Tseung Kwan O Landfill

Geoweb® Channel Protection System

Extreme Flexibility Hard Armoring: Hong Kong
The concrete-filled Geoweb system was used for protecting the geomembrane liner on the channel invert.

Topsoil and vegetation was the infill within the Geoweb system on the channel slopes/berms above the flow depth.

Energy dissipaters were designed using recommendations provided in *Design of Small Dams* – US Bureau of Reclamation. The flexibility of the Geoweb allowed it to be cut in order to accommodate the dissipaters.

**Interesting Statistics:**
- There is a 460 ft drop from top to bottom
- Design flow rate is 350 cubic feet per second
- Settlement is expected to be over 30 feet within the first 15 years after construction
Proposed Geoweb Channel Lining with Base Anchorage

CROSS-SECTION
- Formation shear trench (20 cm deep)
- Precast concrete baffle blocks
- Non-woven geotextile (400 g/sq.m) underlayer with full encapsulation of channel side slopes
- Concrete-filled Geoweb GWLC-A8-25 (2.44m x 10.0m)

PLAN
- Tendons at 0.49m centres (Break strength - 8 kN)
- Formation shear trench (20 cm deep)
- Precast concrete baffle blocks
- Non-woven geotextile (400 g/sq.m) underlayer with full encapsulation of channel side slopes
- Concrete-filled Geoweb GWLC-A8-25 (2.44m x 10.0m)

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ECI Technologies
creating sustainable environments
**CROSS-SECTION**

Formation shear trench

**LONGITUDINAL-SECTION (A-A)**

Baffle blocks

Non-woven geotextile (400 g/sq.m) underlayer with full encapsulation of channel side slopes

Concrete-filled Geoweb Lining System (GWLC - A8)

Non-woven geotextile (400 g/sq.m) underlayer with full encapsulation of channel side slopes

0.20m.

0.60m.

2.44m.

0.90m.

0.50m.

9.5m.

0.85m.

0.90m.

2.40m.

0.5m.