WELCOME TO THE 2017 ENGINEERING EXCELLENCE AWARDS COMPETITION

JUDGES' RESOURCE MANUAL & INFORMATIONAL OVERVIEW

February 10 - February 12, 2017
Westfields Marriott Washington Dulles

ACEC
American Council of Engineering Companies
100 Years of Excellence

ENGINEERING EXCELLENCE AWARDS
50th ANNIVERSARY
1967 - 2017

2017 Engineering Excellence Awards Competition

Judges' Resource Manual & Informational Overview

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GENERAL INFORMATION

2017 Engineering Excellence Awards Competition

Judges' Resource Manual & Informational Overview

INTRODUCTION

Welcome to ACEC's 2017 Engineering Excellence awards competition. This year is the 50th Anniversary of the Engineering Excellence Awards! We are anticipating approximately 170 outstanding projects that will compete for the top honors. This may seem a little overwhelming to the first-year judges, but be assured, the process is efficient and can accommodate these numbers. We have prepared this handbook to provide an overview of the judging process and other logistic information pertaining to your stay at the Westfields Marriott. The EEA Committee will always be available to facilitate your needs. The judging process is intense but not without benefit. It is our intent that you gain knowledge, make lasting friendships, and enjoy the professional and social interaction with your peers.

PREPARATION AND HOMEWORK ASSIGNMENT

Approximately 10-14 days prior to your arrival at the Westfields Marriott, you will receive an email from Daisy Nappier with your log in information to the EEA Judging Module. There you will have access to all projects entered in the competition. The email will indicate which projects you need to review in advance.

You should review the following materials:

- Application Form
- Executive Summary - One Page
- Project Description - Five Pages
- Project Panel.

As you review the submissions, please refer to the 2017 EEA Call for Entries, also located in the EEA Judging Module. Your homework assignment consists of reviewing the materials and providing an initial score for each of the projects. The scores will be used as a guide when you get together with your fellow judges in D.C. on Friday afternoon. At that time you will decide which projects should move forward and which ones should be eliminated from further consideration.

In summary, your homework assignment consists of:

- Reviewing the executive summary, project text, and the panel and providing a whole number numerical score for each project.
- Providing your scores via the online system, by Monday, February 6, 2017.

This exercise not only provides a comparative ranking of all projects, but also will give you familiarity with selected projects you will be asked to advocate to the entire judging panel.

THE WESTFIELDS MARRIOTT FACILITIES

The judging will be held at the Westfields Marriott, located in close proximity to the Dulles International Airport, in Chantilly, Virgina. All activities associated with this event will be at this facility. Rooms have been reserved in your name and all meals will be provided in the Fairfax Room. A gym, pool, and whirlpool are also available at the resort and there is a social lounge located on the premises. If there is any issue regarding your accommodations, please inform Daisy Nappier.

You will have opportunities to meet casually with the other judges during the event. We encourage interaction during the breaks, cocktail receptions, meals and other free time. This contact can result in a memorable and enjoyable professional experience for you.

EXPENSE REIMBURSEMENT

ACEC is appreciative of your professional experience and expertise, as well as your valuable time. ACEC will pay for all your expenses for travel, lodging and meals at the Westfields Marriott. These include:

- Round trip airfare to the Dulles International Airport, in Herndon, Virgina.
- Transportation to and from the airport to the Westfields Marriott.
- Automobile transportation costs, including accommodations and meals, if required, during transit, instead of airfare.
- Transportation to and from the airport or rail station near your residence.
- Accommodations and all meals at the Westfields Marriott for you and your spouse (travel costs for the spouse are not reimbursable).
- Please note that all meals must be eaten in the Fairfax Room. Meals eaten in other locations or room service are not reimbursable.

You will be provided with an Expense Reimbursement Form. Checks will be sent to you for your expenses as soon as this form is received by ACEC.

ATTIRE

Dress for the entire judging will be business casual.

POTENTIAL CONFLICT OF INTEREST

Situations occur periodically that could be considered a conflict of interest. We have a few guidelines that identify and allow you to be excused from a potential conflict situation. We consider it to be a conflict on a particular project if the following applies:

- If you or your immediate family members have worked for either the consulting firm and/or the client/owner.
- If you have participated previously as a client, owner, advisor, consultant or in a review capacity for an entered project.

In case of a conflict, please adhere to the following guidelines:

- Advise the Chief Judge, Fiona Allen.
- Refrain from judging the specific project(s) during the initial review.
- Refrain from discussing or commenting on any element of the project.

You may be eligible to vote for the project(s) subsequently, if approved by the Chief Judge.

AGENDA

For first-year judges, please attend the Judges' Onboarding Session, beginning at 1:00 p.m. on Friday. A detailed agenda will be provided at the Introductions orientation session for all judges, which begins at 2:30 p.m. on Friday.

ROLE OF EEA COMMITTEE MEMBERS

EEA Committee Members will be facilitating the process and are available to assist the judges with any administrative needs. They can address process and logistical questions. We encourage you to communicate and interact with the committee members but avoid any discussions related to the merits of a project. You may seek guidance from the Chief Judge or from other senior judges (returning 2nd and 3rd year).

THE JUDGING PROCESS

THE JUDGING PROCESS

ENTRY CATEGORIES

Entries are submitted by engineering firms located in the United States for projects undertaken anywhere in the world. Entries will be judged in each of the following 12 categories:

A. Studies, Research, and Consulting Engineering Services
B. Building/Technology Systems
C. Structural Systems
D. Surveying and Mapping Technology
E. Environmental
F. Waste and Storm Water
G. Water Resources
H. Transportation
I. Special Projects
J. Small Projects
K. Energy
L. Industrial and Manufacturing Processes and Facilities.

RATING GUIDELINES

Entries will be judged using the following rating guidelines:

- Uniqueness and/or Innovative Applications of New or Existing Techniques
- Future Value to the Engineering Profession and Perception by the Public
- Social, Economic, and Sustainable Development Considerations
- Complexity
- Successful Fulfillment of Client/Owner Needs.

Please refer to the 2017 Call for Entries for the detailed judging criteria.

REVIEW OF PROJECTS BY JUDGING GROUP

On Friday, February 10, 2017, between 4:00 p.m. and 5:45 p.m., you will have an opportunity to review and/or discuss your scoring for the initial 20-35 projects with your Judging Group. Four to six judges will be assigned to each Group and each one of them will be responsible for reviewing the identical 20-35 projects.

ADVANCEMENT OF PROJECTS

Your Judging Group will collectively decide which entries within your group of projects merit further advancement.

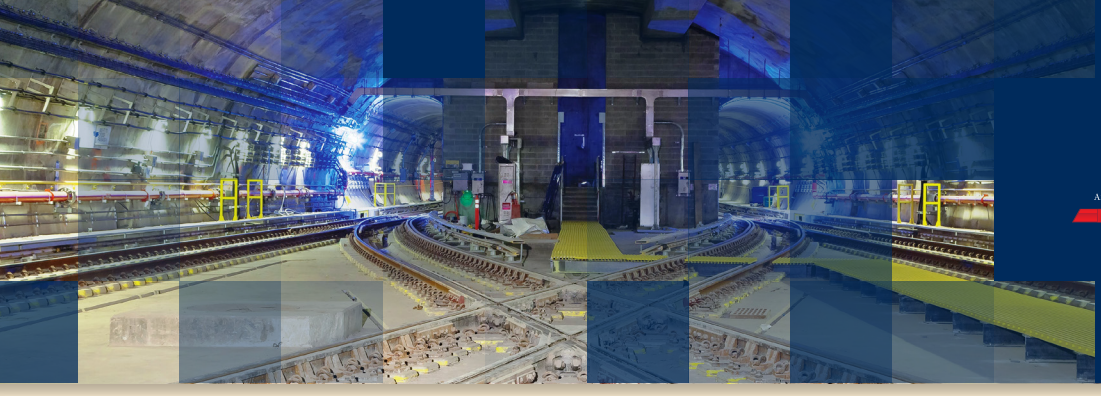
- Individual judges within the group will collectively choose which projects each to advocate for further advancement.
- Each judge will be responsible for making a presentation to all judges for the two or three projects he or she will be advocating. The presentation will be limited to three minutes with an additional minute for questions and answers.
- The online system contains information to assist you for the presentation and for subsequent questions from other judges. Photos of each project will be available for projection during your discussion. You can present project information in any style that suits you. It is not necessary or advisable to mention the submitting firm name during the presentation.

SELECTION OF THE TOP PROJECTS FOR NATIONAL AWARDS

Ultimately, the EEA Judges will select the top projects for national award recognition: 20 Honor Awards and 16 Grand Awards. In addition, a Grand Conceptor winner will be selected from the 16 Grand Awards. The Grand Conceptor Award is the project that best exemplifies Engineering Excellence as defined by the rating guidelines.

The process for selecting the Grand Conceptor Award is as follows:

- Each champion for the 16 grand awards will make a two-minute presentation to the judging panel and specifically address criteria and the rating guidelines.
- The judges (including the Chief Judge if there is an even number of judges) will vote by a secret ballot and if there is a project that receives a 2/3 majority vote it will be declared the Grand Conceptor.
- If a project doesn't receive a 2/3 majority vote, approximately the top three or four voted projects will then be identified for further debate. The voting count will be kept confidential from the voting judges.
- Following a timed period of debate and discussion, another secret vote will be conducted. If a project receives a majority of votes that exceeds the second place vote greater by five or more, then that project will be declared the winner.



RECOGNITION OF JUDGING PANEL

As a token of their appreciation and sincere thanks for your time and talent, ACEC will send you a photograph and special gift to commemorate your participation as an EEA judge.

The 36 winning projects will be highlighted during the EEA Gala Evening to be held on Tuesday, April 25, 2017 at the Washington Marriott Wardman Park in Washington, D.C. This black-tie event has truly become the "Academy Awards" of the engineering industry. You will be invited as a special guest of ACEC and will be recognized during the Gala.

See you in February at the Westfields Marriott!

JUDGES' AGENDA

JUDGES' AGENDA

ACEC Engineering Excellence Awards
Westfields Marriott
14750 Conference Center Drive
Chantilly, Virginia 20161

FRIDAY, FEBRUARY 10, 2017

*All events will take place in the Jeffersonian Ballroom, unless noted otherwise.

Welcome

1:00 p.m. – 2:30 p.m.	First-year Judges Onboarding Session
2:30 p.m. – 2:40 p.m.	Introductions and Remarks EEA Committee – Chair Judy Hricak
2:40 p.m. – 2:55 p.m.	What Engineering Excellence Means ACEC President and CEO – Dave Raymond ACEC Chairman – Peter Strub Agenda Review – Fiona Allen
2:55 p.m. – 3:00 p.m.	Administrative Remarks Daisy Nappier

EEA Orientation & Review

3:00 p.m. – 3:45 p.m.	Judges Orientation Introduction Activity – Chief Judge, Fiona Allen
3:45 p.m. – 4:00 p.m.	Break
4:00 p.m. – 5:45 p.m.	Review of projects and start to determine which projects to advance and assign project champions. Once assigned, champions can begin work on their presentations.
5:45 p.m. – 6:00 p.m.	Break

Social Time

6:00 p.m. – 7:00 p.m.	Cocktails and conversations
7:00 p.m.	Dinner (Fairfax Room)

SATURDAY, FEBRUARY 11, 2017

*All events will take place in the Jeffersonian Ballroom, unless noted otherwise.

Breakfast

7:00 a.m. – 8:00 a.m.	Breakfast (Fairfax Room)

Judging Session 1

8:00 a.m. – 9:15 a.m.	Projects are presented and questions are allowed as appropriate. Judges make notes on executive summaries provided. Timer will be used to limit each presentation to 3 minutes and Q&A's to 1 minute.
9:15 a.m. – 9:30 a.m.	Break
9:30 a.m. – Noon	Project presentations continue

Lunch

12:00 p.m. – 1:00 p.m.	Lunch (Fairfax Room)

Judging Session 2 — Jeffersonian Ballroom

1:00 p.m. – 3:00 p.m.	Project presentations continue
3:00 p.m. – 3:15 p.m.	Break
3:15 p.m. – 5:00 p.m.	Project presentations continue
5:00 p.m. – 5:30 p.m.	Judges vote for advancement of projects
5:30 p.m. – 6:00 p.m.	Break Committee tabulates votes, enters into computer and displays results for initial ranking of top 36 projects.

Social Time

6:00 p.m. – 6:30 p.m.	Reception with Panels (Jeffersonian Ballroom)
6:30 p.m. – 7:30 p.m.	Dinner (Fairfax Room)

SUNDAY, FEBRUARY 12, 2017

*All events will take place in the Jeffersonian Ballroom, unless noted otherwise.

Breakfast

7:00 a.m. – 8:00 a.m.	Breakfast (Fairfax Room)

Judging Session 3

8:00 a.m. – 8:45 a.m.	Judges review and finalize top 36 projects
8:45 a.m. – 9:00 a.m.	Break Committee prepares electronic files for presentation order
9:00 a.m. – 9:30 a.m.	Brief presentation on final 36 projects
9:30 a.m. – 9:45 a.m.	Judges vote for top 16 national winners
9:45 a.m. – 10:00 a.m.	Break Committee tabulates votes and displays results
10:00 a.m. – 10:30 a.m.	Judges review and finalize 16 Grand Award projects
10:30 a.m. – 11:15 a.m.	Judges selection of the Grand Conceptor project (including brief presentations of the final 16 projects)

Final Issues

11:15 a.m. – 11:30 a.m.	Wrap-up and evaluation of judging process
11:30 a.m.	EEA Committee Chair Judy Hricak (Post Remarks)

Sunday Lunch

Noon	Adjourn and lunch (Fairfax Room)

ATTACHMENT ONE – ACEC REIMBURSEMENT FORM

ACEC Reimbursement Request:
Officers and Committee Members

Please submit completed form for approval as follows:
ExCom Member or Committee Chair: Please send to the Treasurer.*
ExCom Member Attending Committee Meeting: Please send to Committee Chair.*
Committee Member: Please send to the Committee Chair.*

Date: _____

The expenses itemized below were incurred by the undersigned while on ACEC business and are submitted herewith for reimbursement (please type or print form):

Function: _____
(Identify Committee Meeting or Other Function)

Person Attending: _____

Meeting Location: _____ Meeting Date(s): _____

Itemization of Expenditures*

	Date	Date	Date	Date	Date	Date	Comments
Transportation							
Lodging							
Meals: Breakfast							
Lunch							
Dinner							
Personal Auto: _____Miles@ current IRS allowable rate _____.							
Parking/Tolls							
Taxi							
Other: (a)							
(b)							
(c)							
Total							

Total Reimbursement Request: $ _____

Approved Amount: $ _____

Make check payable to: _____

Mail check to: _____

_____

Requested by: _____
(Signature)

Approved by: _____ Date: _____
(Signature)

Attn: Treasurer or Committee Chair - Please submit completed and approved form to:
American Council of Engineering Companies
1015 15th St. NW, 8th Floor
Washington, DC 20005-2605

* Please attach receipts. All expenses must be itemized and documented for IRS purposes. To be eligible for reimbursement, request must be for expenses within the budget and submitted within 30 days after the expense was incurred.

Instructions
for
ACEC Reimbursement Requests

All reimbursements will be made in accordance with the most recently revised *Reimbursement Policy for Officers, Committee Members & Spouses.*

The Committee Chair will be advised by Staff of the amount budgeted for the Committee's operations.

Committee Members must send their completed reimbursement request, along with all receipts, directly to the Committee Chairman (not to ACEC) within 30 days. Please be aware that no one can be paid until all the forms are submitted.

After receiving all of the Committee Members' request forms, **and only then**, does the Chairman determine the pro-rata reimbursement amount.

The Chair approves and signs the reimbursement requests and then forwards the paperwork on to ACEC's Accounting Department (attention: Director of Finance) for processing of the reimbursement checks.

Committee meetings held in conjunction with the ACEC Annual or Fall Conference meetings are not reimbursable except as authorized in the Reimbursement Policy.

Reimbursable expenses include:

- Travel by commercial carrier (least expensive economy class fare) to and from meetings – non refundable ticket, 21 days in advance purchase
- Auto expenses at the current IRS allowable rate per mile when commercial transportation is not available, and for ground transportation to and from terminals. If personal or rental auto travel is chosen for personal reasons, maximum reimbursement will be limited to the cost of economy air travel as stated above
- Hotel accommodations – limit to a reasonable amount for a business hotel in that city (estimate $150)
- Meals when authorized per Reimbursement Policy (Breakfast $15, Lunch $20, Dinner $64)
- Postage, telephone, FAX, internet charges, and reproduction expenses related to Committee activity

Non-reimbursable expenses include:

- Laundry, dry cleaning
- Tips and other expenses for personal services
- Entertainment of any form, or expenses such as Limousine service, etc.
- Personal phone calls
- Optional events, tours

As a rule, ACEC Headquarters will provide printing, reproduction, general mailing and other support services. However, under special circumstances, this type of expense may be reimbursed, but it must come out of the Committee budget.

ATTACHMENT TWO – 2017 CALL FOR ENTRIES

ACEC

American Council of Engineering Companies

100 Years of Excellence

2017 ENGINEERING EXCELLENCE AWARDS CALL FOR ENTRIES

50TH ANNIVERSARY

2017 CALL FOR ENTRIES

ENGINEERING EXCELLENCE AWARDS

The American Council of Engineering Companies' (ACEC) annual Engineering Excellence Awards (EEA) competition recognizes engineering firms for projects that demonstrate an exceptional degree of innovation, complexity, achievement and value.

American engineering firms have entered their most innovative and complex projects and studies in competitions conducted by state member organizations (MOs). Qualifying projects at the state MO level are then eligible to participate in the ACEC national competition. **Deadline for the national competition is Friday, January 6, 2017.**

EEA entries are accepted into one of 12 project categories:

- Studies, Research and Consulting Engineering Services
- Building/Technology Systems
- Structural Systems
- Surveying and Mapping Technology
- Environmental
- Waste and Storm Water
- Water Resources
- Transportation
- Special Projects
- Small Projects
- Energy
- Industrial and Manufacturing Processes and Facilities.

A distinguished panel of 25-30 judges possessing a vast array of built environment and technical expertise will be convened over three days to evaluate and rank submissions for engineering excellence. The panel then selects top award winners—16 Honor Awards and eight Grand Awards. One Grand Conceptor Award will be selected from the Grand Award winners as the overall best engineering project.

Projects from all across the world are rated on the basis of: uniqueness and/or innovative application of new or existing techniques; future value to, and enhancing public awareness/enthusiasm for the engineering profession; social, economic, and sustainable development considerations; complexity; and successful fulfillment of client/owner's needs, including schedule and budget.

Every year, ACEC's Engineering Excellence Awards (EEA) Gala provides firms with national recognition and a venue to showcase their talent and expertise in a dramatic setting. The annual black-tie EEA gala—to be held on **Tuesday, April 25, 2017**—celebrates, with pride and elegance the most outstanding project achievements of the engineering profession.

All National Recognition Award Winners will be showcased during the EEA Gala awards program.

ACHIEVING NATIONAL RECOGNITION

ACEC's 2017 Engineering Excellence Awards competition showcases the year's best engineering achievements to a national audience of clients, industry leaders and decision-makers. All National Recognition Award Winners are recognized, and the top 24 winning projects are highlighted at the annual EEA Gala, the black-tie event known as the "Academy Awards" of the engineering industry. This event will be held on Tuesday, April 25, 2017, at the Washington Marriott Wardman Park in Washington, D.C. More than 600 members and guests attended the 2016 EEA gala, which was held during ACEC's Annual Convention and included members of Congress along with international, federal, state and regional officials.

ELIGIBILITY

Any engineering or surveying firm is eligible to enter the awards program, regardless of whether the firm is a member of ACEC.

GENERAL CRITERIA

1 Both member and non-member firm entries must be submitted to the ACEC national competition through an ACEC state Member Organization (MO).

2 Each entry should be submitted to the state MO in accordance with local entry rules. Contact your state ACEC MO office for details. Entries submitted to the ACEC national competition must be electronically submitted in accordance with the rules and requirements outlined in this brochure.

3 Each state MO may submit 10 entries from its membership, plus one member entry for every five, above 10 that were submitted. A state MO may submit any non-member entries judged to be legitimate candidates for entry in the national competition. Such non-member submittals will not be counted against the member submittal limitations outlined here.

4 Engineering or surveying projects that have won awards in other state or national organizations' programs are welcome in the ACEC EEA competition.

5 Projects entered in the competition may have been executed anywhere in the world. Research and Studies (Category A) or Surveying and Mapping projects (Category D) must have been publicly disclosed by the client between Nov. 1, 2014 and Oct. 31, 2016. Construction of projects (Categories B through L – with the exception of D) must have been substantially completed and ready for use between Nov. 1, 2014 and Oct. 31, 2016.

See "award categories" section for the full listing of all eligible categories.

6 Entries in the national competition may be placed in any one of the 12 categories. The entering firm must select the one category that is most appropriate. A project may be entered only once in any category. However, after a project entered in Category A has been constructed, it may be entered in a different category – B through L – in the year when eligible.

7 Each entry must consist of three components:

- Official electronic entry
- USB flash drive containing submission materials
- Photographic display panel

Non-compliance with the rules may disqualify an entry. Please read the requirements thoroughly.

Note: See "Preparing Your Entry" for the Engineering Excellence Awards.

8 ACEC will not be responsible for any damages to or loss of an entrant's official electronic entry, USB flash drive or photographic display panel.

9 The ACEC Engineering Excellence Awards committee reserves the right to determine, and change if necessary, the eligibility and category classification of any entry.

2017 CALL FOR ENTRIES

JUDGING

Entries will be judged on the basis of:

- Overall engineering excellence
- The work performed by the entering firm only
- The rating guidelines listed.

Winners and affiliated state MOs will be notified shortly after judging is completed.

AWARDS

All submissions are considered National Recognition Award Winners. The panel of judges will select 24 awards at their discretion – eight Grand and 16 Honor Awards. A Grand Conceptor Award will be selected from the eight Grand Award winners. The Grand Conceptor will be announced at the gala as the top national winner selected by the judges, whose decisions on all awards are final. Awards will be presented to the clients/owners and entering firms submitting the winning entries.

PUBLICITY

The public relations and marketing value of participation in the national EEA program is substantial. All national winners will be highlighted in ACEC's public relations program, which benefits all U.S. engineering firms. Working with participating firms and state MOs, ACEC staff will contact local media to announce winners and their awards. Through national and state efforts, display panels can be exhibited in such public venues as city and state administrative buildings, universities, shopping centers and office buildings. These activities enhance direct business development benefits for both local and national award winners. Further benefits are gained through feature stories presented in firm brochures, newsletters and other publications.

RATING GUIDELINES FOR JUDGING

Each entry will be evaluated based on the following five categories, which are key elements of the project description text required in the electronic submittal described below.

1. Uniqueness and/or innovative applications of new or existing techniques 20%
2. Future value to the engineering profession and perception by the public 20%
3. Social, economic and sustainable development considerations 20%
4. Complexity 20%
5. Successful fulfillment of client/owner needs 20%

Total 100%

RATING GUIDELINE DEFINITIONS

1. Uniqueness and/or Innovative Applications of New or Existing Techniques:

- Does the entry demonstrate the use of a new science or a breakthrough in the general knowledge of engineering?
- Does the entry represent a unique application of new or existing technology, techniques, materials or equipment?

2. Future Value to the Engineering Profession and enhanced public awareness/enthusiasm of the role of engineering:

- Will the entry redefine current engineering thinking?
- Does the entry increase public awareness/enthusiasm about the role of engineering in their everyday lives?

3. Social, Economic and Sustainable Development Considerations:

- Do the solutions identified produce secondary benefits of value to the community environment?
- Does the entrant's approach provide society with social, economic, or sustainable development benefits?

CALL FOR ENTRIES – CATEGORIES

CATEGORY A:

Studies, Research and Consulting Engineering Services

Non-design services, projects not involving the preparation of construction documents consisting of but not limited to the following types of projects:

- New products, materials and technologies
- Expert testimony
- Basic research and studies
- Computer/software technology
- Technical papers
- Public outreach/involvement
- Water conservation
- Security plans
- Project feasibility studies/economic/risk
- Value engineering

CATEGORY B:

Building/Technology Systems

- Mechanical/electrical/plumbing
- Computer/technology
- Communications
- Acoustics
- Software systems
- Sustainability or carbon neutrality
- Efficiency certification standards, e.g. LEED®
- Energy efficiency - new and retrofit
- Secure facilities (military/research/correctional)

CATEGORY C:

Structural Systems

- Foundations
- Tunnels
- Buildings
- Seismic design
- Towers
- Bridges
- Stadiums

CATEGORY D:

Surveying and Mapping Technology

- Geometrics, ALTA, land title and rights surveys
- Control, GPS, monitoring or construction surveying
- Survey mapping, GIS/LIS, photogrammetry

CATEGORY E:

Environmental

- Hazardous waste
- Solid waste
- Restoration/reclamation/remediation
- Air quality
- Noise
- Recycling
- Waste pond management
- Carbon sequestration and trading
- Mitigation

CATEGORY F:

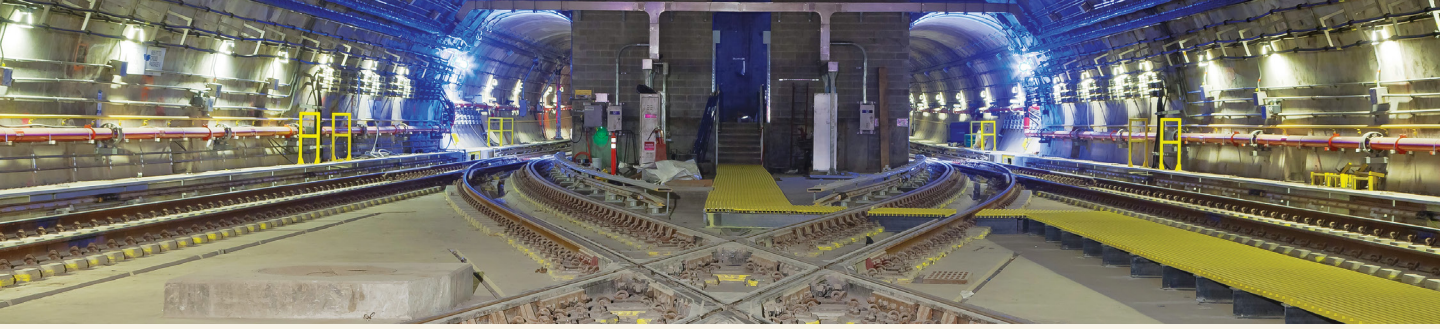
Waste and Storm Water

- Wastewater collection/treatment and disposal
- Residuals management and reuse
- Graywater systems
- CSOs
- Mine tailings
- Agricultural
- Storm water management
- Erosion control

CATEGORY G:

Water Resources

- Hydraulics, hydrology
- Surface and groundwater supply development
- Treatment
- Transmission, distribution & storage
- Watershed management
- Water use reduction
- Flood risk management
- Climate adaptation
- Coastal and eco-system restoration
- Locks/dams/water control structures
- Irrigation



- Does the entrant's contribution to the project improve the health, safety or welfare of the public or affected environment?

