



Geocell Systems Inc.

# Demobilization



## *Hidden Costs*

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 purchase the sand that filled them in the first place.

As a waste product with no other use, unsightly walls of decaying sandbags must be hauled away at great expense to a dump site where they will be received at even greater expense. Trucking, equipment and dump fees quickly add up to total over 20% of the cost of your entire sandbagging operation.

And when the next flood hits, there is no way to recover these costs or reclaim used sandbags from landfills. You must start fresh, bringing in new sand and new bags that will themselves soon see the inside of a landfill.

## *Hidden Strengths*

The Rapid Deployment Flood Wall (RDFW) is designed from the outset for maximum strength and speed of deployment. Yet, because of its simple construction, RDFW can still be disassembled rapidly by small crews.

An RDFW wall 100 feet long and four feet high can be constructed by a 7-person crew in only one hour. That same sand-filled wall can be disassembled by that same crew in only two hours. The fact that RDFW takes twice as long to disassemble than to construct is actually a carefully engineered design factor. Simply put, things that are more difficult to take apart than put together are things that are less likely to spontaneously come apart in use. ***And RDFW is designed for use in the most critical situations.***

Still, two hours is not a bad time for disassembling a 100-foot wall. Especially when you consider the savings in trucking and dump fees associated with disposing of thousands upon thousands of sandbags. Unlike wasteful sandbags, an RDFW wall can be lifted out, decontaminated, recertified and repacked for use in the next flood; and the sand that filled the wall can be stockpiled nearby or sold for other uses.



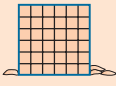
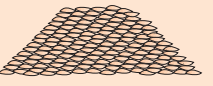
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**DEMOBILIZATION**

*RDFW is cost-competitive with sandbags in its first use. When re-used it becomes dramatically cheaper.*

*It typically costs more to dispose of a sandbag wall than to buy the sand that filled it in the first place.*

## How the Costs Stack Up

Comparison Scenario: 1,000-foot wall, 4 feet high

	 <b>RDFW:</b> 1,740 RDFW units 70 workers 1 hour 70 man-hours	 <b>Sandbags:</b> 103,320 sandbags 350 workers 19.5 hours 6,825 man-hours
RDFW Units	\$174,000	n/a
Sandbags	\$1,000	\$25,807
Sand Fill	\$11,860	\$23,720
Equipment Rental	\$125	\$1,800
Hand Tools	\$200	\$4,000
<b>Material Costs Subtotal</b>	<b>\$187,185</b>	<b>\$55,327</b>
Labor	\$1,400	\$136,500
<b>Response Subtotal</b>	<b>\$188,585</b>	<b>\$191,827</b>
Equipment	\$4,000	\$5,000
Transport	n/a	\$14,000
Dump Fees	n/a	\$32,022
Labor	\$2,400	\$2,400
<b>Recovery Subtotal</b>	<b>\$6,400</b>	<b>\$53,422</b>
<b>Total Cost</b>	<b>\$194,985</b>	<b>\$245,249</b>
RDFW Recertification	\$17,400	
RDFW Units (replace 20% per event)	\$34,800	
Sandbags	\$1,000	
Sand Fill (20% stockpile loss)	\$2,372	
Equipment	\$125	
Labor	\$1,400	
<b>Re-Use Deployment Subtotal</b>	<b>\$57,097</b>	
Cleanup/Recovery	\$6,400	
<b>Re-Use Total Cost</b>	<b>\$63,497</b>	<b>Sandbags Not Re-Usable</b>

### Assumptions:

Sand weight.....100 lbs/cf	Laborer.....\$20.00 per hour
Sandbag weight.....31 lbs. (.31 cf)	Trucking.....\$70 per truck per hr
Sandbag Cost.....\$0.25 each	Dump Fee.....\$27 per cy
Sand Cost.....\$20.00 per cy	Recovery Crew.....2 Laborers & Operators
Loader.....\$125.00 per hr	Recertification.....\$10 per grid
Shovels.....\$20.00 each	Loss of RDFW Grids.....20% per use
RDFW Panel.....\$100.00 each	Loss of Sand (Re-Use)....20% per use