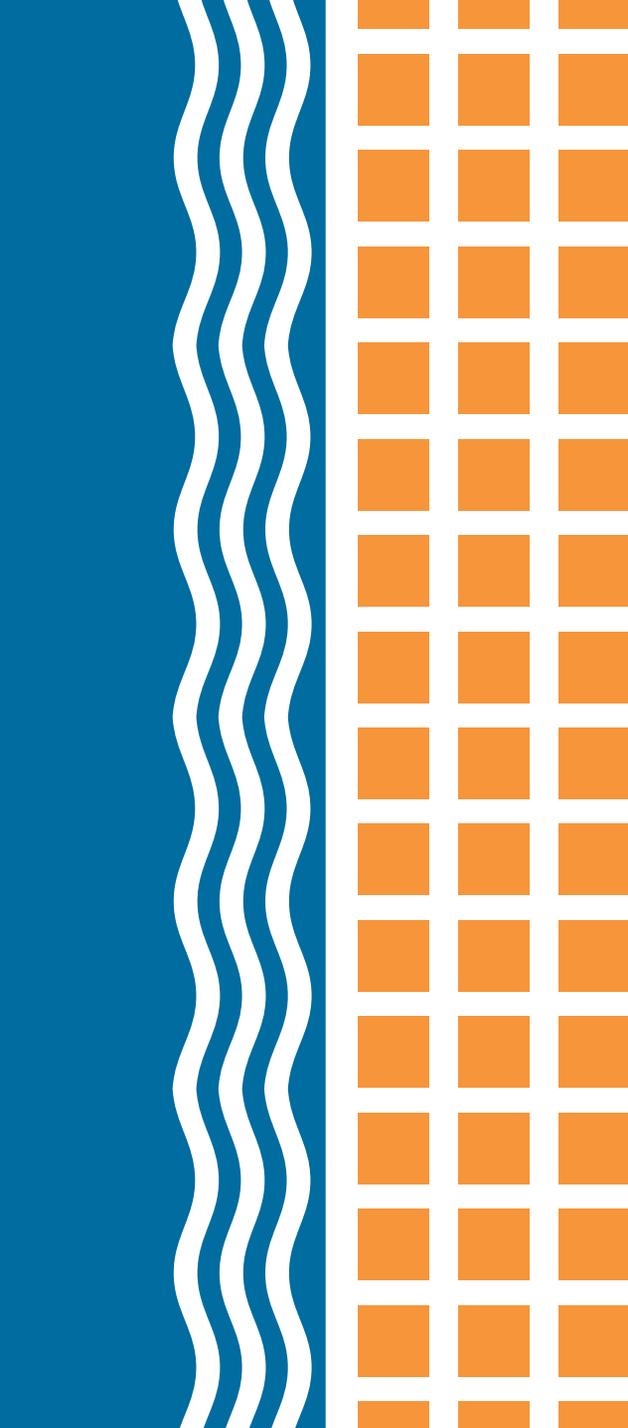


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*Product Overview*

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GSA # GS-07F-0340M



**Rapid  
Deployment  
Flood  
Wall**

Are you still  
fighting floods  
the way your  
great-grandfather  
did?





For over 100 years, floods have been fought with two main weapons—human labor and sandbags.

*It's time for a change.*

Human labor is finite and expensive. Sandbags are inefficient. And neither takes advantage of the great array of construction equipment readily available in most flood situations.

What is needed is a dramatic improvement in floodfighting technology, an improvement that allows you to leverage your limited labor resources with the immense power of earthmoving machinery. What is needed is an improvement that is dramatically superior to the tired, old sandbag.

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***Sandbags are a  
100-year-old,  
labor-intensive  
technology.***

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Meet the  
Rapid Deployment  
Flood Wall.





Anyone familiar with stacking sandbags knows that it is slow, miserable, back-breaking work.

