

## CASE STUDY

GYMNASIUM EQUIPMENT - JUNE 2015  
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# DRAPER DESIGNERS BEND OVER SIDEWAYS TO SATISFY CUSTOMER



Draper custom backstops and Overhead Volleyball System, part of an installation in the Kennesaw State University Student Recreation Center.

- Custom gym installations can go well beyond your basketball backstops to fit any need and maximize your gym's space.

Every Draper backstop that is installed in a gym is the result of a custom design process; the unit has been designed and built with that specific building and location in mind.

A recent job, however, gave new meaning to the word “custom” as Draper’s designers had to go to extra lengths for an out-of-the-ordinary installation at Kennesaw State University.

KSU—which is Georgia’s third-largest university—decided to add a gymnasium area to its Student Recreation Center. The Dr. Betty L. Siegel Student Recreation and Activities Center includes four 84-foot basketball courts, which also have overhead volleyball systems. The attachment height for everything is about 38 feet, and there is an elevated track that is about 10 feet behind the face of the backboards. If that doesn’t already sound packed enough, there are also three Roll-Up Divider curtains separating the courts.

That is a lot of equipment in a relatively small area—and fitting it all in was especially challenging given the 38-foot ceiling attachment height, which means that a typical straight mast would be about 29 feet tall. This wouldn’t work, since the curtains are only 27 and a half feet away.

“When I first saw the plans for the gym, and saw what the school wanted, I thought it was going to be difficult to get all that equipment in one gym,” said Ron Saren of H.E. Hodge, the Draper dealer who worked on the project. “I was skeptical!”

Still, Draper has solutions for just these situations.

Our first thought was that, because of the overhead volleyball systems, the backstops would have to be side folding backstops. However, since those pesky divider curtains were only 27 and a half feet away—and since the backstops were about 29 feet tall—this seemed impossible.

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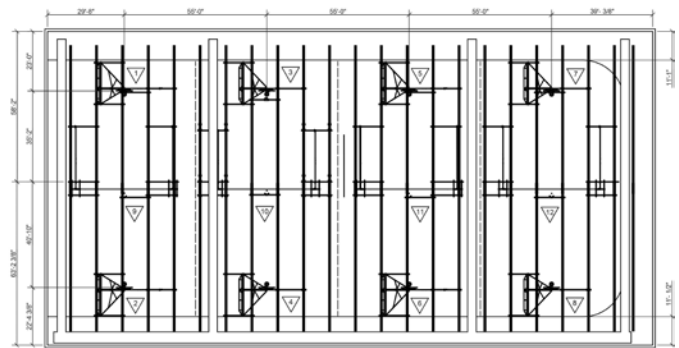
Draper side-folding backstops were modified with a bent stem to fit in the space.

Then we hit on the idea of combining the benefits of two backstop types—the side-folding backstop, and our bent-stem model—to make a product that would fit. Thus was born a custom bent stem side fold backstop which is not part of our normal product offering, but which seemed like the perfect solution.

Traditionally, our side fold backstops have either a front brace or a rear brace, but here we had two problems: The overhead volleyball nets were too close when folded up to use a normal front brace; and the track was too close to allow our normal rear brace. To accommodate these conditions, we designed a side folding backstop with both a front and rear brace.

Our first thought was to put the front and rear braces at the same angles, but that would have meant the overhead volleyball system would hit the front brace. Instead of compromising on a narrower top of T-frame to allow that, we put the front and rear braces at different angles. This allowed for a very rigid backstop with maximum support to the rear of the units, where playing forces are directed.

In the end, it all worked out great. The custom bent stem design moved the top of the T-frame about nine feet off the center line of the court, allowing the backstops to fold without hitting the divider curtains. We were able to squeeze the equipment KSU wanted into the space, without compromising function or safety—and without the more expensive pathway of starting from scratch to design totally new products and parts. To modify our normal backstop designs to address building conditions, we instead used parts that we have in our normal designs—we just combined in them different ways to make all the equipment work in tight conditions. This was



A packed project drawing prepared by gym equipment designers at Draper.

made possible not only by our forward-thinking gym equipment designers, but also through having the right atmosphere to encourage thinking outside the box—and having the right tools to bring new ideas to life. Draper used AutoDesk Inventor–3D solid modeling software for our design and submittal work. This allowed us to see every possible conflict so that we could make adjustments to insure a smooth installation.

“One curtain needed some additional material to make it all work properly,” H.E. Hodge’s Saren said, who adds that overall the project went very well. And he doesn’t seem surprised. “When you have a good factory and good installer great things happen.”

The four-court gym space in the facility will be used for multiple programs.

“Students will be able to participate in open play such as basketball, volleyball and badminton, as well as intramural sports activities, club sport practices and competitions,” Tara Parker, director, Department of Sports & Recreation for Kennesaw State University, said. “The custom design of the Draper system will allow us to efficiently program the space and provide a variety of activities without utilizing a lot of storage space.”

For more information on Draper’s gym equipment line, visit [draperinc.com/go/GymEquipment.htm](http://draperinc.com/go/GymEquipment.htm).

For more about H.E. Hodge, go to [hehodge.com](http://hehodge.com).

To learn more about Kennesaw State University, visit [kennesaw.edu](http://kennesaw.edu).

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