4. Complexity:

- Did the entry successfully address highly complex criteria or unique problems?
- Were extraordinary problems of site, location, hazardous conditions, project requirements, or similar elements present?
- Did the entry require the use of out-of-the-ordinary technology or ingenuity for achievement of the project's goals?

5. Successful Fulfillment of Client/Owner Needs:

- Did the engineer or entrant successfully engage the client/owner in the overall project development process?
- Was it an economical and cost-effective solution?
- How did the final cost compare to the original budget estimate?
- How closely does the entrant's solution meet the total goals of the client/owner?
- Did the entrant meet the client's time schedule?

PREPARING YOUR ENTRY

This section describes all required submission materials for entering the 2017 ACEC EEA competition. All materials must be submitted exactly as designated below. Digital files must be PC compatible and appropriate to the information being submitted (i.e., Microsoft Word for text, high resolution JPEGs, photos or other images, Adobe PDFs, etc.).

If the submission does not meet the requirements listed, it may be disqualified.

If any part of an entry does not meet requirements listed, that portion of the entry may not be presented for judging. **Please follow the guidelines.**

No reference to other awards is permitted in your submitted materials.

In any given year, an entry may be submitted through only one state MO. If a project was entered in more than one MO competition, ***it is the responsibility of the affected MOs*** to decide which one will enter the project in the national competition.

DATES TO REMEMBER

January 6, 2017 — Submitted materials **MUST BE RECEIVED** by ACEC. Materials received after that date will NOT be accepted. All materials submitted for judging in the national competition become the property of ACEC and may be used in ACEC publications. Panels may be used for displays or other promotional or educational purposes. **Submitted materials will NOT be returned.**

January 17, 2017 — The entrant's company representative, as listed on the entry form, must be available by phone.

February 10-12, 2017 — Judging takes place in Washington, D.C.

April 25, 2017 — EEA Dinner and Gala Awards Program in Washington, D.C.

SUBMISSION REQUIREMENTS

The following three **main components must be submitted** with the national EEA competition entry:

I. Official electronic entry

II. USB flash drive containing submission materials

III. Photographic display panel

****NOTE: No QR Codes or embedded links are permitted in any portion of an award submission****

CATEGORY H:

Transportation

- Highways
- Rail
- Airports
- Marine/ports
- Public transit
- Intermodal facilities

CATEGORY I:

Special Projects

- Safety and security
- Corrosion protection/cathodic protection
- Program and construction management
- Land development
- Trenchless technologies/directional boring
- Recreational facilities
- Subsurface engineering

CATEGORY J:

Small Projects

- Total project construction budget does not exceed $2.5 million. At the entrant's discretion, except for entries in Category A, projects under $2.5 million are not limited to this category

CATEGORY K:

Energy

- Transmission and distribution
- Power generation
- Renewable energy
- Cogeneration
- Energy storage technologies
- Energy usage reduction programs
- Demand side management

CATEGORY L:

Industrial and Manufacturing Processes and Facilities

- Petrochemical
- Biotech
- Manufacturing
- Heavy industry
- Industrial waste
- Materials handling
- Mining, metallurgy, mineralogy

2017 CALL FOR ENTRIES

I. OFFICIAL ELECTRONIC ENTRY

All project information shall be submitted electronically. Each document must be uploaded separately through ACEC's Awards Submittal Portal. The electronic entry must contain all of the following items:

1 Electronic Project Submission Form located on the ACEC website — **http://www.acec.org/awards-programs/engineering-excellence-awards/**. Once the entrant has completed the project submission form, the form can be printed so it can be signed by all required parties. This form can then be uploaded as part of the electronic project submission. *Specifications:* PDF format.

NOTE: You must submit entry fee payment with the electronic Project Submission Form. (**$1,100** for ACEC members; **$3,500** for non-ACEC members.) **All payments must be made online**. Refer to your MO for state competition fees.

Original completed entry form must be signed by both the entrant and the client/owner (senior executives/officials), stating that the submitted project was substantially completed and ready for use between Nov. 1, 2014 and Oct. 31, 2016.

The following project information must be uploaded individually and included with your Engineering Excellence Awards submittal.

2 **CLIENT/OWNER LETTER** (one page max.) Letter addressed to ACEC National describing the relationship of the client/owner and entrant in the development of the project and how it exceeded the client/owner's needs. *Specifications:* PDF format.

3 **EXECUTIVE SUMMARY** (one page max.) Overview of project. Describe the problem and solution; project title and entry category must appear at the top of the page. *Specifications:* 8.5" x 11"; 1" side margins; double-spaced text; 12 pt. minimum size font; PDF format.

4 **PROJECT DESCRIPTION** (five pages max.) Tell the story of the project. Address items a, b, c, and d as listed below; project title, entry category, and page number must appear at the top of each page. Entrants may use text, photos, graphics, or charts as needed. *Specifications:* 8.5" x 11"; 1" side margins; single-spaced text; 12 pt. minimum size font; PDF format.

Text must include the following:

a. **ROLE OF ENTRANT'S FIRM** in the project.

b. **ROLE OF OTHER CONSULTANTS** participating in the project.

c. **ENTRANT'S CONTRIBUTION TO THE PROJECT:** A brief description of the entrant's contribution addressing each of the following Rating Guidelines (refer to "**Rating Guideline Definitions**" on pages 4 and 5 for detailed rating, judging, and weighting information):

- **Uniqueness and/or innovative application of new or existing techniques.**
- **Future value to the engineering profession and enhanced public awareness/enthusiasm of the role of engineering.**
- **Social, economic, and sustainable development considerations.**
- **Complexity.**
- **Successful fulfillment of client/owner needs.**

Include total project budgeted cost, total project actual cost, entrant's portion of the budgeted cost, entrant's portion of the actual cost, scheduled and actual dates of completion (as indicated on the Electronic Project Submission Form).

d. **SUMMARY:** Describe in layman's terms why this project is worthy of special recognition (word count between 100 - 500 words). Explain all factors that comprise the project's uniqueness and complexity, such as innovative engineering, challenges faced and overall social impact. **NOTE:** This summary will provide the basis for all ACEC publicity on the project.

5 **KEY PARTICIPANTS** List the key participants on the project including firm name, address, phone number, website, and e-mail address of each participant. Include contractors, subcontractors, other engineers, architects and designers significantly involved in the project. *Specifications:* 8.5" x 11"; PDF format.

6 **PHOTOS OR GRAPHICS** Six different photos or graphics (one per page) with captions describing the subject matter (refer to "***Photograph Guidelines***" below). Captions shall begin with: Photo 1, Photo 2, etc. *Specifications:* JPEG file; RGB format; High Resolution (300dpi).

Photo Captions: Once photos are uploaded, type in the captions in the small box under each photo on the online submittal site.

Photograph Guidelines:

Because the photographs will be projected on a large screen during the EEA gala, it is very important to submit sharp, high-quality, high-resolution images.

Three of the photographs must show the completed project and provide the highest level of visual impact for publicity. Three of the photographs must display the planning, startup, and/or construction phases of the project.

One enlarged, unmounted, glossy photograph will be requested from each of the 24 national winners at a later time for ACEC's EEA display wall in Washington, D.C. The judging committee will select this photo from those submitted with the entry.

7 **PHOTOGRAPHIC DISPLAY PANEL** Small-size copy of the photographic display panel. *Specifications:* JPEG file; RGB format; High Resolution (300dpi).

8 MEDIA LIST
E-mail addresses of local newspapers, TV, and radio stations in Excel format. If the state MO or entrant prefers to handle all local and national publicity for the project, include a statement to that effect. *Specifications:* Excel file; 8.5" x 11" or 11" x 17".

9 PRESS RELEASE (two pages max.)
Press release that clearly and concisely describes the project and the entrant's participation, based on information presented in the Project Description. Also describe the value of the project to the community including information such as the number of people served, cost savings, etc. Do not reference other awards the project has won. *Specifications:* double-spaced; 8.5" x 11"; PDF format.

10 POWERPOINT PRESENTATION
PowerPoint file, containing 8 slides including a title slide with ACEC Logo, firm name, project name, project location: city and state, followed by 6 slides that include photos 1 through 6 (same photos as Item 6 above), plus the last slide that contains the photographic display panel. This presentation will be used by the judges as part of their evaluation. Do not include sound, transition effects, animation, preset timing, or slide show sequencing. A sample PowerPoint presentation is downloadable from the ACEC website.

11 SUPPLEMENTARY REPORT
Include a supplementary report containing the findings portrayed with text, graphs, or photos, as needed.

NOTE: This report is **ONLY** required for Category A submittals.

Specifications: PDF format.

II. USB FLASH DRIVE

USB Contents & Specifications: One USB flash drive (to be sent to ACEC with Photographic Display Panel). Include labels on USB and Photographic Display Panel with firm name, project name and category. Test the USB flash drive on different computers to ensure that it is not machine-dependent.

Include each of the following items in the file type indicated, in the order given, and with the titles shown:

01 Electronic Project Submission Form
02 Client/Owner Letter
03 Executive Summary
04 Project Description
05 Key Participants
06 Six Photos or Graphics
(Photo Captions: Type separately in a Word document)
07 Photographic Display Panel
08 Media List; Excel File
09 Press Release
10 PowerPoint Presentation
11 Supplemental Report

III. PHOTOGRAPHIC DISPLAY PANEL

Panel text and photos should demonstrate the challenges, solutions, innovation, complexity and unique aspects of key project elements. The panel should be prepared with high-quality photos and graphics with minimal text.

Photographic panel requirements:

1. **PANEL SIZE:** 30" x 30" square, with a matte finish, laminated front and back as follows:
   a. Front lamination thickness: 5 mil
   b. Back lamination thickness: 5 mil
   c. Panel stock thickness before lamination: no more than 5-6 mil
   d. Total panel (with lamination) thickness: 15-16 mil
   NOTE: Framed or mounted panels will NOT be accepted.
2. **VELCRO ATTACHMENTS:** Four, 9-inch long strips of Velcro (the hook side only) must be placed vertically on the back, near each corner of the panel.
3. **PHOTOS/GRAPHICS:** Maximum of 6 photos and/or graphics shall be used on the panel. Each image shall be a minimum of 7" x 5" or 35 square inches in area. A background photo is not considered a photograph.
4. **TEXT/FONTS:** Panel text may not exceed 250 words total, not including captions. Font sizes: 32 pt. minimum font for text or descriptions; 28 pt. minimum font for captions and graphics.
5. **REQUIRED ELEMENTS:** The front of the panel shall also include the ACEC logo (download from ACEC website), title and location of the project or study, client/owner's name and location, and entering firm's name and location (minimum 32 pt. font size).
6. **CORNER SPACE:** Leave a 2"x 2" space in the upper right-hand corner of the panel that is free of text or images. Do not leave the "blank" space as a white square; the background scheme should continue, but will be partially covered by the review committee's coding label.
7. **BACK OF PANEL LABEL:** Add a label to the back of the panel with the name of the entrant's firm, the firm address, the project name, and the entry category.

NOTE: If production/printing services for your photographic display panel are not available in your community, contact Daisy Nappier at ACEC for sources.

SHIPPING

Photographic display panels must be rolled and shipped in mailing tubes.

All materials including the electronic submission must be received by January 6, 2017.

Ship USB flash drive and Photographic display panel to:

American Council of Engineering Companies
Attn: Daisy Nappier
1015 15th Street, NW, 8th Floor
Washington, D.C. 20005-2605

OFFICIAL ENTRY FORM

NOTE: With the exception of Category A projects, costs reflected below are always construction costs and are NOT engineering fees. If your firm was responsible for the entire engineering-design of the project, then the *Entrant's Portion of the Total Project Budget* amount and the *Entrant's Portion of the Total Project Actual Cost* amount will be the same as the *Total Project Budget* amount and *Total Project Actual Cost* amount.

If your firm was not responsible for the entire engineering-design of the project, then the *Entrant's Portion of the Total Project Budget* amount and the *Entrant's Portion of the Total Project Actual Cost* amount should be the part of total project construction cost your firm was responsible for. (i.e. A mechanical engineering firm was responsible for $12M of a total project budget of $40M. $12M is the *Entrant's Portion of the Total Project Budget*. $40M is the *Total Project Budget*.)

Furnish all information requested below for each entry (signatures by the submitting firm(s) and the client(s)/owner(s) are required). Firm, project, and client/owner's name should be typed or printed as they are to appear on the award. Please limit the project name to 45 characters.

A fee of $1,100 per entry for ACEC members ($3,500 for non-ACEC members). **All payments must be submitted online. Online Payment Method: Visa, Master Card, American Express or Discover.**

ABOUT THE PROJECT

Project Name _____ (limit to 45 characters)

Judge this entry in the following category ***(check one)***:

- ☐ A. Studies, Research, and Consulting Engineering Services
- ☐ B. Building/Technology Systems
- ☐ C. Structural Systems
- ☐ D. Surveying and Mapping Technology
- ☐ E. Environmental
- ☐ F. Waste and Storm Water
- ☐ G. Water Resources
- ☐ H. Transportation
- ☐ I. Special Projects
- ☐ J. Small Projects
- ☐ K. Energy
- ☐ L. Industrial and Manufacturing Processes and Facilities

Project Location: City _____ State _____

U.S. Congressional Representative's name in district where entering firm is located _____

U.S. Congressional Representative's name in district where project is located _____

What state/MO (member organization) is sponsoring this submission? _____

(Budgeted and/or actual costs may not apply to some studies in Category A)

Completion/Use Dates: Scheduled _____ Actual _____

Category A Costs: Budgeted $ _____ Actual $ _____

Construction Costs: Total Project Budget $ _____ Total Project Actual $ _____

Entrant's portion of Total Project Budget $_____ Entrant's portion of Total Project Actual $ _____

☐ Check box if project was awarded through QBS process.

ABOUT THE FIRM(S) SUBMITTING THE PROJECT

Entering Firm(s) _____

Firm CEO _____

Firm Representative _____

Must be available by phone on Tuesday, January 17, 2017 (phone calls will only be made if there are clarifications or additional information required for your submittal).

Address (no P.O. Box) _____ City _____ State _____ Zip _____

Phone (_____) _____ Cell (_____) _____ Fax (_____) _____

E-mail _____

I hereby authorize submission of this project into the American Council of Engineering Companies' 2017 Engineering Excellence Awards competition.

Senior Executive/Principal _____ Title _____

Signature _____ Date _____

Address (no P.O. Box) _____ City _____ State _____ Zip _____

Phone (_____) _____ Fax (_____) _____

E-mail _____

ABOUT THE CLIENT/OWNER(S) OF THE PROJECT

Client/Owner(s) _____

I believe the work of the engineer meets the intended uses and expectations for the project and hereby grant permission to enter this project in the ACEC 2017 Engineering Excellence Awards competition, and authorize publication of its outstanding features, unique aspects, or innovations. I confirm that the project was substantially completed and ready for use between November 1, 2014 and October 31, 2016.

Client/Owner Representative _____

Title _____ Signature _____ Date _____

Address (no P.O. Box) _____ City _____ State _____ Zip _____

Phone (_____) _____ Fax (_____) _____

E-mail _____

SAMPLE

AMERICAN COUNCIL OF ENGINEERING COMPANIES
Daisy Nappier ■ 1015 15th Street, N.W. ■ 8th Floor ■ Washington, D.C. 20005-2605
202-347-7474 ■ dnappier@acec.org

ATTACHMENT THREE – EEA JUDGING MODULE

EEA Judging Module

1. Start at the ACEC website, www.acec.org. Click on Awards Programs and then on the Engineering Excellence Awards, which is the first dropdown menu.

   You will see the following screen: click on Judge Login, which is directly below the picture.

2. You will be prompted to login. If you do not know your password, click on the Forgot your password link below the login boxes and you will be sent instructions from ACEC through your email.

3. Once you are logged in successfully, you will see the screen below, which contains the basic instructions that you will need to know to score applications.

4. When you click to view the applications, you will see the screen below. You can use the filters on the left side to select a category for judging. You can also use the other search prompts if you are looking for a specific application.

Once you see the list of applications in each category, you can either view or score each specific application.

5. To view the details of the application, click on the white icon as shown below:

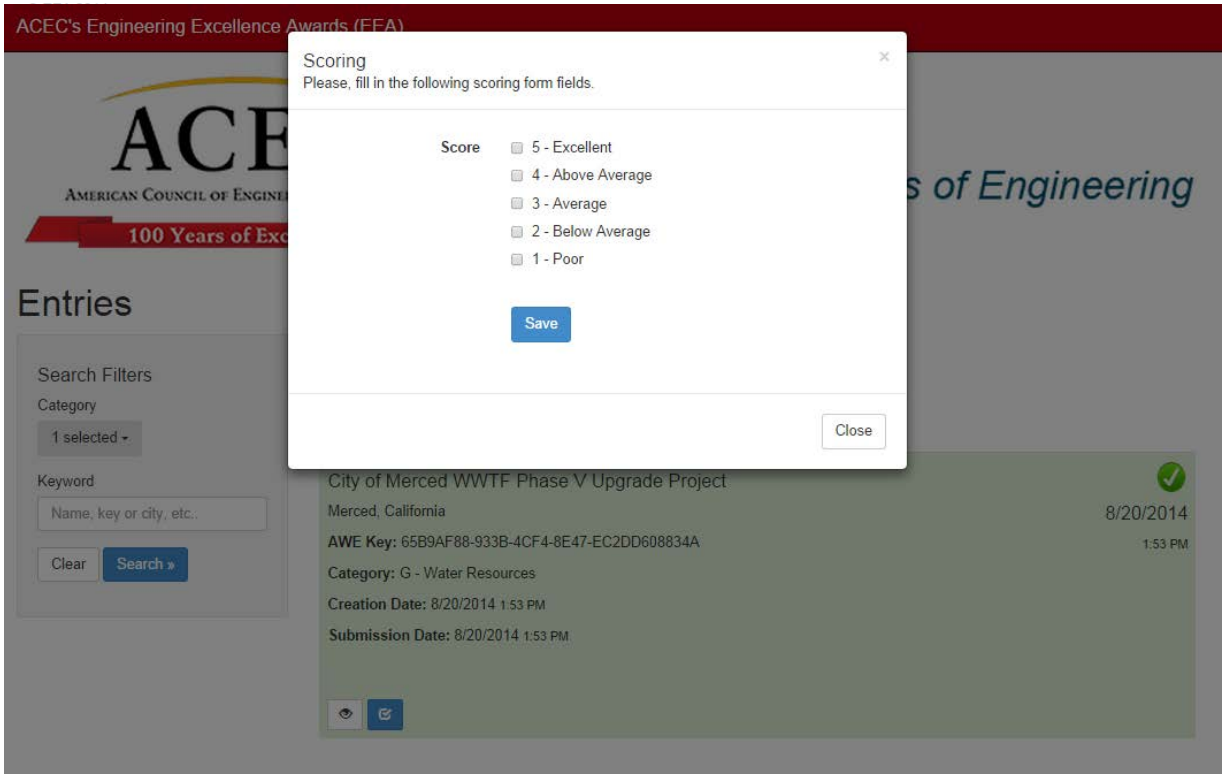
Click on any of the links in the right column to view the document that was submitted in support of the application.

City of Merced WWTF Phase V Upgrade Project

Fields marked with * are required when submitting the application.

A. Signed Official Entry Form	• Form should be signed. • Accepted file format is PDF only.	• 01_entry_form.pdf
B. Client/Owner Letter	• Accepted file format is PDF only. • Upload up to two files.	• Client Letter.pdf •
C. Executive Summary	• Accepted file format is PDF only. • One page only.	• Executive Summary.pdf
D. Project Description	• Accepted file format is PDF only. • Up to five pages.	• Project Description.pdf
E. Electronic Version of 30x30 photographic display panel	• Accepted file formats are JPE, JPG and JPEG.	• Photographic Display Panel.jpg

6. To score the application, click on the blue icon as shown below. A window will open allowing you to submit your score for the application.



7. When finished with the scoring of a specific application, simply return to the main screen and choose to view or score another application.

ATTACHMENT FOUR – 2016 ENGINEERING EXCELLENCE AWARD WINNERS

ACEC

American Council of Engineering Companies

100 Years of Excellence

ENGINEERING EXCELLENCE AWARDS 2016 WINNERS

2016 WINNERS

2016 Engineering Excellence Award Winners

The 2016 Engineering Excellence Awards Gala—known as the "Academy Awards" of the engineering industry—showcased 151 ACEC Member Firm achievements from the United States and throughout the world.

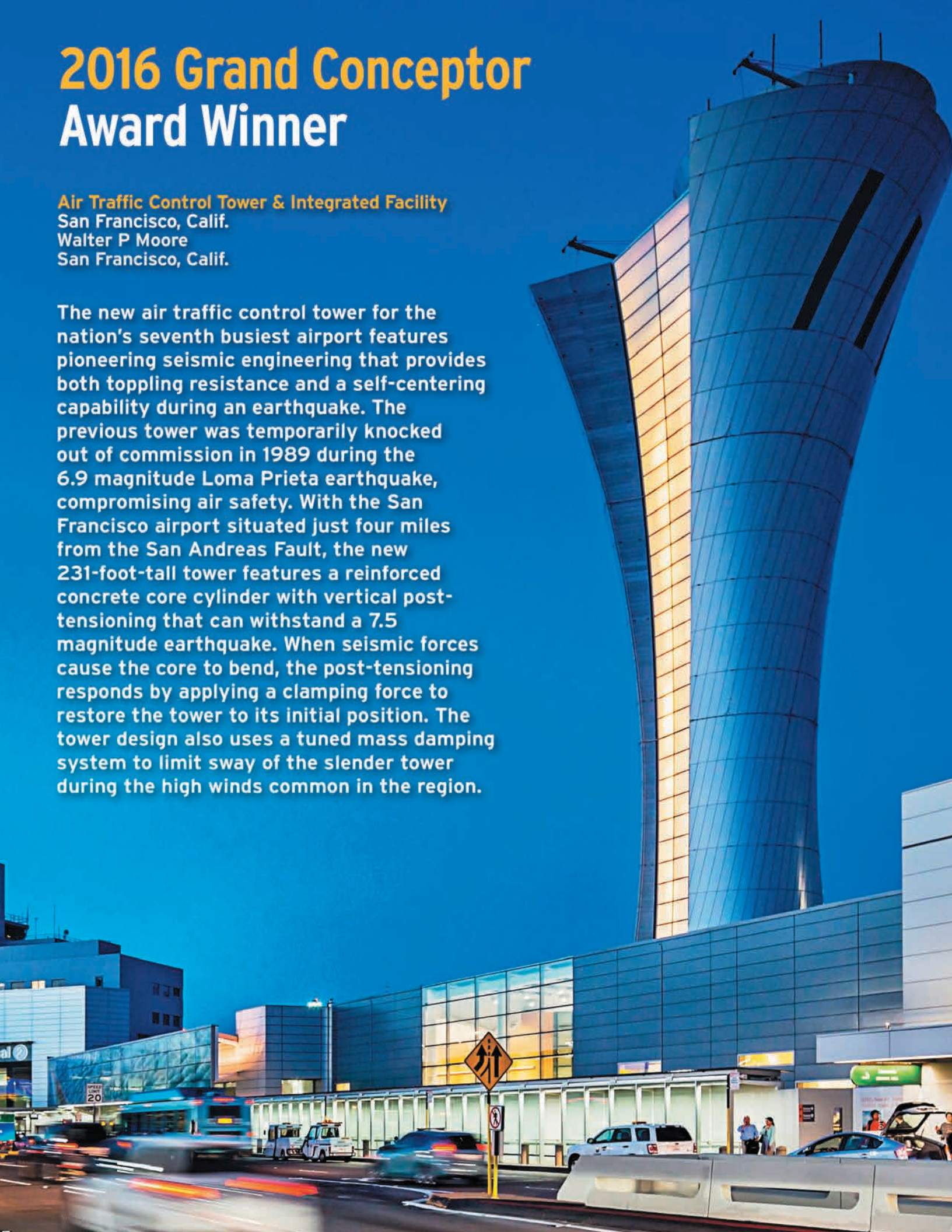
A panel of 29 judges, representing a wide spectrum of built environment disciplines, selected 24 projects for top awards—16 Honor Awards, eight Grand Awards and the Grand Conceptor Award, for the year's most outstanding engineering achievement.

Members of the 2016 Grand Conceptor Award-winning team are from the left: Steve White of Fentress Architects; and from Walter P Moore: Laura Whitehurst, Rafael Sabelli (holding award), Dilip Choudhuri, Blair Hanuschak, and Edwin Friedrichs.

2016 Grand Conceptor Award Winner

Air Traffic Control Tower & Integrated Facility
San Francisco, Calif.
Walter P Moore
San Francisco, Calif.

The new air traffic control tower for the nation's seventh busiest airport features pioneering seismic engineering that provides both toppling resistance and a self-centering capability during an earthquake. The previous tower was temporarily knocked out of commission in 1989 during the 6.9 magnitude Loma Prieta earthquake, compromising air safety. With the San Francisco airport situated just four miles from the San Andreas Fault, the new 231-foot-tall tower features a reinforced concrete core cylinder with vertical post-tensioning that can withstand a 7.5 magnitude earthquake. When seismic forces cause the core to bend, the post-tensioning responds by applying a clamping force to restore the tower to its initial position. The tower design also uses a tuned mass damping system to limit sway of the slender tower during the high winds common in the region.



GRAND AWARDS

Biosolids Management Program
Washington, D.C.
CDM Smith, Fairfax, Va.

Trailblazing upgrades to a wastewater treatment plant now allow recovery of both energy and nutrients from wastewater, while at the same time reducing operating costs. Enhancements to the District of Columbia's advanced water treatment plant, which serves more than 2 million residents, included installation of four 3.8-mgal anaerobic digesters and the world's largest Cambi thermal hydrolysis process (THP) system, which produces Class A biosolids for reuse as well as biogas for plant operation heat and power. The new system has already reduced truck disposal of biosolids by half, while generating approximately 10 megawatts of electricity—sufficient to meet one-third of the facility's demand.

WaterHub at Emory
Atlanta, Ga.
McKim & Creed, Raleigh, N.C.

A beautiful greenhouse surrounded by artful landscaping in a university setting doubles as a revolutionary water reclamation and reuse facility. To mitigate numerous university water supply challenges, the project team customized an ecological water and reuse system that is the first of its kind in North America. The system comprises an "upper site" containing a 3,000-square-foot low-energy/high-efficiency glasshouse with an odorless hydroponic treatment system, and a "lower site" containing seven concrete processing tanks up to 25 feet underground topped by ornamental landscaping. The system treats up to 400,000 gallons daily, recycling the equivalent of two-thirds of the university's wastewater production for campus heating and cooling, and significantly reducing the campus water usage. Over the past year, the university has saved 30 million gallons of potable water and is expected to save millions of dollars in water utility costs over a 20-year period.

Manhattan Bridge Rehabilitation of Cables and Suspenders

New York, N.Y.

Weidlinger Associates, Inc., New York, N.Y.

Innovative engineering produced a more reliable and efficient method to rehabilitate old and corroded cables and suspender ropes on suspension bridges. Tasked with replacing the Manhattan Bridge's 1,256 suspender ropes—many 65 to 80 years old with substantial deterioration—the project team used advanced vibrational testing to determine rope tension. They then cleaned and rewrapped main cables with an elastomeric membrane to resist water, chemicals, temperature extremes and ultraviolet light. The rehabilitation was performed without any noticeable impact on traffic, which averages more than 500,000 commuters a day. The new process is expected to become a standard tool for suspension bridge cable maintenance throughout the nation.

