

Blue Mountains, ON Interceptor Swale Reinforcement

Year of Construction: 2022

Location: Blue Mountains, ON

Product Installed: Flexamat

System: Erosion Control

CASE STUDY

CHALLENGE

An existing interceptor swale needed to be realigned to accommodate new residential lots. This realignment required a durable solution that would both protect the swale from erosion and facilitate vegetative growth for long-term stability.

SOLUTION

Flexamat Plus was chosen as the ideal product for this redesigned swale. It provided robust erosion protection while enabling vegetative growth, addressing both immediate and long-term needs.

SPECIAL NOTE

The interceptor swale was redesigned with a V-shaped cross-section. With an approximate grade of 2.6%, the swale was designed to handle 100 year SCS storm peak flow rate of 1.35 m³/s. This design capacity ensured the swale would withstand significant storm events without excessive erosion.

Flexamat Plus was selected for its durability and erosion capabilities. Flexamat Plus consists of interconnected concrete blocks, reinforced with bi-axial geogrid and underlaid with wood fibre (curlex) erosion control blanket, as well as a turf reinforcement mat made of polypropylene. The 38mm spacing between the blocks allows flexibility and accommodates vegetation growth, with roots reinforcing the mat. Flexamat Plus has been tested to ASTM D6460, achieving a shear resistance of 1,149 Pa and supporting a flow velocity of up to 5.8 m/s under unvegetated conditions.

The contractor ordered six 16' wide rolls of Flexamat Plus, all with customizable lengths, providing a total coverage of 230' in length. Installation was straight forward and efficient, taking just half a day with an excavator operator and four additional workers on the ground. The rolls were installed over seeding to support vegetative growth. This approach ensured that the swale would not only have immediate erosion control protection but would also promote long-term stabilization through root systems. Fill vegetation was established within a year, providing additional natural reinforcement against erosion.

Case Study Video:

<https://www.youtube.com/watch?v=FzP6E6QJlnk>

