



DRAINTUBE®



GEOCONDUCT®



ALVEODRAIN®



NOTEX C®



NOTEX®



GEOTER®



MINING
INDUSTRY



ENVIRONMENTAL
ENGINEERING



BUILDING
CONSTRUCTION



PUBLIC
WORKS

City of Vancouver, BC

Vancouver Landfill W40 final closure

CONTEXT

Located along the Pacific coast, City of Vancouver is the 3rd largest and 1st densest city in Canada with 2.5 million inhabitants. Open since 1966, the MSW landfill treats 750 000 tons per year and started its closing phases in 2009. For its Western 40 final closure project, Sperling Hansen and Associates with SCS Engineers decided to use DRAINTUBE® Technology for LFG collection below the liner and Run-off drainage above the liner.

ISSUES

For this project, engineers had to face several problems. The first one was the size of the area to be covered vs the timeframe allowed for the construction. Granular layers would have taken too much time to be installed, and the truck traffic generated at the entrance of the site would cause an important logistical concern for the daily operations. The second issue is the heavy precipitations commonly seen in this part of Canada. The typical coastal landfill designs call for high drainage capacity solutions to handle heavy surface water flows. Finally, in order to properly collect the gas mitigating from the waste, a solution reducing air-intrusion as well as offering a good behavior against important expected settlements was developed.

RETAINED DESIGN

All those concerns had been taken into account; the engineers decided to use:

- For LFG collection below the liner: DRAINTUBE 606 ST2 D25. This 12 Oz/sy total weight product is composed of 2 x 6 Oz/sy geotextiles with 25 mm (1 in.) diameter perforated pipes regularly spaced on 500 mm (20 in.) centers. In addition to that, each end of mini-pipes is mechanically connected to the main-header with the Quick Connect System and T fittings to 25 mm diameter solid pipe. This allows a perfect sealed connection to reduce air intrusion and a good behavior against settlements.
- For surface water above the liner: DRAINTUBE 500P FT4 D25. This 16 Oz/sy total weight product is composed of a 12 Oz/sy puncture resistant geotextile and a 4 Oz/sy filter on the top with 25 mm (1 in.) diameter perforated pipes regularly spaced on 250 mm (10 in.) centers. This product offers a tremendous flow capacity and a very efficient filtration opening size against particles clogging.

ADVANTAGES

- Reduction of 99% of the expected truck traffic
- Reduction of the environmental footprint (62% of the GHG emission reduced)
- Fast installation to keep short deadlines
- A very good Health & Safety records for the installation crew on site
- 100% conformance testing passed



Installation of DRAINTUBE 606 ST2 D25 for gas venting below the liner. Each DRAINTUBE® panel is mechanically connected to a main header using the Quick Connect System.



The Quick Connect System technology is used to reduce the air intrusion and allow a gas extraction with a vacuum.



DRAINTUBE 500P FT4 D25 is installed above the liner for surface water drainage as well as protection against puncture.

PROJECT SUMMARY

Products	DRAINTUBE 606 ST2 D25 (LFG) & DRAINTUBE 500P FT4 D25 (surface water)		
Quantity	250,000 m² (2,700,000 sq ft) of each product	Design	Sperling Hansen / SCS Eng.
Application	Gas collection and Run-off drainage on both sides of a liner in a final cover	Installation	Western Tank and Lining
Owner	City of Vancouver	Years	2017-2018-2019



DRAINTUBE®



GEOCONDUCT®



ALVEODRAIN®



NOTEX C®



NOTEX®



GEOTER®



MINING
INDUSTRY



ENVIRONMENTAL
ENGINEERING



BUILDING
CONSTRUCTION



PUBLIC
WORKS

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?

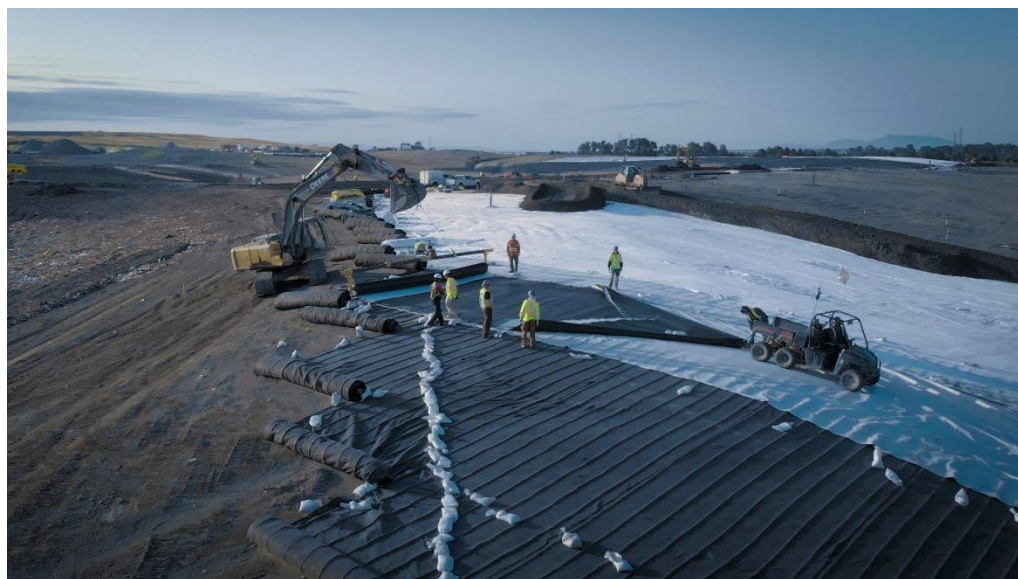
Never hesitate to contact one of our specialists in order to know more about the benefits you can get from your projects

1-800-463-0088

Available documentation

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

www.afitextexel.com



Vancouver Landfill – W40 final closure – 2017, 2018, 2019

1300, 2^e rue, Parc Industriel
Sainte-Marie-de-Beauce (Québec)
G6E 1G8 CANADA