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# Building Vertically

Publix Supermarkets fits GreenWise shopping concept into tight urban historic space using total precast concrete system

— Craig A. Shutt



*The new GreenWise organic supermarket by Publix Supermarket in Tampa, Fla., combines grocery, retail, offices and parking space in a total precast concrete structural solution that offers the functional needs for each use as well as an attractive façade that fit into the historic neighborhood.*

**W**ith the population growth in urban centers and the scarcity of commercially available land to meet the new needs, developers are looking to revitalize existing locations and fit more services into tighter spaces. A total precast concrete structure helped Publix Supermarkets achieve those goals when it constructed a building in the historic and trendy south section of Tampa, Florida known as SOHO that contains a 40,000-square-foot grocery and retail center on the first floor and two levels of parking above.

The facility represented a new approach to supermarket layout for Publix as well as an extension of its new shopping concept, explains Randy Simmons, chairman of R.R. Simmons Construction Co., the design-build

firm on the project. "Publix has recognized that many people today are looking for more natural and organic choices, and this store approach achieves that by avoiding foods produced with pesticides and chemicals, hormones and antibiotics," he says. "The goal was to create a multi-use facility as a one-stop shopping destination for organic, all-natural and earth-friendly products."

Fitting that store concept into downtown Tampa's "trendy, highly urban and historic area" proved challenging. The Tampa GreenWise Hyde Park store, the second constructed in Florida, houses an upscale grocery as well as a café, a full kitchen offering prepared foods for curbside service, and a mezzanine with seating and a Wi-Fi network. Above this two-story-

tall area are two levels of structured parking with space for 200 cars. They are reached via oversized elevators, escalators and cart conveyors that carry shopping carts to the second floor.

Prior to creating the design, the architects held review meetings with the public to learn their concerns and explain the concept. Their prime focus, Simmons says, was to ensure the project fit into the streetscape of the historic area and that there was sufficient parking to prevent congestion and allow easy access to the stores.

Deciding to create this multi-purpose structure using precast concrete was an easy one, Simmons notes. "We've done many parking structures for a variety of clients, and we're pre-

cast concrete advocates," he says. "Precast concrete is our first love for every project. It's the most cost-effective and flexible design option, and it provides excellent aesthetics. You can make it do pretty much whatever you want it to do. It was a natural choice for the high-density, stacked construction we needed here."

'The goal was to create a multi-use facility as a one-stop shopping destination.'

### Design-Build Aids Process

What was not natural was revamping the store layout to fit the available space and the need for escalators. Supermarket officials chose R.R. Simmons to create a design-build concept for the first time due to the logistics of the tight site and need to adapt to fit.

"Parking with the grocery functions in its base rather than below or beside the retail space was a new concept



*Towers along the main pedestrian way add interest and break up the large scale of the building's façade. The architects held review meetings with the public to explain the concept and listen to their feedback. One of their key concerns was that the building fit into the historic look of the area.*



*The tight site required the structure to be built from the inside out, positioning the crane inside the footprint and working across the building before backing up to erect the next set of bays. When the crane finished the final portion, the speed ramp to the parking levels was built as the final piece.*

### PROJECT SPOTLIGHT

#### GreenWise Supermarket

**Location:** Tampa, Fla.

**Project Type:** Grocery store and parking

**Size:** 199,100 square feet

**Cost:** \$12.5 million

**Designer/Contractor:** R.R. Simmons Construction Co. Tampa, Fla.

**Owner:** Publix Supermarkets Inc., Lakeland, Fla.

**PCI-Certified Precaster:** Coreslab Structures (Tampa) Inc., Tampa, Fla.

**Precast Specialty Engineer:** LEAP & Associates International, Tampa, Fla.

**Precast Components:** Columns, beams, double tees, spandrels, stairs with landings, load-bearing wall panels and flat slabs.

for them," Simmons says. "The building had to serve two masters—it had to park cars efficiently, but it also had to house a sophisticated retail grocery operation. It worked well to have both design and construction functions in-house so they could play off each other to solve problems as they arose. It really made the process go much faster, but the design-build process enhanced the creativity issues as well as constructability. And there were difficult challenges, no doubt about it."

One of the first centered on Publix's need to adjust its paradigm. "Typically, they would adjust the grocery store to fit their layout needs," Simmons explains. "However, to truly optimize the project, Publix had to adapt the grocery layout to fit the bay spacing for the parking structure. We worked with them to reinvent the

concept so it met their needs and didn't create problems for the upper parking levels."

In particular, the prepared-food section required a fully functional kitchen, but the venting could not go out through the roof (i.e. into the parking level) as more typical grocery locations could do. "We had to create different openings and camouflage them so they weren't obvious from the street," he says. That also required planning the penetrations early in the design process so they could be incorporated into the fabrication of the precast concrete components and interface with equipment smoothly on site.

The precast concrete structural solution allowed long double tees to eliminate columns on the retail level that would have interfered with merchandising and traffic flow while



*The speed ramp along the back of the building quickly pulls customers up to the parking levels, alleviating congestion on the street. Vent ducts at the top of the parking levels were needed due to the working kitchen and other facilities inside the supermarket on the first floor.*



*A variety of paint colors and finishes created the appearance of smaller shops along the supermarket and parking facades.*

providing the loading needed for the parking levels above.

