

CORPORATE HEADQUARTERS PARKING STRUCTURE

NAPLES, FLORIDA

A medical device company recently built a new 300,000-square-foot headquarters in Naples, Florida, to replace its outgrown and outdated space. A new six-story parking structure containing 1400 parking spaces was almost surgically connected to the new administration building.

According to Scott Kremposky, associate and project manager with architecture firm Leo A Daly, the design was intended to “hide the parking garage so it functions as an integral part of the office building.”

All buildings on the corporate campus are white, which is appropriate for the 10,000 lab-coat-wearing physicians that visit the facility each year. “The owner selected precast concrete for its low maintenance, integral color, and because the aesthetic has a cleaner look than stucco or post-tensioned concrete,” says Kremposky.

“Metromont also manufactured the architectural precast cladding for the office building to provide a consistent look to the campus as well as the low-maintenance solution,” adds Jamie Grimmelman, business development manager for Metromont Corp. “They went a step further and used the same mix design on every vertical element, like the precast walls within the parking structure.”

Cantilever

The corporate headquarters precast concrete parking structure combines an architectural white finish for aesthetics while the structure itself serves as the main shear resistance and structural support for the office building. The highlight is the large cantilever of the office building over the roof level of the parking structure.

The main entrance to the corporate offices creates the first impression to visiting physicians who receive training there and stay at the corporate hotel built concurrently across the street.

The buildings are entwined, according to Grimmelman. The office structure cantilevers over the top of the parking structure and bears on the precast concrete columns transferring those loads through the structure. “They are adjacent structures until you get above the fifth floor, at which point the office steel columns are supported by the precast columns and several levels of office space continue above the garage.”

Staging construction phases needed to be carefully considered. To erect steel for the office building as quickly as possible, Metromont built the portion of the parking structure that would support the upper levels of office building and temporarily braced that section. That allowed them some flexibility while the rest of the parking structure was finished, explains Dennis Kirby, director of project management for Metromont Corp. This sequencing not only allowed the steel erector to access the footprint of the structure, but also set the stage for the heavy cantilever beams to be set on the precast concrete.

Kirby recalls after the critical section of the parking structure was in place and adequately braced, the hefty 30 × 30-inch precast concrete columns were in place to support the steel columns and carry them up to the office structure above.

Exterior Shots

In addition to acute angles on the office structure that juxtapose the rectangular parking structure, architectural features were post-applied to the façade. Metal screen elements were hung on the precast concrete spandrels and wrapped around. Light filters into the structure in those

Designer: Leo A Daly, West Palm Beach, Florida

Owner: Arthrex, Naples, Florida

Engineer: TLC Engineering, Melbourne, Florida

Contractor: DeAngelis Diamond, Naples, Florida

PCI-Certified Precast Concrete Producer: Metromont, Bartow, Florida

Precast Concrete Components: 476,135-square-foot precast concrete parking deck with an architectural white finish. Precast concrete double tees, beams, stairs and landings with blade wall and exterior stair litewalls (vertical and horizontal), columns, beams, architectural spandrels (load-bearing and non-load-bearing)

areas and shines through the perforated metal.

Pieces similar to giant bullnoses and false columns were attached to maintain the design intent while coordinating with Metromont’s standard forms. The entrance features a 4-ft-thick column and beam structure for aesthetic purposes.

“The beam projections create portals where the screening façade was not used—it was left open in that area to create a different design effect. Similar ideas were mimicked on the office building, which was a mix of curtain wall and precast panels,” says Kremposky. The open stair boxes also feature a vertical fin every 6 inches with a metal façade attached. The precast concrete blade wall architectural feature highlights the white exterior stairs.

Crane Access

To move the projects along as quickly as possible, multiple cranes were on-site at all times. “Either we were erecting the precast structural elements on the garage or the cladding on the office building,” says Kirby. “We worked east to west attacking the installation schedule in order to follow where a crew was leaving off and coordinating with the glaziers.”

The complex schedule required much of the work to be done simultaneously. “Everything had to be tied together and certain pieces pre-assembled, like the cantilever pieces had to be assembled in their entirety before being fastened together,” says Kremposky. The structures ultimately connect via shared elevator banks and lobbies on the office and parking structure side and were completed in early 2020.

Coastal Conditions

All structures situated along the Gulf Coast must withstand additional durability demands. This parking structure and office hybrid was no exception. Precast concrete quality control procedures use technology and quality control checks to ensure the design life of the structure is achieved.

A low water-cement ratio in the mixture proportions is a standard requirement for precast concrete to perform well in these harsh environmental conditions. In coastal applications like those in Florida, precast concrete structures are attacked by moisture and high temperatures, intensifying corrosion problems. Metromont’s additional durability features included galvanized hardware finishes and field topping around the perimeter and interior, which help conceal connections especially on the top level with uplift connections.