

H FRASER CONSULTING

CONTAMINATED LAND AND HYDROGEOLOGY

14F Avenue Road Basement Impact Assessment: Groundwater

Prepared for: Croft Structural Engineers
Clock Shop Mews,
Rear of 60 Saxon Rd,
SE25 5EH



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Prepared by: H Fraser Consulting Ltd



H FRASER CONSULTING LTD

T: 01743 352797 M: 07527 006625 E: hfraser@hfraserconsulting.co.uk www.hfraserconsulting.co.uk

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CONTAMINATED LAND AND HYDROGEOLOGY

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1. INTRODUCTION

Croft Structural Engineers Ltd (Croft) has instructed H Fraser Consulting Ltd (HFCL) to provide the hydrogeological aspects of a Basement Impact Assessment at the following property:

14F Avenue Road, NW8 6BP.

The site is in the London Borough of Camden.

1.1 Objective

The objective of this report is to provide the hydrogeological aspects of a Basement Impact Assessment to support a planning application for construction of a basement at 14F Avenue Gardens

1.2 Scope of works

The following works have been undertaken:

- Screening assessment with regards to groundwater
- Scoping assessment to identify potential impacts
- Impact assessment with regard to groundwater attributes
- Reporting

The work has been undertaken in accordance with the requirements of London Borough of Camden (LBC) Planning Guidance CPG4 'Basements and Lightwells' (referred to as CPG4) and Arup's 'Geological Hydrogeological and Hydrological Study, Guidance for Subterranean Development' (Arup, 2012, referred to throughout this report as the GHHS).

This assessment is limited to an assessment of the hydrogeological aspects of the proposed development and does not purport to make any comment on surface water flooding, contamination or pollution, engineering, slope stability, design or construction issues.

The work has been undertaken by Hannah Fraser, Director of HFCL, who is a Chartered Geologist with 17 years' experience as a hydrogeologist and consultant.

2 BACKGROUND INFORMATION

Background information has been derived from a Groundsure report for the site (Appendix A); geological information has been derived from on-line BGS sources (Geology of Britain Viewer, GeoIndex, Lexicon); on-line mapping and aerial photography have been derived from Streetmap and GoogleEarth. Table 2.1 presents relevant background information for the site. The site location is shown in Figure 2.1.

Table 2.1 Background information

Address	14F Avenue Road, NW8 6BP.
NGR	Approx. 527377, 183538
Description	<p>The site comprises a terraced property with a rear garden. The approximate site area is estimated as 100 m². The house comprises a three storey building with a flat roofed one storey extension at the rear, extending across approximately two thirds of the width of the property. The area of the footprint of the house and extension is approximately 45 m². The rear garden has a total area of approximately 55 m², with approximately 17 m² of this area comprising hardstanding close to the house and the remainder comprising grass.</p> <p>Topographical data shows the site to be just below the 40 m Ordnance Datum (OD) contour. Site survey data indicate that ground elevations at the rear of the property are between 39.44 m OD and 40.12 m OD. Ground elevations in the street outside the property are between 30.12 m OD and 30.2 m OD; garages are built at the front of the property, with floor levels at 37.16 m OD, and the access to the house is via a terrace over the garages at an elevation of c. 40 m OD. Locally, the ground rises to the northeast, to Barrow Hill and Primrose Hill. Figure 2.1 shows topographical contours for the local area.</p>
Proposed development	<p>The proposed development is to demolish the existing extension and build a new one across the entire width of the property. A basement level will be extended below the extension and rear garden. The area immediately outside the rear extension will comprise a terrace with a lightwell void. The total area of the basement will be 46 m², of this area approximately 26 m² extends below the currently grassed area of the rear garden. A rooflight will be installed in the garden area. Proposed site plans and elevations are included in Appendix A.</p>
Geology	<p>Geological mapping¹ shows the area to be underlain by London Clay. The London Clay is extensive across the area; the overlying Claygate member and Bagshot Formation outcrop to form the elevated area of Hampstead Heath approximately 1.6 km north northwest.</p> <p>The London Clay mainly comprises bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay. It commonly contains thin courses of carbonate concretions ('cementstone nodules') and disseminated pyrite. It also includes a few thin beds of shells and fine sand partings or pockets of sand, which commonly increase towards the base and towards the top of the formation. At the base, and at some other levels, thin beds of black rounded flint gravel</p>

¹ <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

	<p>occur in places. Glauconite is present in some of the sands and in some clay beds, and white mica occurs at some levels²</p> <p>There are no superficial deposits mapped at the site, the closest outcrop of superficial deposits is approximately 1.5km to the southeast.</p> <p>Table 2.2 presents geological data from selected BGS borehole records.³ Figure 2.1 shows the location of the boreholes.</p> <p>Site investigations have been undertaken in October 2014 at the site by Ground and Water Ltd (Ground & Water, 2014). Site investigation data are provided in Table 2.3.</p>
Aquifer status	<p>The London Clay is classified by the Environment Agency as unproductive strata (rock layers with low permeability and negligible significance for water supply or river base flow).</p> <p>Groundwater was not encountered during drilling on the site, and a 4.8 m deep borehole drilled during site investigations was dry on 31 October 2014. A groundwater reading on 15 December 2014 was 0.67 mbgl.</p>
Watercourses	<p>A Groundsure report⁴ for the site states that the Grand Union Regent's canal lies 223 m to the southeast, as shown on Figure 2.1. A culvert, also shown on Figure 2.1, runs 221 m west of the site, likely to be the culverted River Tyburn, which historically flowed to the boating lake at Regent's Park. There are no surface water abstraction licenses within 500 m of the site.</p>
Spring lines	<p>There are no springs shown on OS mapping, and no known local geological features that might give rise to springs.</p>
Wells	<p>There is one current groundwater abstraction license within 500 m of the site, at Primrose Hill. The abstraction is licensed for 2000 m³/d and 631,000 m³/a.⁵ It is assumed that the abstraction is from the Chalk aquifer which underlies the London Clay (Borehole record TQ28SE1565, 650 m to the east southeast in Regent's Park records the London Clay to 17 m bgl, Reading Beds and Thanet Sands below, and the Chalk at 64 mbgl).</p> <p>There are two Water Well records within 500 m of the site, at Barrow Hill (refs TQ28/182 and TQ28/203)⁶. These are broadly coincident with the location of the abstraction license, and are from the Chalk aquifer.⁷</p>
Groundwater flooding	<p>British Geological Survey Groundwater flood risk mapping reports there to be no groundwater flooding susceptible areas within 50 m of the site, and the area is not considered prone to groundwater flooding, based on rock type.⁸</p>

² <http://www.bgs.ac.uk/lexicon/lexicon.cfm?pub=LC>

³ <http://mapapps2.bgs.ac.uk/geoindex/home.html>

⁴ Groundsure report

⁵ Groundsure report

⁶ <http://mapapps2.bgs.ac.uk/geoindex/home.html>

⁷ <http://mapapps2.bgs.ac.uk/geoindex/home.html>

⁸ Groundsure report

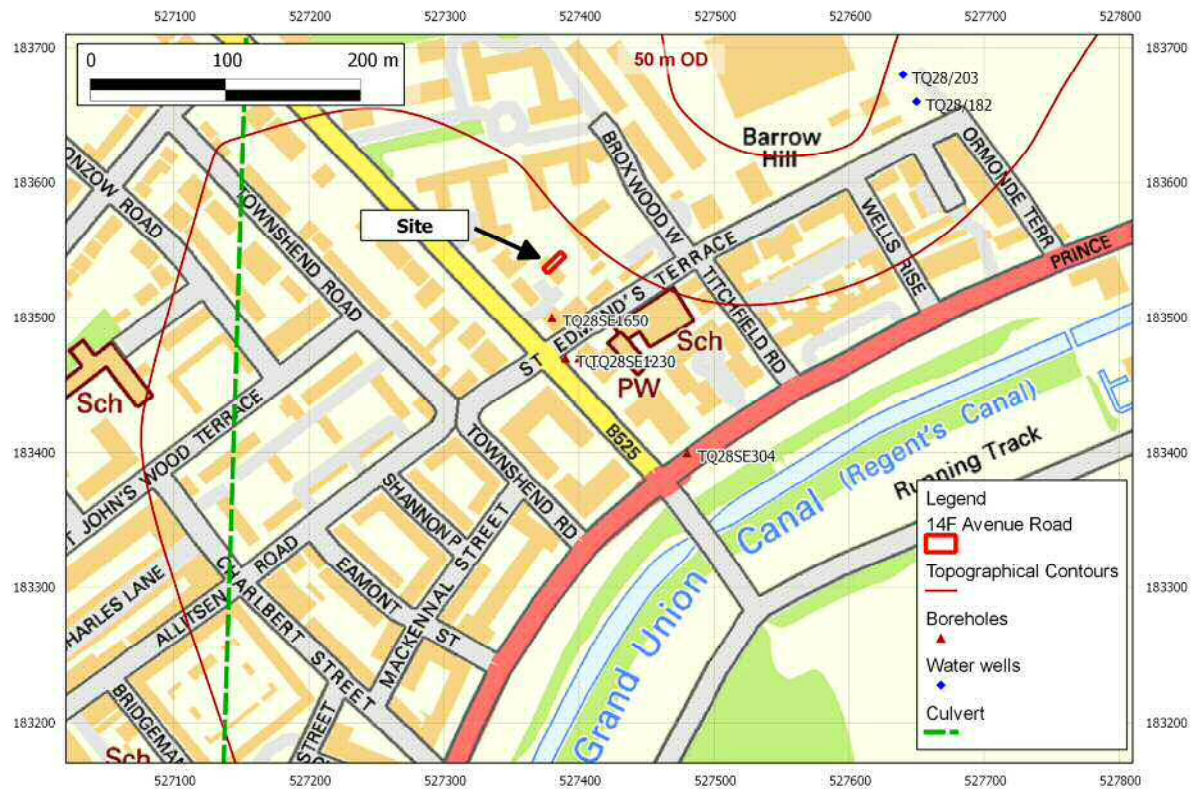


Figure 2.1 Site location

Contains Ordnance Survey data © Crown copyright and database right 2014

Table 2.2 BGS Borehole records

Ref	X	Y	Geology
TQ28SE1650	527380	183500	Soft brown sandy silty clay with brick, wood fragments and gravel (to 0.4 m) underlain by London Clay (firm to stiff dark brown fissured silty clay with occasional sand partings) to 10 m. No groundwater encountered during drilling.
TQ28SE1231	527390	183470	Soft dark brown and black silty clay with chalk lumps and bricks (to 2.44 m) , stiff to very stiff brown silty clay with occasional yellow brown silt partings (to 11.2 m), stiff to very stiff fissured dark grey silty clay with some carbonaceous impurities (London Clay) to 25 m. Static water level at 10.2 m (27.98 m OD). Not enough water to get sample.
TQ28SE1230	527400	183470	Soft grey brown silty clay with chalk and brick fragments (to 1.4 m), firm to stiff brown silty clay with selenite crystals becoming fissured with depth with occasional yellow-brown silt partings and blue grey mottlings (to 10.8 m), very stiff fissured dark grey silty clay (London Clay) to 25 m. Ground level at 38.02 m OD.
TQ28SE304	527480	183400	Macadam to 1.23 m, Made Ground to 0.46 m, yellow clay to 9.91 m, blue clay to 22.71 m

The borehole records in Table 2.2 were selected from the BGS on-line Geoindex⁹ as those records closest to the site.

⁹ <http://mapapps2.bgs.ac.uk/geoindex/home.html>

Geological data from site investigations in October 2014 are presented in Table 2.3.

Table 2.3 Site investigation data

Location	Start Depth (m)	End Depth (m)	Geology
TP3a	0	0.17	Concrete
	0.17	0.65	Crushed brick, concrete, tiles
	0.65	1.3	Firm brown clay fill with occasional brick
WS1	0	0.6	MADE GROUND: Dark brown slightly sandy gravelly clay. Sand is fine to coarse grained. Gravel is occasional to abundant, fine to coarse, rounded to angular flint, brick and concrete.
	0.6	1.3	LONDON CLAY FORMATION: Orange brown silty CLAY
	1.3	6	LONDON CLAY FORMATION: Brown, with occasional blue grey mottling, silty CLAY with silt partings. Selenite crystals noted from 2.80m bgl.
	No groundwater encountered during drilling, 19 mm well installed to 5 mbgl.		

Groundwater dip data were recorded by Ground and Water Ltd; the reduced groundwater elevation data are presented in Table 2.4.

Table 2.4 Groundwater level data

Date	Dip (m bgl)
31/10/2014	Dry (>4.8 m bgl)
15/12/2014	0.67 m bgl

3 SCREENING

A screening assessment has been undertaken in accordance with the methodology set out in Section 6.2 and Appendix E2 of the GHHS (Arup, 2012). The results are presented in Table 3.1.

