

## Wall Anchor Load Cells

London

GEO-Instruments engineers worked with Keller colleagues to monitor the stability of a retaining wall on a major railway project in north London.



### The project

A sheet pile retaining wall has been built next to Network Rail lines to support a vehicle access ramp for a worksite. The wall is being stabilised using more than 200 multi-strand ground anchors. Monitoring is required on a portion of the anchors to verify loading of the anchors and the stability of the wall.

## The challenge

The demands of the specification required the custom manufacture of the load cells to particular measurement ranges. The sensors must provide reliable data at the designed lock off load while also capable of measuring potential excess stress in the anchors (up to 300 kN). Detailed temperature information must also be recorded to monitor and understand the effect of temperature on the anchors over short and long-term periods.

## The solution

Working with the manufacturer, GEO-Instruments custom-ordered 13no. Load Cells to specification and installed the them at regular locations along the retaining wall. The monitored anchors were then stressed to designed load by Keller's anchoring and stressing specialists. Thermistors were installed to provide the real time temperature data for comparison of load and temperature variations and identification of seasonal trends over short and long timescales. GEO-Instruments' QuickView software was used to collate and manage data. The software made it easy to analyse visible trends related to temperature changes.

## Project facts

### Owner(s)

Network Rail

### Keller business unit(s)

Keller  
GEO-Instruments

### Main contractor(s)

SCS JV

### Services

Automated monitoring  
Software/web-based data presentation

### Markets

Rail

### Technologies

Geotechnical instrumentation

### Email address

[enquiries.uk@geo-instruments.co.uk](mailto:enquiries.uk@geo-instruments.co.uk)

### Phone number

+44 (0)207 709 2030