

## Track Surveying

Ealing, London

Engineers from GEO-Instruments conducted London Underground track surveys near Perivale station in northwest London.



### The project

A new residential development is underway near Perivale station in Ealing. Prior to start of construction it was necessary to get a detailed understanding of the condition of the London Underground tracks that run near the site.

## The challenge

It's important to accurately record any changes in the geometry and condition of the track over the course of the project. To enable this, detailed surveys must be undertaken before site works commence.

These surveys needed to cover over 100 metres of eastbound and westbound London Underground tracks and must be done on night shifts under strict time constraints.

Mobilising and working on site were further complicated by the ongoing COVID-19 pandemic. Various measures had to be in place to ensure the safety of site operatives.

## The solution

For this project we used a combination of track trolley survey and a visual track condition survey.

Track trolley surveys are ideal for efficiently collecting vital information on track geometry and clearance. These surveys measure several key elements of track shape and displacement including cant, twist, versine, gauge and 3D co-ordinates of both rails.

GEO-Instruments utilise an Amberg GRP3000 track trolley, enabling us to provide a complete track monitoring solution to clients alongside other long-term instrumentation options.

Track condition surveys are also an essential part of rail or rail-adjacent construction projects, giving clients a comprehensive picture of the existing state of the tracks and surrounding structures, including sleepers, rails, welds etc. These inspections are undertaken and recorded manually by experienced engineers to ensure that no small detail is missed.

Various COVID-19 related precautions had to be in place to ensure the safety of site operatives. These included smaller teams, facemasks, testing and sanitising procedures.

## Project facts

### Owner(s)

Undisclosed

### Keller business unit(s)

GEO-Instruments

### Main contractor(s)

Undisclosed

### Services

Deformation monitoring

### Markets

Rail  
Buildings

### Technologies

Automated Total Stations (ATS)  
Manual monitoring

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