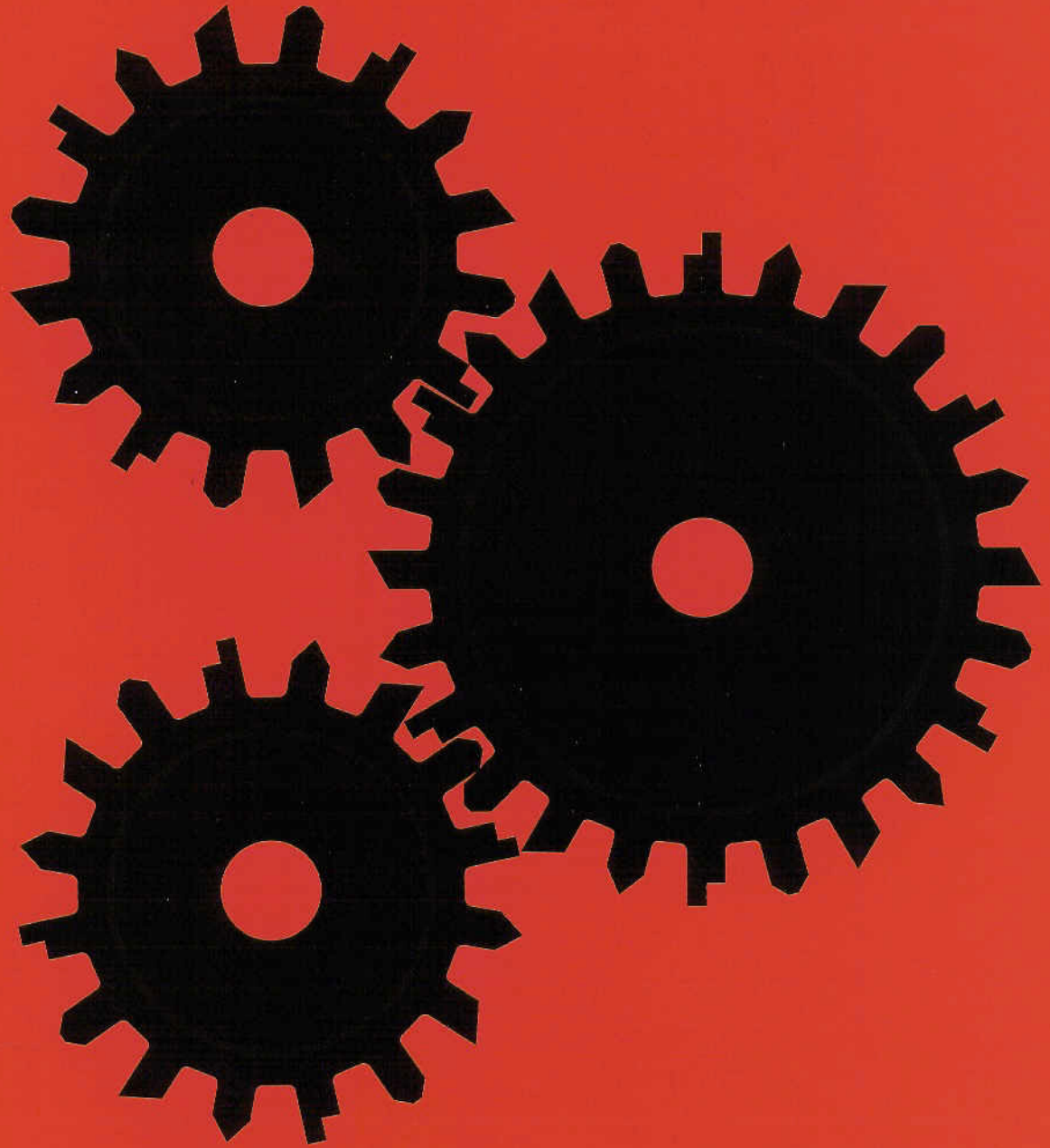


Winter 2006/07

Oculus

A PUBLICATION OF THE AMERICAN INSTITUTE OF ARCHITECTS NEW YORK CHAPTER VOLUME 68 ISSUE 5 \$10

Inside Infrastructure



GREEN TO THE CORE OF THE BIG APPLE HERE COMES THE T TRAIN UNCOVERING OUR LIMITS
OVER, UNDER, AROUND, AND THROUGH RAZE OR REUSE NIMBY, BANANA, AND APPLE

