

Curriculum Vitae

Dr John Stanley Birtwhistle

Position in Firm:	Director
Profession:	Geotechnical Engineer
Year of Birth:	1969
Nationality:	British
Year Joined Firm	2002
Position on Team/ Specialisation	Geotechnical Engineer Geotechnics/Geology/Landfill Engineering
Education/professional achievements	1990 - BSc in Geology, University of Nottingham 1997 - PhD in Civil Engineering, University of Nottingham 1993 - Member of East Midlands Geotechnical Society 1997 - Fellow of Geological Society 2000 – Member of British Ground Association 2001 – Affiliate Member of Chartered Institute of Waste Management 2007 – Chartered Geologist

Relevant Experience/Key Qualifications

Experience as project manager of major highway projects and landfill design, responsible for technical design, ground investigation, geological interpretation, geotechnical analysis and interpretative reporting. Significant experience in, managing and supervising landfill design and construction, geotechnical and geo-environmental investigations, preparing and appraising interpretative reports, carrying out engineering analysis and design, preparing contract documents, land contamination, remediation and regeneration, undertaking construction supervision and managing projects. Carrying out material assessments, feasibility, hydrogeological and mining studies, independent geotechnical and temporary works checks and advising on construction activities. Range of experience and knowledge of geotechnical techniques wide. Graduated with PhD in Civil Engineering, which included research into landfill engineering, soil mechanics, in particular compaction control and permeability, earthworks design, laboratory testing techniques, waste disposal, geochemistry and mineralogy.

Experience Summary

*2002 to present PSA Design
Director*

Joined PSA Design to provide geotechnical and environmental design experience to complement the multi-disciplinary consultancy. Now one of 4 Directors responsible for an overall turnover of around £700 000 per annum. Responsible for supervision and direction of various-sized teams of civil engineers, technicians, geologists and specialists. In this capacity responsible for the management and technical direction of a wide range of schemes providing a full range of geotechnical/environmental consultancy services to both local authorities and private sector developers. Commissions undertaken include:

- Project Director - Blackpool Airport Runway Extension-overseeing a comprehensive geotechnical investigation on soft compressible soils, geotechnical soil structure analysis, embankment design, ground improvement techniques, pavement design and drainage, ecology and environmental issues.

- Project Director - Central Corridor Improvements Phase 1 on behalf of Blackpool BC working in partnership to develop from a heavily contaminated ex-railway sidings with significant diesel concentration levels a regeneration project including the design and construction of a high-profile landscaped area as part of a £150million Masterplan for Blackpool. Works included assessment and management of contaminated land, ground investigation, risk assessment modelling, foundation design for retaining and climbing walls, ground improvement design techniques including pile design, light weight fill, vibro and soil mix treatment
- Project Director- Brownfield Development schemes for commercial and residential developments responsible for project leadership from inception of development including flood risk assessment, noise, desk study ground investigation works through to managing a team of engineers carrying out environmental, geotechnical, structural, highways and drainage design and supervising remediation and validation elements of the projects. Recent schemes include, Leamington Rd and Whalley New Rd, Blackburn, Old Poplar Foundry, Longridge, Red Scar Industrial Est, Preston, Colne Lane, Colne & Halifax Rd, Rochdale. Sites have broad range of historic industrial contamination including petrol & diesel storage, cotton mills, foundry, vehicle manufacturing, rayon works, various chemical works.
- Ground Investigations-ranging in scope from investigations for single structures to assessments for major construction works, investigation typically includes design and implementation of a wide range of monitoring regimes. Value of contracts managed has ranged between £1000 to £50,000.
- Ground Modelling –geotechnical and contamination assessment of ground conditions using HoleBASE, KeyHOLE and Key TERRA_FIRMA modelling software.
- Consultancy Commission to provide Environmental Impact Assessment advice to a Local Authority
- Bradley's Sandpit, Preston - Design of and programming for lining, leachate management, and capping system for a landfill site in close proximity of a sensitive aquifer. Supervision for construction quality assurance of basal and sidewall liner and capping works. Project advanced in close liaison with the waste regulation authority within a risk management framework. LSS Volumetric modeling for landscaping, void and earthworks calculations.
- Contamination Desk Study and risk assessments for various sites including Olympus Car Wash, Wigan, Gaskell Motor Bodies, Accrington, Victoria Dock, Hull, Hill Top Colliery and Holden Gate Landfill Sites, Todmorden, Touline Red Scar Development, Preston Blackpool Airport, Blackpool, TDG Projects & Long Lane, Longridge, Cuerden Way, Preston.
- Landfill Closure reports for Hill Top Colliery and Holden Gate Landfill Sites, Todmorden including ground investigation, stability design and risk assessment.
- Foundation design for various housing/commercial projects in UK
- Geotechnical design for various ground stabilization schemes including shallow mine workings, grouting, slope stability, ground improvement techniques, earthworks assessments. Projects include Rotherham Housing Development, Goosnargh Mill Landslip, Oswaldtwistle housing project, Singleton's Dairy, Longridge.
- Advice on waste management/earthworks issues for development of golf courses through conversion of land use including exemptions to waste licensing technical input into environmental assessments.
- Provision of technical advice and assessment of environmental risk and liability for local developer in Croston, Lancs, on land previously gas works site
- Hydrogeological assessment for planning applications on various sites within Lancashire and Yorkshire including Medlar Lane Peat Extraction Plant, Poulton, various fishing pond developments on the Fylde and the M6 Junction 31a development works.

