





# Experts in delivering ground investigation and testing solutions.

- **Our ground investigation specialists have expertise in;**  
Drilling, sampling, analysis and reporting of ground information to support follow-on design and construction activities.
- **We are members of ;**  
The British Drilling Association (BDA) and the Association of Geotechnical Specialists (AGS), with all drillers trained to NVQ Level 2 in land drilling.
- **We provide robust data;**  
Giving the necessary information to enable the relevant follow-on trades to minimise subsequent costs and/or programme implications.
- **Investing in innovative digital technology**  
Enabling us to become an industry leading Ground Investigation contractor providing high quality service levels to our clients.
- **Integrated capability**  
Providing an end-to-end service from ground investigation to the largest types of foundation engineering with a 36-year track record delivering supporting commercial, highways, rail, marine, energy and utilities works across the UK.
- **We operate a directly employed, highly trained and experienced workforce and committed supply chain;**  
We deploy our workforce and plant right across the UK via our own FORS Silver registered fleet of specialist low loaders and transit vans.

## We provide an extensive portfolio of professional ground investigation and monitoring services including:

- Comprehensive range of in-house rigs
- Directly employed drilling and testing teams
- Innovative specialist plant, especially for restricted access requirements







# Our Services

## DRILLING & SAMPLING

- Cable Percussion
- Rotary Open Hole Coring
- Sonic Drilling
- Window Sampling

## REPORTING & MONITORING

- Gas and Groundwater Monitoring
- Noise and Vibration Monitoring
- Laboratory Testing
- Data Analysis and Factual Reporting

## PILE TESTING

- Integrity Testing - Sonic Echo and Thermal Integrity Profiling (TIP)
- Dynamic Testing - CAPWAP
- Static Load Testing

At Strata Geotechnics, we take great pride in our ability to value engineer schemes and the testing is a very important part of the cost, programme and risk reduction process. Amongst the various techniques offered are the three most common pile testing techniques:

- Integrity Testing using Sonic Echo - a low cost quality control tool used to detect defects along the pile shaft and is typically carried out on 100% of piles on a project.
- Dynamic Testing - by striking the pile with a drop hammer, the force and velocity at the pile top can be measured and analysed using the CAPWAP software to predict the pile bearing capacity and load-settlement characteristics.
- Static Load Testing - involves the measurement of load and deflection at the pile top. The load is applied by jacking against a reaction system and the results are recorded on a data logger. Tests are fully controlled and data recorded using our innovative VESTAT automatic Static Load Testing System with in-built telemetry.
- Other specialist test methods are also available including integrity testing using Thermal Integrity Profiling (TIP), Parallel Seismic testing to determine pile length and pile instrumentation to measure various parameters including strain, temperature and inclination.



Cable Percussion Drilling



Reporting



Foundation Testing



Dynamic Sampling

## RAIL

Working closely with Van Elle's specialist rail division, we are able to offer a complete ground investigation package, including provision and operation of Road Rail Vehicles (RRVs) and the latest rig technology.

## HIGHWAYS

Strata Geotechnics has extensive experience of carrying out and managing ground investigations for large highways projects throughout the UK. Our experience covers both on-road works, including large Smart Motorways schemes, or off-road works for new road construction projects.

## RENEWABLES

Strata Geotechnics has experience of carrying out and managing ground investigations for large windfarm projects throughout the UK. Our low bearing pressure rigs and equipment are able to cope with the toughest terrains and restricted access sites.



Drilling on Highways

## What are the advantages of Ground Investigation?

- Limits the risk of unexpected ground conditions during project development
- Mitigates future cost implications and time delays to projects
- Minimises safety risks to site workers and the public





# Case Studies

## Rail

- **White Rose Station**  
**Client:** C Spencer Ltd  
**Overview:** Ground Investigation was undertaken to obtain geotechnical information and design parameters for the construction of a new rail station in south Leeds.  
**Techniques used:** Dynamic Sampling with Rotary Core follow-on (DSRC), Cable Percussion with Rotary Open Hole follow-on (CPROH) and Static Load Testing.



White Rose Station

## Highways

- **A590 Meathop to Beck Heap**  
**Client:** National Highways  
**Overview:** The scheme involved investigating the ground conditions beneath the east bound carriageway, central reserve, and toe of embankment to investigate carriageway settlement along a 1.8km section of the A590 to the east of Meathop roundabout.  
**Rig used:** Cable Percussion, Dynamic Sampling Rig with Dynamic Probe



A590 Meathop to Beck Heap

## Renewables

- **Harburn Head Windfarm**  
**Client:** Enel Viento SL and Arcus Consulting Ltd  
**Overview:** Ground Investigation was carried out to enable the design of foundations, earthworks, roadways and any issues with ground stability due to the mine workings. Utility clearance searches were also carried out to ensure that there were no known services prior to breaking ground.  
**Techniques used:** Cable Percussive extended by Rotary Coring



Harburn Head Windfarm

## Smart Motorways

- **M6 Smart Motorway**  
**Client:** Highways England  
**Overview:** Ground Investigation was undertaken to obtain information on the ground conditions and design parameters for the construction of a Smart Motorway. Works included the on-site ground investigation works, laboratory testing and factual reporting.  
**Techniques used:** Cable Percussive Drilling and Rotary Drilling



M6 Smart Motorways

HS2 Gatemead

## HS2

- **HS2 Gatemead**  
**Client:** Skanska Costain STRABAG (SCS) Joint Venture  
**Overview:** The Gatemead and West Ruislip Embankments required stone columns to be installed underneath to increase the bearing capacity of the subsoil and to mitigate the settlements. Field trials on the permanent works were required to validate the installation parameters and the quality of the stone columns.  
**Techniques used:** Cable Percussion (CP) Drilling and Cone Penetration Testing (CPT). Installation of geotechnical instrumentation and monitoring during Zone Load Testing





