

Time Warner Center

Project Of The Year



If the sheer size of the Time Warner Center – 2.8 million sq. ft. – doesn't impress you, then consider the numbers.

Multiple general contractors, 90 subcontractors, half a dozen architects and more than 2,000 workers pitched in to create the \$1.7 billion project at Columbus Circle. They used 27,000 tons of steel, 101,500 cu. yds. of concrete and one million sq. ft. of curtain wall.

"This was a mind-boggling effort," a jury panel member said. "The size, the complexity, the coordination required was incredible."

The project includes the new world headquarters for Time Warner, the 1,970-seat Jazz at Lincoln Center, The Shops at Columbus Circle, 199 condominiums, the 251-room Mandarin Oriental Hotel, 200,000 sq. ft. of office space and a 504-stall valet parking garage.

Despite the project's size, it was completed in 36 months, on time and within budget – no small feat for a project that was decades in the making. From the start, the team knew that the success of the project would hinge on its ability to find effective solutions to overcome the challenges that invariably would arise with a project of this magnitude.

The team's first order of business was to devise an organizational structure that would be capable of handling project oversight.

Under the guidance of the project director, four project executives were assigned to oversee – through their project managers and project superintendents – distinct areas of the building, including the podium, towers (with both resi-

dential and hotel functions), the site work and the mechanical, electrical and plumbing systems.

To manage costs of the project, full-time accounting, estimating and change management personnel were put into place and met weekly with the development team.

The project plan room, where five plan coordinators distributed design and shop drawings to more than 75 consultants and 100 contractors, likely exceeded the size of most onsite project offices. The intricacies of maintaining a full project schedule at times required two full-time schedulers to update the progress of over 5,000 procurement, design and trade activities. At its peak, the construction manager's staff numbered 110 personnel.

Once the foundation was completed, steel erecting began in a hole that occupied two city blocks. The site was so large that, at one time, five cranes were needed to reach every corner. For the majority of construction, four cranes were used, one in each quadrant of the building. Two cranes were able to pick from 58th Street and two from 60th Street.

One challenge was encountered when more than one crane was needed to pick up equipment or other materials.

For example, two cranes were required to place the generators and chiller machines on the 22nd floor within the structure's complicated truss framework. For these picks, the crane of the southeast corner of the site picked the units from the east end of the building and handed off the units to the



southwest crane over the middle of the 24th floor, which then dropped the units through the openings on the 23rd and 24th floors onto the 22nd floor.

Design changes also presented some problems. While the project team had anticipated changes, it did not expect the

than 10,000 detailers and draftsmen were employed by firms from Canada to New Zealand to handle the level of detail required for steel erection.

After the steel was in place, the project also faced challenges with the installation of the massive transfer trusses at

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number of changes to the structural steel package. At the height of construction, a combined three tons of steel were shipped to the site weekly and more

the base of each tower. The concrete encased trusses support the cast-in-place concrete towers and house the MEP systems for the entire building and >>

Key Players

Owners: The Related Companies, Apollo Real Estate Advisors, Columbus Centre, LLC

Design Team + Consultants: Skidmore, Owings & Merrill LLP, Artec Consultants, Inc., ATI, Ava Shypula Consulting, Brennan Beer Gorman, Cantor Seinuk Group, Cerami & Associates, Chapman Ducibella Associates, Clevenger Frable LaVallee, Cline, Bettridge, Bernstein Lighting Design, Inc., Cosentini Associates, CS Technology, Darius Toraby Architect, P.C., Dr. Gerald Palevsky, P.E., Ducibella Venter & Santore, Edward A. Seers Associates PC, Elkus Manfredi Architects LTD., Fire Professional Associates, Inc., Flack + Kurtz, Gilsanz, Murray, Steficek LLP, Gordon H. Smith Corporation, Hirsch Bedner Associates, HLW, Hoffman & Feige, Inspection & Valuation International, Ismael Leyva Architects, P.C., Israel Berger & Associates, Inc., James Carpenter Design Associates Inc., Jenkins & Huntington, Inc., Joel M. Silverman & Associates, Joel Trace Architect, John A. Van Deusen Associates, Ken Smith Landscape Architect, Kramer Levin Naftalis & Frankel LLP, Langan Engineering & Environmental Services, P.C., Olin Partnership, Paul Weiss Rifkind Wharton & Garrison, LLP, Perkins & Will, PHA Lighting, Philip Habib & Associates, Platt Byard Dorell, Quartararo & Associates Inc., Rafael Vinoly Architects PC, Rolf Jensen & Associates, Inc., RTKL Associates Inc., Shen Milson & Wilke, Thad Hayes Inc., Thatcher & Associates Inc., The Thorton-Tomasetti Group, Tony Chi & Associates

