2013 Excellence in Structural Engineering Awards

Cover Photo: Steve Froehl

Structural Engineers Association of Northern California
As the President of the Structural Engineers Association of Northern California (SEAONC), I am excited to present this year’s Excellence in Structural Engineering award recipients within this issue of the San Francisco Business Times (SFBT). The following supplement marks the seventh consecutive year of collaboration between the SFBT and SEAONC and would not be possible without the generous contribution from our industry partners and member firms.

Judges for this year’s competition consisted of individuals from the fields of architecture, engineering, construction, and research. Judging criteria included factors such as: design creativity, technical innovation, system efficiency, constructability, design integration, quality of execution, and the significance to the general public and our profession.

Each of the projects featured within the following pages impressed our distinguished panel and are deserving of industry-wide recognition. As an organization, we are hopeful that they will continue to inspire creative and thoughtful engineering solutions as well as collaboration among all of our building partners. Congratulations again to all of our award recipients and special thanks to our judges and the many professionals who took part in this competition.

Founded in 1930, SEAONC is committed to advancing the art and science of structural engineering and providing the public with structures that are safe, dependable and long-lasting. SEAONC is respected as an authoritative world leader in the practice of structural and earthquake engineering and is an influential participant in the development of structural codes and standards both locally and nationally. Our membership includes a diverse group of structural and geotechnical engineers, seismologists, building officials, architects, and other industry partners.

Again, congratulations to this year’s Excellence in Structural Engineering award recipients.

Sincerely,

Colin Blaney, SE
President 2013-2014
Structural Engineers Association of Northern California
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JURY PANEL
The judging of entries and selection of award recipients was made by the following jury panel.

Robert A. Bracamonte, AIA, LEED AP, Senior Associate
NBBJ, San Francisco, CA

Steven L. Johnson, Vice President, Division Manager
Swinerton Builders, San Francisco, CA

Eduardo Miranda, Associate Professor
Department of Civil and Environmental Engineering, Stanford University

Patrick S. Chow, SE, President
Rinne & Peterson, Palo Alto, CA

James T. Passaglia, SE, Principal
KPW Structural Engineers, Oakland, CA

AWARD CATEGORIES
Entries were submitted in eight categories:
Study/Research/Guidelines
Special-Use Structures
Infrastructure
Historic Preservation
Retrofit/Alteration
New Construction
Sustainable Design
Landmark Structures

JUDGING CRITERIA
Entries were judged on demonstrated excellence and achievement in structural engineering including the following criteria:
Design Creativity
Technical Innovation
System Efficiency and Economy
Constructability
Complexity of Problems Solved
Design Integration
Quality of Execution
Significant Contribution to the Public and Profession
CATEGORY: LANDMARK STRUCTURES

Outstanding excellence in the structural engineering analysis, design and construction of a significant project achieving “Landmark Structure” status.

AWARD OF EXCELLENCE

California Memorial, Stadium Seismic Upgrade
University of California, Berkeley

structural engineer | Forell/Elsesser Engineers, Inc.

The jury commented that “it was a very challenging project dealing itself with an existing landmark featuring non-ductile details, on top of a fault, and with considerable uncertainties”. One juror added that “the complexity of the problems addressed, the different validating analyses conducted, the innovative solutions in dealing with fault rupture, and the creativity in design were true examples of excellence.” Well done.
CATEGORY: LANDMARK STRUCTURES

Outstanding excellence in the structural engineering analysis, design and construction of a significant project achieving “Landmark Structure” status.

AWARDS OF MERIT

Jinao Tower
Nanjing, China

structural engineer | Skidmore, Owings & Merrill LLP

The jury remarked that “the project represented a beautiful integration of structure and architecture”. One juror commented “I am impressed!” while others “lauded the strength of the integration between exterior architectural expression and structural function and how that resulted in material efficiencies that reduced the load in the core as well as the demands on the mechanical systems.”

Regent Emirates Pearl Hotel
Abu Dhabi, United Arab Emirates

structural engineer | DeSimone Consulting Engineers

One juror commented that “the project represented a complex structural problem due to the desired architectural expression; that there was a tremendous build-up of force that the engineers needed to find a way to account for and resolve.” Another juror stated that “he admired the complexity of the task at hand and recognized that structural engineers are sometimes asked to solve problems where architecture and structure appear to be in conflict.”
The Jury remarked that there were “simple yet beautiful solutions to complicated problems; there were many programmatic requirements that needed to be considered at once and the design handled them with grace.” One juror “enjoyed the incorporation of the concrete shell into the acoustics of the hall.”
CATEGORY: NEW CONSTRUCTION

Excellence in the use of conventional and/or innovative technology in the design of a new construction project.

