



Stage 1: Desktop Study & Walkover Survey

at

53 Agar Grove,
Canteloves,
London,
NW1 9UE

for

WEBB YATES

Job No. 13.7883
December 2013



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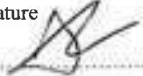
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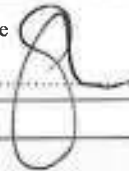
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Date:

18/12/13

REPORT REVISED (response to significant changes in client requirements, methods of work etc).

Name:

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Date:

Nature of revision:

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TRADING TERMS

Unless specifically stated within the tender/quotation or unless identified within the introduction to this report it is confirmed that this report has been compiled wholly in accord with Constructive Evaluation Limited's terms of engagement.

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The following notes should be read in conjunction with the report. Any variation to the general procedures outlined below are indicated in the text.

Foreword

The recommendations made and opinions expressed in the report are based on the conditions revealed by the site works as indicated on the site record sheets, together with an assessment of the data from the insitu and laboratory testing or in respect of the desktop reports. No responsibility can be accepted for conditions that have not been revealed by the research, for example, due to inaccuracies in the data. While the report may offer opinions, these comments are for guidance only and no liability can be accepted for their accuracy.

Routine Sampling

During the site investigation, soil, water and leachate samples have been taken in accordance with recommendations within BS.5930: 1990, & BS.10175: 2011. All samples have been marked accordingly, and stored under suitable conditions to prevent any deterioration of the specimen (e.g. volatilisation of hydrocarbons). All samples have been placed in suitably labelled sealed plastic containers and sampling equipment cleaned between sample locations to prevent possible cross contamination.

During the compilation of desktop studies a number of sources have been contacted in order to provide any relevant information regarding the site in question. The sources contacted provide their own Terms & Conditions with regard to the data provided. As such, each source, e.g. Sitescope, Council Websites, etc. must be considered only in relation to these individual Terms & Conditions. All research has been carried out in accordance with recommendations within BS.10175: 2011.

The method of construction employed to form trial pits is entered on their records. In general, it is not possible to extend machine excavated trial pits to depths significantly below the local water table, especially in predominantly granular soils. Except for manually excavated pits, and unless otherwise stated, the trial pits have not been provided with temporary side support during their construction, hence personnel have not entered them and examined the strata or any construction details so exposed.

Laboratory Testing

Unless stated otherwise within the text, all laboratory tests have been performed in accordance with the requirements detailed in British Standards 1881:1990 or other standards or specifications that may be appropriate.

Regulatory Bodies

After the compilation of desktop study and walkover survey or site investigation works all parties must communicate with regulatory bodies including the Local Authority (both Planning & Environmental Health) and the Environment Agency. It must be accepted that further requirements may develop. It is possible that aspects of desktop study may need to be altered to conform to the requirements of the regulatory bodies.

Definitions

Reference to the word "contamination" in this report does not relate to the statutory definition of contaminated land under 1990 Environmental Protection Act unless otherwise stated. The definition used in this report is: "Land that contains substances that, when present in sufficient quantities or concentrations, are likely to cause harm, directly or indirectly, to man, to the environment, or on occasion to other targets" (NATO CCMS, 1985).

Walkover Survey

It should be noted that a walkover survey is designed as a brief inspection of the site in question, however every reasonable effort has been made to access all areas of the site, areas where this has not proved possible will be referenced in the text. The site reconnaissance is undertaken with permission of the client after the document search is completed with the aim of recording any further aspects of the site not revealed by the desktop study however this does not in itself guarantee that every possible risk has been seen.

Conceptual Model/Risk Assessment/ Sampling Regime

The conceptual model, Risk assessment and sampling regime has been formulated in accordance with BS10175:2011 and CLR 8 based upon the relevant information gained from the desktop and walkover survey. While the model and assessment offer opinions and interpretations of these guidelines, the comments made are for guidance only and no liability can be accepted for their accuracy.

Restrictions

In some instances a site investigation must be separated into two stages, depending on the access to the sub soils at the time of the initial site attendance. It must also be noted that in many instances the access afforded is restricted due to continuing activity on the site. In such instances all reasonable effort were to achieve maximum sampling coverage. This does not imply a guarantee that inaccessible areas are similar.

Ceform 03/2004

CE Ltd 2004

1.0 INTRODUCTION

Constructive Evaluation (CE) Limited were instructed by Webb Yates Engineers (EQ9040, 31st October 2013) to carry out a Stage 1: Desktop Study and Walkover Survey at a site known as 53 Agar Grove, Cantelowes, London, NW1 9UE.

It is understood that an existing building which is partly demolished and the associated gardens have been identified for re-development for new residential block of five storeys and 3 mews houses with a basement to the five storey block.

