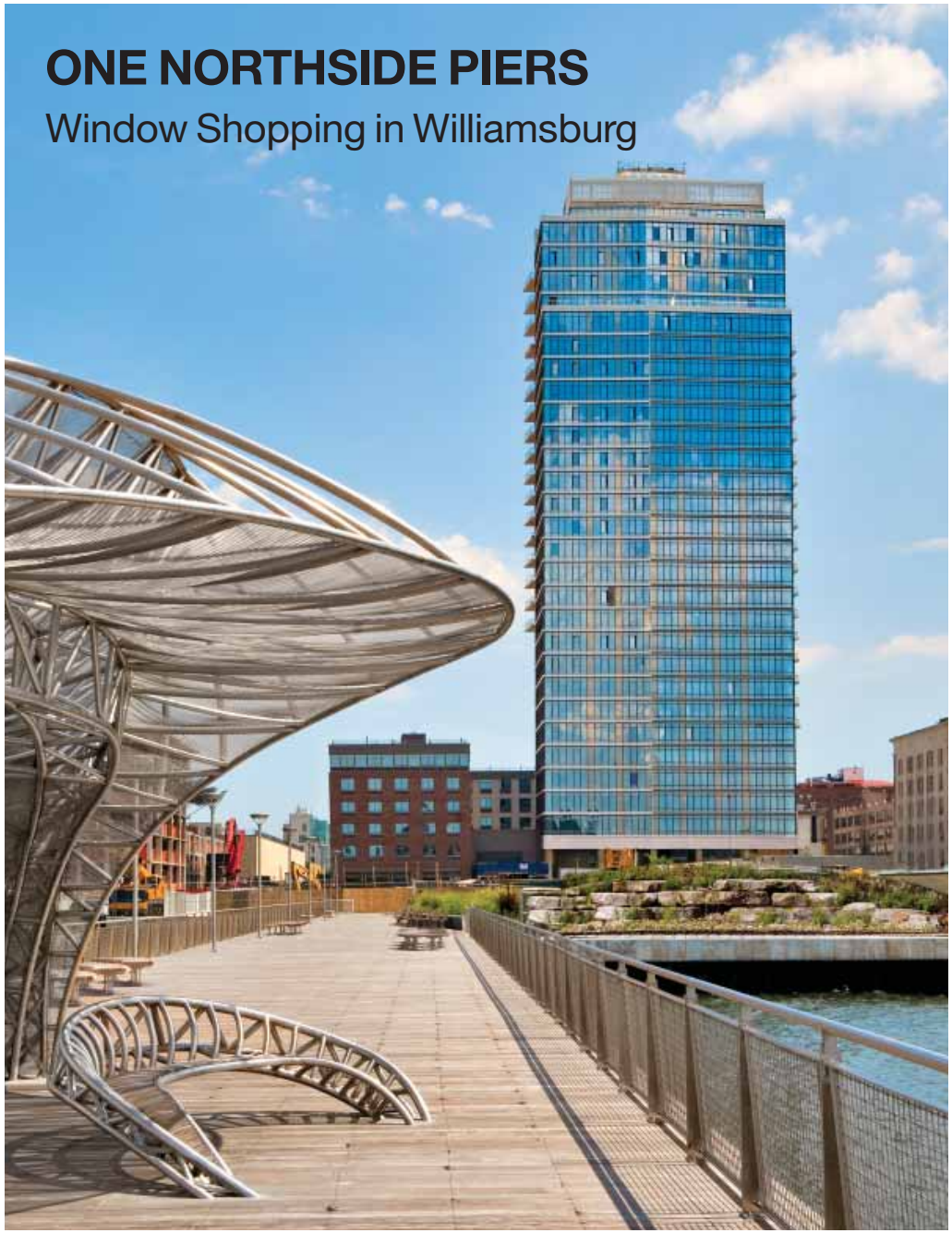
ONE NORTHSIDE PIERS

Window Shopping in Williamsburg



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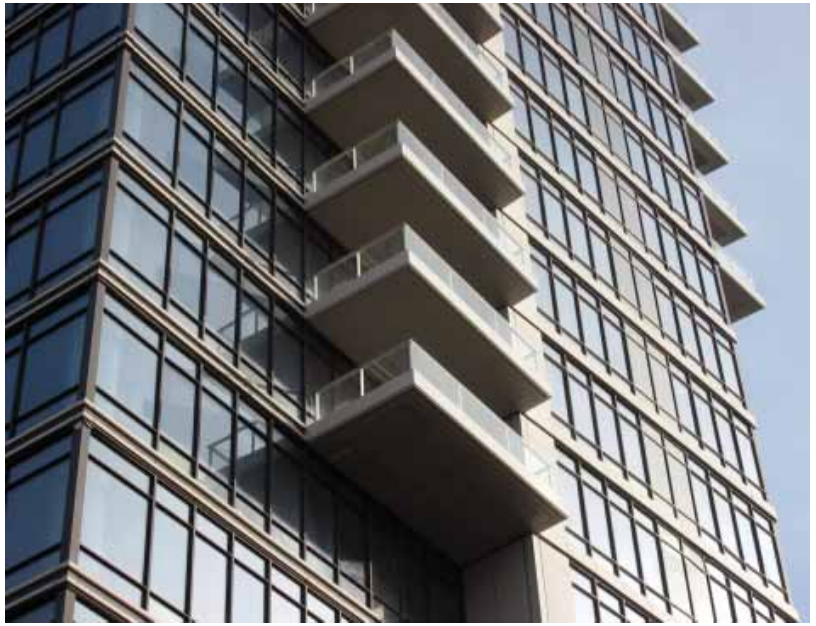


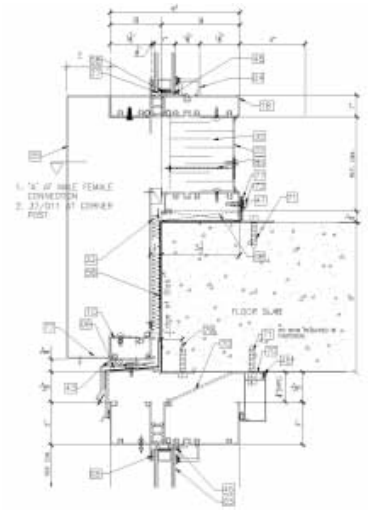
Facing One Northside Piers as seen from the public pier nearby.

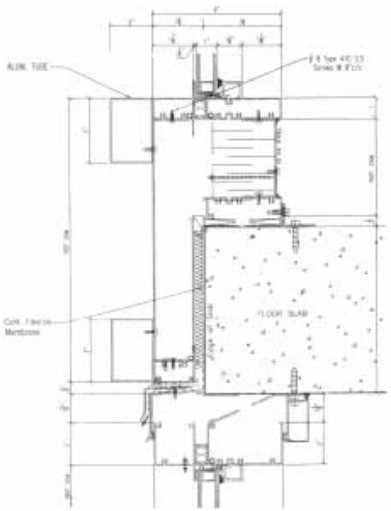
Above To the right of the balconies, the Type A window wall system includes thicker aluminum slab covers coated in white Duranar XL; to the left of the balconies, the Type B system includes two thin white aluminum strips.

From a distance, One Northside Piers, a new luxury condo tower on the Williamsburg waterfront, might look a lot like other glass-and-aluminum-clad residential towers. But a closer look reveals that the complex design by FXFowle Architects is a window wall system consisting of two window and slab cover typologies—a technique to break up the mass of the building, making it appear taller and thinner, as well as more visually intriguing. The window and slab covers are an integrated unit, an innovation by the fabricator allowing the architects freedom to create a more complex design, with multiple folds and planes, than would have been possible using separate windows and slab covers. This and other prefabrication capabilities helped the designers successfully achieve their ideas.

Part of a larger complex, the luxury tower and adjacent block of affordable housing are the first in a wave of new development following the Greenpoint-Williamsburg waterfront rezoning of 2005, a change that opened up the historically industrial area to residential use. The 29-story, 210,000-square-foot tower takes inspiration from the scores of glass-and-metal high-rises across the East River in Manhattan, but