Table 3.1 Screening assessment

Ref	Question	Answer (yes/no/unknown)	Action
Q1a	Is the site located directly above an aquifer?	No	No further action
Q1b	Will the proposed basement extend beneath the water table surface?	Possible	Take forward to scoping stage
Q2	Is the site within 100m of a watercourse, well (used/disused) or potential spring line?	No	No further action
Q3	Is the site within the catchment of the pond chains on Hampstead Heath?	No	No further action
Q4	Will the proposed basement development result in a change in the proportion of hard surface/paved areas?	Yes	Take forward to scoping stage
Q5	As part of the drainage, will more surface water (e.g. rainfall and run-off) than at present be discharged to the ground (e.g. via soakaways and/or SUDs)?	Unknown	Take forward to scoping stage
Q6	Is the lowest point of the proposed excavation (allowing for any drainage and foundation space under the basement floor) close to or lower than the mean water level in any local pond or spring line?	No	No further action

4 SCOPING

This section of the report summarises the pertinent information as a Conceptual Model, and then describes the matters of concern that need to be considered in the Impact Assessment.

4.1 Conceptual model

The proposal is to demolish an existing one storey extension at the rear of the property, and rebuild an extension across the full width of the property, including a basement level which will extend beyond the footprint of the ground level extension, into the back garden area, with an area of approximately 25 m² extending below existing grassed lawn. The outdoor space at the rear will include a large lightwell (this is in an area that currently comprises hardstanding) and a smaller roof light in the lawn area. The elevation of the base of the excavation is estimated as 36 m OD.

The underlying geology comprises the London Clay. Site investigation data confirm the presence of London Clay, below clayey Made Ground, proven to 1.3 m bgl. The London Clay is classified as 'unproductive strata', and has low permeability. Groundwater flow within the London Clay is generally negligible, although some groundwater movement may occur on discrete (and rare) sand partings or other discontinuities. Groundwater was not encountered during drilling, however, groundwater was measured at 0.67 m bgl several weeks after drilling. It is probable that the water in the borehole represents standing water accumulated from surface water and groundwater percolating through shallow Made Ground, rather than representing a true water table in the low permeability London Clay. Nonetheless, there remains the possibility that very low flow volumes through the London Clay contribute to the observed groundwater. As a conservative assumption, the following risk assessment assumes that the observed groundwater does represent a groundwater table in the London Clay.

There are no surface waters within 100 m of the site.

4.2 Matters of concern

Five attributes are considered as potential matters of concern, as discussed below.

1. Groundwater level – the development has the potential to affect groundwater levels, and this is carried forward for further assessment.
2. Range of seasonal fluctuation in groundwater levels – the development has the potential to affect seasonal variations in groundwater levels and this is carried forward for further assessment.
3. Spring/stream hydrographs – there is no evidence that local streams or springs are likely to be affected and these are not considered further.
4. Soil moisture – there is the potential for soil moisture content to be affected, and this is carried forward for further assessment.
5. Water quality – there is no evidence that the development will affect water quality, provided good practice is followed with regard to pollution management. This is not considered further.

5 IMPACT ASSESSMENT

The impact assessment has been undertaken by considering groundwater attributes, how these are likely to change under the proposed development and the consequence of any predicted changes. The assessment is qualitative at this stage. The results are presented in Table 5.1.

Table 5.1 Impact assessment

Groundwater Attribute	Predicted Change	Consequence of change and mitigation
Groundwater levels	<p>Groundwater movement in the London Clay is very slow, as shown by the lack of groundwater observed during drilling. It is therefore not anticipated that the extension of the basement below the observed groundwater table will result in significant changes to groundwater levels, but there may be some backing up of groundwater on the upstream side of the basement. Due to the shallow levels observed, some consideration should be given to providing groundwater drainage pathways around the basement structure. The assessment is based on a sparse data set and it is recommended that further groundwater level measurements are made to confirm the findings of this assessment.</p> <p>The extension of the basement below the garden area has the potential to reduce rainfall recharge to groundwater. However, recharge to the London Clay under current conditions is likely to be very limited due to its low permeability, and it is not considered that this will have a significant impact on the aquifer or on baseflow to surface water features.</p>	<p>There is not an anticipated significant change to groundwater elevations, however due to the shallow nature of the observed groundwater, some consideration should be given to providing groundwater drainage around the basement structure. Due to the sparsity of data it is recommended that ongoing groundwater monitoring is undertaken as a condition of planning permission being granted.</p> <p>There may be inflows of groundwater and surface water run-off to the excavation under wet conditions, and provision should be made to keep the excavation dry.</p> <p>Design of drainage systems should consider the requirements of sustainable urban drainage.</p> <p>The proposed basement structure should be adequately protected against ingress of groundwater, for example by construction of a cavity wall drainage system.</p>
Range of seasonal fluctuation in groundwater levels – the magnitude of seasonal variation has not been evaluated	The range of water level variation has not been established. Due to the shallow levels observed, some consideration should be given to providing groundwater drainage around the basement structure.	It is recommended that ongoing groundwater level monitoring should include winter high groundwater levels. Due to the shallow levels observed, some consideration should be given to providing groundwater drainage pathways around the basement structure.
Soil moisture –	It is not anticipated that soil moisture levels will be significantly affected by the development.	The proposed basement structure should be adequately protected against permeation of soil moisture, for example by construction of a cavity wall drainage system.

6 CONCLUSIONS

The proposal is to demolish an existing one storey extension at the rear of the property, and rebuild an extension across the full width of the property, including a basement level which will extend beyond the footprint of the ground level extension, into the back garden area, with an area of approximately 25 m² extending below existing grassed lawn. The elevation of the base of the excavation is estimated as 36 m OD.

The underlying geology comprises the London Clay. Site investigation data confirm the presence of London Clay, below clayey Made Ground, proven to 1.3 m bgl. Groundwater was not encountered during drilling, however a later groundwater level was measured at 0.67 m bgl. It is possible that the water in the borehole represents standing water accumulated from surface water and groundwater percolating through shallow Made Ground, rather than representing a true water table in the low permeability London Clay. Nonetheless, there remains the possibility that there is a shallow water table in the London Clay.

It is not anticipated that this development will have a significant impact on groundwater elevations, or on the seasonal fluctuation of groundwater levels. However, due to the observation of a shallow water table at the site, consideration should be given to provision of groundwater drainage pathways around the basement structure. Due to the sparsity of the data set, it is recommended that ongoing groundwater level monitoring should include winter high groundwater levels, to confirm that the highest groundwater levels will not affect the development.

There may be minor inflows of groundwater and surface water run-off to the excavation under wet conditions, and provision should be made to keep the excavation dry.

Design of drainage systems should consider the requirements of sustainable urban drainage.

The proposed basement structure should be adequately protected against permeation of groundwater and soil moisture, for example by construction of a cavity wall drainage system.

7 REFERENCES

Arup, 2012. Geological Hydrogeological and Hydrological Study, Guidance for subterranean development

Ground and Water, 2014. Preliminary Summary – ground investigation report

London Borough of Camden CPG4 'Basements and Lightwells'

APPENDIX A

Groundsure report



GroundSure EnvirolInsight

Address: 14F, AVENUE ROAD, LONDON, NW8 6BP

Date: 24 Nov 2014

Reference: GS-1783156

Client: H Fraser Consulting Ltd

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 20-Apr-2013
Grid Reference: 527401,183542
Site Size: 0.01ha

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Overview of Findings

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Section 1: Environmental Permits, Incidents and Registers		On-site	0-50m	51-250	251-500		
1.1 Industrial Sites Holding Environmental Permits and/or Authorisations							
1.1.1	Records of historic IPC Authorisations	0	0	0	0		
1.1.2	Records of Part A(1) and IPPC Authorised Activities	0	0	0	0		
1.1.3	Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	0	0	0	0		
1.1.4	Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0	0	0	0		
1.1.5	Records of List 1 Dangerous Substances Inventory sites	0	0	0	0		
1.1.6	Records of List 2 Dangerous Substances Inventory sites	0	0	0	0		
1.1.7	Records of Part A(2) and Part B Activities and Enforcements	0	0	0	2		
1.1.8	Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0		
1.1.9	Records of Licensed Discharge Consents	0	0	1	0		
1.1.10	Records of Planning Hazardous Substance Consents and Enforcements	0	0	0	0		
1.2	Records of COMAH and NIHHS sites	0	0	0	0		
1.3 Environment Agency Recorded Pollution Incidents							
1.3.1	National Incidents Recording System, List 2	0	0	0	0		
1.3.2	National Incidents Recording System, List 1	0	0	0	0		
1.4	Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0		
Section 2: Landfill and Other Waste Sites		On-site	0-50m	51-250	251-500	501-1000	1000-5000
2.1 Landfill Sites							
2.1.1	Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
2.1.2	Environment Agency Historic Landfill Sites	0	0	0	0	0	0
2.1.3	BGS/DoE Landfill Site Survey	0	0	0	0	0	0
2.1.4	GroundSure Local Authority Landfill Sites Data	0	0	0	0	0	0
2.2 Landfill and Other Waste Sites Findings							
2.2.1	Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
2.2.2	Environment Agency Licensed Waste Sites	0	0	0	0	0	2

Section 3: Current Land Use	On-site	0-50m	51-250	251-500
3.1 Current Industrial Sites Data	0	1	4	Not searched
3.2 Records of Petrol and Fuel Sites	0	0	0	0
3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0

Section 4: Geology	
4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	None
4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 5: Hydrogeology and Hydrology	0-500m					
5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	No					
5.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
5.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	3	7	15
5.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	3
5.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	3	2	6
5.6 Source Protection Zones (within 500m of the study site)	1	1	0	0	Not searched	Not searched
5.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
5.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	0	0	0	0	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
5.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
5.10 Detailed River Network entries within 500m of the site	0	0	2	0	Not searched	Not searched
5.11 Surface water features within 250m of the study site	No	No	Yes	Not searched	Not searched	Not searched

Section 6: Flooding

6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No
6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	No
6.3 Are there any Flood Defences within 250m of the study site?	No
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	No
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Not Prone
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Not Applicable

Section 7: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
7.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
7.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
7.5 Records of Ramsar sites	0	0	0	0	0	0
7.6 Records of Ancient Woodlands	0	0	0	0	0	0
7.7 Records of Local Nature Reserves (LNR)	0	0	0	0	1	1
7.8 Records of World Heritage Sites	0	0	0	0	0	0
7.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
7.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
7.11 Records of National Parks	0	0	0	0	0	0
7.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
7.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0

Section 8: Natural Hazards

8.1 What is the maximum risk of natural ground subsidence?	Moderate
8.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Moderate
8.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
8.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
8.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
8.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
8.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Negligible

Section 9: Mining

9.1 Are there any coal mining areas within 75m of the study site?	No
9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site?	Negligible
9.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between GroundSure and the Client. The document contains the following sections:

1. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

2. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

3. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

4. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

5. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

6. Flooding

Provides information on surface water flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

8. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence.

9. Mining

Provides information on areas of coal and shallow mining.

10. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, GroundSure provide a free Technical Helpline (08444 159000) for further information and guidance.

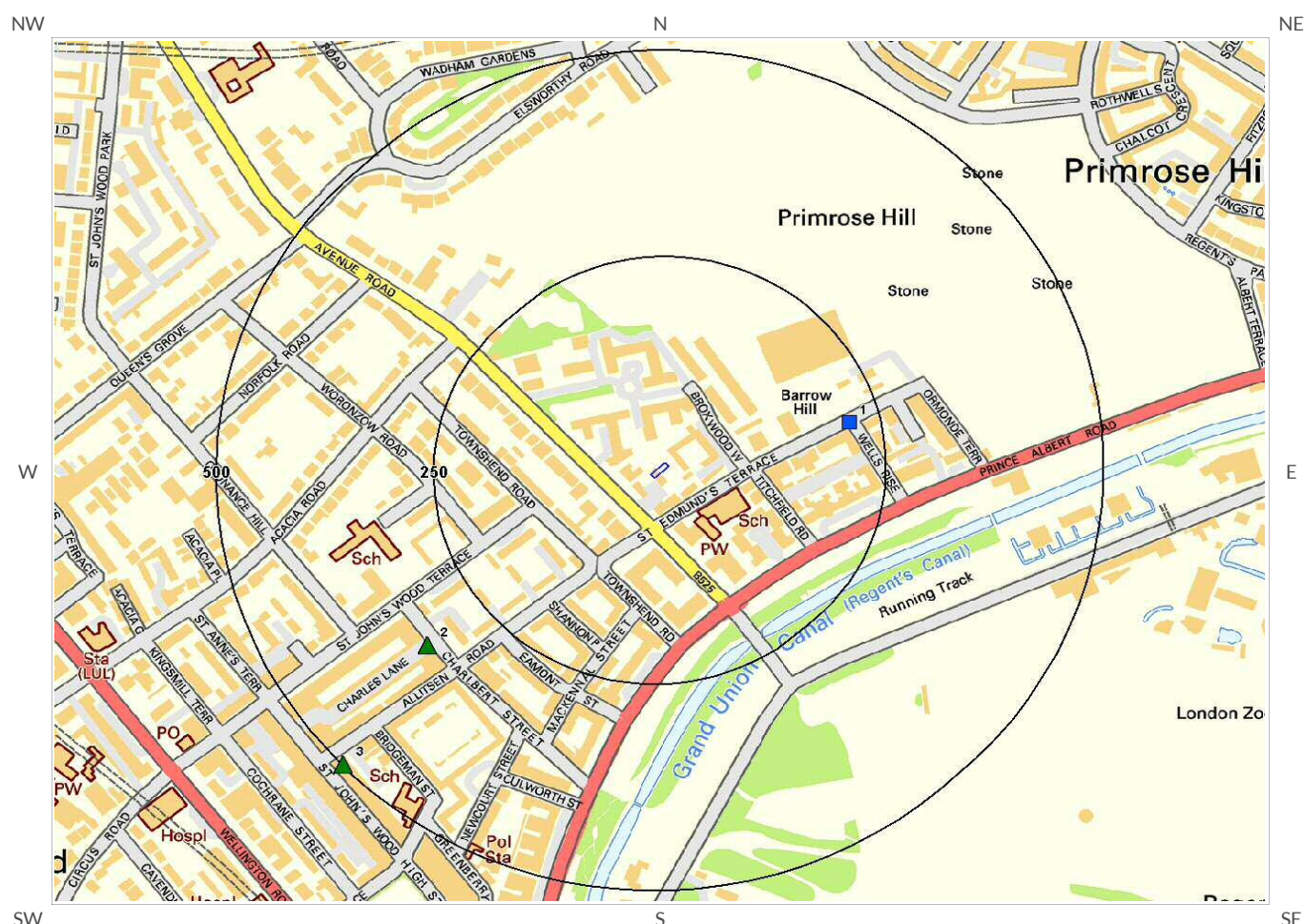
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Environmental Permits, Incidents and Registers Map