AWARDS OF MERIT

Adobe Corporate Campus
Lehi, UT

structural engineers | Holmes Culley & Dunn Associates

The Jury remarked that “the designers did a commendable job of integrating the architectural and structural solutions in the atrium, cantilevers, and basketball court. The simplicity of the chosen elements, and the repeatable structural module facilitated construction.” A juror added that “the simple solutions are the ones that we should strive for and this project serves as a good example.”

Foster City Elementary School
Modernization
Foster City, CA

structural engineer | KPW Structural Engineers

The Jury remarked that “the Owner got its money’s worth by being able to build on Site Class F soil without extensive soil remediation and use of deep foundations” and “the execution was of high quality, especially considering the large number of buildings involved in the project.”
CATEGORY: RETROFIT / ALTERATION

Excellence in the use of conventional and/or innovative technology in the evaluation, design and retrofit/alteration of an existing structure.

AWARD OF EXCELLENCE

The New Exploratorium at Piers 15/17
San Francisco, CA

structural engineer | Rutherford + Chekene

One juror “was intrigued by the way they made the existing piers and foundation work” while another mentioned “that the designers were creative in the ways that they dealt with the existing deck.”
**CATEGORY: INFRASTRUCTURE**

Excellence in structural engineering of an infrastructure project, including but not limited to bridges, tunnels, transportation facilities and dams.

**AWARD OF EXCELLENCE**

**GIWW Sector Gate Monolith**  
**New Orleans, LA**

*structural engineer | Ben C. Gerwick, Inc*

The Jury commented that “it was impressed by the innovations in dealing with the challenges presented by the performance requirements, which included a 500-year hurricane, extremely soft soil, an isolation joint, and tight construction tolerances as well as by the efficient use of materials to expedite construction of this important project.”

**CATEGORY: SPECIAL-USE STRUCTURES**

Excellence in the structural engineering analysis, design or construction of a special-use structure.

**AWARD OF EXCELLENCE**

**Gulf Intracoastal Waterway Barge Gate**  
**New Orleans, LA**

*structural engineer | Ben C. Gerwick, Inc.*

The jury commented that “it was fascinating how the engineers were able to incorporate lightweight concrete to the tolerances required to allow the barge gate to float while also accommodating the large storm surge loads.”
CATEGORY: SPECIAL-USE STRUCTURES

Excellence in the structural engineering analysis, design or construction of a special-use structure.

AWARD OF MERIT

South San Francisco Ferry Terminal
South San Francisco, CA

structural engineer | Liftech Consultants, Inc.

One juror commented that “the project displayed a creative use of complicated connection details to deal with the substantial vertical and lateral movements of the dock” while another juror mentioned “I like the details; they are very cool.”

ATEGOR Y: SUSTAINABLE DESIGN

Excellence in use of structural design, materials and concepts that demonstrates innovation, integration, and achievement of sustainable design goals.

AWARD OF MERIT

San Francisco Public Utilities Commission Headquarters
San Francisco, CA

structural engineer | SOHA Engineers
seismic engineer | Tipping Mar

The jury commented, “the building was truly sustainable in all facets; from architecture, to the MEP systems to the structure. An example of the latest and greatest features in sustainable design. A job well done.”
**CATEGORY: STUDY/ RESEARCH/ GUIDELINES**

Excellence in the development of structural engineering practice through the analysis, design, evaluation and/or testing of structural systems resulting in the preparation of a study, research project, guideline or reference standard.

**AWARD OF EXCELLENCE**

**Seismic Evaluation and Retrofit Guidelines for Haitian Masonry Housing**

*Principal Authors | Degenkolb Engineers*

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One juror commented that “this is a top-notch project worthy of emulation because of its visible societal impact.” Another mentioned “how the project spoke to his experience overseas and the need for practical publications that can impact quality of construction.”
CATEGORY: STUDY/ RESEARCH/ GUIDELINES

Excellence in the development of structural engineering practice through the analysis, design, evaluation and/or testing of structural systems resulting in the preparation of a study, research project, guideline or reference standard.

AWARDS OF MERIT

Environmental Analysis Tool

Principal Authors | Skidmore, Owings & Merrill LLP

The jury commented that “it is an easy and powerful tool that with minimum input provides decision makers with varied assessments in an integrated manner.”

Environmental and Financial Impact Seismic Analysis

Principal Authors | Degenkolb Engineers

The jury commented that “EnvISA was born out of the idea that we need to better understand the impacts of expected earthquake damage when performing life cycle assessments.”
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