



Maintainable Weep Hole System

Providing Geotextile Drainage
& Erosion Control



21st Century Solution to Save Our Bridge Infrastructure

Location: Natchez Trace Parkway

Situation: Constructed in the 1930's – 1940's, the Natchez Trail Parkway winds its way from Natchez, Mississippi to Fairview, Tennessee. The scenic roadway contains ~400 overpasses & bridges. Maintenance costs have increased dramatically as many of the structures show signs of distress. One of the biggest issues was soil erosion in and around bridge abutments due to failed drainage systems.



FHWA BENEFITS FROM NEW INNOVATION

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

- ✓ Installs through the front of the bridge abutment wall with no excavation.
- ✓ Combines geotextile fabric with removable, cleanable or replaceable filter cartridges.
- ✓ Costs less than 1% the cost of excavation and installation of a new erosion control system.
- ✓ No additional impact on traffic and businesses.



Consideration Factors: Without proper drainage & erosion control, hydrostatic pressure builds behind the walls. Over time the stress on the abutments caused the walls to move, become out-of-plumb and even bulge. As the water seeks the weakest exit point, it erodes soil particles and creates voids behind the wall. Wall failure is inevitable if this process continues. Over the years, other attempts to properly drain this moisture away from the foundations and abutment walls have been futile. French Drains and traditional weep holes allow soil erosion to continue.

FHWA needed to think beyond traditional methods to find a cost-effective way to preserve their bridge abutments & retaining walls?

SOLUTION

JET Filter System's 4" dia. maintainable weep hole filters were the right solution to reduce the hydrostatic pressure by controlling water drainage and soil erosion. At less than 1% the cost of excavation, Jet Filters were chosen to extend the life of the abutments. The patented Jet Filters are installed from the front of the wall to provide easy access for installation and maintenance of the removable, cleanable geotextile cartridge. And best of all, if the fabric ever fails, the cartridge can be replaced.



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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