Environmental Permits,
Incidents and Registers Legend

Mapping
sourced from
Ordnance Survey

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- | | | | | | |
|--|-----------------------------|--|---|--|--|
| | Site Outline | | Recorded Pollution Incident | | RAS 3 & 4 Authorisations |
| | Search Buffers (m) | | Dangerous Substances (List 1) | | Part A(1) Authorised Processes and Historic IPC Authorisations |
| | Water Industry Referrals | | Dangerous Substances (List 2) | | Part A(2) and Part B Authorised Processes |
| | Licenced Discharge Consents | | COMAH / NIHS Sites | | Sites Determined as Contaminated Land |
| | Red List Discharge Consents | | Hazardous Substance Consents and Enforcements | | |



1. Environmental Permits, Incidents and Registers

1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

1.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1.1.6 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

2

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details
2	333.0	SW	527115 183327	Address: St John's Wood Dry Cleaners, 47 Charlbert Street, NW8 6JN Process: Dry Cleaning Processes Status: Current Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
3	500.0	SW	527019 183183	Address: Tempo Dry Cleaners, 98 St. Johns Wood High Street, NW8 7SH Process: Dry Cleaning Processes Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

1.1.9 Records of Licensed Discharge Consents within 500m of the study site:

1

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details
1	214.0	E	527600 183600	Address: Barrow Hill, Barrow Hill Effluent Type: Trade Discharges - Unspecified Permit Number: TEMP.0018 Permit Version: 1 Receiving Water: River Thames Status: Revoked - Unspecified Issue date: 15/9/1989 Effective Date: 15/9/1989 Revocation Date: 5/10/2000

1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site: 0

Database searched and no data found.

1.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

1.3 Environment Agency Recorded Pollution Incidents

1.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site: 0

Database searched and no data found.

1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site: 0

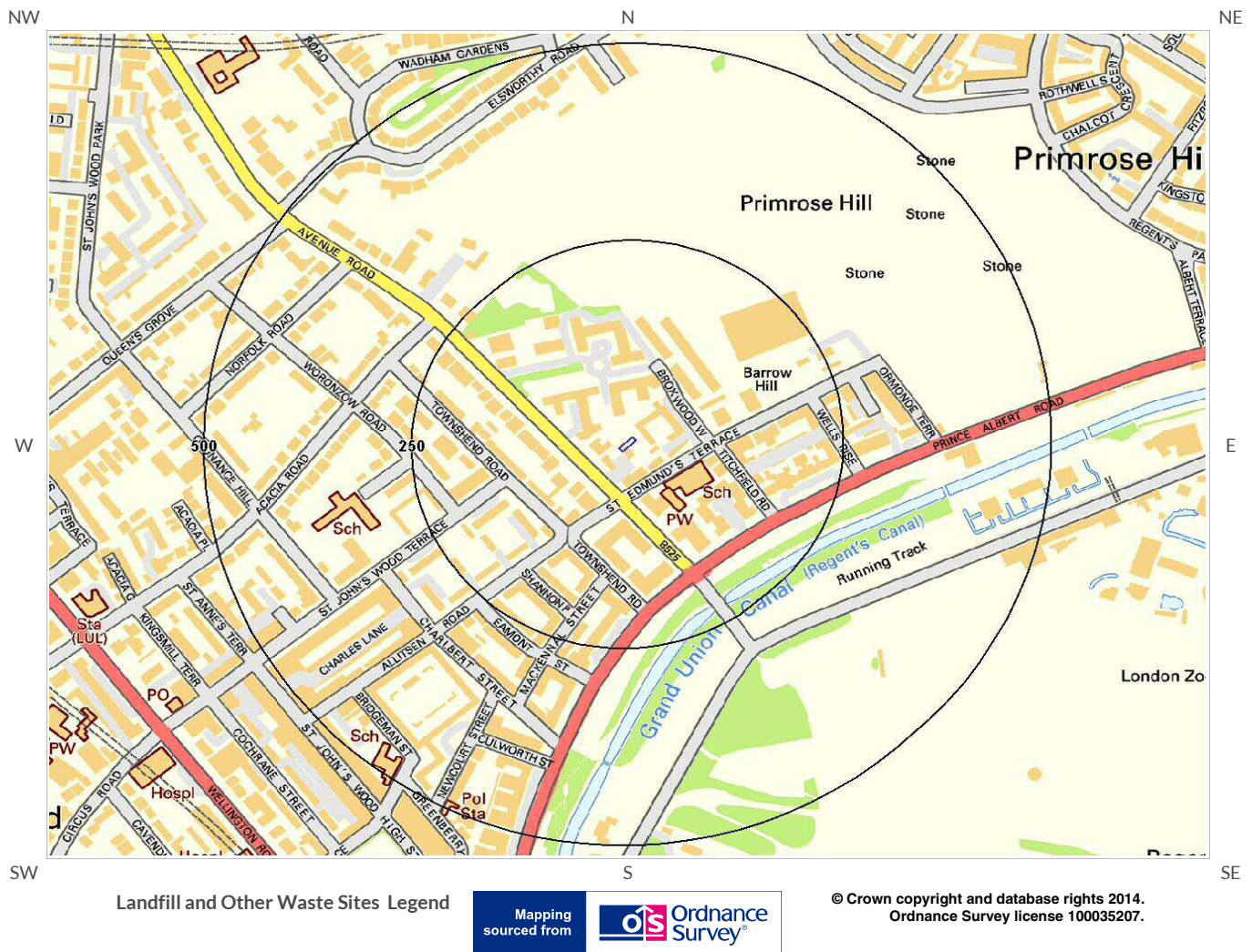
Database searched and no data found.

1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? 0

Database searched and no data found.

2. Landfill and Other Waste Sites Map





2. Landfill and Other Waste Sites

2.1 Landfill Sites

2.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

0

Database searched and no data found.

2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

0

Database searched and no data found.

2.2 Other Waste Sites

2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

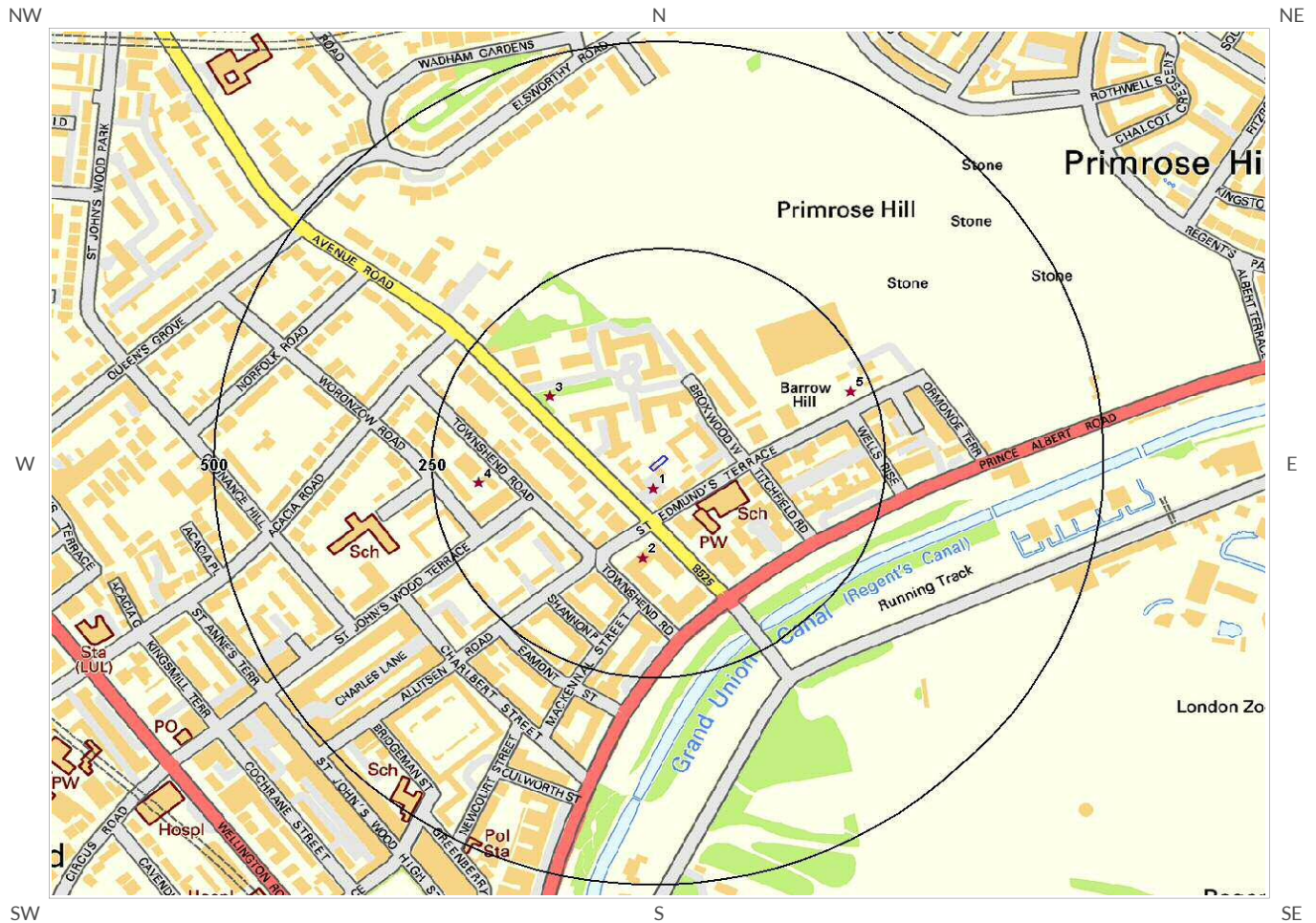
2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

2

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1365.0	E	528667 184035	Site Address: - Type: Household Waste Amenity Site Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CAM003 EPR reference: EA/EPR/UP3697NB/S002 Operator: Camden London Borough Council Waste Management licence No: 80482 Annual Tonnage: 20000.0	Issue Date: 15/10/1994 Effective Date: - Modified: - Surrendered Date: 25/07/1997 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Jamestown Road CA Site Correspondence Address: -, -
Not shown	1365.0	E	528667 184035	Site Address: - Type: Household Waste Amenity Site Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: CAM003 EPR reference: - Operator: Camden London Borough Council Waste Management licence No: 80482 Annual Tonnage: 0.0	Issue Date: 15/10/1994 Effective Date: - Modified: - Surrendered Date: 25/07/1997 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Jamestown Road Ca Site Correspondence Address: Camden LB Council, Town Hall Extension, Argyle Street, London, WC1H 8EQ

3. Current Land Use Map



Current Land Use Legend



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Site Outline



Search Buffers (m)



Current Industrial Sites



Petrol & Fuel Sites



Underground High Pressure Oil & Fuel Pipelines



3. Current Land Uses

3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

5

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	21.0	S	Electricity Sub Station	527376 183511	NW8	Electrical Features	Infrastructure and Facilities
2	106.0	S	A & A Self Storage	527365 183426	Flat 1 London House 7-9, Avenue Road, London, NW8 7PX	Container and Storage	Transport, Storage and Delivery
3	143.0	NW	Electricity Sub Station	527258 183622	NW8	Electrical Features	Infrastructure and Facilities
4	198.0	W	Electricity Sub Station	527176 183518	NW8	Electrical Features	Infrastructure and Facilities
5	225.0	E	Electricity Sub Station	527603 183628	NW8	Electrical Features	Infrastructure and Facilities

3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

0

Database searched and no data found.

3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site:

0

Database searched and no data found.



