



DRAINTUBE®



GEOCONDUCT®



ALVEODRAIN®



NOTEX C®



NOTEX®



GEOTER®

MINING
INDUSTRYENVIRONMENTAL
ENGINEERINGBUILDING
CONSTRUCTIONPUBLIC
WORKS

South Frazer Perimeter Road, BC

Drainage behind MSE wall

CONTEXT

As part of the bypass of the southern part of the Fraser River in British Columbia (South Frazer Perimeter Road project in Delta), the future road is proposed along the south side of the river bank in order to relieve the Portmann Bridge access to the City of Vancouver from the neighboring cities located in the South (Surrey, Langley and Abbotsford). Because the space along the shore is limited, the new road had to be placed in the extension of the existing one, along the river. Significant changes in the pattern of shoreline were made, leading to the construction of a large section of Mechanically Stabilized Earth (MSE) wall. The cross section of the MSE wall included a drainage layer at the back and below the wall.

ISSUES

The drainage layer behind the MSE wall was initially composed of a 150 mm (6 in.) thick layer of washed clean stone protected with filtration geotextiles on both sides to be installed on a 1H:1V slope. The only way to place the two geotextiles and the clean stones during the construction of the wall was to use the zigzag method. However, this method is very slow and costly in resources. In this project, the loss based on the initial quantities was 100% for the clean stones and 200% for the geotextiles.

RETAINED DESIGN

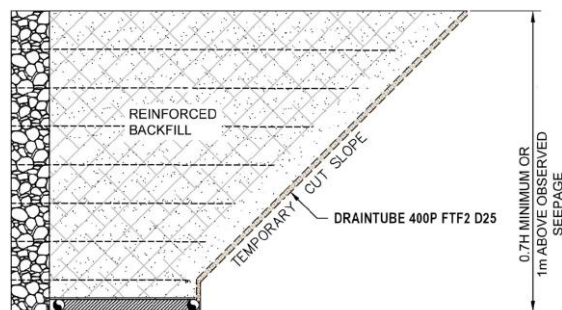
The multi-linear drainage geocomposite DRAINTUBE® is being used in civil applications for more than 30 years. It has been selected in replacement of the initial drainage system. The request issued by the contractor was submitted to the Ministry of Transportation of British Columbia (BC MOT) that agreed to introduce this technology to the approved civil engineering products list. DRAINTUBE 400P FTF2 D25 has been installed in replacement of the washed clean stone layer and the two filtration geotextiles, it exhibits the following properties:

- Non-woven geotextile layers needle-punched together with 25 mm (1 in.) diameter mini-pipes regularly spaced on 0.50 m (20 in.) centers and running the length of the roll
- Mini-pipes with a pipe stiffness at 5% deflection over 3,000 kPa
- Stable long-term drainage capacity even under high loads

DRAINTUBE® is unrolled in the direction of the slope and connected to a collector trench at the toe.

ADVANTAGES

- Reduction of the costs of the project
- Reduction of the environmental footprint (less GHG emissions)
- Fast installation to keep short deadlines
- A very good Health & Safety records for the installation crew on site
- Consistent quality controls – 100% conformity



Typical cross section. DRAINTUBE® is used in replacement of the washed clean stone layer and the two filtration geotextiles.



Construction of the Mechanically Stabilized Earth (MSE) wall, reinforced backfill placement and compaction.



Vertical stone facing of the MSE wall.

PROJECT SUMMARY

Products	DRAINTUBE 400P FTF2 D25		
Quantity	25,000 m ² (250,000 sq ft)	Design	-
Application	Drainage behind MSE wall	Installation	Brockwhite / Jacob Bros. Construction
Owner	British Columbia MOT	Years	2012



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AFITEX-TEXEL GEOSYNTHETICS ADDED VALUE

The expertise of the AfiteX-Texel team provided the designers with all the necessary information and technical support to choose the most suitable solution based on the project's parameters.

« What AfiteX-Texel has to offer »

AfiteX-Texel will be pleased to assist you in the evaluation and design of your next projects, because our approach has always been and always will be the same: the right product, in the right place, well installed with rigorous quality control.

In case you need technical support? Feel free to refer to the AfiteX-Texel team.
Expert services will be provided free of charge:

- Technical Assistance
- Assistance during Design
- Technical Training
- Technical Documentation
- Calculation Tools
- Specification & Tender documents
- Installation Guidelines



YOU NEED MORE INFO?

Never hesitate to contact one of our specialists in order to know more about the benefits you can get from your projects

1-800-463-0088

Available documentation

- Technical data sheets
- Installation guidelines
- Standards & Studies
- List of projects
- Design Software

www.afitextexel.com



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