



Case

# STUDY

TENAX

Northumberlandia  
Structural Design



**MARKET SECTOR:**

Environmental



**LOCATION:**

Shotton  
Cramlington  
Northumberland



**CONTRACTOR:**

Cetco Europe

The

## BACKGROUND

**Northumberlandia is the world's largest human form sculpture. The design sits at the entrance to a surface coal mine.**

To construct the steep soil slopes that represented the nose of the sculpture Gabions were used because they met our requirement for stability and the appearance of the structure.



Our Client's

## REQUIREMENTS

A sustainable solution for a visually pleasing land structure

**Northumberlandia is made partly by reusing the waste mining material.**

Designed by the renowned landscape architect and artist Charles Jenks, it is an iconic landscape sculpture for the North of England.



## Our Value Engineered

# SOLUTION

**As Northumberlandia was designed to be a visually pleasing land sculpture we had to consider the aesthetics of the design as well as the resilience and stability.**

Working with Cetco we proposed our Tenax RW TT060 and TT045 for slope stabilisation in the chin area and our Landlok TRM450 to retain the soil and so provide a vegetated slope surface. To form the vertical element RockBox gabion units were used to form the nostrils at the base of the nose.

For structural and aesthetic reasons Gabions were deemed to provide the most effective solution to meet the demands of the nose element of the sculpture.

The gabion walls for Northumberlandia were designed according to the British Standard BS8002:94. We were able to provide all the of the geosynthetic materials and Gabions from the extensive stocks held in our warehouse.

The scope of the project was that Geosynthetics Ltd & Cetco Europe worked in partnership to develop an economic "design & construct" package for the client. From this success we will be endeavouring to develop further, similar, opportunities in the future.

**"The on-site construction team have to solve a totally unique set of problems to achieve the final article, and are doing so with a great deal of skill. We look forward to welcoming the public to the park in 2013 to enjoy a truly remarkable piece of art."**

**BOB DOWNER,**  
Chief Executive  
Blagdon Estate

