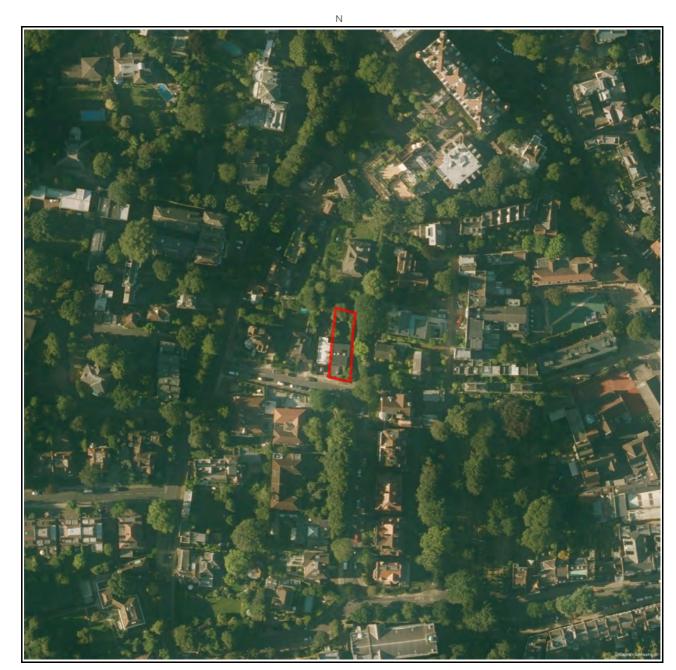
9 Groundsure Enviro Insight LOCATION INTELLIGENCE

Address:	18A, FROGNAL GARDENS, LONDON, NW3 6XA
Date:	24 Jul 2019
Reference:	SCL-6195306
Client:	Soil Consultants Ltd

NW



SW

Aerial Photograph Capture date: 12-Aug-2016 Grid Reference: 526165,185776 Site Size: 0.0409ha

Report Reference: SCL-6195306 Client Reference: 10402-BM

Е

NE





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Report Reference: SCL-6195306	

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	11	23
1.2 Additional Information - Historical Tank Database	0	0	2	4
1.3 Additional Information – Historical Energy Features Database	0	0	13	36
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	8	31
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	0	0	2	31
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	2	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	1
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	1
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0



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Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000- 1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searche
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	0	0	1	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searche
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	0	0	0	0
Section 4: Current Land Use	On-site	e	0-50m	51-25	0 2	51-500
4.1 Current Industrial Sites Data	0		0	6	No	t searched
4.2 Records of Petrol and Fuel Sites	0		0	0		0
4.3 National Grid Underground Electricity Cables	0		0	0		4
4.4 National Grid Gas Transmission Pipelines	0		0	0		0
 5.1 Records of Artificial Ground and Made Ground present beneath the study site 5.2 Records of Superficial Ground and Drift Geology present beneath the study site 	n None identified					
	None identified					
5.3 For records of Bedrock and Solid Geology beneath the study			None ic	lentified		
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.			None ic	lentified		
				lentified 00m		
site see the detailed findings section.			0-5			
site see the detailed findings section. Section 6: Hydrogeology and Hydrology 6.1 Records of Strata Classification in the Superficial Geology			0-5 None ic	00m		
site see the detailed findings section. Section 6: Hydrogeology and Hydrology 6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site 6.2 Records of Strata Classification in the Bedrock Geology within	On-site	0-50m	0-5 None ic	00m dentified tified	501-1000	1000-2000
site see the detailed findings section. Section 6: Hydrogeology and Hydrology 6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site 6.2 Records of Strata Classification in the Bedrock Geology within	On-site	0-50m	0-5 None ic Iden	00m dentified tified	501-1000	
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site see the detailed findings section. Section 6: Hydrogeology and Hydrology 6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site 6.2 Records of Strata Classification in the Bedrock Geology within 500m of the study site 6.3 Groundwater Abstraction Licences (within 2000m of the study site) 6.4 Surface Water Abstraction Licences (within 2000m of the study site) 6.5 Potable Water Abstraction Licences (within 2000m of the study	0	0	0-50 None ic Iden 51-250 0 0	00m Jentified tified 251-500 0 0	0	2000 4 0
site see the detailed findings section. Section 6: Hydrogeology and Hydrology 6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site 6.2 Records of Strata Classification in the Bedrock Geology within 500m of the study site 6.3 Groundwater Abstraction Licences (within 2000m of the study site) 6.4 Surface Water Abstraction Licences (within 2000m of the study site) 6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0 0 0	0 0 0	0-50 None ic Iden 51-250 0 0 0	00m dentified tified 251-500 0 0 0	0 0 0	2000 4 0 Not searche







Section 6: Hydrogeology and Hydrology			0-5	00m		
	On-site	0-50m	51-250	251-500	501-1000	1000- 1500
6.9 Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site	No	No	No	No	No	No
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	0	0	0	0	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Enviroment Agency Zone 2 floodplains within 250m of the study site	None identified
7.2 Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	None identified
7.3 Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site	Very Low
7.4 Flood Defences within 250m of the study site	None identified
7.5 Areas benefiting from Flood Defences within 250m of the study site	None identified
7.6 Areas used for Flood Storage within 250m of the study site	None identified
7.7 Maximum BGS Groundwater Flooding susceptibility within 50m of the study site	Limited potential
7.8 BGS confidence rating for the Groundwater Flooding susceptibility areas	Low

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000- 2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	2
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	1	2
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	3
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

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Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000- 2000	
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0	
8.11 Records of National Parks	0	0	0	0	0	0	
8.12 Records of Nitrate Sensitive Areas	0	0 0 0 0					
8.13 Records of Nitrate Vulnerable Zones	0 0 0 0 0						
8.14 Records of Green Belt land	0	0	0	0	0	0	
Section 9: Natural Hazards							
9.1 Maximum risk of natural ground subsidence			Mod	erate			
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site			Mod	erate			
9.1.2 Maximum Landslides hazard rating identified on the study site	Very Low						
9.1.3 Maximum Soluble Rocks hazard rating identified on the study site	Negligible						
9.1.4 Maximum Compressible Ground hazard rating identified on the study site	Negligible						
9.1.5 Maximum Collapsible Rocks hazard rating identified on the study site			Very	/ Low			
9.1.6 Maximum Running Sand hazard rating identified on the study site			Lo	w			
9.2 Radon							
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The site is r			Area, as less Action Leve	s than 1% of _l el.	properties	
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.						
Section 10: Mining							
10.1 Coal mining areas within 75m of the study site			None io	dentified			
10.2 Non-Coal Mining areas within 50m of the study site boundary			None io	dentified			
10.3 Brine affected areas within 75m of the study site			None io	dentified			





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. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. 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.

3. 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.

4. 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 gas pipelines and underground electricity transmission lines.

5. Geology

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

6. Hydrogeology and Hydrology

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

7. Flooding

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

8. 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.

9. 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 and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. 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

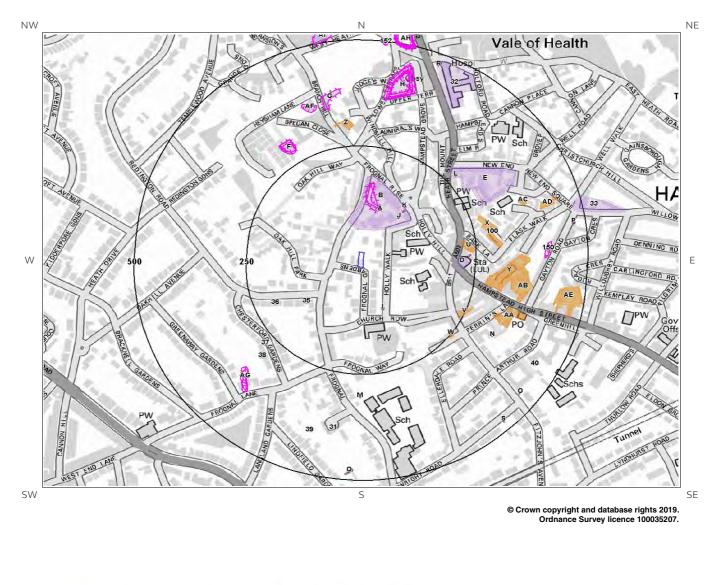
Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes 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).

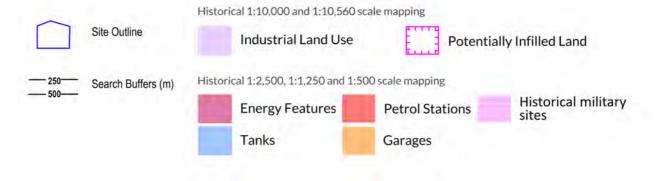
Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

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. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 34

ID	Distance [m]	Direction	Use	Date
1A	51	Ν	Hospital	1920
2A	59	Ν	Hospital	1938
3A	59	Ν	Hospital	1938
4C	103	Ν	Unspecified Ground Workings	1920
5B	106	Ν	Hospital	1894
6B	108	Ν	Hospital	1911
7C	110	Ν	Unspecified Ground Workings	1949
8D	206	E	London Transport Station	1965
9D	206	E	London Transport Station	1974
10D	206	E	London Transport Station	1996
11D	206	E	Unspecified Station	1958
12E	265	NE	Hospital	1949
13E	267	NE	Unspecified Workhouse	1911
14E	268	NE	Hospital	1965
15E	268	NE	Hospital	1974
16E	268	NE	Hospital	1958
17E	268	NE	Unspecified Workhouse	1894
18F	275	NW	Unspecified Ground Workings	1920
19F	279	NW	Unspecified Ground Workings	1949
20F	279	NW	Unspecified Ground Workings	1938
21G	344	Ν	Unspecified Ground Workings	1965
22G	344	Ν	Unspecified Ground Workings	1974
23G	344	Ν	Unspecified Ground Workings	1996
24G	344	Ν	Unspecified Ground Workings	1958
25AF	345	Ν	Unspecified Pit	1938
26H	358	Ν	Water Works	1873
27H	365	Ν	Unspecified Heap	1996
28H	365	Ν	Unspecified Heap	1965





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29H	365	Ν	Unspecified Heap	1974
30H	365	Ν	Unspecified Heap	1958
31	372	S	Unspecified Tanks	1911
32	386	NE	Hospital	1996
33	472	E	Militia Barracks	1873
34AI	499	Ν	Unspecified Pit	1873

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

6

ID	Distance (m)	Direction	Use	Date
35	137	SW	Unspecified Tank	1896
36	200	SW Unspecified Tank		1896
37	272	SW	Unspecified Tank	1896
38	297	SW Unspecified Tank		1896
39	400	S Unspecified Tank		1870
40	445	SE Unspecified Tank 189		1896

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary:

