Geotechnical Consulting Group

Mr Anthony Bracegirdle

BEng MSc DIC CEng FICE

Senior Partner

Proven experts in a geotechnical world

Professional summary

Mr Anthony Bracegirdle is a geotechnical engineer with more than 45 years of experience in practice around the world. His areas of expertise include slope stabilisation, retaining wall design, earthworks, hydrogeology and groundwater flow, soft clay engineering, pile foundations, grout injection and ground stabilisation techniques, tunnel construction, shallow and deep-water ground investigation, and seismic design of earth structures. He has been involved in numerous forensic investigations and in recent years has given evidence to evidentiary hearings in many different international jurisdictions.

Education and Career

Since 1984: GCG, London

1979: MSc (Distinction), Imperial College London, UK.

1976-83: Ministry of Works and Development, New Zealand and Beca Carter Hollings and Ferner.

1975: BEng (1st Class), University of Auckland, New Zealand.

Professional Qualifications and Memberships

Since 2004: Fellow of the Institution of Civil Engineers, UK.

Since 1994: Member of the Institution of Civil Engineers, UK.

Since 1983: Member of the Institution of Professional Engineers, New Zealand.

Since 1983: Member of the British Tunnelling Association, UK.

Since 1983: Member of the British Geotechnical Association, UK.

Service on technical / professional bodies

Since 2011: Trustee of the British Geotechnical Association.

Experience with GCG

Mr Bracegirdle joined GCG in 1984, becoming a Director in 1988 and then a Senior Partner when the company became a LLP in 2011. He has advised on a wide range of civil engineering works which have included the rock and soft ground tunnelling, stabilisation of large landslides, foundations for buildings, and storage tanks, deep excavations, and oil and gas pipelines.

Recent work on hydro power includes an investigation into the collapse of a 350m high raisebore during its construction in the Dominican Republic in 2011 and the collapse of a shotcrete lined hydro power headrace tunnel in Chile which occurred after two years of peak-power operation in 2013. He has recently provided advice and evidence in respect of tunnel collapses in Georgia and Algeria. His investigations have identified inadequacies in standard design methods, shotcrete fatigue and adverse geology and rock mineralogy as the principal contributory factors leading to the collapses.

He has recently provided evidence to an ICC Arbitration concerning a highway project in Georgia. Other recent projects include advice and evidence given in relation to groundwater issues in the construction of a large basement in Dubai and numerous matters involving land instability and subsidence in the UK.

Marine structures include port development, piling and work on large quay walls in the UK and abroad, shallow- and deep-water pipelines, cables, and intakes. Recently, he gave evidence in an arbitration concerning the construction of a jetty at Um Qsar, Iraq.

He has been involved with the investigation of mining subsidence and sinkhole activity in the UK and South Africa and the settlement of deep fills.

Other recent assignments include due diligence and earthquake PML analysis and geotechnical design in respect of major investments Eastern Europe and Turkey. Recent work in soft clay includes the assessment of settlement of warehouse floors in Stoke, Cardiff, Avonmouth and Winsford, the settlement of a large

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2007-11: Institution of Structural Engineers committee for the implementation of Eurocodes.

2003-05: Chairman of the British Geotechnical Association.

Countries worked

UK and Channel Islands, Algeria, Ireland, France, Zimbabwe, Libya, Ethiopia, France, Georgia, Denmark, Portugal, Nepal, Singapore, Australia, Russia, USA, Dominican Republic, Chile, Peru, UAE, Iraq, Turkey, Serbia, Hungary, Slovakia, Norway, Greece, Oman, South Africa, Kazakhstan, and Hong Kong.

industrial structure in Newcastle and problems on major projects associated with piling in rock and soft clay.

Work on ground improvement includes the application of jet grouting, permeation grouting and compensation grouting, the design and construction of prefabricated vertical drains and stone columns.

Mr Bracegirdle has been retained as an expert witness in cases involving soil and rock slope stability, tunnel construction in hard and soft ground, cofferdam and retaining wall construction, building and storage tank foundations, quay walls, groundwater flow, ground improvement, earthworks, and seismic risk, presenting evidence to the ICJ, ICC, LCIA, JIDRC and UK Technology Courts. He has recently acted as a sole expert for an International Arbitration in Oman involving the construction of a pipeline in difficult ground conditions.

He has published papers about ground movements due to tunnel construction and their influence on buried services, slope and pit slope stability, seismic design of reinforced earth, construction of cofferdams, and pile foundations.

Previous experience

On graduation and until 1978, Mr Bracegirdle worked as a Section Engineer on the construction of surface hydraulic structures, rock and mixed ground tunnelling and underground civil works in the development of a major hydro-electricity project in the North Island of New Zealand. During this time, he was primarily involved with the construction of the 60m high Moawhango Dam, and penstock and surge chamber construction at the underground Rangipo North powerhouse. This work involved rock excavation, support and grouting works.

In 1979 he attended a post-graduate course in Soil Mechanics and Engineering Seismology at Imperial College, London. Between 1980 and 1983, he undertook research and development and consultancy in geotechnical and earthquake engineering for the NZ Ministry of Works and Development. During this period, he was responsible for the investigation, design and technical specification of the geotechnical aspects of civil works which included opencast coal mining, industrial structures, large petrochemical storage tanks, bridge substructures and slope stabilisation schemes.