Curlex® QuickGRASS® I

Highway Shoulder Application

QuickGRASS Case Study

The erosion of highway shoulders and embankments caused by direct runoff from impervious road paving is a widespread problem for federal, state, and local departments of transportation. Highway shoulders are vulnerable to erosion as soon as the finished grade is completed. This vulnerability continues until vegetation becomes fully established, which can often take from one to three years.

When faced with this situation, the Missouri Department of Transportation (MODOT) selected American Excelsior Company's Curlex® I QuickGRASS® to protect the highway shoulders along Route 370 north of St. Charles, MO. The Route 370 project, a three mile stretch, included major grading, paving, and reclamation work. Because the new highway was built in the Missouri River floodplain, fill material was dredged out of the Missouri River to raise the highway embankment elevation. This sandy, highly erodible fill necessitated the addition of the 1.5 m (5 ft) wide shoulder or transition strip adjacent to the concerte.

Prime contractor Millstone Bangert Inc. (MBI) considered using sod to prevent erosion on the transition strip. However, MBI was concerned that the sod would not establish itself if hot and dry conditions were encountered after the July installation. Safety Construction of St. Louis, MO, the specialty erosion control subcontractor on the project, proposed the use of a native grass seed mix and American Excelsior's Curlex I QuickGRASS blanket instead of sod.

The proposed blanket was manufactured from biodegradable Great Lakes Aspen wood fibers (excelsior) and polypropylene netting combined into rolls. By using only a single netting on top of the blanket, the barbed excelsior fibers (80% six-inch or longer) would directly grip the subgrade and remain intact during severe weather conditions. The blanket's fibers would protect the seedbed from erosion by reducing the impact force from raindrops and by slowing runoff from pavement. The blanket would also minimize the likelihood of burnout and increase hygroscopic moisture, providing an excellent microclimate for seed germination and growth.

MBI selected Curlex I QuickGRASS erosion control blankets instead of sod. Once the paving and finished grading were completed, approximately 55,000 yd^2 of the dyed-green Curlex blankets were installed on the project. The blankets were secured with 11 gauge steel wire staples (approximately 1 staple/yd^2), with additional staples installed along the pavement edge. This anchorage offered the blanket superior performance and longevity. Following the blanket installation, the weather in St. Louis was unusually hot and dry. However, the native fescue and perennial rye seeds found enough moisture to germinate and seedlings were established. As the green color in the Curlex I QuickGRASS blanket faded, it was replaced with natural green vegetation.

Benefits Of Curlex I Quickgrass

- Green color gives the appearance of natural turf instantly
- Protection for slopes up to 2H:1V
- Expedites germination by holding and releasing moisture
- Helps control soil surface temperature fluctuations
- Protects against high winds and sun burnout
- Breaks up rain impact to reduce erosion
- Curlex's barbed fibers inter-lock to the soil for sure adhesion

Prior to installing CurlexGRASS, the shoulder subgrade is properly prepared and seeded.

Using 8 ft. wide rolls enable Curlex I QuickGRASS installation to progress quickly and easily.

Curlex I QuickGRASS protects the shoulders from stormwater runoff before vegetation is established.

After Curlex I QuickGRASS installation, vegetation is established and the shoulder is protected.

If you would like to receive more information or consult with one of our Customer Care Center Specialists, please call us toll free at (888-352-9582). PDF download specifications available in the Technical Support Library at www.Curlex.com