



Contaminated Land Phase One Desk Study for proposed residential development at land off, Robin Hood Street, Cheetham Hill, Manchester, M8 9JG.

Prepared for

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Summary

This report consists of a phase one contaminated land desk study produced in support of planning application for residential accommodation at Robin Hood Street, Cheetham Hill Manchester, M8 9JG.

Following the site walkover and review of the available information it has been concluded that there is potential for contamination to exist on site from previous site uses, as such a further intrusive investigation is recommended to determine the presence of any contaminants and whether they present a significant risk of significant harm to the identified receptors.

The report further recommends that a watching brief is maintained throughout the construction of the new dwellings and any signs of potential contamination found are fully investigated, with appropriate remedial action taken as necessary.



Contents

Summary.....	2
Introduction.....	4
Aims and Objectives of the report	4
Scope of works	4
The Site:	5
Current Site use:	5
Research	5
Details of Research	5
Site History	6
Regulatory Information	8
Geology and Hydrogeology	10
Hydrology	10
Environmental Sensitivity	10
Site Walkover.....	11
Conclusions.....	12
Potential Contaminants.....	12
Receptors and Pathways	12
Conceptual Model	14
Recommendations.....	15
Figure 1 – Aerial Photograph.....	16
Appendix 1 – Groundsure Data	17
Appendix 2 – Historical Mapping	18
Appendix 3 – Site Walkover Photographs	19
Appendix 4 Suggested Intrusive Sampling Locations	25
Appendix 5 Report limitations and exclusions	26
Basis of Risk Assessment	26
Limitations and Exceptions of this Report.....	26



Introduction

Martin Environmental Solutions has been commissioned, to carry out a phase one contaminated land desk study report in relation to a proposed residential development at Robin Hood Street, Cheetham Hill Manchester, M8 9JG.

Aims and Objectives of the report.

The aims and objectives of this report are as follows:

- Assess the likelihood of contamination affecting the site,
- Identify any likely receptors to be affected by the potential contamination,
- Identify the pathways by which the receptors will be exposed to any potential contamination,
- Identify any areas where further investigation will be required.

Scope of works

This report has been written in line with the 'BS 10175: 2011+A2: 2017 Investigation of potentially contaminated sites – Code of Practice' and Land Contamination Risk Management (LCRM).

The scope of this report covers the phase one desk study only. It will look at relevant information on: -

- the history of the site and surrounding area,
- the current use of the site and surrounding area,
- the geology and hydrogeology of the area,

A site walk-over survey has been undertaken in addition to consultations with the existing site owner, to identify any potential contamination issues.

Evaluation of the above information will be used to construct an initial conceptual model as appropriate, with the identification of any additional investigations that may be required.



The Site:

Site Address: Robin Hood Street, Cheetham Hill Manchester, M8 9JG.

Grid reference: 383798, 401703

An aerial photograph of the site is included in Figure 1.

Current Site use:

The site currently consists of an open overgrown piece of land situated between Robin Hood Street to the south and St Mark's Lane to the north. To the east the site backs onto a number of commercial units along Cheetham Hill Road. To the west the grounds of a former church, now overgrown. .

Research

Details of Research

This report has been based on information gathered from a number of reputable sources, covering details:

- on the historic and current use of the site,
- any known waste disposal activities in the area,
- any regulated industrial activities within the vicinity of the site including recorded industrial accidents,
- on the geology, hydrogeology, hydrology of the area,
- identification of any environmentally sensitive sites,
- any natural hazards.

Principle sources of this information have been:

- environmental data from Groundsure Limited
- the Local Planning Authority,
- historic maps (Groundsure Ltd),
- site walk-over survey and discussion with the current owners.

Site History

Information on the historic uses of the site has been obtained from historic mapping information (Appendix 2), and environmental data from Groundsure Limited.