No. 7 Line Subway Extension

New York, N.Y.

WSP | Parsons Brinckerhoff
New York, N.Y.

Resourceful engineering delivered a new subway extension and state-of-the-art station into the congested landscape of Midtown Manhattan's Far West Side. The $2.4 billion, 1.5-mile extension of New York City Transit's No. 7 Line from Times Square was designed to support the rapidly developing Hudson Yards area. The project team used innovative ground freezing technology to improve tunnel boring through mixed-wet soil and loose rocks. The project includes the strikingly modern 34th Street-Hudson Yards Station, which maximizes natural ventilation and daylight, reduces reliance on non-renewable energy sources and contains a 36-foot-wide platform—the widest column-free platform in the New York City subway system. The subway extension serves as a model of how to develop ultramodern rail infrastructure within a tight urban setting.

GRAND AWARDS

The 606 V

Chicago, Ill.

Collins Engineers, Inc. & TranSystems
Chicago, Ill.

Creative engineering transformed a century-old artifact of Chicago's industrial heritage into the nation's longest elevated park. The project team repurposed unused 20th century rail infrastructure for 21st century needs to create six ground-level parks connected by a 2.7-mile-long elevated multi-use path. The project features innovative geometric path design and rehabilitation of thirty-eight bridges. It also included six miles of new retaining walls, six new access ramps, and drainage and hydrology for the new trail and park system. With multiple access points, elevation above city traffic and a park environment, The 606—named for the first three digits shared by all Chicago ZIP codes—enhances the social and economic vitality of the surrounding neighborhoods.

Harnessing Geothermal Power for Airports >

Maine, N.Y.

McFarland-Johnson, Binghamton, N.Y.

A unique collaboration with Binghamton University students produced a first-of-its-kind geothermal snow-melt system for airport aprons. Airports have long sought a more efficient method of snow and ice removal—salt can't be used because it's too corrosive to aluminum aircraft, and sand can damage aircraft engines. The solution was an innovative system of geothermal pumps and underground tubing that produces radiant heat, while reducing labor and operating costs and providing abundant snow-melting capability. The project team had to find the optimal balance between geothermal heating efficiency and the thickness of the apron's concrete slab and its ability to withstand aircraft weight. The project reduces snow removal time, lessens travel disruptions and improves passenger safety.

Rehabilitation of Gilboa Dam
Gilboa, N.Y.
Gannett Fleming/ Hazen and Sawyer (Joint Venture)
New York, N.Y.

Inventive engineering achieved a successful renovation of the 90-year-old Gilboa Dam, located in the Catskill Mountains and providing about 14 percent of the water supply for more than 9 million residents in New York City and upstate communities. The rehabilitation used cutting-edge rock anchor technology to redesign the dam's spillway. A creative snowpack offset system to capture snowmelt—a frequent cause of regional flooding—was incorporated to protect more than 8,000 downstream residents. Delivering 1.2 billion gallons of water per day, the dam is part of the largest gravity-fed, unfiltered water supply system in the world.

HONOR AWARDS

Bay Tunnel
Menlo Park to Newark, Calif.
McMillen Jacobs Associates
San Francisco, Calif.

A new tunnel under the San Francisco Bay provides a much-needed upgrade to the regional water supply system that originates in Yosemite National Park and serves 2.6 million customers. The five-mile tunnel replaces an aging water pipeline infrastructure built in the 1920s. The project team overcame challenges of tunneling through unstable sandy/silty soils and near underground structures sensitive to ground disturbances. Situated between two major faults and considered a critical lifeline facility, the tunnel is designed to be operational within 24 hours following a major earthquake. The first-of-its-kind tunnel stands as an exemplar for future water system upgrade projects.

Aspen Art Museum
Aspen, Colo.
KL&A, Inc., Golden, Colo.

A strikingly imaginative use of wood in its structural design is a prominent feature of the new Aspen Art Museum. Designed by Pritzker Prize-winning architect Shigeru Ban, the 33,000-square-foot museum features a unique display of wood in form, fabrication and construction. The project team incorporated spruce and micro-laminated birch plywood, optimizing wood grain direction to relieve local stresses. The building's signature is the roof structure—a space frame laid out on a four-foot grid—that features curving wood members, undulating up and down between straight chords with minimal touch between the elements, and with no steel components of any kind. Structural connections are almost entirely fully threaded wood screws. The museum's imaginative geometry and materials represent a showpiece for the potential of wood in structural construction.

Fish Lift System for Lake Sturgeon Passage

Menominee, Mich.

Kleinschmidt Associates
Pittsfield, Maine

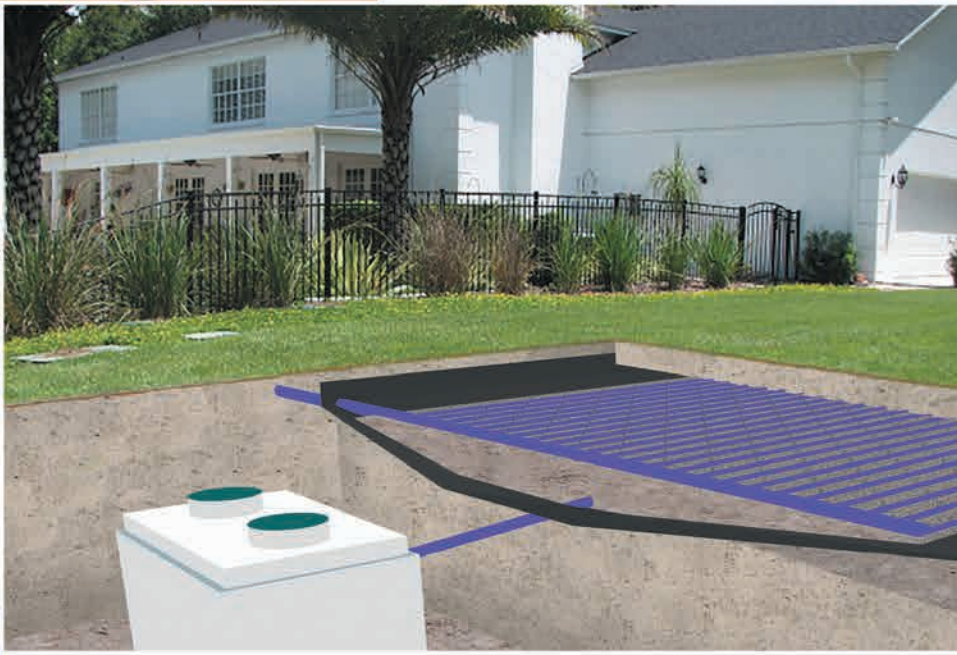
The nation's first fish lift for lake sturgeon restores access for the threatened species to a spawning habitat previously blocked by the hydroelectric Menominee Dam. The project team redesigned an unused portion of the dam into a 34-foot steel tower with an entrance channel for the collection of fish. A steel hopper lifts the fish to a floor where they are discharged into a sorting tank and held for truck transport to upstream spawning areas. The new fish lift enables lake sturgeon to access 21 miles of river previously blocked by the dam. The design also includes a state-of-the-art sorting facility enabling monitoring of desired fish, removal of invasive species, stopping the passage of harmful pathogens upriver, and the return of nontargeted species downstream.

The Willow School: Health, Wellness & Nutrition Center

Gladstone, N.J.

Loring Consulting Engineers, Inc.
Princeton, N.J.

A new 22,000-square-foot education center sets new standards as the first U.S. education building to achieve both LEED Platinum and Living Building Challenge certifications. Numerous energy-saving processes combined with a 160kW roof-mounted photovoltaic system allow the facility to produce more power than it uses, with the excess energy fed back to the electric utility grid. Newly constructed wetlands clean and filter wastewater before returning it to the aquifer for recharge. Rainwater is reclaimed for use in bathrooms and to irrigate the building's gardens. The facility is a model for future institutional projects seeking similar sustainability goals.



Florida Onsite Wastewater Nitrogen Reduction Strategies

Tallahassee, Fla.

Hazen and Sawyer, Tampa, Fla.

Using groundbreaking research, the project team developed a unique and powerful nitrogen reduction system specifically for small-scale onsite wastewater systems (OWS)—commonly known as septic systems. Florida's more than 2.7 million OWS are seen as significant contributors to excess nitrogen in the state's watersheds, triggering significant water-quality issues. The project team conducted extensive testing to create unique passive nitrogen reduction systems (PNRS) specifically for OWS. Full-scale prototype PNRS consistently removed over 95 percent of influent wastewater nitrogen at a significantly less cost per pound than currently available treatment technologies. This innovative technology redefines the role of OWS and can be a permanent wastewater management solution in nitrogen-sensitive watersheds.

HONOR AWARDS

Manchester Stormwater Park

Manchester, Wash.

Parametrix, Seattle, Wash.

A previously abandoned brownfield now doubles as an aesthetically pleasing recreation site and a revolutionary stormwater management system that eliminates heavy winter rain flooding. As the Puget Sound area's first stormwater park, and one of only a few such combined water treatment/recreation facilities in the U.S., the park treats stormwater from roads, parking lots, and commercial and residential areas through a scientific calibration of soil and plants. Stormwater is channeled to the new park through distribution channels positioned to evenly deliver the water onto treatment beds. The beds' filter media and plants clean the runoff using filtration and absorption. The treatment cells are designed to treat flow magnitudes well over 2,000 GPM and remove at least 91 percent of pollutants from runoff before it reaches Puget Sound.

Target Field Station

Minneapolis, Minn.

Short Elliott Hendrickson Inc.
St. Paul, Minn.

A new world-class, multimodal transit center in the heart of downtown Minneapolis sets new standards for sustainability. In addition to housing an elevated light rail, a promenade and two levels of a public plaza, the LEED-certified project features the first-ever, year-round stormwater and snowmelt runoff capture and reuse system in Minnesota. The system diverts snowmelt and stormwater runoff from the upper-level plazas, green roofs and light rail station into large cisterns and then routes it to a nearby waste-to-energy facility for treatment and reuse in a variety of industrial processes. Combined with tree trenches, landscaped bio retention planters and two large green roofs, the system captures and reuses approximately 3 million gallons of stormwater runoff per year.

I-485/I-85 Interchange Design-Build

Charlotte, N.C.

STV, New York, N.Y.

Innovative renovations to a major traffic interchange improved access, efficiency and motorist safety, while also saving more than $30 million in projected costs. To incorporate much needed changes to the existing I-485/I-85 interchange—part of the I-485 Outer Loop of Charlotte, N.C.—the project team incorporated a rare "turbine" interchange design to replace the previous four-level structure. The design features circular lanes that take left-turning traffic around a central bridge. The project required widening two miles of I-85 to accommodate additional ramp lanes, widening/construction of 1.4 miles of I-485, and construction of eight ramps/loops and 18 precast concrete girder bridges for the interchange. This unique design has made the Outer Loop a safer and more accessible thoroughfare for 180,000 daily motorists.

IH 635/The LBJ Managed Lanes
Dallas, Texas
Bridgefarmer & Associates, Inc.
Dallas, Texas

Imaginative geometric engineering doubled the capacity of the third most congested highway in Texas, while adhering to mandates not to exceed the corridor's current dimensions. To increase capacity of the 270,000-vehicles-per-day highway corridor, the project team designed new general purpose lanes as bridges that partially cantilever over managed lanes supported by a column at the center median. Additionally, the project team reconstructed the freeway's eight existing general purpose lanes and added six new managed (tolled) depressed lanes below in an excavated trench section—an alternative that saved the project over $400 million. Completed under strict construction limitations, the project is a testament to transportation engineering ingenuity.

State-of-the-Art Nitrogen Upgrade Program
Alexandria, Va.
CH2M, Herndon, Va.

Revolutionary water treatment plant upgrades now allow effective nitrogen removal from wastewater to meet new and stringent nutrient limits designed to protect the Potomac River and Chesapeake Bay. To adhere to new discharge restrictions, the project team designed an 18-million-gallon nitrogen maintenance facility featuring emerging for enhanced biological process capacity. The project team creatively located the facility's process piping, tankage, equipment and other project components underground and disguised the underground structure with a public-use athletic field. The utility is the first in the U.S. to implement a full-scale mainstream deammonification system, and the first utility in the world to use this technology to meet such strict low-nitrogen limits.

Tilikum Crossing, Bridge of the People
Portland, Ore.
T.Y. Lin International and HNTB Corp., Olympia, Wash.

Spanning Portland's Willamette River, the new bridge is the nation's largest transit-only bridge and addresses the region's escalating traffic congestion. Located in a high-seismic region, the 1,720-foot-long, three-span superstructure features two landside piers, two in-water piers and two dramatic 180-foot-tall pentagonal-shaped stay-cable towers. A 31-foot-wide transit way between the tower legs accommodates two lanes of transit track and two 14-foot-wide multi-use paths for pedestrians and cyclists. Scenic enhancements include concrete finished in artistic, complex shapes and angles and an innovative "mood" lighting system that changes colors based on daylight, the river's speed, height, discharge rate and water temperature.

HONOR AWARDS

CREATE P1 – Englewood Flyover

Chicago, Ill.

TranSystems/Benesch, Schaumburg, Ill.

Innovative transportation engineering alleviated major congestion at a rail-to-rail intersection, dramatically improving safety and air quality. Often compared to a crossing of two interstate highways using a stop sign, the rail intersection each day handles 80 commuter trains, 46 freight trains and 14 Amtrak passenger trains. The project team's solution was to incorporate a grade separation featuring a pioneering railroad flyover. The 2,150-foot-long, 26-span flyover includes new bridges over five city streets, removal and closure of two viaducts and construction of over 3,000 feet of retaining walls. The project also required adjusting a 1.2-million-pound bridge by jacking it up three feet on the north end and eight inches on the south end to be set on a new gradient without affecting the integrity of the structure.

Bay Bridge Cable Dehumidification

Anne Arundel and Queen Anne Counties, Md.

AECOM, Baltimore, Md.

Groundbreaking engineering created a new cable dehumidifying system to address dangerous corrosion on suspension bridge cables. For this first-ever application on a North American bridge, the project team designed a dehumidification system for Maryland's Bay Bridge, which rises 186 feet over the Chesapeake Bay. The system continuously injects dry air into the bridge's main support cables to remove built-up moisture and maintain a dry, noncorrosive environment. More than 750 gallons of water were removed from cables on the westbound bridge and over 100 gallons from the eastbound bridge. The success of this system has prompted several other similar cable dehumidification projects nationwide.

Bruce C. Bolling Building

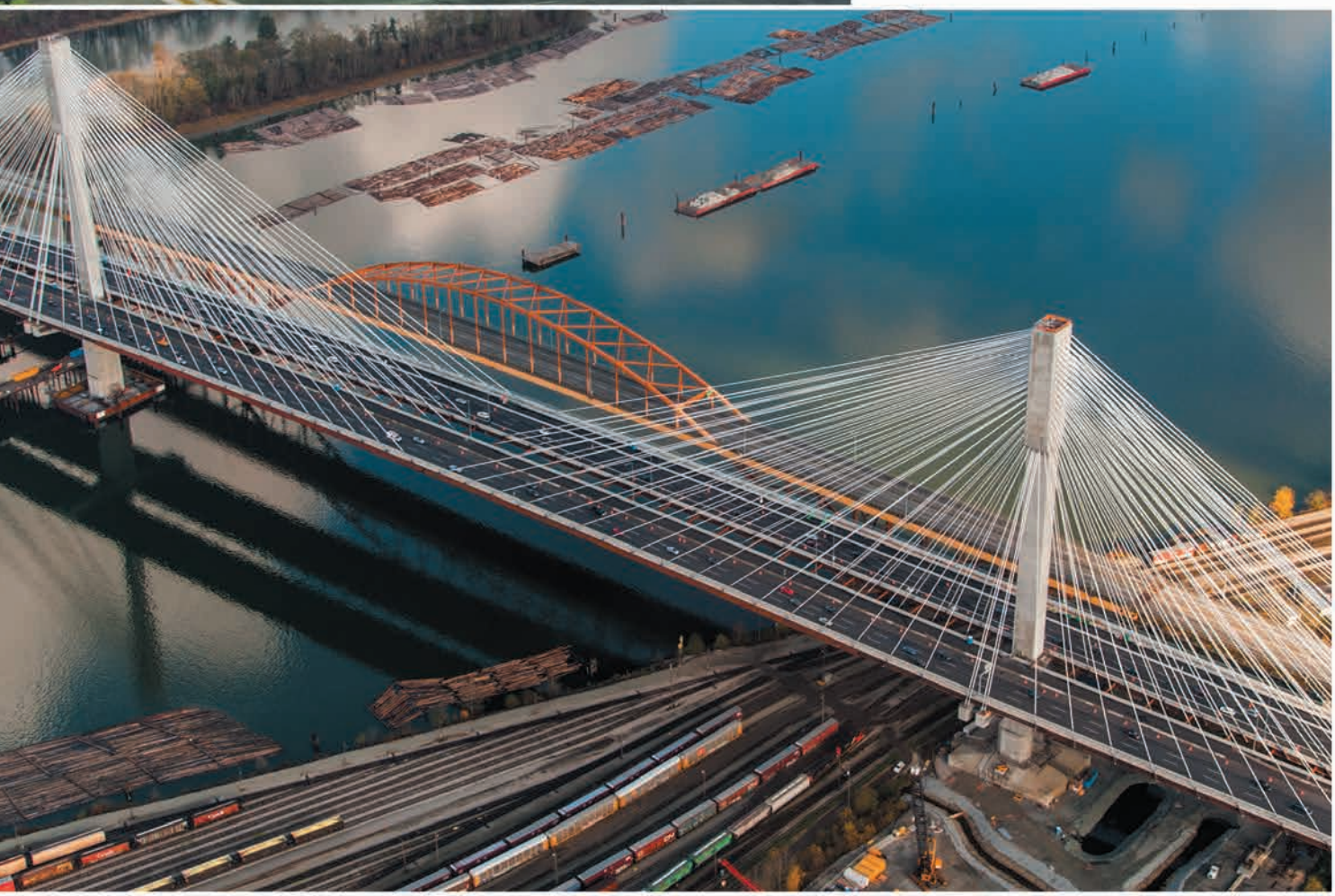
Boston, Mass.

Arup, Cambridge, Mass.

Imaginative engineering was used in a new state-of-the-art, 215,000-square-foot headquarters for Boston Public Schools. To incorporate the character of the historic but severely deteriorated buildings it replaced, the project team completely removed the interiors to create new floor plates, leaving only the existing walls. Historic facade skins were secured with epoxy anchors and connections to supporting steel as new construction occurred. The completed new headquarters includes a green roof, glazed exterior walls to allow ample light, daylight sensors to calibrate lighting, along with state-of-the-art office, retail, civic spaces, and community meeting areas and stands as an example of how new development can maintain a region's rich culture and history.

Daniel K. Inouye Fighter Squadron Operations Aircraft Maintenance Facility
Joint Base Pearl Harbor-Hickam, Hawaii
Burns and McDonnell, Honolulu, Hawaii

A new ultramodern aircraft squadron maintenance facility provides state-of-the-art service for the world's only active fifth-generation fighter. A model of sustainability, it is only the second LEED Platinum-certified U.S. military hangar. Innovative systems reduce net energy savings 75 percent and water consumption by nearly 50 percent. Solar power generated through roof-mounted photovoltaic cells and parking canopy offset electrical costs by 60 percent. The hangar provides a column-free, space-saving tail-to-tail aircraft configuration with vertical lifting doors featuring translucent panels to maximize daylight. With constrained federal budgets and increasing energy costs, the project is a model for reducing costs and enhancing performance at federal facilities.



Port Mann Bridge Highway 1 Improvement
Vancouver, B.C.
T.Y. Lin International, Olympia, Wash.

The new Port Mann Bridge in Vancouver, British Columbia, is North America's second-longest cable-stayed bridge, and one of the world's widest, with a 170-foot-wide deck and 10 lanes, replacing the previous five-lane bridge. The 2,700-foot-long bridge features two distinctive 530-foot-tall single-mast concrete towers. There is also a multi-use path for pedestrians and cyclists. The new bridge reduces motorist travel time by more than 50 percent and enables Vancouver to realize the full benefits of a state-of-the-art structure that doubles traffic capacity, while meeting the most stringent seismic criteria.

NATIONAL RECOGNITION AWARD WINNERS

FIRM NAME	PROJECT NAME
ACEC/ALABAMA	
Barge, Waggoner, Sumner & Cannon, Inc.	Carpenter Technology Specialty Steel Mill
Consulting Construction Engineering	"Off the Grid" Analysis of Sustainable Energy Design and Application
Krebs Engineering, Inc.	Biosolids Improvements for Energy Recovery
Whorton Engineering, Inc.	Live Fire Shoot House
ACEC/ALASKA	
Hanson Professional Services, Inc.	Glenn Highway Capacity Improvements
ACEC/ARIZONA	
AECOM	La Cholla Boulevard: Magee Road to Overton Road
ACEC/CALIFORNIA	
AECOM	Urban Levee Evaluation Project
Cornerstone Structural Engineering Group, Inc.	R. B. Oliver Bridge Replacement
Cornerstone Structural Engineering Group, Inc.	San Francisco Zoo – South American Rain Forest Exhibit
HNTB Corporation	Levi's Stadium
Mark Thomas & Company, Inc.	I-280/I-880/Stevens Creek Boulevard Interchange
McMillen Jacobs Associates	Bay Tunnel
STV	South Bay Bus Maintenance Facility Expansion
Walter P Moore	SFO Air Traffic Control Tower & Integrated Facility
ACEC/COLORADO	
CTL | Thompson, Inc.	The Regency Athletic Complex at MSU Denver
KL&A, Inc.	Aspen Art Museum
Merrick & Company	New Crude Distillation Unit
Merrick & Company	Data Fusion Predicts Habitat Quality
Olsson Associates	Aerial Survey of Kokopelli Trail
RMG-Rocky Mountain Group	Broadmoor Cloud Camp
ACEC/CONNECTICUT	
Michael Baker International, Inc.	CTfastrak Bus Rapid Transit System
Urban Engineers, Inc.	Complete Streets Master Plan for Downtown New Britain
Wright-Pierce	Water Pollution Control Facilities Upgrade
ACEC/FLORIDA	
CH2M/King Engineering Associates, Inc.	Northwest Solid Waste Transfer Station
Finley Engineering Group, Inc.	Section 5 Palmetto SR 826/836 Interchange
Hazen and Sawyer	Onsite Wastewater Nitrogen Reduction Strategies
HNTB Corporation	SunRail Phase 1
Kimley-Horn and Associates, Inc.	Tallahassee Regional Transportation Management Center
Walter P Moore	Citrus Bowl Transformation
ACEC/GEORGIA	
Walter P Moore	National Center for Civil and Human Rights
ACEC/HAWAII	
Burns & McDonnell	Daniel K. Inouye Fighter Squadron Aircraft Maintenance Facility
Burns & McDonnell	SPIDERS Phase III
Yogi Kwong Engineers	Stream Bank Bluff Protection and Stabilization
ACEC/ILLINOIS	
Benesch	Rollins Road Gateway
Collins Engineers, Inc./ TranSystems	The 606
exp	O'Hare South Air Traffic Control Tower
Greeley and Hansen	New UV Water Treatment System
CWC Transit Group—Jacobs Engineering Group Inc./ CDM Smith/Wight & Company	Red/Purple Modernization Corridor Program
Thouvenot, Wade & Moerchen, Inc.	First Illinois Diverging Diamond Interchange, Marion
TranSystems/Benesch	CREATE P1 – Englewood Flyover
ACEC/INDIANA	
Commonwealth Engineers, Inc.	Richmond East Side Interceptor Replacement Phase III
ACEC/IOWA	
Burns & McDonnell	Ottumwa Tier 1 Project
Stanley Consultants, Inc.	Credit Island Lodge Reconstruction
WHKS & Co.	U.S. 34 Ramp Bridge Emergency Repair
ACEC/KANSAS	
Black & Veatch	Headquarters Microgrid
Shafer, Kline & Warren	Pershing Road Lift Station
TranSystems	Sustainable Reconstruction of KU Parking Lot 54
WSP | Parsons Brinckerhoff	U.S. 54 Viaduct Repair/ Rehabilitation
ACEC/KENTUCKY	
CDM Smith	Alumni Drive Improvements
EA Partners	U.S. 68 Bourbon/Nicholas Counties
HMB Professional Engineers, Inc.	East Fork Indian Creek Stream Restoration
Palmer Engineering Company, Inc.	New U.S. 460
Qk4	Belknap Connector
ACEC/MAINE	
Kleinschmidt Associates	Menominee Fish Lift System for Lake Sturgeon Passage
ACEC/MARYLAND	
AECOM	Bay Bridge Cable Dehumidification
Gannett Fleming	Towson Finished Water Reservoir
Pennoni	ATEF High-Speed Test Track Traffic Control System
Whitman Requardt & Associates	26th Street Emergency Repair and Wall Reconstruction
Whitman Requardt & Associates	Ballenger-McKinney Wastewater Treatment Plant Expansion
Whitman Requardt & Associates	Montebello Plant 2 Finished Water Reservoir
Whitney Bailey Cox & Magnani	Frederick Avenue Bridge over Gwynns Falls & CSX Railroad
ACEC/MASSACHUSETTS	
Arup	Bruce C. Bolling Building
Collins Engineers, Inc.	Geo-Synthetic Reinforced Soil – Integrated Bridge System
Fay, Spofford & Thorndike	Kenneth F. Burns Memorial Bridge Replacement
Simpson Gumpertz & Heger Inc.	China Pavilion at 2015 World Expo
ACEC/METROPOLITAN WASHINGTON	
AECOM	RiverSmart Washington Planning & Design
Alpha Corporation	Smithsonian Mathias Lab Expansion

FIRM NAME	PROJECT NAME
CDM Smith	Biosolids Management Program
CDM Smith	Tingey Street Diversion Sewer
CH2M	State-of-the-Art Nitrogen Upgrade Program
HNTB Corporation	95 Express Lanes
ACEC/MICHIGAN	
Byce & Associates, Inc.	Bell's Brewery, Inc. New Bio-Energy Facility
Fleis & VandenBrink Engineering, Inc.	Measurement Process for Excess Inflow/Infiltration Removal
HNTB Corporation/WSP | Parsons Brinckerhoff/Great Lakes Engineering Group	I-96 Renovations
Wade Trim Associates, Inc.	I-75 Over Rouge River/Fort Street Design Survey
ACEC/MINNESOTA	
Clark Engineering Corporation	Landfill Leachate Treatment System
HGA Architects and Engineers	Surly Destination Brewery
HR Green, Inc.	Waste Landfill Gas to Energy Facility
LHB	Roosevelt Bridge Rehabilitation
Short Elliott Hendrickson, Inc.	Target Field Station
Stanley Consultants	Coon Rapids Dam Rehabilitation
ACEC/MISSOURI	
Hanson Professional Services Inc./ POWER Engineers, Inc.	Mississippi River T-Line Crossing
HNTB Corporation	Poplar Street Bridge Interchange Westbound Ramps
ME Engineers	HarborCenter – Hockey & Mixed Use Facility
ACEC/MONTANA	
Morrison-Maierle, Inc.	East Belgrade Interchange – Bozeman Yellowstone International Airport
ACEC/NEBRASKA	
HDR	Leavenworth Lift Station
HDR	Prairie Queen Reservoir and Recreation Area
ACEC/NEVADA	
Walter P Moore	Spring Mountains Visitor Gateway Complex
ACEC/NEW HAMPSHIRE	
HEB Engineers, Inc.	Stark Covered Bridge Rehabilitation
ACEC/NEW JERSEY	
AECOM/Greenman-Pedersen, Inc./ WSP | Parsons Brinckerhoff	New Jersey Turnpike Interchange 6 to 9 Widening Program
Dewberry	Route 3 over the Passaic River Bridge
HNTB Corporation	Ben Franklin Bridge PATCO Track Rehabilitation
WSP | Parsons Brinckerhoff/ Gahagan & Bryant Associates, Inc.	Channel Recovery and Maintenance Program
ACEC/NEW MEXICO	
Bohannan Huston, Inc.	I-25/Paseo del Norte Interchange Reconstruction
CH2M	Ute Reservoir Intake Facility
ACEC/NEW YORK	
Arup	Torre Reforma
Barton & Loguidice	Lake George Day-Use Area
C&S Companies	Syracuse University Carrier Dome Rainwater Harvesting

FIRM NAME	PROJECT NAME
Cameron Engineering & Associates	Long Island Tidal Wetlands Trends Analysis
DeSimone Consulting Engineers	170 Amsterdam
Dewberry	Carmine Carro Community Center
Distinct Engineering Solutions, Inc.	Rockaway Boardwalk Reconstruction
Gannett Fleming/ WSP | Parsons Brinckerhoff	Amtrak Sunnyside Yard Master Plan
Gannett Fleming/Hazen and Sawyer	Rehabilitation of Gilboa Dam
GZA	OneNYC Public Waterfront Esplanade and Park
H2M architects + engineers	Mastic Volunteer Ambulance – New Headquarters Addition
HAKS Engineers and Land Surveyors/AECOM	Gowanus Expressway Emergency Repair
Hardesty & Hanover	Van Wyck Expressway over Grand Central Parkway
Jaros, Baum & Bolles	Public Safety Answering Center II
Langan Engineering & Environmental Services, Inc./ Simpson, Gumpertz & Heger/ Guy Nordenson and Associates	Slurry Wall Re-Support – National September 11 Memorial & Museum
Loring Consulting Engineers, Inc.	The Willow School: Health, Wellness & Nutrition Center
McFarland Johnson, Inc.	Harnessing Geothermal Power for Airports
ME Engineers, Inc.	Dwight Englewood STEM Building
Mueser Rutledge Consulting Engineers	Innovative Foundations for Harbor Point Development
STV	Mother Clara Hale Bus Depot
Thornton Tomasetti	Baku National Stadium
TranSystems	Rehabilitation of the High Bridge over Harlem River
Weidlinger Associates, Inc.	Manhattan Bridge Rehabilitation of Cables and Suspenders
WSP | Parsons Brinckerhoff	No. 7 Line Subway Extension

The Benjamin P. Grogan and Jerry L. Dove Federal Building, Miramar, Fla., designed by Syska Hennessy Group, Inc., Fairfax, Va., is a 2016 EEA National Recognition Award winner.