Over, Under, Around, and Through

Infrastructure challenges are inspiring New York architects to produce some of the city's most exciting projects **By Bonnie A. Harken, AIA**

Projects such as electrical substations, bridges, highways, railroad lines, and tunnels can easily overpower architectural creativity. These large-scale projects – with price tags in the billions – are highly political and must run an obstacle course of budgets and tradeoffs. Even if financing and political will are secured, there are myriad public agencies with overlapping jurisdictions and sometimes conflicting regulations. Once built, maintenance funds for infrastructure are minimal. Finally, post-9/11 paranoia can block creative solutions with impenetrable life-safety and security restrictions.

Moving a Mountain: 7 World Trade Center

One project that defied the odds is 7 World Trade Center, designed by Skidmore, Owings & Merrill for Silverstein Properties, which creatively incorporates a Con Edison electrical substation generating power to much of Lower Manhattan. Knocked out of commission by the meltdown of the earlier 7 WTC on 9/11, the transformers and their distribution equipment originally spanned Greenwich Street over to West Broadway. When New York New Visions' Connections Committee recommended extending north-south connections through the 7 WTC site to reconnect Greenwich Street from Tribeca to the Financial District – at what was thought would be a cost of millions of dollars – few people were optimistic that anyone would listen. But SOM's Principal-in-Charge of Urban Design and Planning, Marilyn Jordan Taylor, FAIA, who helped found NYNJV, immediately grasped the larger significance and helped forge agreements between the public

and private sectors to achieve this objective.

Carl Galito, FAIA, the firm's senior technical partner, developed a cost-effective solution by stacking ancillary equipment above the 10 transformers (rather than side-by-side), which reduced the overall footprint and cleared the way for both Greenwich Street and a new triangular public park. Con Edison collaborated in the spirit of helping the overall rebuilding of Lower Manhattan. It also cooperated in what turned out to be the most difficult infrastructure challenge of the project:

coordinating the high-voltage lines coming into and out of 7 WTC with the relocation of Verizon's conduits next door on Vesey Street – while keeping the connections active.

Galito describes the façade solution to enclose the 11 stories of equipment with a double-layered, stainless-steel mesh breathing surface as "serendipitous." SOM, in association with James Carpenter Design Associates, incorporated the screen as a way to help define the base of the building's 52-story energy-conserving curtain wall, which, in turn, helped 7 WTC win a LEED Gold rating.

Surfing from the Subway: West 8th St.-NY Aquarium Pedestrian Bridge

In Coney Island, the hassles of getting kids and strollers to the New York Aquarium from an elevated subway at the new West 8th St.-NY Aquarium BMT station inspired weisz + yoes architecture to design a pedestrian bridge that plays with iconic shapes like the world-famous Cyclone rollercoaster. Supported by twin parabolic arches, the bridge will carry pedestrians safely over Surf Avenue, a major thoroughfare. Innovative stainless-steel mesh within the arches creates a sense of



The Surf Avenue pedestrian bridge takes its cues from Coney Island's famous Cyclone rollercoaster

enclosure, while requiring minimal maintenance.

Now, weisz + yoes is moving through the approval process with its client, NYC Department of Design and Construction, and discovering challenging regulations, such as NYCDOT's choice of only five paint colors and predilection for highway-style lighting. The bridge's dramatic design, however, has received approval at the committee level from the Art Commission as a symbol of the Aquarium's importance in anchoring Coney Island's entertainment district.