The client instructed CE to undertake an environmental risk assessment to enable determination to the potential source – pathway – receptor linkages associated with the site and surrounding environs historical and current context. This will help to formulate a suitable targeted Site Investigation in the future if required.

The purpose of the Desktop Study was to provide information on:

- The expected geology & hydrogeology.
- The development history and most recent use.
- Potential sources of contamination.
- To enable the development of a Conceptual Site Model (CSM) and risk assessment.

This report presents results of the assessment, including historical Ordnance Survey maps and published geological & hydrogeological maps, as well as information from various sources such as Centremaps.

The report has been formulated in accordance with BS10175:2011 *Investigations into Potentially Contaminated Sites – Code of Practice* and CLR11 – *Model Procedures for the Management of Land Contamination*, and from Planning Policy Statement (PPS) 23 – *Planning & Pollution Control*.

2.0 PHYSICAL SETTING

The following observations are taken from published maps, which can be reviewed within Appendix B.

The site is located in the London Borough of Camden and is centred on a National Grid Reference (NGR) 529840, 184390 with a site area of approximately 0.04 hectares (Ha).

2.1 Geology

The relevant 1:50,000 British Geological Survey Map 256 (North London) indicates the site to be directly underlain by bedrock geology of the London Clay Formation.

London Clay Formation: The London Clay Formation typically consists of dark bluish to brownish grey, stiff heavily fissured Clay, containing variable amounts of fine grained sand and silt (particularly at the top and base of the deposit), weathering to orange brown clay near surface.

Geological Hazards – On site there is considered to be a moderate risk from shrink swell clays, a very low risk from collapsible rocks, and a negligible risk from running sands, landslides and compressible ground.

Radon Affected Areas/Protection – The site is not located within a Radon Affected Area, as less than 1% of properties are above the Action Level. No radon protective measures are necessary for any new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment.

2.2 Environmental

2.2.1 Hydrogeology

Aquifer within Bedrock Deposits – The site is underlain by unproductive strata which is rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Groundwater Abstraction Licences – Of the thirteen records within 2000m the closest is located 344m south for general use relating to secondary category (high loss).

Potable Water Abstraction Licences – There are four records within 2000m, the closest of these is 1075m west and is for drinking, cooking, sanitary and washing.

Source Protection Zones (SPZ) – The site is not situated within a groundwater SPZ.

2.2.2 Hydrology

Surface Water Abstraction Licences – There are five records within 2000m, the closest of these is 778m south for make up or top up water.

Surface Water Feature – There are no records listed within 250m.

Flooding – There are no Zone 2 or Zone 3 floodplains, no flood defences, no areas benefiting from flood defences and no areas benefiting from flood storage within 250m of the site.

3.0 SITE CONDITIONS

3.1 *Site Description*

An Environmental Scientist from CE completed a walkover survey on 17th December 2013.

The site is accessible by vehicular means on St. Pauls Crescent to the west and pedestrian means on the southern boundary along Agar Grove.

The site consists of two semi-detached residential properties of which the western house is in a state of disrepair and as such it is surrounded by wooden hoarding. There are garden areas to the rear (the north) and what appears to be an area that was previously patio slabs to the front (the south).

The houses are of brick construction and the one intact was three storeys, however, it was not possible to gain access to the houses given the structure was deemed unstable.

The gardens to the rear, separated by a low brick wall, are largely over grown with buddleia, brambles, ivy and several small trees. Construction materials/waste was also present within the garden area generally consisting of bricks and timber.

It is understood that the area to the front of the properties previously had Japanese Knotweed growth, however, at the time of the walkover this had been cut back with only stumps remaining which had been painted blue. It was noted that a small growth was present on the street side of the hoarding.

3.2 *Surroundings*

The site is surrounded on all sides by residential properties which largely make up the surrounding area.

Photographs from the walkover can be reviewed within Appendix A.

3.3 *Potential Sources of Contamination - Walkover Survey*

On-Site

- Remnants of Japanese Knotweed.

Off-Site

- None identified.

3.4 Site History

The following observations are made based on the available historic map extracts presented in Appendix B of which the most salient points have been discussed in relation to the site and surrounding environs.

<i>Date</i>	<i>Observations</i>	<i>Potential Contaminants</i>
1871	The earliest available maps show the site comprised of two semi detached dwellings in the south with gardens in the north situated in the corner of St Paul's Road and St Paul's Crescent. The site is surrounded by residential dwellings on all sides with the boundary of a railway coal depot approximately 100m south.	Coal Depot – hydrocarbons, heavy metals, sulphates.
1874	The site and surrounding area appear unchanged.	-
1875-1877	The site remains unchanged. A branch line of the railway is shown approximately 150m west of the site and to the south of the coal depot is a cattle depot approximately 200m south of the site.	-
1879-1884	There are no significant changes to the site or surrounding area.	-
1894	There are no significant changes to the site. The Camden skating rink has been constructed approximately 80m south east and the railway depot to the south has been renamed as St Pancras.	-
1896	There are no significant changes to the site. Camden laundry has been constructed approximately 200m to the east.	-
1911-1916	There are no significant changes to the site or surrounding area.	-
1920-1938	There are no significant changes to the site or surrounding area.	-
1952	There are no significant changes to the site. Various works including a conveyor factor, machine tool works, marble and mosaic works, have been constructed approximately 100m southeast and southwest. Several engineering works and a goods depot have been constructed approximately 200m east and southeast of the site. St Paul's Road has been renamed Agar Grove.	Off site various works – hydrocarbons, heavy metals, solvents.