NATIONAL RECOGNITION AWARD WINNERS

FIRM NAME	PROJECT NAME
ACEC/NORTH CAROLINA	
Kimley-Horn and Associates	Fidelity Network Center Campus SW Parking Deck
McKim & Creed	WaterHub at Emory
S&ME, Inc.	Edgecombe County Landfill Gas-to-Energy Facility
STV	I-485/I-85 Interchange Design-Build
ACEC/OHIO	
AECOM	University Medical Center New Orleans
TranSystems	Columbus Road Lift Bridge
ACEC/OKLAHOMA	
HDR	Verdigris Water Treatment Plant
ACEC/OREGON	
T.Y. Lin International/HNTB Corporation	Tilikum Crossing, Bridge of the People
ACEC/PENNSYLVANIA	
CDM Smith	Rapid Bridge Replacement Project
Gannett Fleming	City of Lebanon Authority Wastewater Treatment Plant
Gannett Fleming	Squirrel Hill Tunnel Rehabilitation
Urban Engineers, Inc.	Dilworth Park
Urban Engineers, Inc.	The Franklin Institute's Nicholas and Athena Karabots Pavilion
ACEC/SOUTH CAROLINA	
AECOM	Camden Wastewater Treatment Plant Expansion
ICA Engineering	U.S. 601 Bridges
STV	U.S. 17 Bypass and S.C. 707/ Farrow Parkway Interchange
The Sheridan Corporation	Seawall Repairs for the City of Charleston, S.C.

FIRM NAME	PROJECT NAME
ACEC/TEXAS	
Bridgefarmer & Associates, Inc.	IH 635/The LBJ Managed Lanes
HDR	Construction Management for Afghanistan National Security Forces Facilities
Jones | Carter	Cottage Grove Low-Impact Development
Lockwood, Andrews & Newnam, Inc. (a Leo A Daly Co.)	Water Quality Modeling Tool Development
Walter P Moore	Kyle Field Redevelopment
ACEC/VIRGINIA	
Draper Aden Associates	Return to Glory: East End Theater
ACEC/WASHINGTON	
DLR Group	NRG Stadium Solar Design
Parametrix, Inc.	Calistoga Setback Levee
Parametrix, Inc.	Manchester Stormwater Park
Syska Hennessy Group	Benjamin P. Grogan and Jerry L. Dove Federal Building
T.Y. Lin International	Port Mann Bridge/Highway 1 Improvement Project
ACEC/WISCONSIN	
Applied Technologies, Inc.	Phosphorus Recovery for the Madison Sewerage District
Mead & Hunt	Montello Dam Reconstruction Project
Mead & Hunt	Regional Airport Snow Removal Equipment Facility
Strand Associates, Inc.	Dubuque Water and Resource Recovery Center

The China Pavilion at 2015 World Expo, Milan, Italy, designed by Simpson Gumpertz & Heger, Inc., Waltham, Mass., is a 2016 EEA National Recognition Award winner.

170 Amsterdam, New York, N.Y., designed by DeSimone Consulting Engineers, New York, N.Y., is a 2016 EEA National Recognition Award winner.

ACEC thanks the 2016 Engineering Excellence Awards (EEA) judges and EEA Committee members for their time and dedication to this year's competition.

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Thank You

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Gilboa Dam Rehabilitation–Gannett Fleming | Hazen and Sawyer, Joint Venture

Sunnyside Yard Master Plan–Gannett Fleming | WSP Parsons Brinckerhoff, Joint Venture

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2016 National EEA Honor Award Winner: CREATE P1 – Englewood Flyover, Chicago, IL

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Gowanus Expressway Emergency Repair, *Brooklyn, NY* – NYSDOT

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U.S. 68 in Bourbon County

In 1995, EA Partners was asked to study the U.S. 68 corridor to come up with a safe solution to improve the roadway. At two lanes and sections with dangerous vertical and horizontal alignment, the roadway was unsafe for the many trucks that traveled it as an important connection for industries in Lexington, Maysville, Ohio and beyond.

As the project progressed, 12 historical resources were identified along the 6.4-mile stretch from Paris to Millersburg. The EA Partners team needed to develop an alignment that would impact the fewest historical properties. Thirteen alignments, 13 archeological sites and four public meetings later, an alignment was selected that resulted in a Finding of No Significant Impact.

Overcoming an economic downturn that made Kentucky's Transportation Cabinet ask firms to come up with practical solutions to reduce costs, EA Partners altered its design to save nearly $7 million while still achieving the project objectives.

Designers used new techniques in stream mitigation to preserve the natural areas around the roadway, planting more than 9,000 trees and 20 acres of grass in the process.

With an effort state officials call a "home run," the new roadway was worth the time and the effort. The roadway now has four lanes with a 40-foot depressed median and access is partially controlled.

In the end, EA Partners paved the way to safety and economic development while preserving a history that is important to the citizens of Bourbon County.

Twelve historical resources were identified along U.S. 68. The final alignment only impacted two.

EA Partners was praised for implementing a successful maintenance of traffic plan during construction.

When asked for a practical solution to reduce costs during the economic downturn of 2008, EA Partners managed to save nearly $7 million.

The four-lane roadway creates a safer route for truckers, farmers and families.

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Client / Project
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TOP: Tilikum Crossing, Bridge Of The People, *Portland* | MIDDLE: Ben Franklin Bridge PATCO Track Rehabilitation, *Philiadephia* | LEFT: I-95 Express Lanes, *Virginia* | RIGHT: Levi's Stadium, *San Francisco*

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Port Mann Bridge, Vancouver, British Columbia
ACEC 2016 Engineering Excellence Honor Award
ACEC Washington 2016 Platinum Award
T.Y. Lin International served as Chief Design Engineer and Design Manager.

Tilikum Crossing, Bridge of the People, Portland, Oregon
ACEC 2016 Engineering Excellence Honor Award
ACEC Oregon 2016 Engineering Excellence Project of the Year Award and People's Choice Award
T.Y. Lin International served as Engineer of Record.

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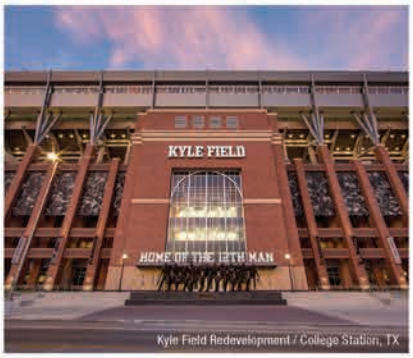

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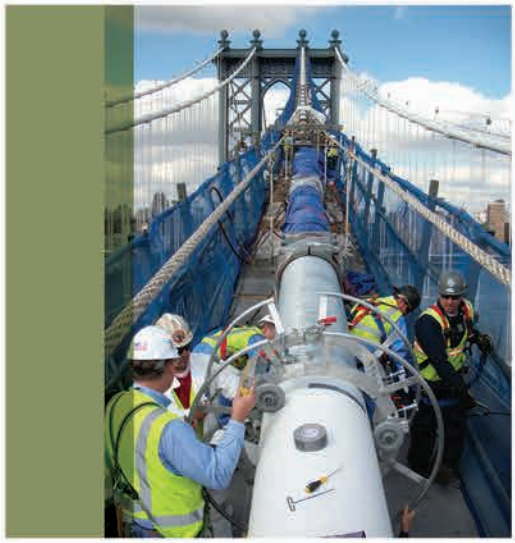

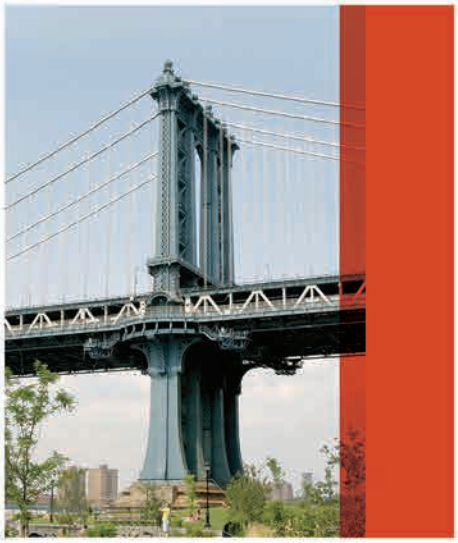

With 80 years of service, the Manhattan Bridge suspenders were deteriorated and due for replacement. All 1,256 suspender ropes were replaced, with some key modifications.

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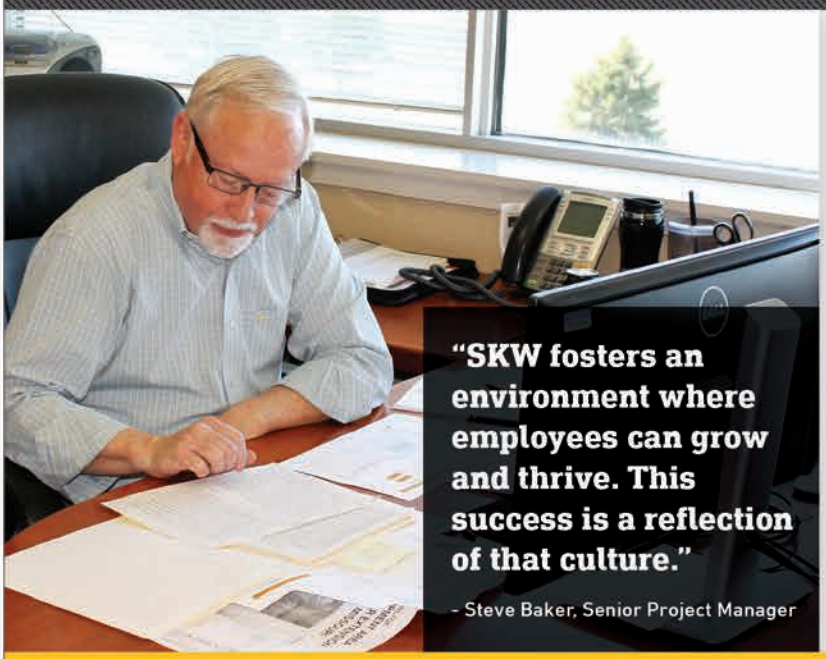

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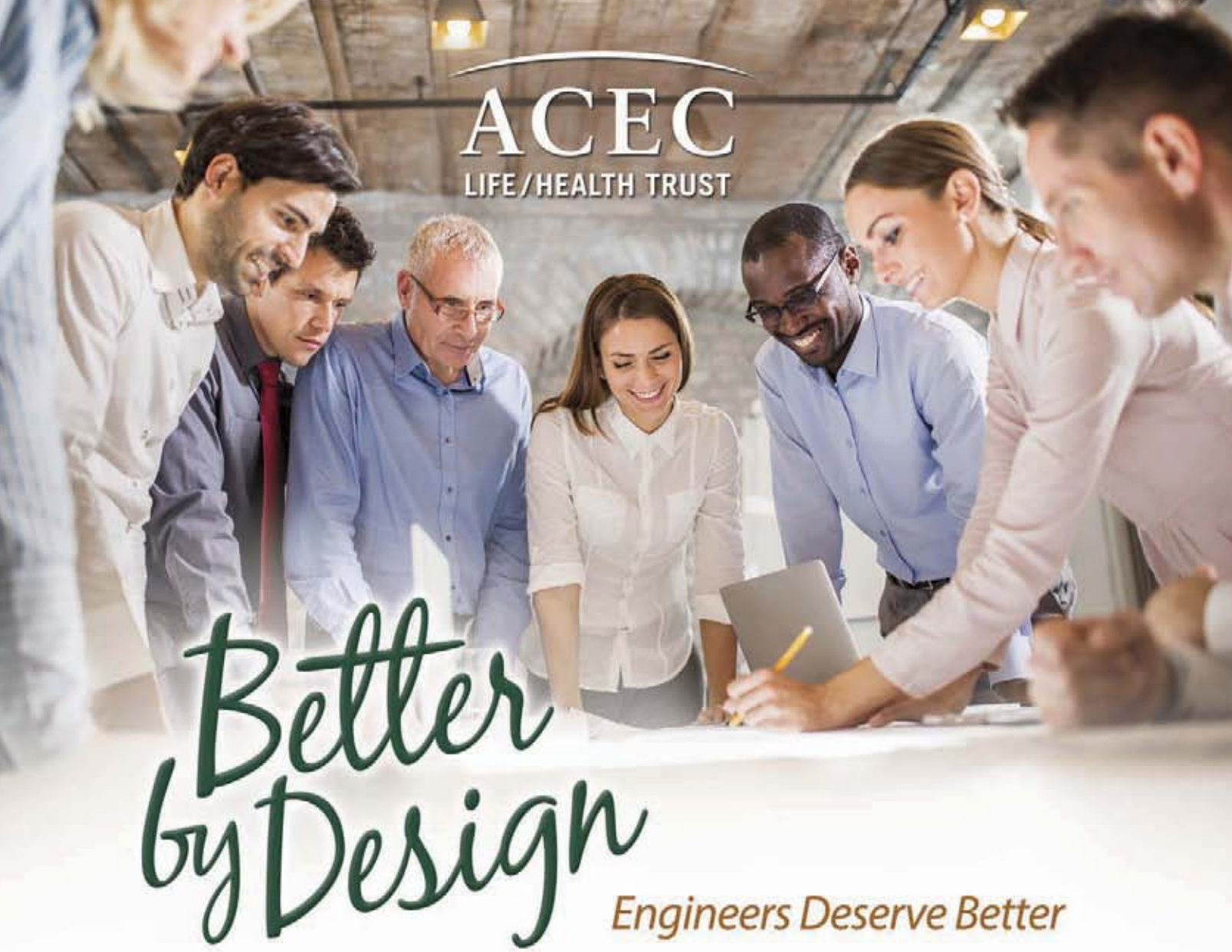

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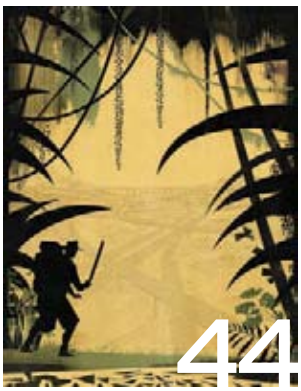

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COVER PHOTO: GARY LANDSMAN

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Engineering Inc. promotes the advocacy and business interests of ACEC by offering news, legislative analysis and business practice information to member firms, clients, opinion leaders and policy makers.

The articles and editorials appearing in this magazine do not represent an official ACEC position or policy unless specifically identified as doing so.

From ACEC to You

Council's "Citizen Lobbyists" Score Big in April

Hundreds of ACEC convention attendees converged on Capitol Hill as "citizen lobbyists" in April to urge lawmakers to support two of the Council's most important legislative priorities—reauthorization of federal airport construction programs and comprehensive energy legislation; both were being debated on the floor of the Senate, and both passed by broad, bipartisan majorities.

The Council's citizen lobbyists were also successful in building support for pending legislation to delay implementation of Fair Labor Standards Act changes that would have increased costs for both the industry and government.

These results are excellent examples of what our members can achieve with a large, unified voice. See page 6 for advocacy progress.

Other highlights from the recent convention and Engineering Excellence Awards Gala, which celebrated top engineering achievements of the year, begin on page 8.

This issue also includes an analysis of how the fluctuating manufacturing/industrial market affects opportunities for Member Firms. *(See page 4)*

ACEC/PAC is again off to a strong start in 2016 to maintain its $1 million a year pace. We strongly encourage members to support the PAC in this important election year. For more information and to contribute, go to the ACEC/PAC website at http://www.acec.org/advocacy/advocacy-pac/.

Now is also the time to mark your calendar for our Fall Conference at the Broadmoor in Colorado Springs, October 19-22 – where we'll address changing business practices, innovation and opportunities for our firms.

Peter M. Strub
ACEC Chairman

David A. Raymond
ACEC President & CEO

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BY GERRY DONOHUE

Manufacturing/Industrial Prospects Fluctuate Along With Growth

The manufacturing/industrial sector has been one of the hottest markets for engineering firms over the past four years, growing at an average annual rate of more than 14 percent. Rising from the depths of the recession and fueled by low energy prices and swelling consumer demand, manufacturers have built new facilities and upgraded old ones at a furious pace.

Looking forward, that pace is not sustainable, but market analysts and firm leaders differ markedly on what the future holds for engineering firms working with industrial/manufacturing clients.

"Over the past few months, global economic uncertainty has clouded the picture," says Sam Claassen, president and CEO of SEH in St. Paul, Minn. "Some of the factors that suggested continued strong growth—such as manufacturers coming back to the U.S.—aren't as clear as they were, yet we know our population is growing and consumer demand is evident, which means we can also expect growth."

That uncertainty can be attributed to a passel of conflicting trends, half of them stomping on the brake pedal and the other half pressing down on the accelerator.

Slowing Down

Perhaps the biggest drag on the manufacturing sector is the overall economy. With the nation's gross domestic product growth forecast to hover below 3 percent annually through 2018, it's hard to find a rationale for the manufacturing sector continuing to do substantially any better. In fact, the MAPI Foundation, the research affiliate of the Manufacturers Alliance for Productivity and Innovation, forecasts about 2.8 percent annual growth in manufacturing output through 2018.

Manufacturing capacity utilization rates are hovering around 78 percent, which is the historical average, suggesting there is not a lot of pressure to expand production lines.

Employment in the manufacturing sector has increased for the past four years to more than 12 million, and manufacturers are struggling to find skilled workers in an economy with an unemployment rate of less than 5 percent.

And the re-shoring of American manufacturing production, which was propelled by falling energy prices and rising foreign labor rates, has slowed. This is because many global companies have already brought back the output that made financial sense and because of unfavorable currency fluctuations.

"In mid-2014, the U.S. dollar began to appreciate significantly against our major trading partners, as those economies began to weaken," says Dodge Data & Analytics Senior Economist Richard Branch. "As the U.S. dollar gains strength, U.S. exports become less competitive in the global marketplace."

Speeding Up

At the same time, forecasters can point to several reasons for optimism.

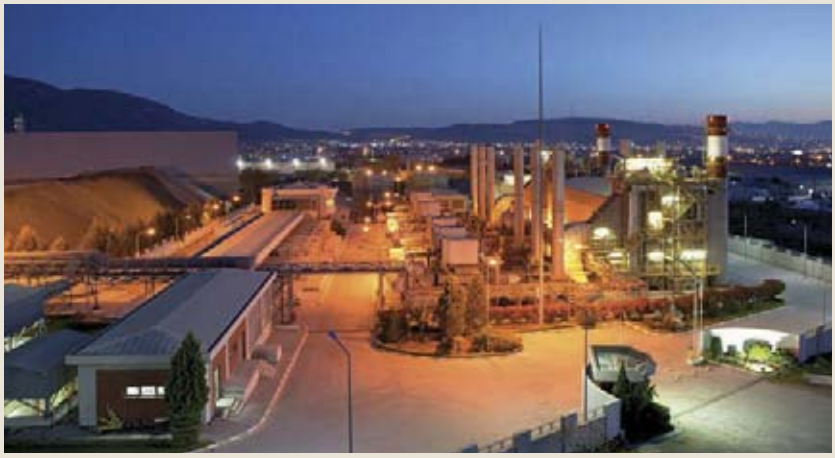
Consumer spending is the biggest driver in the U.S. economy, and American consumers are spending again—and in record numbers.

"Consumer products manufacturing grows with the population," says Justin Mitchell, business development manager for Burns & McDonnell's Food and Consumer Products Group. "We're expecting double-digit growth in our segment over the next two to three years."

He adds that consumers are also demanding increasingly cheaper products and faster delivery, so manufacturers are looking to build more regional facilities. "Our customers are analyzing their supply chains, looking to put low-cost production facilities near large population centers. If they don't already have one there, they'll build a new one. And in places where they have an existing footprint under roof, we'll work with them to expand production."

In the global marketplace, many manufacturers are facing intense competitive pressure and are turning to technology to gain an advantage. As a result, many existing facilities have become functionally obsolete, forcing the companies to either retool or build new.

"They have to find continued efficiency to be profitable and maintain their desired level of growth," says Larry Denton, president of the Process Group at Ghafari Associates in Detroit. "There's a lot of opportunity for us there, helping them maximize their



Manufacturing Construction Put in Place

(Annual Percentage Growth Forecast)

2016	5%
2017	6%
2018	7%
2019	7%

Source: FMI

production and throughput."

Since Ghafari is one of the leading design firms for the automotive industry, Denton has developed his own unique gauge for the manufacturing sector's health.

"Last year was a record year for car sales, but more importantly it was a record year for pick-up truck sales," he says. "That's a great leading indicator. Every contractor has a pick-up truck. If they're going out and buying a new one, they see a lot of construction and future growth ahead."

Taking all these competing trends into account, Dave Calder, sector leader for industrial and manufacturing at Stantec, expects to "see slow but consistent growth in manufacturing output. And growing slowly could be a good thing, because it might mean it's sustainable."

Industry Expertise

Many firms working with manufacturing clients credit the breadth of their professional services for their success in the sector.

"They're looking for a total solution," says SEH's Claassen. "That works well for us because it gives us more control over the project to manage costs and timelines, and to accelerate delivery because time is money for industrial clients."

Increasingly, that total solution includes expertise in the manufacturing process itself.

"Industry knowledge is huge," says Burns & McDonnell's Mitchell. "Seventy-five percent of the people in our group have been employed by the industry."

At Stantec, Calder says, "We start with the client's business needs—for example, to build a new product at a certain volume or to increase production on an existing line. We help them by designing the process, any facilities and infrastructure required, and also with the control systems that enable the manufacturing."

"We have an extensive offering in *lean manufacturing*," says Ghafari's Denton. "The best levels of efficiency started with the automotive business, and we're applying them to other fields, such as food service and health care.

"Most of our customers are good with assembly operation," he adds. "We've found that the biggest opportunities have been in how to get materials to their lines and then how to get the finished goods to the customers."

Gerry Donohue is ACEC's senior communications writer. He can be reached at gdonohue@acec.org.

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Legislative Action

Senate Passes Comprehensive Energy Bill

With the backing of hundreds of ACEC's "citizen lobbyists" during the Annual Convention, the U.S. Senate approved the Energy Policy Modernization Act of 2016 (S. 2012) on a bipartisan vote of 85 to 12.

Similar legislation cleared the House of Representatives last December, with leaders in both houses now focused on developing a final compromise bill. Not since 2007 has the Congress successfully passed, and the president signed, comprehensive energy legislation.

The Senate bill includes provisions to improve energy efficiency, as well as the federal permitting process for energy infrastructure, including transmission lines, natural gas pipelines, LNG facilities, and hydropower projects. The measure includes bipartisan language to develop model energy efficiency building codes for public and private buildings, and creates a multi-agency working group to examine the "energy-water nexus". The Administration has signaled support for the Senate bill through statements of Department of Energy Secretary Ernest Moniz.

JIM PARKIN / ALAMY STOCK PHOTO

The Senate-passed bill will help the United States become a "global energy superpower," Senator Lisa Murkowski (Energy Committee Chairwoman) said during the Convention following the floor vote. "Our bill will help America produce more energy and it will help America save more energy."

Senate Approves ACEC-Backed FAA Reauthorization Bill

The Senate passed legislation to reauthorize Federal Aviation Administration (FAA) programs and airport funding, one of the advocacy objectives for ACEC "citizen lobbyists" during the Annual Convention and Legislative Summit. The final vote on the bill was an overwhelming 95-3.

The Senate bill features an ACEC-backed $400-million boost in Airport Improvement Program funding for F.Y. 2017, a 12 percent increase. It also streamlines the Passenger Facility Charge (PFC) application process for all airports, but does not raise the existing cap on PFCs to help airports finance additional capital improvements.

The Council supported beneficial provisions in the bill to broaden the commercial utilization of unmanned aircraft systems (UAS). Many engineering and design firms are using or would like to use UAS for a wide array of services, including surveying, mapping, site monitoring, and facility inspections.

Action now turns to the House, where a six-year FAA reauthorization bill has been approved by the House Transportation & Infrastructure Committee. The House bill has stalled over a provision to remove air traffic control functions out of the FAA and create an independent, non-profit corporation to operate and modernize the air traffic system. It is not clear whether the House will proceed with the controversial proposal or recede to the Senate on a smaller scale bill.

The current extension of FAA funding and programs expires on July 15, 2016.

