

19th Annual Conference



Oklahoma City, Oklahoma
October 20 - October 22, 2011



Renaissance Oklahoma City Convention Center Hotel

Leadership in
Structural Engineering

NCSEA

Oklahoma City is proud to host this year's NCSEA Annual Conference. Held at the Renaissance Convention Center, the preliminary program follows:

THURSDAY – October 20

Concurrent Sessions

NCSEA Committee Meetings

- 10:30 – 12:00 Licensing Committee
- 11:00 – 4:00 Basic Education Committee
- 1:00 – 4:00 Code Advisory Wind Engineering Subcommittee
- 1:00 – 5:00 Code Advisory General Engineering Subcommittee
- 1:00 – 5:00 Code Advisory SI/QA Subcommittee

6:00 – 8:00 **Welcome Reception for Exhibitors and Attendees**

Exhibit Hours on Thursday: 1:00 – 8:00 p.m.

NCSEA Forums

1:00 pm **Ethics in Structural Engineering**

Barry Arnold, Vice President ARW Engineers, Ogden, UT

3:15 pm **Speaking to the Media**

Gerry Bond, Emmy winning journalist and TV personality, Oklahoma City, OK

Software Presentations

- 1:00 – 1:30 RISA Technologies
- 1:40 – 2:10 CSC, Inc.
- 2:20 – 2:50 Structural Desktop, Inc.
- 3:20 – 3:50 Bentley Systems
- 4:00 – 4:30 S-FRAME Software, Inc.
- 4:40 – 5:10 Design Data

FRIDAY – October 21

- 7:00 am Registration & Breakfast
- 7:30 am Breakfast Sponsor Speaker
- 8:15 am Roll Call & Introduction of Candidates for NCSEA Board of Directors
- 8:30 am **Keynote Address: International Structural Engineering Practice – It's Not Just About the Calcs**
James R Cagley, 1st President of NCSEA, Cagley & Associates, Rockville, MD
Designing structures for a number of years, in a number of foreign countries, teaches you that structural engineering encompasses so much more than just calculations and drawings. How it can sometimes be interesting, sometimes fun, but not always both at the same time, will be the subject matter of this keynote address by the founder of NCSEA.
- 9:15 am **Making Sense of the Rubble through Forensic Investigation after the Oklahoma City and 9/11 Bombing Attacks**
Gene Corley, 4th President of NCSEA, CTLGroup, Skokie, IL
After any structural damage occurs, there is an opportunity to increase knowledge and improve future designs. In many cases, damaged structures are partially intact, and the determination of the cause of destruction may be easy. For the Oklahoma City and World Trade Center bombings, however, damage was extreme, thereby making investigation difficult. Results of the forensic investigations and the code changes that followed will be discussed.
- 10:00 am Break & Exhibitor Visits
- 10:45 am **Forensic Design Panel Discussion**
Tim Slider, 5th President of NCSEA, Slider & Associates, Richardson, TX
Ron Hamburger, 12th President of NCSEA, Simpson Gumpertz & Heger, San Francisco, CA
Ed Huston, 15th President of NCSEA, Smith & Huston, Seattle, WA
- 11:45 am Lunch, Sponsored Speaker, & Exhibitor Visits