it avoids the cliché of being a "plain glass box," explains project architect David Lee of FXFowle, which worked with developers Toll Brothers, RD Management, and L+M Development Partners to complete the project last year. Instead, the 177-unit building appears as a series of interlocking volumes, its facades uniquely articulated by two types of window walls. In creating the two types, "we used a lot of the inherent aspects of the windows themselves—the mullions and such," says FXFowle project designer Joe Pikiewicz. "We've tried to accentuate some components and let others fade into the background to create differential patterns between different portions of the facade." Where the two systems abut one another on each side of the building, a vertical stripe or "fin" of aluminum marks the seam. On the north and south facades, a "zipper" of balconies further emphasizes this vertical division, which makes the building seem thinner.

One of the two system designs, Type A, features the bold horizontal lines of aluminum slab covers, which are more than a foot thick and coated in white Duranar XL, with mullions accentuated by 4-inch-deep snap-on ornamental pieces, also in white Duranar. Though mainly decorative, they cover a ½-inch-thick rigid insulation board that helps boost energy efficiency by preventing heat loss from the slab edge. Similarly, the snap-on elements, though mainly ornamental, aid energy efficiency by providing a small degree of shade. Though the snap-ons were nearly value-engineered out as nonessential elements, the designers prevailed because of their contribution to the overall appearance. "We put our foot down," Lee recalls. "When you go out to see the building, you really can't imagine the design without them."





