Turf Reinforcement Mats provide stability and vegetation establishment.

The Elbow River is located in southern Alberta, Canada. It flows from the Canadian Rockies to the City of Calgary where it merges into the Bow River. The river is popular among canoers, rafters, campers and hikers with some sections of the river closed to fishing.

Challenge

In June 2013, southern Alberta experienced heavy rainfall triggering catastrophic flooding throughout Calgary and along the Elbow River. As water levels rose, numerous communities were placed under evacuation orders. Most of the city pathway system and slopes along the Elbow River were damaged. The client required a solution for site armoring and vegetation establishment while stability of the slopes were concerns of the engineer.

Solution

Nilex recommended North American Green P550 Vmax³ Turf Reinforcement Mats (TRMs) with earth anchors. Vmax³ TRMs contain a fibre matrix that shields soils from erosive forces preventing extraction of soil materials while deflecting shear forces and protecting seedlings. Using North American Green software, Nilex determined that the P550 showed exceptional shear resistance and an appropriate factor of safety to satisfy the engineer’s design requirements. The earth anchors would be secured to the existing subgrade through the fill, thereby reinforcing the slope stability.

LOCATION:
Calgary, Alberta

PRODUCT:
P550 Vmax³ Turf Reinforcement Mats

PROJECT PARTNERS:

Owner
City of Calgary

Consultant
AMEC

Contractor
Wilco

Completion Date
September 2014

NILEX
CIVIL ENVIRONMENTAL GROUP
Unearthing better results.
Installation

In order to achieve optimal results the soil was prepared prior to installing the TRM followed by it being securely stapled to the soil surface using earth anchors. The install was completed by a crew of three with Nilex providing on-site assistance throughout to ensure the P550 was rolled out correctly and the proper staple pattern was used. Earth anchors reach deep into the soil to offer enhanced holding power under extreme hydraulic stresses and adverse soil conditions.

Results

The P550 Turf Reinforcement Mats with earth anchors increased the stability of the slopes while providing maximum erosion protection and vegetation establishment. With the high demand and cost of riprap, the P550 was able to provide the client with cost savings by reducing skilled labor, minimizing truckloads to site and also providing a superior aesthetic appeal in a high traffic area.

The Nilex Advantage

Nilex is committed to unearthing better results. Whether it’s for a civil, resource or environmental project, we offer the latest engineered and technically superior materials and techniques to save our customers time and money, and minimize the need to move or remove earth, and reduce the need for granular materials.

With over 35 years of experience, a long-standing commitment to the environment and highly qualified staff, Nilex delivers the products and technologies that give clients an economic advantage with environmental benefit.