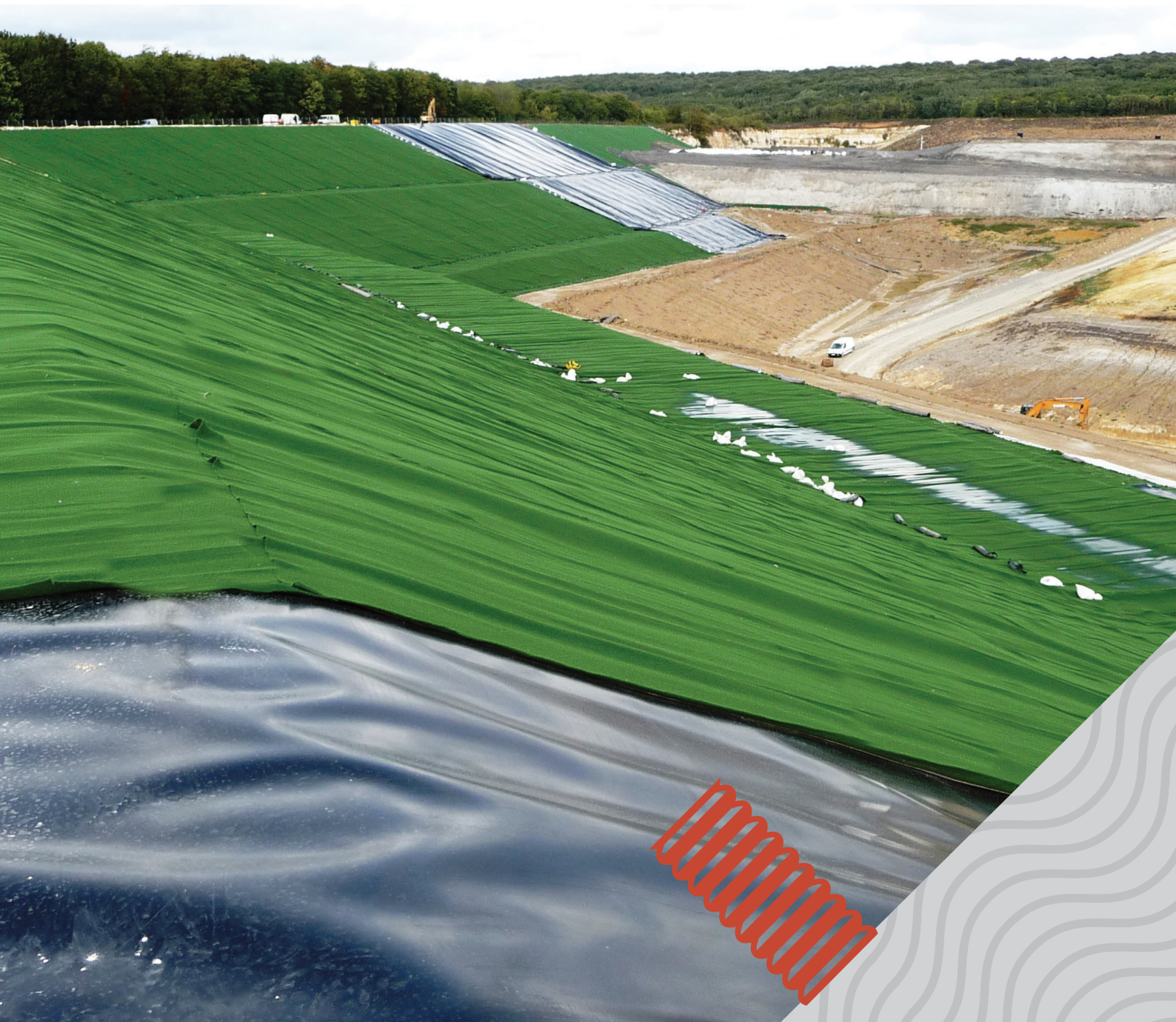


**GEOQUEST**

Products



# **DRAINTUBE™**

**FOR ENVIRONMENTAL  
AND WASTE MANAGEMENT  
APPLICATIONS**



## Geocomposite Drainage Performance You Can Count On

Different types of drainage systems have been used successfully in the waste management industry for decades, but **DRAINTUBE™** is the most predictable, reliable and effective of all. **DRAINTUBE™** offers the advantages of other types of drainage geocomposites, while overcoming most of their limitations. Some concerns like long term creep, geotextile intrusion, delamination, perimeter tying, etc. are well taken care of with the **DRAINTUBE™** application.

