

Case Study

Housing Development Luton



Project Description:

Appointed to work with Maccaferri to provide the specialist earthworks and stabilisation of chalk arisings for a mechanically stabilised earth (MSE) structure as part of a new housing development.

Key Works: Earthworks
Chalk Stabilisation

Client: Redrow Homes

Date / Duration: August 2019 / 12 wks

Cut / Fill Volume: 13,315m³

Chalk Stabilisation: 8,096m³

MSE Structure: Max Height – 9.6m
Length – 105m

Project Challenges / GDL Solutions:

- Cement stabilisation of chalk is non-routine in such applications since achieving structural grade compaction of the chalk is not straightforward given the material's propensity to degrade under excessive compaction.
- In determining the strength characteristics for the materials, we collected samples from site, prepared stabilised samples in our laboratory and utilised our tie-up with Strathclyde University to undertake large shear box tests on the stabilised chalk. We also undertook a compaction study in our own laboratory in order to develop a workable specification.

Project Benefits for Client:

- The chalk material was originally scheduled for offsite / landscaping with a replacement import material required and thus the economic & environmental savings for the project were substantial.



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EARTHWORKS



SOIL STABILISATION



VIBRO STONE COLUMNS



DEEP SOIL MIXING