Mapping Year	Changes on Site	Changes off Site
1848-50	The site is set out as a formal garden with a property to the northeastern corner	Properties surround the site in =to the north and east, with a school to the north on the opposite side of the road and the Robin Hood Inn to the east with bowling green to the south. To the southwest is St Marks Church sitting in the centre of a large church yard the boundary runs the full length of the site and bowling green. In the wider area are a number of properties surrounding the site, some with large gardens. A timber yard is located 70m to the west, with another 75m northeast and 110m east, a smithy is also located 90m to he east.
1890-94	The site has been developed, a smithy is located to the northwestern corner, while terrace housing has been built to the south. Other buildings are shown between these running across the centre of the site.	The church has an identified disused graveyard. More residential properties have been built in the wider area to the northwest and south, including over the bowling green. An old sand pit is shown 240m to the south and a tramway depot 140m northeast. A tramline appears to run along the main Cheetham Hill Road which also acts as the boundary between Manchester and Salford.
1907-09	No change	More residential development tin the wider area. The smithies to the east and west are no long marked and a corporation yard is present 100m to the east.
1915	No change	No significant changes
1922-23	No change	No significant changes, more residential, including over the old sand pit. The corporation depot is a skating ring and picture house.

1933-38	No change	No significant changes
1951-56	No change	No significant changes, the tramway is no longer present.
1968-77	No change	The skating ring is a car park. The housing estate to the west has been demolished and rebuilt.
1981-85	The housing to the south of the site has been demolished	The housing estate to the south has been demolished and rebuilt, as have some properties on the far side of Cheetham Hill Road.
1986	The site has been cleared, except for the former smithy building to the northwest and the original building to the northeast.	No significant changes
1992-95	No Change	No significant changes
2001-03	No Change	No significant changes
2010	No Change	No significant changes
2023	The site has been cleared	No significant changes
Aerial photos	The smithy building is demolished in 2017, with the other building in 2018.	The neighbouring church is demolished pre 2000 with the foundations remaining visible until 2009.



Regulatory Information

Relevant information obtained from the Groundsure report (Appendix 1) is summarised below.

Four permitted activities have been identified within 500m of the site as defined in the Environmental Permitting (England and Wales) Regulations 2016 or previous legislation is a historic waste oil burner located 321m east of the site.

These include three dry cleaners, all historical located 70m & 266m north, and 92m southeast, the fourth site a historic petrol station is located 497m northwest.

Five pollution incidents have been identified in the surrounding area. The first four relate to the probable flytipping incident in June 2001, 69m north of the site involving inert, special waste and waste tyres. Having a minor impact on the land environment. The fifth incident located 407m southeast in June 2001 again involved specific waste material.

No discharge consents are reported.

The above identified sites are unlikely to impact on the development site.

No active or historic landfill site records or waste activities have been found in the area. Three waste exemptions have been identified, all located 225m northeast at Crescent Road involve the sorting and de-naturing of controlled drugs (a pharmacy).

It is unlikely that the above site will pose any risk to the development.

Nine current potentially contaminative sites are identified. These include:

Four electricity Substations located 127m Southeast, 137m & 198m northeast and 148m north.

Cable tapes UK Ltd located 10m to the north. In a new build on the site of the identified school. The business sells cable tape (does not manufacture).

A bakery 198m north

Two vehicles repair servicing garages 229m and 242m north.



Historical potentially contaminative land uses have been identified within 250m of the site from the purchased information; most of these have been identified from the historical mapping and include:

A police station 120m southeast from 1968

A Cemetery 167m north from 1851-85, appears to be a little further away and is now a carpark.

A pit 232m south (the old sand pit) in 1894

The above sites are unlikely to present a risk to the development site and given the location, age and intervening properties and topography unlikely to generate any ground gas.



Geology and Hydrogeology

Information from the British Geology Survey 1:50,000 mapping identifies the bedrock in the area as Manchester Marls Formation – Mudstone overlaid with Glaciofluvial Deposits of Devensian, Sand and gravel.

The information obtained on the hydrogeology of the area identifies the site as having a Secondary B aquifer in the bedrock which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons, and weathering, with a Secondary A aquifer in the superficial layer.

12 groundwater abstraction licenses have been identified, only three of which are active, these are located 1502m, 1639m northeast, and 1985m southeast.

The site is not located within a Source Protection Zone.

The Groundwater vulnerability is described as high in the surface level, medium in the superficial and low in the bedrock layer.

Hydrology

No watercourses are identified in the vicinity of the site.

