forms on the web page which can be accessed directly on the Internet.

The thought of expanding the use of our web page and the Internet for everyday Section operations is exciting. Printing and postage costs can be significantly reduced and the time it takes to distribute our information shortened. We can also expand our contacts with other professional societies and groups. The Groups will be encouraged to provide their schedules of events to the Committee so members will have



instant access to information on all upcoming events. Hence, we want all our members to become familiar with the site and check it regularly for the latest information in the Section's activities.

Anyone interested in being part of the Committee working on the web page or improving our web page please contact me at cbbel@megsinet.net. It is my hope that the Section become a national leader in the development of our web page and maximize our ability to provide timely and valuable information to Section members.

We are also interested in suggestions for other civil engineering sites that would interest or provide resources to our members so we can set up links on our web page.

Christopher B. Burke

Illinois Section News & Secretary Report

In an effort to better inform ASCE Illinois Section Members of Board Meeting discussions and Sections activities, the Section Secretary will be contributing this monthly article to the newsletter. Any feedback on the Section activities or membership needs is welcome and can be sent to the Section office address noted on the Newsletter cover page.

At the December Board Meeting, the 1998 Approved Budget was

distributed. A funding request was received for the IS-ASCE to support the Illinois Institute of Technology DuPage Area Engineers Week in the amount of \$250. Another funding request was made by ASCE University of Illinois at Chicago Student Section to support the Great Lakes Regional Conference. It was agreed that the IS-ASCE would match contributions made by each Technical Group with a minimum of \$1500 and maximum of \$2000. Both funding requests were approved.

District 8 Director Michael Goodkind reported to the Board on several key issues including an upcoming District 8 conference call, the Zone III Management Conference, the outstanding engineering achievement award, state public affairs grant due date, and nomination for the Zone III Vice President. Director Goodkind extended an open invitation to forward Section issues for discussion at the District level of National ASCE.

Each Section Group reported on their past month's activities and future group meetings as noted in the Section Activities portion of this newsletter.

The Nomination Committee is requesting that each Technical Group designate a member to serve on the committee. The individual needs to be identified by the January Board meeting. The committee will identify future Illinois Section officers, directors, and nominations to national offices.

The Government Affairs Committee reported they have contacted the Central and Quad Cities Sections to formulate a state government affairs program. A future coordination meeting will be held in January or February. Two additional Illinois Section representatives are needed for the committee.

The next Illinois Section Board Meeting will be January 5, 1998, in the third floor conference room of Knight Architects Engineers and Planners, 549 W. Randolph St., Chicago, Illinois. Meetings start at 5:30 p.m. and end approximately at 6:45 p.m. Visitors are welcome.

'Innovations in Earth Retaining Systems'

The Geotechnical Group and the University of Illinois at Chicago will be cosponsoring the 1998 Geotechnical Lecture Series during the coming Spring. The topic for this year's lecture series is "Innovations in Earth Retaining Systems." The Chicago-land area has been and will continue to be the location of numerous construction projects requiring earth retaining systems for highways, excavations, tunnels, etc. The lecture series will provide a unique opportunity for both engineers and contractors who are involved in such project to keep abreast of the latest developments in retaining systems. The lecture series will include a total of six presentations given by nationally recognized experts and will be presented during convenient evening hours on four different dates: March 3, 17, 31, and April 14. The lecture series will be held in Lecture Center D4 on the University of Illinois at Chicago campus (804 S. Halsted), which is located just minutes west of the Chicago downtown area.

The selected speakers have a wealth of national and international experience in earth retention systems, and their presentations will focus on cutting-edge techniques being incorporated into these systems on a variety of projects. In

the first presentation on March 3rd, Donald Bruce of ECO Geosystems, Inc., Pittsburgh, will discuss the emerging and developing technologies used in specialty geotechnical construction processes. Mr. Bruce has been a featured lecturer at several geotechnical specialty conferences and has been in charge of or consulted on a variety of projects utilizing such pioneering technology. On March 17th, Professor Thomas O'Rourke of Cornell University, New York, will first present interesting experiences in design and construction of deep excavations in clays, with particular observations regarding undrained strength changes of the clay. George Tamaro of Muesser Rutledge Consulting Engineers, New York, will then present three case studies on deep foundations/retention systems in Berlin, Germany. On March 31st, David Druss of Parsons Brinckerhoff Quade & Douglas, Boston, will discuss his experiences with the systems used for the Central Artery Tunnel project. Mr. Druss is the chief geotechnical engineer for the Central Artery project and has been involved with the work since the start some 10 years ago. Finally, on April 14th, Tom Anderson of Schnabel Foundation Company, Cary, Illinois, will describe

anchored deep soil mixed cut-off/retaining walls for the Lake Partway project in Milwaukee, WI. Tom will share the final lecture date with John Byrne of Golder Associates, Seattle, who will present some of the innovative design and construction aspects of soil nailed walls.