Construction Team: Bovis Lend Lease LMB, Inc., AABCO Sheet Metal, Action Chutes Inc, ADF Steel Corp., Advanced Structures Inc, AIG Consultants, Inc., Airflex Corp., American Architectural, American Architectural, ASM Mechanical Systems / AABCO Sheet Metal, Atlantech Systems Inc., Atlantic Heydt, Atlantic Rolling Door, A-Val Architectural Metals Corp., Aztec Service Group, Big Apple Wrecking, BRC Commercial Kitchens, Breeze National, Carrier, Century Painting Corp, Component Assembly Systems, Inc., Construction Waterproofers Inc, Coordinated Metal Inc., Custom Carpentry Corporation, DCM Erectors, Inc., Deckelmann / Wellness, Diversified Systems, Door & Hardware Management Inc, Duschqueen, Inc., Dynamic Electric Services, E - J Electric Installation Co., Eagle One Roofing, Empire City Iron Works, Forest Electric Corp., Fresh Meadow Mechanical, FW Sims, G.C. Iron Works, G.M. Crocetti, GER Industries, GilBar Industries/Mammoth, Glas-salum International Corp., Gotham Lifts, Harder Services, Inc., Heritage Air Systems, HRH Construction Co., Hylan Electric, Imowitz Koenig & Co., Innovative Tile and Marble, Integrated Structures Corp, J. Fredrick Construction, JH Electric of New York, John Civetta & Sons, Jordan Panel Systems Corp., L&L Painting Co. Inc, Lanes Floor Covering, Liberty Marble, Inc., Long Island Fireproof Door, LVI Environmental Services Inc., Manhattan Demolition, Mayrich Construction Corporation, Melto Metal Products, Mensch Mill and Lumber, Metal Sales & Service, Inc., Metropolitan Metals, Miller Druck Specialty Contracting Inc, Mison Concepts Inc., Mocar, Nastasi & Associates, New England Construction, New Town Corporation, Nicholas J. Bouras, One Source Technologies, Otis Elevator Company, Patti and Son, Inc., PC Richards & Sons, Pentagonam, Pengat, Petersen Geller Spurge, Inc., Petrillo Stone, P.J. Mechanical, Poliform USA, Port Morris Tile & Marble Corp., PRWT- HYLAN, LLC, Quadrozzi Concrete Corp., RCC Concrete, Rael Automatic Sprinkler Company, Inc., RCN, Recon Detailing, Regional Wall Systems, Remco Maintenance Corporation, REP Heating & Air Conditioning Co., Inc., Roadway Contracting Inc., Safeway Environmental Corp., Santa Fe Construction Co., Scenic Technologies, Schuman Steel Fabrication, Siemens, Signs + Decal Corporation, Skyline Steel Corp. Misc. Iron, SN Tannor, Sorbara Construction, Southern Steel, Spectrum Painting Contractors, Steel Style, Inc, Stoneware, Structural Contracting Services Inc, StructureTone, The Uttermost Company, ThyssenKrupp Elevator, Tim Hunter Design, Tom Francis Construction Inc, Total Safety Consulting, Tri-State Dismantling, Turner Construction, Unity Electric Co., Universal Builders Supply, Inc., Underpinning & Foundations, VanDeusen & Associates, Val Floors Inc, W & W Glass Products Inc., Watermark, WDF/Greene, Wenig Company, Wood-works Construction, Zwicker Electric Company



required thousands of hours of planning prior to installation.

To study the logistics prior to construction, two balsa wood models of the steel trusses that included removable walls and floors were developed. Each truss floor houses chillers, generators, air handlers, 24-inch pipe and switchgear and required substantial coordination between the concrete contractor, steel fabricator, construction manager, architect and engineer during installation.

To vertically transport workers and materials at a speed and capacity necessary to meet construction schedule demands, two hoist towers were erected, one on 58th Street and one on 60th Street. Each tower had four high-speed rack-and-pinion cars and one material hoist. During the peak loading times of morning and lunch, it was necessary to run two of the cars on an express basis to upper floors.

A factor complicating the hoist tower arrangement was the setback >>

distances, especially for the south tower complex. To accommodate the setbacks and speed at which the hoist towers were to be erected, a customized system of tower sections and prefabricated truss ramps were placed into service by tower cranes. Two additional masonry hoists were constructed on the building interior to transport masonry and mortar materials to the first 12 floors.

Transporting workers and materials on the inside of the building also required coordination. More than 600 workers were needed to work daily on the north tower alone, which required staggering work schedules to minimize wait times for the elevators. >>



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Because of the project's history, the community took much interest in the development of the site, which required the project team to be in communication with four local community boards. Severe restrictions were placed on the construction team with respect to deliveries and working hours.

At one point, it appeared as if communication between the project team and community boards was going to break down, but the two sides tried to work through difficulties with safety, noise, dust control and deliveries. <<



Quartararo & Associates, Inc.
the project management people **Q&A**

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