



The Construction Zone

The official newsletter of the Construction Institute

Volume 2, Issue 4
July/August 2002

Current Circulation:
16,000 copies

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* Call for Abstracts *

2003 Construction Research Congress

The Construction Research Council has announced its call for abstracts for the 2003 Construction Research Congress. The conference, sponsored by the CI Construction Research Council, the Construction Institute, and the University of Colorado at Boulder, is being held in Honolulu, Hawaii on March 19-21, 2003. The conference theme is *Winds of Change: Integration and Innovation in Construction*. Submissions should address technical or organizational issues, case studies, or practical experiences. All abstracts must be submitted by August 1, 2002. The refereed proceeding documents will be peer-reviewed according to ASCE/CI technical publication guidelines and final papers must be 8-page technical papers. Authors who submit final documents agree to register for the conference, attend, and present their papers in person.

Deadlines:

August 1, 2002	Last day to submit abstracts
September 1, 2002	Authors informed of technical agenda committee decisions
October 15, 2002	Full papers due
December 1, 2002	Reviewer comments returned to authors
January 15, 2003	Final camera-ready papers due

For more information on the conference and how to submit an abstract, please visit the CI Web site at www.ConstructionInst.org.

CI Offers 50% Discount on Dues for Remainder of 2002!

The Construction Institute is currently offering a 50-percent dues discount to new members who join for the remainder of 2002. The discount is available to all levels of individual and corporate membership - so join today! Simply pick up an application, select the appropriate level of membership, cross through the regular dues amount, and submit your application with your discounted payment. Take advantage of this special offer and join the growing number of individuals and corporations who benefit from membership in the Construction Institute!

Applications may be found online at www.ConstructionInst.org or contact the CI office at 703-295-6390 or ci@asce.org.



Lots of Roses, Not Many Thorns

It is time to talk about some of the good things that are evolving in the construction industry, since much of what the media prints about us is not very flattering.

The technical side of heavy, industrial, highway, and major building construction is now quite advanced and sophisticated. Our machines are more complex and expensive than ever, but are greatly more productive. Excavation equipment can now successfully cope with almost any sort of ground encountered, nearly any shape, and at nearly any orientation. We know more today than ever about how to ventilate long and large tunnels, how to efficiently carry away large volumes of muck, and how to find and relocate utilities safely and swiftly. We know a lot more about controlling the ground in open excavations than we ever did. We know what makes structures fall and

what makes them stand up, and we are getting pretty good about minimizing disruption to the public. We are working hard to be good citizens in our communities and good partners with our clients and consulting engineers.

The practical application of the geotechnical sciences is highly advanced and more useful than ever in predicting rock behavior as it is excavated. Ground modification is gaining acceptance and wider application. When we install excavation supports today, whether soil nails, tie-backs, rock dowels, shotcrete, pile walls, or frozen earth, we do so with confidence that they are right for the ground and will be sufficient. Even so, nobody can see into the mountain any farther than the next guy, and from time to time we are reminded that Mother Nature is still firmly in charge. Many of the major engineering schools have

recognized construction engineering as a profession in its own right, and have established degree curricula covering vital subjects that many of us had to learn the expensive way, with mistakes. The days are over when construction company engineers were mostly mining and civil engineers who chose not to work with a mining company or a big design firm.

Some of us can remember when the labor-management relationship in construction made the Hatfields and McCoys look like bosom buddies. Fortunately, over the past few decades, we have come to our senses. The construction unions now understand that they have to be our partners if they are to prosper, and we have finally realized that our workers are the most valuable and productive part of our team. The challenge for construction professionals today, in an uncertain economy and often tumultuous world, is to find ways to attract and keep skilled workers, each one of whom can find a job doing something else that pays well, is in its own way exciting and interesting, and does not involve a move every couple of years. Our journey in the Construction Directorate of the Construction Institute is not only to raise the quality of our professional skills but also to be a bit of an ambassador for the construction industry. We would appreciate your help in making the trip.

Bob Pond
Deputy Director,
Construction Directorate

JCC Announces Best Paper Awards

CI would like to congratulate the following authors who received the *CI Journal of Composites for Construction* Best Paper Awards for 2001.