49

		D 1		
ID	Distance (m)	Direction	Use	Date
411	101	SE	Electricity Substation	1998
421	101	SE	Electricity Substation	1991
431	102	SE	Electricity Substation	1974
44J	110	NE	Electricity Substation	1991
45J	110	NE	Electricity Substation	1953
46J	111	NE	Electricity Substation	1974
47J	111	NE	Electricity Substation	1953
48J	111	NE	Electricity Substation	1953
49J	128	NE	Electricity Substation	1953
50J	128	NE	Electricity Substation	1953
51K	139	NE	Electricity Substation	1998
52K	140	NE	Electricity Substation	1953

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53D	230	E	Electricity Substation	1998
54L	272	NE	Electricity Substation	1974
55L	272	NE	Electricity Substation	1998
56L	272	NE	Electricity Substation	1991
57M	301	S	Electricity Substation	1995
58M	301	S	Electricity Substation	1992
59M	302	S	Electricity Substation	1991
60M	302	S	Electricity Substation	1970
61M	302	S	Electricity Substation	1978
62N	327	SE	Electricity Substation	1998
63N	327	SE	Electricity Substation	1991
64N	328	SE	Electricity Substation	1974
650	455	SE	Electricity Substation	1991
660	455	SE	Electricity Substation	1986
670	455	SE	Electricity Substation	1991
680	455	SE	Electricity Substation	1977
69P	468	E	Electricity Substation	1991
70P	469	E	Electricity Substation	1978
71Q	470	S	Electricity Substation	1970
72Q	470	S	Electricity Substation	1973
73R	471	Ν	Electricity Substation	1991
74R	471	Ν	Electricity Substation	1991
75R	471	Ν	Electricity Substation	1973
76P	471	E	Electricity Substation	1978
775	472	SE	Electricity Substation	1995
785	472	SE	Electricity Substation	1992
795	472	SE	Electricity Substation	1991
80S	472	SE	Electricity Substation	1995
81Q	478	S	Electricity Substation	1992
82Q	478	S	Electricity Substation	1991
83Q	479	S	Electricity Substation	1953
84T	493	NE	Electricity Substation	1954
85T	493	NE	Electricity Substation	1953
86T	493	NE	Electricity Substation	1986
87T	493	NE	Electricity Substation	1991
88T	493	NE	Electricity Substation	1987
	493	NE	Electricity Substation	

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary:





1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 39

ID	Distance (m)	Direction	Use	Date
90U	219	E	Garage	1953
91U	219	E	Garage	1953
92U	219	E	Garage	1953
93V	234	SE	Garage	1953
94V	234	SE	Garage	1953
95W	240	SE	Garage	1953
96W	240	SE	Garage	1953
97W	241	SE	Garage	1953
98X	264	E	Garage	1953
99X	264	E	Garage	1953
100	269	E	Garage	1953
101Y	274	E	Garage	1965
102Y	275	E	Garage	1974
103Y	275	E	Garage	1966
104Y	275	E	Garage	1953
105Z	288	Ν	Garage	1953
106Z	288	Ν	Garage	1953
107Z	288	Ν	Garage	1973
108Z	288	Ν	Garage	1991
109Z	288	Ν	Garage	1991
110Z	288	Ν	Garage	1953
111Z	288	Ν	Garage	1953
112AA	311	E	Garage	1965
113AA	319	E	Garage	1953
114Y	328	E	Garage	1966
115Y	328	E	Garage	1973
116Y	328	E	Garage	1953
117AB	334	E	Garage	1953
118AA	343	E	Garage	1953
119AB	344	E	Garage	1953
120AC	364	E	Garage	1953
121AC	364	E	Garage	1973
122AC	364	E	Garage	1966
123AC	364	E	Garage	1953





124AC	364	E	Garage	1965
125AD	405	E	Garage	1953
126AD	406	E	Garage	1953
127AE	432	E	Garage	1953
128AE	432	E	Garage	1953

1.6 Historical military sites

Certain military installations were not noted on historic mapping for security reasons. Whilst not all military land is necessarily of concern, Groundsure has researched and digitised a number of Ordnance Factories and other military industrial features (e.g. Ordnance Depots, Munitions Testing Grounds) which may be of contaminative concern. This research was drawn from a number of different sources, and should not be regarded as a definitive or exhaustive database of potentially contaminative military installations. The boundaries of sites within this database have been estimated from the best evidence available to Groundsure at the time of compilation.

Records of historical military sites within 500m of the search boundary:

0

Database searched and no data found.

1.7 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 33

ID	Distance(m)	Direction	Use	Date
129B	103	Ν	Unspecified Ground Workings	1920
130B	110	Ν	Unspecified Ground Workings	1949
131F	275	NW	Unspecified Ground Workings	1920
132F	279	NW	Unspecified Ground Workings	1949
133F	279	NW	Unspecified Ground Workings	1938
134AG	343	SW	Ponds	1894
135G	344	Ν	Unspecified Ground Workings	1958
136G	344	Ν	Unspecified Ground Workings	1974
137G	344	Ν	Unspecified Ground Workings	
138G	344	Ν	Unspecified Ground Workings	1965
139AF	345	Ν	Unspecified Pit	1938
140AG	346	SW	Ponds	1873
141H	365	Ν	Unspecified Heap	1958
142H	365	Ν	Unspecified Heap	1965
143H	365	Ν	Unspecified Heap	1974
144H	365	Ν	Unspecified Heap	1996

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

Groundsure

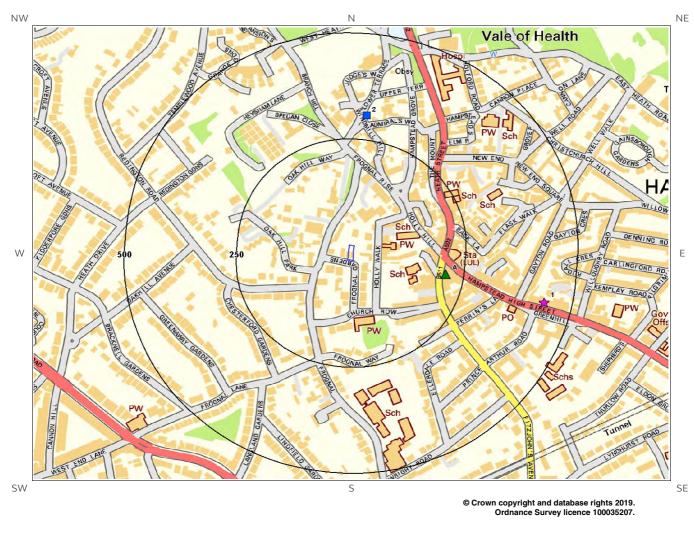


LOCATION INTELLIGENCE				
145H	367	Ν	Reservoir	1938
146H	372	Ν	Reservoir	1920
147H	376	Ν	Reservoir	1949
148H	378	Ν	Reservoir	1938
149H	395	Ν	Covered Reservoir	1873
150	403	E	Pond	1873
151AH	490	Ν	Pond	1894
152	491	Ν	Pond	1949
153AH	491	Ν	Pond	1873
154AH	493	Ν	Pond	1920
155AH	494	Ν	Pond	1996
156AH	494	Ν	Pond	1974
157AH	494	Ν	Pond	1965
158AH	494	Ν	Pond	1958
159AH	495	Ν	Pond	1938
160AH	496	Ν	Pond	1938
161AI	499	Ν	Unspecified Pit	1873





2. Environmental Permits, Incidents and Registers Map









2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

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

Database searched and no data found.

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

Database searched and no data found.

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

0

0

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0



2

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

ID	Distance (m)	Direction	NGR	Details		
3A	209	E	526376 185724	Address: Perkins Dry Cleaners, 40 Heath Street, NW3 6TE Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified	
4A	209	E	526376 185724	Address: Perkins Dry Cleaners, 40 Heath Street, NW3 6TE Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified	

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 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 (m)	Direction	NGR	Details		
2	307	Ν	526200 186100	Address: Hampstead Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: TEMP.0140 Permit Version: 1	Receiving Water: RIVER THAMES Status: REVOKED - UNSPECIFIED Issue date: 15/09/1989 Effective Date: 15-Sep-1989 Revocation Date: 05/10/2000	

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

0





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

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

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

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

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

1

0

0

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	437	E	526595.0 185659.0	Incident Date: 13-Feb-2002 Incident Identification: 58214.0 Pollutant: Contaminated Water Pollutant Description: Firefighting Run- Off	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

0

Database searched and no data found.

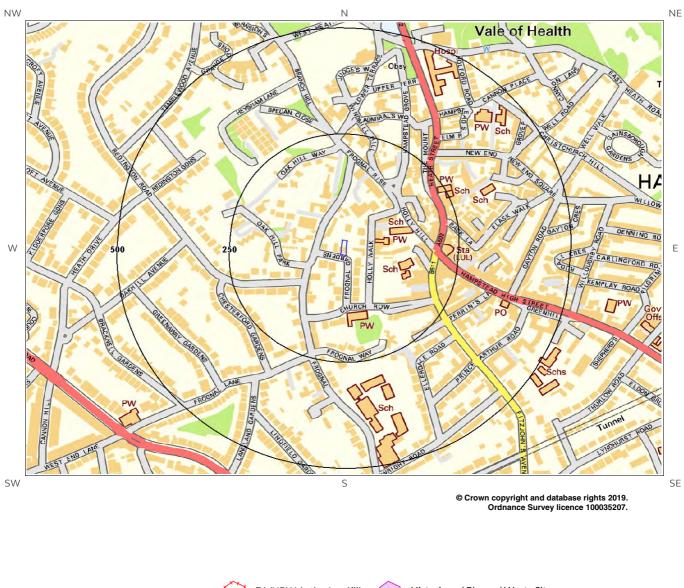
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

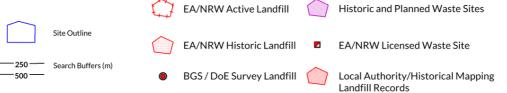
Records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site 0





3. Landfill and Other Waste Sites Map









3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

1

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details		
Not shown	948	S		Site Address: Canfield Place, London NW6 Waste Licence: - Site Reference: DON009 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -	

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

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

0





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

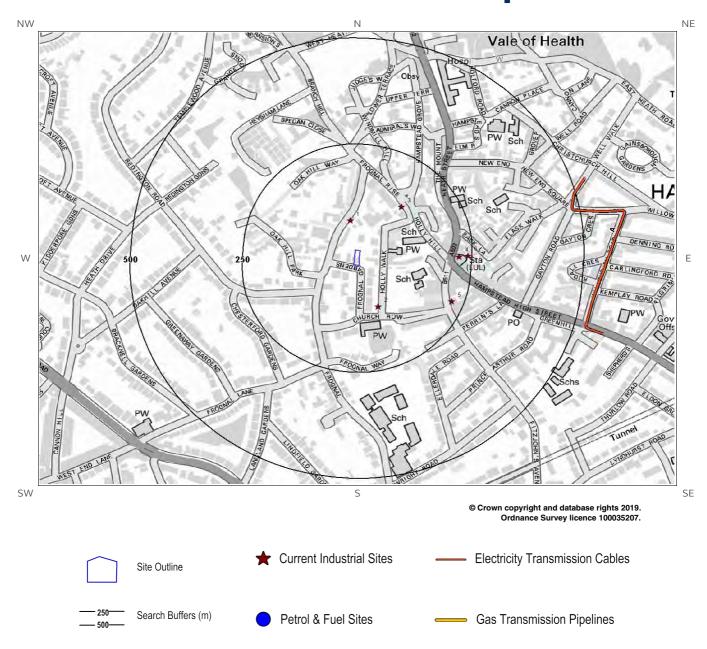
0

0

Database searched and no data found.

