



Permeable pavements for Wind Turbines

Project: Wadlow Wind Farm
Project Location: Near Newmarket, Cambridgeshire
Client: Renewable Energy Systems
Main contractor: Forkers Ltd
Designer: JNP Group
SUDS designer: McCloy Consulting
Product: TERRAM TRUCKPAVE100



CLIENT

Wadlow Wind Farm, near Newmarket, Cambridgeshire, is home to 13 Vestas 2.3 MW turbines capable of generating 26MW of renewable electricity that will meet the annual requirements of 17,000 UK homes.

RES appointed West Midlands-based renewable energy specialist Forkers to design and construct the infrastructure works between 2011 and 2012.

In addition to 8km of 5.5m-wide access roads, Forkers constructed 40m x 20m crane hardstandings at each of the turbine locations using a TERRAM TRUCKPAVE porous paving system to form a robust, durable yet permeable surface.

A TERRAM TRUCKPAVE porous sustainable drainage system (SUDS) was specified by consulting engineers JNP Group (Birmingham office) and approved by SuDS designer McCloy Consulting.

APPLICATION FUNCTION

TERRAM TRUCKPAVE units were installed at each of the 13 turbine locations to provide a porous and durable hardstanding area capable of withstanding HGV and crane loadings. Each TRUCKPAVE 600mm x 400mm unit contains 8 No. 100mm x 100mm pockets which can be filled with either drainage aggregate or a seeded soil:sand mix to create a green grassed finish. The heavy-duty TRUCKPAVE units easily transfer loads downwards into the sub-base while preventing soil compaction in the growing pockets ensuring healthy growth of vegetation.





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PROJECT

Based in the UK, RES are one of the world's leading independent renewable energy project developers. Wind farm projects contribute to a low carbon future by providing a secure supply of sustainable, low cost, clean green energy.

SOLUTION

TERRAM TRUCKPAVE was specified by JNP Group because of its heavy-duty structural performance, long-term durability, high permeability and sustainability credentials. Manufactured from 100% post-industrial and post-consumer mixed plastic waste TERRAM TRUCKPAVE has a lower carbon footprint compared to more traditional methods such as concrete block paving. The porous pavement system complemented McCloy Consulting's surface water management design, which used the principles of Rural Sustainable Drainage Solutions (RSuD).

RESULT

As these photos demonstrate (taken 5 years after installation) TERRAM TRUCKPAVE units have continued to provide a hard and durable heavy-duty permeable surface within a sensitive ecological and archaeological location.