Council Weighs in Against New Regulatory Proposals

ACEC and coalition allies continue to push back against problematic new regulatory initiatives, including proposals that would impose new requirements on sick time for firms working for federal agencies, as well as payroll data affecting all firms.

The U.S. Department of Labor (DOL) has proposed that federal contractors provide their employees with 56 hours of annual sick leave, and mandates that firms report sick time accrued on a weekly basis.

ACEC raised concerns that the proposal would increase overhead costs and decrease their flexibility to design benefits packages that meet the employee needs.

The Council also submitted comments to the Equal Employment Opportunity Commission (EEOC) in opposition to a proposed requirement that all firms with 100 or more employees submit pay data from W-2 forms, along with the already mandated EEO-1 diversity reports.

MARK WILSON/GETTY IMAGES

ACEC asserted the requirement would create substantial administrative burdens and would be duplicative for federal contractors that already submit compensation analysis as part of their Affirmative Action Plans.

Senate Committee Clears Bill to Authorize New Corps Projects, Expand QBS

The Senate Environment and Public Works Committee approved the Water Resources Development Act of 2016, which includes over $9 billion in project authorizations for Corps of Engineers projects and other water infrastructure enhancements.

In addition to new Corps projects, the bill covers improvements to the Safe Drinking Water Act State Revolving Fund (SRF) program, including broadening the scope of projects eligible for SRF funding. The measure also requires the use of Qualifications-Based Selection (QBS) for projects funded through the drinking water SRF program serving communities with populations over 10,000. ACEC lobbied for the QBS requirement, but has urged lawmakers to remove the population threshold.

The bill includes funding to address the lead contamination crisis in Flint, Mich., as well as for other communities impacted from the presence of lead pipes. The Senate Committee also included an ACEC-backed provision to create a dedicated trust fund to support water infrastructure projects, funded through fees collected through a voluntary labeling system on consumer products.

The measure is expected to go to the Senate floor for a vote in June. Companion House legislation is expected to be released in May.

BILL PUGLIANO / STRINGER/GETTY IMAGES

The Water Resources Development Act of 2016 will address lead contaminated bodies of water like the Flint River in Flint, Michigan.

ACEC/Kansas leaders met with Senator Pat Roberts during the Annual Convention Hill visits. From the left: Clint Robinson, Black & Veatch; Senator Pat Roberts, David Haake, Henderson Engineers; Scott Heidner, ACEC/Kansas Executive Director and Mike Hess, HNTB.

ISSUES ON THE MOVE	WHAT'S NEXT
FAA Reauthorization	House floor action expected by summer
Water Resources Development Act (WRDA)	Senate floor vote in June
Energy Bill	Action on final conference report possible before August

Overtime Rule Released, Legislation Gaining Support

ANDREW HARRER/BLOOMBERG VIA GETTY IMAGES

Senator Tim Scott (R-S.C.)

The Department of Labor has finalized significant changes to overtime rules under the Fair Labor Standards Act (FLSA). As of December 1, 2016, employees who earn less than $913 per week/$47,476 annually must be paid overtime if they work more than 40 hours in a week.

DOL originally proposed automatically updating the salary threshold annually, but instead it will be adjusted every three years, which was suggested by ACEC in its comment letter. In addition, ACEC expressed strong opposition to modifying the duties test for the executive, administrative, and professional exemptions, and the rule does not make any changes in this area.

Legislation that would require DOL to modify its overtime rule has gained strong support in the House and Senate. ACEC's citizen lobbyists asked their Members of Congress to back the legislation during the ACEC Annual Convention. S. 2707, authored by Senators Tim Scott (R-S.C.) and Lamar Alexander (R-Tenn.), and H.R. 4773, authored by Congressmen Tim Walberg (R-Mich.) and John Kline (R-Minn.), would put the new rule on hold and require DOL to conduct a more comprehensive analysis of economic impact.

For More News

For weekly legislative news, visit ACEC's *Last Word* online at www.acec.org.

2016 ACEC Annual Convention Taking the Lead on Advocacy and Business

An enthusiastic gathering of more than 1,300 ACEC members at the 2016 ACEC Annual Convention in Washington, D.C., focused on new business trends and opportunities, and pursuit of critical industry legislation.

Hundreds of ACEC "citizen lobbyists" met with their respective Capitol Hill lawmakers to build support for numerous industry issues such as reauthorization of federal airport construction programs and a comprehensive energy package, along with tax and regulatory issues important to the industry.

ACEC/PAC raised a record $271,700 from all PAC related activities during the

Senator Lisa Murkowski (R-Alaska) praised ACEC's help in shaping the energy bill.

Fox News' Dana Perino addresses a packed Convention General Session.

Convention, staying on pace to raise $1 million for 2016.

"I think the speakers were great and the options for education were very good," said Mak Knowles of HWC Engineering in Indianapolis. "It was quality all throughout and definitely worth the investment to attend."

"I thought the overall Annual Convention program was very good," said Jim Falvey of Arora Engineering in Boston. "I obtain the most value from the business development and networking standpoint. I do want to get more involved in ACEC."

"Dana Perino was great and I really enjoyed the Welcome Reception and Dinner," said Brad Graff, of Cothren, Graff, Smoak Engineering, Inc., in Shreveport, La. "I was impressed with the Small Firm CEO Roundtable because of the issues that were discussed."

Senator Murkowski Praises ACEC for Energy Bill Guidance

"We're making history today," Senator Lisa Murkowski (R-Alaska) told ACEC members at the Annual Convention in Washington, D.C. last week. "In a couple of hours, we'll take the final vote to pass the first comprehensive energy bill since 2007."

The bill passed the Senate by a vote of 85-12.

"I want to thank ACEC for your involvement in helping to shape this bill," said Murkowski.

Murkowski said "the bill is very robust in many, many ways. It allows us to move forward with policies that produce more energy, save more energy, and save more costs on energy, while being very strong from an environmental and an energy security perspective."

In the coming weeks, the Senate is slated to conference with the House to reconcile their bill with the one passed by the House last year.

FOX News Dana Perino: "It's good you have ACEC"

Former White House Press Secretary and current FOX News commentator Dana Perino emphasized that even during a presidential campaign and the ongoing Capitol Hill gridlock, important issues are still being addressed at regulatory agencies.

"It's good that you have a leader in ACEC to navigate those agency issues that mean so much to your members," she told Convention attendees.

Perino also predicted that the ongoing shift in national demographics will soon lead to unprecedented changes in the nation's political landscape. "Expect the unexpected," she says.

Daniel Pink: Like it or Not, Engineers Also Have to Sell

World-renowned business author Daniel Pink underscored the need for engineers to embrace data-driven sales strategies if they are to succeed in today's evolving marketplace.

"Like it or not we're all in sales now," said Pink. "Unfortunately, the extraordinarily educated or technically skilled too often are in the 'or not' category. But just ask yourselves 'what percentage of your work involves convincing someone to give up something they value for something you value?' "

To successfully sell in today's evolving marketplace, Pink advises engineers to thoroughly understand the client's point of view; use client terminology instead of industry jargon; and provide a client with examples of how others have succeeded after adopting an engineer's proposals.

Strub Succeeds Christie as ACEC Chairman

TranSystems Principal Peter Strub became 2016-2017 ACEC Chairman, succeeding Ralph Christie of Merrick & Company.

New members of the 2016-2017 Executive Committee are: Chair-elect Sergio "Satch" Pecori, president/CEO, Hanson Professional Services; Mary Erchul, principal, Ghi-

ACEC President and CEO Dave Raymond highlighted Council achievements over the past year during his state of ACEC address to the Board of Directors.

Politico Founder Jim VandeHei (right) moderated a panel discussion with (left to right) Representatives Rodney Davis (R-Ill.), Sean Patrick Maloney (D-N.Y.), and Bruce Westerman (R-Ark.) about partisan gridlock on Capitol Hill. The Congressmen noted several causes of the increased polarity, including the rise of safe seats through redistricting and the intense scrutiny of Representatives on social media, but added that infrastructure is one of the opportunities for bipartisanship because the deteriorating condition of the nation's roads and water systems are of concern to all constituents.

Best-selling business author Daniel Pink urged engineers to embrace the science of selling.

radelli Associates; Joel Goodmonson, EVP, Architectural Engineers; Thomas Mosure, president/chair, ms consultants; and John Nelson, CFO, Wright-Pierce.

They join current members: Lee Cammack, president/CEO, J-U-B Engineers; Philip Houser, principal, Benesch; Gregg Spagnolo, partner, North Arrow; and Dave Raymond, president/CEO, ACEC. ACEC/Massachusetts Executive Director Abbie Goodman will serve as the NAECE Representative.

Former State DOT Secretaries Offer Strategies to Increase Highway Funding

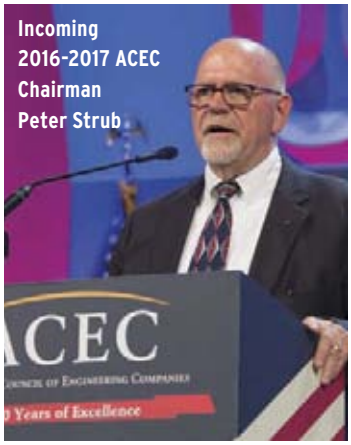
Three former state DOT secretaries, who now work for Member Firms, shared their unique perspectives on how the industry can better partner with transportation agencies and win increased funding at the state level.

WSP | Parsons Brinckerhoff's Paula Hammond, who was Washington DOT secretary, said that with the Highway Trust Fund dwindling and the federal gas tax losing its purchasing power, "the states have been stepping up" to provide additional sources of revenue. In those states, she said the engineering industry allied with other business groups—including labor and environmental groups—to create a united front to sway tax-averse legislators.

Former PennDot Secretary Barry Schoch, who is now with McCormick Taylor, recommended that firms focus on educating leaders in other industries, especially large employers, about the importance of infrastructure investment, because they can be useful advocates with state legislators.

Anath Prasad, who headed the Florida DOT and is now with HNTB, said that state DOTs are at a crossroads and Member Firms can help them to make transformative changes. "DOTs need to think of themselves as economic development agencies, as job-creating agencies," he said. The private sector brings innovation and efficiency in partnering with DOTs to deliver projects. "When it comes to winning funding, that's a message that sells."

Outgoing ACEC Chairman Ralph Christie



Incoming 2016-2017 ACEC Chairman Peter Strub

Paula Hammond of WSP | Parsons Brinckerhoff (left), Barry Schoch of McCormick Taylor (center), and Anath Prasad of HNTB, shared insights from their tenures as state DOT secretaries.

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Mike DelGuidice and BIG SHOT, featuring current members of Billy Joel's band, entertained attendees at the Welcome Reception.

2016 Engineering Excellence Award Winners

The 2016 Engineering Excellence Awards Gala—known as the "Academy Awards" of the engineering industry—showcased 151 ACEC Member Firm achievements from the United States and throughout the world.

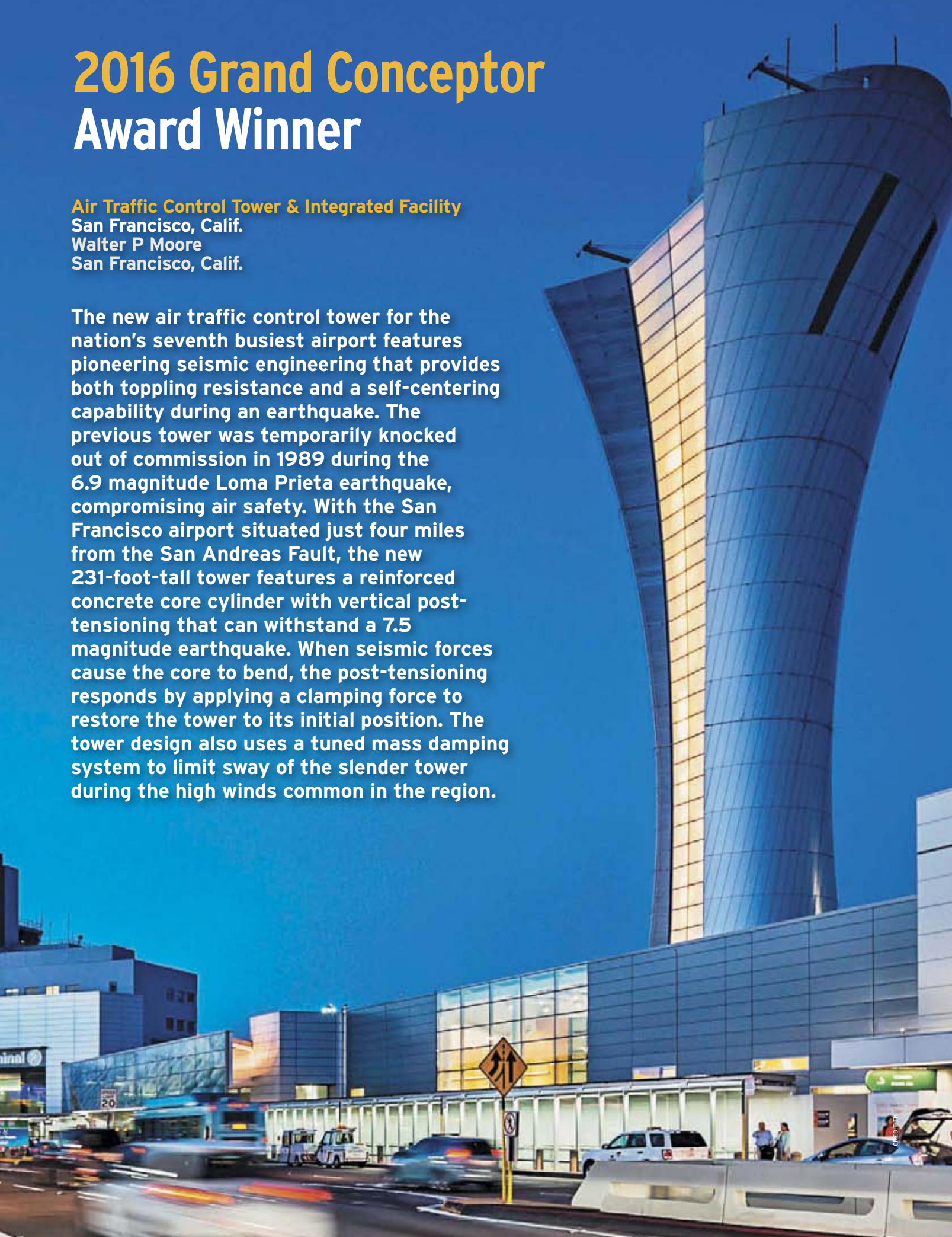
A panel of 29 judges, representing a wide spectrum of built environment disciplines, selected 24 projects for top awards—16 Honor Awards, eight Grand Awards and the Grand Conceptor Award, for the year's most outstanding engineering achievement.

Members of the 2016 Grand Conceptor Award-winning team are from the left: Steve White of Fentress Architects; and from Walter P Moore: Laura Whitehurst, Rafael Sabelli (holding award), Dilip Choudhuri, Blair Hanuschak, and Edwin Friedrichs.

2016 Grand Conceptor Award Winner

Air Traffic Control Tower & Integrated Facility
San Francisco, Calif.
Walter P Moore
San Francisco, Calif.

The new air traffic control tower for the nation's seventh busiest airport features pioneering seismic engineering that provides both toppling resistance and a self-centering capability during an earthquake. The previous tower was temporarily knocked out of commission in 1989 during the 6.9 magnitude Loma Prieta earthquake, compromising air safety. With the San Francisco airport situated just four miles from the San Andreas Fault, the new 231-foot-tall tower features a reinforced concrete core cylinder with vertical post-tensioning that can withstand a 7.5 magnitude earthquake. When seismic forces cause the core to bend, the post-tensioning responds by applying a clamping force to restore the tower to its initial position. The tower design also uses a tuned mass damping system to limit sway of the slender tower during the high winds common in the region.



CREDIT: SFO

GRAND AWARDS

Biosolids Management Program
Washington, D.C.
CDM Smith, Fairfax, Va.

Trailblazing upgrades to a wastewater treatment plant now allow recovery of both energy and nutrients from wastewater, while at the same time reducing operating costs. Enhancements to the District of Columbia's advanced water treatment plant, which serves more than 2 million residents, included installation of four 3.8-mgal anaerobic digesters and the world's largest Cambi thermal hydrolysis process (THP) system, which produces Class A biosolids for reuse as well as biogas for plant operation heat and power. The new system has already reduced truck disposal of biosolids by half, while generating approximately 10 megawatts of electricity—sufficient to meet one-third of the facility's demand.

WaterHub at Emory
Atlanta, Ga.
McKim & Creed, Raleigh, N.C.

A beautiful greenhouse surrounded by artful landscaping in a university setting doubles as a revolutionary water reclamation and reuse facility. To mitigate numerous university water supply challenges, the project team customized an ecological water and reuse system that is the first of its kind in North America. The system comprises an "upper site" containing a 3,000-square-foot low-energy/high-efficiency glasshouse with an odorless hydroponic treatment system, and a "lower site" containing seven concrete processing tanks up to 25 feet underground topped by ornamental landscaping. The system treats up to 400,000 gallons daily, recycling the equivalent of two-thirds of the university's wastewater production for campus heating and cooling, and significantly reducing the campus water usage. Over the past year, the university has saved 30 million gallons of potable water and is expected to save millions of dollars in water utility costs over a 20-year period.

Manhattan Bridge Rehabilitation of Cables and Suspenders

New York, N.Y.

Weidlinger Associates, Inc., New York, N.Y.

Innovative engineering produced a more reliable and efficient method to rehabilitate old and corroded cables and suspender ropes on suspension bridges. Tasked with replacing the Manhattan Bridge's 1,256 suspender ropes—many 65 to 80 years old with substantial deterioration—the project team used advanced vibrational testing to determine rope tension. They then cleaned and rewrapped main cables with an elastomeric membrane to resist water, chemicals, temperature extremes and ultraviolet light. The rehabilitation was performed without any noticeable impact on traffic, which averages more than 500,000 commuters a day. The new process is expected to become a standard tool for suspension bridge cable maintenance throughout the nation.

No. 7 Line Subway Extension

New York, N.Y.

WSP | Parsons Brinckerhoff
New York, N.Y.

Resourceful engineering delivered a new subway extension and state-of-the-art station into the congested landscape of Midtown Manhattan's Far West Side. The $2.4 billion, 1.5-mile extension of New York City Transit's No. 7 Line from Times Square was designed to support the rapidly developing Hudson Yards area. The project team used innovative ground freezing technology to improve tunnel boring through mixed-wet soil and loose rocks. The project includes the strikingly modern 34th Street-Hudson Yards Station, which maximizes natural ventilation and daylight, reduces reliance on non-renewable energy sources and contains a 36-foot-wide platform—the widest column-free platform in the New York City subway system. The subway extension serves as a model of how to develop ultramodern rail infrastructure within a tight urban setting.

GRAND AWARDS

The 606

Chicago, Ill.

Collins Engineers, Inc. & TranSystems
Chicago, Ill.

Creative engineering transformed a century-old artifact of Chicago's industrial heritage into the nation's longest elevated park. The project team repurposed unused 20th century rail infrastructure for 21st century needs to create six ground-level parks connected by a 2.7-mile-long elevated multi-use path. The project features innovative geometric path design and rehabilitation of thirty-eight bridges. It also included six miles of new retaining walls, six new access ramps, and drainage and hydrology for the new trail and park system. With multiple access points, elevation above city traffic and a park environment, The 606—named for the first three digits shared by all Chicago ZIP codes—enhances the social and economic vitality of the surrounding neighborhoods.

Harnessing Geothermal Power for Airports

Maine, N.Y.

McFarland-Johnson, Binghamton, N.Y.

A unique collaboration with Binghamton University students produced a first-of-its-kind geothermal snow-melt system for airport aprons. Airports have long sought a more efficient method of snow and ice removal—salt can't be used because it's too corrosive to aluminum aircraft, and sand can damage aircraft engines. The solution was an innovative system of geothermal pumps and underground tubing that produces radiant heat, while reducing labor and operating costs and providing abundant snow-melting capability. The project team had to find the optimal balance between geothermal heating efficiency and the thickness of the apron's concrete slab and its ability to withstand aircraft weight. The project reduces snow removal time, lessens travel disruptions and improves passenger safety.

Rehabilitation of Gilboa Dam
Gilboa, N.Y.
Gannett Fleming/ Hazen and Sawyer (Joint Venture)
New York, N.Y.

Inventive engineering achieved a successful renovation of the 90-year-old Gilboa Dam, located in the Catskill Mountains and providing about 14 percent of the water supply for more than 9 million residents in New York City and upstate communities. The rehabilitation used cutting-edge rock anchor technology to redesign the dam's spillway. A creative snowpack offset system to capture snowmelt—a frequent cause of regional flooding—was incorporated to protect more than 8,000 downstream residents. Delivering 1.2 billion gallons of water per day, the dam is part of the largest gravity-fed, unfiltered water supply system in the world.

HONOR AWARDS

Bay Tunnel
Menlo Park to Newark, Calif.
McMillen Jacobs Associates
San Francisco, Calif.

A new tunnel under the San Francisco Bay provides a much-needed upgrade to the regional water supply system that originates in Yosemite National Park and serves 2.6 million customers. The five-mile tunnel replaces an aging water pipeline infrastructure built in the 1920s. The project team overcame challenges of tunneling through unstable sandy/silty soils and near underground structures sensitive to ground disturbances. Situated between two major faults and considered a critical lifeline facility, the tunnel is designed to be operational within 24 hours following a major earthquake. The first-of-its-kind tunnel stands as an exemplar for future water system upgrade projects.

Aspen Art Museum
Aspen, Colo.
KL&A, Inc., Golden, Colo.

A strikingly imaginative use of wood in its structural design is a prominent feature of the new Aspen Art Museum. Designed by Pritzker Prize-winning architect Shigeru Ban, the 33,000-square-foot museum features a unique display of wood in form, fabrication and construction. The project team incorporated spruce and micro-laminated birch plywood, optimizing wood grain direction to relieve local stresses. The building's signature is the roof structure—a space frame laid out on a four-foot grid—that features curving wood members, undulating up and down between straight chords with minimal touch between the elements, and with no steel components of any kind. Structural connections are almost entirely fully threaded wood screws. The museum's imaginative geometry and materials represent a showpiece for the potential of wood in structural construction.

Fish Lift System for Lake Sturgeon Passage
Menominee, Mich.
Kleinschmidt Associates
Pittsfield, Maine

The nation's first fish lift for lake sturgeon restores access for the threatened species to a spawning habitat previously blocked by the hydroelectric Menominee Dam. The project team redesigned an unused portion of the dam into a 34-foot steel tower with an entrance channel for the collection of fish. A steel hopper lifts the fish to a floor where they are discharged into a sorting tank and held for truck transport to upstream spawning areas. The new fish lift enables lake sturgeon to access 21 miles of river previously blocked by the dam. The design also includes a state-of-the-art sorting facility enabling monitoring of desired fish, removal of invasive species, stopping the passage of harmful pathogens upriver, and the return of nontargeted species downstream.

The Willow School: Health, Wellness & Nutrition Center
Gladstone, N.J.
Loring Consulting Engineers, Inc.
Princeton, N.J.

A new 22,000-square-foot education center sets new standards as the first U.S. education building to achieve both LEED Platinum and Living Building Challenge certifications. Numerous energy-saving processes combined with a 160kW roof-mounted photovoltaic system allow the facility to produce more power than it uses, with the excess energy fed back to the electric utility grid. Newly constructed wetlands clean and filter wastewater before returning it to the aquifer for recharge. Rainwater is reclaimed for use in bathrooms and to irrigate the building's gardens. The facility is a model for future institutional projects seeking similar sustainability goals.

Florida Onsite Wastewater Nitrogen Reduction Strategies
Tallahassee, Fla.
Hazen and Sawyer, Tampa, Fla.

Using groundbreaking research, the project team developed a unique and powerful nitrogen reduction system specifically for small-scale onsite wastewater systems (OWS)—commonly known as septic systems. Florida's more than 2.7 million OWS are seen as significant contributors to excess nitrogen in the state's watersheds, triggering significant water-quality issues. The project team conducted extensive testing to create unique passive nitrogen reduction systems (PNRS) specifically for OWS. Full-scale prototype PNRS consistently removed over 95 percent of influent wastewater nitrogen at a significantly less cost per pound than currently available treatment technologies. This innovative technology redefines the role of OWS and can be a permanent wastewater management solution in nitrogen-sensitive watersheds.

HONOR AWARDS

Manchester Stormwater Park

Manchester, Wash.

Parametrix, Seattle, Wash.

A previously abandoned brownfield now doubles as an aesthetically pleasing recreation site and a revolutionary stormwater management system that eliminates heavy winter rain flooding. As the Puget Sound area's first stormwater park, and one of only a few such combined water treatment/recreation facilities in the U.S., the park treats stormwater from roads, parking lots, and commercial and residential areas through a scientific calibration of soil and plants. Stormwater is channeled to the new park through distribution channels positioned to evenly deliver the water onto treatment beds. The beds' filter media and plants clean the runoff using filtration and absorption. The treatment cells are designed to treat flow magnitudes well over 2,000 GPM and remove at least 91 percent of pollutants from runoff before it reaches Puget Sound.

Target Field Station

Minneapolis, Minn.

Short Elliott Hendrickson Inc.
St. Paul, Minn.

A new world-class, multimodal transit center in the heart of downtown Minneapolis sets new standards for sustainability. In addition to housing an elevated light rail, a promenade and two levels of a public plaza, the LEED-certified project features the first-ever, year-round stormwater and snowmelt runoff capture and reuse system in Minnesota. The system diverts snowmelt and stormwater runoff from the upper-level plazas, green roofs and light rail station into large cisterns and then routes it to a nearby waste-to-energy facility for treatment and reuse in a variety of industrial processes. Combined with tree trenches, landscaped bio retention planters and two large green roofs, the system captures and reuses approximately 3 million gallons of stormwater runoff per year.

I-485/I-85 Interchange Design-Build

Charlotte, N.C.

STV, New York, N.Y.

Innovative renovations to a major traffic interchange improved access, efficiency and motorist safety, while also saving more than $30 million in projected costs. To incorporate much needed changes to the existing I-485/I-85 interchange—part of the I-485 Outer Loop of Charlotte, N.C.—the project team incorporated a rare "turbine" interchange design to replace the previous four-level structure. The design features circular lanes that take left-turning traffic around a central bridge. The project required widening two miles of I-85 to accommodate additional ramp lanes, widening/construction of 1.4 miles of I-485, and construction of eight ramps/loops and 18 precast concrete girder bridges for the interchange. This unique design has made the Outer Loop a safer and more accessible thoroughfare for 180,000 daily motorists.

IH 635/The LBJ Managed Lanes
Dallas, Texas
Bridgefarmer & Associates, Inc.
Dallas, Texas

Imaginative geometric engineering doubled the capacity of the third most congested highway in Texas, while adhering to mandates not to exceed the corridor's current dimensions. To increase capacity of the 270,000-vehicles-per-day highway corridor, the project team designed new general purpose lanes as bridges that partially cantilever over managed lanes supported by a column at the center median. Additionally, the project team reconstructed the freeway's eight existing general purpose lanes and added six new managed (tolled) depressed lanes below in an excavated trench section—an alternative that saved the project over $400 million. Completed under strict construction limitations, the project is a testament to transportation engineering ingenuity.

