Geocell Demonstrates Rapid Deployment Flood Wall for Nashville District Corps of Engineers

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Making floodwall with sandbags takes time, people

MOLLY HARPER/The Sun

Strong, and can be reused: Geocell Systems employee John Sikora demonstrates the strength of the Rapid Deployment Flood Wall on Friday at the U.S. Army Corps of Engineers' Lake Barkley Resource Office.

Plastic grids demonstrated as faster flooding protection

By Molly Harper
The Paducah Sun

GRAND RIVERS, Ky.

Sand-filled, interlocking plastic grids may be a tougher, more efficient alternative to sandbag walls the next time the U.S. Army Corps of Engineers faces flood conditions in the area.

Al Arellanes of San Francisco-based Geocell Systems, the company that has spent the last 15 years developing the Rapid Deployment Flood Wall in conjunction with the Corps, said Friday that the grids address "the time it takes to act in an emergency situation. It's about time someone came up with a better solution."

Arellanes, who traveled from Mountain View, Calif., to demonstrate the wall at the Corps' Lake Barkley Resource Office, explained that emergency personnel rarely have more than a few hours to organize and build retainers to keep floodwater from damaging property.

The rapid deployment wall consists of interlocking lightweight plastic cells that can be

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Plastic floodwall demonstrated

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set up and filled faster than sandbags, Arellanes said. Each cell unfolds to stand 4 feet wide and 8 inches tall and is the equivalent of 34 sandbags. Though the plastic folds into floppy, easily stored sheets, the cells were strong enough to withstand Geocell employee John Sikora's walking on them after they were stacked and filled with sand.

Corps of Engineers tests performed in Vicksburg, Miss., two years ago showed that a rapid deployment wall can withstand up to 40 inches of static water, and wave action equal to that produced during severe flooding.

"The only way this will fail is if the sand escapes," said Arellanes, adding that a stabilizing layer of sandbags may be needed around the wall's base.

Three Geocell staffers built a wall equivalent to 2,000 sandbags and filled it in about 30 minutes. It took another 30 minutes to empty the cells and store them. Arellanes said the same wall built with sandbags would take 35 people around 19 hours to build.

Each cell is about $100 — around 90 percent of the cost of sandbagging a similar dimension, company literature states. The fact that the cells can be used up to six times will save the Corps even more money, said Jared Gartman, the Corps of Engineers' natural disaster manager. The cells have a 10-year warehouse shelf life, whereas sandbags last about 30 days and usually have to be thrown away after one use.

Because the cells are not difficult to set up, extensive training is not required, Gartman said, and local Corps personnel will be able to use them immediately.

The Corps bought a box of 100 cells, Nashville (Tenn.) District operations manager Wayne Lanier said, as a test case. The last time the local Corps office used sandbags was in Smithland in 1996. Lanier estimated more than 120,000 sandbags were used.

"This is another tool for us." Lanier said. "It's another option."

The cells are not a cure-all for every flooding situation, Arellanes said, "but it's still better than using sandbags."

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