

# Byland Engineering Limited - Curriculum Vitae

## William Frampton, Director & Geotechnical Engineer

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Profession: Geotechnical Engineer  
Year of birth: 1976  
Nationality: British

Specialisation: Engineering Geology & Geotechnics

Education/professional achievements:  
1998 - BSc (Hons) Geology, University of Bristol - 2,1  
2005 - MSc Engineering Geology, University of Leeds - Merit  
2005 - Fellow of the Geological Society  
2007 - Graduate Member of the Institution of Civil Engineers  
2007 - City and Guilds Level 3 2D AutoCAD - Distinction  
2013 - Chartered Geologist  
2014 - UK Registered Ground Engineering Professional  
2019 – Yorkshire Geotechnical Group Chair

### Relevant Experience

Over 16 years' experience in geotechnical engineering on projects throughout the UK. Particular experience has been gained in ground investigation and design of geotechnical structures for highways, railway, maritime and private sector projects. Expertise has been gained in the following areas:

- Planning, supervision and reporting of site investigations
- Inspection and assessment of infrastructure earthworks and slope stability assessment
- Geotechnical and structural design of piles, ground anchors and soil nails
- Geotechnical and structural design of embedded retaining walls
- Design of working platforms for tracked plant
- Design, supervision and reporting of mine working remediation
- Site supervision of construction and remediation of railway earthworks

Proficient in the use of geotechnical analysis software including gINT, Piglet, Wallap, Repute 2, GRLWEAP, Talren & Oasys Slope, Pile, Adsec, Alp, Pdisp & Xdisp.

### Experience Record

#### Highlighted Projects September 2014 to Present: Byland Engineering Limited

##### **Battersea Power Station Redevelopment Phase 3 Temporary Removable Ground Anchors**

Design of temporary removable multi-stage ground anchors to support both secant and sheet piled walls including the design of the anchor head connection detail and preliminary anchor reaction block.

##### **Newmark UTX Cat III Design check**

Design check of a pipe jacked UTX beneath the East Coast mainline. Calculations were undertaken using the Oasys XDisp software to determine the settlement associated with the pipe jack installation. Pipe strength was assessed in accordance with BS EN 1295-1.

##### **A1 Coal House to Metro Centre Soil Nailing**

Design of soil nailed slopes to enable widening of the A1 through Newcastle. The soil nail design was undertaken using the Talren computer software. The works included the design of both the soil nail and flexible facing system elements.

##### **Manchester Airport UTX**

Settlement check of directionally drilled service ducts beneath the taxi way and apron at Manchester airport. Calculations were undertaken using the Oasys XDisp software.

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### **Doncaster Intercity Express Programme**

Design of bearing piles in difficult and variable ground conditions to support a new train maintenance depot. The ground conditions were complex with a geological fault resulting in contrasting conditions at either end of the building. The design used CPT data to optimise pile design parameters.

### **January 2013 to June 2014: Geotechnical Engineer, Donaldson Associates Limited**

#### **Borders Railway Earthworks Design and Construction Supervision**

Work on this scheme included the following aspects:

1. Office based design of earthworks packages for sections of the 50km route including cuttings, embankments and widening/remediation of existing earthworks. Designs were undertaken in accordance with Eurocode 7.
2. Site based for 1 year as Designer's Site Representative for Earthworks undertaking verification of design assumptions and providing technical support services to the construction team, including supervising rock slope remediation and soil nailing of slopes. An additional aspect was providing geological advice during the lower of an existing tunnel invert to provide enhanced clearance to the structure.

### **June 2012 to December 2012: Engineering Geologist, URS Corporation**

#### **Borders Railway Mining Remediation**

As part of a team designing the mining remediation scheme for the construction of the Borders Railway in Mid-Lothian and the Scottish Borders, duties included determination of ground models over a large area, assessment of ground investigation data for mining, determination of treatment requirements and production of Grouting Specifications.

