



Dice
Environmental

301 Shenley Road
Phase 1 Geo-Environmental Report
02/02/2024
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Version 3.0

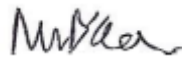
Site 301 Shenley Road,
Borehamwood,
WD6 1TH

Client UPP

Date 02/02/2024

Project Reference 101206

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Date

21st December 2023

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1st February 2024

Executive Summary	
Site Description	<p>A site walkover was undertaken on the 14th of December 2023.</p> <p>The site is located within a residential area along Shenley Road, Borehamwood. The site comprises a 2-storey semi-detached building. At the time of the walkover, construction had already begun where the interiors of the building had been stripped. The site is directly accessible from Shenley Road.</p>
Proposed Development	<p>The proposed development on site is to include a change of use of the ground floor from a commercial space to provide a single self-contained 1-bed residential dwelling.</p>
Geology	<p>Geological maps of the area show the site isn't underlain by any superficial deposits.</p> <p>Geological maps of the area show most of the site to be situated upon bedrock of the London Clay Formation.</p>
Hydrogeology	<p>The underlying solid geology is classified as an Unproductive Aquifer, consisting of bedrock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.</p> <p>The site is not located within a source protection zone.</p> <p>There is a groundwater abstraction license recorded 283m north-west of the site relating to general use.</p>
Hydrology	<p>There is an underground inland river situated 38m south-east of the site.</p>
Radon	<p>The Groundsure reports included within Appendix B shows that the site is located within an area where the percentage of homes above the radon action level is below 1%. Therefore, it is considered that no specific radon protection measures are required for this development.</p>
Ground Gas	<p>Potential made/infilled ground may be a source for ground gas, but is considered low risk.</p>
Conclusions / Recommendations	<p>This report concludes that there is a 'Low' potential risk to future site users and 'Low' potential risk to controlled waters. This is due to the minimal on-site and proximal potential contaminants of concern, and lack of viable pathway to end users of the site..</p>

Therefore, no further action is required at this time, in relation to the proposed development of internal refurbishment of the existing property.

These recommendations are considered appropriate based on the site's history, site walkover observations, and scale of the proposed development. These conclusions & recommendation should be approved by the local planning authority.

Contents

Executive Summary.....	2
1. Introduction.....	5
1.1. Client Brief.....	5
1.2. Report Objectives.....	5
1.3. References.....	5
1.4. Limitations.....	6
2. Site Information.....	7
2.1. Site Location.....	7
2.2. Site Description.....	7
2.3. General Area Context.....	7
3. Geo-Environmental Setting.....	8
3.1. Geology.....	8
3.2. Hydrogeology.....	8
3.3. Hydrology.....	8
3.4. Radon.....	8
3.5. Historical Coal Mining.....	8
3.6. Landfills.....	9
3.7. Industrial Land Use.....	9
4. Site History.....	10
4.1. Historical Map Review.....	10
4.2. Summary of Historical Data.....	11
5. Conceptual Site Model.....	12
5.1. Potential Sources.....	12
5.2. Potential Pathways.....	12
5.3. Potential Receptors.....	12
6. Phase I Conceptual Site Model.....	13
7. Conclusions and Recommendations.....	15

Appendix A – Figures

Appendix B – Environmental data summary (Groundsure Report)

Appendix C – Historical Maps

1. Introduction

1.1. Client Brief

Dice Environmental was instructed by UPP to undertake a Phase 1 Geo-Environmental Report for the site known as '301 Shenley Road, Borehamwood, WD6 1TH'.

The proposed development on site is to include a change of use of the ground floor from a commercial space to provide a single self-contained 1 bed residential dwelling.

The site location plan and layout are included within Appendix A.

1.2. Report Objectives

This Phase I Geo-Environmental Assessment includes:

- A record of a site inspection walkover, subsequent site description, and appraisal of any observed land contamination, or potential contaminative sources.
- A review of historical maps for the site and surrounding area, with respect to potential sources of contamination.
- A review of the general expected Environmental setting, including geology, hydrogeology and hydrology.
- The development of a preliminary conceptual site model based on the concept of 'contaminant linkage', which considers potential contamination sources, pathways and receptors.
- Conclusions and Recommendations drawn from the qualitative risk assessment.
- An Executive Summary.

