

# Curriculum Vitae

Ian Marychurch MSc BSc CEng MICE CGeol FGS CMgr MCMi Dip IoD



**Job Title:** Director, CGL (Card Geotechnics Limited)

**Nationality:** British

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## Qualifications and Affiliations

- 1980** BSc Geology, University of Bristol
- 1981** MSc in Foundation Engineering, University of Birmingham
- 1989** Fellow of the Geological Society
- 1991** Chartered Geologist
- 1992** Chartered Engineer (Civil)
- 1992** Member of the Institution of Civil Engineers
- 2013** Certificate in Company Direction (Institute of Directors)
- 2014** Diploma in Company Direction (Institute of Directors)

## Certified Training

CSCS Supervisor qualified

## Summary of Expertise and Experience

Over thirty years' experience in the implementation and management of geotechnical and geo-environmental investigations and designs for a large number of commercial developments and civil engineering projects within the UK. Major areas of involvement include highways schemes, commercial and residential developments, infrastructure projects and derelict land reclamation. Significant experience in overall supervision and interpretation of site investigations, design of piling, retaining walls and foundation remedial works; stability of earthworks; installation of instrumentation. Particular experience in the investigation and remediation of contaminated and gassing land, including design of remedial measures using civil engineering and process based technologies, specification writing and contract preparation. Acted as Planning Co-ordinator on a number of investigation and remediation projects. Has published a number of papers on the remediation of contaminated and gassing land, was a member of the drafting committee for BS8485 and has lectured in contaminated land on university courses.

## Professional Experience

### CGL (Card Geotechnics Limited)

- 1999 - to date Managing Director
- 1996-1999 Associate Director

Responsible for technical and financial management of major projects and business administration and development. Main areas of technical involvement include investigation and geotechnical/geo-environmental design of sites for commercial, industrial and residential developments.

Specialist input into contaminated site remediation designs, compilation of method statements for derelict site redevelopment and pre-purchase audits of industrial sites. Provision of expert witness reports and opinions and advice during construction.

Geotechnical input into and preparation of earthworks designs, retaining structure and foundation designs,



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basement impact assessments and material assessments

## Selected Projects Include

Provision of expert witness statement in respect of landfill gas ingress into proposed residential development as part of a successful planning appeal by a residential development.

Provision of an expert opinion regarding the effects of ingress of water into a semi basement causing failure and requiring remedial works. Case revolved around whether the water originated from the groundwater or from surface water, and the opinion demonstrated that groundwater (and hence ground conditions) was not the cause of the failure. Case was resolved favourably to the defendant at mediation.

Provision of an expert opinion regarding the causes of damage to a culvert which reportedly occurred during construction. Assessment included review of pre and post damage investigation information, undertaking slope stability analyses and detailed review of groundwater conditions to arrive at movement mechanism. Case was resolved favourably to the defendant in mediation.

Provision of an expert opinion relating to an arbitration concerning the failure by a purchaser to release a contamination-related retention on the sale of a site for residential and commercial development. Report provided sufficient evidence for Arbitrator to reject purchaser's technical argument.

Provision of an expert opinion relating to a High Court action in respect of monies claimed by a specialist sludge removal company for control of groundwater and excess waste disposal relating to a contract to desludge a gasworks holder. Action successfully settled at Court doors.

Provision of expert opinion on geotechnical-related causes of settlement of drainage pipework across an area of soft ground to assist in defence of claim by groundworks subcontractor.

The provision of advice on site to a contractor regarding slope movement along a pre-existing failed slope adjacent to a major rail artery during construction at Brockley, Kent. The slope was situated between the Railtrack South East mainline and a vulnerable housing development. Movement was arrested and remedial works were put in place.

Assistance in compilation of an expert opinion report on the causes of a riverbank slope failure during construction. The report included detailed back analysis and design assessments for a successful litigation.

Assistance in compilation of an expert opinion report regarding the misidentification of a contaminated site by a consultant. The report was produced for the Client, a major supermarket chain, who used the report in support of a successful claim for additional development costs.

Investigation and design of remediation measures for a town centre redevelopment site in Feltham. Included comprehensive site investigation, remediation using ex-situ bioremediation and validation. The work was completed and validated in phases to release parcels of land for development prior to completion of the remediation.

Preparation and review of a number of Basement Impact Assessments to meet construction and hydrogeological impacts on basements in urban areas, table in North London. Includes sites I the vicinity of Hampstead Ponds and the Grand Union Canal.

Investigation of filled site adjacent to the Regent's Canal in North London which included excavation for a basement/lower ground floor. The project extended to the design of temporary works and assessment of the effects of water and basal heave on the basement floor slab.