4. Geology

4.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

4.2 Superficial Ground and Drift Geology

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

4.3 Bedrock and Solid Geology

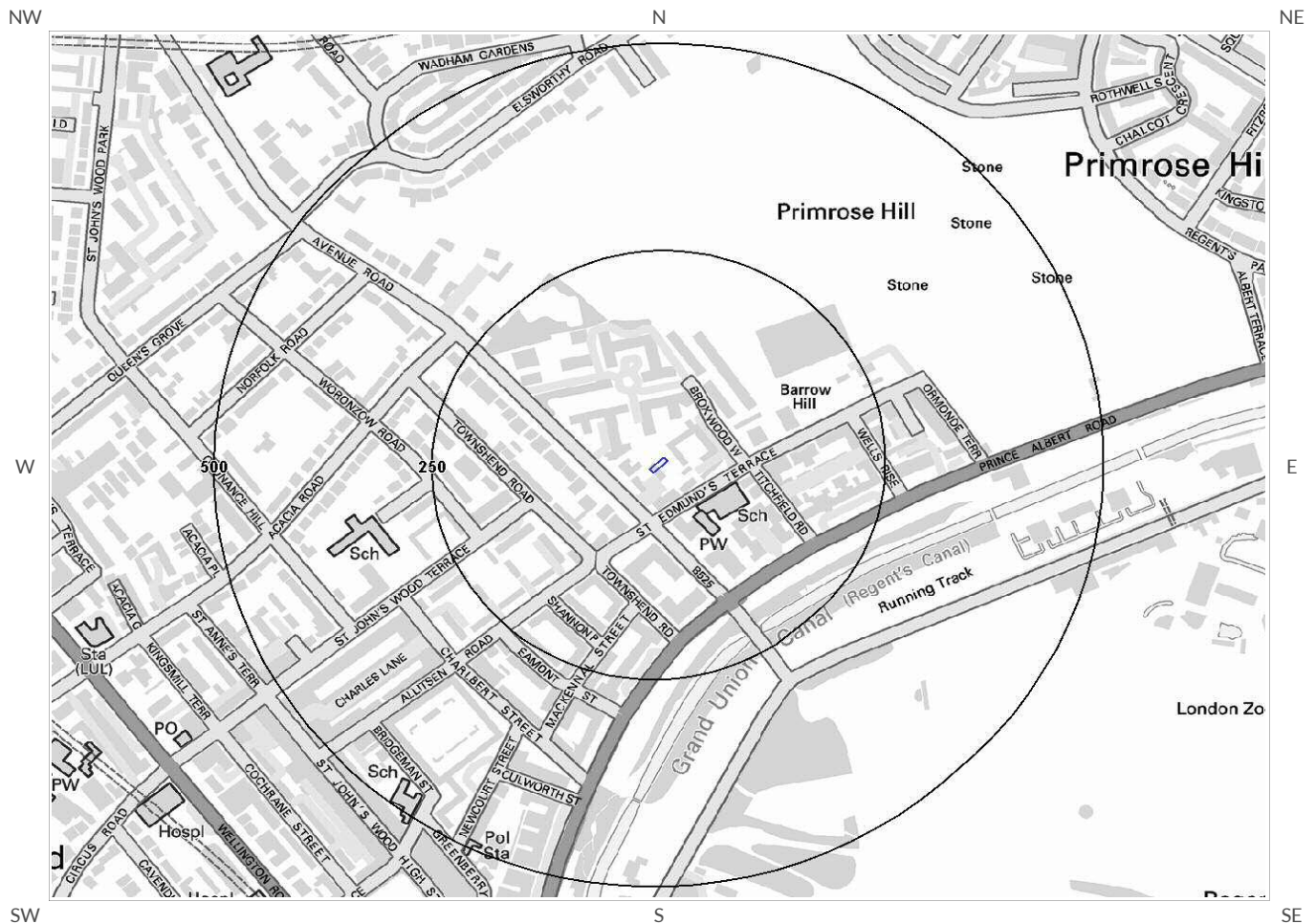
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LC-CLSS	LONDON CLAY FORMATION	CLAY, SILT AND SAND

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

5. Hydrogeology and Hydrology

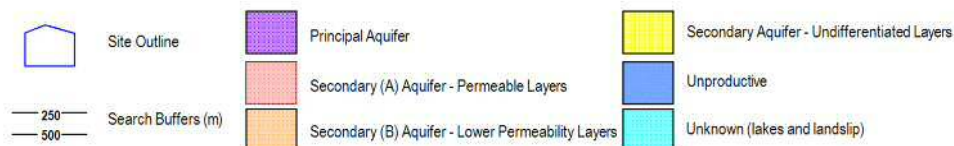
5a. Aquifer Within Superficial Geology



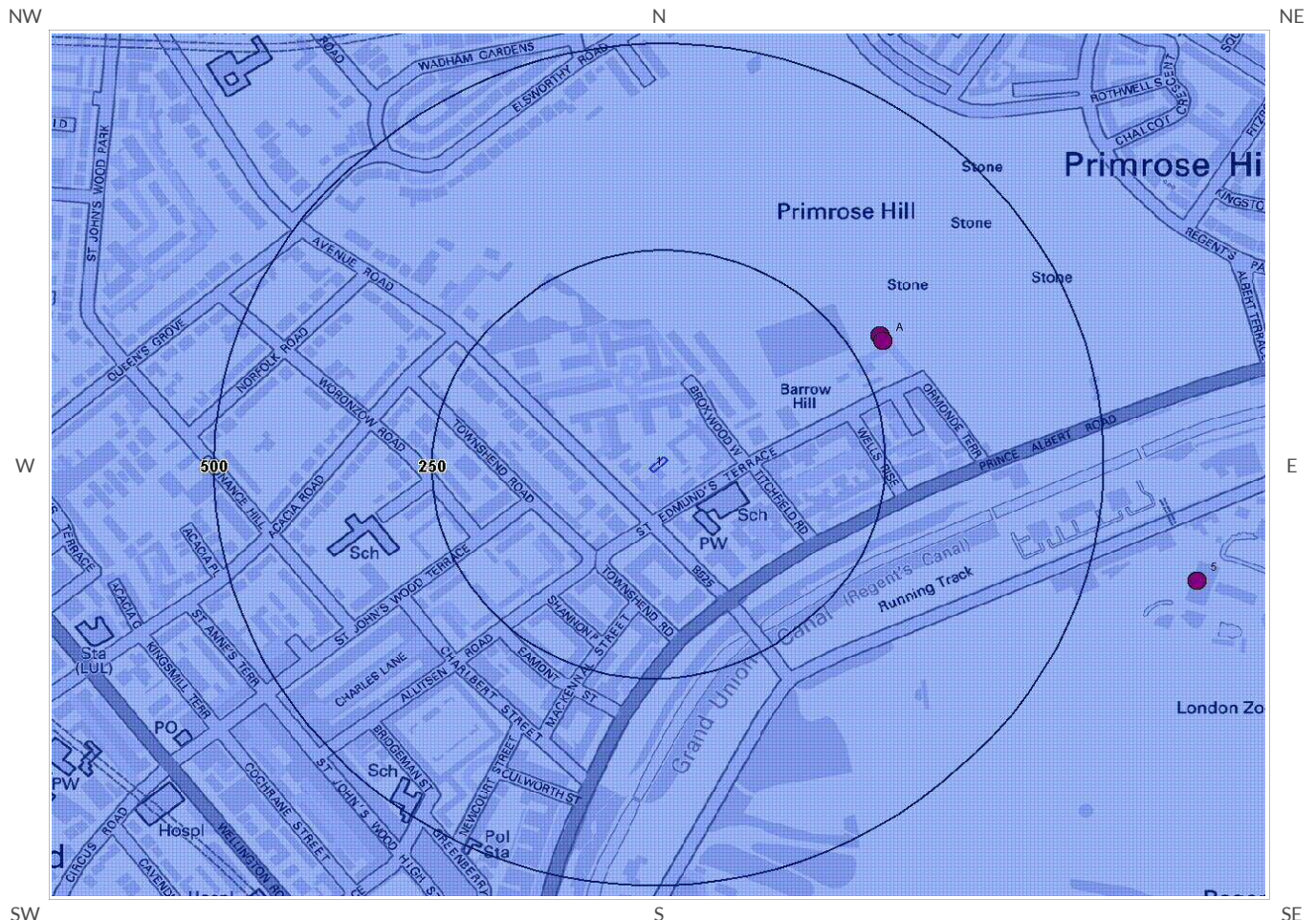
Aquifer Within Superficial Geology



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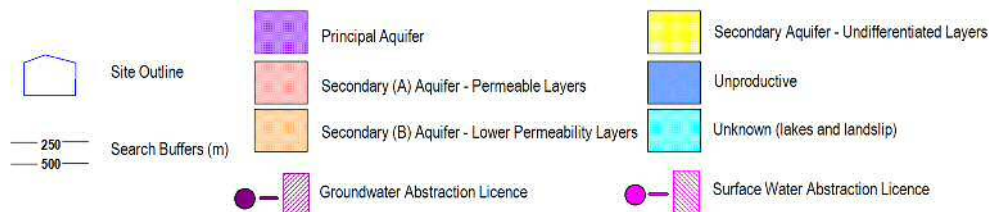
5b. Aquifer Within Bedrock Geology and Abstraction Licenses



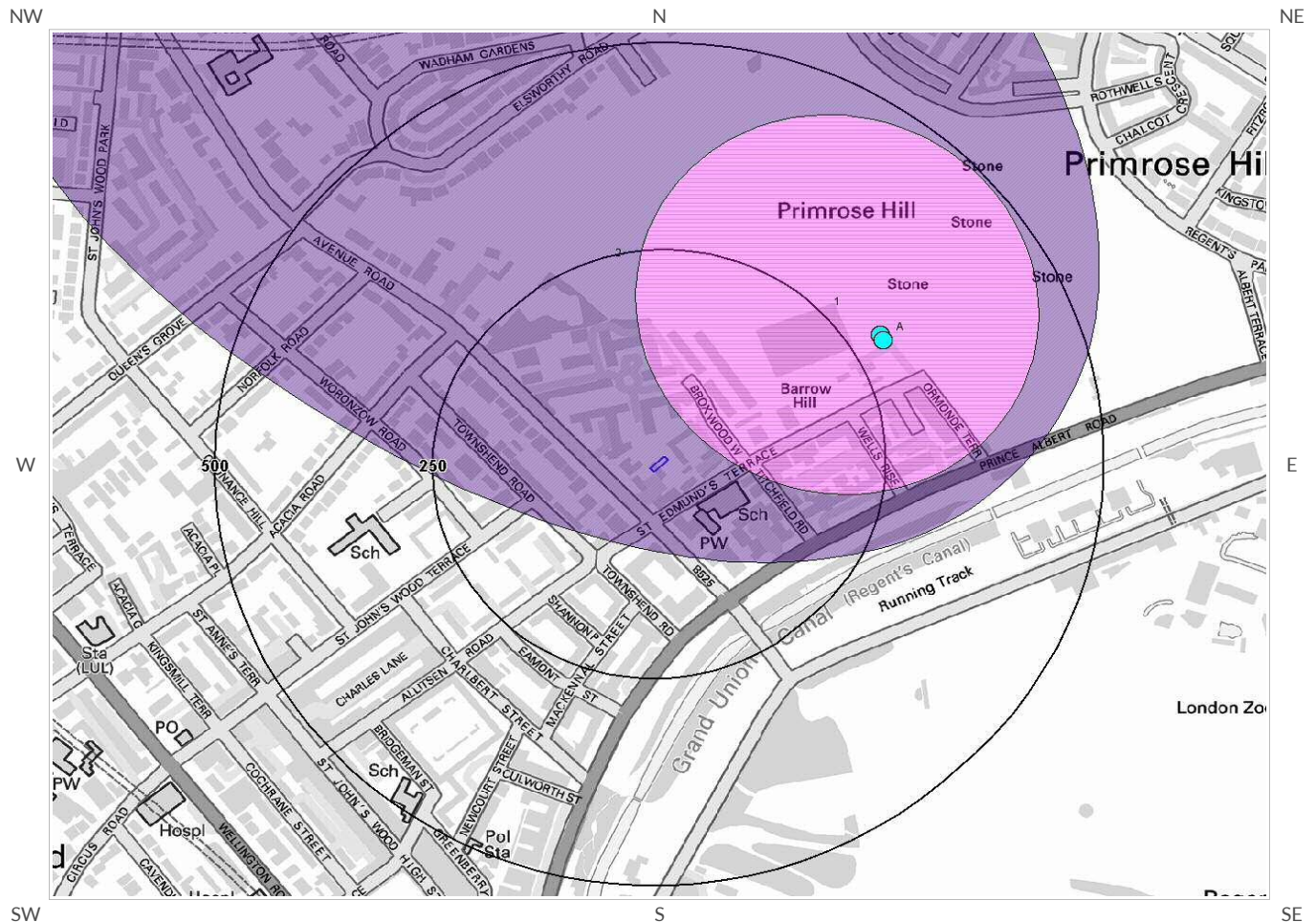
Aquifer Within Bedrock Geology and
Abstraction Licenses



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5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