### **January 2007 to May 2012: Geotechnical Engineer, Byland Engineering Limited**

Experience includes the following projects:

#### **A1 Dishforth to Barton Under Road Crossings – Settlement Calculations**

Assessment of the likely settlement associated with directionally drilled under road crossings beneath the A1. Settlements were assessed using both hand calculations and the Oasys Tunset program.

#### **Stowmarket Relief Road – Bridge Abutment Piles**

Design of piles to support bridge abutments being constructed as part of a relief road crossing the main railway line and River Gipping. The design included assessment of borehole and CPT data to enable design of piles in highly variable ground conditions along with design of associated load transfer platform piles and test piles being constructed as part of the Stowmarket Relief Road.

#### **Forth Replacement Crossing – Grontmij Secondment**

Part of a team designing earthworks for the approach roads to the new Forth Crossing including embankments and cuttings.

#### **GSM-R/FTN works**

This project for the construction of a series of telecom masts and line side cabinets across the UK railway network being carried out by Skanska UK Civil Engineering. The work included the following elements:

1. Ground investigation work at proposed mast sites comprising hand probing or windowless sampling and dynamic probing.
2. Design of micropile foundations to support masts for over 75 locations
3. Surveying of locations for Trackside Equipment Housing cabinets
4. Production of AutoCAD design drawings for cabinet installation

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### **Derby Riverlights – Pavement Investigation**

Supervision and reporting of the investigation into a failed asphaltic concrete bus station pavement. The work involved the coring and subsequent laboratory testing of cores to determine the possible cause of rutting within the pavement where buses had been waiting on stand.

### **Minworth WWTW – Final Settlement Tank Piles**

Works comprised the design of ~3000 No. CFA bearing piles to support 8 No. final settlement tanks and an inlet channel. The work included design of the piles to withstand both compression and tension loading and also lateral loading. The work was carried out using the Oasys Adsec and Alp programs.

### **Coldwell Reservoir – Sheet Piled Retaining Wall Design**

Design of sheet piled retaining walls for an excavation at the toe of an earth embankment dam to form part of temporary works allowing the construction of a new overflow channel. Design included selection of pile section size and provision of propping forces to allow temporary propping design.

### **Leeds Metropolitan University – Footways Investigation**

Supervision and reporting of an investigation into frost disrupted footways including paved and bituminous surfaces. The works involved hand sampling and reinstatement of existing footways, assessment of laboratory test results to determine the cause of failure of the footways during cold periods.

### **Kilroot Salt Mine**

The work comprised the assessment of geological conditions along the line of 3 options for a proposed new access drift into a salt mine in Northern Ireland. The assessment was based on limited geological information and was augmented with information available in technical papers and from the Geological Survey of Northern Ireland.

### **Hydro Glasgow – Bearing Pile Design**

Design of rock socketed piles to form the foundations for a new Scottish National Arena. Design included assessment of ground, design of piles and lateral loading analysis of the piles using Wallap.

### **Torry Quay, Aberdeen – Harbour upgrade works**

Design or design assistance for cased CFA piles, ground anchors and set calculations for driven steel H-piles using the GRL WEAP computer software. The works form part of a major upgrade to facilities at Aberdeen Harbour and followed on from similar work carried at Commercial Quay in which Byland Engineering were also involved.

### **Corrour – Site investigation**

Supervision and interpretative reporting of a ground investigation including suggested foundation solutions for a proposed new station platform at Corrour, Scotland.

### **South Mimms – Desiccation Investigation**

Planning, supervision and reporting of an intrusive ground investigation to establish the extent of desiccation as a result of the former presence of trees on the site of a research laboratory. Supervision of windowless sampling at site and scheduling of lab testing.

## **October 2005 to December 2006: Donaldson Associates Limited**

### **Graduate Geotechnical Engineer**

Examination of railway earthworks using both aerial photography and on site inspection. On site inspection was carried as an Individual Working Alone (IWA). Other projects included assisting in the production of Form A documents for slope remediation, assessment of settlement beneath structures using VDisp for the proposed Edinburgh Airport Rail Link and assessment of proposed grouting works for the Upper Forth Crossing.