1.3. References

Assessment guidance and site-specific information has been sought from the following locations:

- EA/DEFRA (2020) LCRM: Land contamination Risk Management (Supersedes (2004), CLR11: Model Procedures for the Assessment of Land Contamination).
- CIRIA. (2001). *Contaminated land risk assessment A guide to good practice*.
- DEFRA. (2018). *MAGIC*. Retrieved from *Magic Map*: <http://magic.defra.gov.uk/MagicMap.aspx>

- Environment Agency. (March 2017). *New Groundwater Vulnerability Mapping Methodology in England and Wales. Reference SC040016/R. Environment Agency.*
- Environment Agency. (2008). *R&D Publication 66. Guidance for the Safe Development of Housing on Land Affected by Contamination.*
- Scivyer, C. (2015). *BRE 211. Radon: Guidance on protective measures for new buildings (including supplementary advice for extensions, conversions and refurbishment projects). Fifth Edition.*
- The Coal Authority. (2018). *Coal Authority Interactive Viewer. Retrieved from <http://mapapps2.bgs.ac.uk/coalauthority/home.html>*

1.4. Limitations

The recommendations and opinions expressed in this report are based on information obtained as part of the desk study or provided by others. Information provided from other sources is taken in good faith and Dice Environmental cannot guarantee its accuracy. The ultimate responsibility for any action taken, or lack thereof, shall lie with the developer.

This report does not include specific investigation for the presence of either Potential Asbestos Containing Material (PACM) or Japanese Knotweed at the subject site however, if obvious evidence of either is observed during site walkover, details will be provided in this report. Specialist contractors should be commissioned to make detailed assessments and recommendations if these materials are suspected. This report takes into account coal mining areas as a potential source of contamination (ground gas), however makes no comment on other potential associated concerns (geo-technical).

The information contained in this report is intended for the use of UPP and Dice Environmental can take no responsibility for the use of this information by any third party or for uses other than that described in this report or detailed within the terms of our engagement.

2. Site Information

2.1. Site Location

The site is located along Shenley Road, Borehamwood, WD6 1TH. The national grid reference (NGR) for the approximate centre of the site TQ 198 971

A site plan is presented within Appendix A.

2.2. Site Description

A site walkover was undertaken on the 14th of December 2023.

The site is located within a residential area along Shenley Road, Borehamwood. The site comprises a 2-storey semi-detached building. At the time of the walkover, construction had already begun where the interiors of the building had been stripped. The site is directly accessible from Shenley Road.

2.3. General Area Context

North: To the north of the site there is a convenience store, a Chinese takeaway and a car dealership.

East: To the immediate east of the site are Shenley Road and residential properties.

South: To the south of the site there are residential properties and a church.

West: To the west of the site there is a daycare/ nursery and car parking spaces.

3. Geo-Environmental Setting

3.1. Geology

Geological maps of the area show the site isn't underlain by any superficial deposits.

Geological maps of the area show most of the site to be situated upon the bedrock of the London Clay Formation.

3.2. Hydrogeology

The underlying solid geology is classified as an Unproductive Aquifer, consisting of bedrock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

The site is not located within a source protection zone.

There is a groundwater abstraction license recorded 283m north-west of the site relating to general use.

3.3. Hydrology

There is an underground inland river situated 38m south-east of the site.

3.4. Radon

The Groundsure reports included within Appendix B shows that the site is located within an area where the percentage of homes above the radon action level is below 1%. Therefore, it is considered that no specific radon protection measures are required for this development.

3.5. Historical Coal Mining

The site is not located within a coal mining reporting area as defined by the Coal Authority.

3.6. Landfills

The Groundsure reports included within Appendix B show that:

- There are no active landfills within 500m of the site.
- There are no historical landfills within 500m of the site.

3.7. Industrial Land Use

The Groundsure reports included within Appendix B show that:

- There are no waste treatment works recorded within 250m of the site.
- The closest recorded active petrol station is 290m east of the site. There are no obsolete petrol stations within 250m of the site.

