



Having completed a successful trial over the first half of 2021, where 500mm diameter vibro stone columns were installed in two test areas and load tests carried out, Van Elle's ground improvement team have now commenced the main works at West Ruislip Portal for the SCS joint venture on the southern section of HS2.

Project Background

The project will involve over 5,200 stone columns being installed, using two of the Group's low emission vibro stone column rigs.

Client Challenge

Van Elle had to deliver a series of trial installations and testing regimes, in order to ensure the client's specification and design could be met.

Van Elle Solutions

The first trial area, located at Gatemead, had a grid of stone columns installed, followed by extensive zone load testing and settlement monitoring by our ground investigation specialists—Strata Geotechnics—using extensometers and piezometers, as the load increments were added.

Test data helped provide an extensive report on the predicted settlement performance of the proposed HS2 rail embankment, which the vibro stone columns will support.

Following the completion of the first trial, a second trial was carried out across the Breakspear Road Bridge over on the main West Ruislip section. After reports were compiled and settlements assessed, the ground improvement team commenced on the main works at WRRE which will last over a 14 week period.

HS2 Gatemead & West Ruislip Case Study/21

Ground improvement to southern section of HS2

Gatemead & West Ruislip Retained Embankment (WRRE)

📍 Vibro Stone Columns

Key Benefits

Environmental Legacy: **The rigs used on this project are low emission—part of our commitment to limiting our environmental impacts**

Fast Installation: **14-week programme**

Social Value: **Van Elle apprentice plant operative working on the scheme**

Project stats

Client: **SCS JV**

Value: **£500K**

Date: **October 2021**

Rig/Kit: **Two vibro stone column rigs**