Investigation of filled former gasworks site in High Wycombe to produce a foundation strategy that protected an adjacent abstraction borehole and maximised the changes in levels at the site.

The provision of advice on site to a contractor regarding slope movement along a pre-existing failed slope adjacent to a major rail artery during construction at Brockley, Kent. The slope was situated between the Railtrack South East mainline and a vulnerable housing development. Movement was arrested and remedial works were put in place.

Direction and management of an investigation and remediation of a former tannery site contaminated by hydrocarbons. Site was adjacent to a sensitive Trout Stream and remediation included designing and



# Curriculum Vitae

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supervising groundwater control systems to avoid migration of contamination during removal of contaminated material. Work involved determining EA requirements, obtaining abstraction and discharge consents and completion of Validation Report.

Production of a remediation method statement for the clean up of a Docklands site contaminated by hydrocarbons, soluble chromium and landfill gas. Remediation included in-situ bioremediation, removal of materials and gas protection measures. Compiled the CDM documentation and acted as Planning Co-ordinator for the remediation works.

Project Director for a large number of projects of varying size and complexity with responsibility for technical performance of the projects, liaison with Client, Design Team and Regulators; responsible for contractual matters and agreements; accountable for the financial performance of projects both to Clients and to the Board of **CGL**.

## **Frank Graham Consulting Engineers Limited**

1989 – 1996 Principal Engineer

Responsible for the technical, financial and programme management of projects undertaken in the Geoenvironmental Division. Responsibilities included the direction, supervision and interpretative reporting of geotechnical investigations for major highway and development schemes; the design and specification of remediation schemes for contaminated land and gassing, design of earthworks and the design of in-ground barriers adjacent to landfill sites. Compilation of desk study and walkover reports to allow preliminary assessment of project feasibility and site development at planning stages; site supervision of remediation, foundation and infrastructure construction works.

### **Selected Projects Include**

The design of slurry wall and passive venting measures to protect industrial units and adjacent landowners from the potential effects of gas migration from a closed landfill site at Slyfield Green, Guildford, Surrey. The project included detailed design, the preparation of specifications and preparation of contract documents using the 6<sup>th</sup> Edition ICE Conditions of Contract and CESMM 3.

Assessment of existing data and preparation of a remediation statement for a contaminated dockyard site at Royal Victoria Dock, London Docklands, including close liaison with local planning authorities and the Environment Agency, for a 800 unit housing development.

The design of landfill gas protection measures for a 4km<sup>2</sup> development area in eastern Milton Keynes. The project involved protection of existing buildings by means of vent trenches and cut off barriers. Design details were based on an assessment of gas readings over 3 year period and designs were produced for both in-ground and building protection and are to be incorporated in future development strategy.

Management of investigations and compilation of a remediation statement for a former gasworks site in Portsmouth including close liaison with NRA and the local Environmental Health Office. Also included preparation of Land Quality Statements to assist in sale of land. Design measures had to take account of presence of gasworks residue, potential off-site migration and potential landfill gas generation.

Acted as the Geotechnical Liaison Engineer on A47/A10 Hardwick Roundabout improvement which comprised the management and interpretation of a ground investigation, reinforced earth embankment design for widened embankment and slope cutting drainage design for grade separated junction improvements.

Project Manager for the geotechnical and geo-environmental aspects of a three year period term commission for the Commission for the New Towns covering the London Ring Towns. Projects included management of a large number of investigation and design projects over a three year period, for greenfield and redevelopment sites, as part of the client's divestment programme.

Preparation of a performance specification for a bioremediation scheme carried out on a site in which diesel contamination had occurred from underground tanks at a site in Croydon. Input included appraisal of test



# Curriculum Vitae

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results during bioremediation, design and supervision of the validation survey and certification that target concentrations had been met.

Technical support and preparation of a contract specification for the remediation at a former scrap yard site in Bow, London. Scheme included the removal of heavy metal, hydrocarbon and PCB contamination from site which required temporary dewatering of gravels. Compliance testing undertaken included the use of immunoassay techniques to determine that the agreed clean up criteria had been achieved.

Design, preparation of contract documentation, management and interpretation of a large ground investigation for the Department of Transport for the improvement of the A406 North circular Road at Golders Green Road/Brent Street Junction. Scope of work included pressuremeter testing and pumping test analysis. This scheme includes the construction of a cut and cover tunnel and retained cutting adjacent to sensitive structures in a built up area.

