

cross sections

Magazine for the Structural Engineers Association of New York

2016 VOLUME 21 NO. 2

The 2016 Excellence in Structural Engineering Winners

**The
Awards
Issue**



SEaONY
536 LaGuardia Place
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President's Message

Welcome back SEAoNY members to a new year of events and activities! Thank you to all you came to the Annual Meeting in September. There, our committees highlighted the wide range of programs and participation available to our members. Whether it be active code development work here in the city or nationally to new events for younger members and all our programs, publications, and student outreach, SEAoNY strives to provide something for every one of our members. It is only by providing community and advocacy for SEAoNY members that we can enrich ourselves and advance our great profession of structural engineering. A good example of this will be our upcoming half day seminar on December 7 developed in conjunction with our fellow northeastern Structural Engineering Associations that will highlight recent changes to the International Building Code. Another example is honoring those who have accomplished much for this profession such as our latest Honorary Member, Bill Phelan. Thank you Bill for speaking at the Annual Meeting!

While many of us derive good satisfaction from working professionally in our companies and agencies, outreach to and interaction with our colleagues throughout the industry is essential to further enrichment. To that end, I ask that each and every one of you reach out to those who are not active or who are not a member to encourage their involvement. If there is more that SEAoNY should be doing for you, do not hesitate to tell me. And to all those who volunteer their time for SEAoNY in one way or another, a big thank you!

Douglas P. Gonzalez



Editor's Message

Dear Friends and Readers,

Yet again we take this latest issue of Cross Sections to celebrate the finest efforts of our industry within the New York City region. The caliber of projects here is the representation of years of experience, calculation, detailing and collaboration that serve to benefit the future of our city for many years to come. I'd like to thank the individuals involved in these and all entries; there is no doubt that the jurors had a challenging time selecting from a pool of excellent submissions.

As we move into the fall season, the Publications committee will be making a concerted effort to rebuild its backlog of articles and article topics. Even if you are unable to attend our regular meetings, you can still contribute and add value to our magazine. Please reach out to any member of the Publications committee with topics and articles that you may come across.

Finally, after 3 years of serving as editor in chief, I will be stepping aside to allow Adam Kirk to take this role. Adam has been a staunch, consistent member of the committee for several years and will be an excellent person to assume the mantle of editor and continue to find ways to improve each and every issue.

Justin Den Herder, PE

UPCOMING EVENTS

October 18, 2016
6:15-8:00PM

SEAONY Taiwan Earthquake Seminar by Ramon Gilsanz
Center for Architecture
536 LaGuardia Place

November 5, 2016
10:00AM – 5:00PM

StructureQuest
Cooper Union 41
Cooper Square, NY, NY

November 15, 2016
6:15-8:00PM

TR Higgins Lecture: Get Fired Up: What Structural Engineers Should Know About Fire Design by Maria Garlock
Center for Architecture
536 LaGuardia Place

Visit www.seaony.org/programs for additional information on these and other events!

The Awards 2016

Excellence in SEAoNY

Judges

Brian Albert Falconer has been a principal at Severud Associates since 2007, is a past-president of SEAoNY, and is on various technical and standard committees locally and nationally. He is a licensed Professional and Structural Engineer. His projects include noteworthy museums, athletic facilities, academic buildings, research facilities, medical complexes, transportation facilities, and commercial, residential, and retail developments.

John Hill is an architect, author, editor, blogger, and tour guide based in New York. He is Editor in Chief of the World-Architects.com Daily News/eMagazine. His first book, *Guide to Contemporary New York City Architecture*, was published by W.W. Norton in 2011, and he is writing his second book, on contemporary architecture in Chicago.

Caroline Weiss is an associate principal at Weidlinger Associates where she manages high-design public healthcare and aviation-related projects such as Memorial Sloan-Kettering Cancer Center and CUNY Hunter College. Her experience includes historic preservation and restoration, and building design. She holds an MS degree in structural engineering from the University of Pennsylvania and a BS degree in civil engineering from Tufts University.