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:









4. Current Land Uses

4.1 Current Industrial Data

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

6

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

ID	Distance (m)	Directio n	Company	NGR	Address	Activity	Category
1	71	Ν	Mysparks Ltd	526150 185865	122, Frognal, London, Greater London, NW3 6XU	Electrical and Electronic Engineers	Engineering Services
2	103	SE	Electricity Sub Station	526212 185662	Greater London, NW3	Electrical Features	Infrastructure and Facilities
3	139	NE	Electricity Sub Station	526264 185897	Greater London, NW3	Electrical Features	Infrastructure and Facilities
4	221	E	Hampstead	526392 185780	Hampstead Station, Hampstead High Street, London, Greater London, NW3 1QG	Underground Network Stations	Public Transport, Stations and Infrastructure
5	223	E	Boots Hearing Care	526376 185674	26, Heath Street, London, Greater London, NW3 6TE	Disability and Mobility Equipment	Consumer Products
6	240	E	Electricity Sub Station	526412 185782	Greater London, NW3	Electrical Features	Infrastructure and Facilities

4.2 Petrol and Fuel Sites

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

Database searched and no data found.

0





4

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

The following Underground Electricity Transmission Cable records are represented as linear features on the Current Land Use map:

ID	Distanc e (m)	Direction	Details	
7A 483 E		E	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -
8A	483	E	Cable Set: CABLE SECT 13 Cable Route: DISCONNECTED MILL HILL - ST JOHNS WOOD 2 Cable Make: -	Cable Type: A/C Operating Voltage (kV): 132 Year of installation: 1963 Cable in tunnel: N
9A	484	Cable Set: CABLE SECT 13 Cable Route: DISCONNECTED MILL HILL - ST JOHNS WOOD 1 Cable Make: -		Cable Type: A/C Operating Voltage (kV): 132 Year of installation: 1963 Cable in tunnel: N
10A	484	E	Cable Set: - Cable Route: - Cable Make: -	Cable Type: PILOT Operating Voltage (kV): - Year of installation: - Cable in tunnel: -

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

Database searched and no data found.

0





5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

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

5.2 Superficial Ground and Drift Geology

Database searched and no data found.

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

5.3 Bedrock and Solid Geology

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

Lex Code	Description	Rock Type
BGS-S	BAGSHOT FORMATION	SAND
CLGB-XCZS	CLAYGATE MEMBER	CLAY, SILT AND SAND

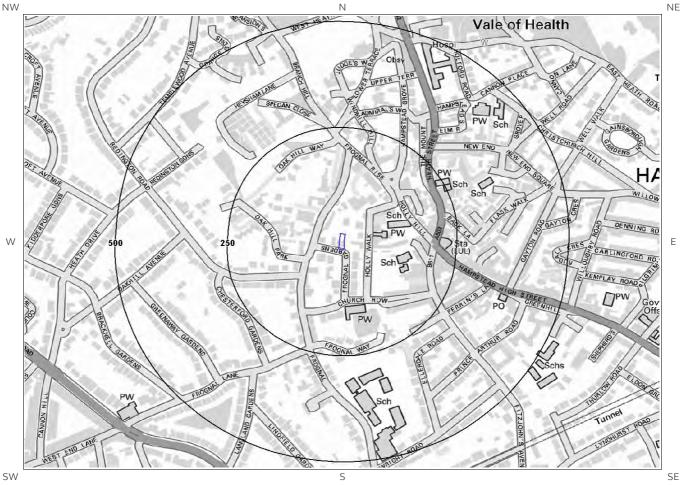
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)



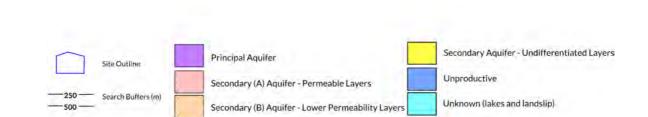


6 Hydrogeology and Hydrology 6a. Aquifer Within Superficial Geology





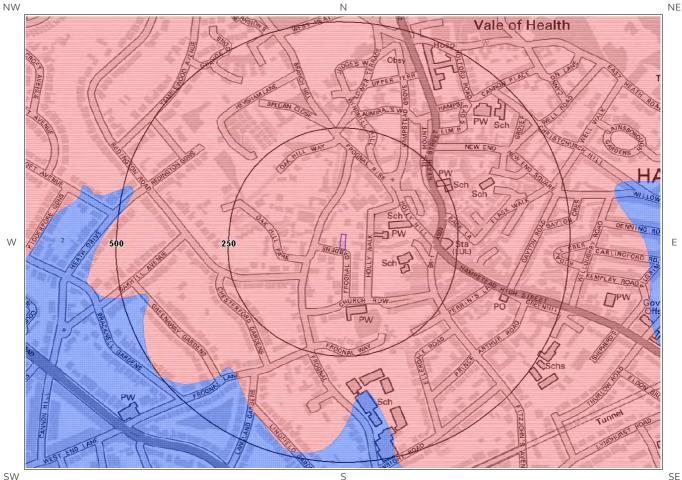
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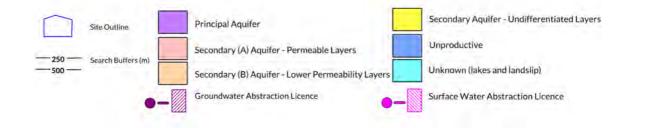




6b. Aquifer Within Bedrock Geology and Abstraction Licences



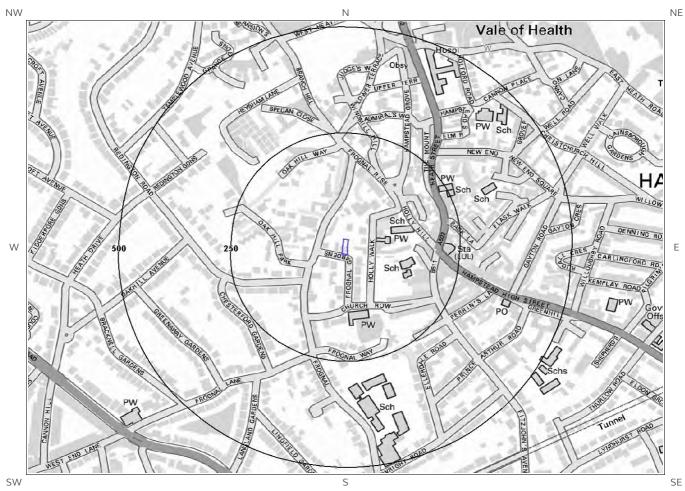
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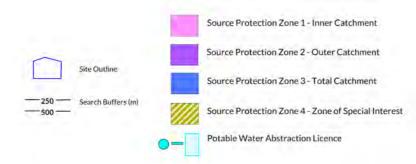




6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licences



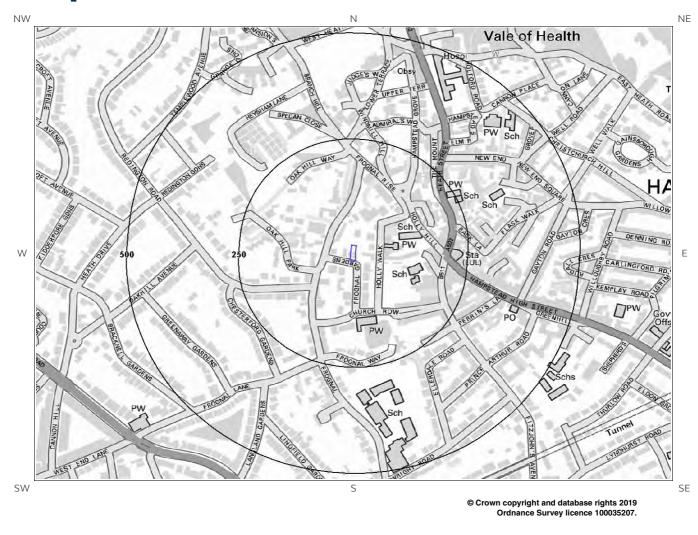
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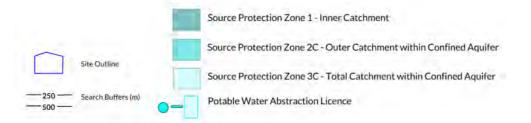






6d. Hydrogeology – Source Protection Zones within confined aquifer

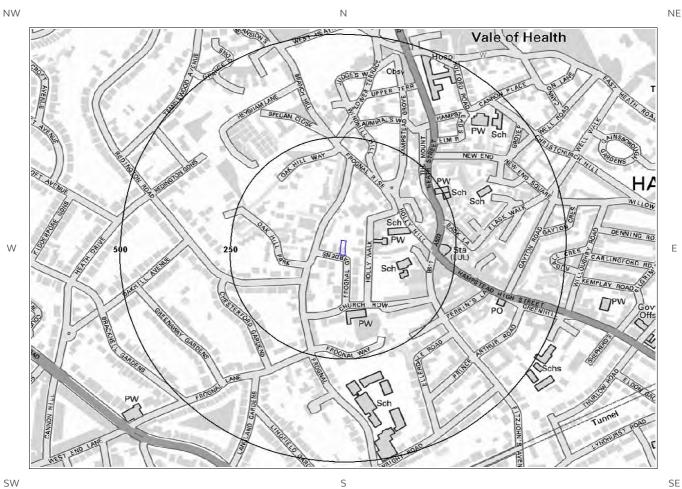








6e. Hydrology – Watercourse **Network and River Quality**



SW

SE

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Ε







6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

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/Natural Resources Wales'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 Enviro Insight User Guide.