The site is not within a floodplain, and the risk of flooding is classified as low.

Environmental Sensitivity

Four Local Nature Reserves are identified located 1169m, 1474m and 1858m west. The Merseyside and Greater Manchester Greenbelt is also identified as being 1828m northwest.

The property is in an area identified as having less than 1% of properties above the action level of 200 Becquerel's per cubic metre, based on specific property search. Radon protection measures are not required in line with BR211.

No additional natural hazards have been identified & the site has very low/negligible risk of shrink swell, running sand, and compressible ground.

There are no mining activities identified in the immediate area.



Site Walkover

A site walkover was undertaken on the 23rd June 2023 and confirmed much of what had already been identified from the information obtained on the site. The photographs in Appendix 3 provide some indication of the current layout and condition of the site.

The site can be accessed from either Robin Hood Street to the south or St Marks Street to the north. To the north the site sits slightly elevated above the road with evidence of rubble on the ground. The site is overgrown, with no signs of dead or dying vegetation.

An old brick built single storey building, currently used as a car resprayer sits to the northeast of the site the boundary wrapping around this building. The footprint of the former building in the northeast can still be seen with the remains of floor tiles still present.

To the centre and south of the site overgrown hard standing is present in the form of asphalt and concrete. To the southeastern corner is a partial covered and partial infilled rectangular pit, approx. 1.5m².

The current owners are unaware of any issues on site which could have led to contamination and the site has been used as a garden since the property was purchased.



Conclusions

Potential Contaminants

Following a review of the information gathered on the history of the site and the surrounding area and following the site walk-over survey there are no contaminants identified off site that are likely to present a significant possibility of significant harm to any identified receptor.

The historic uses of the site (smithy) and remains of buildings still present, particularly to the northern section present a possibility of contaminants being present with in the former building materials and made ground.

Receptors and Pathways

Potential receptors which may be affected by any unknown contamination on site will include:

- Construction workers who are likely to be affected by any potential contamination as they will initially be working in the ground and are likely to be the ones who unearth any potential contaminants.
- Future users of the site, including residents, staff, and visitors to the site. For the purpose of evaluating any effects from any contamination found during any intrusive investigation future users/visitors to the site should be regarded as the 0-6-year-old female child.
- Any building on site e.g., foundations which may be attacked by any contaminants in the ground or services.
- The underlying groundwater which may be contaminated by migrating pollutants present on the site. There is also the potential for further pollution of the groundwater or the watercourse from disturbing any potential contaminants on site.

The pathways by which these receptors may be exposed to any unforeseen potential contamination will include:

Construction workers



- Inhalation, of gases or vapours released during groundwork or fine particles.
- Ingestion of the contaminants, principally from cross contamination with contaminated soil and inadequate hand washing before smoking and eating.
- Absorption through the skin following contact with contaminated soil.

Future users and visitors

- Inhalations of gas/vapours or fibres, particularly if these are allowed to enter the new structures through the ground and build up in an enclosed area.
- Ingestion of contaminants, through the ingestion of contaminated soil from the garden area via direct contact, e.g., playing in the garden.
- Absorption of contaminants from dermal contact with contaminated soil.

Buildings

Contaminants on site have the potential to affect the foundations to the new building or the services supplying it.

Watercourses

As discussed above, if they exist on site, there is a potential for any contaminants to migrate through the ground into the groundwater and aquifer or via run-off into the watercourse.

Neighbouring sites

If present on site contaminants have the potential to migrate to neighbouring sites through ground water or air blown transfer.



Conceptual Model

The table represents a basic conceptual model. It highlights the potential sources of pollutants identified from the gathered information, and potential pathways in which any contaminants could reach the identified receptors.