There are currently some industrial land uses within 250m of the site. Recorded on site is a tool hire service. Also present in the locality is a construction completion services 65m south-east, an unspecified tank 87m west, a chimney 89m west, an electricity substation 137m north-east and a gas governor station 184m south-east.

Historical mapping has identified no previous industrial land uses on-site. Industrial features within the surrounding area comprise records of chimneys, unspecified works, unspecified tanks, a timber yard, and an unspecified depot. Other Identified features comprise a fire and ambulance station and a film studio.

4. Site History

4.1. Historical Map Review

Map Date	Significant Changes on Site	Significant Changes in the Surrounding Area
1870	The site comprises an unused field space.	Shenley Road is present adjacent east of the site. An unspecified building is present 20m north-west of the site.
1896	No significant change.	No significant change.
1914	No significant change.	A timber yard is situated 250m south-west of the site alongside other unspecified buildings (assumed residential).
1935	The site comprises a semi-detached property.	The surrounding area along Shenley Road has been developed as residential properties. A film studio is present 250m south of the site.
1965 - 1969	No significant change.	Unspecified tank and chimney 100m west of the site. Fire and ambulance station 230m south-east of the site. Unspecified works situated 200m south-west of the site.
1987 - 1992	No significant change.	Unspecified depot 120m north of the site.
2023	No significant change.	An unspecified suspected to be commercial building is present adjacent north-west of the site.

Table 1: Summary of site targeted historical map data.

A copy of the historical maps used for this review are included within Appendix C

4.2. Summary of Historical Data

A review of the historical mapping resources from between 1870 – 2023, provided by Groundsure, show that the site has had no previous use and was first developed in 1935.

The surrounding area has historically comprised a residential land use with some industrial features. Identified features comprise a historic timber yard 250m south-west, a film studio 250m south, a fire and ambulance station 230m south-east in addition to a historic chimney, unspecified works and unspecified tanks.

5. Conceptual Site Model

5.1. Potential Sources

Significant potential sources of contamination which have been identified for the site include:

- No significant potential source of contamination has been identified on site. The site is occupied by a building which is being remodelled. The existing structure is understood to be the only historic use of the land and expected to be on a standard foundation option with limited made ground. Surrounding land uses (current and historical) present a low likelihood of migratory contaminants affecting the site.

5.2. Potential Pathways

Pathways to human receptors:

- No soft landscaping is proposed for the development, breaking the pathway of soil/soil dusts.
- The migration and accumulation of ground gases through permeable sub-surface materials and/ or preferential pathways.

Pathways to Environmental (controlled waters) receptors:

- Lateral and vertical migration of groundwater through permeable sub-surface materials and/ or preferential pathways.

5.3. Potential Receptors

The potential receptors for the site include:

- Site workers during the redevelopment of the site.
- Intended end users of the site (residents).
- The Unproductive Aquifer within the underlying bedrock strata.
- Underground watercourse 38m south-east.

6. Phase I Conceptual Site Model

Human Receptors				
Sources	Potential Contaminants of Concern	Pathway	Receptor	Risk
<p>No significant potential source of contamination has been identified on site, beyond limited made ground associated with the property's foundations. The existing structure is understood to be the only historic use of the land and expected to be on a standard foundation option with limited made ground.</p>	<p>Heavy Metals, Polyaromatic Hydrocarbon (PAHs)</p>	<p>No soft landscaping is proposed for the development, breaking the pathway of soil/soil dusts.</p>	<p>Site workers during the redevelopment of the site.</p>	<p>Low</p>
			<p>Intended end users of the site (residents).</p>	
		<p>The migration and accumulation of vapours and ground gases through permeable sub-surface materials and/ or preferential pathways.</p>	<p>Intended end users of the site (residents).</p>	<p>Low</p>

Environmental Receptors (Controlled Waters)				
<p>No significant potential source of contamination has been identified on site, beyond limited made ground associated with the property's foundations. The existing structure is understood to be the only historic use of the land and expected to be on a standard foundation option with limited made ground.</p>	<p>Heavy Metals, Polyaromatic Hydrocarbon (PAHs)</p>	<p>Lateral and vertical migration of groundwater through permeable sub-surface materials and/ or preferential pathways.</p>	<p>The Unproductive Aquifer within the underlying bedrock strata. Underground watercourse 38m south-east of the site.</p>	<p>Low</p>

7. Conclusions and Recommendations

An appraisal regarding the potential presence of on-site contamination has been carried out through review of historical maps, environmental data and a site walkover.