### **Mezzanine Adds Space**

A 1,000-square-foot mezzanine level was created in the retail level using precast concrete flat slabs bearing on the exterior walls and on columns and beams placed along the perimeter. Precast concrete stairs lead up to this level. The level provides space for mechanical equipment and operational offices while allowing management personnel to overlook the grocery floor. "We wanted to take advantage of the tall space in areas where it wasn't needed for the grocery level," Simmons explains.

On the parking levels, careful column spacing was required to optimize traffic flow as well as to meet the retailer's requirement for the number of

spaces available to customers. Bays were designed at a spacing of 36 by 60 feet. The floor was leveled due to the number of shopping carts accessing the floors, with independent ramping used to facilitate that approach. Measures also were taken to improve the pedestrian flow, including well-lit signage, glass lobbies and the elimination of parking curbs to reduce trip hazards.

Modifications to adjust to the tight geometrics were made, including integrating the ramp design with the storm-water vault and hidden truck court on the ground floor. The structure also required a vibro-floatation foundation due to the poor soil conditions, which were highly saturated with moisture. The process pushes water into the excavation to remove loose soil and stabilize it, then backfill

is vibrated to compact it into the base and connect with adjoining soil. The foundation posed no challenges to interfacing with the precast concrete structural components.

Fitting the parking levels to the retail facility below required careful attention to moisture penetration.

### **Moisture a Key Concern**

Providing parking levels over the retail facility below required careful attention to protecting against moisture penetration due to Tampa's wet climate. Although the precaster typically supplies pretopped double tees for parking levels, the second level's double-tees were not topped, allowing a weatherproofing membrane to be applied prior to the topping.

The roof membrane was carefully integrated into the waterproofing system over the precast concrete double tees, eliminating the need for a secondary drop ceiling above the retail areas. All exposed double-tee joints were sealed, allowing for a simple paint finish for the store's ceiling. Recesses were cast into the double tees' stems to accept threaded rods and other types of supports for signage and other interior needs.

In addition, an envelope consultant was hired to provide suggestions during the design phase and to regularly monitor placement of insulation during construction. Stainless-steel coping and flashing also were used, and the base of the exterior walls was coated with a brick finish and an integrally-colored EIFS coat rather than just paint.

The precast concrete design helped meet the public's concern for safety on the parking levels by providing open, clear spans. Vertical visual obstructions were minimized by pushing the ramps to the outer edges of the structure, while the number and locations of columns were tightly controlled to maintain unobstructed lines of sight. A speed ramp was provided to enable customers to quickly access the parking levels and alleviate congestion on the street and in the parking structure.

## Details Enhance Aesthetics

The structure is located on a dense urban site in close proximity to adjacent buildings, which feature decorative and historic storefronts, as well as pre-existing underground utilities. To ensure the precast concrete structure fit into the neighborhood, a variety of techniques were used to break up the large scale of the façade. The precast concrete panels were cast with embedded thin brick, cast-in tile mosaics and rustications, with a number of paint colors used, including some to enhance false windows cast into the panels (lower row). These variations were embellished with accessories, including iron canopies, decorative grilles, balconies, Bahama shutters, EIFS shapes and awnings.

"We created a number of appearance changes to break up the scale and add interest in this urban area," Simmons says. "We knew we couldn't create a vanilla garage-like look and satisfy the community. We wanted to have a busy exterior to match the fabric of the neighborhood and to avoid a monolithic look." The building was



*The precast concrete panels were cast with embedded thin brick, cast-in tile mosaics and rustications, with a number of paint colors used. Some were used to create false windows cast into the panels (lower row). These variations were embellished with accessories such as decorative grilles and awnings.*

'We created a number of appearance changes to break up the scale and add interest in this urban area.'



*Publix officials had to adjust the supermarket layouts to effectively make use of the parking-bay design on the overhead floors, but the result was a dramatic addition to the area streetscape that added function and style to the trendy SOHO section of the city.*

topped with colored metal standing-seam roofing to enhance its unique appearance.

Due to the tight site, the structure was built from the inside out, positioning the crane inside the footprint to erect the northwest corner first, and then working across to the southwest corner. The load-bearing wall panels and columns were placed, followed by the beams and double tees. The crane then was backed out to the east by one bay and the process repeated, moving north to south. For the final bay width on the east side, the crane was backed out onto the street and the speed ramp was constructed in its place.

"It's not uncommon for us to work this way," Simmons says. "We've done a number of hospital projects on medical campuses that have to be completed in the same way. Using precast concrete helped with the construction, because all of the components could be staged at the plant and delivered on a just-in-time basis. That allowed us to keep the site clear and a lot of the construction work away from the residential neighborhood."

The result of the revamping to

adapt the grocery paradigm to its new location is a brightly colored and ornate multistory building that was the buzz of the tightly-knit community, Simmons says. Once the doors opened, crowds were eager to get a taste of the new concept.

"The store became a hot topic in town," he says. "They kind of shook up this historic neighborhood, and there were some concerns about whether it would fit in. But it works very well. This is truly one of the most unique retail developments in all of west central Florida. It's a very different concept, both for Tampa and for Publix, but it ended up meshing well and provides a fun environment that's not your average suburban grocery. And we couldn't have done it with anything except a precast concrete solution." ■

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