



Top Projects Completed

Avalon Chrystie Place

Cost:\$149 million

The first building in the new Avalon Chrystie Place residential development on Manhattan's Lower East Side was completed in October. The 15-story, 361-unit apartment rental building is the first of four planned for the site.

The 450,000-sq.-ft. building, located on the south side of East Houston Street between Chrystie Street and the Bowery, has 12 floors of apartments, two floors with 85,000 sq. ft. of retail space, and three bulkhead levels. The building also contains a 42,000-sq.-ft. community center, which will house the new Chinatown YMCA. That three-story-high portion of the building at the south end of the site includes a 25-yd., six-lane swimming pool, basketball courts, gymnasium, fitness center, classrooms, and office space.

The completed building is larger than the planned three remaining structures, which will also contain luxury and middle-income apartments and bring the development to 708 units overall. Rents in the first building are \$2,350 for a studio, \$3,350 for a one-bedroom unit, and \$4,600 for a two-bedroom unit.

The developer of the project, AvalonBay Communities of Alexandria, Va., coordinated development of the middle-income component of the project with Phipps Houses, a non-profit housing developer based in New York.

Construction of the reinforced concrete structure began in November 2003 on an entire city block. The superstructure consists of flat plate slabs supported by concrete columns and shear walls – a structural system designed to minimize the number and size of columns and walls as



well as the depths of slabs and beams.

The structure stands above a New York City Transit subway tunnel containing four tracks. A tunnel built years ago for the planned Second Avenue subway line also runs to the east of the site.

The project team had to plan an extensive support structure to prevent damage to the tunnels. The team supported the building's columns on a 3- to 4-ft.-deep concrete mat foundation that bears directly on soil above the tunnel.

The foundation plan and its execution required extensive coordination with transit authority engineers and an independent survey to determine whether the tunnel structure could support the building's weight. Among the features to ensure each tunnel's integrity was the installation of monitors to gauge settlement and vibration during construction and for the eventual structural load. <<

Key Players

Developer: AvalonBay Communities; Phipps Houses

Construction Manager: AvalonBay Communities

Program Manager: Bovis Lend Lease

Design Architect: Arquitectonica

Architect of Record: SLCE Architects

Structural Engineer: DeSimone Consulting Engineers

MEP Engineer: Cosentini Associates

Geotechnical Consultant: Mueser Rutledge Consulting Engineers

Retail Development Consultant: Williams Jackson Ewing

Steel Contractor: Metropolitan Metals Co.

Concrete Contractor: Sorbara Construction

Plumbing Contractor: Almar Plumbing and Heating



Kings County Hospital Center Modernization - Phase 2

Cost:\$145 million

Kings County Hospital Center in Brooklyn is in the midst of a long, five-phase modernization project launched in 1997. The second phase – the \$145 million renovation, expansion, and modernization the emergency care unit – was completed this spring.

Skidmore, Owings & Merrill of New York, the architect for the second-phase effort, designed the new five-story, 260,000-sq.-ft. Emergency, Diagnostic and Treatment Pavilion. The phase included 21,000 sq. ft. of renovations to the hospital center’s Building E to upgrade outpatient clinical functions related to the new pavilion.

A joint venture of TDX Construction of New York and Gilbane Building of Providence, R.I., served as contractor for the new pavilion, which started in January of 2002 and was set to open in May. The steel-framed building has poured concrete slab floors and an exterior skin of precast panels and glass curtain wall.

The new pavilion, which will provide facilities for the diagnosis and treatment of both emergency and elective conditions, is located between the Inpatient Bed Tower completed in December 2001 and the future Ambulatory Care Center, which is part of the next phase and will be located in Building E. The pavilion is connected at all floor levels by a fully enclosed bridge link to the bed tower.

The pavilion houses new adult and pediatric emergency services, diagnostic imaging, interventional radiology, radiation therapy, and surgical labor and delivery suites. The first floor consists of a new main lobby, which is adjacent to the new emergency center. Also located on the first floor are the current bed tower lobby, re-



ception center, meditation garden and chapel, and gift and coffee shops.

The second floor houses the diagnostic center, which includes mammography, sonography, diagnostic radiology, nuclear medicine, cardiac, pulmonary, and neurodiagnostic services. The surgery center located on the third floor includes ambulatory surgery, operating and recovery rooms, and a special procedure suite.