*“There had to be a better way,” decided 20-year veteran floodfighter Al Arellanes.*

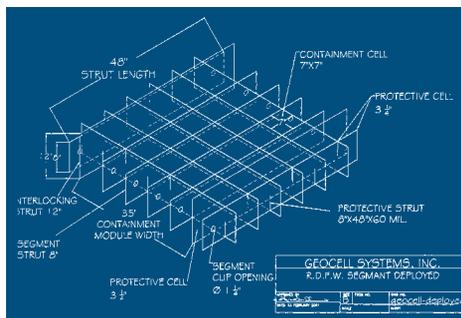
In 1983, Arellanes, in conjunction with the US Army Corps of Engineers, began developing improved and innovative methods for combating floods. In 1996, as President of Geocell Systems, Arellanes licensed the Army Corps’ Sand Confinement Grid technology and used it as a basis for developing the Rapid Deployment Flood Wall (RDFW).

RDFW is a modular, collapsible plastic grid that serves as a direct replacement for sandbag walls. Assembled by as few as two people, an RDFW wall is quickly expanded

into place and then filled from the top with a loader, excavator, bottom-dump, or other piece of earthmoving equipment.

Drawing on his 20 years of floodfighting experience, Arellanes and the Geocell team designed RDFW specifically to meet the needs and constraints of real-world floodfighting situations. Besides being fast to deploy, RDFW is light enough to be handled by two people, small enough not to be unmanageable in the wind, fits easily into a pickup truck or helicopter, requires no special tools, and is simple enough for anyone to use.

RDFW has a smaller footprint and cross-section than sandbag walls, making it ideal for levee topping or urban use, and RDFW can be filled with a wider range of materials than sandbags.



***RDFW is available now.***

There is a USACE-tested  
alternative to sandbags.





In April of 2000, the U.S. Army Corps of Engineers' Engineering Research and Development Center (ERDC) in Vicksburg, Mississippi conducted extensive testing on Geocell's RDFW.

*The results were conclusive and stunning.*

As noted in the official USACE report, a 50-foot-long, 4-foot-high section of RDFW was subjected to 40 hours of wave action totalling 72,000 waves. Wave height was varied between 0.42 ft and 1.52 ft.

The Rapid Deployment Flood Wall proved able to withstand this severe testing with minimal, easily repairable damage. Total sand loss proved to be only eight percent.

In addition to wave testing, RDFW was also tested for its ability to contain hydrostatic load. At a maximum head of 3.33 ft, underseepage was only 22.8 gallons/hr per foot of wall. At this rate, a small 3-hp gasoline pump could drain nearly 400 feet of wall.

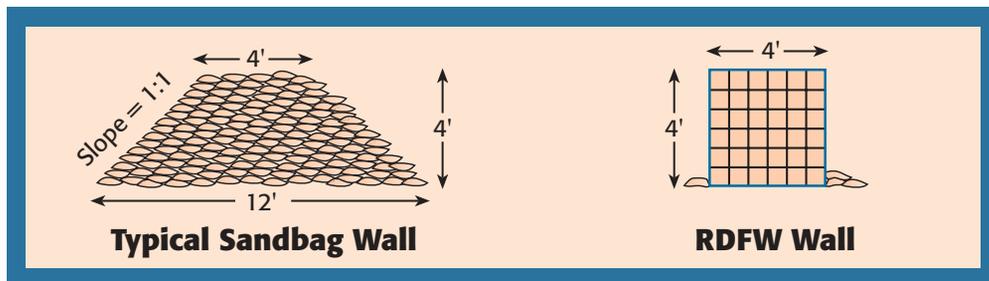
#### ERDC Testing

<b>Wave Exposure:</b> 40 hours	<b>Hydrostatic test duration:</b> 128 hours	<b>Under-seepage Rate (max.):</b> 22.8 gal/hr per linear foot of wall
<b>Wave Height (max.):</b> 1.52 feet	<b>Hydrostatic Head (min.):</b> 2.0 feet	
<b>Total Wave Exposure:</b> 72,000 waves	<b>Hydrostatic Head (max.):</b> 3.33 feet	

***RDFW is a USACE-tested alternative to sandbags.***

Sandbags are more  
expensive than you  
might think.