6.2 Aquifer within Bedrock Deposits

Records of strata classification within the bedrock geology at or in proximity to the property Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales'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 Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distanc e (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	335	S	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

6.3 Groundwater Abstraction Licences

Groundwater Abstraction Licences within 2000m of the study site

Identified

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	ID Distance Direction NGR (m)		Detail	S	
Not show n	1604	S	526750 184261	Status: Active Licence No: TH/039/0039/087 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: SWISS COTTAGE OPEN SPACE- BOREHOLE Data Type: Point Name: LONDON BOROUGH OF CAMDEN	Annual Volume (m ³): 10512 Max Daily Volume (m ³): 28.8 Original Application No: - Original Start Date: 05/12/2013 Expiry Date: 31/03/2025 Issue No: 1 Version Start Date: 05/12/2013 Version End Date:





ID	Distance (m)	Direction	NGR	Detail	S
Not show n	1604	S	526750 184261	Status: Active Licence No: TH/039/0039/087 Details: General Washing/Process Washing Direct Source: THAMES GROUNDWATER Point: SWISS COTTAGE OPEN SPACE- BOREHOLE Data Type: Point Name: LONDON BOROUGH OF CAMDEN	Annual Volume (m ³): 10512 Max Daily Volume (m ³): 28.8 Original Application No: - Original Start Date: 05/12/2013 Expiry Date: 31/03/2025 Issue No: 1 Version Start Date: 05/12/2013 Version End Date:
Not show n	1604	S	526750 184261	Status: Active Licence No: TH/039/0039/087 Details: Lake & Pond Throughflow Direct Source: THAMES GROUNDWATER Point: SWISS COTTAGE OPEN SPACE- BOREHOLE Data Type: Point Name: LONDON BOROUGH OF CAMDEN	Annual Volume (m ³): 10512 Max Daily Volume (m ³): 28.8 Original Application No: - Original Start Date: 05/12/2013 Expiry Date: 31/03/2025 Issue No: 1 Version Start Date: 05/12/2013 Version End Date:
Not show n	1605	SE	526800 184280	Status: Historical Licence No: 28/39/39/0219 Details: Spray Irrigation - Direct Direct Source: THAMES GROUNDWATER Point: SWISS COTTAGE OPEN SPACE- BOREHOLE Data Type: Point Name: LONDON BOROUGH OF CAMDEN	Annual Volume (m ³): 10512 Max Daily Volume (m ³): 28.8 Original Application No: - Original Start Date: 12/08/2005 Expiry Date: 31/03/2013 Issue No: 1 Version Start Date: 01/04/2008 Version End Date:

6.4 Surface Water Abstraction Licences

Surface Water Abstraction Licences within 2000m of the study site

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Potable Water Abstraction Licences within 2000m of the study site

Database searched and no data found.

6.6 Source Protection Zones

Source Protection Zones within 500m of the study site

None identified

Database searched and no data found.

None identified

None identified





Source Protection Zones within the Confined Aquifer within 500m of the study site None identified

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.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site Identified

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site None identified

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:





Ordnance Survey MasterMap Water Network entries within 500m of the study site

Database searched and no data found.

6.11 Surface Water Features

Surface water features within 250m of the study site

None identified





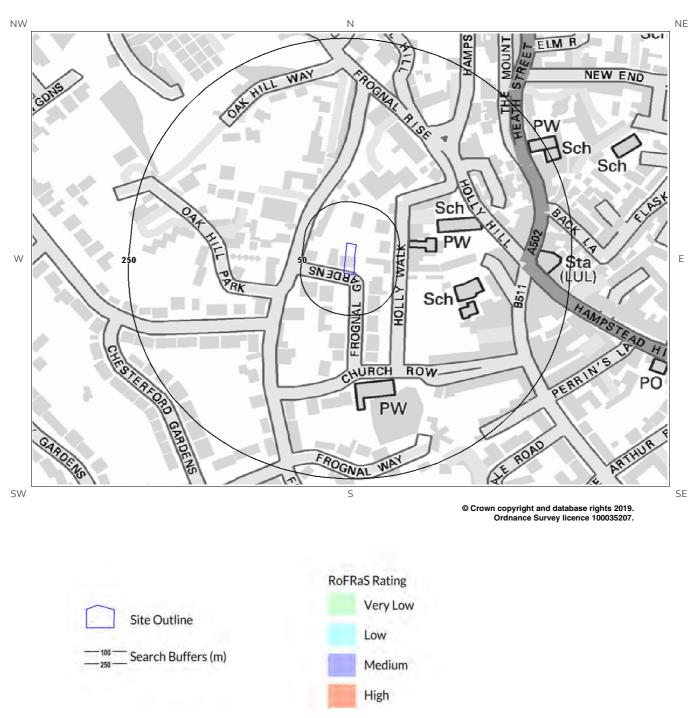
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)







7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map







7 Flooding

7.1 River and Coastal Zone 2 Flooding

Environment Agency/Natural Resources Wales Zone 2 floodplain within 250m None identified

Environment Agency/Natural Resources Wales 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 7a – Flood Map for Planning:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Environment Agency/Natural Resources Wales Zone 3 floodplain within 250m None identified

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 7a – Flood Map for Planning.

Database searched and no data found.

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

Highest risk of flooding onsite

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Flood Defences within 250m of the study site Database searched and no data found. None identified

Very Low

7.5 Areas benefiting from Flood Defences

Areas benefiting from Flood Defences within 250m of the study site

None identified





Areas used for Flood Storage within 250m of the study site

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site Identified

Clearwater Flooding or Superficial Deposits Flooding

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).

7.7.2 Highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions

Limited potential Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

7.8 Groundwater Flooding Confidence Areas

British Geological Survey confidence rating in this result

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.

Report Reference: SCL-6195306 Client Reference: 10402-BM None identified

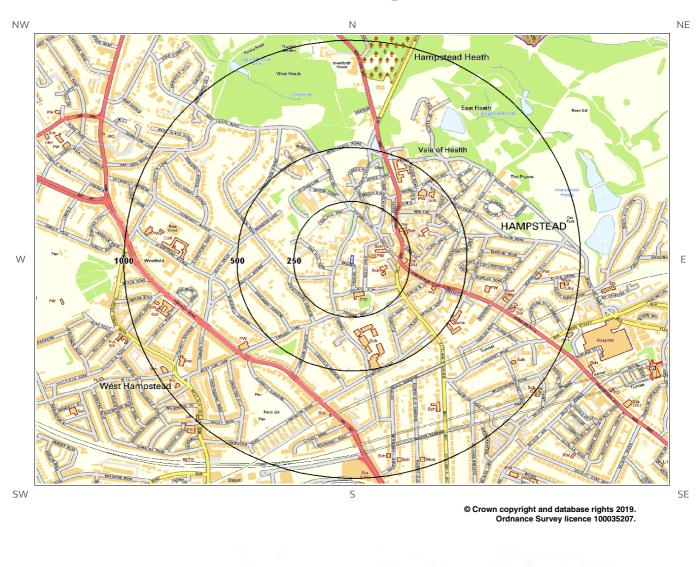
Clearwater Flooding

Low





8. Designated Environmentally Sensitive Sites Map









8. Designated Environmentally Sensitive Sites

Designated Environmentally Sensitive Sites within 2000m of the study site

Identified

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

2

0

0

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
1	1248	NE	Hampstead Heath Woods	Natural England
Not shown	1794	Ν	Hampstead Heath Woods	Natural England

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.





0

Database searched and no data found.

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

3

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
6	818	Ν	BISHOPS WOOD	Ancient and Semi-Natural Woodland
7	1255	NE	KEN WOOD	Ancient and Semi-Natural Woodland
Not shown	1636	Ν	UNKNOWN	Ancient and Semi-Natural Woodland

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

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
3	1390	E	Belsize Wood	Natural England
Not shown	1712	W	Westbere Copse	Natural England
Not shown	1730	W	Westbere Copse	Natural England

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

0

3

Database searched and no data found.





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

0

Database searched and no data found.

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

Database searched and no data found.

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

0

0

0

Database searched and no data found.

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

Database searched and no data found.

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

0

0

Database searched and no data found.

8.14 Records of Green Belt land within 2000m of the study site:

Database searched and no data found.

Report Reference: SCL-6195306 Client Reference: 10402-BM

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:

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.

9.1.2 Landslides

their effect and management. For new build, consideration should be given to advice published by the National House Building Council problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

9.1 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 Geo Insight, available from our website. The following information has been found:

9.1.1 Shrink Swell

Maximum Shrink-Swell** hazard rating identified on the study site

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 (NHBC) and the Building Research Establishment (BRE). There is a probable increase in construction cost to reduce potential shrink-swell

9.1.3 Soluble Rocks

Maximum Landslide* hazard rating identified on the study site

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

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.

Hazard

This indicates an automatically generated 50m buffer and site.





Very Low

Moderate

Hazard





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:

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.

Hazard

9.1.5 Collapsible Rocks

Maximum Collapsible Rocks* hazard rating identified on the study site

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.

9.1.6 Running Sand

Maximum Running Sand** hazard rating identified on the study site

Low

Very Low

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

Hazard

Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property no significant increase in insurance risk due to running sand problems is likely.

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





9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

9.2.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.





10. Mining

10.1 Coal Mining

Coal mining areas withi	n 75m of the study site
-------------------------	-------------------------

Database searched and no data found.

10.2 Non-Coal Mining

Non-Coal Mining areas within 50m of the study site boundary

Database searched and no data found.

10.3 Brine Affected Areas

Brine affected areas within 75m of the study site Guidance: No Guidance Required.

None identified

None identified

None identified





Contact Details

Soil Consultants Ltd Telephone: 01494 712494 stuart.w@soilconsultants.co.uk



British Geological Survey Enquiries Kingsley Dunham Centre Keyworth, Nottingham NG12 5GG Tel: 0115 936 3143. Fax: 0115 936 3276.

Email: Web:www.bgs.ac.uk BGS Geological Hazards Reports and general geological enquiries: enquiries@bgs.ac.uk

> **Environment Agency** National Customer Contact Centre, PO Box 544 Rotherham, S60 1BY Tel: 03708 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 www.gov.uk/phe 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



British **Geological Survey** NATURAL ENVIRONMENT RESEARCH COUNCIL





The Coal Authority



Local Authority Authority: London Borough of Camden Phone: 020 7974 4444 Web: http://www.camden.gov.uk/ Address: Camden Town Hall, Judd Street, 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/Natural Resources Wales who retain the Copyright and Intellectual Property Rights for the data.

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Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:

https://www.groundsure.com/terms-and-conditions-feb11-2019



Soil Consultants Ltd

Chiltern House, Earl Howe Road, Buckinghamshire, HP15 6QT Report Reference: SCL-6195307

Your Reference: 10402-BM

Report Date 24 Jul 2019

Report Delivery Email - pdf Method:

Geo Insight

Address: 18A, FROGNAL GARDENS, LONDON, NW3 6XA

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you need further assistance, please do not hesitate to contact our helpline on 01494 712494 quoting the above Soil Consultants Ltd reference number.

