



Three temporary bridges, supported on load bearing reinforced soil abutments built using Tensor's TensorTech TR2 system, allowed construction traffic to cross the busy A14, saving time and money.

## Keep on moving

Tensor's TensorTech TR2 reinforced soil wall system was the perfect solution for the abutments of three temporary bridges keeping construction traffic flowing smoothly during a major highway project in Cambridgeshire.

### CLIENT'S CHALLENGE

The Balfour Beatty/Skanska/Costain/Atkins JV building the A14 Cambridge to Huntingdon Improvement Scheme needed robust and economical abutments for three temporary bridges crossing the River Great Ouse and the A14.

### TENSAR SOLUTION

Tensor's TensorTech TR2 reinforced soil wall system delivered stable, low-cost retaining walls for the load-bearing bridge abutments, which allowed heavy construction traffic to move easily between sites on either side of the A14, which remained open throughout the project, saving significant time, labour and cost.

## A14 Cambridge to Huntingdon

Temporary bridge abutments and walls

📍 Cambridgeshire, UK

### BENEFITS

#### Robust and economic solution

for load-bearing abutments

#### Enabling

construction traffic to avoid main roads, reducing disruption to road users and local residents

#### Significant savings

in time, labour and costs



Tensar's TensarTech TR2 system was built and dismantled quickly and easily, as the steel mesh face was braced internally and held in place by the geogrid and fill.

## PROJECT BACKGROUND

The A14 Cambridge to Huntingdon Improvement Scheme involved construction of the 27km Huntingdon Southern Bypass and upgrades to 7km of the A14.

The Balfour Beatty/Skanska/Costain/Atkins JV delivering the £1.5bn project built 10km of haul roads, including a number of temporary bridges. This allowed materials and equipment to be moved without construction traffic – including 50t dumper trucks – having to use local roads, avoiding disruption to the busy A14.

Tensar designed the reinforced soil abutments to three bridges, one over the River Great Ouse and two over the A14 – using its TensarTech TR2 system. Steel mesh face panels, lined with a durable heavy-duty geotextile, were connected to uniaxial geogrids via a bodkin connection joint, to reinforce the locally-sourced aggregate.

The abutments were designed to carry loads of up to 206kPa over the 3m wide bank seats (including the dead weight of the bridge and live traffic loads). The horizontal load acting at the base of the bank seats was 65kN/m.

A major benefit of using TensarTech TR2 was that no formwork was needed, as the steel mesh face was braced internally and held in place by the geogrid and fill. This meant abutments could be built quickly and easily, without specialist skills or equipment. The bridges were used for about 18 months before being dismantled.

Client:

**Highways England**

Contractor:

**Balfour Beatty/  
Skanska/Costain/  
Atkins JV**

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*“The reinforced soil wall abutments for the temporary bridges behaved exactly as expected, with uniform settlement during and after construction.”*

**Fatemah Pegah Ara**

Temporary Works Engineer,  
Balfour Beatty/Skanska/  
Costain/Atkins JV

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