*1997-2002 Babtie Group
Senior Engineer*

Responsible for the technical design and checks on all aspects of specialist projects and part of design teams for geotechnical aspects of major infrastructure commissions. Specialisations and main areas of interest include landfill, earthworks, site and laboratory testing, foundations, highways, reinforced earth, soil nailing, ground anchorages, piling, rock and soil slope stability, ground/structure interaction and contaminated land.

Landfill

Has undertaken the investigation for and design, supervision and construction of a wide variety of major landfill works projects. Work has included interpretation of site control, Construction Quality Assurance of liner and capping works, material suitability assessment using novel lining systems, design of hazard control measures, waste management issues and groundwater management design. Geotechnical design of lining, landfill gas, venting, leachate management, and capping systems. Assessment, interpretation and reporting of gas and leachate monitoring. Development of remediation designs and involvement in the preparation and development of Regulation 15 assessments. Prediction of long term deformations associated with landfills and research into soil structure interaction modelling of permeability-compaction-testing relationships. Projects include: Bemersley Landfill, Staffordshire - Design of hazard control measures within landfills for landfill fire. Figham Pasture, Beverley - Preparation and development of Regulation 15 assessment focused on the threat posed to the underlying chalk aquifer.

Milton Keynes Green Centre- Geotechnical appraisal of landfill engineering issues for the planning permission of a £350M Integrated Waste Management Facility.

Rumur Hill, Staffordshire - Landfill gas management and safety appraisal for restoration project. Risk assessment, interpretation and reporting of gas and leachate monitoring.

Environment Agency R&D - Tender bid for Accelerated Permeability Test and specialist consultant on technical permeability aspects for EA National Steering Group.

Environment Agency – Specialist consultant to edit National Guidelines of Guidance on Engineering Practice in Landfill Engineering

The Avenue, Chesterfield – Design of potential options for landfill on a heavily contaminated ex-coking works.

Earthworks

Specialist experience of assessment of acceptability for re-use and classification of a wide variety of materials. Design and supervision of earthworks control on major highway schemes. Development of specifications for earthworks and design for specialist lightweight fills. Construction sequence analyses in connection with general earthworks on poor ground, surcharging, use of lightweight fills and of vibrated concrete columns. Supervision of foundation and rock cutting construction. Projects include:

M66 East Manchester - Tender bid including specialist specification of selective re-use and remediation for unsuitable materials.

A13 DBFO Thames Gateway - Tender bid.

M1-A1 DBFO, North Leeds - Supervision of earthworks control in connection with major construction works. Supervision of foundation construction and rock cutting construction up to 20m.

Cockersands - Material suitability design for earthworks control.

River Irwell - Material suitability design for earthworks control.

Leyland Industrial Park - On-site assessment of material suitability, formation conditions and development of specifications for earthworks.