The fifth floor houses the birthing center, with modern and spacious labor, delivery, and recovery suites. The lower level houses the new radiation therapy center, the hospital’s first linear accelerator for state-of-the-art services to cancer patients.

The Dormitory Authority of New York State managed the construction effort.

Kings County Hospital Center is a 627-bed facility that serves the communities of East New York, Brownsville, Flatbush, East Flatbush, and Crown Heights and is one of the largest providers of medical care in central Brooklyn. <<

Key Players

Owner: New York City Health and Hospitals Corp.

Architect: Skidmore, Owings & Merrill

Construction Manager: Dormitory Authority of the State of New York

Contractors: Gilbane Building; TDX Construction

Evacuation-Foundation: John Civetta and Sons

Engineer: Cosentini Associates

Structural Steel: Iron and Steel Co.

Precast Concrete: Betons Prefabriques Du Lac

Curtain Wall: Whitestone Construction

Concrete: Shroid Construction

General Construction: M.A. Angeliades

Mechanical: RJR Mechanical

Electrical: QNCC Electric

Plumbing: Richards Plumbing & Heating



Roosevelt Avenue Station Complex Rehabilitation

Cost: \$133 million

With the completion in December of the rehabilitation of the Roosevelt Avenue-74th Street subway complex in Queens, New York City's third-busiest subway station was transformed from a confusing maze of transit connections to a bright and user-friendly facility.

The project involved rehabilitating two subway stations, reconstructing an adjacent bus station, and reconfiguring spaces between the elevated IRT subway line, known as the No. 7, and the underground IND subway designated as the E, F, G, R, and V lines. The project team also replaced an existing two-story building with a 6,000-sq.-ft., 50-ft.-high glass, terra cotta, and steel pavilion that features spaces for employee and equipment facilities and concessions.

A joint venture of Slattery Skanska and Gottlieb Skanska – both affiliates of Skanska USA Civil of Whitestone, N.Y. – served as general contractor on the project, conducted on behalf of New York City Transit.

The project involved the relocation and reconfiguration of 14 existing stairs that connect platform levels with mezzanines. It involved structural and water remedy repairs to deteriorated station components and improvements to the station floors, walls, stairs, and ceilings.

A new canopy structure was added to uncovered areas of the IRT platform, replicating the steel lattice design on covered portions. The team also installed a split-seam roof to replace the original roof design.

The team expanded the IRT line mezzanine to the north to facilitate additional passenger flow. It also added a new, widened underpass, providing access



from the Manhattan-bound side to the Queens-bound track.

The project involved reconfiguration of a 75-ft.-long by 42-in.-diameter inverted sewer siphon, its associated 12-in.-diameter stormwater sewer and manhole structures, and the relocation of an adjacent 90-ft.-long by 24-in.-diameter sewer main to widen the 73rd Street passageway from 12 to 28 ft.

The project was one of the first selected for “greening” under New York City Transit’s “Design for the Environment” program and included sustainable design features such as energy-efficient systems, enhanced indoor air quality, conservation of materials and resources, and improved site management.

Other green highlights of the project included a 60-kilowatt photovoltaic panel canopy roof, increased natural lighting,

use of computational fluid dynamic modeling to optimize natural ventilation, use of ultralow sulfur diesel fuel in construction equipment at the site, recycling of 86 percent of demolition waste, use of concrete made with 15 percent recycled fly ash, and prefabrication of recyclable content steel. <<

Key Players

Owner: New York City Transit

General Contractor: Slattery Skanska; Gottlieb Skanska

Architect: FXFowle Architects

Structural Engineer: Vollmer & Associates

Electrical-Mechanical Engineer: Cosentini Associates



240 Riverside Boulevard - Heritage (tie)

Cost: \$125 million

The northernmost building at the sprawling 74.6-acre Riverside South development on Manhattan's West Side was completed last summer at 240 Riverside Boulevard.

The 31-story tower, dubbed the Heritage Building, sits between 71st and 72nd streets, on the northernmost parcel of Riverside South, which was pegged for development for decades and finally had work begin when a consortium of investors and developers, including the Trump Organization of New York, broke ground in 1997 on the 7.9-million-sq.-ft. effort. The building overlooks Riverside Park, the Hudson River, and the George Washington Bridge.

