

Geosource Solution Center

Project Name: Stormwater Pond Shoreline Erosion Control

Project Location: Various Locations around Kansas

Problem: Shore line erosion due to wave action and overland flow

Solution: Native vegetation reinforced with VMax3 Turf Reinforcement Mats

Designer: Kim Austin with Atwell (formerly with Terracon)

Contractor: Kirk Excavating and Premier Landscaping

Owner: Several Home Owners Associations

Product Used: North American Green C350, C125, P-550. Also Conlock Articulating Concrete blocks were incorporated into the project on the downstream weir.

Background: Stormwater ponds in Wichita are a very common BMP to detain storm water, while also considering it an amenity that garners additional value to a homeowner. Frequently, 3-5 years after the ponds are complete, problems arise in regards to erosion from wave action. The very nature of these ponds call for water level inconsistency and waves begin to erode the shoreline. In one particular case, irrigation lines were exposed and home owners were losing valuable real estate. Again, water level fluctuation is the nature of a storm water pond as rain events and droughts occur. Erosion protection on these slopes must be installed the entire range of possible water elevations.



It was the evaluation and performance of several products that brought ASP Enterprises into these projects. In all cases, developers were looking for a cost effective alternative to rip rap. Kim Austin of Atwell previously with Terracon was asked to evaluate many of these HOA ponds.

Several products were given consideration and the North American Green's Vmax3 line of TRMs and C350. the composite TRM, was determined to be the product that would provide a stand alone solution capable of withstanding the incisions from installing the native plugs without compromising the integrity of the product. Kim was also looking for a more natural solution, one that would enhance the pond as an amenity and improve the wildlife habitat.

Four years later, we have a permanent and stable shoreline plus an eco-friendly environment for desirable fish and other wildlife. A dramatic increase in butterflies, song birds, dragonflies, damselflies and other beneficial pollinators have been recorded. Shorebirds including great blue heron, great egret, cattle egret, snowy egret and little blue heron have also increased in numbers plus a significant reduction in Canada geese. Another critical component of an eco-friendly shoreline is public education and proper maintenance. A vegetated shoreline will need 3-5 years to establish and the C350 provides the protection against soil erosion allowing the root systems to take over and permanently stabilize the area. If maintained correctly, a native system lowers the maintenance costs for the HOA/developer. Several additional projects have spun off of this very successful solution.

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This is what the lake edge looked like before installation.



Installation of the Vmax3 C-350 Turf Reinforcement Mat



An Eco-friendly/Environmental solution

Calendar of Events

Nov 30-Dec. 1: AGC-MMO-Coop Meeting, Lake Ozark, MO
<http://www.agcmo.org>

Dec 12-14: Heartland Green Industry Expo, Overland Park, KS
www.mokanstma.org

Jan. 9: AGC-IA-90th Annual Convention-Des Moines, IA
www.agcia.org

Jan 15-17: KLICA-Winter Convention, Manhattan, KS
www.kansaslica.com

Jan 17-19: NELICA-Annual Meeting, Kearney, NE
www.nelica.com

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