Yours faithfully,

Soil Consultants Ltd

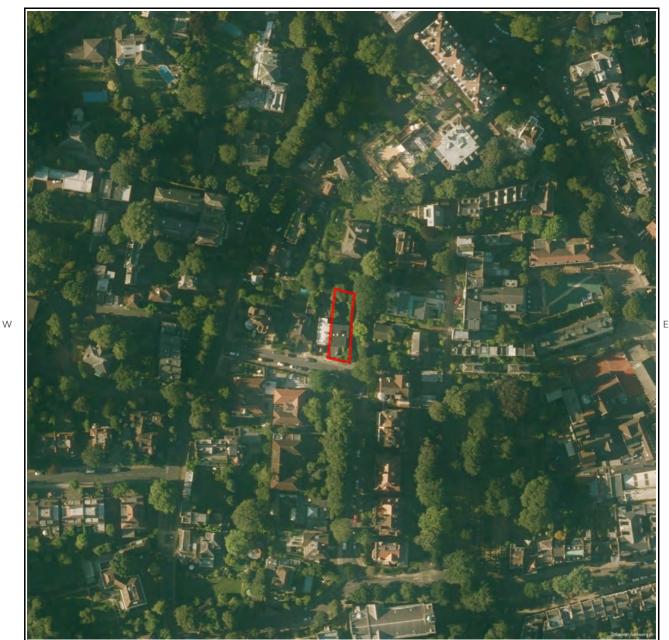
Enc. Groundsure Geo Insight



Address:	18A, FROGNAL GARDENS, LONDON, NW3 6XA
Date:	24 Jul 2019
Reference:	SCL-6195307
Client:	Soil Consultants Ltd

NW

NE



S

Ν

SW

Aerial Photograph Capture date: 12-Aug-2016 Grid Reference: 526165,185776 Site Size: 0.0409ha

SE





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Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geoenvironmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology 1:10,000 Scale

1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	No
	1.2.2 Are there any records of landslip within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and linear	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
features	1.3.2 Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale?	No
Section 2: Geolo	gy 1:50,000 Scale	
2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath	
	the study site?	No
		No
2.2 Superficial Geology and	the study site? 2.1.2 Are there any records relating to permeability of artificial	
•	 the study site? 2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary? 2.2.1 Is there any Superficial Ground/Drift Geology present beneath 	No
Geology and	 the study site? 2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary? 2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?* 2.2.2 Are there any records of permeability of superficial ground 	No





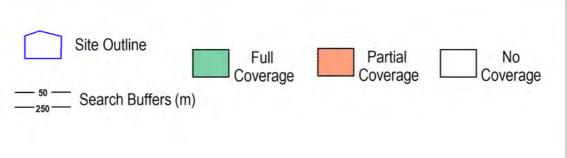
Section 2: Geolo	gy 1:50,000 Scale					
2.3 Bedrock, Solid Geology and linear features	2.3.1 For records of Bedrock and Solid Geolo site* see the detailed findings section.	ogy beneath t	he study			
	2.3.2 Are there any records relating to perm ground within the study site boundary?	Yes				
	2.3.3 Are there any records of linear features study site boundary?					
Section 3: Rador	1					
3. Radon	3.1Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?			The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.		
	3.2Radon Protection			No radon protective measures are necessary.		
Section 4: Grour	nd Workings	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surfac Scale Mapping	e Ground Working Features from Small	0	0	2	Not Searched	Not Searched
4.2 Historical Under	ground Workings from Small Scale Mapping	0	0	0	0	29
4.3 Current Ground	Workings	0	0	0	0	0
Section 5: Mining	g, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining]	0	0	0	0	7
5.2 Coal Mining		0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area		0	0	0	0	0
5.4 Non-Coal Mining*		0	0	0	0	0
5.5 Non-Coal Mining	g Cavities	0	0	0	0	0
5.5 Natural Cavities		0	0	0	0	0





Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Cornwall and Devon Metalliferous Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-sit	e			
6.1 Shrink-Swell Clay	Modera	te			
6.2 Landslides	Very Lo	W			
6.3 Ground Dissolution of Soluble Rocks	Negligib	ole			
6.4 Compressible Deposits	Negligib	ole			
6.5 Collapsible Deposits	Very Lo	W			
6.5 Running Sand	Low				
Section 7: Borehole Records	On-si	te	0-50m	5	1-250
7 BGS Recorded Boreholes	0		0		6
Section 8: Estimated Background Soil Chemistry	On-si ⁻	te	0-50m	5	1-250
8 Records of Background Soil Chemistry	1		1		0
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	1	Not Searched	
9.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
9.3 Historical Railways	0	0	0	Not Searched	
9.4 Active Railways	0	0	0	Not Searched	
9.5 Railway Projects	0	0	0	0	





Groundsure



Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	Some deposits are mapped	Full	Full	No coverage
2	756.0	Some deposits are mapped	Full	Full	No coverage
3	1158.0	Some deposits are mapped	Full	Full	No coverage
4	1384.0	Some deposits are mapped	Full	Full	No coverage

Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

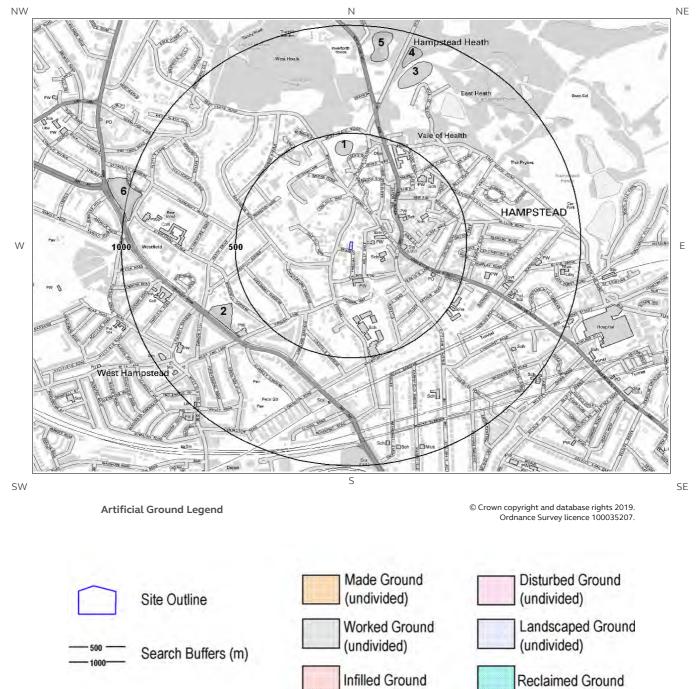
The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage	
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped		
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage	
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped	
Mass Movement	Some deposits are mapped on this tile	-	No coverage	





1 Geology (1:10,000 scale). 1.1 Artificial Ground map (1:10,000 scale)







1. Geology 1:10,000 scale

1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

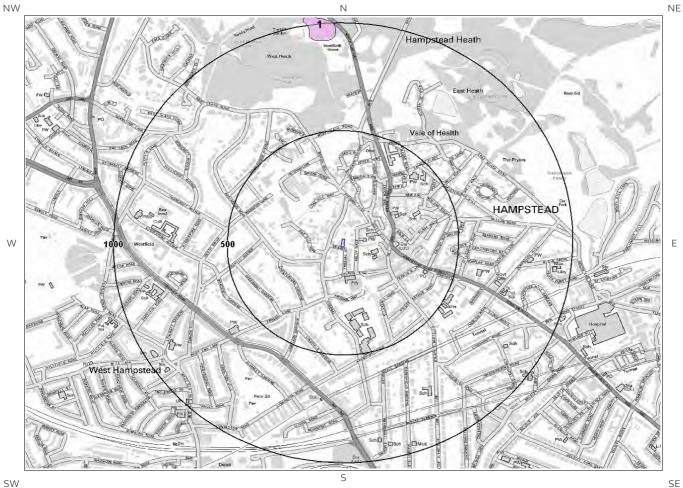
Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	401.0	Ν	WGR-	Worked Ground (Undivided)	Unknown/unclassified Entry
			UKNOWN		





1.2 Superficial Deposits and Landslips map (1:10,000 scale)



SW

Artificial Ground Legend

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Site Outline Search Buffers (m)





1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found.

1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale?

No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

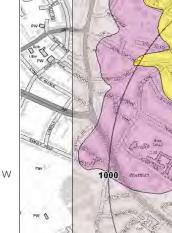


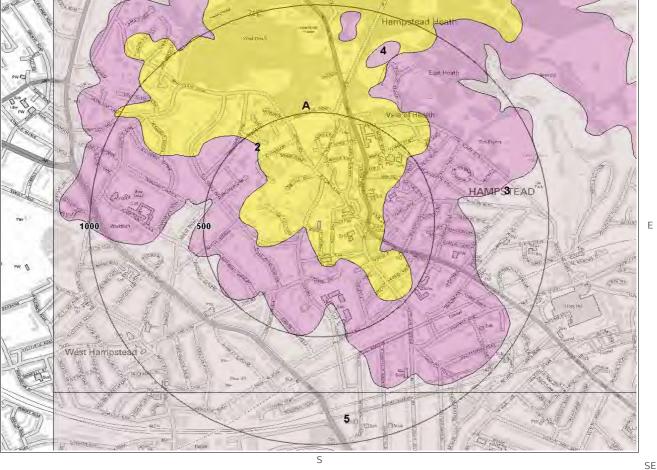


NE

1.3 Bedrock and linear features map (1:10,000 scale)

Ν



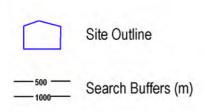


SW

NW

Bedrock and linear features Legend

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1.3 Bedrock and linear features

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1A	0.0	On Site	BGS-SANDU	Bagshot Formation - Sand	Eocene Epoch
2	49.0	W	CLGB-SDST	Claygate Member - Sandstone	Eocene Epoch
3	349.0	S	LC-CLAY	London Clay Formation - Clay	Eocene Epoch

1.3.2 Linear features

Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found at this scale.

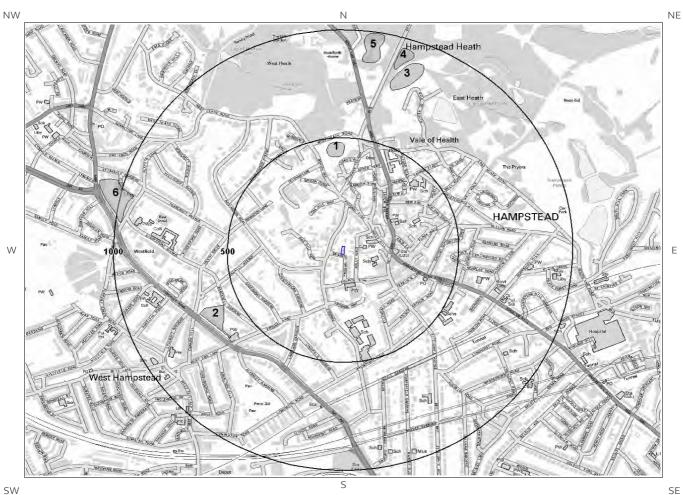
The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.



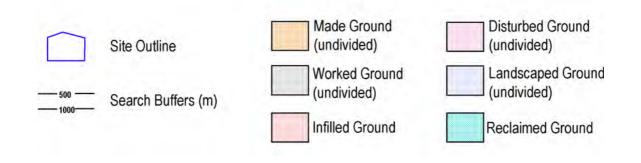


2 Geology 1:50,000 Scale 2.1 Artificial Ground map



SW

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Yes

2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 256

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary?

