



Innovative Spider Boom

A new piece of equipment takes on the challenge of pumping the headquarters of Atlanta-based HD Supply.

The evolution of the concrete pumping industry continues with a special new boom that extends the reach of conventional truck-mounted boom pumps. Cherokee Pumping, Hampton, Georgia, is using the new Spider Boom from Construction Forms to tackle the large footprint of HD Supply's new eight-story headquarters and training center in suburban Atlanta. Shell McElroy, Atlanta, is the general contractor building the eight-story structure that also incorporates a six-story subterranean parking garage.

LIMITED ACCESS

"The large 310-foot by 180-foot footprint of the structure does not provide a lot of access onsite for truck pumps. This posed a challenge which the pumper met with this new piece of placing equipment," explains Jeff Brock, project manager for the general contractor, "and it saved us some money over conventional methods." Wayne Bylsma, owner of Cherokee, describes the concept of the 18-meter self-standing placing boom: "Imagine

The boom works in tandem with boom pump in background to speed production.

adding 59 feet to the tip hose of your boom pump—all of a sudden your 58-meter is a 77-meter." The ConForms SPH-18-3 on the HD Supply job is a three-section remote control placing boom with CF five-inch heat-treated Ultra III system and boom hose.

"The money saved versus a separate placing boom is significant, considering the daily rental rate and the fact that virtually no engineering is required," says Brock. "And there are no block-outs for masts." The large rectangular configuration of the building footprint would have required four mast locations; instead, the tower crane on the project repositions the boom, and more than 10,900 square feet can be poured from one location. "Starting out, we were repositioning the boom in 30 minutes, but we are now down to 15 minutes," according to



The smooth boom operation and balanced design with counterweight allows the Spider Boom to operate without being tied down to the deck.



The boom is easily repositioned on the deck and plugged into the pump's end hose to take the place of a separate placing boom at less cost.

Bylsma. The boom's name comes from the four articulating hydraulic legs supporting the entire 15,000-pound assembly, including the boom, balance beam, legs and counterweight.

EFFICIENT AND ECONOMICAL

Groundbreaking was June 13, 2016 for the 222,500-square-foot, \$100 million HD building. The massive excavation was completed, and concrete for the underground parking began in the fall. The SPH-18 was lowered into the excavation and Cherokee's 46-meter boom pump supplied the concrete. Each pour consumed approximately 200 yards before the placing boom was moved; the schedule called for placement of 600-700 yards per day. The six stories of parking decks and columns were completed in early spring, and the eight stories of above grade construction is commencing.

The Spider Boom's legs incorporate pads that rest on wooden platforms on the formed/shored deck around the reinforcing steel. "There is surprisingly very little boom bounce, and the Spider Boom does not need to be tied down," according to Bylsma. "The 46-meter boom hooks directly into the remote boom's delivery line or, if necessary, hard line is placed on the deck. "It's much more efficient to place with the Spider than to drag a hose," Bylsma notes. The remote boom also saves money with no fixed system to multiple mast locations. The boom operates off of an electric power pack that supplies the remote boom's hydraulics,

and gas and diesel power packs are available. "We have another Spider Boom ordered, and it will have a Honda power pack that will allow us to run off gas or electric power," he notes.

A BRIGHT FUTURE

As the building rises, the pumper will continue to feed the Spider with a boom pump. "We will be able use the 46-meter boom for the rest of the project. It's ability to reach up and over will reduce setups and allow us to position the pump close to the structure," according to Bylsma.

John Schantz, ConForm's product specialist, sees a bright future for the boom: "It fills the gap between boom pumps and separate placing booms with versatility and mobility." The company has added a 16-meter four-section Z-fold model with a low 14-foot unfolding height. "This could easily find a place in low overhead situations with our track-mounted option, that would allow it to self-propel into tight situations," Schantz adds. "We think the market will find lots of uses for the Spider Boom that we haven't even considered."

A VISION FOR THE FUTURE

"As general contractors, we have an energetic vision for 'what's next,'" explains Brock. "This is new technology that shortens time to delivery while adding value to the process. We're in it to build the best project we can, in the most efficient way possible."



Above: All eight 310-foot by 180-foot floors of the structure are being pumped through one Spider Boom.

Left: The ConForms SPH-18-3 is a three-section remote control placing boom with CF five-inch heat-treated Ultra III system and boom hose.

The HD Supply site next to Interstate 75 is providing visibility for this new method of concrete placement. The site also gives HD Supply a much different setting, where its brand has more visibility and the 900 employees can more easily interact. The company provides a broad range of products and value-added services to approximately 500,000 customers in maintenance, repair and operations, water infrastructure, and residential and non-residential construction. **CP**

Specs:

Owner: HD Supply—Atlanta, Georgia

General Contractor: Shell McElroy Construction Company LLC—Atlanta, Georgia

Pumping Contractor: Cherokee Pumping—Hampton, Georgia
Pumping/Placing Equipment: Construction Forms SPH-18-3 Spider Boom, Schwing S 46 SX concrete pump



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