The Chicago Geotechnical Lecture Series has been presented biannually for more than three decades. The purpose of the lecture series is to present current developments in the field of geotechnical engineering and/or relevant structural, environmental and construction fields so that local professionals can utilize state-of-the-practice knowledge in the investigation of site conditions, design of geotechnical projects, and analysis of complex problems. The proceedings of each lecture series have served as valuable resource materials for the design professionals. Chicago area geotechnical, structural and transportation engineers and engineering students should find the topics and speakers most interesting, and are especially encouraged to attend.

For registration or other details on the lecture series, please call Steve Bucher at (630) 717-4263.

High School Student Bridge-Building Contest

For almost 25 years, thousands of high school students have competed in bridge-building contests. The students design, build and test their bridge to destruction. In addition to being fun, the contest increases the students' interest in science and engineering. The students construct basswood bridges to span a 300 mm gap. The bridges can weigh no more than 25 grams and are judged on their efficiency, which is the ratio of the weight they held before destruction divided by their own weight. An outstanding bridge may hold 80 to 90 kg, which is an efficiency of 3200 to 3600. These wooden bridges outperform real

bridges. For instance, a 365-foot-long railroad truss has an efficiency of approximately six, and a one-hundred-foot-long railroad girder bridge has an efficiency of approximately 11.

Students first compete in a local contest at their high school. The top four finishers at each school are eligible to compete in a regional contest. The top two finishers in each regional contest are eligible to compete in the international contest. Prizes at the regional contests have included calculators, cameras, video games and airline tickets to the international contest. Prizes at the international contest have included

calculators, cameras, hand-held computers and college scholarships. All participants receive certificates, and the top finishers receive trophies for their schools in addition to the prizes.

The twenty-third annual Chicago Regional Bridge-Building Contest was held March 4, 1997 at the Illinois Institute of Technology (IIT) in Chicago. It consisted of three regional contests, with one in the City of Chicago, one in the northern suburbs, and one in the southern suburbs. One-hundred-seventy-two students from 64 area high schools competed. The top two finishers in

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SECTION ACTIVITIES

Structural Group

February Meeting

"The Midway Airport Terminal Development Program"

The Program will be presented by Mr. Ottavio Finaldi, Vice President, Unzelman & Associates, Inc., Program Managers for the City of Chicago, and by Mr. James Swanson, Senior Vice President, A. Epstein & Son.

The Midway Airport Terminal Program consists of terminal and concourses located east of Cicero Avenue, and concourses located west of Cicero Avenue in the existing Terminal Area. The terminal and concourses are connected via a Bridge over Cicero Avenue through which passengers will flow. The project encompasses 38 air carrier aircraft gates and a commuter aircraft parking area, providing a total of 4,245 lineal feet of gate frontage.

Mr. Finaldi, AIA, will offer an overview of the Program, including Management/Planning/Design team introduction, Program Purpose, General Layout, Economic Impact, Schedule and Funding.

Mr. Swanson, SE, PE, will offer an overview of Framing Schemes, Foundation Systems, Lateral Load Resisting Systems, Exposed Steel Features, Parking Structures and Construction Phasing.

Date: Wednesday, Feb. 18, 1998

Time: 5:30 p.m. Social
6:00 p.m. Dinner
7:00 p.m. Presentation

Place: Como Inn
546 N. Milwaukee Ave.
Chicago, Illinois

Cost: \$25
\$15 Students

RSVP: Barb Pries at (312) 263-1606 by Friday, Feb. 13,

Transportation Group

January Dinner Meeting

"Midway Airport - Terminal Development Program"

Our January suburban program will present the overall background and details of this major multi-year Chicagoland transportation project.

Messrs. Dick Unzelman and Jorge Moreno of Unzelman and Associates, the program management office, and Mr. Foster de la Houssaye, representing Barton-Aschman, the traffic and transportation design consultant, will discuss the need for the project, its impact on the immediate area and air transportation in Chicago, its scope, features, costs and funding, schedule, and organization of the management, design and construction effort.

Plan on joining your transportation colleagues for this first suburban meeting of the year. Mark your calendar and phone in your reservation now so you don't miss this most-informative presentation.

Date: Wednesday, Jan. 21, 1998

Time: 5:30 p.m. Social, Cash Bar
6:30 p.m. Dinner
7:30 p.m. Program

Place: Truffles Grove
360 N. Rohlwing Rd.
(old Rt. 53)
Itasca, IL 60143

Cost: \$25 each (cash bar)

RSVP: By Monday, Jan. 19 to Pete Johnson at (773) 399-0112, fax (773) 399-0170; or Dean Kiesling at (312) 946-7121, fax (312) 946-7199.

Section Activities
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Bridge-Building Contest Set

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each regional contest were Matt De Jong of Illiana Christian High School in Lansing, Lisa Vukas of Bloom High School in Chicago Heights, William Shultz of Glenbard South High School in Glen Ellyn, Mike Shiel of Notre Dame High School in Nilus, Ray Cheang of Bogan High School in Chicago, and Hai Bin Liu of Curie High School in Chicago. They went on to compete at the international contest.

The twentieth International Bridge-Building Contest was held May 3, 1997 at IIT. Sixty-two students from 35 regions competed. The first-place winner was Chad Meyers of Ponderosa High School in Parker, Colorado.