<i>Date</i>	<i>Observations</i>	<i>Potential Contaminants</i>
1957-1962	There are no significant changes to the site or surrounding area.	-
1965-1968	The site appears unchanged. Three substations have been constructed approximately 50m west and southwest and 220m southwest of the site. The conveyor factor has been demolished and a smaller repair shed has been constructed. A tank has been constructed approximately 250m west of the site.	Off site substations – hydrocarbons (PCBs). Off site tank – hydrocarbons.
1969-1975	There are no discernable changes on site. The railway depot approximately 100m south of the site has been renamed as a freightliner terminal. A substation has been constructed approximately 250m east of the site.	Off site substations – hydrocarbons (PCBs).
1981-1983	The site remains unchanged. A tank has been constructed approximately 110m to the southeast and earthworks have been undertaken approximately 120m to the southwest.	Off site tank – hydrocarbons.
1991-2012	There are no discernable changes on or off site.	-

3.5 Potential Contamination Sources – Historical

On Site:

- No sources identified.

Off Site:

- Various works approximately 100m from site.
- Substations.
- Tanks.

3.6 Information on Public Record

The following information has been obtained from public archive via the data supplier Centremaps or by direct application. The full Centremaps report is presented in Appendix D.

<i>Public Record Information</i>	<i>Potential Contaminants</i>
<u>Potentially Contaminative Industrial Sites</u> – There are twenty one records within 250m, the closest is an electricity substation located 41m west.	Substation – hydrocarbons (PCBs).
<u>Petrol and Fuel Sites</u> – There are three records within 500m, the closest of these is 328m northeast and is listed as open.	
<u>Environmentally Sensitive Site</u> – Within 2000m there are three Local Nature Reserves, the closest is 832m south.	
<u>Historical Surface Ground Working Features</u> – Of the nine records within 250m the closest is 142m west relating to a tunnel from 1968, 1989, and 1973.	
<u>Current Ground Workings</u> – There are three records within 1000m, the closest is located 614m south east and is listed as marine sand and gravel at Kings Cross Rail Depot and is shown to be active.	
<u>Records of Part A(2) and Part B Activities</u> – Within 500m there are four records, the closest of these is located 347m northwest for a filling station, no enforcements are listed.	
<u>National Incidents Recording System, List 2</u> – Within 500m there are two records, the closest of these is 347m west and is dated July 2001. The incident had a category 3 (minor) impact on air and a category 4 (no impact) on water and land.	
<u>Waste Treatment, Transfer or Disposal Sites</u> – One waste transfer station is located 406m southeast of the site used for general industrial haulage and distribution.	
<u>Environmental Agency Licensed Waste Sites</u> – There are fourteen sites within 1500m, the closest is located 380m south for metal recycling. The license was surrendered in October 1999.	

4.0 PRELIMINARY CONCEPTUAL SITE MODEL & RISK ASSESSMENT

The Conceptual Site Model has been formulated in accordance with BS10175:2011, it assesses the significance of the environmental hazards identified at the site, the potential receptors and the pathway between them.

4.1 Sources

4.1.1 On Site

The on site potential sources have been identified as:

Japanese knotweed has not been considered further reflecting the fact that it was noted to be undergoing treatment at the time of the site walkover. The knotweed should be eradicated before any construction works are undertaken. It should be noted that no intrusive site investigations should be undertaken in the vicinity of the Japanese knotweed due to the potential for disturbing the roots and spreading it further.

4.1.2 Off Site

The off site potential sources have been identified as:

- Various works situated approximately 100m from the site boundary. Potential for the migration of contaminants onto site including hydrocarbons and heavy metals.

The electrical substations, the closest of which is located 41m from the site, have not been considered further as PCBs are relatively immobile and it is anticipated the substations are regularly inspected and maintained, and the site is underlain by London Clay, considered to be a barrier to the migration of contaminants onto the site.

The off site tanks have not been considered further reflecting the distance to site (over 100m) and the presence of London Clay underlying the site, acting as a barrier to the migration of contaminants onto site.

