Rotherhithe New Road Development Geotextile Piling Mat Solution for Soft Clay Foundations

South London



TYPE OF PROJECT	YEAR OF CONSTRUCTION	CLIENT	CONTRACTOR	DESIGNER
Sub-Grade Improvement	**2015**	**Telford Homes**	**Oakwood Plant Group**	**Maccaferri Ltd**

PROD. RELATED
PET Woven / Composite Geotextiles ()

Challenge

Telford Homes acquired the Rotherhithe New Road site for £19 million to deliver a major educational development in London, including a new Southwark Free School and a sixth-form centre for the City of London Academy. Scheduled for completion in 2018, the project required careful ground engineering due to challenging subsoil conditions.

The site is characterised by soft clay, which presents low bearing capacity and a high risk of settlement. These ground conditions necessitated the use of a pile foundation system to ensure structural stability. However, constructing a traditional granular piling mat over weak subgrade would typically require significant thickness, increasing construction costs, material usage, and programme time. The contractor therefore required a more efficient ground improvement solution that could enhance load distribution while reducing the thickness of the working platform.

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During Construction



During Construction

Solution

To overcome the challenges associated with soft clay foundations, the contractor implemented a geosynthetic reinforcement solution using MacTex W1 4S, a high-performance woven polypropylene geotextile. This innovative approach provided both separation and reinforcement in a single product, offering a more efficient alternative to conventional extruded polymeric geogrids.

The use of MacTex W1 enabled the design of a reinforced piling mat with reduced granular thickness, improving construction efficiency while maintaining structural integrity. By enhancing load distribution across the weak subgrade, the geotextile significantly improved the performance of the piling platform and reduced the risk of deformation during construction.

In addition, MacTex W1 geotextile delivers high resistance to construction damage and environmental factors, ensuring durability throughout installation and long-term service life. With a tensile strength of up to 100 kN/m, it is well-suited for both short-term construction loads and long-term ground reinforcement applications.

This geosynthetic solution provided a cost-effective, sustainable, and technically robust method for piling mat construction on soft clay soils, supporting the successful delivery of the Rotherhithe New Road development.

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MacTex W1 - Polypropiylene Woven Gtx

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