In a perfect world, crews of well-trained personnel would stack sandbags into efficient, rectangular walls.

*In real-world floodfights this is rarely, if ever, the case.*

More typical of a real-world floodfight situation is a trapezoidal wall, wide at the base and narrowing at the top. Sandbags in such a structure are likely to be stacked neatly at first and then, as worker fatigue sets in, quite haphazardly.



RDFW, on the other hand, always assembles into a neat, rectangular wall. And RDFW's rectangular shape means that an RDFW wall requires only half the fill material of an equivalent trapezoidal wall. This not only reduces the time and materials required for construction, but also reduces demobilization costs. Additionally, RDFW's smaller footprint makes it ideal for urban environments or levee crown construction, where workspace is often limited.



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***RDFW requires only half as much fill as sandbags.***

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In some floodfights,  
speed of deployment is  
*everything.*





In some floodfights, there is nothing more important than speed of deployment. When rivers rise more rapidly than expected, the ability to quickly construct a few thousand feet of flood wall might be the only thing saving an entire community from inundation.

According to the State of California Department of Water Resources Flood Center, a 35-person crew can construct



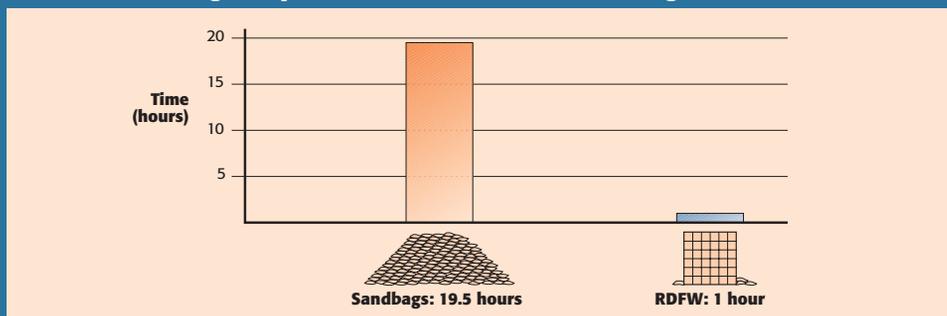
a trapezoidal sandbag wall four feet high and 100 feet long in 19.5 hours.

With RDFW, six laborers and one loader operator can construct an equivalent wall in just one hour.

*That's nearly 20 times faster than sandbags.*

RDFW offers a tremendous savings, measured not only in time, but in lives and property spared.

#### RDFW vs. Sandbag Comparison: 1,000-foot wall, 4 feet high



***RDFW deploys twenty times faster than sandbags.***

Have you ever found  
yourself in a floodfight  
with more than enough  
manpower?





You can win any floodfight...given enough manpower.

*But when was the last time you really had enough?*

As water levels rise and volunteers get tired, winning the floodfight can look less and less certain. Losses may begin to mount, and hard decisions will soon have to be made about which areas to save...and which to sacrifice.

*Does it really have to be this way?*



With RDFW, you multiply your manpower by nearly 100. Using RDFW, a 7-person crew can construct a wall in one hour that would take a 35-person crew 19.5 hours to build using sandbags.

That's 7 manhours vs. 683 manhours.

RDFW allows you to leverage your heavy machinery—your loaders and bottom dumps—instead of relying on labor-intensive shovels and sandbags. More importantly, RDFW enables you to protect far more area with far less labor than sandbags.

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***RDFW is nearly  
100 times more  
labor-efficient  
than sandbags.***

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What can you do with  
used sandbags?





What can you do with used sandbags?

*Not much.*

In the aftermath of a typical floodfight, sandbags usually find only one home—the local landfill. Sandbag disposal is a hidden cost of floodfighting that is often overlooked in disaster planning. In fact, it is often more costly to dispose of used sandbags than to buy the sand that filled them in the first place.

*RDFW is different.*

When an RDFW wall is no longer needed, the RDFW grids can simply be lifted out, leaving behind nothing more than a pile of sand. This fill material can then be resold, or stockpiled nearby for future use. The RDFW grids themselves can be inspected, repaired if necessary, and recertified for use in the next floodfight. And since RDFW is made of a recyclable plastic, not even damaged panels will find their way into local landfills.