Concurrent Sessions

Session 1

- 1:00 pm **The Building Code Process Today**
Ron Hamburger, 12th President of NCSEA, Simpson Gumpertz & Heger, San Francisco, CA
Most structural design criteria in today's building codes are adopted by reference to national standards developed by ACI, AF&PA, AISC, ASCE, TMS, and other industry groups. While the building codes are updated and adopted every 3 years, the standards are more typically updated and revised on a 5-year schedule. The 2006 IBC referenced 2005 editions of most standards. However, as time goes by, the lag between standards publication and building code adoption is increasing. Should engineers design to the latest standard or that referenced by the building code? A look at some upcoming changes to the code may provide some insight into this question.
- 1:45 pm **Building Code Panel Discussion**
Gene Corley, 4th President of NCSEA, CTLGroup, Skokie, IL
Greg Schindler, 8th President of NCSEA, KPFF Consulting Engineers, Seattle, WA
Ed Huston, 15th President of NCSEA, Smith & Huston, Seattle, WA
- 3:15 pm **Specialty Structural Engineering – What I Learned After College**
Bill Bast, 17th President of NCSEA, Thornton Tomasetti, Chicago, IL
This talk will focus on structural engineering for vintage and new building facades, construction means and methods, and structural repairs. Case studies of each will be presented and discussed in detail.
- 4:00 pm **Specialty Engineering Panel Discussion**
Craig Barnes, 3rd President of NCSEA, CBI Consulting, Boston, MA
Emile Troupe, 6th President of NCSEA, Structural Steel Fabricators of New England
Mike Tjlk, 9th President of NCSEA, TGRWA, Chicago, IL

Spouse Program

Contact Lisa Joyce, Coordinator (ljoyce3@cox.net) for information. Program will include Oklahoma Memorial & Museum, shopping in Bricktown Entertainment District as well as Classen Curve, Red Earth Museum, Bricktown dining and canal cruise, National Cowboy & Western Heritage Museum, tour of Boathouse Row on Oklahoma River, Myriad Botanical Gardens & Crystal Bridge Tropical Conservatory, Trolley transportation.

Register online at www.ncsea.com

Conference Hotel

Renaissance Oklahoma City Convention Center Hotel
10 North Broadway Avenue, Oklahoma City, OK 73102
405-228-8000. Use Group Code **NCSNCSA** for special \$149 rate, good only until September 27.

American Airlines

Group Code #53H1BA for a 5% discount
Taxicab cost to the hotel: \$24 – \$26



Best Deal on Airport Shuttles

Oklahoma Shuttle/Lightning Express 405-428-4441
Across the street from baggage claim, look for a sign that says "Public Vans". The cost for these orange and burgundy vans is \$16.00 one way and \$2.00 for each additional person to the same hotel. No advance reservation necessary.

Avis Car Rental Code

#GO27999



Courtesy of Joseph Mills Photography

OKC Museum of Art Reception and Dinner

6:00 – 7:00 Roof Terrace Reception

7:00 – 8:30 Dinner

8:30 – 10:30 Open Galleries

Exhibit Hours on Friday: 7:00 a.m. – 3:15 p.m.

OKC Rooftop Terrace: Located atop the three-story Donald W. Reynolds Visual Arts Center, the Roof Terrace offers a spectacular view of downtown Oklahoma City.

OKC Museum of Art: The Museum's collection covers a period of five centuries, with highlights in European and American art from the eighteenth through twenty-first centuries and a growing collection of contemporary art. Located atop the three-story Donald W. Reynolds Visual Arts Center, the Roof Terrace offers a spectacular view of downtown Oklahoma City.

SATURDAY – October 22

Session 2

1:00 pm **Investigation, Design, and Construction for Renovation Projects is NOT an Off Shore Function**

Craig Barnes, 3rd President of NCSEA, CBI Consulting
Many renovation projects require a combination of services that can be provided most efficiently by an experienced structural engineer. Often that engineer must guide the architect, mechanical engineer, and even the client. Engineers not experienced in renovation may come to grief in the process; and engineers without close proximity to the project are at a severe disadvantage.

1:45 pm **Renovation Panel Discussion**

John Joyce, 11th President of NCSEA, Engineering Solutions, Oklahoma City, OK
Bob Paullus, 16th President of NCSEA, Paullus Structural Consultants, Memphis, TN
Bill Bast, 17th President of NCSEA, Thornton Tomasetti, Chicago, IL

2:30 pm Break, Exhibitor Visits, and Raffle

3:15 pm **How to Make Money in Structural Engineering**

Marc Barter, 7th President of NCSEA, Barter & Associates, Mobile, AL
This presentation will be a general overview of the business of structural engineering consulting. Topics such as client selection, accounts receivable, insurance, and quality will be discussed.

