



Areas of weak ground meant some homes were piled, requiring a large temporary working platform to provide a safe working area for the piling rig.

## Down by the riverside

Analysis of the full benefits of stabilising geogrid in aggregate, using Tensar's T-Value Method, reduced working platform thickness by 60%, on a housing development in Exeter, saving time, money and material use.

### CLIENT'S CHALLENGE

Taylor Wimpey's Riverside Walk housing development site was criss-crossed with areas of poorly compacted backfill above deep sewers, which meant some houses had to be built on piled foundations. The original working platform for the piling rigs, designed using BR470 guidance, was substantial, at 750mm thick, so Taylor Wimpey approached Tensar for a value engineered alternative.

### TENSAR SOLUTION

Tensar's T-Value Method demonstrated that, by using a geogrid to mechanically stabilise the working platform's aggregate, its thickness could be reduced to just 300mm, with no impact on bearing capacity or on load transfer efficiency. This helped cut construction costs by 45%, with significantly less excavation, disposal and import of material which resulted in an environmental benefit equivalent to a 45% reduction in CO<sub>2</sub>e emissions.

## Riverside Housing development

Temporary working platform

📍 Riverside Walk, Exeter

### BENEFITS

**60% reduction** in working platform thickness

**45% reduction** in both construction cost and carbon emissions

**Significant reduction in excavation,** disposal and import of material



Tensar's T-Value design method resulted in a thinner temporary working platform, incorporating mechanically stabilising geogrid, with the same bearing capacity and load transfer efficiency as the original design.

## PROJECT BACKGROUND

Riverside Walk is a Taylor Wimpey development of 101, two, three and four bedroom homes next to the River Exe, in Countess Wear, Exeter.

Ground conditions on site were generally good. However, it was criss-crossed by deep sewers, with strips of poorly compacted backfill above. This meant some homes would have to be built on piled foundations in the worst affected areas, requiring a 2,635m<sup>2</sup> temporary working platform.

The working platform was designed to cater for the the BR470 load cases from the piling rig and the ground conditions. This resulted in a 750mm thick platform, which would have been expensive to build, involving significant excavation and removal of unsuitable material, and the import of large volumes of aggregate.

Instead, Tensar proposed using its T-Value Method, which enables the full benefits of stabilising geogrids in granular platforms to be analysed, to assess whether a thinner platform stabilised with geogrid could be used, without impacting on bearing capacity or load transfer efficiency.

Analysis showed the stabilised platform only needed to be 300mm thick, cutting the volume of soil that needed to be excavated and disposed of and also reducing the amount of imported material required, saving an estimated 45% on the cost of constructing the platform and making it much faster to build.

Main contractor:

**Steve Hoskin  
Construction**

Consultant:

**TWP**

Client:

**Taylor Wimpey**

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*“Reducing the amount of imported granular fill meant fewer lorry movements, which was better for the local residents and the highway network. We lowered our carbon footprint and saved approximately 45% on the cost of the piling platform.”*

**John Dooley**

Engineering Manager  
Taylor Wimpey

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