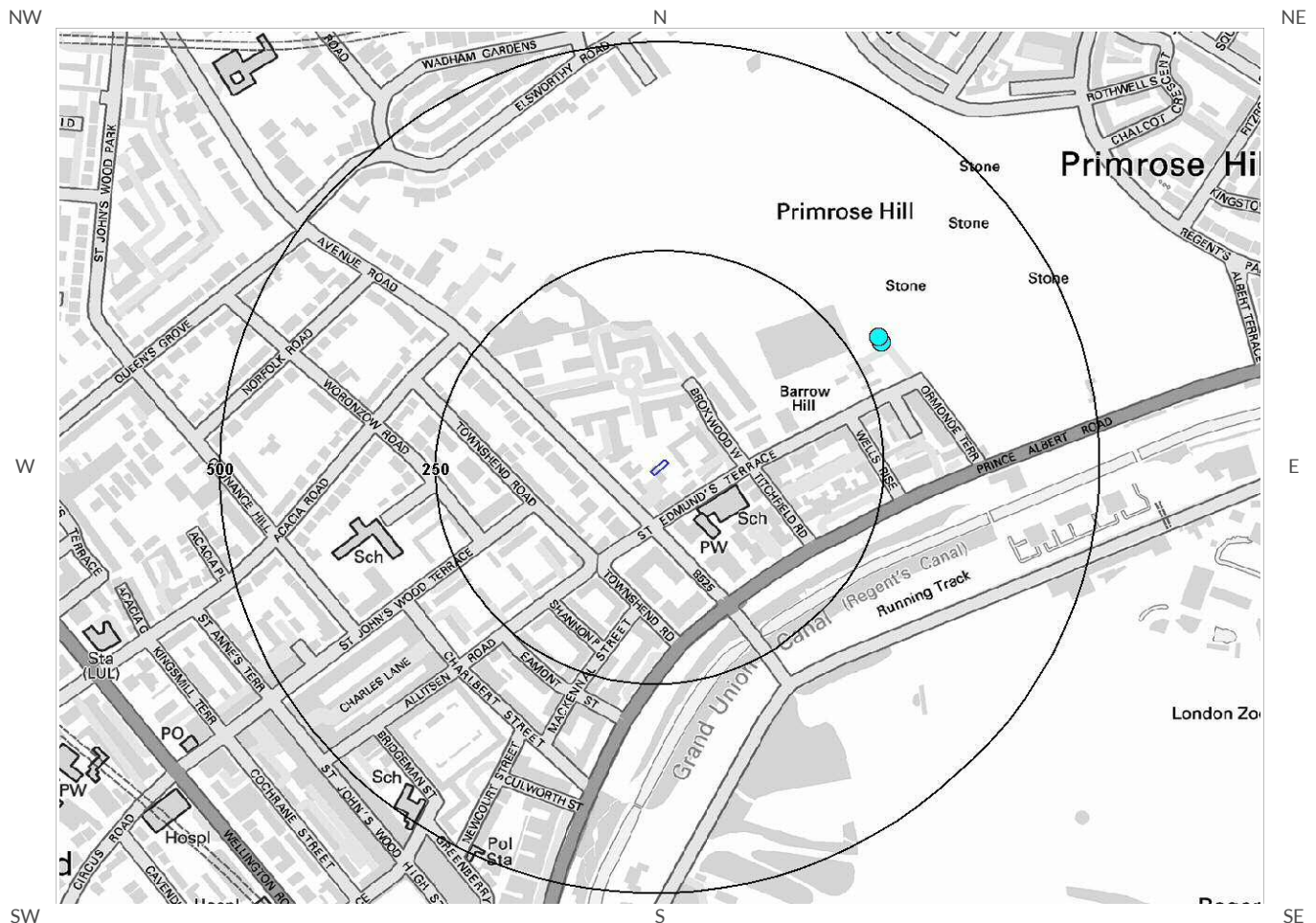
Map Legend Source Protection Zones and Potable Water Abstraction Licenses



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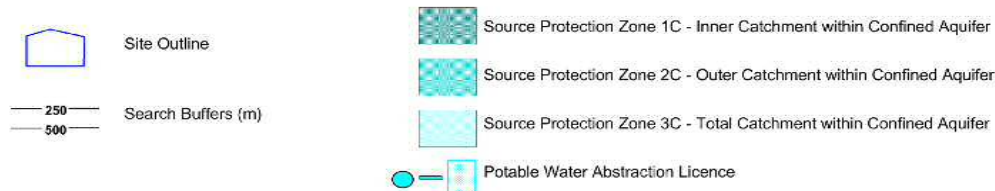
5d. Hydrology Source Protection Zones within confined aquifer



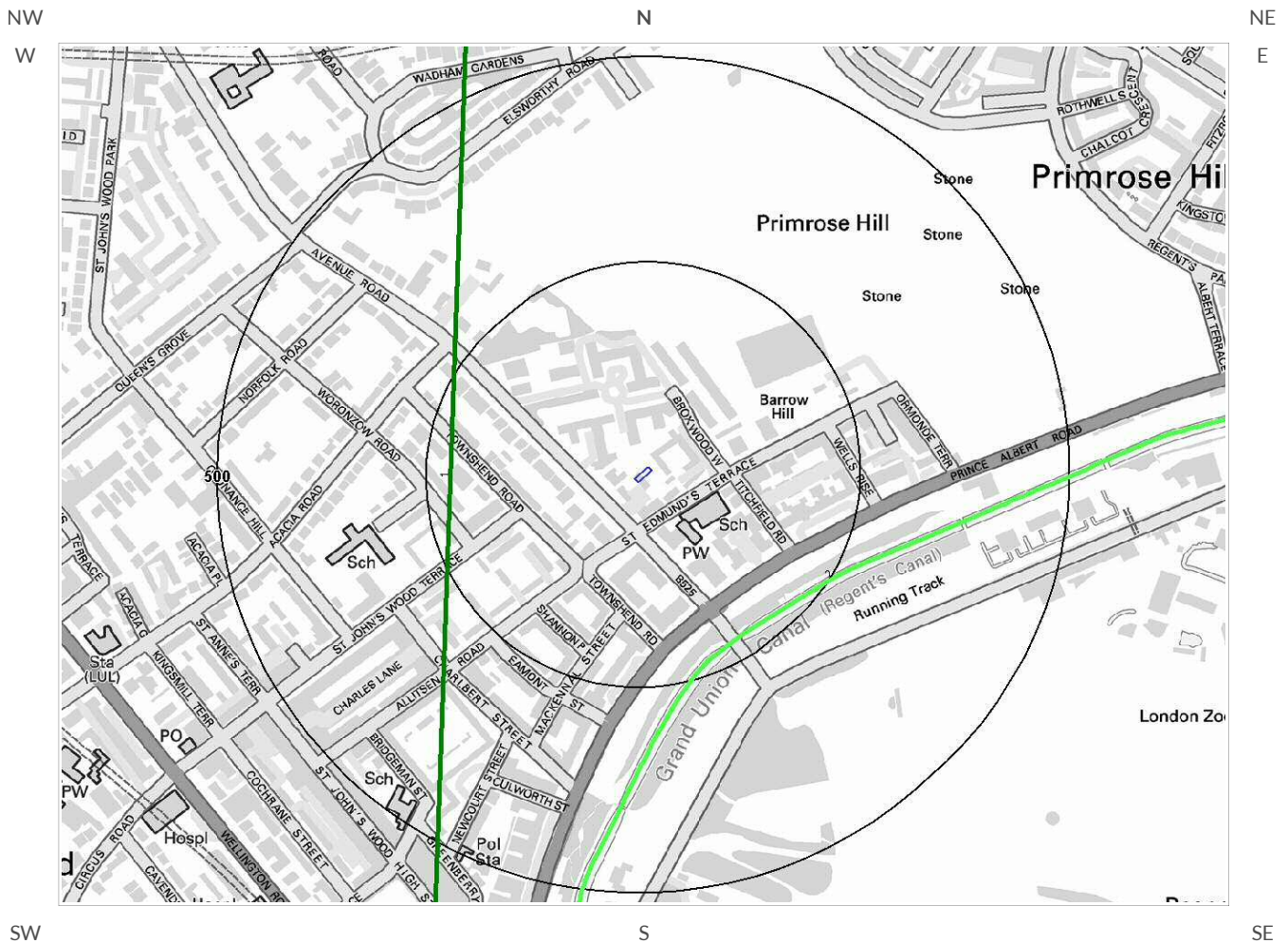
Hydrology Source Protection Zones



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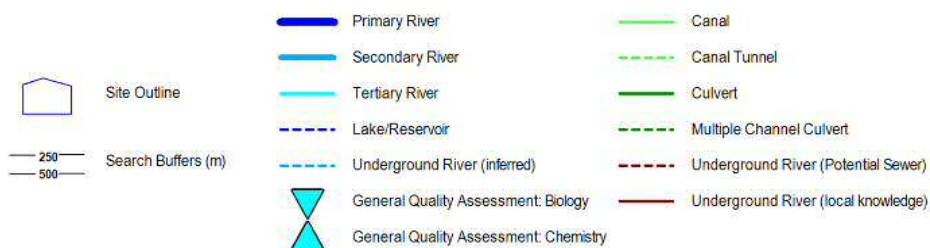
5 e. Hydrology – Detailed River Network and River Quality



Hydrology – Detailed River Network and River Quality



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5. Hydrogeology and Hydrology

5.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? No

Database searched and no data found.

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

5.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	Designation	Description
1	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details
2A	286.0	NE	527640 183690	Licence No: 28/39/39/0202 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barrow Hill Pumping Station - Borehole Data Type: Point Annual Volume (m³): 631000 Max Daily Volume (m³): 2000 Original Application No: WRA/2/2(24) Original Start Date: 26/9/2002 Expiry Date: 31/3/2007 Issue No: 1 Version Start Date: 26/9/2002 Version End Date:

ID	Distance (m)	Direction	NGR	Details
3A	286.0	NE	527640 183690	Licence No: 28/39/39/0231 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barrow Hill Pumping Station - Borehole Data Type: Point Annual Volume (m³): 631000 Max Daily Volume (m³): 2000 Original Application No: WRA/R/1026 Original Start Date: 1/4/2007 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 1/4/2007 Version End Date:
4A	286.0	NE	527636 183697	Licence No: TH/039/0039/058 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Borehole At Barrow Hill Data Type: Point Annual Volume (m³): 631000 Max Daily Volume (m³): 2000 Original Application No: NPS/WR/009229 Original Start Date: 1/4/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 1/4/2013 Version End Date:
5	624.0	E	528000 183400	Licence No: 28/39/39/0035 Details: Animal Watering & General Use in non Farming situations Direct Source: Thames Groundwater Point: Borehole At Regent's Park, London Nw1 Data Type: Point Annual Volume (m³): 681.9 Max Daily Volume (m³): 59 Original Application No: - Original Start Date: 4/4/1966 Expiry Date: - Issue No: 100 Version Start Date: 4/4/1966 Version End Date:
Not shown	913.0	S	527420 182620	Licence No: 28/39/39/0115 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Thames Groundwater Point: Abbey Lodge, Park Road, London Nw8-two Boreholes Data Type: Point Annual Volume (m³): 28640 Max Daily Volume (m³): 100 Original Application No: - Original Start Date: 5/9/1966 Expiry Date: - Issue No: 101 Version Start Date: 1/6/2006 Version End Date:
Not shown	913.0	S	527420 182620	Licence No: 28/39/39/0115 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Thames Groundwater Point: Two Boreholes At Abbey Lodge, Park Road, London Nw8 Data Type: Point Annual Volume (m³): 28640 Max Daily Volume (m³): 100 Original Application No: - Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/11/1991 Version End Date:
Not shown	937.0	NW	526800 184280	Licence No: 28/39/39/0219 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Swiss Cottage Open Space- Borehole Data Type: Point Annual Volume (m³): 10512 Max Daily Volume (m³): 28.8 Original Application No: WRA/N/1407 Original Start Date: 12/8/2005 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 1/4/2008 Version End Date:
Not shown	955.0	NW	526750 184261	Licence No: TH/039/0039/087 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Swiss Cottage Open Space- Borehole Data Type: Point Annual Volume (m³): 10512 Max Daily Volume (m³): 28.8 Original Application No: NPS/WR/014567 Original Start Date: 5/12/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 5/12/2013 Version End Date:
Not shown	955.0	NW	526750 184261	Licence No: TH/039/0039/087 Details: Lake & Pond Throughflow Direct Source: Thames Groundwater Point: Swiss Cottage Open Space- Borehole Data Type: Point Annual Volume (m³): 10512 Max Daily Volume (m³): 28.8 Original Application No: NPS/WR/014567 Original Start Date: 5/12/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 5/12/2013 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	955.0	NW	526750 184261	Licence No: TH/039/0039/087 Details: General Washing/Process Washing Direct Source: Thames Groundwater Point: Swiss Cottage Open Space- Borehole Data Type: Point	Annual Volume (m³): 10512 Max Daily Volume (m³): 28.8 Original Application No: NPS/WR/014567 Original Start Date: 5/12/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: 5/12/2013 Version End Date:
Not shown	1493.0	S	527800 182100	Licence No: 28/39/39/0070 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Borehole At Abbey House, Baker Street, London Nw1 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 2/5/2000 Version End Date:
Not shown	1508.0	S	527850 182100	Licence No: 28/39/39/0070 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Abbey House, Baker Street- Borehole Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 13/6/1966 Expiry Date: - Issue No: 102 Version Start Date: 19/12/2003 Version End Date:
Not shown	1589.0	S	527800 182000	Licence No: 28/39/39/0021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Thames Groundwater Point: Dorset House, London- 2 Boreholes Data Type: Point	Annual Volume (m³): 56370 Max Daily Volume (m³): 318 Original Application No: - Original Start Date: 13/12/1965 Expiry Date: - Issue No: 102 Version Start Date: 8/8/2005 Version End Date:
Not shown	1589.0	S	527800 182000	Licence No: 28/39/39/0021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Thames Groundwater Point: Two Boreholes At Dorset House, Gloucester Place, London. W1 Data Type: Point	Annual Volume (m³): 56370 Max Daily Volume (m³): 318 Original Application No: - Original Start Date: 13/12/1965 Expiry Date: - Issue No: 101 Version Start Date: 10/1/1994 Version End Date:
Not shown	1666.0	SE	528407 182223	Licence No: TH/039/0039/022 Details: Heat Pump Direct Source: Thames Groundwater Point: Confined Chalk, Doric Villa, York Terrace East, London Data Type: Point	Annual Volume (m³): 118260 Max Daily Volume (m³): 324 Original Application No: NPS/WR/002585 Original Start Date: 26/2/2010 Expiry Date: 31/3/2019 Issue No: 1 Version Start Date: 26/2/2010 Version End Date:
Not shown	1666.0	SE	528407 182223	Licence No: TH/039/0039/022 Details: Heat Pump Direct Source: Thames Groundwater Point: Doric Villa, York Terrace East, London Data Type: Point	Annual Volume (m³): 118260 Max Daily Volume (m³): 324 Original Application No: NPS/WR/002585 Original Start Date: 26/2/2010 Expiry Date: 31/3/2019 Issue No: 1 Version Start Date: 26/2/2010 Version End Date:
Not shown	1820.0	NE	528800 184700	Licence No: 28/39/39/0091 Details: Process Water Direct Source: Thames Groundwater Point: Kentish Town Sports Centre, Prince Of Wales St Data Type: Point	Annual Volume (m³): 17997 Max Daily Volume (m³): 604.6 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 25/5/2012 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1820.0	NE	528800 184700	Licence No: 28/39/39/0091 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Annual Volume (m³): 17997 Max Daily Volume (m³): 604.6 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 25/5/2012 Version End Date:
Not shown	1820.0	NE	528800 184700	Licence No: 28/39/39/0091 Details: Process Water Direct Source: Thames Groundwater Point: Two Bores At Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Annual Volume (m³): 94506 Max Daily Volume (m³): 1813.8 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 5/4/2012 Version End Date:
Not shown	1820.0	NE	528800 184700	Licence No: 28/39/39/0091 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Two Bores At Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Annual Volume (m³): 94506 Max Daily Volume (m³): 1813.8 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 5/4/2012 Version End Date:
Not shown	1820.0	NE	528800 184700	Licence No: 28/39/39/0091 Details: Laundry Use Direct Source: Thames Groundwater Point: Two Bores At Kentish Town Sports Centre, Prince Of Wales St Data Type: Point Annual Volume (m³): 94506 Max Daily Volume (m³): 1813.8 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 5/4/2012 Version End Date:
Not shown	1934.0	SE	528460 181930	Licence No: 28/39/39/0215 Details: Non-Evaporative Cooling Direct Source: Thames Groundwater Point: 3-5 Devonshire Place-borehole B Data Type: Point Annual Volume (m³): 122400 Max Daily Volume (m³): 511 Original Application No: WRA/N/1383 Original Start Date: 24/2/2005 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 24/2/2005 Version End Date:
Not shown	1945.0	SE	528480 181930	Licence No: 28/39/39/0215 Details: Non-Evaporative Cooling Direct Source: Thames Groundwater Point: 3-5 Devonshire Place-borehole A Data Type: Point Annual Volume (m³): 122400 Max Daily Volume (m³): 511 Original Application No: WRA/N/1383 Original Start Date: 24/2/2005 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 24/2/2005 Version End Date:
Not shown	1953.0	SE	528480 181920	Licence No: 28/39/39/0215 Details: Non-Evaporative Cooling Direct Source: Thames Groundwater Point: 20 Devonshire Place, London-borehole A Data Type: Point Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WRA/N/1383 Original Start Date: 24/2/2005 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 24/2/2005 Version End Date:
Not shown	1956.0	SE	528470 181910	Licence No: 28/39/39/0215 Details: Non-Evaporative Cooling Direct Source: Thames Groundwater Point: 20 Devonshire Place, London-borehole B Data Type: Point Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WRA/N/1383 Original Start Date: 24/2/2005 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: 24/2/2005 Version End Date:

