DRAINTUBE® GEOCONDUCT® ALVEODRAIN® NOTEX C® NOTEX® GEOTER®

MINING INDUSTRY | ENVIRONMENTAL ENGINEERING | BUILDING CONSTRUCTION | PUBLIC WORKS

Ste Sophie, Quebec

WM Landfill final closure

CONTEXT

Ste-Sophie landfill is located North-West of Montreal, Quebec, Canada. It is in operation since 1997 and treats today almost 1 million tons of waste per year. Waste Management, with the support of WSP, wanted to maximize their local sand pit used as drainage layer with the use of DRAINTUBE® drainage geocomposites for run-off drainage and LFG collection on final cover.

ISSUES

The initial cross section of the final cover included sand material as drainage layers. This sand was easy to be found locally from a nearby open pit. However, the quality of the sand was degrading years after years after an increase of it fines content, until the moment the sand was not permeable enough to satisfy the hydraulic criteria of the engineers.

RETAINED DESIGN

It was not recommended by the owner to get a cleaner sand from another pit because it would increase the costs of construction as well as the environmental footprint for quarrying the material from the pit to the site. Engineers decided to include the multi-linear drainage geocomposite DRAINTUBE® above of the geomembrane for run-off drainage and since 2015, below it for LFG collection enhancement. The geocomposites exhibit the following properties:

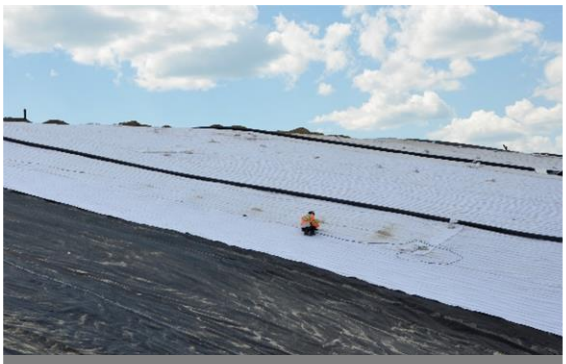
- Run-off drainage: DRAINTUBE 300P FT4 D25 composed of non-woven geotextile layers needle-punched together with 25 mm (1 in.) diameter mini-pipes regularly spaced on 250 mm (10 in.) centers and running the length of the roll. It offers a stable long-term transmissivity of $4x10^{-3}$ m^2/s (i=0.1, confined between geomembrane and soil) even under high loads.

- LFG collection: DRAINTUBE 300P TF1 D20 composed of non-woven geotextile layers needle-punched together with 20 mm (0.8 in.) diameter mini-pipes regularly spaced on 1 m (40 in.) centers and running the length of the roll. DRAINTUBE® strips are mechanically connected to the LFG collection network using the Quick Connect system that reduces head losses and improves the vacuum applied to the system.

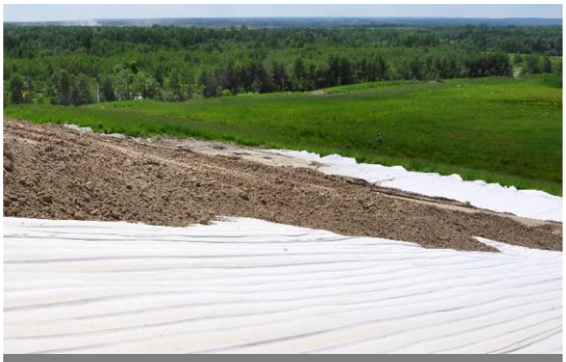
The filtration layer of the DRAINTUBE® has a specific opening size that is compatible with the surrounding soils.

ADVANTAGES

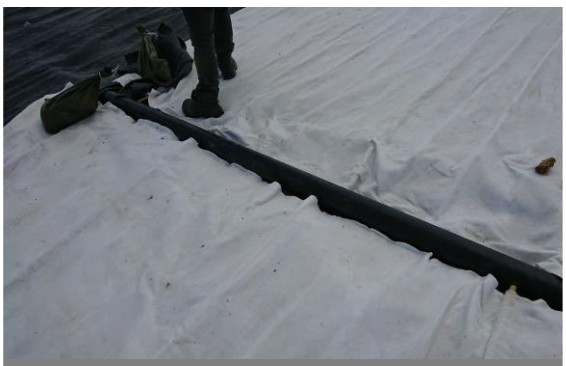
- Stable drainage capacity over time
- Mechanical connection to the LFG collection network using the Quick Connect system
- A very good Health & Safety records for the installation crew on site
- 100% conformance testing passed



Installation of the DRAINTUBE 300P FT4 D25 above the liner for run-off drainage. Each DRAINTUBE® panel is connected to the next one using couplers.



Backfill placement on the DRAINTUBE®. The geocomposite protects the geomembrane against puncture from the surrounding soil layers.



Mechanical connection of the DRAINTUBE mini-pipes to the header pipe using Quick Connect system.

PROJECT SUMMARY			
Products	**DRAINTUBE 300P TF1 D20 (LFG) & DRAINTUBE 300P FT4 D25 (run-off)**		
Quantity	**500,000 m² (5,500,000 sq ft)**	**Design**	**WSP**
Application	**Gas collection and Run-off drainage on both sides of a liner in a final cover**	**Installation**	**FC Geosynthetics**
Owner	**Waste Management**	**Years**	**Since 2009**

afitex·Texel GEOSYNTHETICS

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AFITEX-TEXEL GEOSYNTHETICS ADDED VALUE

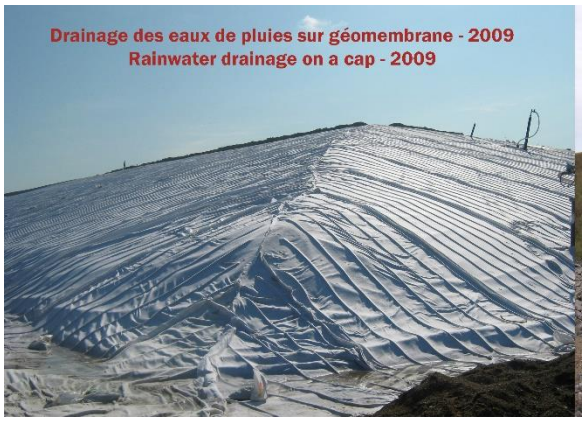
The expertise of the AFITEX-Texel team provided the designers with all the necessary information and technical support to choose the most suitable solution based on the project's parameters.

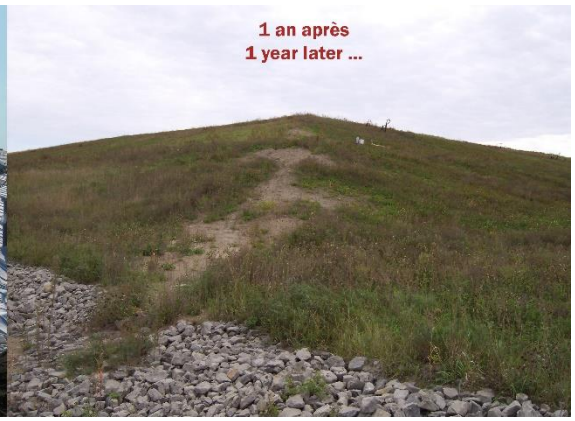
« What AFITEX-TEXEL has to offer »

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





WASTE MANAGEMENT *Ste-Sophie Landfill, Québec – since 2009*

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

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