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	414.0	Ν	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID

2.1.2 Permeability of Artificial Ground

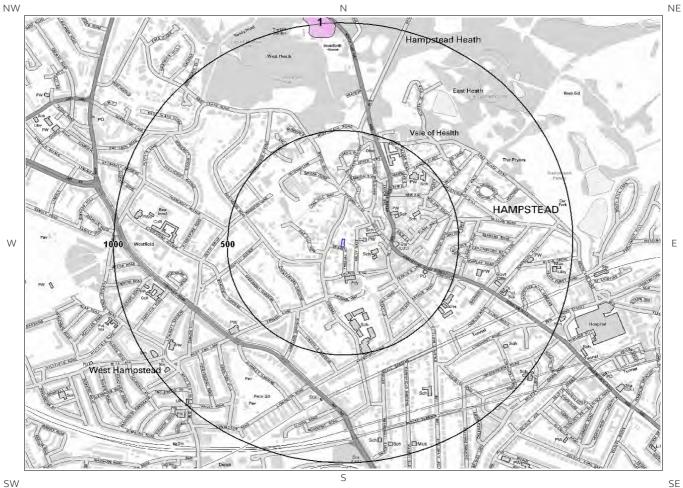
Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.



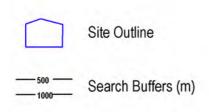


2.2 Superficial Deposits and Landslips map (1:50,000 scale)



SW

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2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? No

Database searched and no data found.

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? No

Database searched and no data found.

2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary?

No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary?

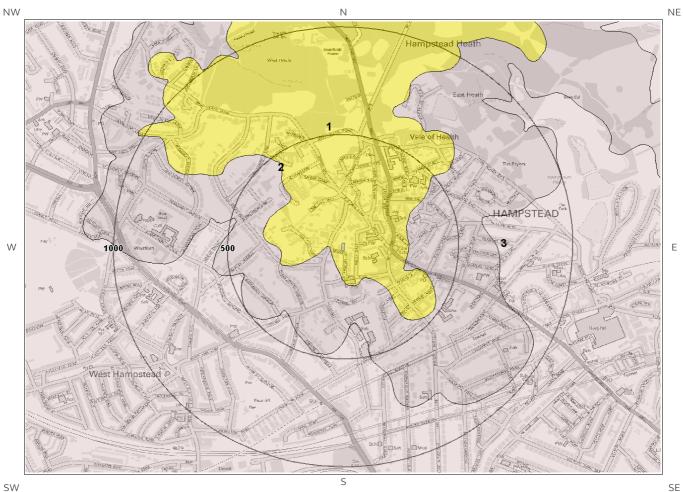
No

Database searched and no data found.



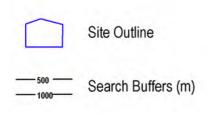


2.3 Bedrock and linear features map (1:50,000 scale)



SW

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Groundsure



2.3 Bedrock, Solid Geology & linear features

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 256

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	BGS-S	BAGSHOT FORMATION - SAND	YPRESIAN
2	46.0	W	CLGB-XCZS	CLAYGATE MEMBER - CLAY, SILT AND SAND	YPRESIAN
3	335.0	S	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distanc e	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	High	High
46.0	W	Mixed	High	Very Low

2.3.3 Linear features

Are there any records of linear features within 500m of the study site boundary?

No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.





3.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

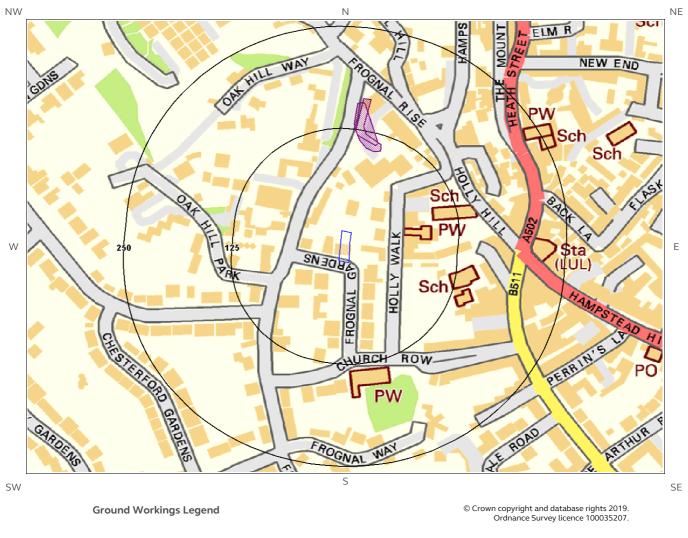
3.2 Radon Protection

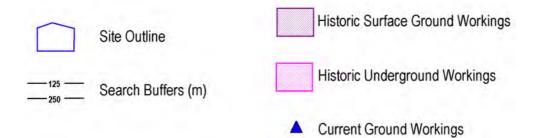
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.





4 Ground Workings map









4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1A	103.0	Ν	526183 185924	Unspecified Ground Workings	1920
2A	110.0	Ν	526190 185926	Unspecified Ground Workings	1949

4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	583.0	SE	526647 185330	Tunnel	1965
Not shown	583.0	SE	526647 185330	Tunnel	1974
Not shown	583.0	SE	526647 185330	Tunnel	1995
Not shown	593.0	S	526240 185137	Tunnel	1958
Not shown	605.0	SE	526845 185427	Tunnel	1958
Not shown	619.0	SE	526591 185300	Ventilating Shaft	1865
Not shown	809.0	S	526326 184952	Tunnels	1973
Not shown	809.0	S	526326 184952	Tunnels	1989
Not shown	809.0	S	526326 184952	Tunnels	1957
Not shown	809.0	S	526326 184952	Tunnels	1968

9
Groundsure
LOCATION INTELLIGENCE



	LOCATION INTELLIGENCE					
ID	Distance (m)	Direction	NGR	Use	Date	
Not shown	810.0	S	526461 184996	Air Shaft	1940	
Not shown	812.0	S	526461 184995	Air Shaft	1920	
Not shown	812.0	S	526464 184994	Air Shaft	1989	
Not shown	812.0	S	526464 184994	Air Shaft	1973	
Not shown	813.0	S	527029 185170	Tunnel	1958	
Not shown	813.0	S	527029 185170	Tunnel	1965	
Not shown	813.0	S	527029 185170	Tunnel	1974	
Not shown	813.0	S	527029 185170	Tunnel	1995	
Not shown	856.0	S	526419 184933	Tunnels	1957	
Not shown	856.0	S	526419 184933	Tunnels	1973	
Not shown	856.0	S	526419 184933	Tunnels	1968	
Not shown	856.0	S	526419 184933	Tunnels	1989	
Not shown	857.0	S	526842 185044	Tunnel	1866	
Not shown	868.0	SE	526706 185071	Air Shaft	1920	
Not shown	897.0	SE	527203 185151	Tunnel	1958	
Not shown	897.0	SE	527203 185151	Tunnel	1974	
Not shown	897.0	SE	527203 185151	Tunnel	1995	
Not shown	897.0	SE	527203 185151	Tunnel	1965	
Not shown	936.0	SE	526752 185021	Unspecified Shaft	1866	

4.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

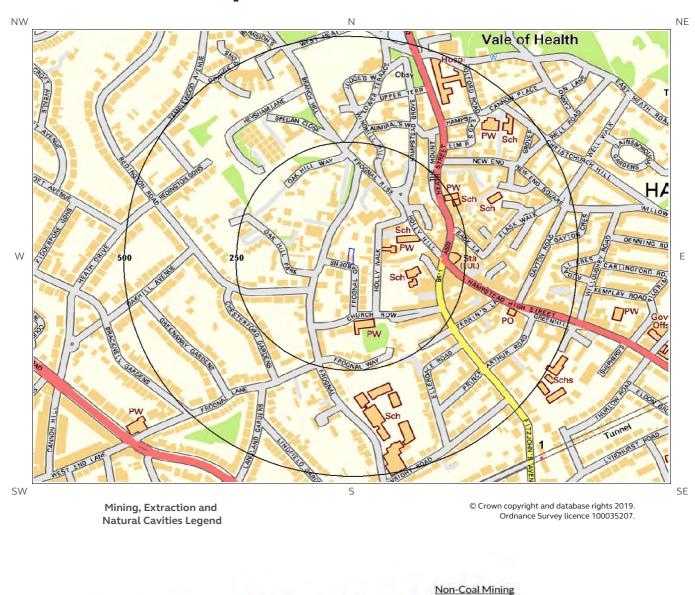
Are there any BGS Current Ground Workings within 1000m of the study site boundary? No

Database searched and no data found.





5 Mining, Extraction & Natural Cavities map









5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary?

Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	619.0	SE	526591 185300	Ventilating Shaft	1865
Not shown	810.0	S	526461 184996	Air Shaft	1940
Not shown	812.0	S	526461 184995	Air Shaft	1920
Not shown	812.0	S	526464 184994	Air Shaft	1973
Not shown	812.0	S	526464 184994	Air Shaft	1989
Not shown	868.0	SE	526706 185071	Air Shaft	1920
Not shown	936.0	SE	526752 185021	Unspecified Shaft	1866

The following Historical Mining information is provided by Groundsure:

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary?

No

The following information provided by JPB is not represented on mapping: Database searched and no data found.





This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary?

No

No

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on the Peter Brett Associates natural cavities database. The dataset is made up of points and polygons. Where polygons are used these represent an area in which it is expected the cavities could be found. It does not indicate that cavities are present everywhere within the polygon, and caution should be used in the interpretation of this data.

Are there any Natural Cavities within 1000m of the study site boundary?

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary?

Database searched and no data found.

5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary?

No

No

Database searched and no data found.





5.9 Cornwall and Devon Metalliferous Mining

This dataset provides information on metalliferous mining areas in Cornwall/Devon and is derived from records held by Mining Searches UK.

Are there any Cornwall and Devon Metalliferous Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

5.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary?

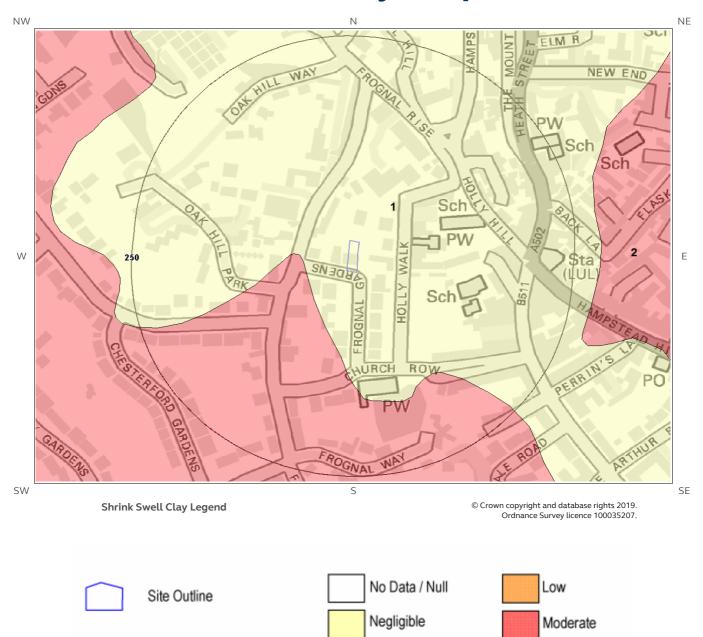
No

Database searched and no data found.