State-of-the-Art Nitrogen Upgrade Program
Alexandria, Va.
CH2M, Herndon, Va.

Revolutionary water treatment plant upgrades now allow effective nitrogen removal from wastewater to meet new and stringent nutrient limits designed to protect the Potomac River and Chesapeake Bay. To adhere to new discharge restrictions, the project team designed an 18-million-gallon nitrogen maintenance facility featuring emerging for enhanced biological process capacity. The project team creatively located the facility's process piping, tankage, equipment and other project components underground and disguised the underground structure with a public-use athletic field. The utility is the first in the U.S. to implement a full-scale mainstream deammonification system, and the first utility in the world to use this technology to meet such strict low-nitrogen limits.

Tilikum Crossing, Bridge of the People
Portland, Ore.
T.Y. Lin International and HNTB Corp., Olympia, Wash.

Spanning Portland's Willamette River, the new bridge is the nation's largest transit-only bridge and addresses the region's escalating traffic congestion. Located in a high-seismic region, the 1,720-foot-long, three-span superstructure features two landside piers, two in-water piers and two dramatic 180-foot-tall pentagonal-shaped stay-cable towers. A 31-foot-wide transit way between the tower legs accommodates two lanes of transit track and two 14-foot-wide multi-use paths for pedestrians and cyclists. Scenic enhancements include concrete finished in artistic, complex shapes and angles and an innovative "mood" lighting system that changes colors based on daylight, the river's speed, height, discharge rate and water temperature.

HONOR AWARDS

CREATE P1 – Englewood Flyover

Chicago, Ill.

TranSystems/Benesch, Schaumburg, Ill.

Innovative transportation engineering alleviated major congestion at a rail-to-rail intersection, dramatically improving safety and air quality. Often compared to a crossing of two interstate highways using a stop sign, the rail intersection each day handles 80 commuter trains, 46 freight trains and 14 Amtrak passenger trains. The project team's solution was to incorporate a grade separation featuring a pioneering railroad flyover. The 2,150-foot-long, 26-span flyover includes new bridges over five city streets, removal and closure of two viaducts and construction of over 3,000 feet of retaining walls. The project also required adjusting a 1.2-million-pound bridge by jacking it up three feet on the north end and eight inches on the south end to be set on a new gradient without affecting the integrity of the structure.

Bay Bridge Cable Dehumidification

Anne Arundel and Queen Anne Counties, Md.

AECOM, Baltimore, Md.

Groundbreaking engineering created a new cable dehumidifying system to address dangerous corrosion on suspension bridge cables. For this first-ever application on a North American bridge, the project team designed a dehumidification system for Maryland's Bay Bridge, which rises 186 feet over the Chesapeake Bay. The system continuously injects dry air into the bridge's main support cables to remove built-up moisture and maintain a dry, noncorrosive environment. More than 750 gallons of water were removed from cables on the westbound bridge and over 100 gallons from the eastbound bridge. The success of this system has prompted several other similar cable dehumidification projects nationwide.

Bruce C. Bolling Building

Boston, Mass.

Arup, Cambridge, Mass.

Imaginative engineering was used in a new state-of-the-art, 215,000-square-foot headquarters for Boston Public Schools. To incorporate the character of the historic but severely deteriorated buildings it replaced, the project team completely removed the interiors to create new floor plates, leaving only the existing walls. Historic facade skins were secured with epoxy anchors and connections to supporting steel as new construction occurred. The completed new headquarters includes a green roof, glazed exterior walls to allow ample light, daylight sensors to calibrate lighting, along with state-of-the-art office, retail, civic spaces, and community meeting areas and stands as an example of how new development can maintain a region's rich culture and history.

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Daniel K. Inouye Fighter Squadron Operations Aircraft Maintenance Facility
Joint Base Pearl Harbor-Hickam, Hawaii
Burns and McDonnell, Honolulu, Hawaii

A new ultramodern aircraft squadron maintenance facility provides state-of-the-art service for the world's only active fifth-generation fighter. A model of sustainability, it is only the second LEED Platinum-certified U.S. military hangar. Innovative systems reduce net energy savings 75 percent and water consumption by nearly 50 percent. Solar power generated through roof-mounted photovoltaic cells and parking canopy offset electrical costs by 60 percent. The hangar provides a column-free, space-saving tail-to-tail aircraft configuration with vertical lifting doors featuring translucent panels to maximize daylight. With constrained federal budgets and increasing energy costs, the project is a model for reducing costs and enhancing performance at federal facilities.

Port Mann Bridge Highway 1 Improvement ∧
Vancouver, B.C.
T.Y. Lin International, Olympia, Wash.

The new Port Mann Bridge in Vancouver, British Columbia, is North America's second-longest cable-stayed bridge, and one of the world's widest, with a 170-foot-wide deck and 10 lanes, replacing the previous five-lane bridge. The 2,700-foot-long bridge features two distinctive 530-foot-tall single-mast concrete towers. There is also a multi-use path for pedestrians and cyclists. The new bridge reduces motorist travel time by more than 50 percent and enables Vancouver to realize the full benefits of a state-of-the-art structure that doubles traffic capacity, while meeting the most stringent seismic criteria.

NATIONAL RECOGNITION AWARD WINNERS

FIRM NAME	PROJECT NAME
ACEC/ALABAMA	
Barge, Waggoner, Sumner & Cannon, Inc.	Carpenter Technology Specialty Steel Mill
Consulting Construction Engineering	"Off the Grid" Analysis of Sustainable Energy Design and Application
Krebs Engineering, Inc.	Biosolids Improvements for Energy Recovery
Whorton Engineering, Inc.	Live Fire Shoot House
ACEC/ALASKA	
Hanson Professional Services, Inc.	Glenn Highway Capacity Improvements
ACEC/ARIZONA	
AECOM	La Cholla Boulevard: Magee Road to Overton Road
ACEC/CALIFORNIA	
AECOM	Urban Levee Evaluation Project
Cornerstone Structural Engineering Group, Inc.	R. B. Oliver Bridge Replacement
Cornerstone Structural Engineering Group, Inc.	San Francisco Zoo – South American Rain Forest Exhibit
HNTB Corporation	Levi's Stadium
Mark Thomas & Company, Inc.	I-280/I-880/Stevens Creek Boulevard Interchange
McMillen Jacobs Associates	Bay Tunnel
STV	South Bay Bus Maintenance Facility Expansion
Walter P Moore	SFO Air Traffic Control Tower & Integrated Facility
ACEC/COLORADO	
CTL | Thompson, Inc.	The Regency Athletic Complex at MSU Denver
KL&A, Inc.	Aspen Art Museum
Merrick & Company	New Crude Distillation Unit
Merrick & Company	Data Fusion Predicts Habitat Quality
Olsson Associates	Aerial Survey of Kokopelli Trail
RMG-Rocky Mountain Group	Broadmoor Cloud Camp
ACEC/CONNECTICUT	
Michael Baker International, Inc.	CTfastrak Bus Rapid Transit System
Urban Engineers, Inc.	Complete Streets Master Plan for Downtown New Britain
Wright-Pierce	Water Pollution Control Facilities Upgrade
ACEC/FLORIDA	
CH2M/King Engineering Associates, Inc.	Northwest Solid Waste Transfer Station
Finley Engineering Group, Inc.	Section 5 Palmetto SR 826/836 Interchange
Hazen and Sawyer	Onsite Wastewater Nitrogen Reduction Strategies
HNTB Corporation	SunRail Phase 1
Kimley-Horn and Associates, Inc.	Tallahassee Regional Transportation Management Center
Walter P Moore	Citrus Bowl Transformation
ACEC/GEORGIA	
Walter P Moore	National Center for Civil and Human Rights
ACEC/HAWAII	
Burns & McDonnell	Daniel K. Inouye Fighter Squadron Aircraft Maintenance Facility
Burns & McDonnell	SPIDERS Phase III
Yogi Kwong Engineers	Stream Bank Bluff Protection and Stabilization
ACEC/ILLINOIS	
Benesch	Rollins Road Gateway
Collins Engineers, Inc./ TranSystems	The 606
exp	O'Hare South Air Traffic Control Tower
Greeley and Hansen	New UV Water Treatment System
CWC Transit Group—Jacobs Engineering Group Inc./ CDM Smith/Wight & Company	Red/Purple Modernization Corridor Program
Thouvenot, Wade & Moerchen, Inc.	First Illinois Diverging Diamond Interchange, Marion
TranSystems/Benesch	CREATE P1 – Englewood Flyover
ACEC/INDIANA	
Commonwealth Engineers, Inc.	Richmond East Side Interceptor Replacement Phase III
ACEC/IOWA	
Burns & McDonnell	Ottumwa Tier 1 Project
Stanley Consultants, Inc.	Credit Island Lodge Reconstruction
WHKS & Co.	U.S. 34 Ramp Bridge Emergency Repair
ACEC/KANSAS	
Black & Veatch	Headquarters Microgrid
Shafer, Kline & Warren	Pershing Road Lift Station
TranSystems	Sustainable Reconstruction of KU Parking Lot 54
WSP | Parsons Brinckerhoff	U.S. 54 Viaduct Repair/ Rehabilitation
ACEC/KENTUCKY	
CDM Smith	Alumni Drive Improvements
EA Partners	U.S. 68 Bourbon/Nicholas Counties
HMB Professional Engineers, Inc.	East Fork Indian Creek Stream Restoration
Palmer Engineering Company, Inc.	New U.S. 460
Qk4	Belknap Connector
ACEC/MAINE	
Kleinschmidt Associates	Menominee Fish Lift System for Lake Sturgeon Passage
ACEC/MARYLAND	
AECOM	Bay Bridge Cable Dehumidification
Gannett Fleming	Towson Finished Water Reservoir
Pennoni	ATEF High-Speed Test Track Traffic Control System
Whitman Requardt & Associates	26th Street Emergency Repair and Wall Reconstruction
Whitman Requardt & Associates	Ballenger-McKinney Wastewater Treatment Plant Expansion
Whitman Requardt & Associates	Montebello Plant 2 Finished Water Reservoir
Whitney Bailey Cox & Magnani	Frederick Avenue Bridge over Gwynns Falls & CSX Railroad
ACEC/MASSACHUSETTS	
Arup	Bruce C. Bolling Building
Collins Engineers, Inc.	Geo-Synthetic Reinforced Soil – Integrated Bridge System
Fay, Spofford & Thorndike	Kenneth F. Burns Memorial Bridge Replacement
Simpson Gumpertz & Heger Inc.	China Pavilion at 2015 World Expo
ACEC/METROPOLITAN WASHINGTON	
AECOM	RiverSmart Washington Planning & Design
Alpha Corporation	Smithsonian Mathias Lab Expansion

FIRM NAME	PROJECT NAME
CDM Smith	Biosolids Management Program
CDM Smith	Tingey Street Diversion Sewer
CH2M	State-of-the-Art Nitrogen Upgrade Program
HNTB Corporation	95 Express Lanes
ACEC/MICHIGAN	
Byce & Associates, Inc.	Bell's Brewery, Inc. New Bio-Energy Facility
Fleis & VandenBrink Engineering, Inc.	Measurement Process for Excess Inflow/Infiltration Removal
HNTB Corporation/WSP | Parsons Brinckerhoff/Great Lakes Engineering Group	I-96 Renovations
Wade Trim Associates, Inc.	I-75 Over Rouge River/Fort Street Design Survey
ACEC/MINNESOTA	
Clark Engineering Corporation	Landfill Leachate Treatment System
HGA Architects and Engineers	Surly Destination Brewery
HR Green, Inc.	Waste Landfill Gas to Energy Facility
LHB	Roosevelt Bridge Rehabilitation
Short Elliott Hendrickson, Inc.	Target Field Station
Stanley Consultants	Coon Rapids Dam Rehabilitation
ACEC/MISSOURI	
Hanson Professional Services Inc./ POWER Engineers, Inc.	Mississippi River T-Line Crossing
HNTB Corporation	Poplar Street Bridge Interchange Westbound Ramps
ME Engineers	HarborCenter – Hockey & Mixed Use Facility
ACEC/MONTANA	
Morrison-Maierle, Inc.	East Belgrade Interchange – Bozeman Yellowstone International Airport
ACEC/NEBRASKA	
HDR	Leavenworth Lift Station
HDR	Prairie Queen Reservoir and Recreation Area
ACEC/NEVADA	
Walter P Moore	Spring Mountains Visitor Gateway Complex
ACEC/NEW HAMPSHIRE	
HEB Engineers, Inc.	Stark Covered Bridge Rehabilitation
ACEC/NEW JERSEY	
AECOM/Greenman-Pedersen, Inc./ WSP | Parsons Brinckerhoff	New Jersey Turnpike Interchange 6 to 9 Widening Program
Dewberry	Route 3 over the Passaic River Bridge
HNTB Corporation	Ben Franklin Bridge PATCO Track Rehabilitation
WSP | Parsons Brinckerhoff/ Gahagan & Bryant Associates, Inc.	Channel Recovery and Maintenance Program
ACEC/NEW MEXICO	
Bohannan Huston, Inc.	I-25/Paseo del Norte Interchange Reconstruction
CH2M	Ute Reservoir Intake Facility
ACEC/NEW YORK	
Arup	Torre Reforma
Barton & Loguidice	Lake George Day-Use Area
C&S Companies	Syracuse University Carrier Dome Rainwater Harvesting

FIRM NAME	PROJECT NAME
Cameron Engineering & Associates	Long Island Tidal Wetlands Trends Analysis
DeSimone Consulting Engineers	170 Amsterdam
Dewberry	Carmine Carro Community Center
Distinct Engineering Solutions, Inc.	Rockaway Boardwalk Reconstruction
Gannett Fleming/ WSP | Parsons Brinckerhoff	Amtrak Sunnyside Yard Master Plan
Gannett Fleming/Hazen and Sawyer	Rehabilitation of Gilboa Dam
GZA	OneNYC Public Waterfront Esplanade and Park
H2M architects + engineers	Mastic Volunteer Ambulance – New Headquarters Addition
HAKS Engineers and Land Surveyors/AECOM	Gowanus Expressway Emergency Repair
Hardesty & Hanover	Van Wyck Expressway over Grand Central Parkway
Jaros, Baum & Bolles	Public Safety Answering Center II
Langan Engineering & Environmental Services, Inc./ Simpson, Gumpertz & Heger/ Guy Nordenson and Associates	Slurry Wall Re-Support – National September 11 Memorial & Museum
Loring Consulting Engineers, Inc.	The Willow School: Health, Wellness & Nutrition Center
McFarland Johnson, Inc.	Harnessing Geothermal Power for Airports
ME Engineers, Inc.	Dwight Englewood STEM Building
Mueser Rutledge Consulting Engineers	Innovative Foundations for Harbor Point Development
STV	Mother Clara Hale Bus Depot
Thornton Tomasetti	Baku National Stadium
TranSystems	Rehabilitation of the High Bridge over Harlem River
Weidlinger Associates, Inc.	Manhattan Bridge Rehabilitation of Cables and Suspenders
WSP | Parsons Brinckerhoff	No. 7 Line Subway Extension

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McKim & Creed	WaterHub at Emory
S&ME, Inc.	Edgecombe County Landfill Gas-to-Energy Facility
STV	I-485/I-85 Interchange Design-Build
ACEC/OHIO	
AECOM	University Medical Center New Orleans
TranSystems	Columbus Road Lift Bridge
ACEC/OKLAHOMA	
HDR	Verdigris Water Treatment Plant
ACEC/OREGON	
T.Y. Lin International/HNTB Corporation	Tilikum Crossing, Bridge of the People
ACEC/PENNSYLVANIA	
CDM Smith	Rapid Bridge Replacement Project
Gannett Fleming	City of Lebanon Authority Wastewater Treatment Plant
Gannett Fleming	Squirrel Hill Tunnel Rehabilitation
Urban Engineers, Inc.	Dilworth Park
Urban Engineers, Inc.	The Franklin Institute's Nicholas and Athena Karabots Pavilion
ACEC/SOUTH CAROLINA	
AECOM	Camden Wastewater Treatment Plant Expansion
ICA Engineering	U.S. 601 Bridges
STV	U.S. 17 Bypass and S.C. 707/ Farrow Parkway Interchange
The Sheridan Corporation	Seawall Repairs for the City of Charleston, S.C.

FIRM NAME	PROJECT NAME
ACEC/TEXAS	
Bridgefarmer & Associates, Inc.	IH 635/The LBJ Managed Lanes
HDR	Construction Management for Afghanistan National Security Forces Facilities
Jones | Carter	Cottage Grove Low-Impact Development
Lockwood, Andrews & Newnam, Inc. (a Leo A Daly Co.)	Water Quality Modeling Tool Development
Walter P Moore	Kyle Field Redevelopment
ACEC/WASHINGTON	
DLR Group	NRG Stadium Solar Design
Parametrix, Inc.	Calistoga Setback Levee
Parametrix, Inc.	Manchester Stormwater Park
Syska Hennessy Group	Benjamin P. Grogan and Jerry L. Dove Federal Building
T.Y. Lin International	Port Mann Bridge/Highway 1 Improvement Project
ACEC/WEST VIRGINIA	
Draper Aden Associates	Return to Glory: East End Theater
ACEC/WISCONSIN	
Applied Technologies, Inc.	Phosphorus Recovery for the Madison Sewerage District
Mead & Hunt	Montello Dam Reconstruction Project
Mead & Hunt	Regional Airport Snow Removal Equipment Facility
Strand Associates, Inc.	Dubuque Water and Resource Recovery Center

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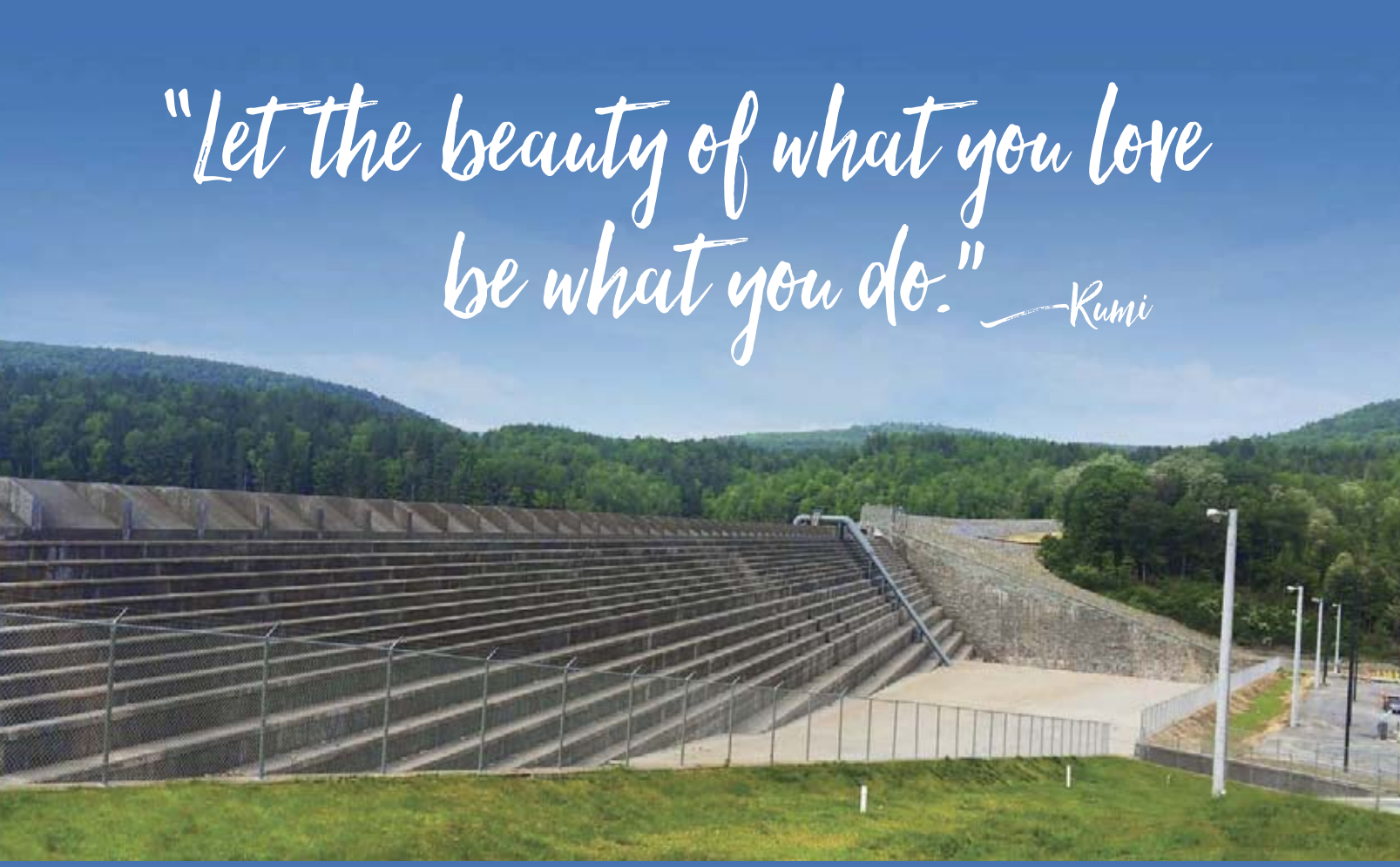

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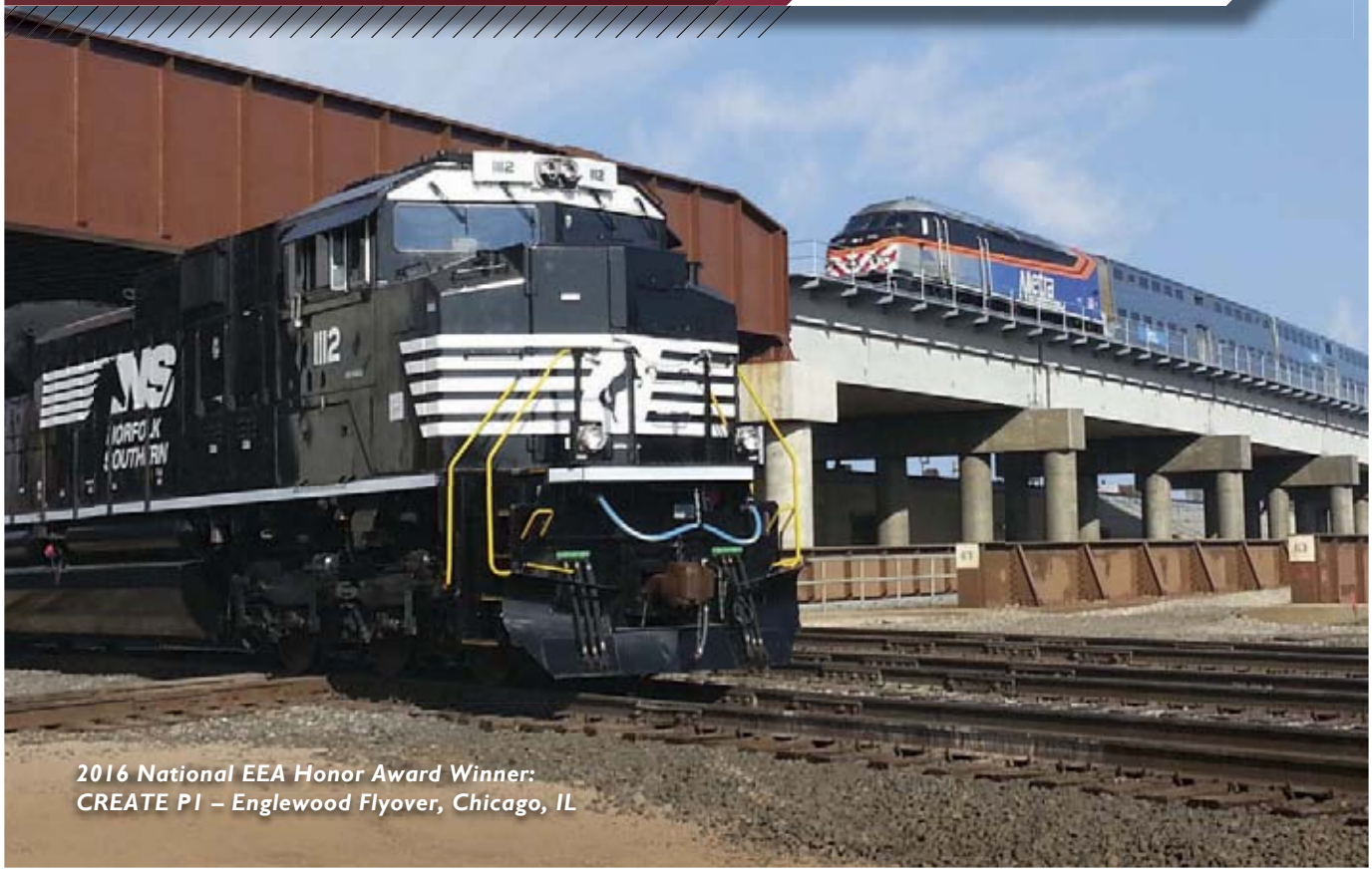

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U.S. 68 in Bourbon County

In 1995, EA Partners was asked to study the U.S. 68 corridor to come up with a safe solution to improve the roadway. At two lanes and sections with dangerous vertical and horizontal alignment, the roadway was unsafe for the many trucks that traveled it as an important connection for industries in Lexington, Maysville, Ohio and beyond.

As the project progressed, 12 historical resources were identified along the 6.4-mile stretch from Paris to Millersburg. The EA Partners team needed to develop an alignment that would impact the fewest historical properties. Thirteen alignments, 13 archeological sites and four public meetings later, an alignment was selected that resulted in a Finding of No Significant Impact.

Overcoming an economic downturn that made Kentucky's Transportation Cabinet ask firms to come up with practical solutions to reduce costs, EA Partners altered its design to save nearly $7 million while still achieving the project objectives.

Designers used new techniques in stream mitigation to preserve the natural areas around the roadway, planting more than 9,000 trees and 20 acres of grass in the process.

With an effort state officials call a "home run," the new roadway was worth the time and the effort. The roadway now has four lanes with a 40-foot depressed median and access is partially controlled.

In the end, EA Partners paved the way to safety and economic development while preserving a history that is important to the citizens in Bourbon County.

Twelve historical resources were identified along U.S. 68. The final alignment only impacted two.

EA Partners was praised for implementing a successful maintenance of traffic plan during construction.

When asked for a practical solution to reduce costs during the economic downturn of 2008, EA Partners managed to save nearly $7 million.

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TOP: Tilikum Crossing, Bridge Of The People, *Portland* | MIDDLE: Ben Franklin Bridge PATCO Track Rehabilitation, *Philiadephia* | LEFT: I-95 Express Lanes, *Virginia* | RIGHT: Levi's Stadium, *San Francisco*

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Tilikum Crossing, Bridge of the People, Portland, Oregon
ACEC 2016 Engineering Excellence Honor Award
ACEC Oregon 2016 Engineering Excellence Project of the Year Award and People's Choice Award
T.Y. Lin International served as Engineer of Record.