The Type B system differs from Type A in that the slab covers each feature a pair of thinner white aluminum strips, accenting their horizontality. In addition, the gray-coated mullions have no snap-on covers, giving them a more subtle appearance.

To fabricate the window wall, FXFowle designers, the window wall consultant Gilsanz Murray Steficek, the construction manager Kreisler Borg Florman, and the owners chose a fabricator that could make mullions with only a 2-inch profile (formed from two 1-inch-thick pieces) for the vertical members, rather than a 4- or 5-inch profile. A ⅛-inch-thick steel plate is embedded in some of the mullions for additional strength, Lee says, when used in parts of the building subject to high wind loads—sometimes more than 60 pounds per square foot, as determined by wind tunnel testing, Lee says. From inside, the slender profile of the mullions minimizes obstruction of sweeping views of Manhattan, Brooklyn, and the East River. The designers also used wider window units at the corners—up to nearly 5 feet wide, as opposed to the typical panel dimension of 36 inches wide by 115 inches high—to help showcase those views from the living rooms. Glass used for the panels is Guardian AG-43, a 1-inch-thick insulated glass unit with low-E coating on the No. 2 surface.

Simple, unobtrusive aluminum and glass balcony railings from Aluspek were also chosen to maximize views. The aluminum portions, coated in a 10-micron clear anodized aluminum finish, create a sleek frame for a 6-millimeter clear tempered glass balustrade. The glass panels are 3 feet 7/16 inches tall and rest on a concrete base. Aluminum base shoes secured to the concrete with grade 304 stainless steel anchorages, support 3-foot-7 5/16-inch aluminum baluster rails capped with a 3¼-inch-wide by 1⅝-inch-high aluminum railing. The base shoe is independent of the guardrail, permitting adjustment at the time of the installation.

According to Pikiewicz, another advantage the fabricator offered was the opportunity to create a window unit with an integrated slab cover. Working in collaboration with the window company's engineers, the architects had the freedom to create a more complex design, with multiple folds and planes, than would have been possible with separate windows and slab covers, which would need to be easy to assemble on-site. That flexibility helped enable them to create the two window-wall typologies for the same building, Pikiewicz adds.

However, the unitized panels proved to be a mixed blessing. "They're used to much smaller concrete tolerances in Canada, and when we came to New York, a particular challenge was the amount of slab variation in the elevations," Lee remarks. In a more typical system, the slab cover would be installed after the windows, so it would cover any slight variations. In the case of One Northside Piers, to get each window and slab cover to line up with its neighbor, the construction workers sometimes needed to use shims, says Eric Platt, project manager from Kreisler Borg Florman. But overall, since the slab covers were integrated and didn't need to go on in a separate step, the system saved time, resulting in cost savings.

One Northside Piers, completed in May 2008, will soon be joined by a second, similar tower planned for completion by the end of this year, with a third tower to follow. Other present and future features of the complex include parking, landscaped walkways to the water, an esplanade, and a 400-foot public pier adorned with a wavelike stainless-steel sculpture, *Crescendo*, by local artist Mark Gibian. The architects wanted to have a visual attraction at the end of the pier, Lee explains, but the beauty of the arching forms of the sculpture is coupled with practicality: *Crescendo* simultaneously serves as an artwork, sunshade, and bench. Its curvaceousness provides a striking complement to the orthogonal lines in the tower onshore, yet the steel sculpture also shares a certain sensibility with One Northside Piers, a building whose metal surfaces serve multiple functions, aesthetic and eco-friendly. M

Facing, left The Type A slab cover;
Facing, right The Type B slab cover

Above Working with the fabricator to create window units with integrated slab covers allowed architects to create a more complex window wall system.

Below Glass and aluminum balcony railings maximize views of the East River.

ONE NORTHSIDE PIERS

Location: **47 North 4th Place, Brooklyn, NY**
Owners/Developers: **Toll Brothers,** *Horsham, PA*;
RD Management LLC, *New York, NY*;
L+M Development Partners, *Larchmont, NY*
Architect: **FXFowle Architects**, *New York, NY*
Structural Engineer: **McLaren Engineering Group**, *West Nyack, NY*
Mechanical Engineer: **Cosentini**, *New York, NY*
Construction Manager: **Kreisler Borg Florman**, *Scarsdale, NY*
Window Wall Consultant: **Gilsanz Murray Steficek, LLP**, *New York, NY*
Architectural Metal Fabricator and Erector:
Arista Architectural Metal & Glass, *Jamaica, NY*
Window Wall Erector: **Phoenix Contracting Group**, *Greenwich, CT*