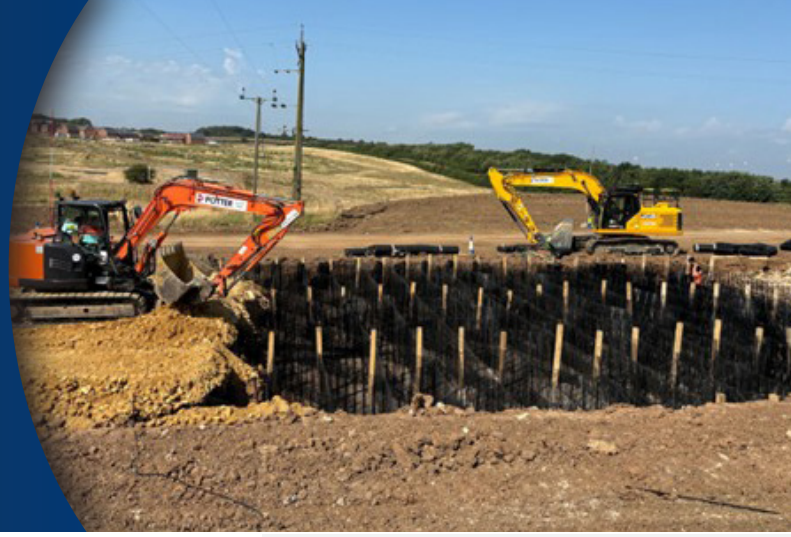


# Stratum put to good use at Seaham



The TensarTech® Stratum® Cellular Foundation Mattress System was used to mitigate differential settlement under a road ensuring its approval by the local adopting authority. A geological fault that ran along the line or across the line of a proposed new road construction presented the project team with potential for sudden differential settlement problems.

## CLIENT'S CHALLENGE

When an adoptable highway was proposed to be constructed over a geological fault, a solution was required to mitigate any differential settlement should the fault slip.

## TENSAR SOLUTION

Tensar assisted the consulting engineers by undertaking modelling of anticipated differential settlement using Plaxis and offering a design solution for the highway project. Tensar specified Stratum, a cellular foundation mattress system. The solution offered was approved by the local adopting authority and enabled the authority to take responsibility for the maintenance of the highway. The TensarTech® Stratum® Cellular Foundation Mattress System, will mitigate any settlement or movement caused by the geological fault. Should the fault slip, the strain would be absorbed by the mattress foundation and not transmitted into the highway, thus ensuring it remains in a serviceable condition.

## BENEFITS

- No remediation works required
- Tensar solution enabled the road to be approved by the local adopting authority
- The Stratum mattress will reduce the strain into the road foundation should movement along the fault occur

# Tensar®

A Division of CMC

## PROJECT DETAILS

Application

**Foundations | No. 561**

Constructed in

**2024**

Client

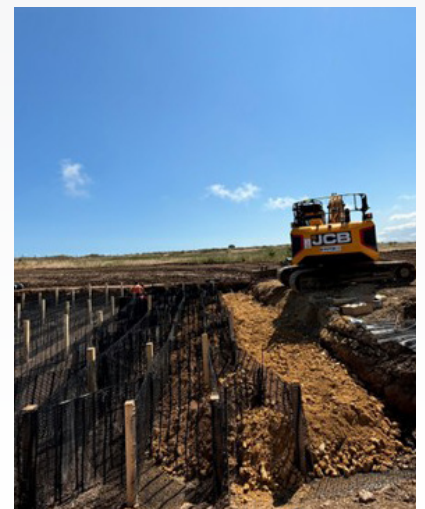
**Reliance Consumer Product Limited**

Consultant Engineer

**Sirius Environment**

Contractor

**Esh Group**



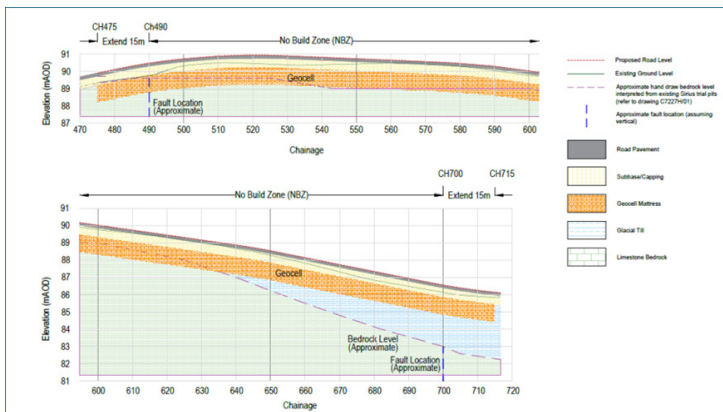
**PROJECT BACKGROUND**

The adopted road is part of the Seaham Garden Village. This is a new community set up for sustainability and success, near the dramatic views and thriving wildlife havens of Durham’s heritage coast. Building on the location and setting, almost 50% of the development will include open space or landscaped areas, for the community to enjoy. This approach is a fundamental part of the Garden Village concept.

There are 1,500 new homes on the site as well as a new primary school, play area,shops and other community facilities. In addition, there are over three miles of landscaped paths and cycleways, as well as a large managed green space and extensive parkland.

As a part of the construction of Seaham Garden Village, the proposed location of the road (a development spine road) was within two active fault locations, i.e., near CH490, marked as the East Fault Zone, and the second fault near CH700, marked as the West Fault Zone. This active zone between two faults is marked as a no-build zone (NBZ), but a spine road is required to connect the eastern and western parts of the proposed residential development. Based on the outline value and risk engineering exercise prepared by Sirius, the geotechnical consultant for the project proposed a stiff geocell (TensarTech® Stratum® Cellular Foundation Mattress System) to support the 200km long highway within the NBZ.

Tensar’s solution is able to mitigate the critical impact of potential movements within the fault block and facilitate a serviceable highway for an extended period compared to a case if not treated. There was no formal design for an alternative solution and it was assumed at a very early stage that an alternative solution such as piled foundations was deemed to be expensive.



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