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DESIGNING WITH PRECAST

2024 PCI DESIGN AWARDS

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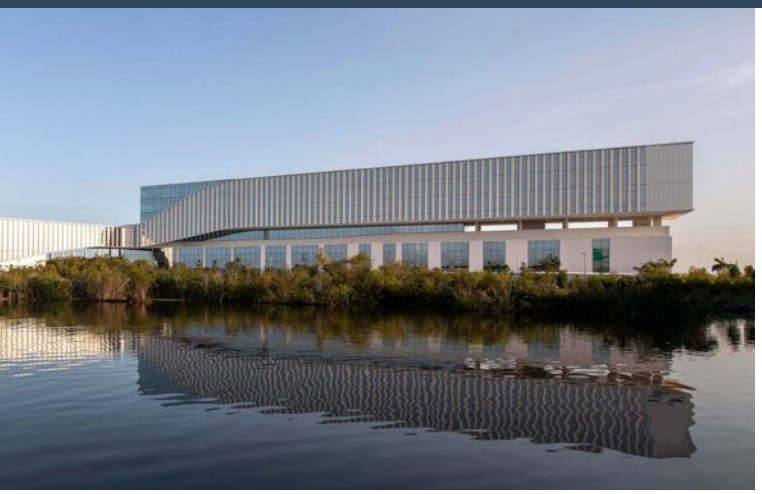

Photo: Robin Hill.

HEALTHCARE/MEDICAL BUILDING

JACKSON WEST MEDICAL CENTER JOSÉ MILTON MEMORIAL HOSPITAL

DORAL, FLORIDA

The José Milton Memorial Hospital at Jackson West Medical Center was designed with the next generation of healthcare facilities in mind. As such, the project team sought to transform the way people see hospitals by constructing a building that is perceived as a place of wellness, healing, and togetherness. To ensure the work met this goal and to account for future expansion and ever-changing technologies in the medical field, GATE Precast Company of Kissimmee, Fla., manufactured a series of precast concrete products for the new, six-story medical center, including specially shaped prestressed rib panels, coping, flat wall panels, and more.

TIGHT TEAMWORK LEADS TO EXCEPTIONAL RESULTS

In partnership with the owner, Jackson Memorial Health Systems, the design team pursued three core tactics for José Milton Memorial Hospital: planning with a community focus, changing the traditional patient interface, and approaching the development of the hospital grounds like a public park. The result is a hospital that features an innovative precast concrete façade and houses advanced diagnostic and treatment areas, state-of-the-art surgical facilities, an integrated ambulatory care clinic, and an adult and pediatric emergency department. All sections of the hospital are designed to promote collaboration between primary care physicians and specialists, and are built to respond to changing technologies, staffing, and patient needs in future years.

Consisting of more than 300 special precast and prestressed concrete rib panels, the hospital's façade changes dramatically throughout its elevation. The ribs vary in thickness from 8 in. to 1 ft 4 in. and extend a length of more than 44 ft, spanning multiple floors. Some of these pieces are cantilevered more than 16 ft skyward toward the building's roof or downward toward the project's focal trafficway while supporting the vertical loads from the glass exterior.

The work required to accommodate the hospital's sloping façade design presented unusual challenges; another issue was building from the outside inward with architectural precast concrete. Collaboration between GATE Precast Company and project architect Perkins&Will was critical to the project's success. The two teams worked closely together to ensure all surfaces aligned appropriately. Additionally, the double curvature sills and coping pieces involved a form-building process that included fabricating cleats at 6-in. intervals along the entire length of each piece. Cleats were cut using a computer numerical control machine with individual shape files from the 6-in. interval slices of the three-dimensional solid, allowing the plywood rails to be bent to varying geometries.

Thanks to the use of precast concrete, the José Milton Memorial Hospital is not only a place of healing but also a model for how to build a healthcare facility that functions as a civic and community gathering place.

PROJECT TEAM

Owner: Jackson Memorial Health Systems, Miami, Fla.

PCI-Certified Precast Concrete Producer: GATE Precast Company, Kissimmee, Fla.

Architect: Perkins&Will, Coral Gables, Fla.

Precast Concrete Specialty Engineer: GATE Precast Company, Little Rock, Ark.

Engineer of Record: Bliss & Nyitray, Miami, Fla.

General Contractor: Yates Construction, Miami, Fla.

PCI-Certified Erector: Bass Precast Erecting Inc., Cleveland, Ga.

Project Cost: $155 million ($6.62 million for the precast concrete)

Project Size: 605,000 ft² (64,000 ft² of precast concrete)

KEY PROJECT ATTRIBUTES

- **The José Milton Memorial Hospital at Jackson West Medical Center consists of a 285,000 ft² hospital and a 320,000-ft², 875-car parking structure.**
- **Spanning six stories, the hospital functions as a civic and community gathering place and features advanced diagnostic and treatment areas, state-of-the-art surgical facilities, an integrated ambulatory care clinic, and more.**

PROJECT AND PRECAST CONCRETE SCOPE

- **The project used 64,000 ft² of precast concrete, including 318 specially shaped precast and prestressed concrete rib panels, 246 pieces of precast concrete coping, 78 flat wall panels, 7 ribbed wall panels, and 2 spandrels.**
- **The hospital's façade changes dramatically throughout its elevation, creating a sweeping aesthetic.**
- **Precast concrete engineering and detailing was completed between November 2017 and April 2019, with production occurring between January and June 2019.**