Karl Rubenacker is a partner at Gilsanz Murray Steficek and a past president of SEAoNY. His diverse project portfolio includes new construction and restoration on both the east and west coasts.

The Structural Engineers Association of New York (SEAoNY) Excellence in Structural Engineering Awards serves to recognize creative achievement and innovation in structural engineering. Modeled after the National Council of Structural Engineering Associations (NCSEA) Awards, the program annually highlights some of the best examples of structural engineering ingenuity by firms in New York.

For the 2016 Awards, projects must have been sufficiently completed between January 1, 2012 and December 31, 2014 such that they clearly show the basic design of the structural system. Firms were asked to provide narratives, photos, and plans or sketches to convey the complexities and innovations of their design. Judged by past SEAoNY presidents and honorary members, themselves structural engineers and leaders in the industry, scores were awarded based on: creativity and complexity of design; innovative application of materials or techniques; ingenuity of design for efficient use of labor and materials; sustainability of structure; and exceeding client/owner needs and expectations.

Awards finalists and winners were recognized on the SEAoNY Annual Boat Cruise on July 1st, 2016, with each being represented by a project display board and, of course, their engineers. The SEAoNY Awards provide a great opportunity for engineers to learn more about the work of their peers and to share in their engineering achievements. In past years, several SEAoNY Awards winners have gone on to win NCSEA Awards as well. This year's winners are sure to be no exception.

Structral Engineering

AWARD WINNERS

NEW
BUILDINGS
#1

Fulton Center (Arup)

Client and Owner

New York City Metropolitan Transit Authority

Prime Consultant

Arup

Design Team Architects:

Grimshaw

HDR / Daniel Frankfurt

Page Ayres Cowley Architects, LLC

General contractors:

Citnalta Construction Company

Gramercy Group, Inc

Skanska USA

WVDF, Inc

Plaza-Schiavone Joint Venture

Judlau Contracting

The design of Fulton Center, a major hub of the New York City subway system, was rooted in a long-overdue plan to improve operations, create an inspirational public space, and help revitalize Lower Manhattan. The center unites six formerly separate subway stations, improves connectivity, and provides a connection to the PATH train. The project includes a new transit center building, the renovated Corbin Building, an underground concourse, and numerous access and platform improvements. The design team, led by Arup, worked to ensure that engineered elements were seamlessly integrated, making the station easy and enjoyable for passengers to use.





NEW
BUILDINGS
#1

Fulton Center (Arup)



Exterior Fulcrum Center

Exterior Panels



The
Awards
2016

NEW
BUILDINGS

#2 Whitney Museum of American Art (Silman)

Client and Owner
Whitney Museum


Prime Consultant
Silman

Architect
Renzo Piano Building Workshop

General Contractor:
Turner Construction, LLC

To better showcase its extensive collection of modern and contemporary art, the Whitney Museum of American Art commissioned a new 9-story asymmetrical building, which features tiers of terraces and walkways that step down to the High Line. Cantilevering over a plaza, its set-back entrance opens into a nearly 10,000 sf lobby. A theater, administrative spaces, a café, and galleries – one of which is the largest column-free museum gallery in the city – are located above. The superstructure of the museum is composite steel framing – which was chosen to achieve long spans and open spaces – with concrete on metal deck slabs.





Gallery under
construction

cross section



The finished 18,000 sf
column-free gallery
space.



A photograph of a large, empty gallery space with a high ceiling featuring a grid of metal beams and circular light fixtures. Large windows on the left side offer a view of a city skyline and a body of water. The floor is a light-colored, polished surface. The text "NEW BUILDINGS" is overlaid on a red square in the lower-left area.

