

HOMELAND SECURITY

Emergency Response Capabilities of the Rapid Deployment Flood Wall

"My budget nearly doubles funding for a sustained strategy of homeland security, focused on four key areas: bioterrorism, emergency response, airport and border security, and improved intelligence."

**President George W. Bush
State of the Union Address
January 29, 2002**

When responding to any emergency, speed is often half the battle. The ability to rapidly deploy the right tools in an affected area can dramatically limit the ultimate size of a disaster.

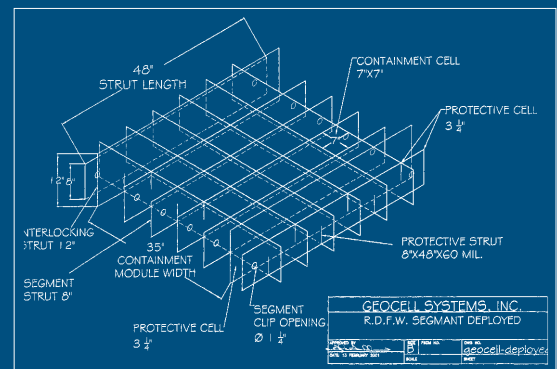
At Geocell Systems, we have developed one such rapidly deployable tool.

The Rapid Deployment Flood Wall (RDFW) is a modular plastic grid that serves as a direct replacement for sandbags in numerous applications. Filled with the same sand as the bags it replaces, an RDFW wall can be constructed in one twentieth the time, using only one fifth the labor, of comparable sandbag structures. With RDFW, a 7-person crew can construct a wall 100 feet long, 4 feet wide, and 4 feet high in only 1 hour.

Among its many uses, RDFW is ideal for both diversion and containment of water or other liquids. It can be used for both floodfighting and for containing toxic spills. The modular nature of RDFW allows walls and levees of any length to be constructed in heights varying from eight inches to six feet.

Like sandbags, RDFW is a flexible tool with multiple applications. RDFW was originally designed and Army-tested for bomb blast protection. In this application it is in fact superior to sandbags. RDFW also makes a good vehicular barrier, providing rapid protection to high-value targets against car-bomb attack.

It is impossible to know in advance what tools will be required to respond to a homeland security situation, but when time counts, don't count entirely on sandbags.



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With RDFW, a crew of six laborers and one loader operator can build a wall 100 feet long, four feet wide and four feet high in one hour. An equivalent sandbag wall requires 35 laborers over 19 hours to construct.



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Nuclear power plants often have more radioactive material stored outside the protective heavy containment dome than they do within the dome itself.



Major chemical and petroleum plants are located near every major U.S. city. A well-planned attack could potentially produce results on the scale of the Bhopal disaster.



Nearly every U.S. city sits beside some major body of water. Containment of a radiological or bioweapon attack may depend on keeping contamination away from rivers and lakes.

“Our discoveries in Afghanistan confirmed our worst fears... We have found diagrams of American nuclear power plants and public water facilities, detailed instructions for making chemical weapons, surveillance maps of American cities...”

Rapid Response Scenarios

It is impossible to know when, where, or how terrorists might strike. What is certain is that when the next terrorist attack does occur, a rapid emergency response will be of the utmost importance. Speed could mean the difference between a controlled situation and an uncontrolled nightmare.

The scenarios presented here are not meant to be alarmist. We provide them merely to illustrate the fact that an emergency response is a comprehensive, multi-phased undertaking, requiring tools that are both flexible and rapidly deployable. Geocell's RDFW, as a dramatically superior alternative to sandbags, fits perfectly within this requirement.

Imagine an attack on one of America's nuclear power plants. A terrorist suicide squad manages to cause a major fire, either in the reactor itself, or at the on-site waste storage facility (which is lightly constructed and often houses more radiation than the reactor core). The initial emergency response will focus on putting out the fire in order to stem the release of radiation into the atmosphere. A simultaneous concern, however, will be containing the large volume of highly contaminated water and mud generated by firefighting. Since many nuclear power plants are located alongside major rivers, containing this water quickly will be crucial, as any radiation escaping into a river could spread contamination for hundreds of miles downstream.

An RDFW wall could be used to prevent the escape of radioactive firefighting water. RDFW's high speed of deployment could dramatically reduce worker exposure to radiation.

Terror on an industrial scale. In 1984, an accidental gas release at a chemical plant in Bhopal, India killed over 1,600 local residents. Could a deliberate attack on a chemical plant kill even more? The atrocities of September 11 demonstrated that terrorist networks have both the imagination and organization to carry out very sophisticated actions. An attack on a major chemical or petroleum facility is certainly not unthinkable. What tools would be required to deal with such an attack? Would it be necessary to contain large quantities of liquid chemicals or petroleum products? Would it be necessary to divert them away from rivers or population centers? How much time would be available to do so? And what would be the consequences of failure?

RDFW grids can be stacked into walls varying in height from 8 inches to 6 feet.

Consider a radiological or bioweapon attack. What would happen if a terrorist cell were able to mount a successful radiological or bioweapon attack on a U.S. city? By dispersing a finely ground radioactive dust or an aerosolized biological agent, a terrorist group could expose thousands of civilians and contaminate dozens of square miles. Now imagine that in the days following the attack, wet weather threatens to spread this contamination into nearby waterways, potentially contaminating large lakes or entire river systems. Emergency levees will need to be constructed as rapidly as possible to confine all of the contaminated water within the contaminated zone.

RDFW is ideal for constructing any length of levee. It deploys far faster than sandbags.

Geocell's RDFW is available immediately for orders in any quantity (GSA # GS-07F-0340M).