



Standing up to Mother Nature



Brasfield & Gorrie brought extensive construction experience to bear as it helped build All Children's Hospital in St. Petersburg. Keith Regan learns from the senior project manager how the hospital is meant to become a self-sustaining refuge in the event of a catastrophic hurricane

In the aftermath of Hurricane Katrina, Coast Guard rescue helicopters faced a daunting and unexpected challenge. As they rescued injured survivors in the New Orleans area, the pilots found they could not land their aircraft on the helicopter pads of several local hospitals that would have otherwise been able to take their critically injured victims. The reason was that most helicopter pads were not built to withstand that much weight.

That hard-earned lesson is just one of several that have been carried forward to the construction of new hospitals in hurricane-prone regions, including All Children's Hospital under construction in St. Petersburg, Florida. All Children's is being built by a team led by construction manager at risk Brasfield & Gorrie, a Birmingham, Alabama-based general contractor. Brasfield & Gorrie is overseeing construction of the 10-story, 725,000-square-foot hospital building—including one floor left as shell space for future expansion, the rooftop landing pad and related offices—as well as an associated 250,000-square-foot medical office building and a central services plant that will help enable the hospital to ride out even the most damaging storms. KLMK Group is the program manager for the project and is based out of Richmond, Virginia.

Designed by Karlsberger Architects, the new All Children's Hospital will include 240 patient beds, all of them in private rooms, 16 operating rooms, an emergency care facility and a state-of-the-art imaging center. The \$200 million hospital tower project is designed to create a self-sustaining hospital capable of operating without connection to the power grid or other outside facilities, says Dale Eldridge, senior project manager at Brasfield & Gorrie, where he specializes in healthcare projects.

"After Hurricane Katrina, it became apparent that hospitals had to be able to stand on their own for a while after a storm hits," Eldridge says. All Children's



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Paul J. Ford & Company

Paul J. Ford & Company is the structural engineer of record for the All Children’s Hospital and the adjacent Medical Office Building. Its extensive experience in the structural engineering design of health care facilities enabled efficient and direct communication with Brasfield & Gorrie and the entire project team to better serve the owner.

was not only designed to withstand winds in excess of 155 miles per hour but also outfitted with a central energy plant. The 60,000-square-foot facility, located about two city blocks from the hospital itself, includes three 400-horsepower boilers, three 1,500-ton-capacity chillers, and six 2,000-kilowatt generators. Below ground are storage tanks capable of holding as much 150,000 gallons of fuel. “It’s designed to run for quite a few days on its own,” Eldridge says. The hospital even has its own water supply, with a series of wells drilled on the hospital property.

The building also had to be constructed to meet the specifications of Dade County and the State of Florida for hurricane preparedness ratings. “Everything on the structure has to be approved as far as wind loading. That means anything on the envelope of the building, including windows and doors and exterior façades,” notes Eldridge. “It’s added work at the engineering stage, and it adds to the construction stage as well because it requires ongoing compliance.”

Making the heavy-duty construction more challenging was the fact that the builders had to track noise levels to ensure compliance with city regulations

in the dense urban area. Some building components had to be delivered on a just-in-time basis as well, due to site constraints.

While Brasfield & Gorrie has a deep commitment to safety—it earned two safety awards from the Associated Builders and Contractors in 2008, including the “Safest in the Industry” honor—the issue became even more important on the hospital project. The hospital employed an owner controlled insurance policy, which meant that both contractor and owner had full-time safety coordinators on the site. “Safety was an extremely high priority on this project,” Eldridge states.

By late summer 2009, the project was moving into the final commissioning stages, with the central plant being commissioned and equipment in the hospital being put through final testing as construction wrapped up around it. The hospital planned to move into the new facility in a single weekend in mid-December, on target to meet the original schedule after more than three years of construction and despite changes made to the design after construction had begun. All Children’s funded the project without any state or federal money, using a combination of private financing, bond issues and donations to make the project a reality.

Brasfield & Gorrie has grown its reputation significantly in recent years, moving up to the 29th spot in the *Engineering News-Record* rankings of the top 400 contractors in the United States for 2009. Meanwhile, *Modern Healthcare* magazine ranked the firm as the number two general contractor in the healthcare field in 2009, and *Southeast Construction* magazine listed Brasfield & Gorrie as the number one ranked green construction firm in the Southeast region. In fact, the company now has more than 230 employees accredited by the LEED program of the US Green Building Council, with all employees in its education division having earned accreditation.



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The company's portfolio is broad and varied, with notable projects including the Cochrane Bridge in Mobile, Alabama, a bridge famously damaged during Hurricane Katrina when an offshore oil rig broke free of its moorings

and slammed into the structure; a half-million-square-foot distribution center for the Winn-Dixie supermarket chain in Jacksonville, Florida; a \$325 million wastewater treatment plant expansion for Valley Creek in Bessemer, Alabama; Celebration Health in Celebration, Florida, a state-of-the-art hospital facility in a highly innovative community; a \$50 million student center on the campus of Auburn University in Alabama; and Bellsouth Telecommunications Headquarters in Nashville, Tennessee, which is the tallest building in downtown Nashville.

"Healthcare projects have higher stakes because you know that what you're building will have a direct impact on the quality of people's lives," says Eldridge. "All our projects are built to the

highest quality standards, but everyone pushes a little harder knowing that you're building a hospital to care for sick children. In the end, it becomes something you can take a lot of pride in having been part of." ●