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RENAISSANCE SQUARE

Hybrid Curtain Wall Speeds Up

Few industries typify the New York minute better than construction. New buildings are springing forth at a rate so fast it is hard to imagine who is building them and how. Yet a pair of buildings such as Costas Kondylis & Partners' recently completed Renaissance Square towers in White Plains demonstrate that with the right materials, contractors, and innovative approaches, an aggressive construction schedule can easily be achieved. In this project, a hybrid curtain wall system allowed for the prefabrication of nearly 94-stories of cladding off-site and ensured that the complex and eye-catching design met its deadline through a careful orchestration of timing and installation.

"When the developer [New York State-based Cappelli Enterprises] approached us with the project, we were thinking this would be for White Plains what Rockefeller Center is to Manhattan," says Martin Bottell, associate partner at Costas Kondylis. "We wanted to create a destination, to give the project a style of its own that hasn't been seen in the area." The intention, continues Bottell, was to create a collection of crystalline towers that would soar above their surroundings while at the same time maintaining a connection to the character of Westchester County. To accomplish this they designed three-story bases of granite for each building, thus introducing a contextual relationship with the scale of the neighboring

structures. But the architect's main focus was the glassy volumes jutting into the sky, which they pictured as sleek, monolithic twins, crowned by pitched parapets, trumpeting the optimism of this new age of development.

"These buildings are quite unique, and they really stand on their own," Bottell affectionately adds. But the seamlessness of their appearance masks the more complicated story of their construction, which was challenged by a considerably tight deadline. "Time was a very important part of the project," notes Bottell. In order to guarantee that the project stayed on schedule, Cappelli and Costas Kondylis decided to divide the workload on the towers among multiple subcontractors. The team assigned each of the towers its own structural engineer—Rosenwasser/Grossman Consulting Engineers worked on the south tower while Tadjer Cohen and Edelson worked on the north. The curtain wall was also divided between two installers.

The latter division was more complicated than the first, as rather than have each installer work on its own tower, the two teams—King Glass of Exeter, Pennsylvania and New York's W&W Glass—worked on portions of both. King Glass installed the lower floors—on one tower, they worked up to the eighth floor, or the other, to the tenth—while W&W completed the installation from there to the top [each tower

PREVIOUS The buildings' glass facades trumpet a new, optimistic era of development for White Plains.

BELOW The hybrid wall system goes easily into place, requiring no in-beds.

OPPOSITE The panelized system allows for a largely uncluttered floor during installation.



There are no special in-beds or steel plates and they use a straight wedge bolt, which keeps things simple.

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contains 40 habitable floors with an additional four for the parapet).

On the floors it completed, King Glass employed a stick-built system, installing the mullions and glazing on-site. W&W on the other hand used Toronto-based manufacturer Sota Glazing's HYBRID-WALL® system, a mix of curtain wall and window wall. The system comes in custom-engineered, prefabricated panels, like curtain wall, but sits on the floor slab rather than hanging off it, like window wall. It also provides the design flexibility of curtain wall while at the same time allowing a more economical installation. "For the most part, the system is simple for the contractors," said Les Young, project manager at W&W Glass. "There are no special in-beds or steel plates and they use a straight wedge bolt, which keeps things simple."

W&W attached the panels to the concrete slab of each floor with floating anchors that slip into the top and bottom of the mullion via 2½-inch-long galvanized steel fastenings. Because the anchors connect to both the floor and ceiling, each floor is structurally independent from those above and below it. The window wall of each floor transfers loads to the slabs and the floors move independently. Each unitized panel



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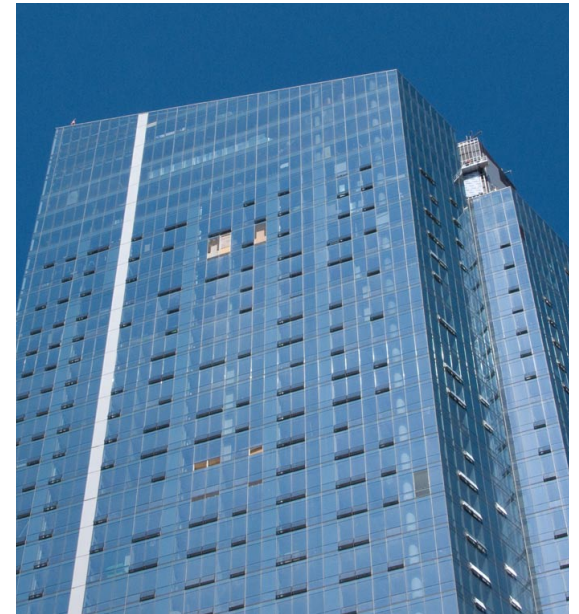
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was pre-glazed with 1-inch thick insulated Viracon glass with a mix of tempered and normal glass on the interior and fitted to 3-inch-wide, 6-inch-deep mullions. King Glass used the same type of glass and the same sized mullions on its portion of the building to maintain a uniform appearance.

While the Sota system could have been installed on the lower floors, scheduling conflicts determined the need for two installers and two systems. King Glass could start the project six weeks earlier than W&W, which had other commitments. King built up to stage when W&W was available to come in with their unitized panels and wrap the remainder of each building.

The design team also had to find a window washing system that could maneuver a rig around the building while accounting for the sloped parapet. They settled on a system produced by the Spanish company Aesa, which consists of a telescoping stick boom that rotates 360 degrees and can raise and lower to follow the slopes of the parapet. A hoist at the end of the boom lowers and raises the rig.

While some might balk at the prospect of employing multiple subcontractors, Bottell noted that the team worked well together: "Sometimes you have friction between contractors, but in this case there was really good team spirit. It was the only way we could have pulled it off." The result—94 floors of curtain wall in under ten months—proves that not only can such orchestration work, but it can achieve remarkable results. ■



OPPOSITE AND ABOVE The building maintains a uniform appearance in spite of the fact that two glazing systems were used.

RENAISSANCE SQUARE

Developer: **Cappelli Enterprises Inc.** Valhalla, NY
 Architect: **Costas Kondylis and Partners LLC** New York, NY
 Structural Engineers: **Rosenwasser Grossman P.C.** New York, NY
Tadger-Cohen-Edelson Associates, Inc. Silver Spring, MD
 Mechanical Engineers: **Ace Engineering, P.C.** Westchester, NY
 General Contractor: **George A. Fuller Co.** Valhalla, NY
 Curtain Wall Consultant: **Gordan H. Smith Corp.** New York, NY
 Curtain Wall Fabricator: **Sota Glazing, Inc.** Brampton, Ontario, Canada
 Curtain Wall Erectors: **W&W Glass Systems, Inc.** Nanuet, NY; **King Glass, Extexer, PA**