

# The Voice

# VOICE

FEBRUARY 2013

**ACEC**  
AMERICAN COUNCIL OF ENGINEERING  
COMPANIES OF TENNESSEE

THE VOICE OF TENNESSEE'S ENGINEERING COMPANIES

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## Defining High Performance Buildings

by: *Eric Sheffer, LEED AP BD+C Manager, Sustainability Consulting, SSRcx and Clark Denson, PE, CEM, BEMP, LEED AP BD+C Engineer, SSRcx*



**Eric Sheffer**



**Clark Denson**

There has been a lot of talk in the past few years about designing better buildings, whether you refer to them as green, sustainable, eco-friendly, or your adjective of choice. But when you remove all the industry jargon, what we have is the genuine desire to design, construct, and operate high performance buildings. That in turn raises a good question: "What is a high performance building?" There is still much debate over how we define high performance, and it is different for every building owner.

Most owners are pursuing higher performing buildings because of a blend of priorities within the triple bottom line: economics, people, and the environment. Some owners are primarily focused on the direct financial payback in energy savings, while others are more interested in a competitive marketing

advantage, and others want a healthier building for their occupants and the environment.

### Measuring High Performance

There are several examples of how the building industry has tried to define high performance: ASHRAE Standard 189.1 for High Performance Buildings, the International Green Construction Code, and the Leadership in Energy and Environmental Design (LEED) rating system, to name a few. While these documents may differ in content and approach, they all agree that high performance buildings need to address Land Use, Water Conservation, Energy Efficiency, Indoor Environmental Quality, Material Resource Conservation, and Operations and Maintenance. At their best, high performance buildings are designed with performance targets and a means to measure actual

performance once the building is operational. To accomplish this the owner, project team, and representatives from the building operations and maintenance staff need to set performance

goals early in the design process, taking into account operational considerations and maintainability. With a clear vision of the owner's requirements, the design team strives to meet or exceed these performance goals.

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*"There is still much debate over how we define high performance . . ."*

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## Goals: What's Next?

*by Steven Field, PE  
President, ACEC of Tennessee*

Looking ahead to the next couple of months, it will be an extremely busy time for ACEC Staff and ACEC committees. It is a time of year when many things happen that are impor-

**Steven Field**

tant to our association and firms. We refer to this time as "March Madness." It begins with the new legislature settling in and it concludes with the Engineering Excellence Awards Gala.

The beginning of the legislative session in January initiated the dance of

ACEC's Government Affairs Committee and Executive Director Candy Toler carefully monitoring bills that potentially impact our industry. ACEC's reputation and proactive approach have consistently allowed us to beneficially support or oppose legislation that protects the public and safeguards our interests and business climate. On Monday evening March 4th, ACEC will host a legislative

reception. This is sponsored by the local ACEC chapters and allows a casual setting to meet your local state legislators. The evening event creates a great opportunity for you and your colleagues to discuss important local and business issues with them.

Tuesday morning March 5th is Engineers' Day on the Hill. This provides an additional opportunity to meet with legislators in their offices and discuss specific bills of importance to the association.

Tuesday evening March 5th is the Engineering Excellence Awards Gala. This event is a special opportunity for our Industry to recognize the accomplishments of our member firms.

Please make a point to support these events with your time and financial commitment. The time you allow your staff to participate in the legislative events will be productive and important to our industry. Your commitment to the Engineering Excellence Awards Banquet supports the efforts of your state organization in a meaningful way and promotes what engineers do across the state and nation.

## High Performance Buildings (continued from page 1)

Let's take energy performance, for example; tools for setting and tracking energy performance goals that stretch into operations include the DOE/EPA's Energy Star rating system. Energy Star includes the Target Finder tool which allows a project team to set an energy performance goal for their building and then calculate the necessary energy use intensity to achieve that goal. The Energy Star performance rating ranges from 1-100, with a score of 50 being comparable to the median of its peers for similar size, building type, and location. A score of 75 earns the Energy Star certification for a building, roughly corresponding to being in the top 75th percentile when compared to the data set of peer buildings. With a performance target set, the project team tracks their progress throughout the design process using an energy model, which additionally can be used to test alternative ways of achieving the energy performance goals. Finally, energy meters are incorporated into the design of the building with the capability to measure actual energy performance and aid operational staff in identifying sub-optimal building systems.

Our state government here in Tennessee is also setting a leadership example for this process. In 2008, the Tennessee Sustainable Design Guidelines (SDG) were released, which is similar

to the LEED rating system in its format. More recently, the state and its contracted architect/engineer team have nearly completed the design for their first Net Zero Energy Building, the I-55 Welcome Center. Additionally, the Office of the State Architect recently launched an initiative which will include analyzing its current design process with regards to high performance buildings, including the SDG, in an effort to embed greater economic value in its facilities through higher performance during its entire life cycle. The state will define this concept of high performance and how it can be measured prior to design initiation and tracked through operations.

## MEMBER NEWS

**Congratulations** to Chuck Downham, who has joined Littlejohn Engineering Associates as Senior Planner in its Nashville Office.