7 WTC cleared the way for Greenwich Street to reconnect with Ground Zero by incorporating a ConEd substation on its lower floors

BRIDGE DESIGN BY WEISZ + YOES ARCHITECTURE/DEWBERRY
ENGINEERS. PHOTO BY AMY BARKOW

DAVID SUNDBERG/ESTO

Water, Water Everywhere: West Harlem Hudson River Waterfront

For decades, the Hudson River waterfront in West Harlem has been a well-kept secret, cut off from the area's residential and business districts by natural and man-made barriers, including the Amtrak railroad lines and the Henry Hudson Parkway. A comprehensive plan named "Take Me to the River" has been created by Donna Walcavage Landscape Architecture + Urban Design with Nautilus International Development Consulting to eliminate those barriers and turn the West Harlem riverfront into an urban oasis, with easy access from a thriving Broadway and the Hamilton Heights community only a short distance to the east. That access requires a complex network of ramps, stairs, bridges, and tunnels. For example, at 148th Street, the plan envisions opening up views through overgrown hillsides, reusing an elegant historic overlook on Riverside Drive, crossing a newly reconfigured pedestrian bridge over the Amtrak lines, and then moving through a redesigned tunnel under the Parkway out to Riverside Park and a new boat dock on the Hudson River.



"Take Me to the River" connects West Harlem with the Hudson River across Amtrak lines and the Henry Hudson Parkway

Active, concerned local residents were the plan's catalysts with a working group headed by the West Harlem Art Fund, which included numerous local organizations and public agencies. The project was led by the Office of Manhattan Borough President and the State of New York Department of State's Division of Coastal Resources.

Donna Walcavage, ASLA, says, "People living in West Harlem today can barely see – and don't have any safe access to – the Hudson River. This plan will open up views and give people four easy ways to get to Riverside Park. They'll also be able to go boating or fishing for the first time in more than a generation." The project has won two Environmental Protection Fund grants to advance its recommendations, design improved public access, create streetscape design guidelines, and improve the hillsides as an "Enchanted Forest."

Old Streets/New Highways: Brooklyn Battery Tunnel Plaza

The impact of mid-20th century construction of highways throughout the city left behind many disconnected fragments of former neighborhoods and street grids. One of the most intractable examples is at the Brooklyn Battery Tunnel Plaza in Lower Manhattan. At eight acres,

the plaza represents the largest single development site in Lower Manhattan aside from Ground Zero.

A multidisciplinary team led by H3 Hardy Collaboration Architecture took on this opportunity at the request of the Lower Manhattan Development Corporation. The simple move of lowering a ramp elevation and revising its route would allow a new deck over the tunnel to meet Greenwich Street at grade. Washington Street could then reconnect as a pedestrian walkway and both Morris and Edgar Streets, which had been severed by the ramps, could be reestablished. These streets create new links between pockets of residential buildings emerging downtown from the conversion of outdated offices. Plans call for a new urban park on the deck sloping up from subway stations on Greenwich to West Street (at an ADA-compatible 1:20) and leading to a pedestrian bridge over to Battery Park City. The formidable bus traffic in the area would be alleviated with an automated parking facility for buses topped with a roof garden. Four new residential towers with retail and cultural components totaling approximately 2.5 million square feet and framing the new park are proposed to offset the infrastructure costs and attract developers. If implemented, the project has the potential to connect from Tribeca through the World Trade Center site to Battery Park.



Greenwich South would reconnect old streets and create new park space and residential towers over the Brooklyn Battery Tunnel Plaza

Bonnie A. Harken, AIA, is President of Nautilus International Development Consulting, Inc., specializing in the urban design of waterfront redevelopments. She helped found New York New Visions and co-chaired its Connections Committee. Harken also served on the Lower Manhattan Development Corporation's Advisory Committee on Transportation and Commuters, where she shaped recommendations about rebuilding major infrastructure after 9/11.

Consulting Teams:

7 World Trade Center: Skidmore, Owings & Merrill LLP; James Carpenter Design Associates; Cantor Seinuk Group, Inc.; Jaros, Baum & Bolles; Cline Bettridge Bernstein Lighting Design, Inc.; Pentagram; Cerami & Associates, Inc.; Philip Habib & Associates; Mueser Rutledge Consulting Engineers; Ken Smith Landscape Architect; Ducibella Venter & Santore; Con Edison Consulting Engineer: Rudell & Associates, Inc.

Surf Avenue: Dewberry Engineers; weisz + yoes architecture

Take Me to the River: Donna Walcavage Landscape Architecture + Urban Design; Nautilus International Development Consulting, Inc.; McLaren Engineering Group

Greenwich South: H3 Hardy Collaboration Architecture; Olin Partnership Environmental Simulation Center; weisz + yoes architecture; URS Corporation; Hamilton, Rabinovitz & Alschuler