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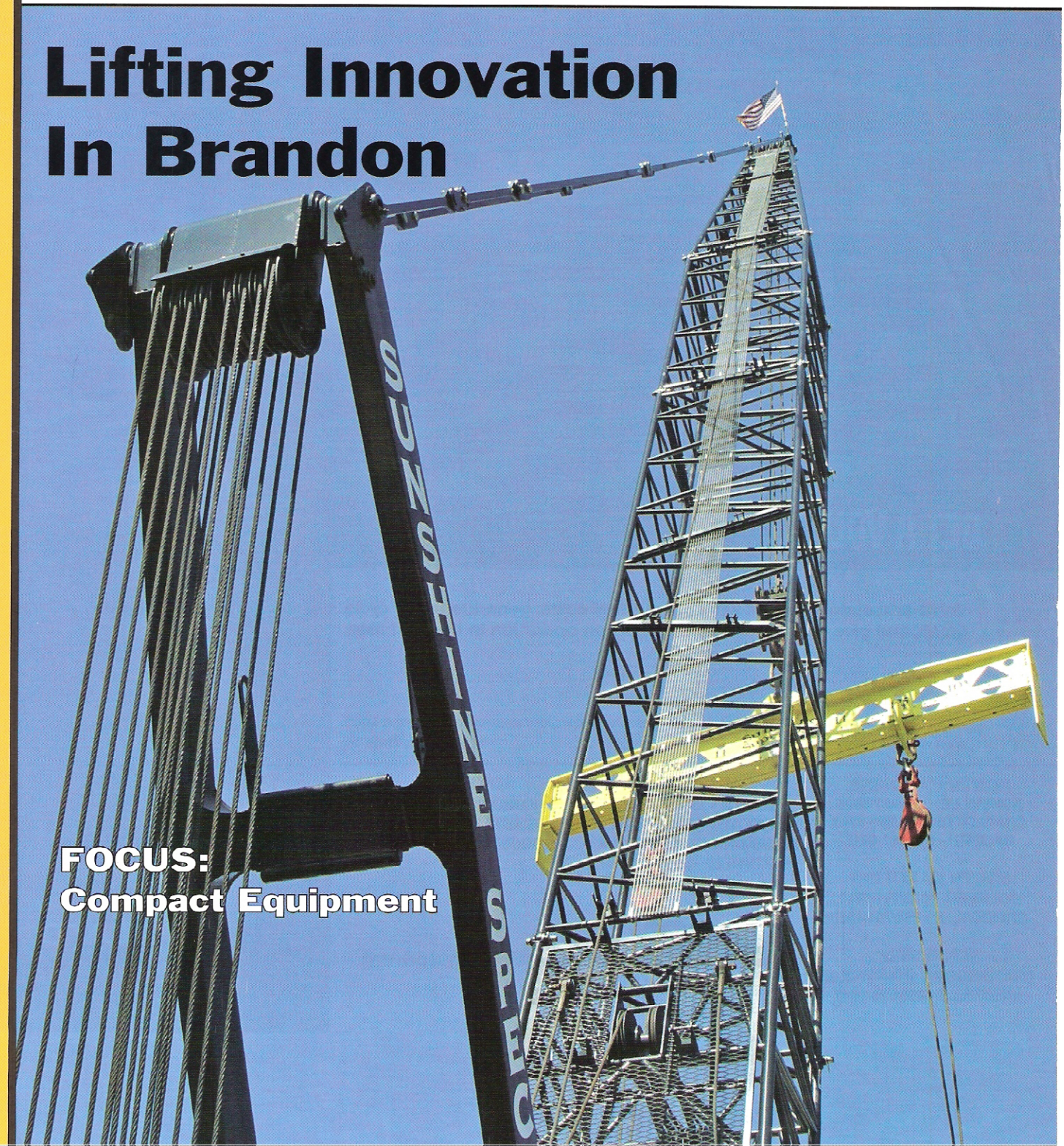

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Lifting Innovation In Brandon

In Brandon, Fla., tiltwall construction speeds construction of a new retail center – and an innovative spreader bar design speeds the operation.

BY STEVE HUDSON

Sunshine Specialties lifts a tiltwall panel using a Link-Belt crane and the Sunshine Super-Bar spreader bar at the Glendale Retail Center, a project being developed and constructed by Mitch Burley Construction in Brandon, Fla.

Tiltwall construction – a method of concrete construction in which wall panels are cast on the ground, then lifted and "tilted" into place – has long been a mainstay of large industrial construction projects. But it's beginning to make inroads into other sectors of the building construction industry – and one of them is the Glendale Retail Center, a project being developed and constructed by Mitch Burley Construction in Brandon, Fla., a Tampa suburb.

Mitch Burley Construction not only builds a variety of projects in the Brandon area but also functions as developer and contractor on its own projects.

"I've lived in the Brandon area since 1961," says Mitch Burley. "My father was a building supplies sales person, and in 1969 he entered the construction business." Burley worked with his father and eventually graduated from the building construction program at the University of Florida.

"Then about 12 years ago," he says, "my father decided to leave the construction side of the business, so I went out on my own with Mitch Burley Construction."

Over the last few years, Mitch Burley Construction has gravitated toward commercial projects in the Brandon area, Burley says.

"This area is booming," he says. "I have as much work as I can handle

> "Wall construction was wrapped up in five weeks with tiltwall construction versus two and a half months with traditional masonry wall construction."

Crews prepare the Sunshine Super-Bar for a lift. Inset: Trentis Durden, inventor of the Sunshine Super-Bar and founder and owner of Sunshine Specialties, Inc. and of Sunshine of Central Florida.

within a 10- to 15-mile radius of right here."