**Congratulations** to Sam Elmore, who has joined Littlejohn Engineering Associates as the Senior Rehabilitation Specialist in its Knoxville Office.

## Engineering Excellence Award Winners to be Announced March 5 Engineers from across the state to gather at awards gala

Television has the Emmys, Oscar represents film, but engineers are looking for the Grand Iris Award. On March 5th, hundreds of engineers, business leaders, and public officials will gather for the



prestigious Engineering Excellence Awards. Engineering firms from across the state are competing for the top honor, the Grand Iris Award. It's an honor presented

for the project judged to be the best in the overall Engineering Excellence competition. A Grand award is also presented in each entry category.

Joey Hale, coach of the Goodlettsville Little League U.S. Champions, will be the featured speaker. The Goodlettsville Little League team rallied tremendous support in August 2012 when it became the first Tennessee team to advance to the Little League Championship since 1987. The team captured the U.S. championship before losing the world title to Japan.

"We are gearing up for a great night," said Brad Winkler, PE, Parsons Brinckerhoff and Program Chair. "The engineering profession deserves recognition for the tremendous contribution it makes to the welfare of every Tennessean. March 5th will be a great night to be an engineer in Tennessee."

Event co-chair, Donna Corlew, CPSM, FSMPS, C\*Connect, expressed her appreciation to the event sponsors (to date) for their generous support. **Titanium Sponsor - Atkins; Platinum Sponsor - Crow Friedman Group; Silver Sponsors - Lelleyett & Rogers Company, Parsons Brinckerhoff, Stantec Consulting Services, TN Road Builders Association, TranSystems Corporation; Bronze Sponsors - Alfred Benesch & Company, AMEC Environment and Infrastructure, Inc., ARCADIS, Barge Waggoner Sumner & Cannon, Brown and Caldwell, Civil Constructors, Inc., Ryan Search and Consulting, S&ME, Inc.**

The Engineering Excellence Awards gala will begin with a reception at 6 p.m. followed by the dinner at 7 p.m. and award presentations at 8 p.m. Tickets must be purchased before February 28. To inquire about tickets, contact Judy Logue at (615) 242-2486 or [jlogue@tnec.org](mailto:jlogue@tnec.org).

## 2013 EEA Entrants

### East Tennessee:

**Gatlinburg Underground Utilities**, Gatlinburg, TN  
Barge Waggoner Sumner & Cannon, Inc. for City of Gatlinburg  
**Leveraging Technology for Safety Performance**, Midway, TN & other areas  
EnSafe Inc. for Ceradyne, Inc.  
**Min Kao Electrical and Computer Engineering Bldg.**, Knoxville, TN  
Ross Bryan Associates, Inc. for Bullock Smith & Partners, Inc./Lindsay & Maples Architects, Inc.  
**Overlook Reservoirs**, Alcoa, TN  
Smith Seckman Reid, Inc. for City of Alcoa  
**Rossville Ave. to Main Street** (former Lockhart site), Chattanooga, TN  
S&ME, Inc. for River City Company

### Middle Tennessee:

**Bridge Deck Replacement I-24 - Main & Woodland Streets**, Nashville, TN  
James + Associates, Engineers & Planners, Inc. for TDOT  
**Duck River Walk**, Columbia, TN  
Fisher & Arnold, Inc. for City of Columbia  
**EcoSpatial Information Database**, Nashville, TN  
AMEC Environment & Infrastructure, Inc. for U S Department of the Interior, Bureau of Ocean Energy Management  
**Franklin Integrated Water Resource Plan**, Franklin, TN  
CDM Smith, Inc. for City of Franklin  
**I-40 Widening Design-Build Geotechnical Design**, Nashville, TN  
K.S. Ware & Associates, LLC for AECOM and Lane Construction  
**Korean Veterans Boulevard Extension and Roundabout**, Nashville, TN  
Parsons Brinckerhoff for Metro Nashville Project Manager  
**Little Swan Creek Stream Restoration**, Lewis Co., TN  
Stantec Consulting Services, Inc. for Swan Creek Trust & TDOT  
**Nashville Music City Bikeway**, Nashville, TN  
RPM Transportation Consultants and Collier Engineering Company for Metro Nashville Public Works  
**Nashville Public Works 28th-31st Avenue Connector**, Nashville, TN  
Gresham, Smith and Partners for Metro Nashville Public Works  
**Nashville Safe Program**, Nashville, TN  
AMEC Environment & Infrastructure, Inc. for Metro Nashville  
**Opryland Levee**, Nashville, TN  
Barge Waggoner Sumner & Cannon, Inc. for Ryman Hospitality Properties, Inc.  
**Pine Street Flatts**, The Gulch, Nashville, TN  
TTL, Inc. for Market Street Enterprises  
**Smyrna Water Treatment Plant**, Smyrna, TN  
Smith Seckman Reid, Inc. for City of Smyrna

