



First Crit: ACE High School Students Present Schemes for NYC

By Murrye Bernard, LEED AP

Event: ACE Mentor Program of Greater New York 2009-2010 Final Presentations

Location: Center for Architecture, 05.03.10

Speakers: Introduction by Rick Bell, FAIA; Joseph Aliotta, AIA, LEED AP BD+C — Vice Chair/Architecture, 2009-2010 NY Board of Directors, ACE Mentor Program & Principal, Swanke Hayden Connell Architects; Presentations by ACE Mentoring Students

Moderator: Annika Smith — Executive Director, ACE Mentor Program of Greater New York

Organizer: ACE Mentor Program

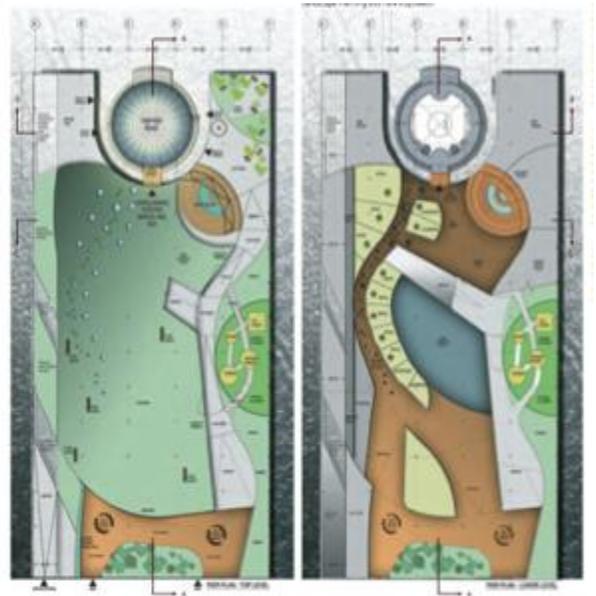
Sponsor: AIANY Emerging New York Architects Committee (ENYA)

Site model of Brooklyn Bridge Park Pier 2, made by ACE Mentor Team #21 (Helpern Architects, Skanska, Mueser Rutledge Consulting Engineers, Glickman Engineering Associates).

Murrye Bernard

Imagine entering architecture or engineering school and already understanding the concept of *partis* and programs, and possessing practical knowledge of building systems and construction management. NYC high school students who participate in the ACE Mentor Program will have such an advantage. Two teams from the 2010 class presented their final projects to a distinguished jury, including David Burney, FAIA, commissioner of the NYC Department of Design and Construction. “It’s like American Idol without Simon Cowell,” remarked Team Leader Darris James, Assoc. AIA, a senior associate at Gensler.

The students of Team #3 (FXFOWLE Architects, Thornton Tomasetti, Tishman Construction, WSP Flack + Kurtz) designed a mixed-use tower for Manhattan’s in-flux Hudson Yards area. They established the building’s profile by studying zoning diagrams and calculating the FAR. Then they created their own program, including residential units and retail space, a food court, and a museum complete with a planetarium to draw visitors from the street level. While the jurors complimented the iconic nature of the tower’s twisting, spiraling form — articulated by staggered balconies with community gardens for each residential floor — they questioned the viability of the dramatic cantilevers.



The level of completeness of the project impressed jurors. Students delved into the details, selecting eco-friendly materials, specifying high-performance glazing with integrated shading devices, and designing rainwater harvesting and gray water reuse systems. They studied both concrete and steel structural systems and learned about loading diagrams and shear walls. Their plan drawings incorporated mechanical systems, which required a bit of teamwork. “It’s exciting how engineering and architecture come together, allowing students to look at projects holistically,” commented AIANY Executive Director Rick Bell, FAIA. In addition, students studied the often-overlooked topic of construction management, including cost estimation, project schedules, and even equipment staging. Team #21 (Helpern Architects, Skanska, Mueser Rutledge Consulting Engineers, Glickman Engineering Associates) followed many of the same exercises to develop a comprehensive site plan for Brooklyn Bridge Park Pier 2. The presentation focused on the design process: they experimented with structural principles such as X-bracing and the importance of establishing a strong base by building models with dry spaghetti and marshmallows. The students also studied Bjarke Ingels’s concept of layering programs and developed an ambitious one of their own, combining a veranda, partially submerged retail space, an underwater theater, a botanical garden, and a Japanese teahouse.

Students studied soil profiles from the site and confirmed that their underwater theater could rest directly on bedrock. Determining the structural feasibility of this space proved challenging, as did figuring out how to support its glass dome (they settled on a tree-like sculpture). Though jurors praised their success in layering programs, Burney pointed out that the underground retail area might feel dismal — and also doesn't have a good track record in NYC. Jurors asked the students why they went to the trouble of sinking the theater, to which they responded that their goal was to avoid blocking the sweeping views of Manhattan. James urged them to take the tree symbolism further and make it a stronger design element.

Through the ACE Mentor Program, students gained valuable insight into the architecture, engineering, and construction professions. Perhaps one of the most valuable lessons learned, according to one student, is that "everything is almost a variable until you complete the project." Following the presentation and crit, ACE program leaders presented many students with cash scholarships toward their design school of choice.

Murrye Bernard, LEED AP, is a freelance architectural writer and a contributing editor to e-Oculus.
Published in Reports from the Field on May 18th, 2010