

# Curriculum Vitae

**Graham Sanderson**

---

**Position in Firm:** Director  
**Profession:** Civil Engineer  
**Place of Birth:** Preston, Lancashire, UK  
**Year of Birth:** 1974  
**Nationality:** British  
**Marital Status:** Married  
**Year joined firm:** 2001  
**Specialisation(s):** Development Infrastructure, Highways & Computer Systems  
**Education/Qualifications:** 1994 - HNC Civil Engineering, Bolton Institute of Higher Education  
1996 - Personal Track Safety Certificate  
1998 - St John's Ambulance, Emergency Aid at Work (Appointed Person)

**Professional Employment:** 1990-2001 -Babtie Group, Consulting Engineers  
2001-Date - PSA Design, Consulting Engineers

## Relevant Experience

Wide experience as project engineer, manager and team leader for various infrastructure and transportation projects within the UK, including highway, drainage, airfield, railway and development schemes.

## Recent Experience

2001 - date                      PSA Design Ltd

- Design of private and adopted Highways and Drainage schemes for a number of housing estates and industrial developments.
- Preparation of Transport Assessments and Green Travel Plans for public and private sector Clients.
- Road safety audits on number of routes throughout Blackpool.
- Preparation of a number of Flood Risk Assessments reports.
- Assisted with ground modelling and contamination assessments on number of projects.
- Designed and prepared contract documentation for over 10km of Cycle Track facilities.
- Preparation of tender documents and design of traffic management systems.
- Undertook non motorised user surveys for an extensive list of sites throughout the north west's trunk road network.
- AutoTrack swept path analysis for a number of developments.
- Set-up, operation and maintenance of office computer network system.

## Previous Experience

1990 - 2001                      Babtie Group Ltd

- Member of the design team responsible for Railtrack's permanent way infrastructure design throughout the North West of England. Involved station regeneration and track re-alignment.
- Design of all infrastructure works and co-ordination of various sub-consultants/authorities on a large industrial estate project.
- Assisted in the Preliminary design of a Millennium funded project to construct new canal navigation.
- Assisted in the assessment of airfield pavement condition for inclusion in a Construction Option Study on site in Gibraltar.
- Assessment of noise and vibration for housing developments close to railways and industrial sites, and the design of suitable attenuation measures.
- Prepared detailed computerised artists impression for the proposed refurbishment of Manchester Victoria Station
- Assisting in various projects throughout Merseyside to provide design and tender documents for the construction of turning heads, demolition of derelict buildings, land reclamation and traffic calming measures for Merseyside Development Corporation.

## Professional Experience

### PSA Design, 2001 – Date

Project Manager and Design Engineer responsible for infrastructure works on a number of Housing Estates and Industrial Developments. Works involved planning, layout design, foul and surface drainage design, highway design, Section 38, 104, 185 and 278 agreements, flood control, storm attenuation, Environment Agency discharge consents and sustainable drainage systems. The Projects involved extensive use of KeyTERRA-FIRMA 3D modelling software and the Micro Drainage design suite. Projects include:-

- Rotherham Housing Development, Yorkshire
- Sand Bank Farm Estate, Preston
- Fulwood Park Business Village, Phase 1,2 and 3, Preston
- Immanuel Housing Development, Oswaldtwistle
- Leamington Road, Blackburn
- Trencherfield Mill Regeneration, Wigan
- The Pastures, Grimsargh
- Crumpax Meadows, Longridge
- Blackpool Central Corridor Development.
- Cuerden Park Business Village, Bamber Bridge.
- Heys Lane, Moorgate Street and Meadowhead Residential Developments, Blackburn

Part of the team involved on the redevelopment of Blackpool's Central Corridor works. Works involved complete redesign of highways and large car parking areas incorporating sustainable drainage systems. Assisted the geotechnical modelling of a number of areas including the removal of Bloomfield Road Bridge.

Member of the team working on the transport assessment, green travel plan, site layout and junction design for the proposed relocation of James Hall's main distribution centre. Project involved a detailed transport assessment including the traffic modelling of major motorway exit and entry roundabouts using TRANSYT, PICADY and LINSIG. The scheme also required the redesign of the roundabouts to accommodate the increase in traffic flows by utilising dedicated slips, part-time traffic signals and the alteration of road markings.

Assisting with the preparation of ground investigations, contamination desk studies and land quality assessments for a number of projects throughout the North West. Modelling included extensive use of the HoleBASE and KeyHOLE computer package to log existing contaminants and ground strata and report on current ground conditions.

Project Manager on the Trencherfield Regeneration Project. The scheme comprises of the refurbishment of the redundant Trencherfield Mill to house over 250 residential apartments. The redevelopment also saw the construction of an office unit, café, hotel, restaurant and arts heritage centre. PSA were responsible for the production of the transportation assessment report and green travel plan. Preparation of Section 278 works for the redesign of the existing site entrances. Internal highway and car park layouts, including construction design, specification and setting out details. Assessment of the existing drainage facilities and commissioning and supervision of CCTV surveys. Preparation of Section 185 sewer diversion of an existing 600mm foul sewer running through the site. Negotiation with United Utilities, British Waterways and Wigan Council for the diversion and proposed collection of surface water sewers.

