The apartment complex's overall design features tiered levels, moving gradually from seven stories at the front, stepping down to four, and then two to provide a more seamless blending into the residential neighborhood on the building's back (or west) side. ***Photo:*** *Wells.*

LUCY GONZALEZ PARSONS APARTMENTS

CHICAGO, ILL. /// *BY DEBORAH R. HUSO*

The Logan Square area of Chicago, Ill., like so many urban neighborhoods, has seen increasing gentrification, making it unaffordable for many families that have lived there for generations. That was the case until construction of the Lucy Gonzalez Parsons Apartments, a 100% affordable housing project, was completed in May 2022.

The seven-story, 100-unit, 126,000-ft^2 housing complex is an equitable transit-oriented development due to its proximity to a bus stop and a Chicago Transit Authority subway station. The much-needed affordable housing complex replaces an underused city parking lot.

Spearheaded by nonprofit, Chicago-based developer Bickerdike Development Corporation, the total–precast concrete project adds affordable housing that is architecturally compatible with both the residential and commercial neighborhoods it straddles.

Equitable, Affordable Design

Even though Logan Square is known for its historic residential architecture, including greystone buildings dating to the turn of the last century, Chicago-based LBBA Architects decided to forego a historic-looking apartment complex. "We wanted the building to be sustainable and contextual so it would be appropriate for the neighborhood," says Peter Landon, principal at LBBA.

The building sits on Kedzie Avenue, which runs north-south and features an array of retail properties, but on the corner of Emmett Street, it transitions to single-family buildings only. To fit in with the mix of residential and commercial spaces as well as the eclectic architectural styles in the neighborhood, LBBA proposed a structure that would be seven stories tall at the front, facing the soon-to-be-redesigned Kedzie Avenue.

Moving toward the back (west), the number of stories diminishes to four and then two, providing a more seamless blending into the residential neighborhood on Emmett Street that is characterized by smaller buildings. The apartment complex also features townhouse units, so the design team established a bend in the building to push it back from the street in front of the townhouses and gain more green space on Emmett.

The design team recommended a total–precast concrete building for a variety of reasons, including speed of erection, minimal construction disruption on busy urban streets, and the efficiency of having exterior walls that are both structural and architectural. "Precast concrete also doesn't have sound issues because it's dense and makes for quiet apartment [units]," Landon adds.

Landon says the team also appreciated the cost efficiency of total–precast concrete. "Precast is 5% to 7% more economical than a mainstream building, and it's easy to maintain. You can build year-round, secure the construction site because it goes up so quickly, and you can enclose it really quickly. You can also get texture and scale very flexibly."

While precast concrete's ability to withstand high winds and fire-resistance benefits residents, the material also gave the project participants another advantage. The affordability, durability,

The middle section of the apartment complex features precast concrete panels that are flat on the interior but bump out about 2 ft on the outside to provide an architectural ripple in the building's exterior. ***Photo:*** *LBBA.*

longevity, and low-maintenance features of precast concrete also helped ensure its funding from sources that included $10 million in tax-increment financing from the City of Chicago, city-issued tax-exempt bonds, and nearly $13 million in construction funding from the Chicago Housing Authority.

Joe Dunne, vice president of real estate development with Bickerdike Redevelopment Corporation, says the building's precast concrete construction was particularly helpful in securing housing tax credits, where on-schedule delivery is critical. Precast concrete construction also reduced Bickerdike's overall need for financing because it allows speedier erection, reducing the period the developer has to carry interest on construction loans.

According to Auggy Chung, vice president of sales for Wells, the prefabrication manufacturer and erector, the entire structure was composed of precast concrete, including wall panels, beams, columns, and hollow-core floors and roof, except for the seven DELTABEAM® composite beams that support the elevator lobby's ceiling.

Site Challenges Solved

Though the design of the Lucy Gonzalez Parsons Apartments was clean and simple, the construction team faced several challenges due to the site location—a former parking lot in a busy urban location surrounded by streets and other structures. The builders and engineers therefore took a three-phase approach to construction that allowed them to build the apartment complex from the back (west) side of the site to the front (east).

"We essentially only had access to the building site from the east side of the property," says Chung. "There were already existing buildings on the west, so we worked from the building [footprint] from west to east."

The building got taller, however, as the construction team moved away from existing residential structures on the west side of the jobsite, moving gradually from two stories to seven. The crane used to place the precast concrete panels sat inside the footprint of the building for most of the project due to this back-to-front construction process. The crane only had to sit in the street at the very end of the project as the last precast concrete walls on the apartment complex's east entrance were erected.

This strategy ensured minimal disruption to neighboring buildings and streets during the construction process, as did the use of precast concrete that was manufactured off-site at Wells' Valders, Wis., and Crystal Lake, Ill., facilities and then trucked to the jobsite for erection. Precast concrete erection began in January 2021 and was completed in March, taking only 45 days.

At the street-facing corner entrance of the building, precast concrete fabrication allowed a cantilevered wall panel to create an open glass corner without a vertical column, providing unobstructed window views for the 4500 ft^2 of retail space on the structure's first floor. The bottom columns in the structure serve as load-bearing components.