Conceptual design of encapsulation measures for contaminated ground beneath a former chemical works in Carshalton, Surrey. Scheme involved in-ground slurry wall hydraulic cut-offs and surface capping to mitigate effects of potential hazards to end users and to an adjacent river.

Management, data collection and interpretation for geotechnical appraisal of widening 40km of the M8 Motorway in Scotland. Study included consideration of widening options for embankment and cutting slopes in areas of intensive mining activity, peat moorland and contamination.

Compilation of desk study reports for major residential/commercial developments on both greenfield and redevelopment sites at Kingsnorth, Brent Cross, Lydden and Chippenham for inclusion into Environmental Impact Assessments.

Management of investigations and compilation of Environmental Assessment Report for a 200 hectare former munitions factory in an area of landfills at Elstow Storage Depot, Bedford. The study, comprising a contamination characterisation survey, landfill gas migration assessment and air quality survey was used to support the site at an inquiry into the Bedfordshire County Structure Plan.

Technical direction and review of geotechnical aspects of motorway widening design on M25 Junctions 8-10 widening design and build project. Included design parameter selection and checking of major cuttings and embankments, currently in state of limiting equilibrium, to optimise widening design.

Formulation of remediation proposals for a redundant sewage treatment works with part filled sludge lagoons at Edmonton, North London. Input included negotiations with NRA, management of targeted investigation and formulation of specification and tender documentation for sludge removal, potentially saving the client £3 million over original remediation estimates.

Design and detailing of subsoil drainage system for the protection of a retail store in an area of artesian water where the aquiclude had been breached by construction works. Including assessment of permeability testing, installation of instrumentation and monitoring during construction.

Geotechnical Liaison Engineer on the A34/M4 Junction 13 improvement scheme. Comprising management of detailed ground investigations, in chalk including large diameter rotary casing and packer permeability testing and formulation/review of design proposals for deep cuttings and embankments in an area of solution features.

Investigation and assessment of abandoned chalk mine workings in Bury St Edmunds, Suffolk. Including input into desk study appraisal, design and specification of phased investigation including dynamic probing, percussion and rotary coring and CCTV inspection and mine entry phases. Assessment included condition survey of workings, quantitative risk assessment of mine working stability and determining differing remediation solutions. Findings presented to ICE regional meeting November 1995.

## **Albury Laboratories Site Investigation Ltd**

1985 – 1989 Senior Geotechnical Engineer



# Curriculum Vitae

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Responsible for design, supervision and interpretative reporting of various site investigations; assessment of slope stability; provision of geotechnical advice.

## **Oakley Soils & Concrete Engineering Ltd**

1983 - 1985 Senior Foundation Engineer  
1981 - 1983 Foundation Engineer  
1981 Contractor's Representative

Responsible for design, supervision and interpretative reporting of site investigations; specialist tender document appraisal; supervision of geotechnical instrumentation installation; pile design for bored piling and underpinning division.

## **Published Papers and Articles**

MARYCHURCH IM (2009)

*The Need to Understand the Factors Influencing Gas Monitoring Data*  
Ground Engineering, January 2009

CARD GB, MARYCHURCH IM

*Getting to Grips with Gas*  
Ground Engineering, July 1997

MARYCHURCH IM (1997)

*Successful Brownland Development. World Water and Environmental Engineering*  
June 1997

MARYCHURCH IM, CARD GB (1997)

*Protection of Buildings from Methane; A UK Designer's Perspective*  
Air & Waste Management Association's 90th Annual Meeting & Exhibition, Toronto, June 1997

MARYCHURCH IM (1997)

*Groundwater treatment in London's Docklands*  
World Water and Environmental Engineering, January 1997

MARYCHURCH IM, WILSON SA (1996)

*Remediation of Diesel Contamination by Bioventing*  
Internet Conference on Contaminated Land  
University of Newcastle & Environmental Management and Health Journal

MARYCHURCH IM, CARD GB (1996)

*The use of Geofin in the Gas Protection of Buildings*  
A report for Cooper Clarke Group plc, June 1996

HEAD JM, MARYCHURCH IM, RHODES SJ (1995)

*Options for the Remediation of Contaminated Land*  
G-Mex Environmental Solutions Conference, Manchester

RHODES SJ, MARYCHURCH IM (1995)

*Chalk Solution Features at Three Sites in South East England. Their Formation and Treatment. Proceedings of the Conference on Geohazard Assessment*  
Mitigation and Remediation, Coventry

TYRRELLI AP, CLOOK P, MARYCHURCH IM (1995)

*Investigation and Stabilisation of Abandoned Chalk Mines*  
Proceedings of the Conference on The Environmental Effect of Mining Wastes, London

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