Project Basics

**Project Name:** Price Ravine Slope Stability Project  
**Installation Date:** April, 2012  
**Product Type:** Western Excelsior Xtreme Armor System™ (XAS) utilizing PP5-Xtreme with Percussion Driven Anchors (PDAs)  
**Project Location:** Junction City, KS

Project Overview

Protecting a sensitive bankline with important structures at risk is no small task. In Junction City, Kansas, that challenge was given to the Xtreme Armor System. An engineering firm had offices and other structures at the top of an eroding and unstable bank. As their own assets were at risk, the engineering firm turned to XAS for a solution that provided stability and confidence. With exceedingly steep banks, the strength of the system was key. The installation was augmented with rock, placed in key areas, to protect the limits of the system.

Installation

PP5-Xtreme, a high-performance turf reinforcement mat (HPTRM), was extended over the prepared soil down to the normal waterline. Stainless steel PDAs were installed to a six (6) foot depth and used to secure the HPTRM, restraining the hillside. The anchors selected ensured the highest level of performance in the particularly sensitive and difficult terrain. Additional steel pins were installed as secondary anchoring. Specialized equipment was used to place the material and anchors on the 1:1 (H:V) slopes. After the HPTRM system was in place, hydraulic mulch incorporating seed was sprayed into the HPTRM. The dimensionality of the PP5-Xtreme matting allowed for the application of the hydraulic mulch and seed in and through the matting. This approach yielded a robust and stable stand of vegetation.

Performance

At the end of the day, Xtreme Armor System was up to task, selected by engineers to protect their own interests. To date, the system has met or exceeded all specifications and expectations. The in-place system allowed for excellent vegetation establishment. The site was completely vegetated within only a few months after initial seeding.

Modified equipment aided the installation of the Xtreme Armor System on the inaccessible steep slope (top). The HPTRM was installed with PDAs and hydraulically mulched (middle). Even through a summer drought, the site saw full vegetation within months (bottom).