4.2 Receptors

- Future end users residential end users of the proposed dwellings with private garden areas. Possible direct contact with contaminated soils and accidental ingestion and inhalation of contaminated dust generated from soils.
- Site workers during the redevelopment works. Likely direct contact with potentially contaminated soils and accidental ingestion, inhalation of contaminated dust generated from soils.
- Future building structure(s) and underground services such as chemical attack on underground services including drinking water pipes and foundations.

- Future flora within the proposed garden areas

Groundwater has been discounted reflecting the location of the site on unproductive strata, outside of an SPZ and the closest groundwater abstraction is situated 344m from the site.

Surface water has not been considered further reflecting the absence of surface water features within 250m of the site.

4.4 Conceptual Site Model

The CSM has been formulated to provide information regarding the possible sources of contamination on site, the pathway in which the contamination can migrate and vulnerable receptors to the contamination, all of which need to be present for there to be a risk based on the commercial land use of the site.

<i>Source</i>	<i>Pathway</i>	<i>Receptor</i>	<i>Potential Risk</i>
Hydrocarbons (PAH, TPH, BTEX and MTBE) from various off site works.	Inhalation, ingestion and dermal contact from exposure to contaminated soils.	End users.	Negligible risk given the distance to the site and the presence of London Clay underlying the site acting as a barrier to migration.
		Site workers.	Low risk given that workers will be in direct contact with soils, however, the appropriate PPE will mitigate this risk.
	Impacted Soils.	Services.	Negligible risk given the distance to the site and the presence of London Clay underlying the site acting as a barrier to migration.
	Volatilisation of hydrocarbons from the underlying soils to indoor and/or outdoor air.	End user and buildings.	Negligible risk given the distance to the site and the presence of London Clay underlying the site acting as a barrier to migration.
		Site workers.	Low risk given that workers will be in direct contact with soils, however, the appropriate PPE will mitigate this risk.
Heavy metals from various off site works.	Inhalation, ingestion and dermal contact from exposure to contaminated soils.	End users.	Negligible risk given the distance to the site and the presence of London Clay underlying the site acting as a barrier to migration.
		Site workers.	Low risk given that workers will be in direct contact with soils, however, the appropriate PPE will mitigate this risk.
	Impacted soils.	Services.	Negligible risk given the distance to the site and the presence of London Clay underlying the site acting as a barrier to migration.

Negligible Risk	Defined as the site should be considered suitable for the present or future use and environmental setting. Contaminants unlikely to be present, which might have unacceptable impact on key targets.
Low Risk	Defined as the site should be considered suitable for the present or future use and environmental setting. Contaminants may be present but unlikely to have unacceptable impact on key targets.
Moderate Risk	Defined as the site may not be suitable for the present or future use and environmental setting. Contaminants are probably present and might have unacceptable impact on key targets.
High Risk	Defined as the site is probably or certainly not suitable for the present or future use and environmental setting. Contaminants are probably or certainly present and likely to have unacceptable impact on key targets.

5.0 CONCLUSIONS

This Stage 1 Desktop and Walkover Survey has identified limited sources of potential contamination associated with the various off site works situated approximately 100m from the site.

The risks to future residential end users, site workers, services and future developments are generally considered to be Low or Negligible.

6.0 RECOMMENDATIONS

It is understood that a geotechnical site investigation is to be undertaken at the site, it would be prudent to collect soil samples for a general screen of contaminants especially within the shallow soils.

From the information contained within this report the following recommendations have been formulated.

6.1 *Statutory Consultees*

We would recommend that this report be forwarded to the relevant Statutory Consultees including the Environment Agency (EA) and Local Council's Environmental Health and Planning Department to seek their comments and subsequent approval.

6.2 *Soakaways*

Soakaways are for the disposal of clean uncontaminated surface water only and must not be constructed in contaminated land.

6.3 *Flood Risk*

This report is not intended to replace a full hydrogeological survey and it is recommended that additional specialist studies be conducted to confirm potential flood risks at the site.

APPENDICES

Their contents are listed below:

Appendix A – Site Photographs

Appendix B – Historical Maps

Appendix C – Centremaps Report

Appendix D – Limitations

APPENDIX A

Site Photographs

Site Walkover Photographs

A.



B.



C.



D.



- A. Rear of property looking north.
- B. Rear of property looking north.
- C. Vegetation in back garden
- D. Access into site



Date of Site Works:

December 2013

Site Address:

56 Agar Grove

Client:

Webb Yates

Job/ref no.

13.7883

Site Walkover Photographs

E.



F.



G.



H.



- E. Vegetation and damage to property.
- F. Rear of property looking east.
- G. West flank of property
- H. Southern flank of property



Date of Site Works:

December 2013

Site Address:

56 Agar Grove

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Site Walkover Photographs

E.



F.



G.



H.



- E. Japanese knotweed on pavement side of hoarding.
- F. South property, cleared Japanese knotweed
- G. South of property
- H. Looking north from front of property



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December 2013

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