4:00 pm **Business Issues Panel Discussion**

James R Cagley, 1st President of NCSEA, Cagley & Associates, Rockville, MD
Sanjeev Shah, 10th President of NCSEA, Lea+Elliot, Inc., Miami, FL

7:00 am	Breakfast and Presentation by Sponsor
8:00 am	Roll Call and MO Reports
9:15 am	Code Advisory Committee Report, <i>Ronald Hamburger, Chair</i>
9:30 am	Advocacy Committee Update, <i>Bob Durfee, Co-Chair</i>
9:45 am	Basic Education Update, <i>Craig Barnes, Chair</i>
10:00 am	Continuing Education Update, <i>Mike Tylk and Carrie Johnson, Co-Chairs</i>
10:15 am	Morning Break
10:30 am	Licensing Committee Report, <i>Susan Jorgensen, Chair</i>
10:45 am	Publications Committee Report, <i>Tim Mays, Chair</i>
11:00 am	SEER Committee Report, <i>Scott Nacheman, Chair</i>
11:15 am	Executive Director Report, <i>Jeanne Vogelzang</i>
11:30 am	Communication and Partnering Ad Hoc Committee, <i>Jim Malley, Chair</i>
11:45 am	SECB Report, <i>Marc Barter, Board Member</i>
11:50 am	Treasurer's Report, <i>Ben Nelson, Treasurer</i>
12:00 pm	Lunch and Sponsored Speaker
1:15 pm	NCSEA Proposed Licensure Policy, <i>Susie Jorgensen, Licensing Committee Chair</i>
1:30 pm	Discussion and Vote on Licensure Policy
2:00 pm	Breakout sessions announced
2:15 pm	Breakouts
3:00 pm	Break
3:15 pm	Breakout sessions continued
4:00 pm	Reconvene to Summarize Results
4:30 pm	Adjourn
4:35 pm	NCSEA Board of Directors Meeting
6:00 pm	Reception and Awards Banquet – <i>Formal attire requested</i>



NCSEA Ninteenth Annual Conference

Sponsors & Exhibitors

Platinum Sponsor

Wallace Engineering Structural Consultants, Inc.

www.wallacesc.com

Wallace Engineering is a structural and civil engineering firm with engineers licensed in all 50 states, Puerto Rico, District of Columbia and the Virgin Islands. They provide full service engineering services to architects, contractors, corporations, institutions and public entities, with offices in Tulsa, Kansas City, Oklahoma City and Castle Rock.

Gold Sponsors

Nucor-Vulcraft Group

www.vulcraft.com

Vulcraft is the largest steel joist, girder and deck producer in the United States. We have 7 joist plants and 9 deck plants that service the entire US as well as Mexico and Canada. A division of Nucor, we share the same #1 goal of Taking Care of Our Customers!

Star Building Systems

www.starbuildings.com

Star Building Systems, founded in 1927, is a leader in the custom metal building industry with a reputation for performance and quality. Star prides itself on maintaining state-of-the-art, computerized processing systems in all phases of design, drafting and manufacturing. Star products are proven in more than 300,000 Star buildings worldwide.

Silver Sponsors

Alliance Steel Inc.

www.allianceokc.com

A leading manufacturer of complete metal building package, specializing in the design and manufacturing of complex and regular buildings. 40+ years of experience designing and fabricating conventional structural steel and metal buildings for Agricultural, Auto Dealerships, Churches, Banks, Hangars, Industrials, Mini Storage, Offices, Recreational, Retail, and Schools.

Bronze Sponsors

B&T Engineering, Inc.

