

Case Study

LAMESLEY COMBINED WATER TREATMENT SCHEME, DURHAM

Client: Northumbrian Water & The Coal Authority

Main Contractor & Installer: [Byzak Limited](#)



PROJECT SPECIFICATION

A water purification system needed to be established to combine mine water, from an existing Coal Authority main, and final effluent, from Birtley Sewerage Treatment Works, before finally discharging into the river Team. Traditional construction methods, using cast or pre-cast concrete, were deemed too expensive so an alternative solution was required.

SOLUTION

Aeration of the mixed effluent was achieved through changes in level through four reed bed cells, the flow being transferred over cascades at each level. A total of 55 cascades, manufactured from Glass Reinforced Plastic (GRP), were secured in position each using 4 mechanical ground anchors. Anchor installation took a few minutes to complete using simple hand tools. The GRP structures were considerably lighter, easier to man handle around the site and provided a 30% saving in installation costs compared to traditional techniques.

Anchor System: S06EH hard anodised aluminium alloy anchor c/w 1.5m of 6mm Ø stainless steel wire tendon, 100mm x 100mm stainless steel load plate & 6mm stainless steel wedge grip and cover.

Quantity: 220

Anchor Design Life: 30yrs

Soil Type: Made ground

