



# Tensar®

 **WALLS  
AND SLOPES**

Construction of Tensar's TensarTech TW3 retaining wall system was fast and safe, keeping lane closures to a minimum.

## TensarTech® TW3 helps bridge the gap

Tensar's modular block retaining wall system ensured construction of a new road bridge over the A24 was completed quickly and safely.

### CLIENT'S CHALLENGE

Construction of a relief road linking two major housing schemes near Broadbridge Heath, in West Sussex, included building a bridge over the A24. The structure, part of a new junction with the busy dual carriageway, had to be built quickly, with minimum impact on both the main development works and traffic flow on the trunk road.

### TENSAR SOLUTION

Tensar's TensarTech® TW3 retaining wall system was used to build the load bearing bridge abutments and wing walls for the new bridge. The geogrid-reinforced soil structures with mechanically connected concrete block facing, support the 28m span bridge deck. The modular system was fast and easy to install, reducing the number of crane lifts and keeping A24 lane closures to a minimum.

## A24 Broadbridge Heath

Reinforced soil retaining structure

 Horsham, UK

### BENEFITS

#### Robust & cost-effective

bridge abutment and retaining wall solution

#### Fast construction

minimising the impact on traffic on a busy trunk road

#### Modular system

reduced construction risk during temporary works

REF TEN359



Tensor's TensorTech TW3 retaining wall system was used to build the load bearing abutments and wing walls for the new bridge over the A24.

## PROJECT BACKGROUND

The village of Broadbridge Heath sits on the western edge of Horsham in West Sussex, separated from the town by the A24, a major road link between London and Worthing on the south coast of England.

Two new major housing schemes, Highwood (developed by Berkeley Homes) and Wickhurst Green (developed by Countryside Properties) are being built just south of the village, on the east and west sides of the A24, respectively.

Tensor was approached by consultant CH2M Hill to help design the load bearing bridge abutments and wing walls for the 28m span bridge. Tensor proposed using its TensorTech TW3 modular block system to form the abutments and wing walls, which are up to 6m high. These types of load bearing reinforced soil abutments are becoming a standard way of forming economical highway structures, and are designed to national standards [BS8006].

The TensorTech TW3 system, which has an Highway Authorities Product Approval Scheme (HAPAS) BBA certificate for use on roads and bridges, comprises a dry-laid segmental concrete block wall facing, secured to layers of Tensor uniaxial geogrid (via a mechanical connection) that reinforce the soil behind.

Construction of the bridge was awarded to contractor J Breheny Contractors, which engaged Tensor under a design and supply contract to work with its consultant Peter Brett Associates to develop the final design. Department of Transport Type 6I/J aggregate was used as the fill for the abutments, reinforced with Tensor uniaxial geogrid, to meet the bank seat design load of 500kN/m for the 28m span bridge.

As well as providing a robust and cost-effective solution for the bridge abutments, the modular nature of the TensorTech TW3 system meant it was quick to build, so lane closures on the A24 were minimised. Fewer crane lifts were also needed, reducing risk during the temporary works phase and allowing other construction work to continue unaffected.

Contractor:

**J Breheny Contractors Ltd**

Installation subcontractor:

**Geoforte Ltd**

Client:

**Berkeley Homes &  
Countryside Properties**

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*“Not only was the TensorTech TW3 solution robust and cost-effective, it was quick to build, minimising the impact on the busy A24.”*

**Craig Roberts**

**Product & Technology Manager  
- Structural Systems**

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**Tensor International Limited**

Units 2-4 Cunningham Court Shadsworth Business Park  
Blackburn. United Kingdom BB1 2QX

T. +44(0)1254 262431 | Visit: [tensorinternational.com](http://tensorinternational.com)

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