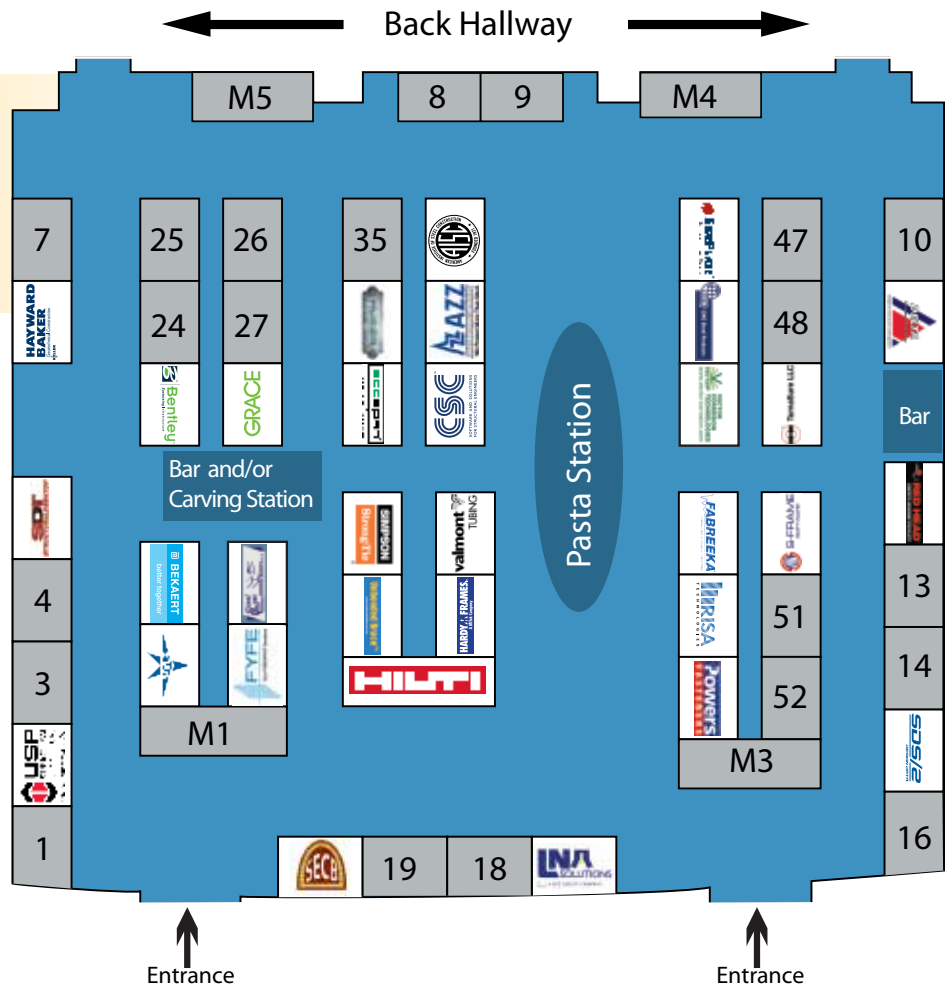
www.btengineering.com

B&T Engineering is a Structural Engineering firm specializing in telecommunications tower designs, as well as traditional structural engineering on commercial and industrial projects. We have project designs nationwide, and are licensed to practice engineering in all 50 states.

Engineering, Inc.

www.engineeringincorporated.com

Engineering Inc. performs inspections of commercial and residential properties for damage-cause determination – specializing in roof covering damage, structural, drainage/water intrusion investigations, and construction analysis. Issuance of detailed and comprehensive engineering analysis reports including cause determination(s) and the nature and extents of damage. Litigation support including research and testifying.



Copper Sponsors

ATG USA (Applied Technology Group)

www.atgusa.com

ATG USA is recognized as the most progressive partner in the industry. We offer customers comprehensive technology solutions that help make them more profitable and competitive in the marketplace by leveraging technology and best in class business practices. Specialties: Autodesk Gold Partner, AEC Industry, Autodesk Training & Implementation, Technology Partners

B & R Engineering

B & R Engineering provides structural and foundation inspections for commercial and residential customers. B & R Engineering also provides structural inspections for manufactured homes' permanent foundation requirements to meet VA and/or FHA standards.

