

Contaminated Land Investigation & Remediation – at Sherborne, Dorset

Initial ground investigation on the site of former lock-up garages in Sherborne, for redevelopment to affordable housing by Magna Housing, indicated some contamination by metals and hydrocarbons. David Roche GeoConsulting was commissioned to provide advice on contamination assessment and remediation.



Investigation

Ground investigation was carried out on a phased basis to minimise costs but maximise gain of information. Due to access and reinstatement constraints initial investigation utilised window sample/dynamic probe boreholes for soil sampling and groundwater monitoring. The initial results indicated widespread elevated arsenic together with isolated polyaromatic hydrocarbons probably associated with tarmac. The Local Authority expressed concern regarding potential fuel spillages. Subsequent to site clearance trial pits allowed targeted excavation in potentially contaminated areas. Soil samples were collected and tested which confirmed the absence of petroleum hydrocarbon contamination.

Assessment

A conceptual model of contamination on site was developed. Hydrocarbon contamination was limited to the surface fill associated with the existing pavement which was to be removed as part of the site clearance. Arsenic presence was concluded to be of natural origin but at levels above the SGV (Soil Guideline Value) and hence a hazard to public health. Method Statements for both the Site Clearance works and the Site Remediation works were agreed with the Local Authority advisors, and with the Environment Agency. These included testing of insitu materials after site clearance and testing was also required to confirm the suitability of imported topsoil.

Remediation

Remediation included removal of the original pavement and stripping of natural soils to allow the placement of topsoil above a clean stone capillary break layer which included a geotextile top and bottom and a geogrid layer at the base of the topsoil to minimise future disturbance. Site inspection and topsoil testing confirmed compliance with the method statement. A Validation Report was prepared to the satisfaction of the regulatory authorities which allowed discharge of planning conditions.



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