WOMEN IN ENGINEERING

Girls, Inc. Honors Thornton Tomasetti's Brazil

Girls, Inc. honored Aine Brazil at the annual Girls Inc. New York Celebration Luncheon at the New York Hilton on March 13th. A powerful gathering of more than 1,000 business and community leaders committed to the Girls Inc. mission of inspiring all girls to be strong, smart, and bold, the event recognizes women and men who, by their work and example, are creating a better future for girls.

Photo: Steve Friedman

Brazil

As one of 11 managing principals of Thornton Tomasetti, Inc., Aine Brazil helps guide the international engineering firm of 650 employees in the design of high-rise office and residential buildings, hotels, hospitals, and other projects. After 30 years in the field, her accomplishments include leading the design of the following Times Square properties: 5 Times Square, Times Square Tower, and 745 Seventh Avenue, all totaling over three million sq. ft. She is also responsible for the 975-ft-tall Comcast Tower in Philadelphia and the tallest building in New Jersey.

Brazil holds a B.S. degree from the University College in Galway, Ireland and a M.S. degree in engineering from the Imperial College of Science and Technology in London. She was the first president of the Structural Engineers Association of New York (SEAONY), a past board member of Women Executives in Real Estate New York (WX), and a member of the NYC Mayor's Commission for the Adoption of a Model Code. She has been featured in the *New York Times* and also in *Crain's New York Business*' "New York's 100 Most Influential Women in Business."

ENGINEERING JOURNAL NEWS

Best EJ Paper of 2007 Winner Honored at NASCC

The winner of the Best EJ Paper of 2007 competition is James O. Malley for his paper "The 2005 AISC *Seismic Provisions for Structural Steel Buildings*," which was published in the first quarter 2007 issue of AISC's *Engineering Journal*.

The winning author was offered complimentary registration to the 2008 NASCC, held in Nashville last month, as well as travel expense reimbursement; the award was presented during the conference.

Be sure to participate in selecting the Best EJ Paper of 2008. Voters are eligible for a drawing to receive complimentary registration to NASCC, including travel reimbursement. Manuel Perez, employed by the City of Los Angeles, was the winner of this year's drawing.

STEEL AVAILABILITY

Deepest Beams Yet

Nucor Corporation announced today that Nucor-Yamato Steel Company is introducing 44-in.-deep wide-flange structural shapes, becoming the first mill in the Western Hemisphere to produce sections to this depth.

Nucor-Yamato Steel Company, a joint venture between Nucor Corporation and Japan's Yamato Kogyo Company, is introducing four 44-in.-deep sections: W44×335, W44×290, W44×262, and W44×230. The maximum length for these sections is 120 ft. The first production rolling of the W44 sections is scheduled for the week of May 25, 2008 and will be included in future rolling schedules.

These beams are of particular interest to the highway bridge market for use as "stringers" (primary bridge beams), horizontal load-carrying members that carry the bridge deck and roadway surface.

Until now, the deepest sections available from U.S. mills had been Nucor-Yamato's W40×431 sections. The W40 sections and other deeper rolled beams have been seeing increased use in bridges, particularly in the Midwest.

JOIST NEWS

SJI Updates Reference

An updated version of Technical Digest No. 11 is now available from the Steel Joist Institute. The guide illustrates procedures for the structural engineer to properly analyze, design, and specify open-web steel joist and joist girder moment frames to resist wind and seismic lateral loads. The design methodology provided is limited to single-story structures subjected to wind and seismic loads; however, the design procedures are applicable to multi-story moment frames subjected to wind loads.

Offering an extensive update to the previous edition, this second edition covers the importance of the relationship between the specifying professional and the joist manufacturer, describes the analysis requirements for modeling the moment frame, and provides design methodology for lateral wind loads and seismic loads. To order a hard copy, download an electronic copy, or download an order form, visit **www.steeljoist.org**.

MARKET NEWS

Non-Residential Market Remains Active, but Construction Costs Continue to Increase

Turner Construction Company, in its quarterly market forecast, announced that construction costs increased 1.48% over fourth quarter 2007 and 4.96% over first quarter 2007. Turner has issued this quarterly forecast for more than 80 years.

According to Karl F. Almstead, the Turner vice president responsible for the Turner Building Cost Index, "The non-residential construction market remains active in spite of the residential market slowdown and the uncertainty in the credit markets. The perception that there may be an economic slowdown has lead to an easing of pricing pressure and an increase in competition among trade contractors in some markets. However, in major metropolitan markets such as New York City, the available volume of work continues to drive pricing upward."

