BROWNFIELD SOLUTIONS

Case study

Client Name
Viadux, Manchester

Type of Works Completed
Phase I Desk Study, Phase II Intrusive Investigation, Piling Risk Assessment, Remediation Strategy, Construction Monitoring, Grouting Works, Remediation and Verification Works.

Project Overview
The overall Viadux development in Manchester comprises the construction of a 39-storey residential tower, a 76 storey residential tower, connecting podium structure, and conversion of the 1870's Grade II listed masonry viaduct. The towers and podium were to be constructed over the existing viaduct.

Our Approach
A programme of intrusive ground investigation was undertaken to refine the geological and geotechnical understanding of the site. Borehole data was reviewed to confirm consistency in rock strength parameters and soil–rock interfaces, enabling the development of a robust ground model to inform geotechnical design.

Targeted investigations were also completed around the Victorian viaduct piers to assess the nature and condition of historic-made ground arisings. Initial probing confirmed the presence of very loose, highly porous material, presenting a risk to structural stability and requiring further intervention.

In parallel, geo-environmental risk assessments were progressed across multiple phases of the development, adopting a pragmatic, whole-site approach that recognised differing land uses and phasing constraints while maintaining a clear focus on risk control and material re-use.

The Solution
A piled raft foundation solution was recommended for the development. A drill-and-grout stabilisation strategy was designed and implemented around each viaduct pier in order to further stiffen soils below the raft. The works were fully verified by BSL.

Bespoke Remediation Strategies were developed for each phase of the site, tailored to the identified risks and proposed end uses. These strategies prioritised the retention and re-use of materials on site wherever feasible, reducing disposal volumes and supporting sustainable development objectives.

Outcome
BSL's intrusive investigations enabled the design of a bespoke foundation solution for the development, which involved a piled raft coupled with compaction grouting of the loose Victorian-made ground surrounding the viaduct piers.

The phased geo-environmental assessments and remediation strategies ensured the site was safe and suitable for its intended uses, while maximising material re-use and protecting land value. The approach provided the client and wider project team with confidence that geotechnical and environmental risks were being managed proportionately, robustly, and in line with best practice.