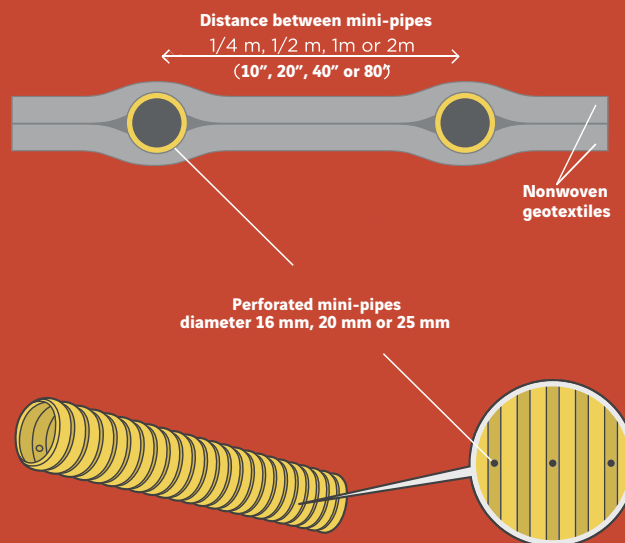
**DRAINTUBE™** combines the perforated pipes and geosynthetic technology into a unique package offering superior long term drainage capacity and performance.

**DRAINTUBE™** drainage geocomposites allow geomembrane leak detection surveys using geo-electrical methods.

Standard 300 m<sup>2</sup> (3,200 sf) rolls cover over 30% more area than other products and are installed like standard geotextiles. With no nets to tie together and using normal geotextile seaming methods, installation becomes very easy.

Our Lymphae design software, plus our talented professionals are available to make your project a success from concept to completion.

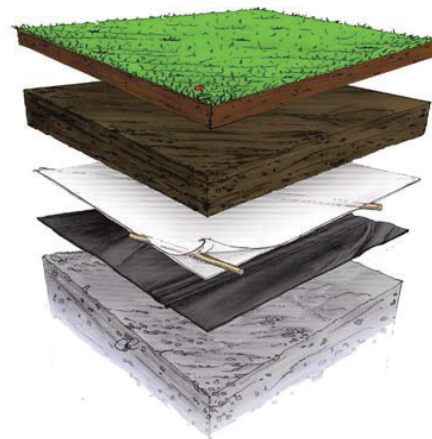
## DRAINTUBE™



**DRAINTUBE™**  
The Bespoke Drainage You Want!

## Water Drainage for Landfill Closures

Rainfall infiltrating through the cover soil layer may generate significant water pressure on the barrier layer (geomembrane or clay), if not properly drained. The water head increases infiltration into the waste and can cause instability in the cap. **DRAINTUBE™** when placed directly on the barrier layer, filters the topsoil, drains the infiltrated rainfall, and protects the geomembrane (if present) against puncture. It also increases the overall stability of the cap due to its high interface friction angle. The perforated mini-pipes used in **DRAINTUBE™** collect water and evacuates it faster than a homogeneous drainage layer, even if the slope is mild. Moreover, it limits the risk of water accumulation due to the differential settlement.