6 Natural Ground Subsidence 6.1 Shrink-Swell Clay map



Very Low

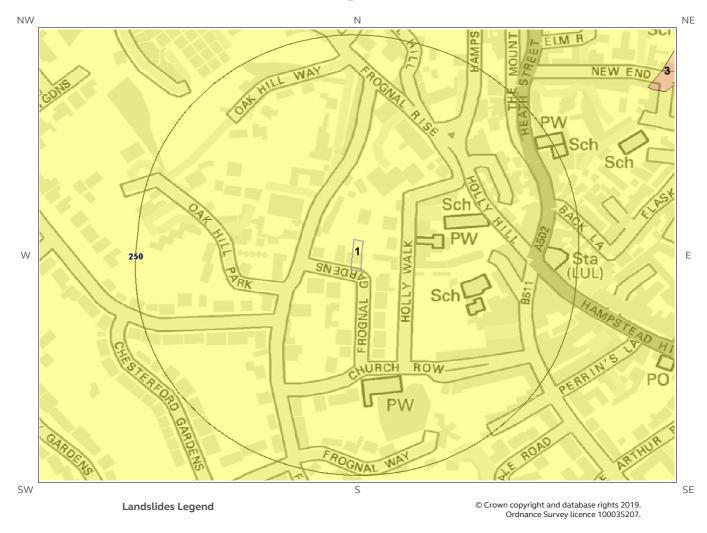
Search Buffers (m)

High





6.2 Landslides map

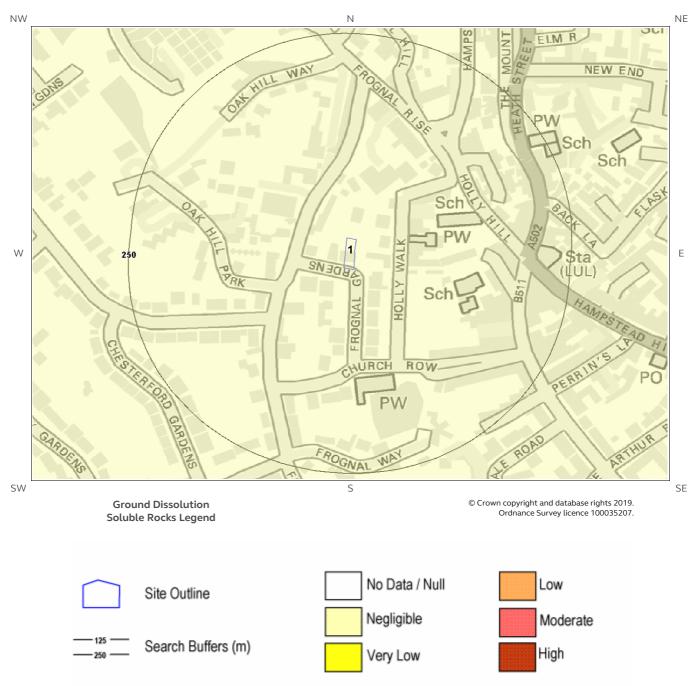








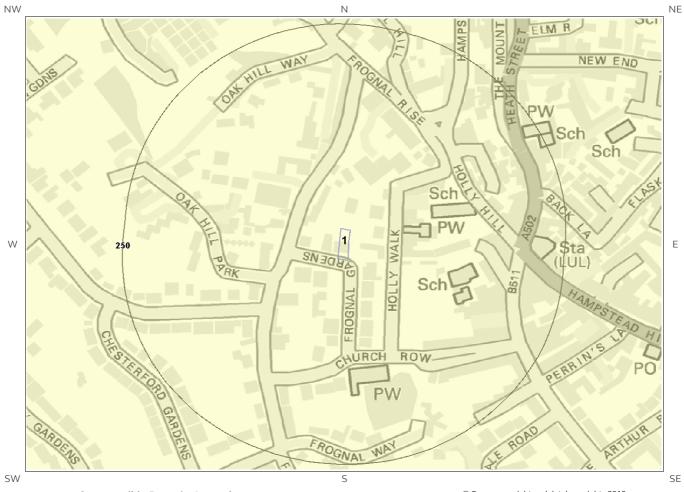
6.3 Ground Dissolution of Soluble Rocks map







6.4 Compressible Deposits map



Compressible Deposits Legend

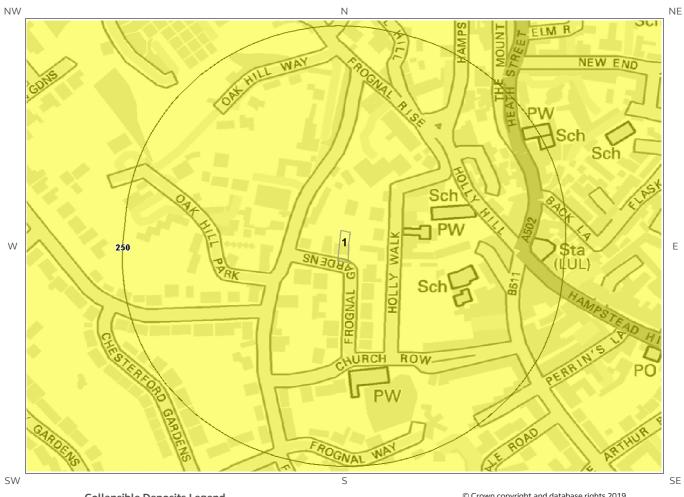
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6.5 Collapsible Deposits map



Collapsible Deposits Legend

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6.6 Running Sand map



Running Sand Legend

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6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site** boundary? Moderate

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
2	46.0	W	Moderate	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.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	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 includes an automatically generated 50m buffer zone around the site





The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due t soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	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.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

ID	Distanc (m)	^e Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	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.

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.
2	46.0	W	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. 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.

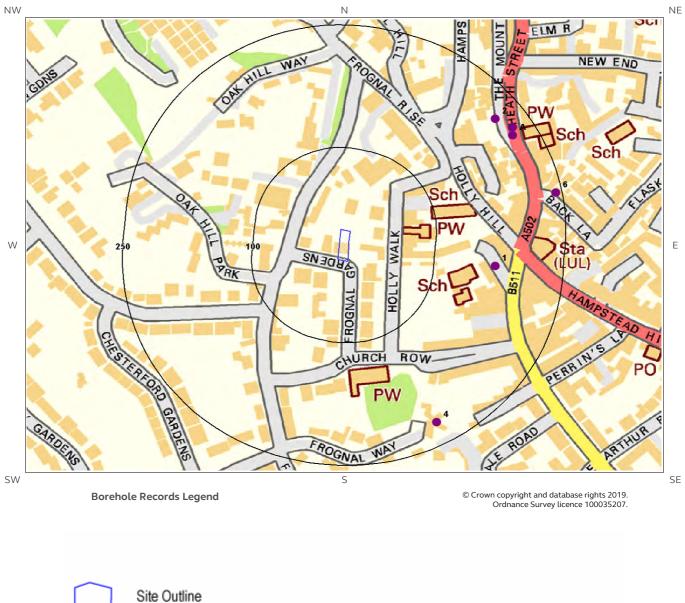


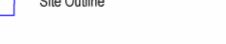






7 Borehole Records map





Search Buffers (m)

Borehole Locations

125

250





7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

6

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	171.0	E	526340 185750	TQ28NE95	13	HAMPSTEAD HEATH 8
2	217.0	NE	526340 185930	TQ28NE93	16	HAMPSTEAD HEATH 6
3A	221.0	NE	526360 185910	TQ28NE100	6	HAMPSTEAD HEATH 1
4	222.0	SE	526272 185559	TQ28NE449	135	22 FROGNAL WAY HAMPSTEAD
5A	227.0	NE	526360 185920	TQ28NE8	51	JUNCTION FROGNALI RISE & HOLLY BUSH HI
6	242.0	E	526410 185840	TQ28NE94	12	HAMPSTEAD HEATH

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

#1: scans.bgs.ac.uk/sobi_scans/boreholes/590683
#2: scans.bgs.ac.uk/sobi_scans/boreholes/590681
#3A: scans.bgs.ac.uk/sobi_scans/boreholes/590688
#4: scans.bgs.ac.uk/sobi_scans/boreholes/20574804
#5A: scans.bgs.ac.uk/sobi_scans/boreholes/590588
#6: scans.bgs.ac.uk/sobi_scans/boreholes/590682





8 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

2

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

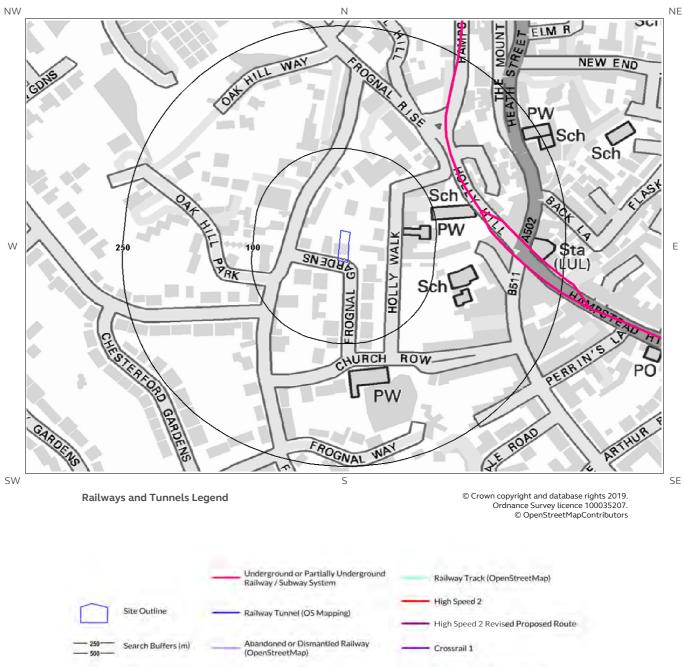
Dista	ince (m) I	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
	0.0	On Site	London	No data	No data	No data	No data	No data
2	46.0	W	London	No data	No data	No data	No data	No data

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.





9 Railways and Tunnels map



Railway Track (OS Mapping)

Railway and/or Tunnel Feature from Historical Mapping





9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary?	No
Have any underground railway lines been identified within 250m of the study site boundary?	Yes

Distance (m)	Direction	Detail
144	NE	London Underground - Northern Line

The approximate depth value for the nearest London Underground line given in this dataset has been extrapolated from published depths of tube lines at station platforms, and assume a constant gradient between stations. Using this method, topographical variation has resulted in some parts of the line having associated depth values either shallower or deeper than the real-world situation. Depth values are for indication only and should not be relied upon for any calculation or technical purpose and are in no way a substitute for a professional survey.