Crafton Tull

www.craftontull.com

Crafton Tull is a fully-integrated design firm providing architecture, interior design, structural engineering, MEP engineering, civil engineering, survey, planning, and landscape architecture. With over 47 years in the built community, we have grown to become a firm of more than 270 professionals in six offices serving a national market area.

Kirkpatrick Forest Curtis PC

Kirkpatrick Forest Curtis is an Oklahoma City structural engineering consulting firm providing services to building owners, architects, general contractors, steel fabricators and government agencies. Services provided include the design of structural systems for new and renovated facilities, forensic investigations, structural condition assessments, construction support services and steel connection design.

Linde Process Plants, Inc.

www.LPPUSA.com

Linde Process Plants, Inc. (LPP), a member of The Linde Group, has combined expertise of Natural Gas, Refining, and Deep Cryogenics. The LPP Integrated Advantage is the result of in-house Technology, Engineering, Fabrication, and Construction capabilities implemented by a team of skilled employees throughout all phases of each project.

White Engineering Associates, Inc.

<http://weainc.com/>

White Engineering Associates, Inc. (WEA) offers structural/civil engineering services relating to the construction of bridges, roads, buildings and special structures. Clients served include architects; other engineers; contractors; building owners and leasing agents; large corporations; and city, county and state governments.

Exhibitors

American Institute of Steel Construction

www.aisc.org

The AISC Steel Solutions Center (SSC) is the one-stop shop for the structural steel industry. The SSC answers technical questions and provides complimentary conceptual studies in structural steel for buildings and bridges. The SSC facilitates a file sharing and networking site (www.steelTOOLS.org) for the design and construction community.

AZZ Galvanizing Services

www.azzgalvanizing.com

AZZ Galvanizing Service owns and operates 33 hot dip galvanizing plants strategically located across the US, with kettles ranging in size from 25 to 62 feet. They accommodate the largest projects with customized turnaround time at a competitive price. The company serves the after-fabrication steel market with corrosion protection.

Bekaert

www.bekaert.com

Dramix® steel fibers, by Bekaert, are a practical alternative for traditional reinforcement. Its principle advantages are reduction in construction time, material and costs. Bekaert has received its ICC-ES certification for Dramix in concrete footings, slabs on ground, and elements. Dramix also meets the requirements of "steel fiber-reinforced concrete" per ACI318.

Bentley Systems Inc.

www.bentley.com



Bentley's flexible and scalable products, including RAM, STAAD and ProSteel, allow seamless workflow of analysis, design, detailing, documentation, and BIM for building, plant, and civil applications. Completely integrated solutions are available for steel, composite steel, cold-formed steel, cellular beams, as well as reinforced concrete, post-tensioned concrete, wood, aluminum, and masonry.

CMC Steel Products

www.cmcsteelproducts.com

CMC Steel Products manufactures the cellular and castellated SMARTBEAM® – an innovative, economical and sustainable alternative for floor and roof framing systems. Manufactured from recycled materials, the beams are lightweight, have superior deflection properties, and can integrate MEP systems through the web openings. SMARTBEAM® – The Intelligent Alternative

CSC Inc

www.cscworld.com



CSC has developed innovative structural engineering software for over 35 years. Tedds automates daily structural designs by providing a comprehensive library of calculations with the flexibility to create and customize calculations within Microsoft Word. Fastrak is the definitive software for the design, documentation and BIM interoperability of structural steel buildings.

Delta Structural Technology

www.fiberwrap.com

Delta is an industry leader in the design and installation of externally bonded Fiber Reinforced Polymer (FRP) systems for strengthening, repair and restoration of masonry, concrete, steel and wooden structures. We provide state-of-the-art structural composite design and installation, delivering the most professional, cost effective solution for the most challenging projects.

Design Data

www.sds2.com

Design Data's SDS/2 software solutions provide automatic detailing, connection design, engineering information, and other data for the steel industry's fabrication, detailing and engineering sectors. As a BIM software, SDS/2 allows for the sharing of data between all partners, reducing the time required to design, detail, fabricate and erect steel.