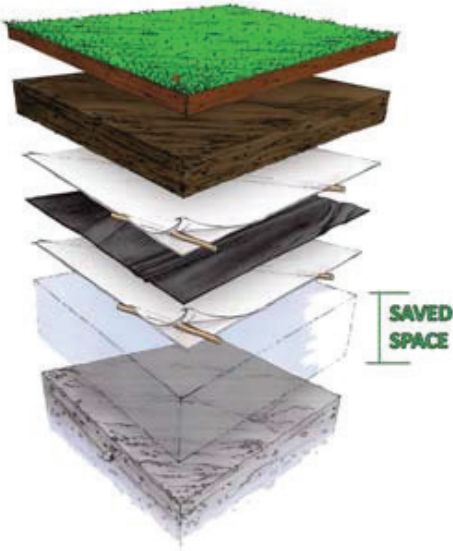




## Landfill Gas Drainage

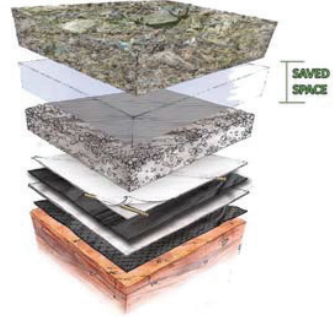
**DRAINTUBE™** below the geomembrane collects the gas and evacuates it to the main gas collection system. It also protects the liner from puncture due to uneven surface or sharpness of the materials used in subgrade.

**DRAINTUBE™** inside the waste mass also replaces the LFG trenches. This solution permits to save a big volume of waste and reduces the cost of the work considerably. **DRAINTUBE™** maintains its drainage capacities under high compressive loads (2500 kpa).



## Leachate Collection System

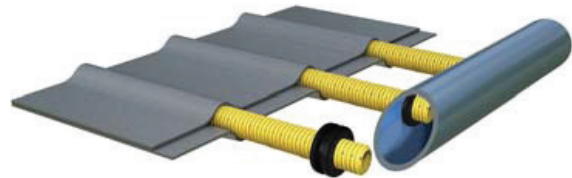
At the bottom of a landfill, **DRAINTUBE™** replaces a part of the granular layer and also the protective geotextile. It allows control of the leachate head above the geomembrane and drains it rapidly to the collector pipe network.



## Quick Connect System™

For liquids, the mini-pipes in **DRAINTUBE™** can be positively connected to interceptor drains without trenches.

For LFG drainage, the Quick Connect System™ allows a positive connection of **DRAINTUBE™** to a collector drain for vacuum applications.



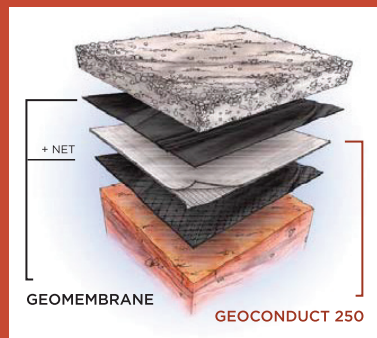
# Ground Water and/or Gas Drainage under Lined Ponds

In lined ponds, a high water table (or fermentable soils) can create hydrostatic pressure below the liner. This pressure becomes even more critical when the pond is empty. It can lead to the formation of “whales” and permanent damage to the liner. **DRAINTUBE™** allows this pressure to dissipate, by mechanically protecting the geomembrane and ensuring proper functioning of the pond over time.

## Leak Detection and Geomembrane Protection

A double liner system using geomembrane helps increase the overall safety against environmental risks.

Leak detection through geo-electrical methods post installation ensures that even the smallest leaks can be discovered and repaired to maintain the impermeability of the system. GEOCONDUCT 250-550 allows geo-electrical detection of leaks while also providing puncture protection to the geomembrane.



## DRAINTUBE™ OFFERS:

**3 perforated pipes size options: 16, 20 and 25 mm**

**4 perforated pipe spacing options: 2 m, 1 m, 1/2 m, 1/4 m (80", 40", 20", 10")**

**Multiple geotextile options**

**Available transmissivity between  $2.5 \times 10^{-4}$  to  $4 \times 10^{-3} \text{ m}^2/\text{s}$  at  $i=0.1$**

**No change in transmissivity up to 2500 kPa (50,000 psf)**

**Low creep reduction factor**

**No geotextile intrusion**

**Standard roll size: 3.98 m x 75 m (13.1'x246')**

**Faster and easier to install than other types of geocomposites, no tying required!**

**Consistent QA/QC**

**Cost Optimisation**



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