

HIGH STREET CHANNEL

POROUS PAVEMENT

CHANNEL STABILIZATION

RAPID, RESILIENT, VEGETATED CHANNEL STABILIZATION

THE CHALLENGE

The High Street Channel in Sweetwater, Tennessee, had become a recurring threat to the adjacent roadway through repeated erosion, undercutting, and sediment displacement. Seasonal storm events and fluctuating water flows accelerated bank failure, forcing the city to rely on temporary rip rap repairs that offered only short-term stabilization. These recurring fixes increased maintenance costs, strained municipal resources, and left public infrastructure exposed to ongoing risk, particularly in a corridor heavily used by both vehicles and pedestrians along a popular greenway.

Compounding these environmental pressures, the channel ran directly alongside an active city street with limited right-of-way, leaving little room for equipment staging, material storage, or extended construction activity. Utility poles, uneven terrain, and restricted access points narrowed installation windows and heightened the need for precise placement and efficient sequencing. The city required a solution that could be deployed rapidly, maintain traffic flow, minimize disruption to the surrounding community, and deliver long-term structural and ecological performance without sacrificing safety, aesthetics, or regulatory compliance.



A SCALABLE, SUSTAINABLE, AND RESILIENT SOLUTION



THE SOLUTION

The City of Sweetwater deployed Flexamat Plus, an engineered vegetated hard armor system, with on-site technical guidance from Jen-Hill. The modular, roll-based design combined structural reinforcement with a built-in growth medium, allowing crews to position sections precisely around constraints while achieving immediate soil stabilization and long-term vegetative performance.



Custom sized rolls streamlined installation across 9,269 square feet of channel. Crews unrolled, anchored, and seeded each section with minimal handling and reduced equipment movement, accelerating construction while establishing a natural, resilient buffer along the roadway. The approach delivered both engineered stability and living infrastructure in a single, efficient process.



THE RESULTS

Since installation, the channel has remained stable, sediment migration has been reduced, and water quality has improved. Maintenance has been limited to routine mowing, eliminating the need for emergency repairs and lowering long-term costs. The project enhanced roadway safety, strengthened ecological performance, and transformed the corridor into a visually appealing, resilient greenway that demonstrates how engineered vegetative systems can deliver durable, sustainable outcomes for municipal infrastructure.



Jen-Hill Construction Materials is family owned and operated. Since 1991, Jen-Hill has worked with contractors, engineers, and government agencies to solve problems with innovative products and services.

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