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Drexel's Daring Dormitory

THE 34TH STREET RESIDENCE WILL BOAST A UNIQUE FOOTBALL SHAPE. BY KELLY MCCABE

Philadelphia's INTECH Construction is putting a twist on traditional college housing – literally. Drexel University's new 34th Street Residence Tower (Millennium Hall) will have a unique football shape, and each floor will rotate from the floor below it, "like a barber pole," Superintendent Gus Castaldi says.

"Each floor moves 10 inches in relationship to the floor below it, so it's technically not vertical," he explains.

"That's one of the most significant features of the building. By the time it gets to the top of the building, it's sticking out 12 feet from where it started and inclining 12 feet on the opposite side."

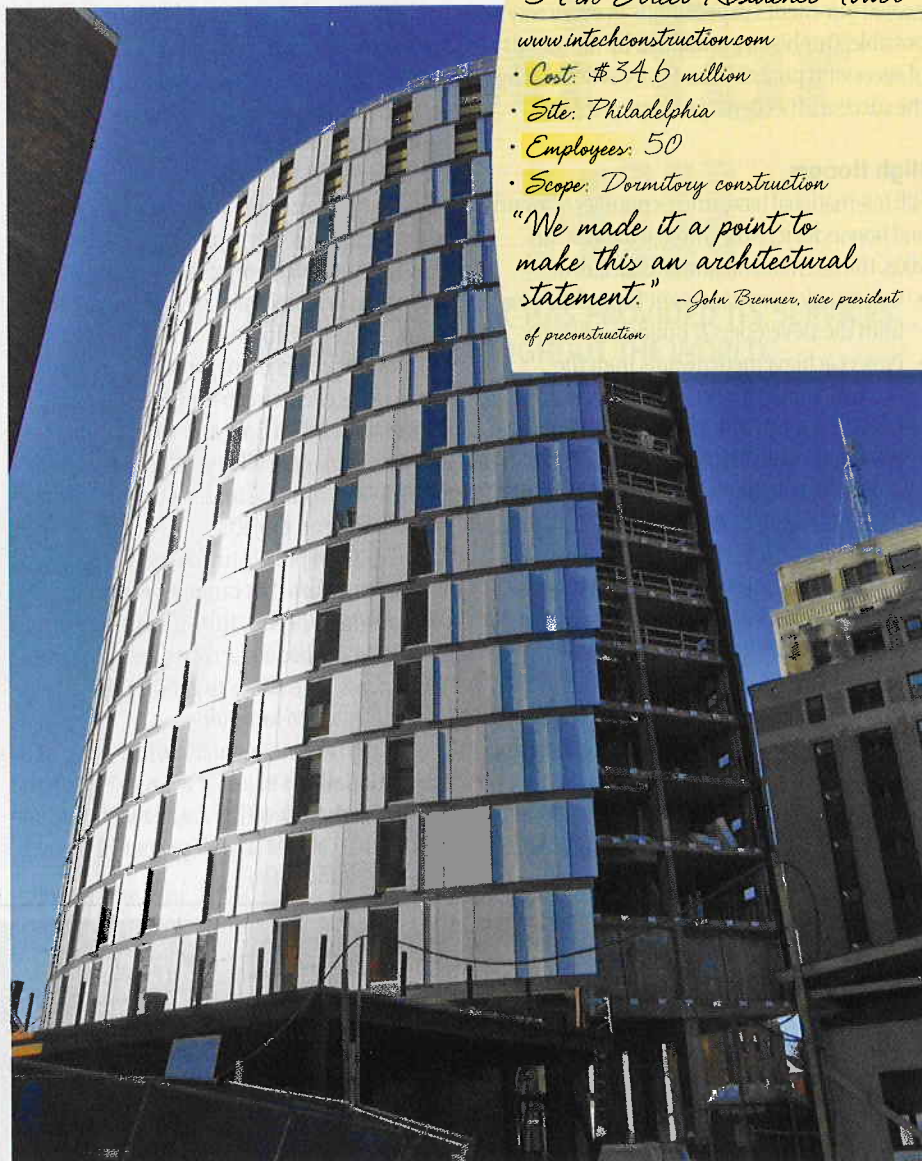
The unique design of the 103,000-square-foot building was a conscious decision by the university to make it stand out on campus. "Drexel made it a point to make this an architectural statement," Vice President of Preconstruction John Bremner says. "It's the highest point on campus and the tallest building in the area."

"You can't miss this building – it stands out in the skyline," he continues. "It's a complicated building to build, and a lot of people are talking about it already."

Because two sides of the building's exterior are curved, the exterior panels also had to be curved to move in relation to the floor, Project Manager Tracy Lo says. The exterior is a rain screen wall-panel system with curtain wall on two ends, Castaldi explains.