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***RDFW is reusable  
and recyclable.  
Sandbags are not.***

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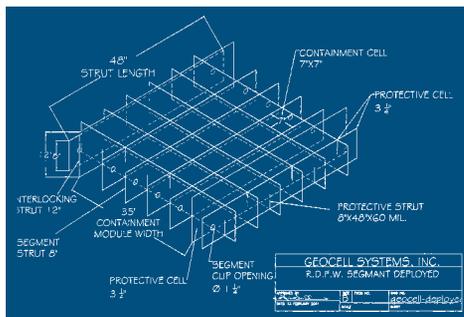
Use.  
Recertify.  
Re-use.



One of RDFW's biggest advantages over sandbags is that it can be dismantled, recertified and re-used. The ability to re-use RDFW over several flood events dramatically reduces its effective per-use cost.

*Try doing that with sandbags.*

Even when an RDFW grid module is damaged, it can still be repaired and recertified for use again. Constructed out of 14 plastic panels, a damaged RDFW grid module can be rebuilt simply by replacing any damaged panels within that module.



***Re-using RDFW  
 dramatically reduces  
 the high cost of  
 floodfighting.***

Say good-bye to  
mildew and rats.



*How safe is your stockpile of sandbags?*

When you really need them, will you open your warehouse to find your burlap mildewed? Will your plastic bags be infested with rats' nests? What percentage of bags can you expect to lose? When the water is rising, can you afford to lose any?

*Why take chances with sandbags?*

RDFW is made of a tough, flexible, environmentally responsible plastic produced by Eastman Chemical Company and extruded specifically for Geocell's RDFW by Spartech Corporation. It is immune to mildew, is resistant to vermin, and can be stored for 10 years or more in any working warehouse.



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***RDFW can be safely  
stored for ten years  
in any working  
warehouse.***

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Sandbag walls  
waste space,  
materials, and time.





Stop and think about it.

*What are the hidden costs of sandbags?*

Sandbags may be cheap to purchase, but they are expensive to use. Sandbag walls have inefficient trapezoidal or triangular cross-sections, requiring up to twice as much fill as square walls. Sandbags require enormous amounts of physical labor which, while it is often provided by “volunteers,” is often paid for after the flood event as part of disaster relief. Sandbag walls can only be used once and are costly to dispose of, typically being hauled off to landfills at great expense. And in stockpiling sand-

bags, there is almost always some loss to vermin and mildew.

But beyond the hidden monetary costs of sandbags, consider the true cost of relying on sandbags.

Sandbags have proven insufficient defense against floods time and again. The slow, manual rate at which sandbag walls can be constructed has resulted in billions of dollars in flood damages, year after year after year. But more significant than any amount of dollars is the trauma resulting from flooded homes and the loss of life that occurs annually as the result of flooding. *That* is the true cost of sandbags.

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***RDFW provides real savings compared to sandbags.***

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Finally, an alternative to  
sandbags!





It has taken years of development and testing, but mankind has finally created a better floodfighting tool than the tired, old sandbag.

Geocell's Rapid Deployment Flood Wall provides a superior defense against flooding by being quick and easy to deploy, requiring less fill material, having a smaller footprint, and requiring 99% less labor than sandbags.

RDFW allows you to make use of modern earthmoving machinery to construct more flood wall in less time. With RDFW in your inventory, you can protect dramatically greater amounts of land and property than you could with

sandbags. More importantly, RDFW's superior coverage reduces the threat to human life.

RDFW is reusable, making it extremely cost-effective. Unlike sandbags, RDFW requires no costly disposal for itself or its fill material. RDFW is made of an environmentally friendly, recyclable Eastman plastic that can be stored for 10 years or more in any working warehouse. RDFW is also resistant to the vermin and immune to the mildew which plagues sandbags in storage.

*RDFW is available now for order in any quantity (GSA # GS-07F-0340M).*



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