Line
London Underground Line: Northern Line
Depth: 71mbgl
Track Type: Tunnel

Any records that have been identified are represented on the Railways and Tunnels map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary?					
Have any other railway tunnels been identified within 250m of the site boundary?	No				

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.





9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above Any records that have been identified are represented on the Railways and Tunnels map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary?	No			
Have any active railway lines been identified within 250m of the study site boundary?				
Database searched and no data found.				

Multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1.

Is the study site within 5km of the route of the High Speed 2 rail project?	Yes
Is the study site within 500m of the route of the Crossrail 1 rail project?	No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.





The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.





Contact Details

Soil Consultants Ltd Telephone: 01494 712494 stuart.w@soilconsultants.co.uk



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

British Gypsum Ltd East Leake Loughborough Leicestershire LE12 6HX

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



Geological Survey

NATURAL ENVIRONMENT RESEARCH COUNCIL

British

The Coal Authority

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-healthengland

Email: **enquiries@phe.gov.uk** Main switchboard: 020 7654 8000

Johnson Poole & Bloomer Limited

Harris and Pearson Building, Brettel Lane Brierley Hill, West Midlands DY5 3LH

Tel: +44 (0) 1384 262 000 Email:**enquiries.gs@jpb.co.uk** Website: **www.jpb.co.uk**

Ordnance Survey Adanac Drive, Southampton SO16 0AS

Tel: 08456 050505 Website: http://www.ordnancesurvey.co.uk/

Getmapping PLC

Virginia Villas, High Street, Hartley Witney, Hampshire RG27 8NW Tel: 01252 845444 Website:**http://www1.getmapping.com/**













Peter Brett Associates Caversham Bridge House Waterman Place Reading Berkshire RG1 8DN Tel: +44 (0)118 950 0761 E-mail:**reading@pba.co.uk** Website:**http://www.peterbrett.com/home**



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Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link: <u>https://www.groundsure.com/terms-and-conditions-feb11-2019</u>

Stuart Childs

From:	Priddle, Nick <nick.priddle@camden.gov.uk></nick.priddle@camden.gov.uk>
Sent:	19 August 2019 15:27
То:	Stuart Childs
Subject:	RE: Contaminated Land enquiry - 18a Frognal Gardens
Attachments:	PDF Report - 18A Frognal Gardens, NW3 6XA.pdf; Search Results - 18A Frognal Gardens, NW3 6XA.xlsx

Hi Stuart

RE Contaminated Land Inquiry –18A Frognal Gardens, NW3 6XA

As part of your inquiry, the following searches were undertaken to identify the potential for land contamination due to past and present land use activities within a 100m search radius of the site:

- Businesses registered with Kelly's Trade Directory operating within and intersecting a 25m radius of the site.
- Historical land use activities none.
- Pollution Incidents none
- Elevated levels of heavy metals in soils none.
- Landfill sites within 250m radius -none
- Part B Industrial Process none

The results (see spreadsheet attached) identified the following land uses of plausible concern within 25m of the site between 1894 -1971 :

• Wells, university medical research laboratory and grave yard.

According to our contaminated land risk characterisation, land on which the above processes/activities were carried out is considered to represent a low to high risk of contamination. It is considered likely that such land could exhibit significantly elevated contaminate levels with the potential to cause harm, although the Council has no present evidence that confirms that there are contamination issues affecting the site other than potentially contaminative land-use activities in proximity.

Camden Council has a Contaminated Land database to identify and prioritise sites within the Borough (with a former potentially contaminative land use) for inspection. Sites recorded on the database are not contaminated land (as defined by Part IIA of the Environmental Protection Act 1990); rather they are considered as having the potential to be contaminated due to their previous use. The subject site is **not** on the Councils priority for inspection, nor is it proposed to investigate the site further under Part IIA of the Contaminated Land Regime. Furthermore, the subject site has **not** been determined as contaminated land under Part IIA of the Environmental Protection Act 1990.

If the subject site was to be redeveloped in the future, involving ground disturbance, excavation works or soft landscaping (soils in Camden typically contain elevated levels of certain heavy metals) then a planning condition would be imposed requiring a detailed site investigation (desk top study, walkover survey and intrusive investigation) and if necessary remediation works . The investigation

process follows a risk based approach under Part 2A of EPA 1990, objectively to ensure that potentially contaminated land is suitable for its proposed use. Consequently, the planning process is the main way in which contaminated land and potentially contaminated land is investigated and remediated in Camden.

A review the Council's planning database confirms two planning applications (planning ref 8791165 & 9291199) have been submitted for the subject site, both relating to tree pruning

Disclaimer:

The above response is provided from such information that is readily available to the Council and in its possession. It is believed to be correct but the Council expressly gives no warranty in this respect nor will the Council accept any liability whatsoever for any error, omission or loss occasioned thereby to any person (whether or not the person requested the information) and in particular the Council gives no warranty that it has researched all its relevant archives in order to respond to the request for information.

If you require clarification on the above please feel free to contact me.

Best regards

Nick Priddle BSc (Hons) MSc AIEMA MIOA Technical Officer Contaminated Land & Noise

Telephone: 0207 974 4054



From: Stuart Childs <Stuart.C@soilconsultants.co.uk> Sent: 19 August 2019 14:17 To: Priddle, Nick <Nick.Priddle@camden.gov.uk> Subject: RE: Contaminated Land enquiry - 18a Frognal Gardens

Nick,

We have ordered a Groundsure desk study for the site however, I was wondering whether you held any additional information such as historical trade directories, historical planning applications, OS maps showing previous land use or any environmental / contaminated land data in your databases for this particular site and surrounding area.

Cheers,

Stuart

To: Stuart Childs <<u>Stuart.C@soilconsultants.co.uk</u>> Subject: RE: Contaminated Land enquiry - 18a Frognal Gardens

Hi Stuart

What are the specifics of your enquiry i.e. what do you want to know about the site

Regards

Nick Priddle BSc (Hons) MSc AIEMA MIOA Technical Officer Contaminated Land & Noise

Telephone: 0207 974 4054



From: Stuart Childs <<u>Stuart.C@soilconsultants.co.uk</u>> Sent: 19 August 2019 11:38 To: Priddle, Nick <<u>Nick.Priddle@camden.gov.uk</u>> Subject: RE: Contaminated Land enquiry - 18a Frognal Gardens

Hi Nick,

I have attached a site location plan and site topo survery plan. The site only includes the building of 18a not 18b.

Not too sure what else you may require?

Kind regards,

Stuart

From: Priddle, Nick <<u>Nick.Priddle@camden.gov.uk</u>>
Sent: 19 August 2019 07:58
To: Stuart Childs <<u>Stuart.C@soilconsultants.co.uk</u>>
Subject: Contaminated Land enquiry - 18a Frognal Gardens

Hi Stuart

Further to the Council receiving payment on 13/8/19 for the enquiry referenced above, please can confirm the specifics and provide me a site location plan

Best regards

Nick Priddle BSc (Hons) MSc AIEMA MIOA Technical Officer Contaminated Land & Noise Supporting Communities London Borough of Camden

Telephone:0207 974 4054Web:camden.gov.uk

5 Pancras Square London N1C 4AG

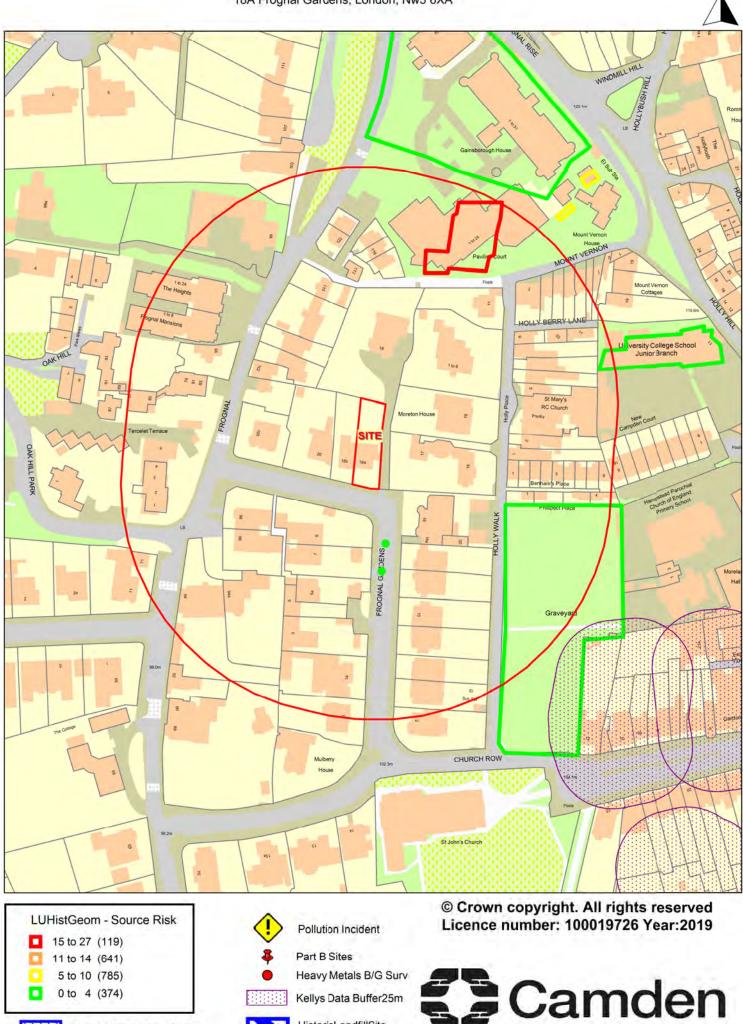
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18A Frognal Gardens, London, Nw3 6XA



HistoricLandfillSite

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HistLandfillSite250mBuffer

UID UID_LandmaDesc	Linkage MetaData Epoch LandUse	LU_model	PredictedSeverity_	SV I	PredictedF Source	Risk checked	Х	Y	LPG_ResELPG	_grde area_m2 LandfillRef
1910 200281109 1930-1971: Well	http://www.http://svr-ap1965-1971Well	Pit, pond, well low risk		2	2	4	526170.5	185720.5	0	0 3.014359
1917 2002774 1894-1971: Well	http://www.http://svr-ap1894-1896Well	Pit, pond, well low risk		2	2	4	526172.1	185732.6	0	0 3.014336
131 200272660 1952-1954: University	http://www.http://svr-ap1952-1954University	Educational institution and research	า	2	2	4	526291.1	185817	0	4 634.7031
820 200279526 1952-1955: Medical Resea	arch Laborahttp://www.http://svr-ap1952-1955Medical Research Laborato	ry Research Establishments		5	4	20	526205.7	185864.5	21	0 652.8435
1096 200279519 1952-1971: Grave Yard	http://www.http://svr-ap1952-1955Grave Yard	Cemetery (Modern)		2	2	4	526247.9	185695.1	7	12 4605.735