5.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site?

Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1121.0	S	527050 182460	Licence No: 28/39/39/0164 Details: Non-Evaporative Cooling Direct Source: Thames Surface Water - Non Tidal Point: St John's Wood, London - Regents Canal Data Type: Point Annual Volume (m³): 7010000 Max Daily Volume (m³): 19520 Application No: - Original Start Date: 18/7/1980 Expiry Date: - Issue No: 101 Version Start Date: 17/12/2007 Version End Date:
Not shown	1195.0	NE	528490 184020	Licence No: 28/39/39/0173 Details: Non-Evaporative Cooling Direct Source: Thames Surface Water - Non Tidal Point: Oval Road, Camden - Grand Union Regents Canal Data Type: Point Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 8/12/1994 Expiry Date: - Issue No: 100 Version Start Date: 8/12/1994 Version End Date:
Not shown	1204.0	NE	528500 184020	Licence No: 28/39/39/0164 Details: Non-Evaporative Cooling Direct Source: Thames Surface Water - Non Tidal Point: Southampton Bridge, London, Nw8 - Regents Canal Data Type: Point Annual Volume (m³): 7010000 Max Daily Volume (m³): 19520 Application No: - Original Start Date: 18/7/1980 Expiry Date: - Issue No: 101 Version Start Date: 17/12/2007 Version End Date:

5.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (5c):

ID	Distance (m)	Direction	NGR	Details
3A	286.0	NE	527640 183690	Licence No: 28/39/39/0231 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barrow Hill Pumping Station - Borehole Data Type: Point Annual Volume (m³): 631000 Max Daily Volume (m³): 2000 Original Application No: WRA/R/1026 Original Start Date: 1/4/2007 Expiry Date: 31/3/2013 Issue No: 1 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details	
4A	286.0	NE	527640 183690	Licence No: 28/39/39/0202 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Barrow Hill Pumping Station - Borehole Data Type: Point	Annual Volume (m³): 631000 Max Daily Volume (m³): 2000 Original Application No: WRA/2/2(24) Original Start Date: 26/9/2002 Expiry Date: 31/3/2007 Issue No: 1 Version Start Date: Version End Date:
5A	286.0	NE	527636 183697	Licence No: TH/039/0039/058 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Borehole At Barrow Hill Data Type: Point	Annual Volume (m³): 631000 Max Daily Volume (m³): 2000 Original Application No: NPS/WR/009229 Original Start Date: 1/4/2013 Expiry Date: 31/3/2025 Issue No: 1 Version Start Date: Version End Date:
Not shown	913.0	S	527420 182620	Licence No: 28/39/39/0115 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Thames Groundwater Point: Two Boreholes At Abbey Lodge, Park Road, London Nw8 Data Type: Point	Annual Volume (m³): 28640 Max Daily Volume (m³): 100 Original Application No: - Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	913.0	S	527420 182620	Licence No: 28/39/39/0115 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Thames Groundwater Point: Abbey Lodge, Park Road, London Nw8-two Boreholes Data Type: Point	Annual Volume (m³): 28640 Max Daily Volume (m³): 100 Original Application No: - Original Start Date: 5/9/1966 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:
Not shown	1493.0	S	527800 182100	Licence No: 28/39/39/0070 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Borehole At Abbey House, Baker Street, London Nw1 Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:
Not shown	1508.0	S	527850 182100	Licence No: 28/39/39/0070 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Abbey House, Baker Street- Borehole Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 13/6/1966 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
Not shown	1589.0	S	527800 182000	Licence No: 28/39/39/0021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Thames Groundwater Point: Dorset House, London- 2 Boreholes Data Type: Point	Annual Volume (m³): 56370 Max Daily Volume (m³): 318 Original Application No: - Original Start Date: 13/12/1965 Expiry Date: - Issue No: 102 Version Start Date: Version End Date:
Not shown	1589.0	S	527800 182000	Licence No: 28/39/39/0021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Thames Groundwater Point: Two Boreholes At Dorset House, Gloucester Place, London. W1 Data Type: Point	Annual Volume (m³): 56370 Max Daily Volume (m³): 318 Original Application No: - Original Start Date: 13/12/1965 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1820.0	NE	528800 184700	Licence No: 28/39/39/0091 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Kentish Town Sports Centre, Prince Of Wales St Data Type: Point	Annual Volume (m³): 17997 Max Daily Volume (m³): 604.6 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:
Not shown	1820.0	NE	528800 184700	Licence No: 28/39/39/0091 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Two Bores At Kentish Town Sports Centre, Prince Of Wales St Data Type: Point	Annual Volume (m³): 94506 Max Daily Volume (m³): 1813.8 Original Application No: NPS/WR/010565 Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:

5.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? Yes

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (5c):

ID	Distance (m)	Direction	Type	Description
2	0.0	On Site	2	Outer Catchment
1	45.0	NE	1	Inner Catchment

5.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

5.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? No

Database searched and no data found.

5.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? No

5.9.1 Biological Quality:

Database searched and no data found.

5.9.2 Chemical Quality:

Database searched and no data found.

5.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (5e):

ID	Distance (m)	Direction	Details	
1	221.0	W	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
2	223.0	SE	River Name: Grand Union Canal Regent's Canal Welsh River Name: - Alternative Name: -	River Type: Canal Main River Status: Currently Undefined

5.11 Surface Water Features

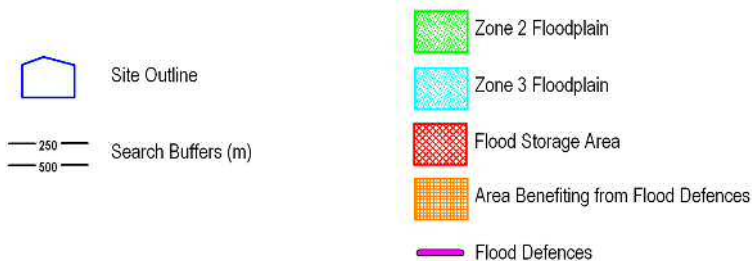
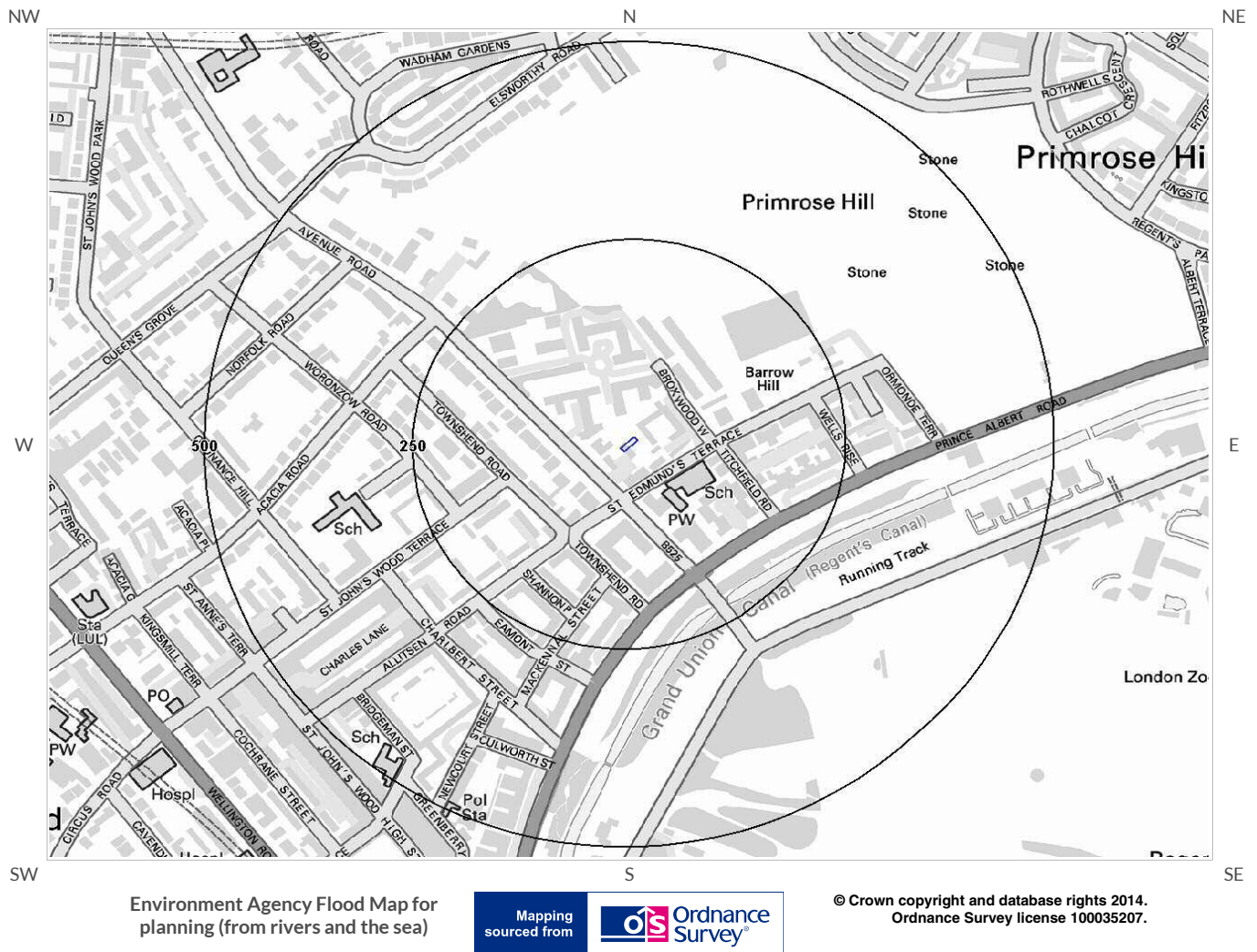
Are there any surface water features within 250m of the study site?