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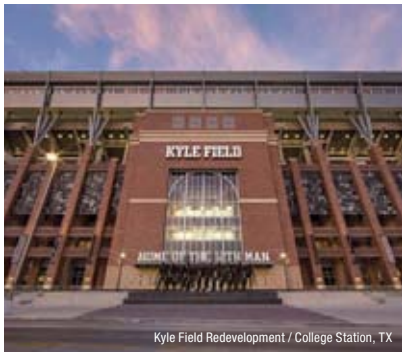

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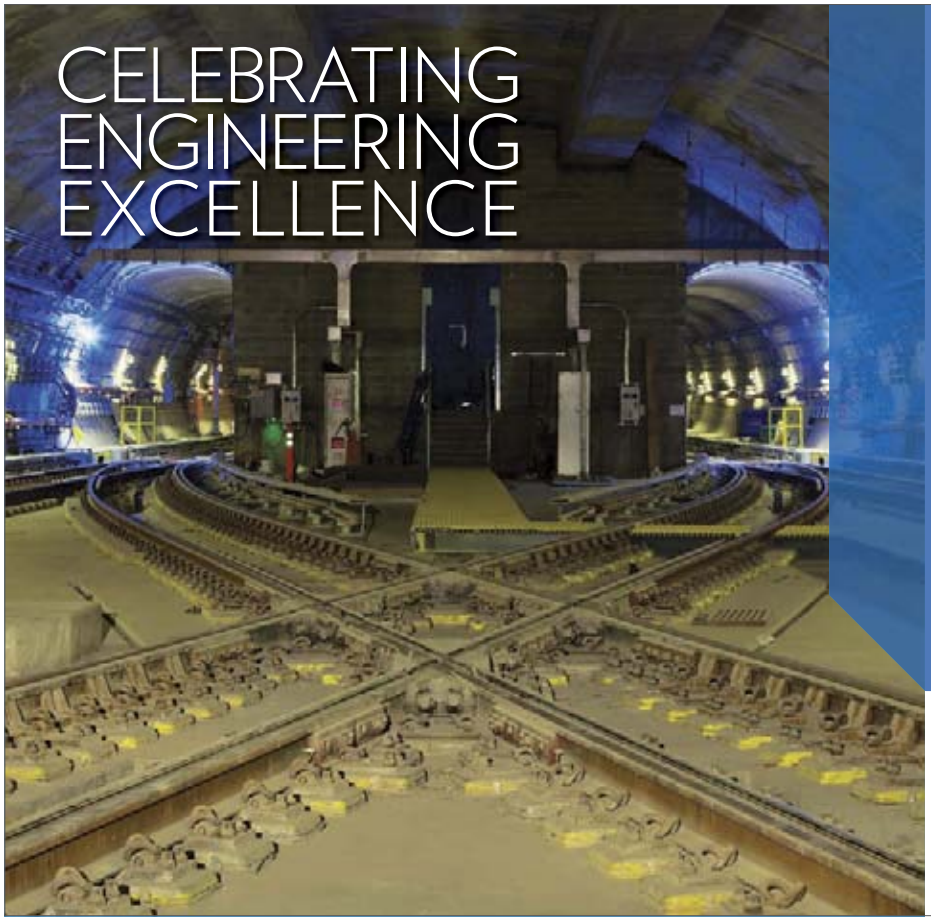

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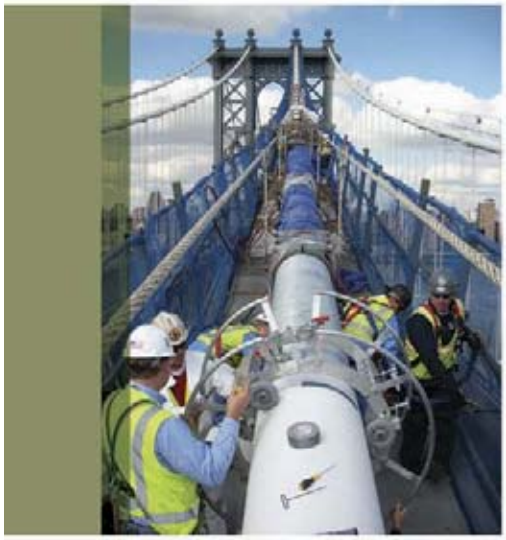

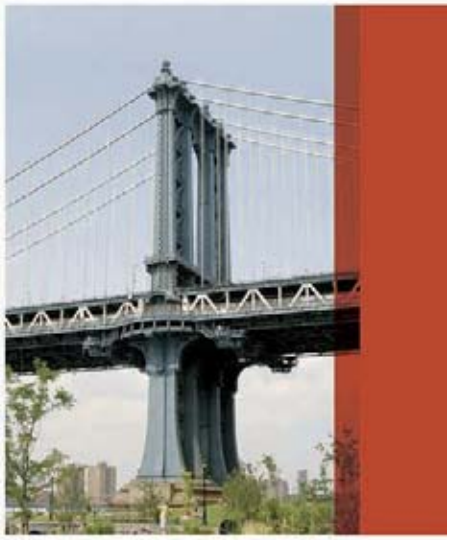

With 80 years of service, the Manhattan Bridge suspenders were deteriorated and due for replacement. All 1,256 suspender ropes were replaced, with some key modifications.

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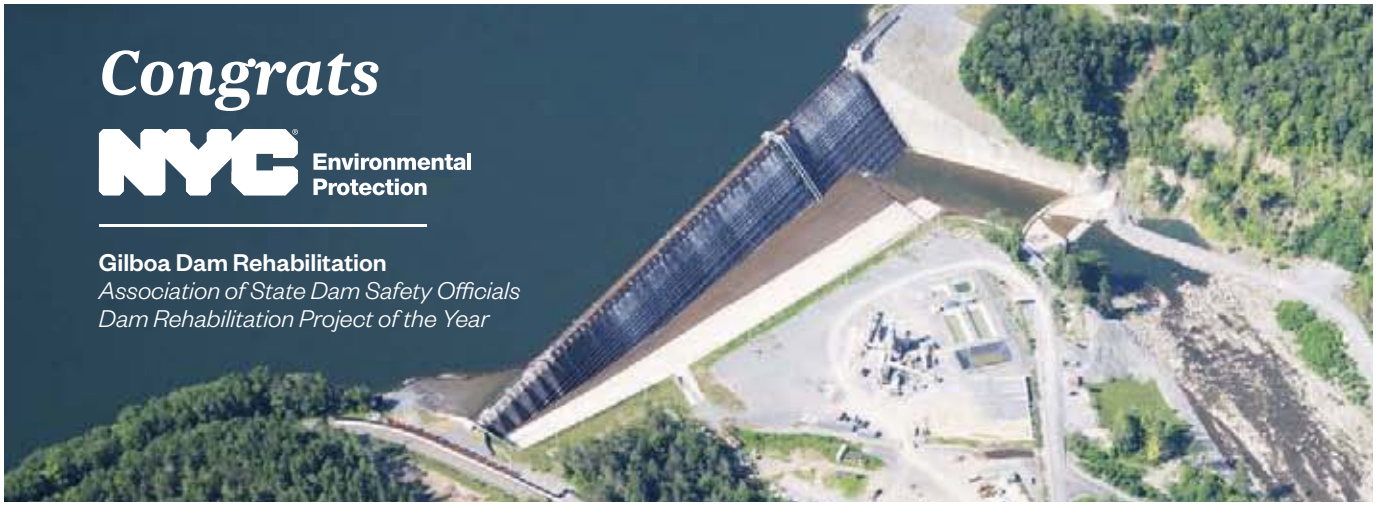

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The Winner's Circle

Past EEA winners describe the excitement and impact of recognition

By Samuel Greengard

Every year, ACEC Member Firms design thousands of projects around the globe. Many of these projects push the boundaries of innovation, creativity and overall excellence and redefine best practices—all in the hope of enhancing quality of life.

ACEC's national Engineering Excellence Awards (EEA) competition annually celebrates these achievements. An astute judging panel of built-environment practitioners painstakingly examines entries, which already have achieved top state-level honors, to select the best of the best.

Those who attend the annual EEA Gala Dinner and Awards Show—known as the "Academy Awards" of the engineering industry—say they walk away with a sense of overall industry pride and a personal accomplishment that comes with professional recognition at the highest level. Not surprisingly, a tremendous amount of excitement and anticipation surrounds the annual black-tie event, which takes place in Washington, D.C.

"It's a great opportunity to meet up with peers, share success stories and see what is happening in the industry," says Dale Miller, regional vice president for Tetra Tech. "It's incredible to learn what award winners are doing, and it's incredible to win an award—particularly because nominees have all won at the state level."

The value of being nominated or

Officials from HDR are thrilled to receive a 2010 Grand Award for the Gills Onions Advance Energy Recovery System. Moments later, the project would also be named winner of the Grand Conceptor Award for the year's most outstanding engineering achievement.

winning can benefit a business by attracting new clients, cementing existing relationships, and helping the firm recruit and retain engineering talent. "Having this kind of recognition really meant a lot to everybody, and it was a definite boost in staff morale," says Brett Emmons, CEO of Emmons and Olivier Resources, Inc., whose firm won a Grand Award last year. "It strengthened our sense of working together and the purpose of what we're doing."

Building Bridges to Success

The Engineering Excellence Awards have spotlighted outstanding achievements in the engineering field since 1967. They highlight an array of projects large and small that deliver unsurpassed innovation, uniqueness, social value, economic gains and sustainable benefits. Those who attend the ceremony say it is more than a chance to get out of the office and network with colleagues. It's an opportunity to see how top-tier firms are advancing design, engineering and construction.

Jon D. Magnusson, senior principal at Magnusson Klemencic Associates and a 26-time award winner, includes EEA awards among his proudest professional honors. His firm snagged its first Grand Conceptor Award in 1996 for updating and modernizing the KeyArena in Seattle. Magnusson Klemencic Associates again captured the year's top award in 2006 for remodeling a federal courthouse in Seattle and again in 2008 for transforming a neglected brownfield site in Seattle into the Olympic Sculpture Park, reconnecting the site to Elliott Bay while creating a new beach.

Magnusson says the scope and stature of the EEA awards make them special. "It incorporates a broad array of factors that extend beyond the technical aspects of a project. You see a diverse array of designs, materials and methods among the nominees and winners," he says. Moreover, the awards take into consideration a variety of engineering disciplines. "They incorporate many different types of engineering, which can make it appear that it's a bit of an apples and oranges comparison. But once the judges sort things out and declare a winner, it makes the award even more meaningful because you're not only competing against people doing the same type of work; you're competing with firms doing all sorts of things. They are the true leaders in the industry."

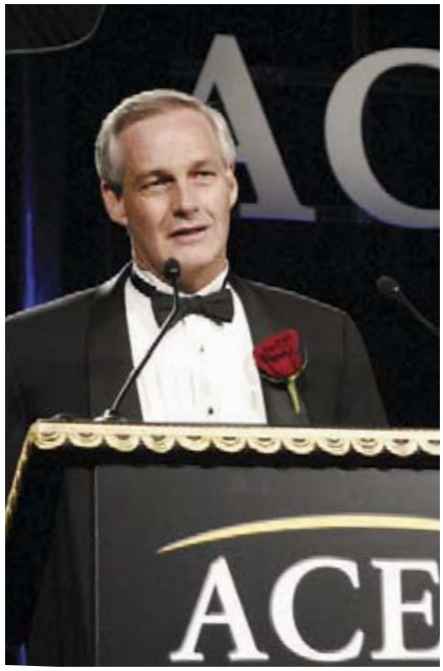
Tetra Tech's Miller says that he and

Dale Miller, of Tetra Tech, addresses the EEA Gala audience after his firm wins the 2012 Grand Conceptor Award for the Lake Borgne Surge Barrier in New Orleans, La.

members of his firm attend the EEA awards regularly. "It's a great opportunity to meet and share your stories and your successes with your peers," he says. When he found out that the firm was among the finalists for the 2012 Grand Conceptor Award, "My adrenaline and pulse shot up." The firm took home that year's top award for its design and construction of the Lake Borgne Surge Barrier in New Orleans, an innovative two-mile system on the east side of the city that blocks storm surges during hurricanes and other flooding events. It was the largest civil design project in the history of the U.S. Army Corps of Engineers.

"When they announced that we had won the Grand Conceptor Award, the nervousness and excitement turned to euphoria," Millers says. "As a firm, we had put a huge amount of effort into the project. It was a crowning moment for all the blood, sweat and tears." Miller attended the ceremony with about 20 other colleagues, including top officials from the Corps. "When the slide appeared on the screen that displayed our project, the tables erupted in excitement. It was almost surreal."

Others echo the sentiment. "When we won a 2015 Grand Award it was a very exciting moment. It was validation that we had some great work and helped advance the industry," says Emmons, whose firm designed and built a zero-discharge storm water system for Inver Grove Heights, Minn. "We were shocked and ecstatic, especially considering the level of competition and the fact that we are a small firm with only 35 employees."



Jon Magnusson addresses the EEA Gala audience after his firm, Magnusson Klemencic Associates, wins the 2006 Grand Conceptor Award for the Olympic Sculpture Park in Seattle.

Local Recognition

The excitement of winning can take many forms. Emmons says that soon after winning, he grabbed his mobile phone to inform colleagues who couldn't attend the ceremony. As word got out, the congratulatory emails, text messages and calls streamed in, including some from the local city council. "There was an enormous sense of pride and accomplishment," he says.

Finley Engineering Group, Inc., has captured three Honor Awards for projects in Vermont and Texas, and Managing Principal Craig Finley celebrates by trumpeting the award through an office celebration, social media and personal recognition. The firm has 23 employees, and 15 are engineers. "Everybody works hard and long hours," he says. "But their families don't always see what they are working on and what they are doing. So, we try to use these events and awards to deliver some recognition on a personal level with staff, families and friends."

Finley says EEA nominations and awards can significantly affect how firms are viewed. The company has captured more than 50 Engineering Excellence Awards and has been recognized as one of the "Best Firms to Work For." Finley believes the two are connected. "The staff knows we are entering projects into competitions," he says. "There is an enormous sense of pride, and it grows when we win an award. We believe that it helps with recruitment, retention and morale."

Finley informs clients about nominations and awards—and invites those whose projects are nominated to attend the gala. "It's a great event. It's enjoyable to wear black tie, and it's great to see all the people and nominated projects," he says. "But it also helps reinforce existing relationships. And when the dust settles and you win an award, it leads to people looking forward to the next job or opportunity to work together."

Magnusson agrees that the awards represent more than a momentary honor. "When we recruit new engineers and they walk past pieces of art that display major projects and the awards, they are genuinely impressed. It makes a difference." ■

Samuel Greengard is a technology writer based in West Linn, Ore.

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SETTING THE STANDARD

Why national standards for 3D transportation assets are critical to the engineering industry

By Bob Violino

A federal effort to create a 3D spatial standard of all U.S. transportation assets should help accelerate implementation of smart infrastructure, while also providing new opportunities for engineering firms.

The Federal Geographic Data Committee (FGDC)—which promotes development, use, sharing, and dissemination of national geospatial data—is working with transportation industry mapping groups to strengthen asset management requirements for the National Highway System, says Robert Dingess, president and CEO of the Geospatial Transportation Information Management Association.

Establishing a national accuracy standard for the collection of these data sets will be helpful in broadening the analytic value of the data beyond simple asset management, Dingess says.

In addition to GTiMA, organizations such as the Intelligent Transportation Society of America and the American Society for Photogrammetry and Remote Sensing (ASPRS) have joined the FGDC effort.

"Our effort is modeled on the basic data collection standards being used by leading transportation agencies," Dingess says. Engineering firms are welcome to participate as the standard moves through the normal FGDC process or through their participation with these other organizations, he says.

GTiMA has proposed that the standard mirror the dynamic mapping standards under development for self-driving or automated vehicles.

"This sub-decimeter relative accuracy standard will be used by vehicles to navigate road systems, and vehicle sensors will all be tied to these accuracy standards," Dingess says. "Tying the accuracy standards provides opportunities for asset

FRANCESCO BONGIORNI

managers to learn from increasingly automated vehicle sensors how engineering decisions affect safety and mobility. It also has the potential to dramatically reduce the cost of access to these data sets for agencies, since private sector firms are collecting the data for vehicles—not asset management."

"The absolute accuracy of a sign post in Nevada should be the same absolute accuracy of a sign post in Florida. Currently it is not. How can an automated vehicle traverse a route if the assets are not mapped uniformly?"

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Opportunities Ahead

GTiMA's goal is to align the standards from the start. "GTiMA is working to establish a standard to avoid the broad collection of data that cannot be shared or studied from a network standard," Dingess says.

Creating and implementing a national spatial accuracy standard is important to the engineering profession for a few reasons, says Stephen Ellis, mobile mapping manager at Langan Engineering & Environmental Services, which provides civil engineering and environmental services.

Critically, a standard would ensure that projects crossing jurisdictional boundaries—mainly state lines or regional development organizations—would have the same accuracy requirements, and data developed for those projects would be seamless, says Ellis, who is on the ASPRS LiDAR Mobile Mapping Subcommittee currently engaged in adding mobile mapping collection and accuracy standards to the overall ASPRS mapping standards.

"What this means is that if my engineering firm were working on an interstate redesign project that crosses over a railway on the border of New Jersey and Pennsylvania, for example, any data we acquire from national, regional, statewide or private repositories would all be available with the same derived accuracies," Ellis says.

This saves project time and resources that would previously have been used in transforming or registering data to the same specifications.

"In some cases, we would have to send a crew into the field to shoot some control points to register the inaccurate data to," Ellis says. "Say we got the highway data from the state DOT or a local county government, and it was collected to a certain national standard. And we got the rail data from the private owner of the rail line, and it was in a completely different projection and at a completely different accuracy. The disparate data would not align nor be of the same accuracy. This would lead to engineering and design flaws that impact cost, schedule and safety."

Langan would benefit in the implementation of a singular national standard for transportation asset and infrastructure data collection and accuracy by allowing the use of any data set it needs on a specific project.

"Whether we go out and collect and create data via traditional survey, mobile mapping or UAS [unmanned aircraft systems], or if we were provided data by the client or subcontractor, or even if we download spatial data from a repository, in theory it would all align and have the same derived accuracies," Ellis says. "In a sense, it would be 'plug and play,' saving time and resources in data manipulation as well as ensuring higher confidence in the design and construction plans developed."

All too often in the geospatial profession, data is used incorrectly and not as intended, Ellis says. A data set may be perfect within itself and for its created purpose, but if it does not adhere to a singular standard, it would not work for other purposes, he says.

"If the user of the data does not have the metadata, or assumes it is usable, it could lead to errors," Ellis says. "Data created at one-meter accuracy cannot be used for bridge design or storm water runoff modeling. However, it would work well for creating three-foot contours for watershed analysis and some planning and alignment activities."

If all data was held to a singular accuracy standard for its collected methodology, it would be usable for multiple purposes. "At Langan, we believe in collect it once and use it many times," Ellis says. "We always strive to collect the most accurate data as possible even if the project requirements do not dictate [that]. The reuse of data by other groups within any organization reduces the cost of collecting, creating and delivering the data."

Mission Critical

David Evans and Associates is also following the standards developments.

"When DOTs and other agencies collect infrastructure data for use in a programmatic resource, the only way to rely on that data is having a standard that all agencies can reference," says Marcus Reedy, vice president and manager of the Surveying and Geomatics Center of Excellence at David Evans and Associates.

"Currently, with the lack of a standard, each state is either developing their own standard or not using one at all, and that makes it difficult to share information and have it utilized across an agency," Reedy says. "Consistency and reliability of any data collected is very important to [making] good decisions."

Having a standard "will provide a baseline for mapping and data capture that will be more consistently priced, compatible with adjoining data sets from other agencies/municipalities, and reusable/sharable," Reedy says. "This will open the door to consortiums of agencies, municipalities, etc. to sharing costs for data capture over larger areas, in turn developing contiguous data sets that are 'equal' and trusted."

Engineering firms can help advance a national accuracy standard by taking an active role in local, regional and national groups in providing input on best practices of data usage, Ellis says.

"The more input received on which standards affect which industry, the more metrics can be developed and standards applied," Ellis says. "The absolute accuracy of a sign post in Nevada should be the same absolute accuracy of a sign post in Florida. Currently it is not. How can an automated vehicle traverse a route if the assets are not mapped uniformly?" ■

Bob Violino is a business and technology writer based in Massapequa Park, N.Y.

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BY NEIL CHURMAN

Stantec, Pennoni Active Amid Slowed M&A

After a booming year in 2015, engineering industry mergers and acquisitions (M&A) activity slowed in the first quarter of 2016. Morrissey Goodale tracked just 49 domestic deals (sales of architecture, engineering and consulting firms based in the United States), compared to 70 deals in Q1 of 2015 (Figure 1) and the lowest Q1 since 2013.

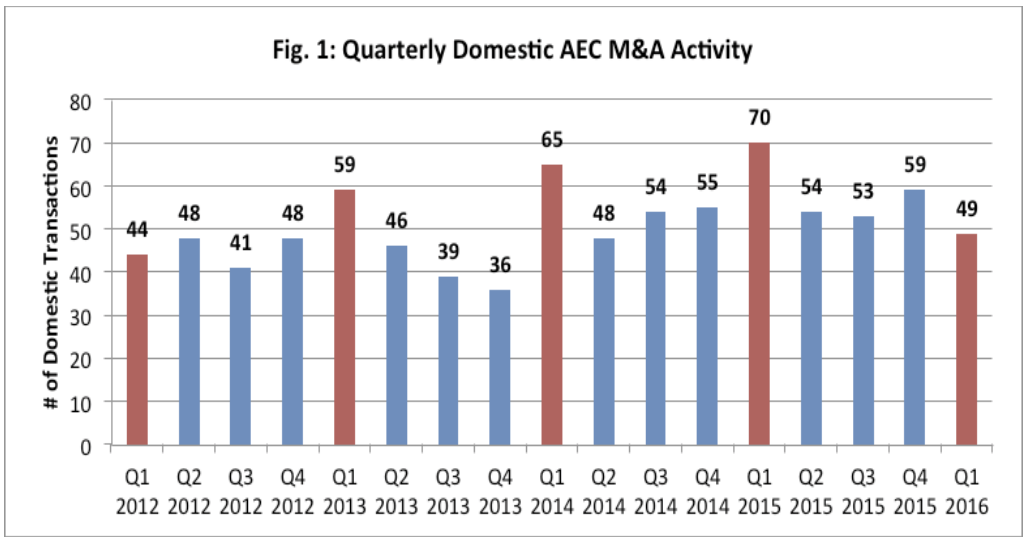
While activity levels still appear to be healthy, the momentum behind engineering industry consolidation slowed in terms of the number of transactions reported, which is down from historic highs.

Despite dealmakers pumping the brakes, several bright spots emerged during the first quarter. Florida came back in a big way as a hot spot for M&A activity. There were nine sales of Florida-based firms during the first three months of the year (Figure 2). With ACEC Member Dewberry (Fairfax, Va.) announcing its acquisition of fellow ACEC Member Preble-Rish (Port St. Joe, Fla.) in early April, Florida has already matched its total for all of 2015 with 10 transactions.

Among industry firms, no one had a more industry-impacting first quarter than design powerhouse and ACEC Member Stantec, which announced deals with three *ENR Top 500* design firms. Largest among them was Stantec's announcement that it had reached an agreement to acquire global water expert and ACEC Member MWH Global. The deal adds 6,800 employees worldwide and is anticipated to place the combined firm among the top three design firms in North America and top 15 globally, and at $795 million, the transaction ranks among the largest deals in the engineering industry in recent years. Stantec also announced deals with Bury—a 300-person engineering surveying, land planning and landscape architecture firm—and with VOA Associates—280-person architecture and planning firm with global reach.

Adding nearly 7,500 staff among these three deals, Stantec brought on board more employees than all of the other domestic deals we tracked in Q1 combined.

ACEC Member Pennoni was also active in Q1 with acquisitions of McCarthy and Associates (Clearwater, Fla.), a structural engineering consulting firm; ACEC Member RWD Consultants (Camden, N.J.), which specializes in civil/site, environmental, transportation and construction industries; and EPN Group (Largo, Fla.), which specializes in transportation, stormwater and drainage, and civil engineering.



Recent ACEC Deal-Makers

MARCH 2016

ACEC Member **Atkins** (Epsom, UK) acquired **Howard Humphreys East Africa Limited Group** (Nairobi, Kenya), a 200-person engineering and project management firm serving the transportation, water, and property markets.

ACEC Member **Morrison-Maierle** (Helena, Mont.) acquired **Murtagh Municipal Engineering** (Billings, Mont.), a water and wastewater engineering firm.

MHF Engineering (Jefferson, Iowa) joined ACEC Member **Bolton & Menk** (Mankato, Minn.). MHF offers municipal and agricultural drainage engineering, along with land-surveying services.

Rhode Island architecture firm **Saccoccio & Associates** (Cranston, R.I.) acquired the architecture division of ACEC Member **CDR Maguire** (Doral, Fla.).

ACEC Member **Tetra Tech** (Pasadena, Calif.) acquired information technology solutions firm **INDUS Corporation** (Vienna, Va.), a specialist in data analytics, geospatial analysis, secure infrastructure, and software applications management.

Engineering, procurement and construction firm **The Haskell Company** (Jacksonville, Fla.) acquired ACEC Member **Leidos Constructors**, (Reston, Va.), as well as select design assets of Leidos Engineering.

Pro Forma Architecture, Inc. (Dallas) merged with ACEC Member **PGAL** (Houston).

ACEC Member **PBS Engineering and Environmental, Inc.** (Portland, Ore.) and **HDJ Design Group** (Vancouver, Wash.) announced their merger as a means to expand their geographic exposure.

FEBRUARY 2016

Apex Companies (Rockville, Md.) acquired ACEC Member **The Source Group** (Pleasant Hill, Calif.), a technical consulting and environmental engineering firm specializing in complex subsurface site assessments, remedial design, litigation management, and remediation.

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Willdan Group (Anaheim, Calif.) signed a definitive agreement to acquire ACEC Member **Genesys Engineering** (Pelham, N.Y.), a mechanical and electrical consulting and engineering company.

ACEC Member **Stanley Consultants** (Muscatine, Iowa) acquired ACEC Member **Hartwig & Associates** (Englewood, Colo.), an engineering and construction management services firm that serves the transportation market.

ACEC Member **NV5** (Hollywood, Fla.) acquired ACEC Member **Sebesta** (St. Paul, Minn.), an MEP engineering and energy management company.

ACEC Member **Terracon** (Olathe, Kan.) acquired **Building Exterior Solutions** (Houston), a firm that provides innovative investigation, evaluation, and construction solutions for exterior building systems.

Mno-Bmadsen (Dowagiac, Mich.), the economic development enterprise of the Pokagon Band of Potawatomi Indians, has acquired a controlling interest in ACEC Member **WBK Engineering** (St. Charles, Ill.).

ACEC Member **Westwood Professional Services** (Eden Prairie, Minn.) acquired **Kadleck & Associates** (Plano, Texas), a civil engineering and land surveying firm.

TMR Engineering (Arlington, Va.) merged with ACEC Member **CMTA, Inc.** (Louisville, Ky.), an MEP consulting engineering firm specializing in sustainable, high-performance design for the education and health care markets.

ACEC Member **Rummel, Klepper & Kahl (RK&K)** (Baltimore) acquired the assets of ACEC Member **Tamayo Engineering** (Miami), a 70-person firm offering planning, engineering, environmental, and construction services.

ACEC Member **TLC Engineering for Architecture** (Orlando, Fla.) acquired **Allan and Conrad** (Winter Park, Fla.), a structural engineering firm.