This report concludes that there is a 'Low' potential risk to future site users and 'Low' potential risk to controlled waters. This is due to the minimal on-site and proximal potential contaminants of concern, and lack of viable pathway to end users of the site..

Therefore, no further action is required at this time, in relation to the proposed development of internal refurbishment of the existing property.

These recommendations are considered appropriate based on the site's history, site walkover observations, and scale of the proposed development. These conclusions & recommendation should be approved by the local planning authority.

APPENDIX A




Title
Site Location

Reference 101206	Date 01/02/2024
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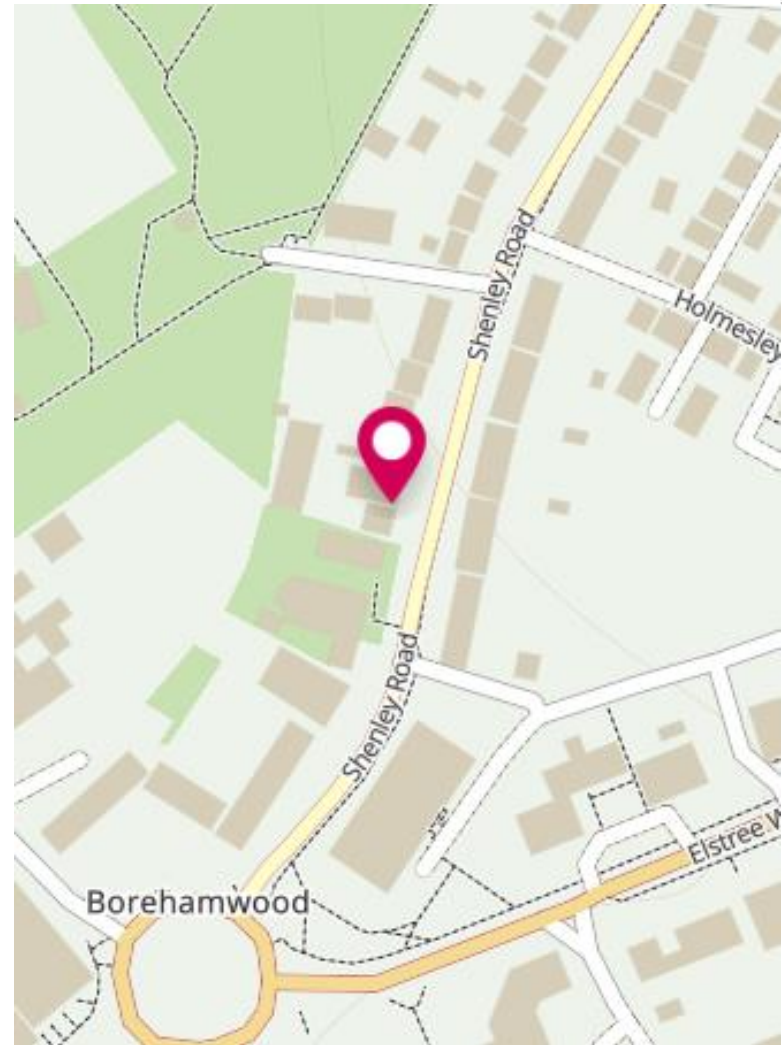
Site Address

**301 Shenley Rd,
Borehamwood,
WD6 1TH**

Legend

 **Approximate Site Centre**

Scale NTS	Drawn MVD	Figure Number Fig.1
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Title
Site Layout

Reference
101206

Date
01/02/2024

Site Address

**301 Shenley Rd,
Borehamwood,
WD6 1TH**

Legend

Scale
NTS

Drawn
MVD

Figure Number
Fig.2



Title
Photos

Reference
101206

Date
01/02/2024

Site Address

**301 Shenley Rd,
Borehamwood,
WD6 1TH**

Legend

Scale
NTS

Drawn
MVD

Figure Number
Fig.3