HRH Construction of New York led the construction effort on the \$125 million building, which has a curved façade made with pre-cast limestone panels, which rise the entire height of the tower. The exterior features several 240-sq. ft. recessed loggias that are 30 ft. long and 8 ft. deep.

But designing the exterior of the building came second to the interior. Costas Kondylis and Partners, a New York-based architect, designed the apartment layouts before considering the façade and structural makeup.

The building's 170 units range from 546-sq.-ft. studios to 3,171-sq.-ft., five-bedroom condominiums, with two full-floor units at the top of the property. The condos are selling from \$500,000 to \$12 million.

The building offers a multi-tiered lobby, two levels of underground parking,



large sweeping terraces and balconies, meeting rooms, storage rooms, a children's playroom, and a health club with two pools.

One project highlight was a comprehensive site safety and health partnership between HRH, the U.S. Department of Labor's Occupational Safety and Health Administration, the Building and Construction Trades Council, and the Building Trades Employers' Association. The partnership aimed to encourage subcontractors working on the project to meet a comprehensive list of safety, health, and environmental objectives, to strive to eliminate serious accidents, and to increase employee training. <<

Key Players

Developer: Hudson Waterfront Associates

General Contractor-Construction Manager: HRH Construction

Architect of Record: Costas Kondylis and Partners

Structural Engineer: Rosenwasser/Grossman

Civil Engineer: Philip Habib & Associates

Mechanical Engineer: I.M. Robbins Consulting Engineers



Bellevue Hospital Center Ambulatory Care Facility (tie)

Cost: \$125 million

Bellevue Hospital Center's new Ambulatory Care Facility on Manhattan's East Side is an addition that also provides a main entrance and focal point for Bellevue's entire hospital campus.

The new \$125 million structure, located at First Avenue between 27th and 28th streets, took four years to complete. It officially opened in February 2005 but construction tasks continued until September on the new 207,000-sq.-ft. facility.

The new structure occupies the site of an old parking garage, which had long obscured the principal entrance to Bellevue's architecturally notable Administration Building, which was designed by

McKim, Mead & White. It offers Bellevue a striking new entrance with a 15,000-sq.-ft. glass atrium made up of more than 4,500 pieces of glass curtain wall.

The atrium attaches to the front of the Administration Building and stretches 90 ft. high and 300 ft. in length over a full city block. A 67- by 175-ft. skylight crowns the atrium and covers the space between the old and new structures.

New York-based Turner Construction was construction manager for the project, with the Dormitory Authority of the State of New York as program manager and Pei Cobb Freed and Partners of New York as lead architect. New York-based Guenther 5 Architects was principal architect for the building's intensive care unit.

The main addition has more than 400 exam rooms and serves as a focal point for the almost 500,000 patients that visit the Ambulatory Care Facility annually.

The new building incorporates advanced engineering techniques designed to stabilize the structure in the event of an earthquake. Turner and Leslie E. Robertson Associates of New York, the project's structural engineer, used bowstring trusses to support the skylight.

The unique link between the buildings required special features to account for possible seismic activity. The buildings needed to move independently of each other in the event of a tremor, and so the engineers designed the tops of the skylight trusses to connect to the old building via the use of special structural arms, which jut out past the existing building's façade and have smooth, flat upper surfaces.

Meanwhile, the engineers added short pedestals turned upside-down on the top



ends of the trusses. The bottom surface of those pedestals incorporates a Teflon bearing pad, which in a quake will slide on the smooth surface of the structural arm.

The innovative construction technique will let the buildings move up to 8 in. away from each other in any direction during an earthquake, limiting the possible structural damage. <<

Key Players

Owner: N.Y.C. Health and Hospitals Corp.

Developer: Dormitory Authority of the State of New York

Architect: Pei Cobb Freed & Partners

Renovation Architect: Guenther 5 Architects

Construction Manager: Turner Construction

Structural Engineer: Leslie E. Robertson Associates

M-E-P Engineer: Cosentini Associates

Geotechnical Consultant: Mueser Rutledge Consulting Engineers

General Construction-Renovation: Beys Contracting