



Positions held

- Senior Geotechnical Specialist, Offshore Wind Consultants 2014-2016
- Regional Associate, Parsons Brinckerhoff, 2012-2014
- Senior Geotechnical Engineer, Ramboll, 2007-2012
- Civil Engineer, Shellharbour City Council, Australia, 2000-2006

Qualifications

- BEng (Hons I) in Civil Engineering, University of Wollongong, Australia (4 year degree)
- Chartered Civil Engineer

Contact details

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Nationality

Australian, British

Professional memberships

- Member, Institution of Civil Engineers
- Member of British Geotechnical Association

Other professional activities

- UK representative on ISSMGE Offshore technical committee
- Chartership Reviewer and Mentor, Institution of Civil Engineers

Summary

Paul has 17 years experience in offshore, urban and civil geotechnical projects including planning, design, site investigation, construction and project management. Paul has successfully led large offshore and urban projects, developing strong and diversified technical skills and commercial and project management knowledge.

Paul has extensive experience working on the geotechnical aspects of medium and high rise buildings including pile and raft design, retaining wall, substructure and propping/support design, advanced 2D and 3D finite element modelling and soil structure interaction analysis and impact assessment for adjacent structures including buildings railway lines and tunnels.

Paul also has considerable experience in the geotechnical aspects of offshore wind farms at all development stages having worked as a consultant, within a client team and with an installation contractor. He has experience in specifying and interpreting offshore geotechnical site investigations and has spent more than six months offshore acting as client representative. Paul has led the detailed design of three wind farms totalling more than 250 individual foundations also supervised the installation of offshore monopiles and transition pieces. Paul has delivered numerous installation and driveability assessments.

Prior to moving to the UK in 2007 Paul worked as a civil engineer in Australia for seven years in subdivision and development construction, engineering management and forward planning, and civil infrastructure design.

Specialisations

- Site investigation scoping, supervising and management
- Geotechnical interpretation and ground modelling
- Pile, retaining wall, raft, substructure and propping/support design for medium and high rise buildings
- Offshore foundation design, driveability analysis, jackup assessment, cables and pipeline assessments
- Advanced 2 and 3D finite element modelling, soil/structure interaction analysis
- Software development and data management to assist with engineering design and processes
- Ground movement and asset integrity assessments
- Civil infrastructure design and surveying, cost estimation, construction supervision.

Honours and awards

University of Wollongong Medal (2006); awarded to student with best academic record from entire engineering faculty.

Publications

Knight P. and Muir Wood A. (2015) *Scientific selection of cone penetration test N_k correlation factors* Proceedings of the 16th European Conference on Soil Mechanics and Geotechnical Engineering, Edinburgh.

Muir Wood A. and Knight P. (2013) *Site investigation and geotechnical design strategy for offshore wind development* Proceedings of the 18th International Conference on Soil Mechanics and Geotechnical Engineering, Paris 2013 pp 2375-2378

Project highlights

Kriegers Flak (2017-present)

Scoping and management of detailed geotechnical site investigations including tender review and assessment.

Vineyard Offshore Wind (2016-present)

Scoping, supervision (offshore client rep) and management of geotechnical site investigations. Cable route engineering. Geotechnical interpretation and ground model development for site.

Taberner House (2016-present)

Lead Geotechnical Engineer for development of four tower blocks up to 32 storeys in south London including assessment of re-use of existing foundations, preparation of GIR and pile design.

Greenwich Design District (2017)

Foundation concept study for 16 commercial buildings of up to 4 storeys on very challenging ground conditions.

Wilton Road (2017)

Basement impact assessment for central London development including asset protection.

Lincs Lifetime Extension Assessment (2016-2017)

GIR for lifetime extension assessment of Lincs Offshore Wind Farm.

Confidential Baltic Sea Wind Farm (2016)

Geotechnical interpretation and site wide leg penetration analysis for a range of jackup vessels to both SNAME and ISO codes, identification of installation risks.

Boiler House (2016)

Lead Geotechnical Engineer for the seven storey development in west London including previous foundation constraints mapping, preparation of filling specification and design of pad and raft foundations.

Chesterfield House (2016)

GIR for two 21 and 26 storey towers in Wembley, London.

Geotechnical Jackup Assessments, Various (2014-present)

Geotechnical engineer undertaking various geotechnical site specific assessments including expected leg penetration, V-H curves and fixities. Development of in-house calculation software.

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East Anglia Offshore Wind Farm, EA One (2012 – 2016)

Geotechnical specialist developing 3D ground model, interpretation of offshore site investigation results and development of soil profiles. Site wide ICP pile design and driveability assessment including back analysis. Assessed the benefit and optimised scope of final site investigation. Scoped and managed SI for onshore cable route and HDD crossing. Produced alignment sheets and burial assessment for the cable routes.

Veer Prem, Offshore Nigeria (2015-16)

Post-installation stability assessment for A-shaped mat including calculation of loads due to trim/heel, settlement calculation, bearing capacity assessment and consolidation analysis.

Race Bank Offshore Wind Farm (2014 – 2016)

Geotechnical consultant for cable route and wind farm. Interpret SI results, prepare design soil profiles and manage ground based risks. Cable route engineering considering ground conditions and constraints. Interface with cable and foundation installation teams.

Burbo Bank Extension Offshore Wind Farm (2016)

Undertake cable burial assessment, identify potential issues related to ground conditions, assess the suitability of the proposed tools/methods.

