



**The
Geological
Society**

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South East Regional Group

Meeting

Date: 10 October 2017

Location: Mott MacDonald House, please note earlier 17:30 for 18.00 start

Groundwater in Construction – responding to the challenges of “Design – Build – Redesign” on engineering projects.

A talk by Claire Howarth (Mott MacDonald Ltd)

Groundwater can represent a significant risk to an engineering scheme – whether in terms of ingress volumes / rates, pressures, or water quality. ‘Design and Build’ engineering schemes may find Designers responsible for initial design through to tender, Contractor procurement and subsequent review / re-design. Initial ground investigations may highlight potentially challenging ground and groundwater conditions (e.g. multi-layered water-bearing aquifers), but programme constraints, in combination with site access permission restrictions, may mean that tender and Contractor designs have to be developed without secondary investigation. As such the ability to fully quantify groundwater risks, and design targeted dewatering schemes to mitigate risk, in advance of construction commencing on-site becomes constrained.

This talk will provide an overview of the challenges faced designing shafts in challenging ground / groundwater conditions, without a full understanding of groundwater risks and quantified mitigation measures. Case study examples will be presented of field investigations being undertaken at the time of construction to better quantify geotechnical risks associated groundwater, the results of which were rapidly fed into engineering re-design / dewatering system design.



Speaker

Claire is a hydrogeologist with over 20 years engineering and environmental consultancy experience, working on a wide range of civil-engineering projects for private and public-sector clients. Currently Principal Engineering Hydrogeologist within the Foundations and Geotechnics Division of Mott MacDonald Ltd, she is the groundwater technical specialist for major infrastructure projects in the UK and overseas – particularly focused on dewatering and drainage issues. Claire is also part of the Geological Society’s Engineering Group Working Party currently developing guidance on Engineering Geology of Groundwater in Design & Construction.

LOCATION:

**Mott MacDonald House (Rm 21, F11),
8-10 Sydenham Road, Croydon, CR0 2EE**

The event is kindly sponsored by