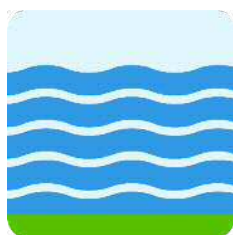
Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
217.0	SE
221.0	SE

6. Environment Agency Flood Map for planning (from rivers and the sea)





6. Flooding

6.1 Zone 2 Flooding

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning:

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Database searched and no data found.

6.2 Zone 3 Flooding

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning.

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Database searched and no data found.

6.3 Flood Defences

Are there any Flood Defences within 250m of the study site? No

Database searched and no data found.

6.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

6.5 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

6.6 Groundwater Flooding Susceptibility Areas

6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site?

No

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Not Prone

The area is not considered to be prone to groundwater flooding based on rock type.

6.7 Groundwater Flooding Confidence Areas

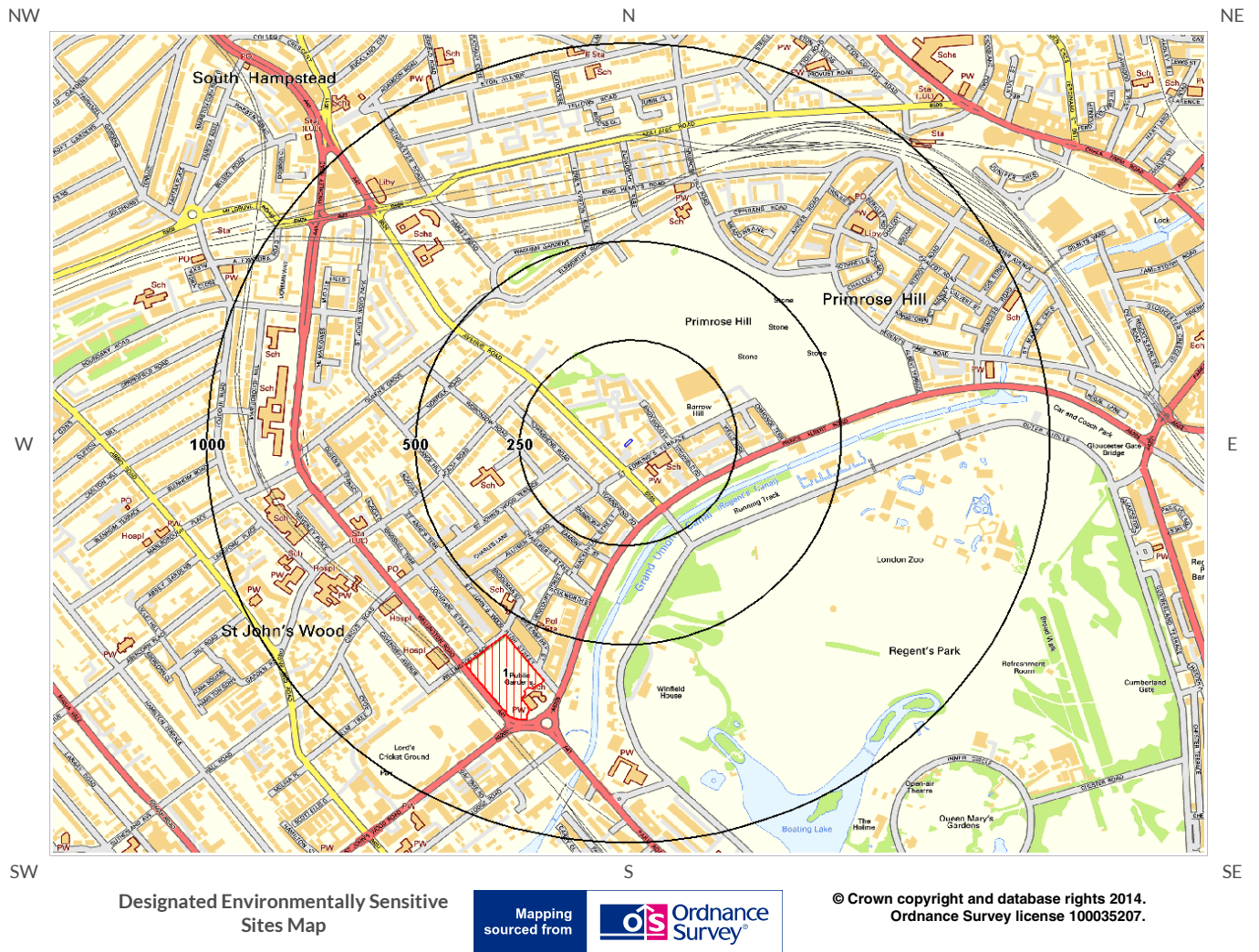
What is the British Geological Survey confidence rating in this result?

Not Applicable

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

7. Designated Environmentally Sensitive Sites Map





7. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site?	Yes
--	-----

7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:	0
--	---

Database searched and no data found.

7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:	0
---	---

Database searched and no data found.

7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:	0
--	---

Database searched and no data found.

7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:	0
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Database searched and no data found.

7.5 Records of Ramsar sites within 2000m of the study site:	0
---	---

Database searched and no data found.

7.6 Records of Ancient Woodland within 2000m of the study site:

0

Database searched and no data found.

7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

2

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
1	556.0	SW	St John's Wood Church Grounds	Natural England
Not shown	1666.0	N	Belsize Wood	Natural England

7.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

7.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.



8. Natural Hazards Findings

8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **GroundSure GeolInsight**, available from our [website](#). The following information has been found:

8.1.1 Shrink Swell

What is the maximum Shrink-Swell** hazard rating identified on the study site?

Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

8.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This indicates an automatically generated 50m buffer and site.

8.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site?

Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

8.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site?

Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

8.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site?

Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

* This indicates an automatically generated 50m buffer and site.



9. Mining

9.1 Coal Mining

Are there any coal mining areas within 75m of the study site?

No

Database searched and no data found.

9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site*?

Negligible

*Please note this data is searched with a 150m buffer.

9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site?

No

Guidance: No Guidance Required.

Contact Details

GroundSure Helpline
 Telephone: 08444 159 000
 info@groundsures.com



British Geological Survey Enquiries

Kingsley Dunham Centre
 Keyworth, Nottingham NG12 5GG
 Tel: 0115 936 3143.
 Fax: 0115 936 3276.
 Email: enquiries@bgs.ac.uk
 Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



Environment Agency

National Customer Contact Centre, PO Box 544
 Rotherham, S60 1BY
 Tel: 08708 506 506
 Web: www.environment-agency.gov.uk
 Email: enquiries@environment-agency.gov.uk



Public Health England

Public information access office
 Public Health England, Wellington House
 133-155 Waterloo Road, London, SE1 8UG
<https://www.gov.uk/government/organisations/public-health-england>
 Email: enquiries@phe.gov.uk
 Main switchboard: 020 7654 8000



The Coal Authority

200 Lichfield Lane
 Mansfield
 Notts NG18 4RG
 Tel: 0345 7626 848
 DX 716176 Mansfield 5
www.coal.gov.uk



Ordnance Survey

Adanac Drive, Southampton
 SO16 0AS
 Tel: 08456 050505



Local Authority

Authority: Camden London Borough Council
 Phone: 020 7278 4444
 Web: www.camden.gov.uk
 Address: Camden Town Hall, Judd Street, Camden, London, WC1H 9JE

Gemapping PLC

Virginia Villas, High Street, Hartley Witney,
 Hampshire RG27 8NW
 Tel: 01252 845444



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data. PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028].
 This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with GroundSure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to GroundSure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“GroundSure” means GroundSure Limited, a company registered in England and Wales under number 03421028.

“GroundSure Materials” means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

“Services” means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested GroundSure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions

implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together “Fees”).

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death

or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

- (ii) the Reports and/or Mapping provided under this Contract are
 - (a) supplied to the Client's specification(s) and in any event
 - (b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English

law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

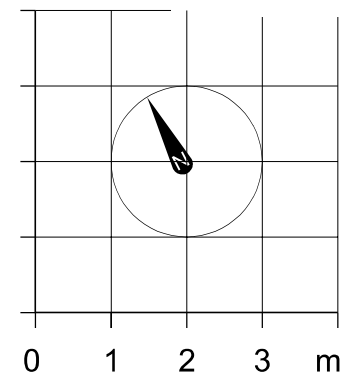
12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

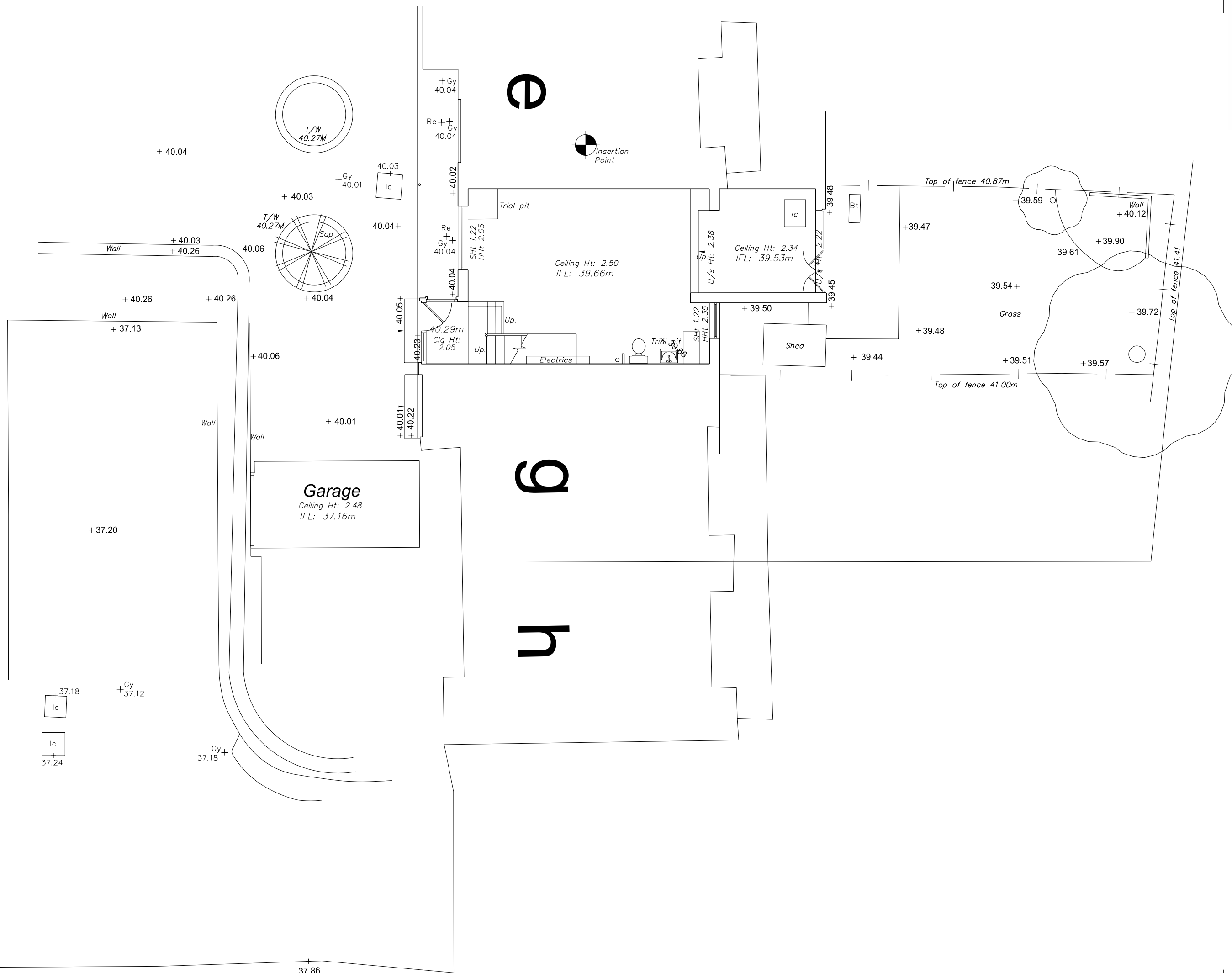
12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © GroundSure Limited June 2013