Ecospan Composite Floor System, by Vulcraft

www.ecospan-usa.com

The ECOSPAN® Composite Floor System by Nucor-Vulcraft is a light weight, economical open web steel structural system for elevated concrete floor construction requiring no shoring or temporary forming. ECOSPAN® utilizes over 80% recycled steel materials produced at Nucor Steel mills that will assist in obtaining LEED accreditation for buildings.

Fabreeka International, Inc

www.fabreeka.com

Fabreeka's experience in vibration control includes the dynamic response of steel fabrications and support structures. Services include measuring building floor vibration, displacement response of floors/mezzanines and modeling of structures to predict performance. Fabreeka's capabilities include NASTRAN and finite element analysis programs to analyze the static and dynamic conditions.

Fyfe Co. LLC

www.fyfeco.com



A leader in the manufacturing of advanced composites used for civil and structural applications. The Tyfo® Fibwrap® Fiber Reinforced Polymer (FRP) system is used on concrete structures including bridges, buildings, industrial facilities and pipelines, is the only FRP system available in the world with an ICC ES Report, ESR-2103, which meets 2009 IBC standards.

Grace Construction Products

www.graceconstruction.com

Grace Construction Products offers a wide range of specialty construction chemicals and materials: concrete admixtures, macro synthetic fibers, surface retarders for decorative concrete, metakaolin, silica fume, cement processing additives, concrete masonry products, air and vapor barriers, roofing underlayers, window, door, and deck flashings, structural waterproofing systems, and fire protection products.

Hardy Frames, Inc

www.hardyframe.com

Hardy Frames Inc. manufactures and markets the Hardy Frame shear wall system, and is the leader in the pre-fabricated shear wall industry. The Hardy Frame system allows Building Design Professionals to economically and safely minimize wall space and maximize wall openings while resisting high wind and earthquake loads.

Hayward Baker

www.haywardbaker.com



Hayward Baker provides geotechnical construction techniques for structural support, ground improvement, and earth retention. We assist structural engineers to ensure a solid understanding of our techniques and how they can best be applied to solve geotechnical problems. Hayward Baker is the #1 Excavation/Foundation Contractor, ranked by Engineering News-Record.

Hilti, Inc.

www.us.hilti.com

Hilti is a world-leading manufacturer of quality, innovative tools and fastening and protection systems. With more than 190 highly trained engineers and technical team members, Hilti provides both onsite technical expertise and back office support. Hilti also offers PROFIS design software to assist design, specifying consultants and professional contractors. (www.us.hilti.com/profis_download).

ITW Red Head

www.itwredhead.com



ITW Red Head is America's largest manufacturer of fastening products used in concrete construction. Since the invention of the original "self-drill" anchor in 1910 and the first "powder-actuated tool" in 1947, Red Head has led the industry with time saving, high performance products.

LNA Solutions

www.LNASolutions.com

LNA Solutions provides Structural Steel Connection Solutions without the need of field drilling or field welding. These methods are very cost effective, especially in cases where secondary steel is added to existing structures. LNA Solutions provides full service design of your connection without additional charge. Call 888-724-2323 for consultation today.

Nucor-Vulcraft Group

www.vulcraft.com

(see Gold Sponsor)

Powers Fasteners

www.powers.com



Powers Fasteners is a privately held company specializing in global marketing of quality anchoring and fastening products for concrete, masonry and steel. Powers has been providing innovative fastening solutions for more than 85 years. Powers can provide answers to all of your construction fastening needs.

RISA Technologies

www.risa.com



RISA has been developing leading edge structural design and optimization software for over 20 years. Our products are used around the world for buildings, stadiums, bridges and everything in between. The seamless integration of RISAfloor and RISA-3D creates a powerful structural design environment, ready to tackle your next design challenge.