ACEC Member **Johnson, Mirmiran & Thompson (JMT)** (Sparks, Md.) acquired ACEC Member **Bayside Engineering** (Tampa, Fla.), a firm that specializes in transportation and traffic design, surface water management, site engineering, construction engineering and inspection, and surveying and mapping.

- **To view the most up-to-date and "live" versions of the M&A heat maps, and to see the buyers and sellers in each state, go to www.morrisseygoodale.com.**
- **Watch the M&A Takeaway video that accompanies this article, presented by Mick Morrissey, at www.morrisseygoodale.com/ACECMergers/MayJune2016.**

JANUARY 2016

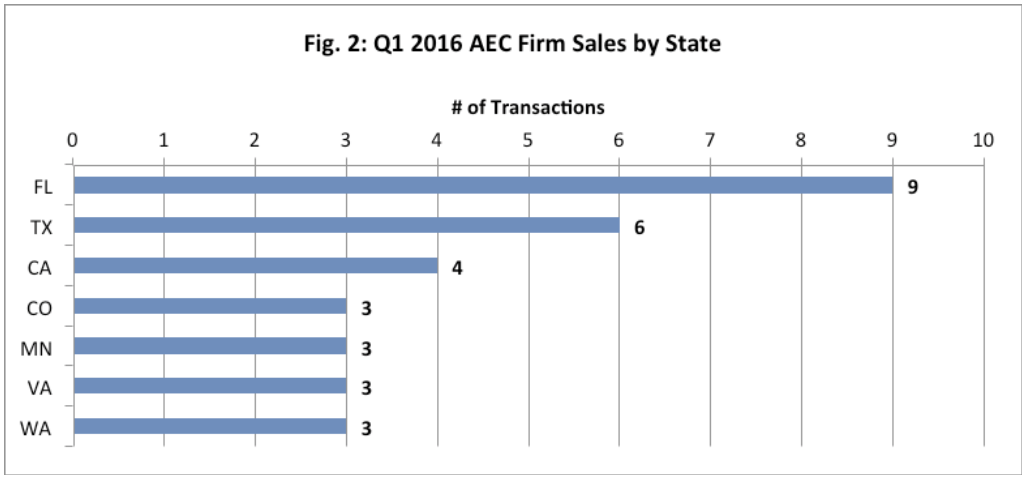
Keystone Capital (Chicago) completed an investment in and partnership with ACEC Member **Target Engineering Group** (Coral Gables, Fla.), a 140-person firm that provides construction management, professional engineering, and construction inspection services.

ACEC Member **Hardesty & Hanover** (New York City) acquired **The Heimburg Group** (Tampa, Fla.), a 20-person transportation firm with experience in highway design and planning in Florida.

Triangle Surveying & Mapping (Miami) joined ACEC Member **Maser Consulting** (Red Bank, N.J.), a multidisciplined engineering firm. Triangle Surveying & Mapping's presence on the east coast of Florida complements Maser's existing regional office in Tampa.

ACEC Member **Daniel B. Stephens & Associates (DBS&A)** (Albuquerque, N.M.) joined forces with **Geo-Logic Associates (GLA)** (Ontario, Canada), as a wholly owned subsidiary. GLA is a geologic, geotechnical, civil, and environmental consulting firm.

ACEC Member **Cator, Ruma & Associates** (Lakewood, Colo.) merged with mechanical engineering firm **Engineering Incorporated** (Boise, Idaho).



Neil Churman is principal consultant of Morrissey Goodale LLC—a strategy, M&A and human capital solutions firm serving the A/E/C industry. Churman, who is based in the firm's Houston office, can be reached at nchurman@morrisseygoodale.com.

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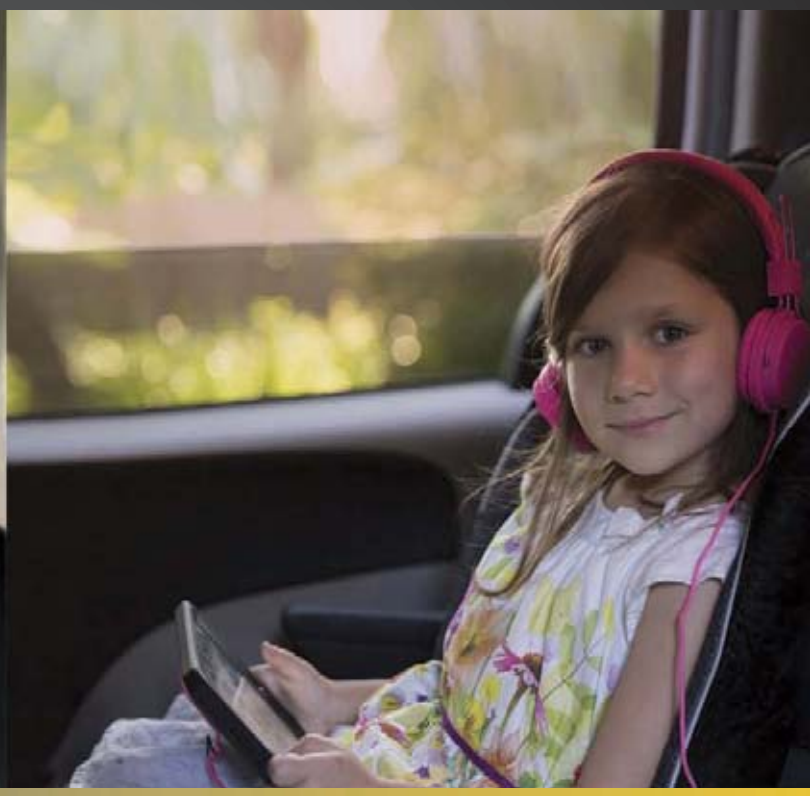

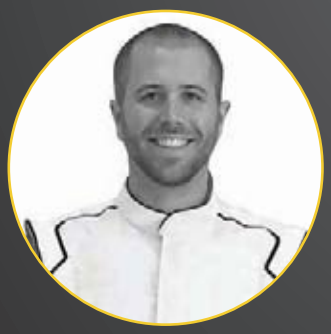

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Members in the News

On The Move

Former ACEC Chairman **Jerry Stump** has been named president of Mobile, Ala. based **Volkert, Inc.** Stump, who has served as COO since 2013, will now be president and COO of the firm. In April, he was named president and CEO of Volkert Global, the firm's international affiliate. Stump also serves on the executive committe of the Design Professional Coalition (DPC).

Glen Allen, Va.-based **Schnabel Engineering, Inc.**, named **Walter J. Rabe** president and CEO, succeeding **Gordon Matheson**, who had served in that role since 2001. Rabe recently served as executive vice president of Schnabel Engineering Consultants, Inc.

Fort Worth, Texas-based **Freese and Nichols, Inc.**, selected **Brian Coltharp** as president and CEO, effective Jan. 1, 2017. He will succeed **Bob Pence**, who served as CEO since 2002. Coltharp will serve as COO in 2016 succeeding **Ron Lemons**, who transitioned to a new role in the firm's water practice.

Tampa, Fla.-based **Atkins** announced that **Barry Schulz**, COO of Atkins North America, and **David Quinn**, the firm's CFO, will jointly lead the company on an interim basis, following the departure of CEO **L. Joe Boyer**. Schulz is based in Denver, and Quinn is based in Boston.

London-based **Amec Foster Wheeler** announced the appointment of **Jonathan Lewis** as CEO replacing interim CEO, **Ian McHoul** who will remain CFO. Lewis, who will be based in London formally served as a senior vice president at Halliburton Company. **Ann Massey** was appointed president, Environment & Infrastructure Americas for AMEC. She joined the firm five years ago through an acquisition of MACTEC, where she served as CEO. She is based in the Atlanta office.

Andrew McCune was named president and CEO of Detroit, Michigan-based Wade Trim. This is a planned leadership transition from **Frank Tymowski**, who served as president and CEO for the past three years. Tymowski will remain as a firm principal. McCune has been with **Wade Trim** for 29 years and most recently served as COO. He's also been actively involved in ACEC/Michigan for 16 years.

In a planned leadership transition, Red Bank, N.J.-based **Maser Consulting P.A.**, announced that **Kevin L. Haney** was appointed president and **Leonardo E. Ponzio** to executive vice president. Haney and Ponzio will continue their previous responsibilities of COO and CAO, respectively. Founder Richard M. Maser will maintain chairman and CEO role.

Chicago-based **Lochner** appointed **Jeanne Cormier** COO, following the retirement of former COO **Chuck Craycraft**. Cormier, previously senior vice president, will be based in the East Hartford, Conn., office.

Pasadena, Calif.-based **Jacobs Engineering Group, Inc.**, named **Robert V. Pragada** president of its Industrial Line of Business. He succeeds **Andrew Kremer**, who moved to an executive adviser role. Pragada returns to Jacobs after serving as pre sident and CEO of The Brock Group and is based in the Conshohocken, Pa., office.

Jerry Stump

Walter J. Rabe

Brian Coltharp

Barry Schulz

David Quinn

Jonathan Lewis

Ann Massey

Andrew McCune

Kevin Haney

Leonardo Ponzio

Jeanne Cormier

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Buehler & Buehler Structural Engineers, Inc., Sacramento
Currier & Company, Los Angeles
Derek J. McGregor, Inc., dba DMc Engineering, Irvine
Forell/Elsesser Engineers, Inc., San Francisco
Geo-Advantec, Inc., San Dimas
Geotechnologies, Inc., Glendale
GMU Geotechnical, Inc., Rancho Santa Margarita
Hydros Consulting, Weimar
Infrastructure Factor Consulting, Inc., El Segundo
Joseph C. Truxaw and Associates, Inc., Orange
KASL Consulting Engineers, Citrus Heights
Lee & RO, Inc., City of Industry
Mid Pacific Engineering, Inc., Redding
MT Hall & Associates, Inc., Chico
RCE Consultants, Inc., Laguna Hills
SC Solutions, Inc., Sunnyvale
SENER Engineering and Systems, Inc., Los Angeles
Stillwater Sciences, Berkeley
TSAC Engineering, San Diego

ACEC/Colorado
William Siegel Consultants, Monument

ACEC/Florida
B&S Engineering Consultants, LLC, Winter Park
Bermello Ajamil & Partners, Inc., Miami
CLW Engineering, LLC, Merritt Island
Collective Water Resources, Lake Worth
Dredging & Marine Consultants, LLC, Port Orange
Driggers Engineering Services, Inc., Clearwater
Humiston & Moore Engineers, Naples
Interflow Engineering LLC, Tampa
June Engineering Consultants, Inc., Winter Garden
Omni Communications, LLC, Tampa
Poulos & Bennett, Orlando
SPECCO Environmental, Inc., Winter Springs

ACEC/Georgia
Moreland Altobelli Associates, Inc., Duluth
Waterhouse Engineering, LLC, Dahlonega

ACEC/Idaho
River Structures Consulting, LLC, Boise

ACEC/Illinois
Orion Engineers, LLC, Oak Park
R.M. Chin & Associates, Inc., Chicago

ACEC/Indiana
Ghafari Associates, LLC, Indianapolis

ACEC/Louisiana
Ballard CLC, Inc., Alexandria
Movassaghi, LLC, Lafayette
Professional Engineering and Surveying Company, Inc. (PENSCO), Lafayette
Quality Engineering & Surveying, LLC, Port Vincent
Vectura Consulting Services, LLC, Baton Rouge

ACEC/Maine
Calderwood Engineering Etc., LLC, Richmond

ACEC/Massachusetts
Arora Engineers, Inc., Boston
JCK Underground, Inc., Boston

ACEC/Michigan
SmithGroupJJR, Detroit

ACEC/Nebraska
W Design Associates, McCook

ACEC/New York
South Col Engineering, PC, Latham

ACEC/North Carolina
McCracken & Lopez, P.A., Charlotte
Saber Engineering, P.A., Charlotte

ACEC/Ohio
Jobes Henderson & Associates, Newark
Stone Environmental Engineering & Science, Inc., Westerville
TGC Engineering, LLC, Sharon Center

ACEC/Oklahoma
PATH Engineering, Oklahoma City
W2M Consulting, LLC, Edmond

ACEC/Oregon
Adapt Engineering, Portland
Humber Design Group, Inc., Portland
Tye Engineering and Surveying, Bend

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Quantum Environmental & Engineering Services, LLC, Knoxville

ACEC/Texas
Associated Testing Laboratories, Inc., Houston
Childress Engineering Services, Inc., Richardson
Contech Control Services, Inc., La Porte
Detail Design, Inc., Houston
GarzaBury, LLC, Austin
LJB Inc., Houston
Marshall Engineering Corporation, Humble
Noble Surveying & Engineering Works, LLC, Austin
PND Engineers Inc., Houston
Texas Engineering And Mapping Company, Stafford

ACEC/Washington
Dubin Environmental, Seattle
Standridge Design, Inc., Vancouver

ACEC/Wyoming
WH, LLC dba Western Heritage Consulting & Engineering, Mills

Calendar of Events

JUNE

14 Managing a Project's Scope of Services and Controlling Scope Creep and Getting Paid (webinar)

15 Pin the Tail on the Leader (webinar)

22 Communication for Project Managers (webinar)

23 The Business Development Plan Assessment: Enhancing A/E Firm Performance and Marketing ROI (webinar)

28 The New Rules of Modern Marketing for Engineering Firms (webinar)

29 Professional Liability–A Look Behind the Curtain (webinar)

30 Stop Learning on the Lamppost: How to Use Data to Illuminate Your Message, Not Just Support it (webinar)

JULY

6 Transcending Generation Gaps with Effective Communication (webinar)

7 Bringing Data into Professional Services Marketing (webinar)

12 Increase Your Impact! Five Key Skills for Your Association (webinar)

13 Grow, Merge, or Be Acquired: M&A Perspectives on the Engineering & Design Sector (webinar)

AUGUST

4-5 2016 CASE Risk Management Seminar: Managing Risk for High Stakes Success, Chicago

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- Business development culture
- Training and development

It also offers a scope of work and guidance for quantitatively benchmarking firm performance based on metrics from a survey of more than 300 A/E firms. This publication helps business development professionals establish baseline performance and develop an action plan for enhancing firm performance to maximize marketing return on investment. For purchase and immediate download, go to ACEC's bookstore at **bit.do/ACEC-Benchmark**.

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Launched in 2009, the ACEC program, *Applying Expertise as an Engineering Expert Witness*, has trained hundreds of professional engineers to serve as unbiased expert witnesses.

The program covers appropriate courtroom behavior, such as conduct on the stand when cross-examined by the opposing attorney, as well as what experts need to know about tasks and actions outside the courtroom during discovery, depositions and writing reports.

Applying Expertise as an Engineering Expert Witness is for engineers, architects and surveyors interested in taking engagements as experts or as an added client service. The next day-and-a-half course is in Chicago from May 19 to 20. For course and registration information, visit **bit.do/ACEC-ExpertWitness**.

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Brandt Engineering, Inc.
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Hufsey-Nicolaides-Garcia-Suarez Associates
Incledon Consulting Group
Institute for Sustainable Infrastructure
J.B. Wyble & Associates
Jackola Engineering & Architecture, P.C.
Jacobson-Westergard & Associates, Inc.
John S. Deerkoski, P.E. & Associates
Jones & Demille Engineering
Jones Edmunds & Associates, Inc.
Jones-Stuckey, Ltd., Inc.
Jorgensen & Associates, Inc.
Jorgensen Associates, P.C.
Kai Hawaii, Inc.
KCI Technologies, Inc.
Kister, Savio and Rei, Inc.
Kline Engineering & Consulting
Klingner & Associates, P.C.
Klotz Associates, Inc.
Knesal Engineering Services, Inc.
Kramer Gehlen & Associates, Inc.
Krebs Engineering, Inc.
KRM Consultants, Inc.
KS Engineers, P.C.
LandDev Consulting
Lane Engineers, Inc.
Lawson-Fisher Associates
Lazenby & Associates, Inc.
Leading Edge LS, Inc.
Leonard Rice Consulting Water Engineers, Inc.
Lilker Associates
Lin Engineering, Ltd.
Linfield, Hunter & Junius, Inc.
LSC Transportation Consultants, Inc.
LSW Engineers
Lunsford Associates, LLC
Mathew J. Thompson III, Consulting Engineers, Inc.
Maxon Enterprises
Maxson Engineering
MB Bim Solutions, LLC
McGoodwin, Williams & Yates, Inc.
Mead & Hunt, Inc.
Meyer, Meyer, Lacroix & Hixson, LLC
MGA Structural Engineers
Midtown Engineers
MK Engineers Group
MKK Consulting Engineers, Inc.
Mohr & Associates, Inc.
Moreland Altobelli Associates, Inc.
Morton & Pitalo, Inc.
Mosure & Syrakis
MSA Professional Services, Inc.
Murray, Smith & Associates, Inc.
N-Y Associates, Inc.
Neser, Roomsburg & Workman, P.C.
Neyer, Tiseo & Hindo, Ltd.
Nishkian & Associates
Nishkian Chamberlain
Nishkian Dean
Nishkian Monks
Nobis Engineering, Inc.
Northwest Hydraulic Consultants, Inc.
OLA Consulting Engineers, P.C.
P.W. Grosser Consulting
Pack Engineering, Inc
Page Engineering Consultants, P.C.
Palanisami & Associates, Inc.
Peoples & Quigley, Inc.
Peters Construction Consultants, Inc.
Pharmer Engineering, LLC
Pickets Engineering, LLC
Pinyon Environmental, Inc.
Ponzer Youngquist, P.A.
Potomac Energy Group, Inc.
Precision Civil Engineering
Professional Engineers, Inc.
Protection Engineering Consultants, LLC
Quad Knopf, Inc.
Raba Kistner Consultants, Inc.
Reece, Noland & McElrath, Inc.
ReStl Designers, Inc.
RH2 Engineering, Inc.
Ronald A. Roberts Associates, Inc.
Ruen-Yeager & Associates, Inc.
S&ME, Inc.
Sam Schwartz Engineering, PLLC
Schaaf & Wheeler Consulting Engineers
Shaffer Baucom Engineering
Sidhu Associates
SJB Group, LLC
Smislova, Kehnemui & Associates
Society of American Military Engineers
Spalding Dedecker Associates, Inc.
Sparling, Inc.
Spurlock & Associates
Standridge Design, Inc.
Stb Structural Engineers, Inc.
Sterling Consultants, Inc.
Steven Schaefer Associates, Inc.
Studio 8.18 Engineering
Submeter One, LLC
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Tamarack Consulting, LLC
TAM Consultants
The Eads Group, Inc.
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Via Consulting Services, Inc.
Wagner Engineering & Survey, Inc.
Warren Smith & Associates
Washtenaw Engineering Company, Inc.
Watershed Science and Engineering, Inc.
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Welch Comer & Associates, Inc.
Wessler Engineering, Inc.
West Plains Engineering, Inc.
Western Water Consultants, Inc.
Wetherill Engineering, Inc.
WGK, Inc
WGM Group, Inc.
White Engineering Associates
White Hawk Engineering
White Sands Water Engineers, Inc.
Wightman & Associates, Inc.
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For 50 years, the ACEC Life/Health Trust has offered health benefit plans to firms like yours based on the simple idea that health care coverage for engineers should be designed by engineers. Here's why ACEC members — and their employees — renew with the Trust 93% of the time.

1. Strength in numbers: Based on a large-group plan portfolio, the Trust features over 120 plan designs for **all group sizes** — whether for two employees or more than 100.

2. Confidence in coverage: By participating in the Trust, you offer employees **essential coverage** consistent with the Affordable Care Act (ACA). And UnitedHealthcare's vast provider network offers **local access to 99%** of the U.S. population.

3. Proven satisfaction: Currently, more than 1,400 ACEC member firms like yours participate in the Trust, and they **renew 93%** of the time.

4. Product and price flexibility: Through the Trust, you receive both **product and price flexibility** to fit your firm's needs.

5. Simple setup and dedicated service: Moving from your current health plan is **surprisingly easy**. Rely on the Trust's dedicated account service team with more than 20 years of **combined engineering industry and health care coverage experience**.

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50
50TH ANNIVERSARY
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ATTACHMENT SIX – HOTEL INFORMATION

Marriott
WESTFIELDS
WASHINGTON DULLES

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NOW BETTER THAN EVER.

ACCOMMODATIONS
Smoke-free policy in all guest rooms and public spaces • 336 guest rooms • 8 junior suites • 4 presidential suites • Accessible rooms • Marriott Revive Bedding package • Plug-In panel technology • High-speed internet access • In-room pay movies • 2 telephones w/data ports and voicemail • Individual climate control

GUEST SERVICES
Palm Court Restaurant • Wellington's Pub • Westfields Lounge • Café serving Starbucks® Coffee • Westfields Club, Fred Couples Signature Golf Course • Wireless internet in lobby and meeting rooms • Fitness center • Indoor pool, Outdoor pool and Jacuzzi • Tennis Courts • Complimentary onsite parking • Safe-deposit boxes • Business center • Room service • Laundry valet • ATM on property • Shuttle to and from Dulles International Airport

LOCATION
Located just 7 miles from Washington Dulles International Airport and only 30 minutes from downtown Washington DC, our luxurious hotel is convenient to the DC metro area but comfortably secluded from the hustle and bustle of the city.

MEETING FACILITIES
28 meeting rooms • 40,000 sq ft of total meeting space • Largest meeting room is the Grand Dominion Ballroom with 9,107 sq ft of meeting space and maximum seating capacity of 1,100 • 178-seat amphitheater • Outdoor terrace for private events • Meeting facilities specially designed for groups needing multiple breakout rooms • Meeting rooms with high-speed internet access • Conference meeting packages available • Private dining rooms available

	Dimensions		Capacity				
Meeting Room	W×L×H	Sq. Ft.	Theater	Schoolroom	Conference	U-Shape	Banquet
Washingtonian	80x95x16	7,615	800	550	–	–	490
Salon A	80x48x16	3,783	220	200	–	–	160
Salon B	40x48x16	1,886	120	80	28	38	80
Salon C	39x48x16	1,904	120	80	28	38	80
Franklin	17x34x12	577	40	30	20	20	30
Madison	22x32x12	691	60	32	24	25	40
Monroe	22x32x12	691	60	32	24	25	40
Lincoln Forum (auditorium)	–	–	178	–	–	–	–
Grand Dominion	80x114x16	9,107	1100	560	–	–	550
Salon I	40x37x16	1,505	96	80	30	36	80
Salon II	40x37x16	1,504	96	80	30	36	80
Salon III	37x40x16	1,504	96	80	30	36	80
Salon IV	37x40x16	1,505	96	80	30	36	80
Salon V	40x39x16	1,530	96	80	30	36	80
Salon VI	40x39x16	1,531	96	80	30	36	80
Jeffersonian	62x82x16	5,035	450	360	–	–	300
Salon 1	27x31x16	824	60	46	18	30	40
Salon 2	27x31x16	827	60	46	18	30	40
Salon 3	27x31x16	828	60	46	18	30	40
Salon 4	27x31x16	827	60	46	18	30	40
Salon 5	27x31x16	829	60	46	18	30	40
Salon 6	31x27x16	829	60	46	18	30	40
Adams	21x32x12	708	60	32	24	25	40
Hamilton	22x32x12	701	60	32	24	25	40
Treaty	19x38x11	757	–	–	–	–	–
Westcott	34x19x11	629	36	30	24	–	40
Sargent	16x27x9	465	25	20	20	20	20
Marlborough	18x25x9	533	25	20	20	20	20
Cumberland	18x25x9	523	25	20	20	20	20
Wellesley	18x25x9	528	25	20	20	20	20
Cambridge	18x30x9	675	25	20	20	20	20

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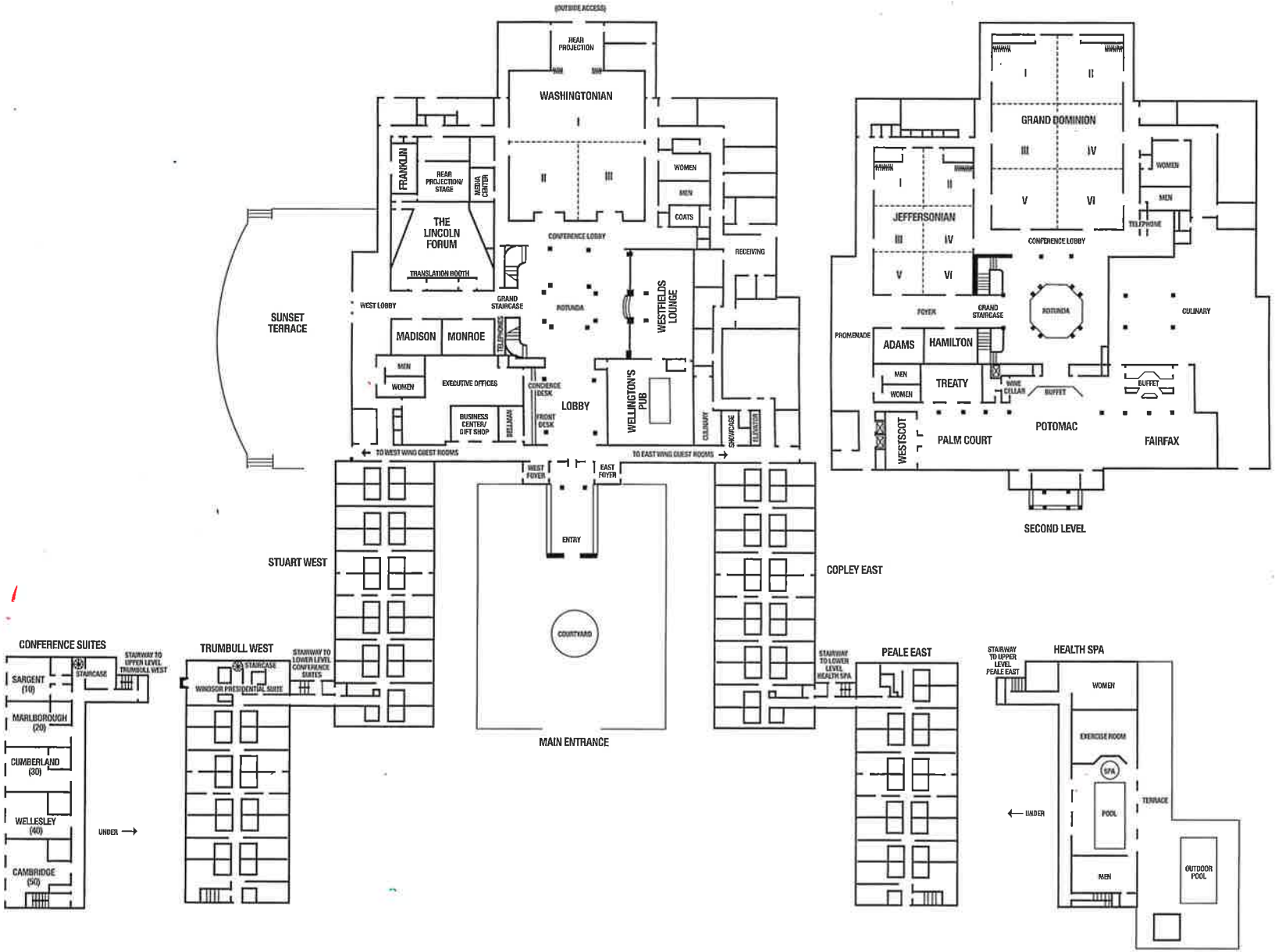
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