### West Tennessee:

**Carroll Co. Lake and Environmental Mitigation**, Huntington, TN  
J.R. Wauford & Company, Consulting Engineers, Inc. for Carroll Co. Watershed Authority  
**Henry Co. Parallel Taxiway Relocation**, Paris, TN  
Garver for Henry Co. Airport  
**Ridgeway Trace Retail Center**, Memphis, TN  
Kimley-Horn and Associates, Inc. for Weingarten Realty Investors  
**Seismic Retrofit of Winchester Structures**, Memphis, TN  
Askew Hargraves Harcourt & Associates, Inc. for Memphis-Shelby Co. Airport Authority  
**Successful Low-Concentration TCE Remedy in Groundwater**, Millington, TN  
EnSafe Inc. for U. S. Navy  
**Wolf River Greenway**, Memphis, TN  
ETI Corporation for City of Memphis

### Out of State:

**Bowling Green Waste Water Treatment Plant Expansion and Renovation**, Bowling Green, KY  
Gresham, Smith and Partners for Bowling Green Municipal Utilities  
**Hernando Parks Master Plan**, Hernando, MS  
ETI Corporation for City of Hernando  
**Reclamation of Soil Impacted with Soda Ash**, Slaughters, KY  
AMEC Environment & Infrastructure, Inc. for CSX Transportation, Inc.  
**Target Organ Segregation Helps Goals & Costs**, Castleberry, AL  
AMEC Environment & Infrastructure, Inc. for CSX Transportation, Inc.

## CALENDAR

**FEBRUARY  
17-23**

Engineers' Week

**MARCH  
4**

ACEC Legislative Reception

Hermitage Hotel

5:30 p.m. to 7:30 p.m.

**MARCH  
5**

Engineers' Day on the Hill

State Capitol, Nashville

9:00 a.m. to 1:30 p.m.

Engineering Excellence Awards Banquet

Franklin Marriott Cool Springs

6:00 p.m. to 9:00 p.m.

**MARCH  
6**

ACEC of TN Board Meeting

Franklin Marriott Cool Springs

8:30 a.m. - 11:00 a.m.

**APRIL  
21-24**

ACEC Annual Convention & Legislative Summit

Washington, D.C.

Tennessee Engineering Center  
800 Fort Negley Boulevard  
Nashville, TN 37203

Return Service Requested

**FEBRUARY 2013**

**I N S I D E**

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## ACEC Member Firms Recognize New PEs:

- Allen & Hoshall: Adam Coats, Matthew Singleton
- AMEC: Joseph Parker, Andrew Smith, Courtney Wolf
- Arcadis: Mark Keown
- Brown and Caldwell: Eric Mayhaus
- Gresham Smith & Partners: Kevin Eakes
- Hart Freeland Roberts: Russell Tyree
- Joel B. Spaulding & Company: J. B. Spaulding
- Kimley-Horn & Associates, Inc.: Alexander Shoemaker
- Littlejohn Engineering Associates: William Crunk
- McGill Associates: Daniel Unger
- Neel-Schaffer, Inc.: Rachel Webb
- Ross Bryan Associates: Kurtus Smith, Joan Tlumak
- Smith Seckman Reid: Daniel Bowling, Evan Hackett, Eric Kees, Dennis Marsh, Henry Nirider, Hannah Walter
- Tetra Tech: Michael Falls
- TLM Associates: Paul Martin

## FROM THE EXECUTIVE DIRECTOR

### ACEC Marches Ahead

by Candy Toler  
Executive Director, ACEC of Tennessee

Looking ahead to March, ACEC of Tennessee has many opportunities to advocate, impact, and recognize the engineering profession in our state. From tracking legislation that impacts the field, to recognizing engineering excellence, it's a month full of activities.



Candy Toler

Things are picking up on Capitol Hill. In January, both bodies of the 108th General Assembly were sworn in, elected leaders, set rules, and appointed committees. The biggest news was that the House voted to

limit itself to 15 bills, with some exceptions. This action limits the number of bills a Senator may introduce, because Senators' bills must have House sponsors.

Fewer than 100 bills had been introduced by my deadline; they range from phasing out the Hall income tax, to making STEM stipends available in addition to the traditional lottery-funded scholarships for declared majors.

There will be many more bills that will be fodder for the Government Advocacy committee in February. The issues that bubble to the top will be on our agenda on March 4 and 5. You will learn more about these and how you can communicate with your solons during briefings on the bills at the legislative reception and Engineers' Day on the Hill.

ACEC's ability to impact legislation may not be obvious to the public, but it is very important that someone watch out for legislation that will impact the public health, safety, and welfare.

I hope you will join us for the reception Monday evening, March 4th, and then again the next morning at Engineers' Day on the Hill. Register by emailing me ([ctoler@tnec.org](mailto:ctoler@tnec.org)) and letting me know the names of your State Senator and Representative.

And last, but certainly not least, is the crown jewel of our March activities . . . the Engineering Excellence Awards Banquet. Twenty-eight projects at 21 engineering firms will be showcased on March 5. You won't want to miss it!

We look forward to your participation in all of ACEC's events. The busy schedule of activities is on page 3 of this newsletter.