Best Research Paper:

Galvanic Corrosion of Carbon and Steel in Aggressive Environments
Mohammadreza Tavakkolizadeh & Hamid Saadatmanesh

Honorable Mention:

CFRP-Strengthened and Corroded RC Beams under Monotonic and Fatigue Loads
Sobhy Masoud, Khaled Soudki & Tim Topper

Best Applications Paper:

Interface Shear Stress: A New Design Criteria for Plate Debonding
Phalguni Mukhopadhyaya & Narayan Swamy

Honorable Mention:

Strength of RC Cantilever Slabs Bonded with GFRP Strips
L. Lam & J. G. Teng

CI Construction Directorate

At the first meeting of the Construction Directorate on May 1, 2002, the following mission was agreed to unanimously by all members present:

- To promote the true image of constructors:
Dedicated, loyal professionals with unique skills, knowledge, and integrity who safely build the nation's infrastructure.
- To advance the knowledge and practice of construction by promoting and identifying the future needs of the construction field, including safety, innovative construction approaches, and management processes, and by stimulating and guiding research into construction methods.
- To advance ethical standards, fair dealing, and trust, as valued and respected partners, at all stages of the construction process.

The Executive Committee (ExCom) of the Construction Directorate consists of:

J. H. Dastur, Director – Traylor Bros., Inc.
Bob Pond, Deputy Director – Frontier Kemper Constructors, Inc.
Harlan Fair - H. Fair Associates, Inc.
Keith Jacobson – Massman Construction Co.
Joseph Kracum - Kracum Resources
Roger Ludlam – PB Constructors, Inc.
Salvatore Mancini – Slattery Skanska Inc.
Bruce McKellar – Washington Group International, Inc.
Frank Muller - Metro Mediation Services, Ltd.
Kent Reiman – Flatiron Structures Company
Howard Wahl – Retired Bechtel Executive

The Construction Directorate presently has three active committees:

- Construction Site Safety – Frank Muller, Chair
- Crane Safety – Harlan Fair, Chair
- Management Practices in Construction – Joseph Kracum, Chair

If you are interested in participating in the Construction Directorate, or on one of the listed committees, please contact the CI office at 703-295-6390 or ci@asce.org. Your ideas, input, and participation are essential to the success of the Construction Directorate.

CI Board of Directors

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Update on the New Minnesota LRT Project



Ground was broken more than a year ago on the Hiawatha Light Rail line in Minneapolis, Minnesota and Granite Construction has become integral to the building of the line. The construction joint venture, known as Minnesota Transit Constructors (MnTC) was awarded a \$291.3 million design-build contract to build the line for the Minnesota Department of Transportation. Minneapolis now joins other world-class cities such as Dallas, St. Louis, Portland, Denver, and Salt Lake City that have recently launched LRT systems.

The project has over 6,000 scheduled activities along an 11.6 mile corridor stretching from downtown Minneapolis, through a 9500 foot tunnel beneath the MSP International Airport, to the world renowned Mall of America. The joint venture team consists of Granite's Heavy Construction Division, C.S. McCrossan, Inc., the design partners of the Parsons Transportation Group, and Edwards & Kelcey, Inc.

The project includes two elevated guideway structures and the rehabilitation of five railroad bridges. A 113,000 square foot operations and maintenance facility is located on a twenty-acre site. It will be completed and handed over to Metro Transit — the operator of the line — this fall. The rail system will feature sixteen at-grade crossings, which include reconstructing intersections, roadways, curbs, gutters, drainage, sidewalks, driveways, and signals. Along with these activities, the design-build team is completing work on 17 stations. The main components of the electric system

are the substations which are connected to an overhead catenary system, the automatic train protection systems, and all communications systems. The project is on schedule to begin partial operations late 2003 and full operations late 2004.

Building the Hiawatha LRT line has been a community endeavor. Recently, the Metropolitan Council selected six local artists, and several others, to enhance the stations with sculptures, hand painted brickwork, and decorative metal. Each station will be unique and reflective of the neighborhood where it is located thanks to public input. MnTC also made a significant contribution to the local Korean community when it helped relocate a large vegetable garden within the project.



Granite Construction — by its involvement with this project — has positioned itself to be a leader in the industry for future light rail projects around the country. When light rail development arises in other states, transit agencies will look to companies like Granite Construction for innovative ideas and success in meeting their transportation needs. Granite is one of the nation's largest diversified heavy civil contractors and construction materials producers. The company serves public and private sector clients through its 50 offices nationwide. For more information about the company visit their website at www.graniteconstruction.com.

CI Working to Develop PE Exam on Construction Engineering

The construction industry's need for licensed engineers is increasing as a result of new industry standards, project specifications, and OSHA regulations. Professional Engineers (PEs) are now required to design certain systems and procedures within the construction process; however, this aspect of civil engineering is not addressed by current licensure procedures. Historically, the licensure process has been structured to evaluate the engineering design of a facility, not the design of the construction process. In an effort to address this deficiency, the Construction Institute is working with the National Council of Examiners for Engineering and Surveying (NCEES) to develop exam content on Construction Engineering. The new content will be used to implement a sixth area of focus within the Civil Engineering Principles and Practice (P&P) exam – the second exam required for obtaining a PE license.