# Capabilities and Services

## Cable Percussion



**Dando 2000**

<b>Weight</b>	2.24 tonnes
<b>Length</b>	7.5 metres
<b>Width</b>	1.8 metres (with outriggers)
<b>Mast height</b>	6 metres
<b>Techniques</b>	Cable Percussion
<b>Depth</b>	60 metres
<b>Diameter</b>	150mm to 250mm
<b>Commonly used</b>	G1 in superficial deposits

## Restricted Access



**VETRAK**

<b>Weight</b>	2.5 tonnes
<b>Length</b>	2.8 metres
<b>Width</b>	0.78 metres (with outriggers)
<b>Mast height</b>	4 and 6 metres
<b>Techniques</b>	Cable Percussion within in restricted access sites
<b>Depth</b>	35 metres
<b>Diameter</b>	150mm to 250mm
<b>Commonly used</b>	G1 in superficial deposits

## VEMOG



<b>Weight</b>	13,800kg
<b>Length</b>	6.2 metres
<b>Width</b>	2.45m wide (outriggers contained)
<b>Mast</b>	Comacchio 305
<b>Techniques</b>	Rotary Coring
<b>Depth</b>	60 metres
<b>Diameter</b>	Up to 250mm
<b>Commonly used</b>	Geobore S, Wireline and Rotary Open Holing

## Rotary Drilling



**Comacchio 205**

<b>Weight</b>	2.5 tonnes
<b>Length</b>	3.28 metres
<b>Width</b>	1.15 metres (with outriggers)
<b>Mast height</b>	4.67 metres
<b>Techniques</b>	Dynamic Sampling, Rotary Open Hole Drilling, Rotary Coring and SPT
<b>Depth</b>	50 metres
<b>Diameter</b>	80mm – 200mm
<b>Commonly used</b>	Shallow superficial deposits and rock
<b>Enhanced Productivity</b>	Geobore Wireline Drilling

## Sonic Drilling



**Comacchio 405**

<b>Weight</b>	8.25 tonnes
<b>Length</b>	5.125 metres
<b>Width</b>	2.22 metres (with outriggers)
<b>Mast height</b>	7.745 metres
<b>Techniques</b>	Sonic Drilling, Rotary Open Hole Drilling, Rotary Coring and SPT
<b>Depth</b>	120 metres
<b>Diameter</b>	100mm to 250mm
<b>Commonly used</b>	Superficial deposits and rock
<b>Enhanced Productivity</b>	Geobore Wireline Drilling in rock

**VEMOG lorry-mounted ground investigation drilling system is a versatile, self-contained Unimog drilling rig allowing efficient access and set-up for ground investigation services.**

Road-going all-terrain drilling rig developed by Strata Geotechnics, the VEMOG can efficiently mobilise, manoeuvre and drill as a single vehicle. No requirement for back-up vehicles, trailers and water bowsers.

Fitted with powerful Comacchio 305 mast and dual head - capable of both dynamic sampling and rotary drilling, including Geobore S and Wireline.

The mast is easily set-up off the rear of the unit, stabilised by outriggers within the width of the body, saving shift time in short working windows and avoiding tracking rigs, and loading plant and equipment on and off trailers.

**Winner of 2019 Ground Engineering Award for Equipment Innovation, with judges noting “transferable benefits with the potential to benefit the roads sector through use near to the carriageway edge”.**





# Unrivalled capability and technical expertise:

## Total Foundation Solutions

Full end to end capability  
Investigation - design - construction - test & monitor  
25 specialist ground engineering techniques  
Best value solutions to suit project requirements

## Market Leading Capability

Publicly quoted Group  
120 strong rig fleet  
Over 600 directly employed, specialist workforce  
1100 projects per annum



### GROUND AND SLOPE STABILISATION

Drilling, bulk fill and compaction grouting  
Soil nails and anchors



### GROUND IMPROVEMENT

Vibro stone columns  
Rigid inclusions  
Track bed stabilisation



### RETAINING STRUCTURES

Contiguous and secant piled walls  
Sheet piling and kingpost walls



### OPEN SITE PILING

Rotary bored piles; cased and support fluid, CFA and cased CFA  
Driven precast, steel tube and H piles



### RESTRICTED ACCESS & SPECIALIST PILING

Lorry mounted, restricted access & low headroom tracked rigs  
Drilled piles (various techniques)  
ScrewFast helical and grip piles



### RAIL ENGINEERING

GI, slope, embankment and track stabilisation  
Comprehensive lineside piling techniques and lineside civils  
UK's largest RRV piling fleet



### MODULAR FOUNDATION SYSTEMS

Smartfoot precast ground beams  
Smartbase precast pile caps & gravity pads  
ScrewFast steel modular grillages



### CONSTRUCTION TRAINING

7 classroom, modern training centre, accredited plant facility and rail test track  
Management, H&S, plant and streetworks  
NVQ's & apprenticeships



### IN-HOUSE LOGISTICS SUPPORT

Dedicated transport fleet  
Precast piling and beam manufacturing  
Steelwork fabrication



For more information please contact our specialist team;

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- Members of the Federation of Piling Specialists (FPS) and the British Drilling Association (BDA)
- Network Rail Plant Operator Scheme (POS) provider and Principal Contractor
- FORS Silver accredited transport fleet
- Members of CHAS, Constructionline Platinum, SSIP, SMAS, RISQS Building Confidence, Safemark and SafeContractor
- Supply Chain Sustainability School Gold Member