University of Florida Cancer and Genetics Research Center

Gainesville, FL

Team

Owner:
University of Florida, Gainesville, FL

Architect:
Hunton Brady Architects, Orlando, FL

Engineer:
Walter P. Moore, Orlando, FL

General Contractor:
Turner-PPI, A Joint Venture, Gainesville, FL

Total Project Cost:
$72 million

Total Project Size:
280,000 sq ft

STRUCTURAL FRAMING SYSTEM

The goals set for the new research center at the University of Florida were visionary: create a gateway, multi-disciplinary biomedical research institution that would allow a large and diverse group of scientists whose work could change the world in a productive work environment. To help meet these challenges while adhering to the university's strict architectural guidelines, precast reinforced concrete panels inset with brick were used to clad the 280,000-square-foot facility.

The $72-million project is comprised of two towers, a five-story cancer-research wing and a six-story genetics wing. The towers connect via a five-level, common concourse that facilitates researcher collaboration. The complex is the largest research building on the university campus.

The structure's exterior had to follow the university's "collegiate gothic" architectural style, which placed an emphasis on vertical orientation: a segmentation into base, middle, and top expressions; windows that reflected the type of space contained within; asymmetry on building façades; and modern adaptations of materials.

UNIQUE DESIGN FEATURES

The required brick façade was achieved with thin-brick-faced, precast reinforced concrete panels. A comparison of energy resources and costs for this approach as compared to using masonry walls showed that the precast reinforced concrete panels provided a savings of 1.2 tons of material due to using thin bricks rather than full bricks. Additional savings were achieved by lessening material needs through such reductions as requiring 2,790 fewer Millions of British Thermal Units MMBTUs to fire the brick, 51 fewer trips to transport the materials to the plant, and 88 fewer trips to ship the materials to the site.

These savings helped the project achieve certification by the Leadership in Energy & Environmental Design (LEED) program sponsored by the U.S. Green Building Council. Designers also credited the concrete panels with helping to achieve certification by incorporating integrated design, using materials efficiently, reducing construction waste and site disturbance, improving energy efficiency, improving indoor environmental quality, and reducing noise.

REASONS FOR CHOOSING REINFORCED CONCRETE

Use of the panels accelerated the construction schedule and allowed the contractor to install all fenestration systems earlier in the schedule. That, in turn, allowed the building to be enclosed prior to installing the mechanical systems, which reduced the likelihood of airborne contaminants. Substantial long-term savings will be realized through the use of the concrete foundation and panel system, which was estimated by the design team to have a service life in excess of 200 years.

Reinforced concrete aided designers in the project achievement of LEED certification.

CRSI Concrete Reinforcing Steel Institute
www.crsi.org