The tower of the building sits 20 feet above the ground on 20 concrete columns and two shear walls. The columns run up the central core of the building with each floor slab acting as a cantilever; below the tower is the main lobby as well as an outdoor area for the students, Assistant Project Manager Bill Curran says.

Attached to the building's first floor will be a low-rise structure that houses all mechanical and electrical units. The low-rise structure will



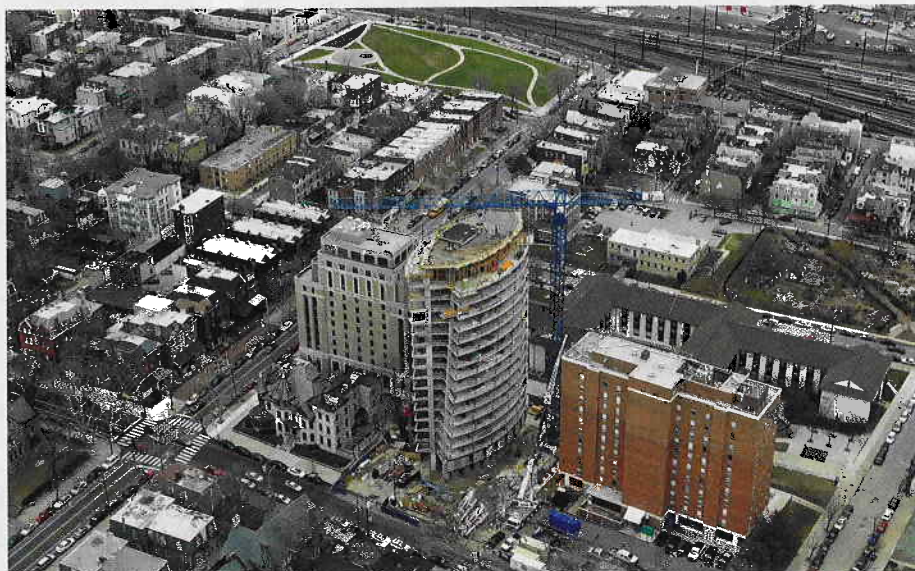
INTECH Construction - 34th Street Residence Tower

www.intechconstruction.com

- Cost: \$34.6 million
- Site: Philadelphia
- Employees: 50
- Scope: Dormitory construction

"We made it a point to make this an architectural statement." -John Bremner, vice president of preconstruction

» Drexel University's new 34th Street Residence Tower (Millennium Hall) in Philadelphia is designed to stand out. "You can't miss this building – it stands out in the skyline," Vice President of Preconstruction John Bremner says.



have a modular green roof system, which saves energy and reduces storm-water runoff, Lo says.

Unique Residence

The unique shape means every floor must be laid out differently. Despite the differences in each floor's structure, each will have a typical layout of a large suite with two lounges on each end and 16 bedrooms on the outside edges of the building. The student rooms are located on the cantilevered section, and the core area that does not rotate houses communal spaces that require vertical stacking, such as bathrooms and elevators.

On each floor is an ablutionary area with sinks and mirrors; floors also have common lavatories and shower rooms. "One of the big design features is that it rotates, and the upper floor faces Center City Philadelphia, so it's a great view," Curran says. Each wedged-shaped room has tall windows that are

8 feet high, so students can take advantage of the view. The concrete columns that run up through the floor are exposed, as are some ceilings in the dormitory, giving the building an industrial feel.

Urban Challenges

Building in a tight urban area surrounded by university buildings poses some difficulties for INTECH, Superintendent Brian Conway says. "The building sits on what were three tennis courts, and we're surrounded by the main road going into the city and dorms all around, so



it's a very tight facility," he explains. "There's a dorm with-in 25 feet of each side of the project."

Drexel operates on a trimester schedule, which means students have a short summer break, so they are on site more often than not. "We didn't want to inconvenience the students' safety and studies," Curran continues. "We put fencing out when we're using cranes so students don't walk around any dangerous areas.

We try to limit the amount of fencing for their convenience of walking to classes, but when we're doing certain activities, we need to fence."

Pouring the concrete for the building also was challenging, Lo says, made even more so by the tight space. "We used 24 concrete trucks in one day, and there's no place [for them] to sit and wait, so that's a timing issue that we solved by good scheduling," she explains. "We also have to coordinate with other deliveries."

To pour the concrete for the dorm, INTECH pumped the concrete for the first to seventh floors. After the seventh floor, crews sent buckets of concrete up with the crane. "We had a five-day rotation for each floor, so we'd set the tables for the concrete, wait five days and then pour the floor above it," Conway explains. "So if we had bad weather, we would have to do whatever we could to stay on that cycle."

Bremner thinks INTECH's performance on the 34th Street Residence Tower will further solidify the company's relationship with the university. "We have worked with Drexel on multiple projects, so we consider them a customer," he states. ♦

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