

A GLASS ICON CASE STUDY

KEAN UNIVERSITY GREEN LANE BUILDING
UNION, NJ





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-Gary Snee, Project Manager, Dobco, Inc.

+ PROJECT SNAPSHOT

Architect

Gruskin Group

General Contractor

Dobco, Inc

Dealer/Installer

Union County Plate Glass

Curtain Wall Design Consultation

Gary Tongco, Graham Architectural Products,
Curtain Wall Solutions

Nick Irwin, Graham Architectural Products

Assignment

Design a six-story, 102,274 sf mixed-use academic building with a unique building footprint and a four story, segmented, radiused, inverted sloped feature wall.

+ CHALLENGE

Jobs don't get much more complex than this. The design had several flat vertical walls, a segmented radius, a 56-degree outside corner, parapets, soffits and – the pièce de résistance – a tilted ellipse feature wall. Unlike a traditional inverted radiused wall with a slope, the intent of the tilted ellipse was to keep the radius constant, with the center of the radius projecting out 4 ½' at every floor as you move up the building.

+ SPLENDOR IN THE GLASS

Kean University wanted something dramatic and iconic to greet those approaching its Union, NJ, campus from the west.

“Our goal was to mark the campus entry with a bold architectural statement and announce to visitors and the general public that they are about to experience something special upon entering the campus,” Kenneth A. Gruskin, AIA, principal and founder of the Gruskin Group, told nj.com.

What his firm proposed, in the words of Graham Architectural Products Sales Rep Nick Irwin, “was all very complicated. If you can envision an ice cream cone on the side of an undulating building that's basically all glass...”

Technically, that tilted ellipse was the biggest challenge on the job, but Green Lane has several unique features: A vertical radius wall over the main entrance; then, moving clockwise around the rest of the building, a sharp, 57-degree corner, followed by the tilted ellipse, which reaches toward the roadway; finally, a conference room on the very top floor, which is a true radius wall sitting on top of the tilted ellipse.

Said Gary Snee, project manager for Dobco, the general contractor, “This is by far the most unique project I have worked on from a design and constructability standpoint. The radius and sloping curtain wall made it a challenge.”

And it got interesting right out of the chute. “As originally designed, the job was to have all the framing dead-loaded off the second floor slab,” said Gary Tongco, national sales manager for Graham Architectural Products, Curtain Wall Solutions, “But after we did our calculations, we discovered the second floor slab couldn't support the weight.”

Other challenges emerged, too. The architect wanted the top surface of the intermediate members to be in the same plane as the floor slabs, and he wanted the horizontals to be the same depth as the vertical members. “So we ended up changing to a hybrid pressure wall/unitized curtain wall system,” said Tongco, “which was a pretty dramatic change.”

Plus, said Snee, “There were several connection issues that were not fully detailed on the contract drawings due to the sloping curtain wall. Graham was able to come up with quick solutions that were acceptable to the engineering team, satisfied the architects aesthetically, and kept within our schedule.”

The sunshades increased the degree of difficulty. The architect wanted specific profiles, which were particularly challenging on the radiused and tilted ellipse walls, where each of the sunshades had a unique profile. “The transition from a tilted ellipse to the vertical wall created obstacles to overcome, and the interface with the vertical walls created additional challenges in fabrication and assembly,” said Irwin. The entire job was pre-glazed in Graham's Merrill, WI, facility and the sunshades were designed, engineered, fabricated and assembled there as well. Sunshades were installed in the field.

The result is impressive. On the first floor of the six-story, 102,000 SF building is a Barnes & Noble college bookstore and café. Floors two through five feature classrooms and administration offices, while the sixth floor has a conference center and rooftop terrace with views of New York City. Kean's new Robert Busch School of Design resides here, as does the university's expanding business program.

“We're all very proud of the job,” said Tongco, mentioning Gruskin, the general contractor, Dobco, and the installer, Union County Plate Glass.

“It was a lot of work and it required a lot of dialog back and forth. Union County was a great partner for the install side, because it was so tricky, but in the end it was kudos to everybody.”

“Graham was very easy to communicate with,” added Snee. “In fact, they were technically a supplier of our sub, which we usually would not communicate with directly, but due to the complexity of the design we added them to our RFI response list and dealt with them directly on many issues, which worked out well.”

In fact, the project went so well, it won an AIA Newark and Suburban Architects Gold award. And the team worked so well together, it has been retained for the second phase, a \$40 million multi-purpose academic building anchoring another corner of the campus.