NEW
BUILDINGS

#2 **Whitney Museum
of American Art** (Silman)

NEW BUILDINGS

#3 56 Leonard St

(WSP | Parsons Brinckerhoff)

Client and Owner
Alexico Group
Goldman Sachs
Hines

Prime Consultant
WSP | Parsons Brinckerhoff

Architect
Herzog & de Meuron
Goldstein Hill & West

General Contractor:
Lend Lease



56 Leonard Street is a new 60-story, 816 foot tall luxury residential tower located at the corner of Church Street in Manhattan's TriBeCa district. The unique design by world famous architectural firm Herzog & de Meuron working together with Goldstein Hill & West will have a gross area of 410,000 SF and will feature dramatic cantilevered 'sky' apartments.

The "houses stacked in the sky," progressively stagger at each level with different sized boxes arranged at varying angles. The design creates unique floor plans for each of the 145 apartments. The tower's concealed structural framing results in a nearly all-glass building with cityscape views from virtually every angle.



Tower under construction





NEW
BUILDINGS

#356 Leonard St

(WSP|Parsons Brinckerhoff)



▲ Tower under construction

**The
Awards
2016**

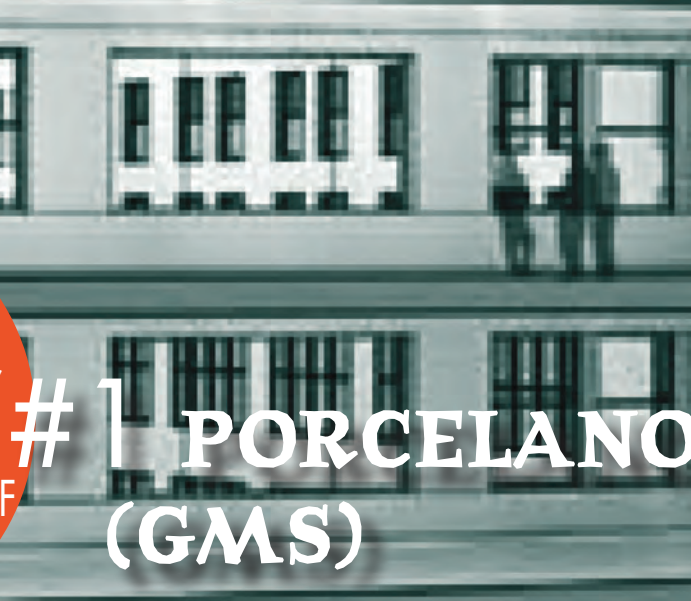
AWARD WINNERS

SEA●NY

FORENSIC
ANALYSIS/
RENOVATION/
RETROFIT/
REHABILITATION OF
STRUCTURES

#1 PORCELANOSA (GMS)

In autumn 2015, Porcelanosa, a Spanish manufacturer of tiles and kitchen/bath finishes, opened the doors to its new 18,000 SF showroom at 202 Fifth Avenue opposite the Flatiron Building. The store occupies the former "Commodore Criterion" building, which required a full gut renovation to create seven levels within an envelope that previously only had six. The granite exterior is regulated by the NYC Landmarks Preservation Commission and could not be altered. The new interior consists of a public showroom on the lower levels (a three story space that extends from the cellar to the second floor) and a materials library for architects and designers at the upper levels. There are two floors of offices in between.



FORENSIC ANALYSIS/RENOVATION/ RETROFIT/REHABILITATION OF STRUCTURES:

Client and Owner
Porcelanosa

Prime Consultant
GMS

Architect
foster + Partners

General Contractor:
Americon



FORENSIC
ANALYSIS/
RENOVATION/
RETROFIT/
REHABILITATION OF
STRUCTURES

#1

PORCELANOSA (GMS)





The
Awards
2016

AWARD WINNERS

SEA●NY

OTHER
STRUCTURES

#1 Wild Walk (Silman)

OTHER STRUCTURES



▲ Towers on the walkway

The Wild Walk is an extension of the Wild Center in the Adirondacks. Not a typical museum experience, the exhibit allows visitors to experience and learn about nature first-hand. Visitors enter the first tower at ground level and make their way to the highest point, which is above the trees. The project consists of several elevated platforms supported by teepee towers and features a large-scale tree house and spider's web, an eagle's nest, three steel-framed swinging bridges, and the snag – a dead tree standing four stories tall.