The Civil Engineering P&P examination is a breadth and depth examination. Every examinee works the same breadth (morning) exam and one of five depth (afternoon) exams. The morning exam contains questions from each of five areas within civil engineering – environmental, geotechnical, structural, transportation, and water resources. The afternoon exam focuses on a single area of practice, based upon the examinee's preference. At present, construction engineering is not an area of focus for the afternoon exam; however, as a result of CI's efforts, NCEES will begin studying this possibility in 2003.

The Construction Engineering Education Committee (CEEC) within the Education & Research Directorate is leading CI's effort in working with NCEES. CEEC Chair Dr. David W. Johnston, PE, Professor and Associate Head of Civil Engineering at North

Carolina State University, notes that the availability of such an exam will not only address a need in the industry, but aid in developing the career paths of engineers who work in construction. According to Dr. Johnston, necessary steps in the development process include:

1. A survey of construction PEs by NCEES to determine the construction engineering topics to be covered and the distribution of the content.
2. Development of questions by construction PEs for several trial exams.
3. Trial administration of the exams to licensed construction PEs.

4. Long term maintenance of the exam with periodic re-survey and development of new questions.

Each step is expected to take several years to accomplish and will require significant volunteer efforts by licensed PEs with expertise in construction. Professional Engineers who wish to volunteer their time to this effort may contact Dr. Johnston by email at johnston@eos.ncsu.edu. Please place "PE Exam - ASCE CI" in the subject line of the email. You will be asked to complete a brief bio-form indicating your willingness to participate. Help CI address this critical need by volunteering your time to this important effort!

Special Offer for CI Journals

The Construction Institute sponsors four journals that are published by the American Society of Civil Engineers (ASCE). Subscribe to the ASCE Personal Journal online and download any 25 articles from these journals. ASCE and CI Members pay only \$100. Articles may be chosen from any of ASCE's journals and all downloads must take place within the course of one year. For more information, visit the ASCE Publications Web site at www.pubs.asce.org/journals/jrns3.html.

[Construction Engineering and Management](#) - provides for the exchange of ideas and knowledge on pivotal concerns in the construction industry. The journal publishes papers whose aims are to advance the science of construction engineering, to harmonize construction practices with design theories, and to further education and research in construction engineering and management.

[Composites for Construction](#) - publishes original research papers, review articles, and case studies dealing with the use of fiber-reinforced composite materials in construction.

[Materials in Civil Engineering](#) - disseminates information relating to the development of new civil engineering materials, processing and field production of materials, and the evaluation of construction materials properties.

[Practice Periodical on Structural Design and Construction](#) - provides practical information and real-world experiences associated with how design and construction engineers, consultants, and managers have solved unique problems, faced difficult challenges, and survived failures in the planning, design, construction, operation, and maintenance of civil engineering projects.

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Committee Activities

MPIC Holds Semi-Annual Meeting

The Management Practices in Construction (MPIC) Committee held its semi-annual meeting at the Chicago O'Hare Hilton on May 18, 2002. During this meeting, MPIC elected the following new officers:

Joseph J. Kracum, Chair
John Brandvic, Vice-Chair
Melbourne Garber, Secretary

Meeting topics included the CI member satisfaction survey and committee participation in the 2002 and 2003 ASCE National Conferences. MPIC members also took a boat tour on the Chicago River to view the history and diversity of architecture in downtown Chicago.

Management Practices in Construction

Chair: Joseph J. Kracum, PE

Purpose: To help CI members compete in the marketplace by providing timely, high-quality, useful Construction Management knowledge through conferences, specialty sessions, publications, university programs, and custom consulting. MPIC also has the honor of recommending to the CI Board of Directors the recipient of the Construction Manager of the Year Award.

CI Member Satisfaction Survey

MPIC has developed a member survey to gather information from the CI membership. They hope to determine interest in current CI member services and develop some ideas for new ways to serve the membership. The survey is currently available on the CI Web site at www.ConstructionInst.org. In order to fully determine the needs of the CI membership, all members are requested to complete the survey. Simply go to www.ConstructionInst.org and follow the instructions. Results of the survey will be published in the November/December issue of *The Construction Zone*.