Pathway	Description	Identified sources	Receptor at risk	Likelihood
1	Run off and seepage into groundwater from any spillages	Rubble,	Watercourse/ Environment	Low
2	Migration of gases into the building.	Rubble, made ground, former smithy	Future users	Low,
3	Inhalation of gases/ vapours outside	Rubble, made ground, former smithy	Construction workers/future users	Low
4	Inhalation of fine particles	Rubble, made ground, former smithy	Construction workers/future users	Medium
5	Direct ingestion of contaminated soil	Rubble, made ground, former smithy	Construction workers	Medium
6	In-direct ingestion of contaminated soil	Rubble, made ground, former smithy	Future users	Medium
7	Absorption via direct dermal contact with contaminated soil	Rubble, made ground, former smithy	Construction workers/future users	Medium



Recommendations

As a result of the investigation into the historical use of the site and surrounding area the site has been identified that potential for contaminants to exist on site from historic site uses and the remains of building structures.

As such an intrusive investigation is recommended. However to aid this investigation it is suggested that surplus waste material on site is first removed to an appropriate licensed facility, including vegetation, and rubble. This will aid access to the subsurface in order to undertake the necessary soil samples.

It is recommended that a series of trial holes are dug across the site and soil samples taken for onward analysis. Samples should be tested for the presents of Asbestos, heavy metals, Total Petroleum Hydrocarbons, and Polyaromatic Hydrocarbons.

Based on the current plans, suggested sampling locations are given in Appendix 4, with two samples taken from each located at approx. 0.3m and 0.6m. this is subject to change depending on the findings on site.

It is further recommended that a watching brief is maintained throughout the construction of the new building and any signs of potential contamination found are fully investigated, with appropriate remedial action taken as necessary and the local planning authority informed of the findings.

Figure 1 – Aerial Photograph





Appendix 1 – Groundsure Data



Appendix 2 – Historical Mapping

Appendix 3 – Site Walkover Photographs

The northern boundary looking east and then west.



The western boundary looking north.



The southern boundary looking east then west



The eastern boundary looking north.



The area of the former building to the northeast





The overgrown rubble to the northern boundary





Appendix 4 Suggested Intrusive Sampling Locations





Appendix 5 Report limitations and exclusions

Basis of Risk Assessment

The methods used follow a risk-based approach with the potential risk assessed using the 'Source – pathway – receptor pollution linkage concept.

Limitations and Exceptions of this Report

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The conclusions and recommendations of this report are based on the development described, for any other development the report may require revision.

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The report should be read in its entirety, including all associated drawings and appendices.

Martin Environmental Solutions cannot be held responsible for any misinterpretations arising from the use of extracts that are taken out of context.

This report does not comprise a geotechnical assessment of the strata underlying the site.

Any borehole data from the British Geological Survey sources is included on the following basis: 'The British Geological Survey accept no responsibility for omissions or misinterpretations of the data from their Data Bank as this may be old or obtained from non-BGS sources and may not represent current interpretation'.

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Any risks identified in a Phase I Desk Study Report are perceived risks. Actual risks can only be assessed following a physical investigation of the site.

The findings of this report are based on finite information obtained from research and consultations. Martin Environmental Solutions cannot guarantee the reliability of all such information and the searches should not be considered exhaustive. The findings of the report may need to be reviewed as any future exploratory investigations progress and in the event that additional archive information becomes available.

Notwithstanding the findings of this study (and any subsequent investigations), if any indication of contaminated soil (visual or olfactory) is encountered at any stage of the development further investigation may be required.



Arboricultural Survey and advice on arboricultural issues are considered to be outside the scope of this report except for their effect on the foundations to the proposed buildings.

Where identification of any species is made, especially invasive plants such as Japanese Knotweed, Himalayan Balsam, or Giant Hogweed, this should only be considered as a preliminary assessment and subject to confirmation by a professional Arboriculturist. Martin Environmental Solutions takes no responsibility for failing to identify, or the incorrect identification of, any tree or plant species on site.

Our investigations exclude surveys to identify the presence or indeed absence of asbestos in buildings/infrastructure on site. If asbestos is suspected to be present, we recommend specialists in the identification and control / disposal of asbestos are appointed prior to commencement of any works on site or, if appropriate, purchase of the site. The presence of asbestos on site may have considerable effects on the cost / timescale in developing the site. There is good guidance in relation to Asbestos available on the Health and Safety Executive (HSE) web site.

Whilst a site walkover has been undertaken as part of this report, the survey does not constitute either an asbestos or structural survey and all areas of the site may not have been visited / inspected.