Client

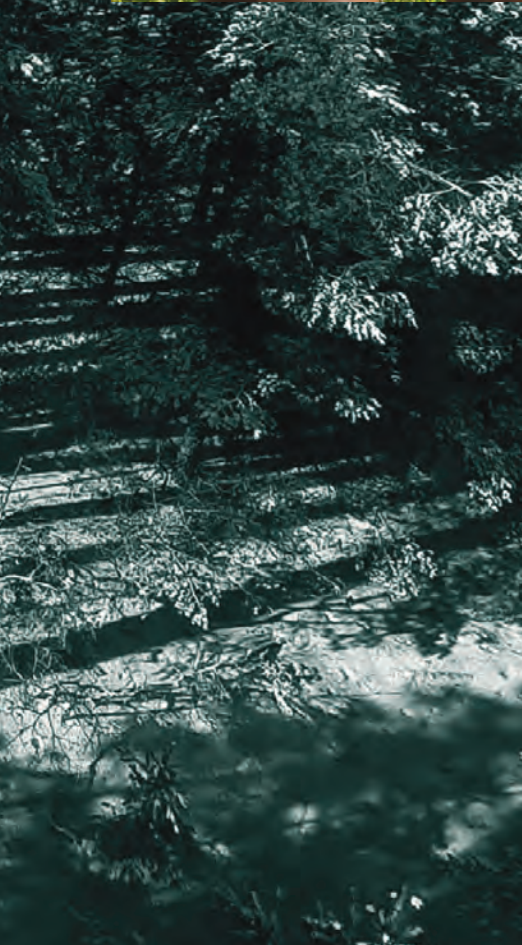
The Wild Center

Architect

*Charles P. Reay &
Linearscape Architecture, PLLC*

General Contractor:

Norhland Associates



OTHER
STRUCTURES

#1 Wild Walk (Silman)



ENGINEER'S CHOICE AWARD

Schlaich Bergermann Partners

Client
MTA

Architect
Toshiko Mori Architects

General Contractor:
Enclo
*(specialty contractor
for canopies)*

The
Awards
2016

OTHER
STRUCTURES

#1

34th St/Hudson Yards Subway Entrance Canopies

As the focal point of the MTA's 7 Line Extension to Hudson Yards, schlaich bergermann partner (sbp) created two large glass canopies to mark and shelter the new entry points. The lightweight glass and stainless steel grid shells were designed to spring from the Hudson Park landscape at just three connection points. The transparency of the glass canopies is expressed through their pure structural elements; a stiff ring beam around the perimeter, a grid of slender stainless steel compression elements, and a network of prestressed diagonal cables which create a shell structure of only 2.5" in depth over its span.

ENGINEER'S CHOICE AWARD

Schlaich Bergermann Partners

The
Awards
2016

A close-up photograph of a construction site. A thick, braided steel cable runs horizontally across the frame. It is attached to a large, circular metal component on the left. Above the cable, a rectangular metal plate is secured with three large hexagonal bolts. The bolts have markings on them, including 'A325' and '100'. The metal plate and cable are surrounded by crumpled brown paper and clear plastic sheeting, suggesting they are part of a new installation or repair. In the background, a worker in a yellow safety vest and blue jeans is visible, along with other construction materials and equipment.

OTHER
STRUCTURES

#1

**34th St/Hudson Yards
Subway Entrance Canopies**

ENGINEER'S CHOICE AWARD

Schlaich Bergermann Partners

The
Awards
2016



OTHER
STRUCTURES

#1

34th St/Hudson Yards
Subway Entrance Canopies



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