

Geosource Solution Center

Project Name: Fontenelle Forest Channel Restoration

Project Location: Bellevue, NE

Problem: Old concrete lined channels had been undermined and had deteriorated over the course of time allowing severe erosion in various hollows and green scenic areas

Solution: Installing topsoil filled Presto GeoSystems' GeoWeb with North American Green's C350 Turf Reinforcement Matting as well as S150 Straw Mat

Owner: Fontenelle Forest, Gary Garabrandt, Director

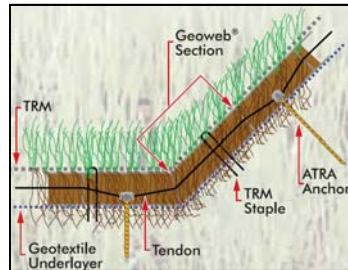
Contractor: Sudbeck Construction, Melvin Sudbeck, Owner

Background:

Forest property runs throughout very steep bluffs adjacent to the Missouri River in Eastern Nebraska and is in the midst of various residential developments. The solution to urban runoff 20+ years ago was to line water ways with concrete or to just accept the inevitable damage due to that water flow. Severe undercutting and deterioration of the concrete liners and dense overgrowth had allowed large ravines to develop over the last 2-3 decades. The association had also acquired a section of the Fontenelle Hills Golf Course that needed similar repairs.

Solution:

One of the owners of the golf course was into ASP Enterprises' Omaha office and was introduced to and was enamored with the vegetated solution offered by the a composite system of a cellular confinement system and a Turf Reinforcement Mat (TRM). The project faded from view until the land acquisition and realization by the leadership at the non-profit assoc. that serious problems need- ed to be addressed. They filled out an application with NE Environmental Trust Fund for grants to fund the repairs. The City of Omaha, City of Bellevue, Papio MO River Natural Resource District, and the Army Corp of Engineers participated financially as well as in-kind labor from volunteers. Overall funding for the association's various projects exceeded \$1mil. A site visit by the contractor's superintendent Dana Jorgensen, ASP's Lynn Ewoldt and Di- rector Gary Garabrandt resulted in the final decision to use this soft armor system. Grading and various stormwater structure work was done over the course of 2 years ('11&'12) and much of the work was done during severe drought conditions. The following spring saw ex- cessive rains so conditions were not optimum for the growth of vegetation. Most of the mate- rials were installed by volunteers and the staff of 2 full and 2 part time employees.



Results:

Because of severe weather conditions a small amount of repair work was done this past spring where standing water had drowned vegetation. It has since fully vegetated and Gary Garabrandt believes the project leaves behind a low maintenance and permanent solu- tion and a proud legacy as he prepares to retire at the end of this year.

Brian D. Williams, CPESC



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This is the channel before work began. Severe erosion is obvious.



Immediately after construction, the Geoweb with C-350 on top can withstand significant forces.



Vegetated, shear stresses can exceed 15lbs per square foot.

Calendar of Events

Oct. 14th: 18th Annual Jake Jare Memorial Golf Tournament; St. Louis, MO

[Click here](#)

October 29-31: Great Rivers IECA Annual Conference

<http://www.greatriversieca.org>

Nov. 3-5: APWA MO Chapter Fall Conference, Lake of the Ozarks

[Click Here](#)

ASP/Quick Supply 2014 Clean and Green Sustainability Conference and Expo

March 11th-Omaha

March 12th Des Moines

March 13th-KC, MO

March 14th St. Louis, MO