
**OUTLINE REMEDIAL STRATEGY
CHARLTON STREET, CAMDEN, LONDON, NW1 1JD**

Background

Bleriot Construction Ltd is proposing to conduct the required remedial works at the residential property at 31 Chalton Street, London as part of their requirements under the planning process. This document is intended to summarise the investigation works that have previously been undertaken and to make recommendations on the appropriate remedial criteria to be adopted and the best remedial solution to achieve them.

It is understood that the redevelopment comprises the refurbishment of a commercial unit into a two-storey residential property, with an extension to the rear and hard standing paving.

Previous Reports

In December 2008 an Environmental Site Assessment Report was undertaken by WD Environmental Ltd⁽¹⁾ comprising a desk study, Stage 1 Risk Assessment, intrusive investigations and laboratory testing. Made ground was confirmed within the upper 0.60m overlying London Clay down to a proven depth of 3.00m. No groundwater was observed during intrusive investigations onsite. A small terraced commercial unit was identified as having formerly been on the site along with a former leather works located in the immediate vicinity on the western boundary of site.

Laboratory testing was conducted on soils that included a general suite for heavy metals and hydrocarbons. Elevated hydrocarbon and heavy metal concentrations, including lead, arsenic, benzo(a)pyrene, naphthalene and dibenzo(ah)anthracene, were identified in soft standing ground at the rear of site highlighted on Figure 1. These identified elevated concentrations in the upper 0.60m of the rear garden that would require remedial action.

At the time it is noted in the Planning Officer comments (Rachel Stopard) that Camden Borough Council⁽²⁾ considered the scope of the investigation to be appropriate for the site. Camden confirmed that there is one area on site that would require remedial action between 0.30m to 0.60m. Certificates and onsite validation of imported material would be required along with waste receipts of the excavated material.

Conceptual Model Following Development

A conceptual model comprises an assessment of active pollutant linkages between *source-pathway and receptors*. The site is known to be for residential use in a residential setting and hence there is a potential risk to human health. There are no known controlled water or environmentally sensitive receptors that have been identified to be at risk in the vicinity.

Potential Sources

Previously the site comprised a commercial unit and bordered a former leather works and hence there is a potential risk of contamination to the subsurface from the former use. Potential contaminants include heavy metals, aliphatic and aromatic hydrocarbons.

Potential Migration Pathways

The development comprises a two-storey residential property with a hard-standing back garden with the areas containing contaminants under the hard-standing rear area. The current potentially active exposure migration pathways to human health are via dermal contact, dust, ingestion, vegetable intake and outdoor inhalation.

There is unlikely to be any significant migration off site of contaminants via groundwater migration and hence the risk to offsite residents is considered to be low.

Potential Receptors

The only potential receptors will be future human occupants on site.

Remedial Criteria

DEFRA's announcement on the "Way Forward" in June 2008 had resulted in the withdrawal of the Soil Guideline Values (SGV's) following a revision of the CLEA algorithms. Since this time, DEFRA have been releasing revised SGVs for a select number of contaminants with LQM also revising their values accordingly. GACs are now available for a number of scenarios with different soil organic matter (SOM). No GAC is available for lead and WDE will use the previous SGV as guidance only.

For the conceptual model of the site provided above, the proposed remedial criteria for this site will be based on the following GACs for residential with plant uptake. WDE assume a 1% SOM for all of their GACs as a conservative assumption.

Contaminant	GAC /Remedial Criteria (mg/kg)	Source of Data
Arsenic	32	2009 SGV
Cadmium	10	2009 SGV
Chromium III	3,000	2009 LQM
Chromium IV	4.3	2009 LQM
Copper	2,300	2009 LQM
Mercury	170	2009 SGV
Lead	450	Old SGV
Nickel	130	2009 SGV
Selenium	350	2009 SGV
Zinc	3,700	2009 LQM
Benzo(a)pyrene	0.83	2009 LQM
Dibenzo(ah)anthracene	0.76	2009 LQM
Naphthalene	1.50	2009 LQM

In addition, a sum total petroleum guideline value of 250mg/kg will adopted for comparison purposes only. If this value is exceeded then additional speciation will be required in the form of aromatic/aliphatic split and comparison with appropriate GACs.

Proposed Remedial Methodology

The anticipated of volume of soil requiring remedial source removal is between 4m³ and 8m³. There are known to be width restriction limits for equipment of ~1.00m to the rear yard making it only practical to use excavation hand tool methods.

It is proposed to use source removal as the primary remedial technique and adopt the following remedial strategy:

1. Source removal of soft standing material at the rear of site to depth of 0.60m
2. On site screening and laboratory testing of in-situ soils at the base of the excavation
3. Onsite validation of imported surface cover and soil sampling for laboratory analysis

WD will be on site to undertake verification of the remedial works to ensure that the remedial criteria have been achieved. Any waste materials that are removed from site will require transportation by a suitably licensed waste carrier to an appropriate licensed landfill site. Copies of waste transfer notes will need to be made available to WDE for inclusion in their report.

On completion of the works a Remedial Verification Report will be prepared for submission as part of the discharge of planning application. The report will document the remedial works undertaken, include copies of all laboratory testing certificates and waste transfer notes and will demonstrate that the site should now be considered to be suitable for the intended use.

References:

1. 2008 WD Environmental Ltd. Environmental Site Assessment. Chalton Street, Camden, London
2. 2009 London Borough of Camden, Decision of Planning Report. NW1 1JD. Application No 2009/0054/P



Legend:

-  Site Boundary
-  Remedial Area

Approx Scale:



Notes:

1 Base drawing taken from
Envirocheck Report:26582037_1_12000

Plan Showing Areas Requiring Remediation