

SUNFISH POND WITH GO TRANSIT TORONTO, ONTARIO



Problem



Solution



Result

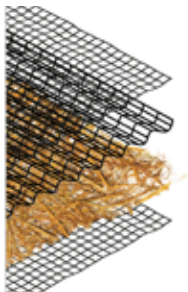
Application: Slope Stabilization
Product: SC250 TRM + Geogrid

Site Issues: Steep slope erosion • Environmentally Sensitive Area
• High profile project - Public Transit and Botanic Garden

Problem: GO Transit, the Greater Toronto commuter rail/bus system expanded a rail service line with the addition of new tracks. To accommodate a third track, building work was needed near Sunfish Pond. Sunfish pond is an environmentally sensitive pond managed by and forming a part of Burlington's Royal Botanical Garden. It is the home to many rare aquatic species. The main concern with the new construction was stabilizing the steep embankment as the right of way was widened to allow for the third track. This would result in steep slopes and the potential for sediment migration and accumulation in Sunfish Pond would in turn could disturb the natural habitat and impact aquatic wildlife.

Solution: A combination of a 5 m (16.4 ft) sheet-pile retaining wall along with a geosynthetically reinforced vegetated slope was designed. The primary reinforcement of the slope included Uniaxial geogrid installed horizontally into the slope above the wall. The now created 1:1 slope was topsoiled, and seeded with native grasses and protected with the SC250 TRM. The permanent TRM would protect soil and seed during vegetation establishment as well as permanent improve the performance of the vegetated slope long term.

Result: The selection and installation of the proper products coupled with good growing conditions allowed for rapid germination of the SC250 TRM. Along with providing GO Transit the means to expand the railway system, the project had additional benefits for Burlington's Royal Botanical Gardens. With the removal of vegetation during construction the Gardens had the opportunity to remove non-native plantings on the embankment and replace them with historically native species in the area. By re-establishing native plantings near Sunfish Pond, the Royal Botanical Gardens was able to improve the natural habitat surrounding the area. While the rail expansion project at Sunfish Pond was only a small part of the larger billion dollar railway expansion project funded by the Canadian Government and Ontario's Go Transit, it offered an example of how green engineering practices could produce a successful result for all parties.



PRODUCT HIGHLIGHTS

- The VMax SC250 permanent TRM has a corrugated matting structure that offers true reinforcement to establishing vegetation, helping to protect vegetation roots and growth points from water runoff erosion.
- The unique design creates a shear plane that deflects flowing water away from the soil surface while still allowing ground cover and moisture retention aspects from natural fiber mulch covers.