

Case Study

Bentotex Geosynthetic Clay Liner (GCL)

Location:

Fernhill Farm
Cheddar Road
Compton Martin

Client:

Fernhill Farm

Project:

Construction of a multi-species, soil-based Wetland Ecosystem



Contractor:

Biologic Design
Archenhills

The Fernhill Farm site is in a very sensitive ecological area; it is in the middle of the Mendip Hills (AONB) Area of Outstanding Natural Beauty as well as being in Bristol Water's SP3 catchment area - a very sensitive aquifer where water is abstracted to supply the reservoirs for Bristol.

In an effort to create a sustainable resource with support from Mendip Hills AONB and in consultation with the Environment Agency plans were drawn up for construction of a WET System (a constructed wetland ecosystem) for wastewater purification.

In order for the WET System to be totally contained, to be a total absorption system and have no outfall - as was required by the Environment Agency it was calculated that it would need to be 0.7ha (approx 90m x 60m) and be planted with over 10,000 willows.

The Geosynthetics Bentotex GCL100 Clay Liner was put forward by Biologic Design due to its self-healing abilities it also meant that the contractor did not need to transport any of the welding machinery, power or geotextile protection fleeces associated with manmade HD/LD liners to this remote site.

After providing a study undertaken to assess the effects of root penetration, a method statement and a system of leak detection



(incorporating our DuoDrain GMG412 product) were put forward. All parties reached consensus and were happy that the products would perform in this demanding application. Even though the installation was undertaken during a period of high winds, horizontal rain, fog and some snow - as well as brilliant sunshine - all quite normal for the Mendips, the installation was completely successful and the WET System was operating, with no leaks, less than 2 weeks after the liner was installed.

The benefits of using Bentotex GCL in this case were:

self-healing abilities,

It does not need any of the welding machinery, power or geotextile protection fleeces associated with manmade HD/LD liners.