CI Forming New Technical Committees

The Construction Institute is seeking active participants to serve on five committees recently approved by the CI Board of Directors. The new committees are a part of CI's ongoing effort to better serve its members through increased opportunities for participation and expanded areas of knowledge and proficiency. Committees currently seeking volunteer participation include:

- Temporary Structures – Chaired by Vincent Tirolo Jr., Slattery Skanska, Inc.
- Value Engineering – Chaired by Kenneth Cooper, Arizona Department of Transportation
- Resident Project Representative – Chaired by William DuVall, Parsons Transportation Group, Inc.
- Design-Build – Chaired by Charles O'Reilly, HNTB
- Constructability – Chaired by John Gambatese, Oregon State University

The first four committees listed above are organized within the Engineering Directorate under the guidance of Bob O'Neil, Parsons Transportation Group, Inc. The fifth committee is a part of the Owners Directorate, under the guidance of Frank Lombardi, The Port Authority of New York/New Jersey. The Directorate structure is not indicative of a committee's desired membership. Each committee welcomes the participation of engineers, owners, contractors, educators, and others.

Committee Chairs are currently recruiting members to aid in developing purpose statements and identifying activities. If you would like to participate on any of these committees, please contact the CI office at 703-295-6390 or ci@asce.org.

Mega Projects of the West Coast

Friday, August 16, 2002

Program Agenda:

- 7:00 **Continental Breakfast/Registration**
- 8:00 Opening Remarks
- 8:15 East Bay Bridge Project
- 9:00 Bay Area Rapid Transit (BART),
New Major Capital Projects
- 9:45 **Break**
- 10:00 San Francisco MUNI - Future Projects
- 10:45 Golden Gate Bridge Retrofit Program
- 11:30 Construction of New Carquinez Suspension Bridge
- 12:15 **Lunch** - ASCE Roebling Award Lecture
Construction of the West Dam
Bruce McKellar, 2001 Roebling Awardee
- 1:15 Richmond-San Rafael Bridge Retrofit Project
- 2:00 Devil's Slide Tunnel and Bridges
- 2:45 **Break**
- 3:00 SFO Airport Runway Modernization Program
- 3:45 Precast Concrete for Bay Area Bridge Projects
- 4:30 **Networking Reception** (Cash Bar)
- 6:00 **Conclusion**

Location:

Doubletree Hotel San Francisco Airport
835 Airport Boulevard
Burlingame, CA 94010
650-344-5500

Sleeping rooms are available from Wednesday through Sunday, August 14-18, 2002 at a reduced rate of \$79.00 per night if reserved by 7/15/02. Call the Doubletree Hotel and ask for the CI/ASCE rate.

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and San Francisco Sections of ASCE**



Construction Institute

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Payment in full must accompany registration form. Items must be postmarked by deadline dates to receive the appropriate discount.

No pre-registrations will be accepted after 8/5/02.

On-site registration may be available as space allows. There will be an additional \$25 fee for on-site registration.

Cancellation requests must be received by 8/5/02.

Registration Form

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Return this form along with full payment to:

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A confirmation letter or email will be sent to you within 2 weeks.



Spotlight on our Corporate Members



DMJM HARRIS

A diversified international transportation and infrastructure consulting firm, DMJM+HARRIS is a one-stop resource for services ranging from planning and design to program and construction management. An industry leader, the firm's winning team of 2,200 engineers, architects, construction specialists, and other professionals has earned its reputation as "The People Who Get It Done" during more than 75 years of project experience.

DMJM+HARRIS's capabilities cover a full spectrum of disciplines and market sectors, including Transit, Highways and Bridges, Energy, Marine, and Aviation. The firm, as part of the AECOM family of companies, has been ranked number one in Transportation in *Engineering News-Record's* 2002 ranking of leading engineering, planning, and design firms.

The Construction Management Choice

In planning, designing, and providing construction management and inspection services for highways, bridges, and other transportation facilities, DMJM+HARRIS has amassed an impressive work history.

Partnering with federal, state, and regional municipalities and Departments of Transportation across the United States, DMJM+HARRIS has been involved in high profile projects such as

- Tren Urbano Heavy Rail System, San Juan, PR;
- Alameda Corridor Development Project, Los Angeles, California;
- Atlantic City/Brigantine Connector Project, Atlantic City, NJ;
- I-64/Route 44 Hampton Roads Traffic Management System, Hampton, VA;
- Baltimore Metro System, Sections A, B and C, Baltimore, MD;
- Bay Area Rapid Transit District San Francisco Airport Extension, San Francisco, CA;
- I-95 Widening and HOV Lanes ITS Project, Fairfax, VA;
- Capital Development Program, Dulles International Airport, Washington, DC;
- Burlington Northern Santa Fe Third Track, Los Angeles and Orange Counties, CA;
- Atlantic City/Brigantine Connector Project, Atlantic City, NJ; and
- Pittsburgh Light Rail Transit Program, Pittsburgh, PA.