Geotechnical Analysis

Experience in the development of design solutions to geotechnical problems in connection with infrastructure works.

Preparation and reporting of desk studies in connection with a range of development schemes which have included roads, canals, landfills, water, pipeline and sewage schemes. Design, supervision and administration of ground investigations ranging in scope from investigation for single structures to assessment for major construction works. Experience of a wide range of ground investigation techniques including trial pitting, cable percussion boring, rotary coring, dynamic probing and window sampling. Design and implementation of environmental monitoring schemes in connection with contaminated sites and landfills. Works has included working on many associated schemes for the Highways Agency and Severn Trent Water. Projects include:

Berkswell Station - Slope stability analysis and supervision for a railway platform and station building.

Adcote Ford, Shropshire - Slope stability design on a severely eroded river bank.

Neenton Bridge - Ground investigation and analysis for trenchless installation of pipes.

Helsby Viaduct - Ground investigation, analysis and interpretation for bridge on the M53 with severe settlement problems

Moreton Pile Raft - Ground investigation, pavement analysis and interpretation for M53 interchange.

Lindisfarne Castle Stabilisation –Rock fill stability design on a severely eroded sea cliff

Highways

Significant experience in carrying out all aspects of the investigation and geotechnical design or design checking for highway projects. Has acted as a representative of the agent authority, as contractors designer the funder's technical advisor and as independent design checker. The design of earthworks, geotechnical structures and foundations have featured strongly in recent years. Projects include:

M1/A1 DBFO - North Leeds - Geotechnical investigation, construction supervision rock slope engineering, earthworks design and certification, cut and cover tunnel design check and underpass design checking.

M66 East Manchester - tender geotechnical design and detailed design including reinforced earth walls, earthworks design and specification.

A13 Thames Gateway DBFO - tender geotechnical design, and detailed design including preliminary pile design earthworks design and specification.

M6 Area 10 - Geotechnical investigation, supervision interpretation and design for bridge maintenance and improvement

Ribble Link Canal : geotechnical aspects of the tender and detailed design involving the connecting of the River Ribble to the Lancaster Canal: New bridge and lock foundations, earthworks and ground investigation.

St. James' Hospital Car Park, Leeds - design checking and specification on an old municipal landfill.

RAF Fairford - Tender bid for design of airfield pavement.

Foundation design

Significant experience of foundations for bridges, houses, industrial and commercial buildings, ports and harbours and major civil engineering structures. Experienced in the design and construction supervision of piled foundations, reinforced concrete spread footings, pads and rafts. Has dealt with ground improvement systems including D.C., vibro-flotation and vibro-concrete- columns and foundation problems in areas of potential mining subsidence and soft ground.

Projects include:

Middlehaven Dock - ground investigation, interpretation, material assessment, underwater fill design

Lindisfarne Castle Stabilization- Design of soil nailing and anchoring to stabilise rock slope

Newbold Verdon, Leicestershire- Design check of tension piles for sewage plant

Bramham Interchange - Design of industrial and house foundations

A13 DBFO - Design of piled foundations and VCC of several bridges and major road embankments for tender

M1/A1 DBFO - Temporary excavation retention using nails and anchors

M66 East Manchester - Design of piled retaining walls and sign gantries

RAF Fairford - Design of foundations for large-scale fuel tanks

*1993 - 1997 Nottingham University
Research Student,*

Thesis on "Factors affecting the performance of clay liners and cappings for landfill". The main conclusions of the thesis commented upon the following areas of the civil engineering of landfill:

- review of current landfill practice backed by in-depth case studies
- laboratory testing regime examining the fundamental factors affecting the clay liner/capping performance
- assessment of relationship testing between physical and chemical properties of various liner materials
- investigation into permeability both to water and leachate using 5 different permeability test methods
- suction and shrinkage characteristics of clay liners and cappings
- development of new permeability testing equipment
- development of a new shrinkage test
- recommendations for best practice of liner quality assurance for landfill engineering

*1990 - 1993 Baker Hughes Ltd
Geologist*

Petroleum geologist in exploration offshore drilling work throughout the North Sea. responsible for rock and core descriptions and producing geological and engineering interpretative reports.