



**BENEFITS TO CLIENT**

An affordable alternative to a previously uneconomic solution for the conversion of a marginal site into a prime location for housing.

**THE PROBLEM**

To create a level area for housing development on a steeply sloping site underlain by Wadhurst Clay, which is susceptible to slips. An existing gabion wall at the toe of the slope protected a small retail development.

**THE SOLUTION**

A Tensartech TW1 Wall System, founded at the level of the base of the gabion wall. This solution was nominated for the Best Innovation in Supplier Partnerships award in the 2005 UK Housebuilding Innovation Awards.

## PROJECT DESCRIPTION

The site sloped steeply in the South West corner to a small retail development. The soils consisted of Wadhurst Clay overlying Ashdown Beds, which are sandstones and siltstones. The toe of the slope was supported by a gabion wall.

A level area was required at the top of the slope for housing development, some 7m above the founding level of the gabion wall. It was important that this wall should not surcharge the gabion wall. Conventional solutions such as contiguous bored piling and structural reinforced concrete would have been too costly.

The solution was to excavate on the site boundary a few metres behind the gabion wall and to the same level as its foundation. A Tensartech TW1 Wall System up to 7m high was built. The buried lower part of this wall acts a thrust relief structure to prevent surcharging the gabion wall, whilst the visible remainder retains the fill for the level platform. Tensar uniaxial geogrids were connected to the wall units with polymer connectors and taken back into granular fill. The face of the wall consists of the hand laid split faced Tensartech TW1 Standard flint coloured modular blocks which create a pleasing masonry finish.



The houses at the top of the wall are on piled foundations, and the wall was designed to accept the temporary surcharge loadings from the piling rigs. Other similar, but smaller walls were also constructed elsewhere on the site to maximise the space available for housing.

Along the remainder of the southern boundary a steep 1 in 1.7 slope was constructed using clay obtained from the site reinforced with Tensar uniaxial geogrids, and with Tensar Mat on the face to stabilise the topsoil and produce a stable face for the long term.

Consulting Engineer Tully De'Ath commented "Without the Tensartech TW1 Wall System as the solution and the geogrids to stabilise the built up slope, it would have been very difficult to develop this site economically. Conventional solutions could not have been used in this case. Working closely with Tensar, we were able to devise a solution for Jones Homes that enabled them to develop a very tricky site. In addition, the dry laid block walls have a pleasing appearance."

## CONTRACT DETAILS

Consultant: Tully De'Ath

Contractor: L.F.Nugent

Wall Sub-Contractor: Geoforte

Client: Jones Homes(Southern) Ltd.



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