SECB

www.secortboard.org

The Structural Engineering Certification Board was formed to identify those professional engineers with the additional education, experience, and skills that are particular to the practice of Structural Engineering.

S-FRAME Software Inc.

www.S-FRAME.com

Structural engineers choose S-FRAME®, S-CONCRETE®, S-STEEL® and S-PAD® on the simplest and most complex projects in terms of geometry, material models, loading conditions, analysis and design requirements because of the products' depth of capabilities, ease-of-use, accuracy and detailed reports coupled with the industry's most dedicated and responsive customer support teams.

SidePlate Systems, Inc.

www.sideplate.com



Steel frame solutions for structures in all design environments without CJP welds. With the advent of SidePlate FRAME™ connection technology, superior performance now comes with the least cost, saving time and money on virtually any project when compared to alternative structural systems, regardless of whether wind, seismic or blast/progressive collapse governs.

Simpson Strong-Tie

www.strongtie.com



For more than 50 years, Simpson Strong-Tie® has led the industry in product solutions that increase the structural integrity of homes and buildings, making them stronger and safer. Products include Wood and Steel Strong-Wall® shearwalls, Strong Frame® ordinary moment frames, products for Cold-Formed Steel, and Simpson Strong-Tie Anchor Systems®.

Star Seismic

www.StarSeismic.net

Star Seismic designs and manufactures buckling restrained braces, the most rapidly growing seismic system. Not only do you get a superior seismic performance, but you save construction time and money as well. Let Star Seismic reduce your risk by assisting you through the design of your next project.

Steel Cast Connections LLC

www.SteelCastConnections.com

Steel Cast Connections provides the Kaiser Bolted Bracket SMRF connection, which is now prequalified in the ANSI/AISC 358 code. The retrofit and new construction versions are bolted, requiring no field welding to provide substantial erection cost savings. We also specialize in custom design castings.

Structural Desktop Inc.

www.structuraldesktop.com

Structural Desktop (SDT) integrates STAAD Pro, RISA 3D/RISAFloor, GT STRUDL, and SAP2000 with AutoCAD. The user can build an analytical model inside AutoCAD, import that model into their analytical program for analysis/design, and then import that model back into SDT for automatic creation of annotated AutoCAD "DWG" contract drawings.

TurnaSure, LLC

www.TurnaSure.com

TurnaSure LLC is the manufacturer of Direct Tension Indicators strictly adhering to the ASTM F959 Standard. TurnAnut™ DTI fastener is an ingenious new tensioning device linking a TurnaSure® DTI to an ASTM A563 DH nut. Now the nut, hardened washer and Direct Tension Indicator become one piece.

Unbonded Brace

www.UnbondedBrace.com

Unbonded Brace™ is the original, and most widely-used buckling-restrained brace (BRB) in the world, with more than 20 years research and development and 1,000 projects worldwide. Now offering a trio of welded, pinned and bolted connections, Unbonded Brace (UBB), continues to set the standard for product quality and high-end applications.

USP Structural Connectors

www.uspconnectors.com

United Steel Products Company, a division of Mitek, is one of the world's leading fabricating manufacturers serving the residential and commercial building industries throughout the United States and Canada. Our full-range product line is backed up by an in-house engineering staff, technical assistance team and a customer service call center.

Valmont Tubing

www.hsssuperstruct.com

Custom HSS Superstruct tube sections manufactured to meet unique architectural and engineering needs. With capabilities of producing square and rectangle HSS tubes ranging from 12 inches up to 50 inches, wall thicknesses from .313-inches to 1.00-inch and lengths up to 60 feet.

Vector Corrosion Technologies

www.vector-corrosion.com

Innovative solutions for concrete corrosion repair and protection include electrochemical chloride extraction, cathodic protection, and an array of galvanic protection systems like embedded galvanic anodes, galvanic jackets and activated arc spray zinc metalizing. Vector also provides corrosion evaluation, repair/mitigation services for post-tension corrosion and temperature resistant composite strengthening systems.

Register online at
www.ncsea.com