

GREAT FALLS FLOOD PROTECTION POTOMAC, MARYLAND, USA

FLOOD PROTECTION

Product: FlexMac® DT

Problem

The Great Falls Tavern provided lodging for C & O Canal travellers for nearly 100 years after it was constructed in the 1830s.

In the fall of 2003, Hurricane Isabel threatened the East Coast of the USA, placing this historic tavern at risk of flooding from the Potomac River and the C & O Canal.

Solution

Maccaferri Inc. approached the C & O Canal National Park engineers and offered Flexmac® DT as an alternative to the traditional solution of sandbag protection.

Flexmac® DT can be installed up to eight times faster than the equivalent volume of sandbags - a critical factor with the rapidly approaching storm.

The 5m x 1m x 1m Flexmac® DT units were deployed and filled with sand. An impermeable membrane was wrapped around the filled units to improve the overall performance of the installation.

The Flexmac® DT protected the Tavern during the storm from the rising waters.

After Isabel had passed, the Flexmac® DT units were removed using a lifting frame. The fill material drops out of the bottom of the unit as it is lifted clear.

If carefully lifted and folded before storage, the units can be used more than once.

FlexMac® DT elements are modular structures made from double twisted, heavily galvanized steel wire mesh panels, reinforced with vertical steel bars. The cells are connected together in the factory and then folded to reduce shipping volume and facilitate rapid deployment.

Each cell within the FlexMac® DT unit is lined with a geotextile which is fastened to the double twist wire hexagonal mesh during the manufacturing process.

Client:

NATIONAL PARKS SERVICE

Main contractor:

C&O CANAL OPERATIVES

Consultant:

MACCAFERRI INC.

Products used:

FLEXMAC 5m x 1m x 1m



Plaque on the Great Falls Taven



Great Falls Tavern, C&O Canal



FlexMac® DT units ready for filling

MACCAFERRI

The FlexMac® DT elements arrive on site in bundles wrapped in plastic for protection during freight and storage.

The transportation of the single FlexMac® DT unit is very simple and can be done manually. To deploy a single unit requires only 2-3 people and takes 20-30 seconds.

Flexmac modules can be filled with many types of fill material and can be performed either manually using shovels or mechanically using suitable mechanical plant on site.



Filling FlexMac® DT units with sand



Completed barrier ready for Hurricane Isabel



Removing FlexMac® DT units with lifting frame



Lifting empty FlexMac® DT unit



Folding empty FlexMac® DT unit after use, ready for storage

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