Worked on behalf of Blackpool Borough Council to assist them in undertaking a number of scheme audits throughout their road network. Projects involved the road safety audits of over 50 recently constructed improvements to assess their condition, compliance with current specifications and guidelines and overall safety from all users point of view. Also responsible for the assessment of a number of roads and junctions to assess the suitability for cyclists in terms of safety and operation.

Carried out Flood Risk Assessments for a number of schemes throughout the North West. Most recently prepared a report for the proposed Wyre Park Development on the banks of the River Wyre. The site lay within Environment Agency Flood Zone 3 and was subsequently passed for approval.

Carried out detailed design of Cycle Path routes between Burnley and Colne on behalf of Lancashire County Council. The project involved the layout design of approximately 10km of new cycle routes to integrate with the existing provisions. Both on and off-line designs were used to maximise safety, whilst keeping within a tight construction budget. A Bill of Quantities and Specification was then prepared on behalf of LCC for their use with the in-house Contracting Team.

Sub-consultant responsible for junction modelling on behalf of Mott Macdonald for the proposed Liverpool LRT system. Project included detail modelling of all traffic signalised junctions using LINSIG software. Pedestrian, LRT and vehicle phases were built in and optimised.

Responsible for highway and drainage infrastructure design on Crumpax Meadow, Longridge, Preston. Crumpax Meadow is a proposed residential road to serve approximately 13 new dwellings. The Client (A Riding Builders Ltd) required that all works be adopted by Ribble Valley Borough Council (RVBC). Design work involved all associated works with such a development including, preparation of drawings to adoptable standards for roads, footpaths, verges, signage, main services runs, main surface and foul sewer drainage. Close liaison had to be maintained with RVBC in order that the scheme could satisfactorily progress through adoption.

Preparation of Tender documents for remedial works to a sandstone boundary wall in Liverpool. Liverpool City Council specifically required a full Traffic Management scheme to be implemented due to the proximity of a local school & busy pedestrian area. The work involved the restoration of a 2m high sandstone wall and had to meet the specific requirements of the local conservation officer. Responsibilities included the identification of works on site, design of suitable proposals to remedy the identified problems, the design of a one-lane closure traffic management system to the satisfaction of LCC and the Local Police, preparation of schedule of works and specification. The documents were issued to three contractors for a competitive tender and those tenders were analysed upon return. The work is currently about to commence on-site where we are responsible for site supervision. All works are undertaken under a JCT Minor Works contract.

Undertook None-Motorised User (NMU) surveys on behalf of Lancashire County Council (LCC). LCC require the survey of approximately 240 sites along major routes throughout Lancashire. The surveys are undertaken to acquire a full picture of all aspects of NMU crossing points including their suitability, adequacy and most importantly their safety in terms of visibility, suitable crossing time, condition, etc. This information is then issued to LCC for them to include within a final assessment of a regional database to prioritise upgrading and maintenance programmes throughout the area.

Responsible for the production of a Transport Assessment on behalf of Sefton Council's leisure services department. Sefton Council are hoping to develop a new Leisure Centre facility including associated swimming pool within Formby. PSA were commissioned to undertake a full Transport Assessment to evaluate the potential impact of the scheme on the area. Personally responsible for the collection of all existing data and traffic surveys. Analysis of impact of all modes of transport likely to use the proposed facilities including public transport & non-motorised users on a local and regional scale. Final report included estimated traffic growth generated and conclusions to the expected impact of the scheme.

### **Babtie Group, 1990 - 2001**

Structure and platform gauging Engineer on Railtrack's permanent way infrastructure. Work includes specialist detailed site surveys, kinematic and static analysis of all rolling stock using specialist analytical software (Laser Rail – Clearoute), detailed design of station platform construction, platform and track alignment, platform drainage, station access road and car park reconstruction/improvements and preparation of contract documents for subsequent construction work, including the supervision of it.

Responsible for the Moss Side Development Park scheme on behalf of Conlon Construction Ltd. The Development Park will comprise of major office, industrial and distribution development on a total site of some 33 acres in Leyland, Lancashire. Babtie's were responsible for the Infrastructure works which included the preparation of drawings to adoptable standards for roads, footpaths, verges, signage, street lighting, main services runs, main surface and foul sewer drainage. Road design included initial layout preparation through to MOSS input and analysis, and finally detailed

AutoCAD presentation. In order to prepare all roadwork's drawings close liaison had to be maintained with sub-contractors, client, local authorities, planning supervisors and architects to ensure a co-ordinated approach. Work is due for completion late 1998 at which time As-Built drawings will be prepared.

Member of team involved on the Railtrack Station Regeneration Programme (around £5 million pounds in value). Undertook initial site inspection of some 30 stations and depots in the Midlands Region, analysed the data collected to prepare feasibility studies, completed detailed design and finally issued instructions and drawings to enable the regeneration of the stations.