APPENDIX B

Site plans and elevations



michael@neoarchitects.co.uk

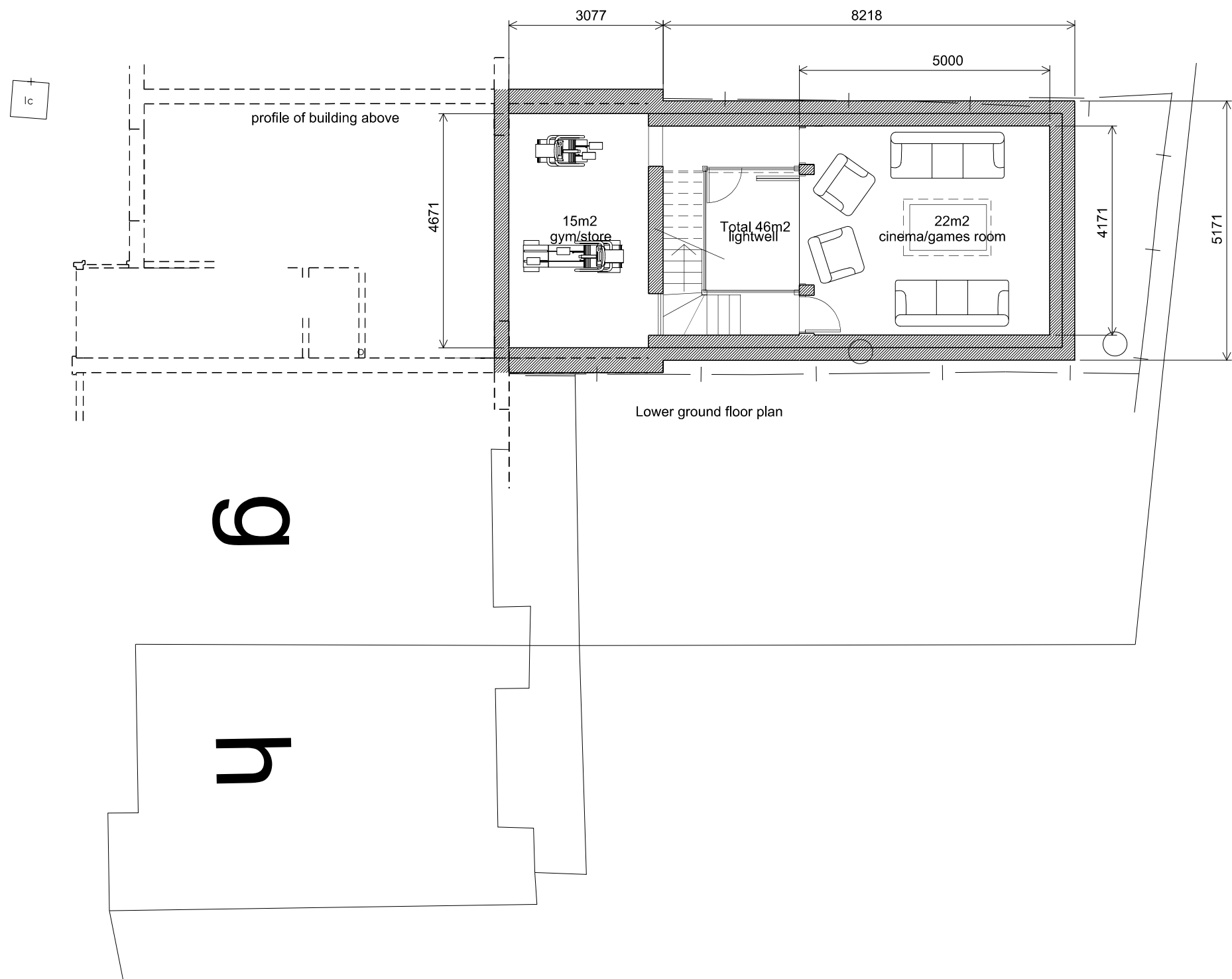
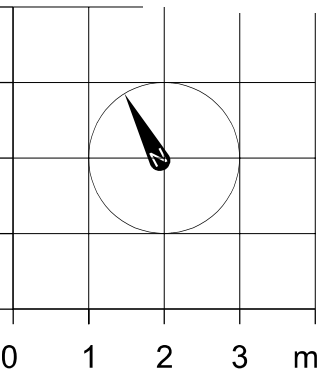




michael@neoarchitects.co.uk



ARCHITECTS



Total space GIA 46m2

Proposed room GIA 37m2

Revision

Project Title

14F Avenue Road

Drawing Title

Rear, basement and Balcony infil extensions

proposed lower ground floor

Client

Mr Khalid Zaky

Scale

1:100@A3

Date

July 2014

Drg. No.

0369 00 004

Notes

All dimensions must be checked and NEO Architects are to be informed of any discrepancies prior to construction. This drawing and any of the details therein remain the copyright of NEO Architects.

NEO Architects

8 The Drive

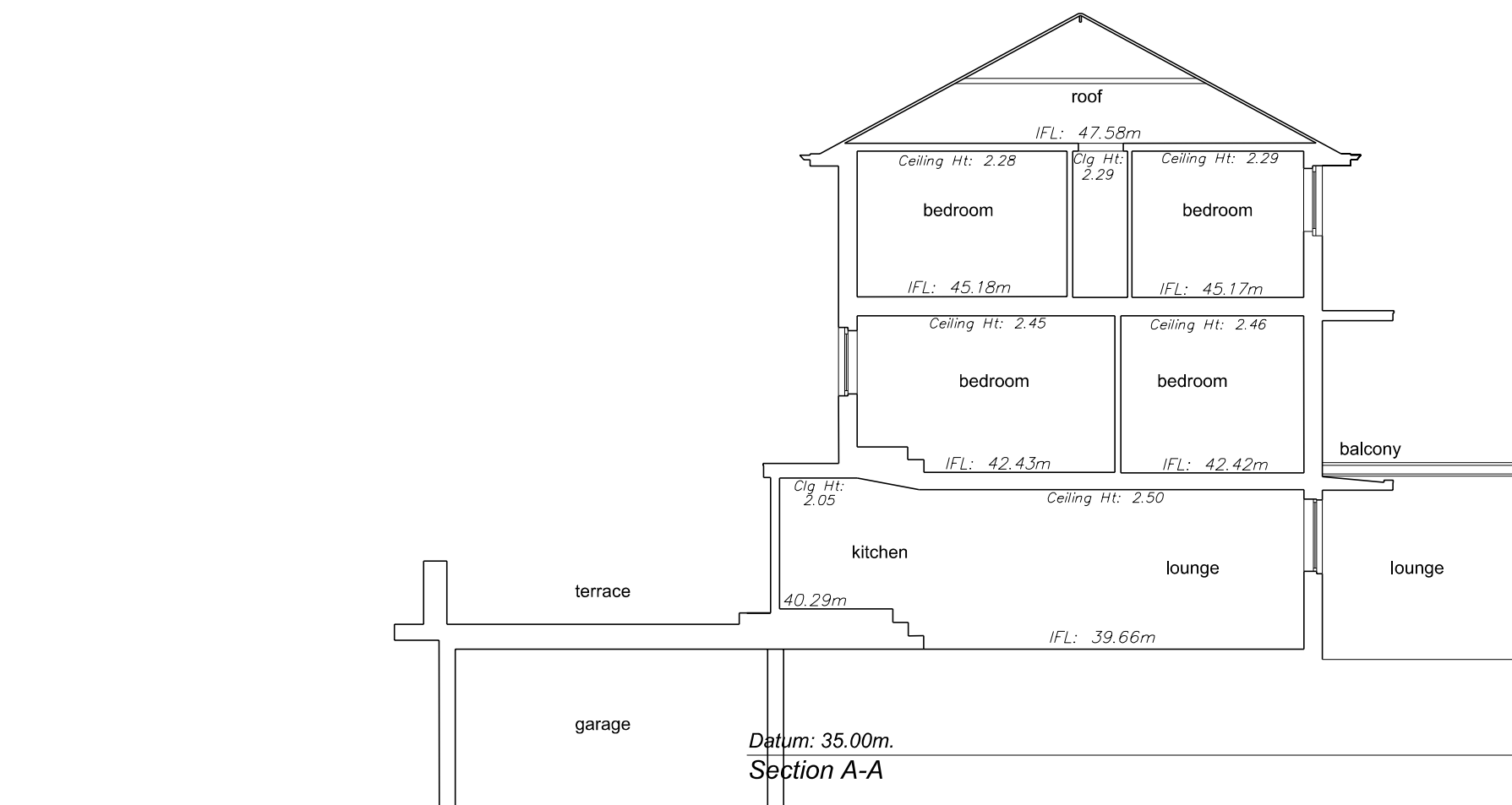
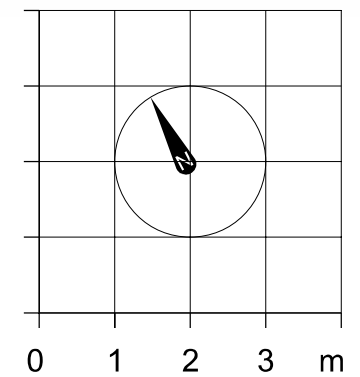
New Barnet

EN5 1DZ

Phone +44 (0) 20 82750935

Mobile 07802 237666

michael@neoarchitects.co.uk



Revision

Project Title
14F Avenue Road, NW8 6BP

Drawing Title
Rear, basement and Balcony infil
extensions

Existing Section AA

Client
Mr Khalid Zaky

Scale
1:100@A3

Date
July 2014

Drg. No.
0369 98 205

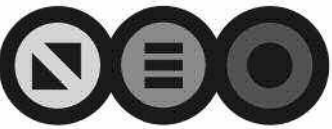
Notes

All dimensions must be checked and NEO Architects are to be informed of any discrepancies prior to construction. This drawing and any of the details therein remain the copyright of NEO Architects.

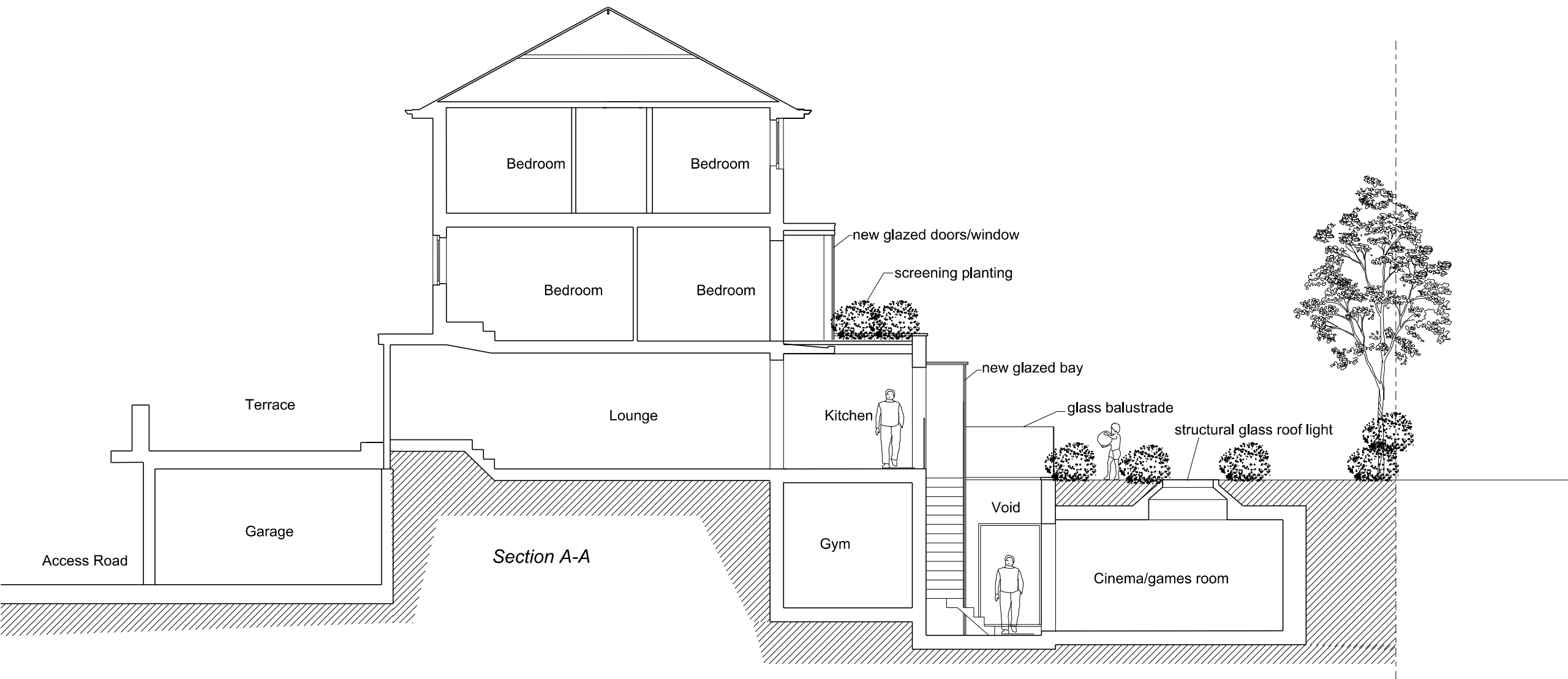
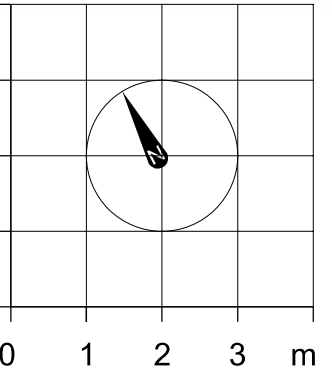
NEO Architects
8 The Drive
New Barnet
EN5 1DZ

Phone +44 (0) 20 82750935
Mobile 07802 237666

michael@neoarchitects.co.uk



▲ARCHITECTS



Revision

Project Title
14F Avenue Road

Drawing Title
Rear, basement and Balcony infill extensions
Proposed section AA

Client
Mr Khalid Zaky

Scale
1:100@A3

Date
July 2014

Drg. No.
0369 00 111a

Notes

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NEO Architects
8 The Drive
New Barnet
EN5 1DZ

Phone +44 (0) 20 82750935
Mobile 07802 237666

michael@neoarchitects.co.uk