Sadler's Farm Junction Improvement Works

Basildon, Essex



TYPE OF PROJECT	YEAR OF CONSTRUCTION	CLIENT	CONTRACTOR	DESIGNER
Reinforced Soil Walls And Slope Reinforcement	**2012**	**Essex County Council**	**Birse Civils**	**Mouchel**

PROD. RELATED
MACRES ()

Challenge

The Sadlers Farm Junction near Basildon is a notorious congestion black spot with over 8000 vehicles per hour negotiating the gyratory system between the A13 from London and the A130 route into north Essex.
To relieve congestion and improve traffic flow, Essex County Council commissioned a £63m interchange to bypass the busy “magic roundabout” as it had become known. The scheme included upgrades from dual two-lane to dual-four-lane carriageways the creation of four new composite bridges and the extension of two existing subways.
Mouchel devised a scheme comprising vertical, concrete panel-reinforced soil retaining walls for bridge wing walls and abutments. Contiguous piled walls were installed where space for more cost-effective solutions was not available. The contiguous walls were blockwork-faced, and Essex County Council also required that a blockwork-style finish be incorporated into the concrete panel walls.

MACCAFERRI LTD. 9 Blenheim Office Park Fenlock Road, Long Hanborough, Oxfordshire OX29 8LN, UK
PH:+44 1865 770555 E-mail: info.uk@maccaferri.com



Placing & securing ParaWeb®



Propping face panels prior to backfilling

Solution

Main contractor Birse Civils brought in Maccaferri who proposed the use of its MacRes® concrete panel-based reinforced soil system, which they were able to supply with a bespoke blockwork face design to provide a cost-effective engineering solution to meet the client's aesthetic requirements.

MacRes® is only available through entering into a Design and Construction contract with Maccaferri's specialist sister company, Maccaferri Construction. Birse Civils was particularly keen to enter into such a contract to reduce the risk and cost of managing separate suppliers and contractors. MacRes® incorporates the use of Linear Composites BBA Certified ParaWeb® geosynthetic to reinforce the retained soil, creating vertical retaining walls with a 120-year design life. The MacRes®/ParaWeb® solution has been used extensively outside the UK with over 500,000 sqm of walls completed worldwide but was used for the first time in over 30 years in this country, at Sadlers Farm.

The strength of the ParaWeb® reinforcement is adjusted to suit the required design loads. This makes the system simple to construct as the standard concrete panels all have the same number of connection points.



Lifting face panels into position



Checking line and level

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Panels ready for backfilling - note bespoke face finish

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OPEN GOOGLE MAPS

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