

Case study

Barker's Lane Household Waste, Recycling Centre



Key facts

Key vendors: Bedfordshire County Council	Total area covered 6200 m ²
Site: Bedfordshire County Council	Design return period of 30 years
Sector:	Allowable discharge rate of 26 l/s
Client: Bedfordshire County Council	Structural analysis of Permavoid units - Concrete slabs designed by main consultant
Contractor: Weldon Plant	Vehicle loading designed for HGV and plant

Brief

Barker's lane household waste recycling site is an excellent example of the benefits of using the Permavoid system on a brownfield site. The site is predominantly hard surfacing where cars and vans drive in and off load rubbish including soil and building debris into skips. The skip storage area is at a lower level than the unloading area to provide easy access and this results in a split level site. The skips are moved around by heavy plant and front end loaders are used to compact waste down into them. As a result, there is a high level of dirt and debris on the hard surfaces. It is difficult to incorporate SUDS in civic amenity sites because of the differences in level, the extent of hard cover and the high risk of clogging and damage to methods such as permeable or porous surfaces.

On the site at Barker's Lane, these problems were compounded by the presence of a high ground water table and historical ground contamination. The implications of this were that infiltration was not possible because of the risk of mobilising contamination and leaching it into the groundwater. Deep attenuation tanks would require significant engineering works to prevent them floating out of the ground and damaging the concrete slab. The cost of excavation and disposal of contaminated soil would also be excessive.

Solution

As infiltration was not a viable option, the stormwater design was based on providing source interception and attenuation storage as a form of source control. This is supplemented by a swale system to provide an enhanced treatment phase and to provide additional storage capacity during extreme rainfall events.

While the site was relatively constrained and space was at a premium, a SUDS system was developed that provides at least three phases of treatment to all run-off areas. Due to the physical constraints of the site, the collection and treatment processes are provided as a combination of hard engineered and soft landscaped SUDS techniques



Tel:01530 510066

www.aggregate.com

A member of the Holcim Group