

## **Location: George Washington Memorial Parkway**

Situation: Built in 1930, the George Washington Memorial Parkway has stood the test of time shouldering commuter and tourist traffic along the shore of the Potomac River. Everything looked to be working well, but the bridge over Pimmit Run was hiding a potentially catastrophic secret. The erosion control system had failed and water was draining through filter fabric directly out weep holes in the bridge abutment below. Undetected, water was also eroding supporting deck soil. Over time, soil accumulated under the bridge while the voids under the deck expanded with pending consequences.



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## FHWA BENEFITS FROM NEW INNOVATION

JET Filters have several attributes contributing to the Federal Highway Administration's selection:

- ✓ Installation from the face of the bridge abutment wall with no excavation,
- ✓ Combines geotextile fabric with removable, cleanable or replaceable filter cartridges,
- <1% the cost of extensive excavation and a new filtration system,</p>
- ✓ No additional impact on traffic and businesses, and,
- ✓ Off the shelf, installation within 24 hours.

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On December 1, 2014, the US Park Police were notified of a 4 car, pile-up on the Parkway. The deck had finally given way to a <u>sinkhole 5' x 10' and 30' deep.</u> Fortunately, no one was seriously injured.



**Consideration Factors:** Engineering and emergency repair crews were quickly on site to determine a plan of action. The erosion was more significant than the 5' x 10' opening, as voids now existed under all lanes of traffic. Repair of the decking was the easy part. Repairing the buried drainage system would not have been as simple.

Traditional strategies to prevent future erosion would have required a more significant investment of time and emergency funds, as well as extended lane closures.

A different drainage system was needed.

## **SOLUTION**

**JET Filter System's 4" dia. maintainable weep hole filters** were the right solution. Jet Filters were chosen over a new, behind the wall, drainage system that would have required extensive excavation to install. The Jet Filter contains a removable, cleanable geotextile cartridge for drainage & erosion control. This design allows installation & maintenance from the front of the wall. This approach decreases both installation & maintenance costs. The 4" dia. open-end Jet Filters were installed in each bridge abutment weep hole.



## **RESULTS:**

Jet Filter's unique design made them the perfect choice because they:

- Are easy to install & maintain
- Extend the life-span of a bridge design
- Let ground water out & control erosion

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**Maintainable Weep Hole System** 

Providing Geotextile Drainage & Erosion Control

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