Cable Burial Tool Performance Analysis (2015 - 2016)

Back analysis of plough, jetting and cutting tools on previous projects, relating performance to ground conditions.

Horns Rev 3 Offshore Wind Farm (2015)

Undertook site wide jackup leg penetration and pile driving assessments. Onshore management and geotechnical support for site investigation.

Gode Wind Offshore Wind Farm (2015)

Lead Geotechnical Engineer for 97 geotechnical jackup assessments. Geotechnical interpretation, calculation of expected leg penetrations and V-H curves and identification of risks at the 97 turbine locations.

Virat Prem MODU-MOPU (2014-15)

Geotechnical assessment of mat foundation for MODU-MOPU including calculation of expected foundation settlement and in-place stiffness, modelled using FEM.

Hornsea Offshore Wind Farm, Project 1 (2012-15)

Geotechnical engineering seconded into client team developing 3D ground model and design profiles, management of 2012 geotechnical SI campaign, scoping and interpreting advanced laboratory testing. Client Representative for the 2014-5 offshore site investigation campaign featuring down-hole PCPTs and sampling at each turbine location; optimised scope to obtain information for design and carry out specialised testing to verify quality.

Dudgeon Offshore Wind Farm (2015)

Lead Geotechnical Engineer for 67 site specific jackup LPAs.

Kentish Flats Extension Offshore Wind Farm (2015)

Driveability analysis using latest friction-fatigue methodology.

Celtic Array Offshore Wind Farm, SE Development (2012-14)

Development of 3D ground model with stratigraphy and engineering parameters. Preliminary driveability study for first development area.

Walney Offshore Wind Farm, WOW3 (2013-14)

Development of conceptual ground model and design parameters, scoping and management of detailed site investigation campaign.

Hornsea Offshore Wind Farm, Project 2 (2012-13)

Geotechnical analysis for the conceptual design of monopile, jacket and gravity base foundations for the offshore wind turbines; load-movement, bearing capacity and settlement calculations and driveability analysis.

Humber Gateway Offshore Wind Farm (2010-12)

Lead Geotechnical Engineer, Senior Offshore Client Representative and Discipline Project Manager for the detailed design stage of the 75 turbine offshore wind farm. FEED study, site investigation specification, management and supervision, geotechnical interpretation, pile driveability and driving induced fatigue assessment.

Okhta Tower (2007-10)

Lead Geotechnical Engineer on the design of the 396m high tower with 3 level basement on 80m deep barrette foundation in St. Petersburg. Conceptual foundation design, specified site investigation and supervised contractors ensuring quality and safety, interpretation of site investigation results. Designed, supervised and interpreted full scale load tests to verify and refine the design and mitigate risks. Detailed foundation design, calculation of load capacity, group settlement and 3D FEM, managed quality control, prepared CDM and HSE documentation.

British Museum (2009-10)

Geotechnical Engineer for the detailed design of the 4 level basement adjacent to existing museum buildings. Retaining wall and propping design, ground movement and adjacent building damage assessment, pile design, development of risk register, preparation of SPERW and monitoring specification, liaison with construction manager.

Lincs Offshore Wind Farm (2010)

Contractor's Technical Advisor; supervision of the installation of large diameter monopiles and transition pieces.

Teesside Offshore Wind Farm (2010)

Lead Geotechnical Engineer, Offshore Client Representative and Discipline Project Manager for detailed design stage of the 27 turbine offshore wind farm. Client representative for offshore SI, detailed design including development of new soil model for weak rock. Driveability and driving induced fatigue analysis.

Gwynt y Mor Offshore Wind Farm (2009-10)

Lead Geotechnical Engineer and Discipline Project Manager for the conceptual design of stage 2 and detailed design of stages 1 and 2 of the 160 turbine offshore wind farm. Foundation design, development of soil profiles, assessment of possible foundation options, driveability and fatigue analysis, quantitative installation risk assessment and design optimisation.

Greater Gabbard Met Mast (2009)

Completed detailed design including analysis of geotechnical parameters and drivability and driving induced fatigue assessment with no site investigation information available on-location.

Tripoli TV Production Studios (2009)

Lead Geotechnical Engineer and Discipline Project Manager for the design of six 4 storey studios and a 7 storey tower with 1 level basement. Geotechnical scheme design, development of ground model, pile design and seismic assessment, preparation of site investigation specification and risk register.

King's Cross Building T1 (2008-09)

Geotechnical Engineer on the 14 storey mixed use building with 1 level basement adjacent to rail assets. Site investigation supervision, ground movement and impact assessment of adjacent HS1 railway and TL2000 tunnels including 2D FEM and research of steel fibre reinforce concrete tunnels, temporary works design, preparation of SPERW, development of monitoring strategy and trigger levels, engagement of monitoring contractor, Cat III check on crane base and piling mat, reviewed contractor's method statements, preparation of designer's risk assessment.

Subdivision and Development Construction (2004-06)

Supervised construction works of residential subdivisions, ensuring earthworks, drainage and roads were designed and constructed satisfactorily, safely and sustainably.

Engineering Management and Forward Planning (2001-04)

Managed council's forward capital works programme including identifying, scheme designing, costing, prioritising and securing funding for new construction projects and monitoring delivery and cost of construction.

Civil Infrastructure Design (2000-01)

Preparation of designs and cost estimates for civil infrastructure such as stormwater drainage, intersections, traffic calming, roads, streetscapes and public reserve improvements. Assistant surveyor setting out all of the council's construction work.