

# FORTIS DATA CENTER

Norwalk, Connecticut

**ARCHITECT**  
Perkins Eastman, Stamford, CT

**ENGINEER**  
WSP Cantor Seinuk, New York, NY

**CONSTRUCTION MANAGER**  
KF Brock, LLC, New York, NY

**PRECASTER**  
Blakeslee Prestress, Inc.  
Branford, CT

**OWNER/OWNER'S REPRESENTATIVE**  
Fortis Property Group, LLC,  
Brooklyn, N

## PROJECT FACTS

- 167,691-SQ-FT BUILDING
- 2-STORY

• THE PRECAST CONCRETE STRUCTURE ALLOWED THE BUILDING TO BE BUILT IN SECTIONS MOVING SOUTH TO NORTH, RATHER THAN BUILDING ONE COMPLETE FLOOR AT A TIME

**690 STRUCTURAL PRECAST PIECES:**

- 242 DOUBLE TEES
- 154 SLABS
- 129 GIRDERS
- 73 COLUMNS
- 71 SHEAR WALLS
- 21 STAIRS

**161 ARCHITECTURAL PRECAST PIECES:**

- 111 INSULATED WALL PANELS
- 50 INSULATED SPANDRELS



## PRECAST CONCRETE & PARKING



Top Photo courtesy of Akira Kobre, Fortis Property Group. Bottom and photos courtesy of Blakeslee Prestress, Inc., Branford, CT.

**D**evelopers of a new property planned for a data-processing tenant needed to construct a facility that met all of the tenant's specialized needs while also meeting tight schedule and budget requirements. To achieve these goals, designers created a two-story, 167,691-square-foot building using a total-precast concrete structural system and insulated architectural precast concrete walls. The design provided not only all of the functional needs but helped create dramatic aesthetics as well.

### When you think data security...think precast!

The structure features precast concrete double tees, columns, girders, shear walls, stairs, slabs, spandrels and wall panels. The panels support large glass curtain walls as well as metal panels that were attached to the exteriors. White cement with white aggregates, finished with a light sandblast, was specified for visible panels, with a gray cement finish used on those behind the metal panels and on interior faces.

"We looked at a lot of options for the structure," says Jonathan Metz, senior associate with Perkins Eastman, the architect of record, which also is performing tenant fit-out. The long building features a 50-foot-long section flanked by two 150-foot sections, and designers wanted to keep these as open as possible, which was aided by the long spans of the double tees.

The precast concrete structure also allowed the building to be built in sections moving south to north, rather than building one complete floor at a time, as would have been needed with steel, explains Akiva Kobre, senior vice president with developer Fortis Property Group. "That was a key reason we selected precast concrete," he says. "Other materials would have required the building to be built horizontally, which would have meant much more time before interior trades could get in to start finishing it."

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*Photos courtesy of Blakeslee Prestress, Inc., Branford, CT.*

The schedule also was aided by precast concrete's ability to fabricate components while site work commenced, Kobre adds. "Engineering on precast concrete can be intensive, but the time spent upfront on design is more than made up by how quickly it can be erected once the site is ready."

That was a key element on this project, notes Sabu Abraham, an associate with WSP Cantor Seinuk, the engineer of record. "Site conditions slowed the cast-in-place concrete foundation work, but the precast pieces could continue to be produced while that continued." That cut the original three-month erection schedule to two months, he says. One section of the foundation includes a basement that helps level the building where the site slopes away.

"The precast concrete structure and panels allowed us to enclose the building quickly, and getting the entire shell from one supplier created efficiencies," says Metz. The double tees also helped provide interior support for a variety of heavy equipment that needed to be hung, Abraham adds. The precaster worked closely with the designer to ensure the double tees could support the planned loading.

Precast concrete's inherent durability also provided an added level of security for the building, notes Metz. "We didn't have to consider providing any additional protection to make it secure." Adds Kobre, "Precast concrete provided the sturdy structure that a data center of this type needed."

In addition to the other decorative exterior elements, designers added three perforated-metal armatures that run across the top of the building and down the side. These L-shaped bands reflect a similar design on a nearby building also designed by Perkins Eastman. The bands are self-supporting but attach to the precast concrete panels and to a concrete curb on top of the double tees forming the room.

A significant amount of HVAC equipment is supported on the roof, but it was erected easily thanks to the precast concrete structure, Abraham notes. Precast columns were extended about 3 feet above the roof line, and they serve as the base for a steel frame that supports the equipment. "It was easy to construct it this way," he says. "By working out exactly where the supports were needed and extending the columns, we didn't need a complicated structure."

The building's shell has been erected, and it is expected to open later in 2013 when interiors have been fitted out. "We're extremely pleased with the decision to use precast concrete on this project," says Kobre.