



Bulk earthworks and ground engineering on greenfield

Staffordshire

Client: JV between Bovis Homes and Barratt Developments

Site area: 210,000m²

Timeframe: 32 weeks

End use: 700 new homes

Challenge

Bulk earthworks and ground engineering to prepare this former Akzo Nobel site for a 700-unit development. This includes new homes, elderly living facilities, a school and commercial space.

To keep works on programme, Barratt and Bovis needed the earthworks strategy to be efficiently designed and executed.

Because soils were made up of silt and clay, which drains poorly in wet weather, we had to work quickly during dry periods.

Solution

We supported the client for over 12 months before works started, creating an efficient and cost-effective earthworks strategy through cut/fill modelling.

Our team value-engineered the earthworks specification, real-time compaction, and geotechnical testing, which was done at a fraction of the cost of traditional methods.

By carrying out a series of earthworks test panels onsite, we pre-determined the optimum layer thickness and degree of compaction. This included correlating in-situ geotechnical testing with laboratory testing, which allowed for real-time testing on site and eliminated test result delays.

Working with Travis Baker, we gained full stakeholder acceptance – including NHBC – of our proposed approach.

As part of just-in-time enabling works, we delivered archaeological investigations onsite alongside consultant, WSP. This was done carefully to avoid cross-contamination of undisturbed soils by made ground.

Using our intelligent plant, we stripped over 65,000m³ of topsoil and carried out the cut/fill of 150,000m³ material over two phases.

Materials movements were recorded in real-time for verification.

We stabilised soils to provide bearing capacity for road boxes and piled plots.

RESULTS

- Saved 5 weeks off the original programme
- Cut costs through real-time compaction and geotechnical testing
- Zero offsite disposal of soils
- Delivered 21 ha build-ready platform entirely in-house