Almstead also expressed that the industry is still facing a shortage of skilled labor, as well as uncertainty of the availability and cost of materials, adding that the pressure on construction costs in the non-residential markets will continue to result in cost increases over the next several quarters.

The Turner Building Cost Index may or may not reflect regional conditions in any given quarter. The Cost Index is determined by several factors considered on a nationwide basis: labor rates, productivity, material prices, and the competitive condition of the marketplace.

BIM NEWS

AGC Adds BIM Addendum to ConsensusDOCS

The Associated General Contractors of America (AGC) recently announced its approval of the addition of the Building Information Modeling (BIM) Addendum to the ConsensusDOCS catalog.

The ConsensusDOCS BIM Addendum is the first and only industry standard document to globally address the legal uncertainties associated with using BIM. The 21 leading associations representing owners, contractors, subcontractors, sureties, and designers that are actively supporting ConsensusDOCS have endorsed or are anticipated to endorse this consensus standard document.

The ConsensusDOCS BIM Addendum will be published in the first half of 2008 as part of the ConsensusDOCS comprehensive catalog of contracts and forms, which address all project delivery methods. The BIM Addendum provides a tool to utilize BIM from start to finish, thereby allowing contractors to more closely integrate project delivery with owners and design professionals. It is also flexible enough to be used as an addendum in more traditional contracting methods. The BIM Addendum has received extensive comment from the design professional community through the AGC BIMForum, a conglomeration of leaders throughout the AEC industry that have joined forces to facilitate and accelerate the adoption of BIM.

ConsensusDOCS is made up of more than 70 collaboratively drafted construction contracts. Its release last year represented the first time that broad industry representation has had an equal voice in collaboratively drafting construction contracts.

FABRICATION NEWS

OSHA Targets Crystalline Silica

OSHA has launched a National Emphasis Program (NEP) targeting health hazards associated with occupational exposure to crystalline silica. The new program directs OSHA regional offices to inspect workplaces with elevated exposure levels and to provide "compliance assistance" to employers. Crystalline silica is a carcinogen and can lead to silicosis, a disabling and irreversible lung disease.

The directive lists streel fabrication as one of the industries at risk for exposure. The exposure potential comes from sand blasting steel with silica sand. While not prevalent in the fabrication industry, sand may still be used in some situations. Companies using sand for blast media are encouraged to use the NEP to establish and enforce rigorous procedures to prevent exposure to blast personnel and bystanders. The NEP includes inspection procedure information and an inspector checklist. You can view the diretive at www.osha.gov/OshDoc/Directive_pdf/CPL_03-00-007.pdf.

letters

In Name (and Spirit) Only

Thank you for printing and endorsing my comments regarding the lack of recognition by architects of the indispensable contribution of structural engineers to the success of their designs.

However, please note that I am speaking as a *former* principal of the Cantor Seinuk Group. While I am proud of my role in founding and nurturing the Cantor Seinuk Group and watching its continued growth, I left the company in April of 1998 and have no ties—save the sentimental ones—to it.

Irwin Cantor

How to Progress?

There is a very interesting contrast between Erik Nelson's article "The Progression of the Structural Engineer" (March, p. 93) and Xing Cai's article "Quality Assurance of Structural Engineering Design" in the March 2008 issue of *STRUCTURE* magazine.

Nelson's article describes a slow, unmentored, hit-or-miss—and therefore error-prone—learning process, while Cai's article recommends the use of checklists to ensure quality and avoid errors of omission.

I repeatedly learned the value of checklists in junior high school shop class, boy scouting, and the U.S. Navy. Engineering schools focus on teaching basic principles, but there is no reason that they cannot also strongly advise their students to obtain or prepare a checklist before designing anything.

I worked briefly as a non-structural civil engineering designer at the Oak Ridge National Laboratory (ORNL) before commencing a career in research. ORNL had an excellent system for accomplishing good design. A program engineer followed the job from concept through construction, preparing—jointly with the customer and the designer—a checklist of criteria that the design should meet. This was the beginning of the designer's checklist. Organized, high-quality work was not left to chance. Checklists contain cumulative corporate knowledge and experience, and can effectively guide a young engineer to recognize the needed knowledge that he/she did not acquire in school. Hit-or-miss, sink-or-swim learning is archaic and should be a thing of the past.

from the Reader Feedback forum at www.modernsteel.com