SuDS Permeable Paving

HGV Parking, Truckcell 80, Red Lion Truckstop, M1/J16, Harpole, UK

Project Information

Client	Sadrudin & Sons
Contractor	B & E Construction
Products	Truckcell 80, Gridtex, Terrex NW
Quantity	8,000 m²
Benefits	• Rapid installation • Lighter and cheaper than comparable concrete surfaces • Resistant to cracking • Permeable, durable surface • High load bearing capacity, <60t gross weight / 10t wheel load

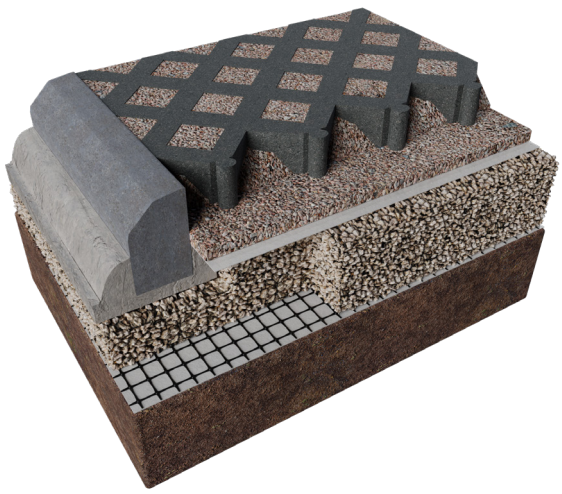
Project Description

Red Lion Truck Stop is situated on the A45 Weedon Road, just off junction 16 of the M1. The truck stop has been well established for many years, famed for its good food, friendly staff and clean facilities. Due to the truck stop's success, the high volume of HGV traffic had resulted in deterioration of the parking areas. As part of the client's redevelopment and extension plans, a new, more durable and sustainable HGV parking area was required.

The Challenge

The original HGV parking surface was subject to muddy potholes and erosion and needed routinely repairing with road stone. This material would be expensive to remove and dispose of off-site, so a cost effective re-use solution was required. Site investigations indicated subgrade strengths less than CBR 5% and a capping layer was installed prior to the subbase construction.

To prevent further issues with deformation, erosion, surface ponding and mud; a durable, heavy duty permeable paving system was required to support intensive HGV vehicle loadings and turning stresses on a 24/7 basis. A permeable SuDS surface was important to enable rainwater to infiltrate into the subbase and drain to attenuation tanks. Speed of installation was essential in order to minimise the time the parking area was out of commission and the significant associated costs.



ABG LTD

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The Solution

ABG's technical team advised that existing site-won materials could be crushed and screened for the capping layer, saving significant transport and tipping costs. ABG Gridtex Type 2 was specified as a reinforcement and separation layer for the capping element of the design. A drained DoT Type 1 aggregate provided the structural subbase and was covered by a layer of ABG Terrex NW9, a non-woven, zero breakthrough head geotextile, providing filtration/separation.

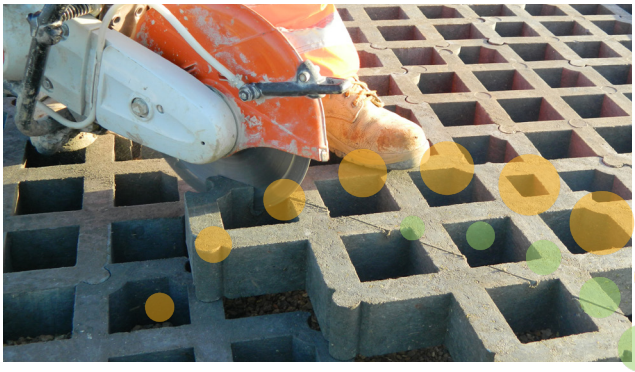
ABG Truckcell 80 was then bedded on a regulating layer of clean angular aggregate and filled with gravel. Truckcell has an established track record as a surface for high load bearing, intensive traffic applications. It is easily and rapidly installed, which allowed the upgrade to be carried out during the Christmas period when truck movements were at a minimum. Truckcell heavy-duty permeable pavers played a key role in returning the truck stop to a fully operational parking area, within the targeted time and at significantly reduced costs compared to concrete.

Poor condition of the truck stop HGV parking area prior to installation

The ABG Service

ABG provided full design support and advice, technical calculations and site visits throughout the installation.

Truckcell being filled with porous angular aggregate



Cutting Truckcell to size

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