Fully prepared to tackle demanding construction management and inspection assignments, DMJM+HARRIS offers comprehensive planning and review services. The company's expertise is applied to tasks such as:

- quality, project, and cost controls,
- scheduling,
- on-site inspection,
- change order control,
- claim analysis and negotiations, and
- startup and testing.

From concept to completion, DMJM+HARRIS has the qualities and resources needed to be a primary contender for any construction management project, regardless of size and complexity. The firm fosters a culture of partnership, of finding solutions to every problem, for each and every project. A commitment to quality and innovation, to responsiveness and responsibility, are all part of the DMJM+HARRIS way of doing business. They conceive it, plan it, design it, build it, deliver it... They are *The People Who Get It Done*.

For more information about DMJM+HARRIS, visit the company Web site at www.dmjmharris.com.

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Calendar of Events

Meetings

CI Regional Seminars

**San Francisco, CA
August 16, 2002**

**Washington, DC
November 2002**

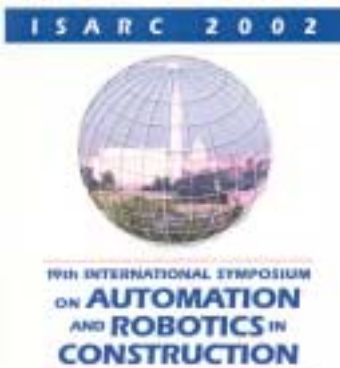
CI is hosting a seminar on Mega Projects of the West Coast. Scheduled for Friday, August 16, 2002 at the Doubletree Hotel, San Francisco International Airport, the one-day seminar features presentations on nine Bay Area projects. Attendance is limited, so register early by completing and mailing the registration form on page 9!

Board of Directors Meetings

**San Francisco, CA
August 17, 2002**

**Washington, DC
November 2002**

Conferences



**19th ISARC
Washington, DC
September 23-25, 2002**

CI is a co-sponsor for the 19th ISARC. This event provides a forum for the world's leading researchers, developers, and end-users to present and discuss the latest research and development activities, how such activities are transforming the construction industry, and to explore opportunities for collaboration in these areas. If you are interested in attending or contributing to the symposium, please contact the National Institute of Standards and Technology at 301-975-6051 or isarc2002@nist.gov.



**ASCE Civil Engineering
Exposition and
Conference
Washington, DC
November 3-7, 2002**

Celebrate ASCE's 150th Anniversary reviewing the Society's role in Civil Engineering's past, present, and future. Meet industry leaders and managers, government planners and officials, academics, students, practitioners, and professional colleagues from around the world. Get career advice from government leaders and C.E. executives during the Government Forum. Visit Washington sites of special interest to Civil Engineers. For more information, please visit the event Web site at www.asce.org/conferences/annual02/ or contact ASCE at 800-548-2723 or 703-295-6300.

**Damage Prevention
Conference and
Exposition
San Diego, CA
December 4-6, 2002**



CI will be endorsing the Damage Prevention Conference and Exposition. The event provides a forum to learn about and discuss current and emerging issues impacting the design, installation, maintenance, and protection of buried cables and pipelines. Exhibiting companies feature the latest technology, products, and services available to help prevent various disasters. For more information, please visit their Web site at www.damageprevention.com or contact them at 800-827-8009.

CI Membership

The Construction Institute offers several levels of membership for individual and corporate members.

Student Member - \$25 annually
Associate Member - \$50 annually
Member - \$100 annually
Master Builder - \$200 initiation fee
ASCE Member with CI as 1st Institute - free
ASCE Member with CI as 2nd Institute - \$20 annually
Associate Corporate Member - \$750 annually
Corporate Member - \$2000 annually

The CI membership year runs from January 1st to December 31st. For more information on CI membership and an explanation of the membership levels, please contact CI at 703-295-6390 or via email at ci@asce.org. You can also visit our Web site at www.ConstructionInst.org.

Share Your Thoughts

Thank you for reading *The Construction Zone*. If you have an idea for a future article or if you have any other comments or suggestions, please contact us. We welcome articles of up to 400 words on any topic that may be of interest to our members. If you would like your article published in *The Construction Zone*, please email it to ci@asce.org. We look forward to hearing from you.

Contact CI

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