
Ground Investigation and assessment in Romsey, Hampshire
– cost effective assessment for residential development

A phased investigation was carried out on a former garage and timber yard in Romsey proposed for redevelopment to residential housing. The developer required a comprehensive investigation to address ground engineering, and potential contaminant concerns. The desk study highlighted potential poor ground conditions and past contaminative uses. The intrusive investigation was specifically designed from the desk study findings saving time and money by preventing unnecessary investigation and testing. Working closely with the project manager, structural engineer and analytical laboratory, a staged investigation and assessment produced the required outcome for the developer in a cost effective, and time efficient manner.

Intrusive Investigation

The intrusive investigation comprised of dynamic probe window sample holes to determine shallow ground conditions and contamination extent. Exploratory holes and samples were screened on site for volatiles including hydrocarbons using a photo-ionisation detector (PID). Cable percussive boreholes were required to determine the ground conditions for deep foundations.

Ground Conditions

The investigation identified that the site was underlain by a generally thin layer of Made Ground, which was underlain by Alluvium/Peat. These near surface layers were underlain in depth by River Gravels (Terrace Deposits) comprising dense sandy gravels, and then by Bracklesham Beds strata comprising dense silty sands and stiff to hard gravelly silty and sandy clays.

Ground Engineering

Foundation loads were recommended to be taken down below the Made Ground and Alluvium/Peat deposits to bear onto the River Gravels (Terrace Deposits) or the underlying Bracklesham Beds strata. Piled foundations were the most appropriate foundation solution for the proposed development, although deep trench fill footings or raft foundations were also considered. Due to the thickness of Made Ground, particularly associated with the existing structures, suspended floor construction was required.



Contamination Findings and Remediation

Chemical tests on materials recovered from shallow depth across the site record locally elevated metal levels. Removal of near surface Made Ground and replacement with clean topsoil/subsoil materials was required within domestic gardens and amenity planting areas. Petroleum hydrocarbon contamination was identified associated with underground fuel storage tanks. The tanks and surrounding contaminated materials were subsequently removed by a specialist team of contractors and supervising consultants.

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