Because of the tight jobsite at the intersection of Emmett and Kedzie, panel transport was a challenge. "There was not a lot of storage on-site," Chung says, "so we had to get the [precast concrete components] there just in time for construction." Most of the precast concrete wall panels were wider than 8 ft.

TOTAL–PRECAST CONCRETE CHECKS THE BOXES

LBBA, the project architect for the Lucy Gonzalez Parsons Apartments, has been designing precast structures for more than three decades. "Precast is 5% to 7% more economical than a mainstream building," says Peter Landon, principal at LBBA. In addition to cost efficiency, the total–precast concrete build allowed an array of other benefits:

- Ease of maintenance
- Construction that is not weather-dependent
- Minimal disruption at an urban building site
- Secure construction site
- Quick building enclosure
- Opportunities for different textures and colors
- Ease of painting and patching
- Resistance to fire, mold, insects, and weather

"The beauty of precast is it's all prefabricated off-site and delivered to the jobsite, so you're just putting blocks together in the field," says Auggy Chung, vice president of sales for Wells' Great Lakes division. "It's less labor intensive in the field and takes up a lot less space."

Visually Appealing

With its staggered-height design, the Lucy Gonzalez Parsons Apartments complex blends into the landscape and residences that surround it. Its faceted precast concrete panels with custom staining in shades of blue, aqua, and yellow reflect the creative energy of the Logan Square neighborhood while also incorporating colors of developer Bickerdike.

To break down the 100-unit apartment building's mass, LBBA designed it to have three sections. Behind the front section that sits on Emmett and Kedzie is a second section where the building breaks down in scale with a bend away from the street. The middle section also features panels that are flat on the interior but bump out about 2 ft on the outside to provide an architectural ripple in the building's exterior. Behind the bend at the middle of the building, the structure starts stepping down to four stories, and then two.

Inside the building, hollow-core makes up the ceilings of each level. Those ceilings were left exposed and then painted. The precast concrete walls and floors eliminate sound transference between units. "For multifamily housing, minimizing sound transference is extremely beneficial," says Dunne. Additional benefits to residents include a tight building envelope with spray foam insulation on the inside of exterior walls to help ensure energy efficiency and lower resident utility costs.

PROJECT SPOTLIGHT
LUCY GONZALEZ PARSONS APARTMENTS

- Location: Chicago, Ill.
- Size: 126,000 ft^2
- Cost: $40 million
- Architect: LBBA, Chicago, Ill.
- Owner: Bickerdike Redevelopment Corporation, Chicago, Ill.
- Contractor: Linn-Mathes Inc., Chicago, Ill.
- Structural Engineers: Nayyar and Nayyar International Inc., Chicago, Ill.;
- Precast Concrete Specialty Engineers: Midwest Structure Engineering, West Allis, Wis.
- PCI-Certified Precast Concrete Producer: Wells, Albany, Minn.; Valders, Wis. and Crystal Lake, Ill.
- PCI-Certified Precast Concrete Erector: Creative Erectors, Rockford, Ill.
- Precast Concrete Components: 573 pieces of hollow-core, 337 wetcast walls, 45 stairs

The first two floors of the Lucy Gonzales Parsons Apartments complex feature texturing that mimics shiplap siding. Wells used formliners to achieve the textured panels. Recessed colored panels around the windows were designed to look like part of the window frames. ***Photo:*** *Wells.*

While form repetition is often one of the key benefits of precast concrete, the cost efficiencies gained by repeating components can also lead to drab design. However, in the case of the Lucy Gonzales Parsons Apartments, the design team maximized use of repeating precast concrete components while still keeping the building design vibrant and interesting through the use of faceted panels, sculpted recesses, and bright coloration in repeating window panels to avoid the feeling of a repetitive grid. Chung says the team gained efficiency in the repetition of panel shapes and sizes by repeating pattern panels on every other floor above the first two. Landon says the recessed colored panels around the windows were designed to look like part of the window frames.

Shipslap Siding

The first two floors of the complex feature texturing that mimics shiplap siding; Wells used formliners to achieve the textured panels. "The use of formliners allowed for more variation on the façade than we would have gotten with cast-in-place or even a steel structure," says Dunne, "which we believe resulted in a more visually appealing building."

Built to Last

LBBA has done a number of affordable housing projects and tries to design buildings that blend with the neighborhood. "People want a building that fits in and feels normal," Landon says. "It's really gratifying to do 100% affordable housing in a gentrified neighborhood. A lot of residents grew up here and have family in Logan Square. The idea is to keep this neighborhood diverse."

"[Logan Square] is becoming an expensive area, so people who have lived there their whole lives have had to move out," says Chung. "Building the [Lucy Gonzalez Parsons Apartments] was a rewarding experience to remind us why we do what we do."

And with total–precast concrete, the residents will benefit from long-term, low-maintenance durability. "You have the inherent benefit of the concrete plus low maintenance," he says. "We want to build these buildings to last a long time," Chung says.