Involved in the scheme preparation of the Ribble Link Navigation, a Millennium funded project on behalf of the Ribble Link Trust. Contributed Engineering input to the design of a 5.5km navigation linking the Lancaster canal to the River Ribble, providing a missing link to the local canal network. Responsible for MOSS modelling and preparation of public display material.

Babtie Group was commissioned to undertake an airfield pavement assessment for Gibraltar Airport. Spent 1 week abroad on site at RAF Gibraltar to complete a detailed runway and taxiway surface assessment. The assessment was accomplished under very strict MOD safety and security standards and led to the preparation of a report to identify problem areas and recommend suitable remedies.

Assessed noise and vibration on several sites for Holden Homes (North West) Ltd and designed suitable attenuation measures for each site. The developments were adjacent to industrial areas and railway stations. Also undertaken similar calculations for air quality and noise levels along the M6 Carlisle to Guards Mill extension.

Undertook an investigation to develop the Dock Road, Liverpool. Responsibilities included the development of suitable layouts to offer economic and environmentally sound proposals to assist in the traffic claming and parking facilities along approximately 1.5km of a strategic class A route. The scheme also involved upgrading the area surrounding the route including developing adjoining roads and providing suggestions for landscaping and street furniture layouts.

Member of the team involved on the A494/A55 Ewloe Interchange Improvements/A55 Ewloe to Northop Widening on behalf of the Welsh Office Highways Directorate. The feasibility study identifies and assessed options to remodel and existing major grade separated interchange and widen some 9km of the A55 trunk road to dual 3 lane motorway standards, at an estimated cost of £30m to £35m. Responsibilities involve geometric design of interchange links and carriageway widening to departmental standards through to the final drafting of engineering drawings. Attended Public Consultation Exhibition to promote preferred routes. Offered technical advice to Council officers, business and general public to assist them in understanding and commenting on the proposals. The exercise resulted in a number of alternative layouts being promoted by local groups which Babtie Group investigated on behalf of the Welsh Office. Involved in the design, costing and consultation with the relevant promoters of the aforementioned schemes.

Supervisor based on site in charge of 5 survey teams in collection of 'MARCH' visual condition survey data on roads at various locations in Cheshire. Some 740 sites were visited throughout the county, amounting to approximately 220km of both Principal and Non-Principal road network. Responsibilities included the programming of work, supervision of teams on daily basis, carrying out random QA checks, collating and downloading data to a central lap-top computer, comparing that data and analysing its significance, and finally, preparing the information into a compatible format for issue to the client, Cheshire County Council. The survey spanned a duration of just over 1 month and required extensive use of Husky Hunter data capture equipment and MARCH database programs.

Member of the teams involved in Highways Agency DBFO projects including the development of the A590 High and Low Newton and A65 Hellifield Long Preston Bypasses.

Responsible for the initial site survey, geometric design and production of engineering drawings for a 2km access road at Dunald Mill on behalf of Tarmac Quarry Products Limited. Work involved re-routing quarry traffic away from nearby villages by providing a safe and economic alternative. Alignment design required extensive use of MOSS highway modelling package.

Assisted in collection of relevant data to build WATNET modelling systems throughout various locations in Cumbria. Responsible for data collection on site, including pressure and condition reports on local water networks along with detailed linear surveys.

Assisted in the preparation of an Asset Management Plan on behalf of North West Water Limited for the wastewater Treatment works in Lancashire and Cumbria. Involved in preliminary site surveys to obtain required information, extraction of relevant summary data from field sheets and computer input for compilation of Asset Summary Sheets. Collation of complete data from field sheets and preparation of systematic records of all data.

Assisted in the preparation of a Scheme Identification Study, including traffic and accident data analysis for the A69 trunk road between M6 at Carlisle and Hexham (50km), to identify an improvement strategy for the Department of Transport.

Member of the teams involved in preparation of feasibility studies, design and contract drawings and documents, calculation of earthwork quantities, preparation of cost estimates and land reference schedules and assisting in public enquiries for the following trunk road schemes on behalf of the Department of Transport, Northern Regional Office.

A590 Dalton-in-Furness Bypass	(£9m)
A590 Ulverston to Dalton Bypass	(up to £25m)
A590 High and Low Newton Bypass	(£10m)

### **IT Systems and Software**

Familiar with the use of a large variety of computer software packages operating under a Microsoft Windows system environment, including the extensive use of: -

Microsoft Word, Excel, PowerPoint and Publisher, WordPerfect, Lotus 1-2-3  
Adobe Photoshop, Ulead Photo Express, Harvard Graphics, Corel Draw, MGI Photosuite  
AutoCAD Versions 12 through to 2006  
MX MOSS including MX Rail.  
LaserRAIL track and platform gauging software  
KeyTERRA-FIRMA  
HoleBASE  
KeyHOLE  
WinDES Micro Drainage  
AutoTRACK

Supervisor in charge of general maintenance and running of office network facility and software support at both Babbie Group and PSA Design, Babbie Group included a total staff of 90 people with approximately 60 PC's.