Traditionally, the area's commercial projects were constructed using concrete block masonry techniques. But recently Burley has been looking at tiltwall construction as an alternative. In fact, the Glendale Retail Center project is Burley's first tiltwall project, and he's enthusiastic about this approach to construction.

"Typically, the commercial construction I've always done has been concrete block construction," he says. "But tiltwall construction appeared to be a whole lot simpler. Instead of all those pieces that we had been building with, now we can do each section with a single tilt panel."

Burley notes that he had been familiar with tilt-up construction for some time before deciding to give it a try.

"We have a lot of industrial construction in this area," he says, "and a lot of it uses tiltwall construction. The method had always intrigued me because it went up so quickly. One day everything is flat on the ground, and the next day you've got a structure standing and a great presence on the job."

Burley finally decided to give tilt-up a try on his Glendale Retail Center project, a 34,000-square-foot retail development.

"The building is in a sort of 'Z' shape," Burley says. "It's almost like three separate buildings that share some interior wall panels." He adds that the design calls for variation in façade height for each individual store, and the result is a "mainstreet look" that enhances the visual appeal of the center.

Construction at the Glendale project began this past March with clearing and site work, handled by Tampa-based Dallas 1 Construction. Dallas 1 Construction also placed additional fill to prepare the building pads and also handled utility and road construction on the project.

With site work complete, attention turned to concrete. Florida Masonry quickly began construction of the foundations for the soon-to-come tilt walls. Foundations, reinforced with #5 rebar, ranged from 2 feet to 3 feet in width and had a thickness of 12 inches.

Florida Masonry also constructed the concrete slabs, which not only serve as floor slabs for the finished project but would also function as casting beds for some of the tilt-up panels. Because of site's geometry, three additional exterior casting beds were also required.

Once the slabs and additional casting beds were completed, attention turned to the tiltwall panels. Wall panels erected on the rear of the project have a height of 17 feet; to achieve the desired variation in storefront appearance, front panels vary in height from 22 feet to 28 feet. Width-wise, the panels used on the front and rear of the complex range from 20 feet to 25 feet wide, while some of the end wall panels are as much as 35 feet wide.

The job of actually erecting the panels was handled by Sunshine Specialties, Inc. – and to complete the job Sunshine used its new Sunshine Super-Bar.

"Years ago, tilt-up wall panels weren't so big and didn't vary so much in size," explains Trentis Durden, founder and owner of tiltwall erection company Sunshine Specialties, Inc. and of crane provider Sunshine of Central Florida.

To erect today's highly variable tiltwall panels, he says, the spreader bar has to be manually reconfigured for each panel each time. That takes a lot of time and poses a safety risk to workers – and it costs a lot of money too.

"You have a crane and a crew sitting there costing you hundreds of dollars per hour while you reconfigure the spreader bar and rigging," he says. "But one day I said to myself, 'There has got to be a better way.'" – and the result was the Sunshine Super-Bar, invented by Durden himself.

The Super-Bar, now marketed through Sunshine of Central Florida, is designed to greatly speed up the process of adjusting the rigging for lifting tilt-up panels. "Using the old way, it might take a half-hour or more to re-rig the spreader bar for each lift," he says. "But with the Super-Bar it takes about four minutes."

According to Durden, the Super-Bar design grew out of insights gained over

the course of nearly 30 years working with and around spreader bars in the construction industry. Drawing on those insights, he began developing his idea for a better spreader bar several years ago.

"I had three prototypes that I used in the field for three and a half years," he said, "getting the bugs out of the design." The eventual result was the Super-Bar version that he's using now.

The Super-Bar is manufactured using high-strength steel and can be manufactured in various sizes and capacity for various applications. The 24-foot-long, 125-ton version used on this project, has a weight of just over 8,000 pounds. It is essentially maintenance-free, he adds, requiring only the application of graphite to lubricate the slide rails so the moving pads can slide freely.

"It meets all ANSI, ISO and OSHA standards, and each one is proof tested to 125 percent," he says. "And it's patent pending."

On this site, with the help of the Super-Bar, it took just two and a half days to stand up the panels. Crane operator Ricky Edwards manned the controls of the Link-Belt crane, which maneuvered smoothly through the relatively tight confines of the job site. Each lift began with any needed adjustments of the Super-Bar, a process that really did require only a few minutes to complete. The rigging was attached to the panel, which the crane then gently lifted from the casting bed and transported to the installation location. There, the panel was set in place and secured. The process was then repeated until the entire wall erection operation was complete.

Developer Burley is very pleased with his initial foray into the world of tiltwall construction.

"A primary consideration was speed of construction," Burley says. "We completed the work in five weeks with tiltwall construction versus two and a half months with traditional masonry wall construction." That, he adds, is a "huge advantage" for a developer like himself. "The quicker you get it built, the quicker you can get your tenants in place."

Constructability was also a factor, he adds, noting that with tilt-up "you can basically do anything you want." For example, he says, the tilt-up approach makes it relatively easy to create complex openings or embed finishes on front-facing walls. On other parts of the project, such as on rear walls where elaborate finishes are not required, he notes that tilt-up yields a smooth finish that only has to be painted to be complete. That saves on stucco costs and saves time as well, he adds.

Does Burley see a future for tiltwall construction on future commercial projects?

"This area is booming," he says. "I've got another similar project coming up in the area – and I'm planning on using tiltwall construction there as well." ■

Tampa-based Dallas 1 Construction used this John Deere 450G LGP dozer (above) and Komatsu wheel loader (below) during site work on the Brandon project.

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