

> expanding the lab!



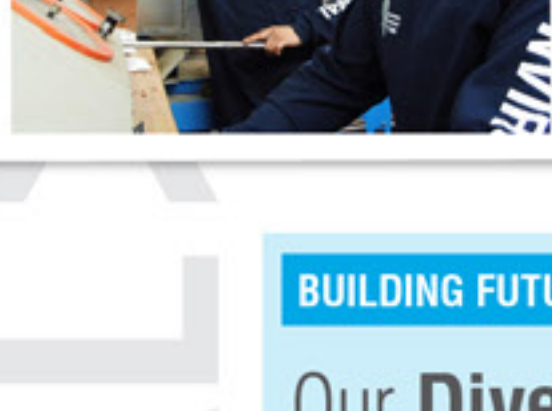
Welcome to RGS insite issue 8

Our regular newsletter celebrating a decade of drilling that keeps you up to date with RGS and industry news.

Rogers Geotechnical Services Ltd are site investigation specialists offering ground investigation and geotechnical services to developers, builders, structural and consulting engineers, architects, insurance companies, local authorities, piling and foundation engineers, private individuals and other geotechnical consultants.

Investing in the future

As part of our ongoing work to secure accreditation for the RGS laboratory, we have invested in industry-specific, new software..



The full management system is a key part in our work to secure the essential accreditation to expand our lab's services, workload and income and it integrates with our existing logging software.

Work is now well underway to secure accreditation, with much of the paperwork, procedures and manuals being completed following our initial successful inspection by UKAS. Once finalised, it will allow us to target geotechnical consultants - many of whom do not have their own testing services.

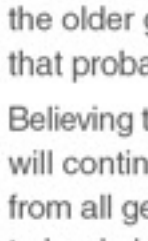
BUILDING FUTURES

Our Diversity

There's constant media commentary about sexual stereotypes, political correctness and 'glass ceilings' in the workforce - particularly in technical industries which are historically male-dominated.

RGS prides itself on retaining and recruiting a highly-skilled workforce, from all walks of life. We are also proud to say that we pick people purely for their skills, talents and proven track records - regardless of their gender, ethnicity, background, religion or sexuality. Hopefully, this is generally true across the industry as a whole.

As a result, Technical Director Steve Rogers was somewhat surprised and irritated by an article published by New Civil Engineer regarding equality. In a letter published subsequently by NCE, Steve wrote:



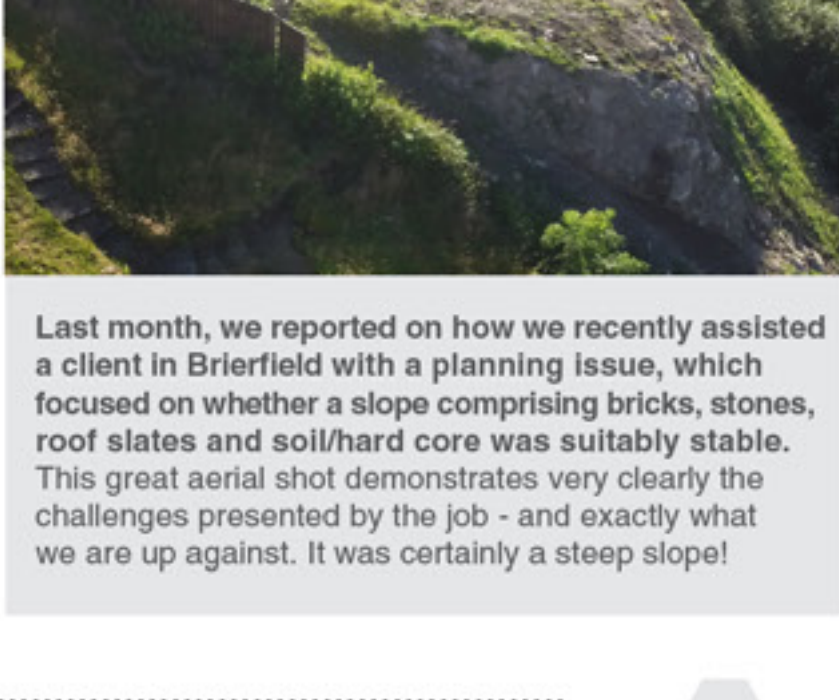
My main concern was the statement that homophobia was a generational problem with older engineers who grew up during more conservative times being more prone to making offensive comments.

I would probably agree that the generation older than me may be less enlightened. However, I am 64, thus I assume that I am now categorised as the older generation and I would argue that we are a more tolerant generation that probably did more for equality than most.

Believing that my generation are the basis of the problem is naïve as homophobia will continue after my generation has long gone. Clearly there are individuals from all generations that are homophobic and they should be brought to book, but to suggest that a generation is to blame is downright insulting if not ageist.



Slippery slope



Do you need a phase one environmental desk study report?

