



Midland Geotechnical Society Meeting Notice

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Contact Us

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Meeting Venue

Lectures start 7pm

Haworth Lecture Theatre 101,

Chemistry, University of Birmingham

B15 2TT

Refreshments are available prior to
the meeting in the Shell lounge,
Department of Mechanical and Civil
Engineering, from 6:15 onwards.

Monday 7th November 2016

Accelerated Programme for Moorgate Shaft

David Place,

Mott MacDonald

Synopsis

Liverpool Street station was on the critical path for the completion of Crossrail's central tunnelled section; however the start of the station's 42m deep Moorgate shaft was delayed by the prolonged time required to extract the foundation piles of the building that had previously occupied the site. As this delay would have led to knock on delays in completion of the shaft and hence the transit of the running tunnel TBM through the shaft, a carefully defined and controlled observation based Verification Process that makes innovative use of real-time site monitoring data and state-of-the-art 3D numerical analysis of ground-structure interaction, ground movements and movement of adjacent tunnels was developed. The presentation describes the application of the Verification Process: iterative analysis using FLAC software; a new constitutive non-linear soil model for clays; field observation during the works and implementation during construction. The outcome was that as the shaft was being excavated the Verification Process progressively demonstrated that each of three levels of propping could be omitted, and the number of excavation stages reduced by two. All of this was extremely good news for Crossrail as it shortened the shaft construction programme by 14 weeks which meant there was no delay for the TBM drive for the westbound running tunnel.

About our speaker

David Place is a chartered civil engineer with 40 years experience in the design and construction of major transportation projects including highways, railways and city centre metros. Most recently he was Mott MacDonald's Package Manager for Crossrail Contract C138 for the design and construction stage support for the £400 million underground station at Liverpool Street in central London. His past projects include the East London Line, A34 Chieveley M4 Junction 13 improvement, the running tunnels and 6 stations on the first underground section of the Delhi Metro and Taiwan High Speed Rail.

The MGS is your local geotechnical society; we can only operate due to the time and effort of local professionals and enthusiasts. If you are interested in sponsoring the Society or a lecture, or indeed presenting a lecture please contact the Honorary Secretary.