The twenty-fourth annual Chicago Regional Bridge-Building Contest will be held Feb. 24, 1998 at IIT. It will be part of the Chicago-area Engineers Week festivities. The twenty-first annual International Bridge-Building Contest will be held May 2, 1998 at the campus of the University of Nevada Las Vegas. Information about both contests is available on the world wide web at <http://www.iit.edu/~hsbridge>, or from Professor Carlo Segre of IIT at (312) 567-3498.

Engineers are needed to work as judges at the Chicago regional contest. Those interested can contact George Krupa at (312) 648-9900.

The judges witness the students' testing of their bridges and talk with them about how their bridges failed and what could be done to improve them. This has been an enjoyable experience for the judges, and some come back year after year.

SECTION ACTIVITIES

Younger Member Group

January Dinner Meeting

Over the next decade, almost \$270 million will be spent on the Chicago Shoreline Damage Reduction Project to repair 11 miles of crumbling lakefront protection. Wooden members used in original construction have rotted, allowing stone backfill to spill into the lake. New designs will replace timber and limestone with steel and concrete. Representatives from the Chicago District Army Corps of Engineers will discuss the planning, design, and construction of this exciting project. Members of the Illinois Section Management Group will join the YMG for this event. Please join us and tell your friends!

Date: Thursday, Jan. 22, 1998

Time: 5:30 p.m.

(Informal dinner with presentation following)

Place: River Center Building
1st Floor Conference Room
111 N. Canal St., Chicago

RSVP: Jennifer Crain at (312)
616-7413 by Jan. 21

Cost: \$12

February Meeting

Taxes and Investments for Young Professionals (details TBA)

UP & D GROUP

Concerned about important issues confronting the civil engineering profession? Visit our next meeting to discuss these items with fellow civil engineers involved in government, private practice, construction, consulting, and other disciplines. Please contact Chuck Graber at (630) 894-5950.

Group meetings are held every third Thursday of the month. The back room at Denny's Restaurant has been reserved for the Group. Our next scheduled meeting is:

Date: Jan. 15, 1998

Time: 7:30 a.m.

Place: Denny's Restaurant
Oakbrook Terrace

Management Group

MGT serves the "process-side" of our Section to compliment diverse technical groups. For activity information, contact Wayne Swafford at (312) 616-7380.

Administrative Committee

Join us to further plan 1998 events at our monthly meeting.

Date: Thursday, Jan. 15, 1998

Time: 5:30 p.m.

Place: Collins Engineers, Inc.
211 W. Wacker, 8th Floor
Chicago, Illinois

Student Competitions

For the third year, MGT is liaison to staff these single Saturday events. All ASCE members, especially Younger Members, are invited to help. Please note ASCE and Group name when volunteering.

Mathcounts Regionals

The ISPE Chicago Chapter leads facilitation of this annual written competition. CE's are needed to proctor and score results. Instruction will be provided.

Date: Saturday, Feb. 7, 1998

Time: 8:00 a.m. - noon
Awards follow

Place: University of Illinois
Chicago, Illinois

RSVP: Alan Gdalmann at
(312) 666-3535

Science Olympiad Regionals

This year, Junior High (C Division) and High School (B Division) students will each compete in 22 events. CE's are needed to test/judge student-constructed entries in either or both divisions. Note if you are willing to test/judge at State at UIUC on Saturday, April 18, 1998. Information packets will be provided.

Date: Saturday, March 14, 1998

Times: 9 a.m.-noon: Towers (C)
12:30-3:30 pm: Bridges (B)

Place: University of Chicago
Chicago, Illinois

RSVP: Bob Camillone at (708)
349-2827 (fax with preferences).

Geotechnical Group

Geotechnical Group meetings are normally held the second Tuesday of the month, September through May.

Time: 5:30 p.m. Social
6:30 p.m. Dinner
7:30 p.m. Program

Place: Como Inn
546 N. Milwaukee Ave.
Chicago, Illinois

Cost: \$25.00 with reservations
\$30.00 at the door
\$10.00 for Students with reservations; and
\$15.00 for faculty with reservations

RSVP: Barb Pries at (312)
263-1606 by Jan. 9, 1998

January Meeting

The January meeting will be held on Tuesday, Jan. 13, 1998 at the Como Inn in Chicago. Dr. Timothy D. Stark of the University of Illinois at Urbana-Champaign will speak on "Stability of Waste Containment Facilities."

1998 Lecture Series

The 1998 Geotechnical Lecture Series is scheduled for March 3, 17, 31 and April 14, 1998 at UIC. The general topic is "Latest Developments and Recent Experiences in Earth Retention Systems."

EE&WR Group

The Executive Committee of EE&WR normally meets the second Tuesday of every month. We always welcome new faces and ideas. If you would like to be active in planning activities related to environmental or water resources engineering and would like more information, please contact Mike Morgan.

January Meeting

Date: Jan. 13, 1998

Time: 5:30 pm

Place: Lobby Conference Room
111 N. Canal St., Chicago

Info: Mike Morgan at (630)
574-3326

Section Activities
Continued on Page 5