RGS STANDARD

RGS PREMIUM

Contact us for more details and to discuss your options for this service.

Last month, we reported on how we recently assisted a client in Brierfield with a planning issue, which focused on whether a slope comprising bricks, stones, roof slates and soil/hard core was suitably stable. This great aerial shot demonstrates very clearly the challenges presented by the job - and exactly what we are up against. It was certainly a steep slope!

CASE STUDY

A Tale of Three Slopes



The Location: Three sites - two in East Yorkshire and one in North Yorkshire.

The Challenge: A modern management idiom claims there are no such things as problems, only solutions. This is not the case in geotechnical engineering, where a solution can only be formulated after all of the problems are fully understood.

This was amply demonstrated in three separate investigations of slopes conducted in the past two years; two in East Yorkshire and one in North Yorkshire.

Each case involved the stability of river banks within the rear gardens at three separate locations.

This case study is also on our website along with others, [click here](#).

Findings: For Case 1 the site was shown to be underlain by Glaciofluvial deposits comprising fine and medium sand over very silty fine sand.

For cases 2 and 3, the superficial deposits were noted to be the Brighton Sand Formation which consisted of very silty clay grading into clayey silt, which became laminated with fine sand at depth.

Project specification:

The investigations comprised undertaking boreholes and dynamic probes (DPSH) using one of RGS' small, geotechnical laboratory drilling in the RGS in-house soils lab, together with hand augers, careful visual inspections by one of our engineers and desk study analysis and calculations.

- **Cases 1 and 2** were on the outside of bends on the River Ure (1) and River Wharfe (2). At both locations there was a narrow alluvial flood plain and a river bank up to the subject properties, which were situated on higher ground. In both cases, levees had been constructed on the opposite side of the river which channelised flow and protected the adjacent floodplain.
- **Case 3** was associated with the back gardens of three properties that had been constructed on a flood bank, which slopes down to a berm then down to a flood alleviation dyke, which enters the River Wharfe via a sluice.

In all three cases the slopes between the houses and the river/dyke were failing, with rotational movement of the slopes being evident. Moreover, the presence of the water courses, all of which are prone to flooding, the topography of the river banks and the strata conditions were strikingly similar. Therefore, at first sight, it would seem likely that there would be a common link for the observed slope instability. However, in the event it was shown that the actual triggers for the three failures were quite different.

Case 1: The trigger for failure was the presence of the levees on the opposite side of the river as this increased the level of water during flood episodes. As the underlying soils are permeable in nature, water was able to enter the slope. When the flood level subsequently reduced, water flow through the very silty fine sand resulted in a phenomenon known as running sand, thus toe support to the slope was gradually removed such that slumping and progressive failure of the slope occurred, which regressed up the slope.

The recommended remediation included the construction of a sheet piled retaining wall along the river bank and to protect the toe of the slope to reduce the risk of erosion.



The RGS team established that this retaining structure was under-designed and consequently failed, which caused the slope to move, which in turn caused the pipe to fail.

Clearly, the remediation required at this site would include stabilising the dyke bank by the construction of a suitable retaining structure.

Tension cracks within the berm should then be infilled with low permeability soil and the damaged outfall pipe should be repaired.

Case 2: At this site, the more sensitive fine granular soils were present beneath a capping of less permeable soil, comprising very silty clay. Therefore, the groundwater regime would not be adversely affected by short term flood episodes. However, at this site it was known that a water main had burst and the water was entering the underlying silts via a gully, which resulted in an imbalance in the groundwater profile and failure of the otherwise marginally stable bank ensued.

At the onset of movement, tension cracks developed through the more cohesive soils, thus during future periods of high water the underlying more sensitive silts could be adversely affected by inflowing water. In this case the remediation included the removal of the source of groundwater by properly constructing the outfall from the gully.

Re-grading the bank by the addition of coarse granular soils to resist erosion and possibly soil nailing to assist in the stabilisation of the slope.

Case 3: Similar soils were present at this site and it was known that a surface water outfall pipe between two of the properties had failed. This would suggest a similar mechanism for failure as Case 2. However, at this site there was a timber king post wall supporting the bank of the dyke.

Client Feedback

Great feedback from one of our clients this month, who wrote:

"We were very impressed with the report, very detailed and thorough and Gabriel was a joy to liaise with; in fact everyone I have spoken to at RGS so far has been lovely."

CHAY'S FEEDBACK FILE



WELL DONE!

EXHIBITIONS & EVENTS

> Official Recognition

RGS is pleased to have been named as 'supply chain providers' by LGSF - Solutions in Steel. Our logo featured on a leaflet produced and displayed by the company at the Excel exhibition earlier in October, promoting LGSF's expertise in producing lightweight structural framing for housing.

For more information about your investigation requirements please do not hesitate to contact us

Telephone on 0843 50 666 87

or click here to email us