



# SITE INVESTIGATION – NO STONE LEFT UNTURNED

*Release the Value of Your Land*



Understanding the sub-surface conditions of a site is the crucial first step toward cost effective development. Whether greenfield or brownfield, accurately identifying and collecting data through site investigation is the foundation of optimal, risk-free design.

A site investigation will establish the nature and sequence of the geological strata of the site, including:

- Soil and rock engineering properties
- Soil and groundwater contamination (brownfield sites)
- Groundwater conditions
- Ground gas conditions

The majority of site investigations are undertaken employing a combination of intrusive techniques, including boreholes formed by a variety of drilling rigs, trial pits excavated by hand or by machine, and a range of in-situ methods to determine in ground strength conditions. In-situ methods include Cone Penetration Testing, Dynamic Probing, Dynamic Cone Testing, Plate Load Testing and California Bearing Ratio (CBR) Testing.

Site investigations are unique to each project and should be planned around the project requirements and the most appropriate techniques applicable to the anticipated geology and surface terrain.

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*All requirements for the GI were met and exceeded. Very happy with ERS' performance, particularly site/ post-site management.*  
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Brownfield  
Land:  
any  
previously  
developed  
land that is  
not currently  
in use,  
e.g. a former  
industrial  
site

Site investigations can be broadly split into three categories:

**GEOTECHNICAL** – these investigations are principally interested in gathering data on the physical and mechanical properties of soil and rock as well as the groundwater conditions. They typically inform designers of ground conditions pertinent to all civil engineering and construction projects. These are carried out in accordance with BS EN 1997-2 and BS 5930.

**GEO-ENVIRONMENTAL** – these investigations require the collection of geochemical information on soil, groundwater and ground gas, and are typically required to identify the risks to the wider environment of developments on brownfield sites. If levels of contaminants are found in exceedance of acceptable levels, the data gathered will be used to inform the design of a soil and/or groundwater remediation strategy. These are carried out in accordance with BS 10175.

**COMBINED** geotechnical and geo-environmental investigation – due to social, economic and environmental sustainability pressures, many current sites required for redevelopment are located in urban environments on previously developed brownfield land. Here we encounter the complex interaction of natural soil and rock formations with human activities arising from former construction or industrial processes.



Combined investigations are not just a mixture of both but require careful consideration to ensure that the techniques used do not compromise either the sample quality for geotechnical testing or affect the quality of the geochemical samples, nor act as pathways for the spread of contamination.

A professional, skilled work force is required to gather robust and accurate data – principally including expert estimators, engineering geologists, geotechnical engineers and environmental scientists, along with trained and competent land drillers.



## OUR STORY

ERS' site investigation team grew from the recognition that high quality, robust and accurate data on soil, rock and groundwater environments are critical in understanding the distribution of contaminants to inform the most cost-effective remediation to release the true value of the land. It soon became apparent that this attention to detail was highly transferrable to all forms of site investigation and underpins our ethos today.

Over 25 years we have completed thousands of site investigation contracts across the UK, ranging from small scale trial pitting exercises to multi-disciplinary contracts exceeding £1,000,000.



Greenfield  
Land:  
undeveloped  
land in either  
an urban  
or a rural  
setting, e.g.  
agricultural  
land

Today we have a large and experienced team of engineering geologists, technical field operatives and specialist drilling partners to achieve the aims of your projects.

Our service is backed by industry leading experts in brownfield land regeneration to ensure our standard working practices when investigating complex brownfield sites are of the highest quality.

Being employee owned, we pride ourselves on providing an engaged, fast, friendly and quality service. This begins at the point of your initial enquiry to allow us to fully understand your project requirements, and follows through to the site works and delivery of our field data, presented in a clear and professional manner.

ERS' approach is to understand the investigation objectives and work with clients, consultants and other stakeholders to identify the most appropriate techniques for each site's specific circumstances and ensure high quality data.



## Our services include:

- **Boreholes and in situ testing**
  - Window sampling
  - Cable percussion drilling
  - Rotary drilling
  - Sonic drilling
  - Dynamic probes (DP)
  - Dynamic cone penetration (DCP) tests
  - Cone penetration tests (CPTu)
  - Packer permeability tests
- **Hand excavated trial pits for foundation inspections**
- **Trial pits and trenches**
- **Soakaway testing**
- **Hydro-geological testing**
- **Plate load testing**
- **Borehole monitoring and sampling/ onsite testing, sampling and monitoring:**
  - Gas monitoring and sampling
  - Low flow water sampling
  - Variable head tests
  - Soakaway tests
  - Pumping tests
  - Plate load tests
  - Photo ionisation detector (PID)
  - Portable X-ray fluorescence (pXRF)
- **Laboratory testing - geotechnical and geochemical analysis**
- **Topographical surveys**
- **Factual reporting**
- **AGS data**

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*The ERS site team were excellent throughout, great attention to detail and always on the end of the phone.*

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## Get in Touch

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We carry out our work in accordance with BS EN 1997-2 and its related technical standards, together with the relevant sections of BS 5930 and ERS' own in-house procedures.

Get in touch with our SI team today to discuss your site or ground investigation requirements and find out how ERS can help you

*Release the Value of your Land.*

