Natural ground subsidence - Compressible deposits

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

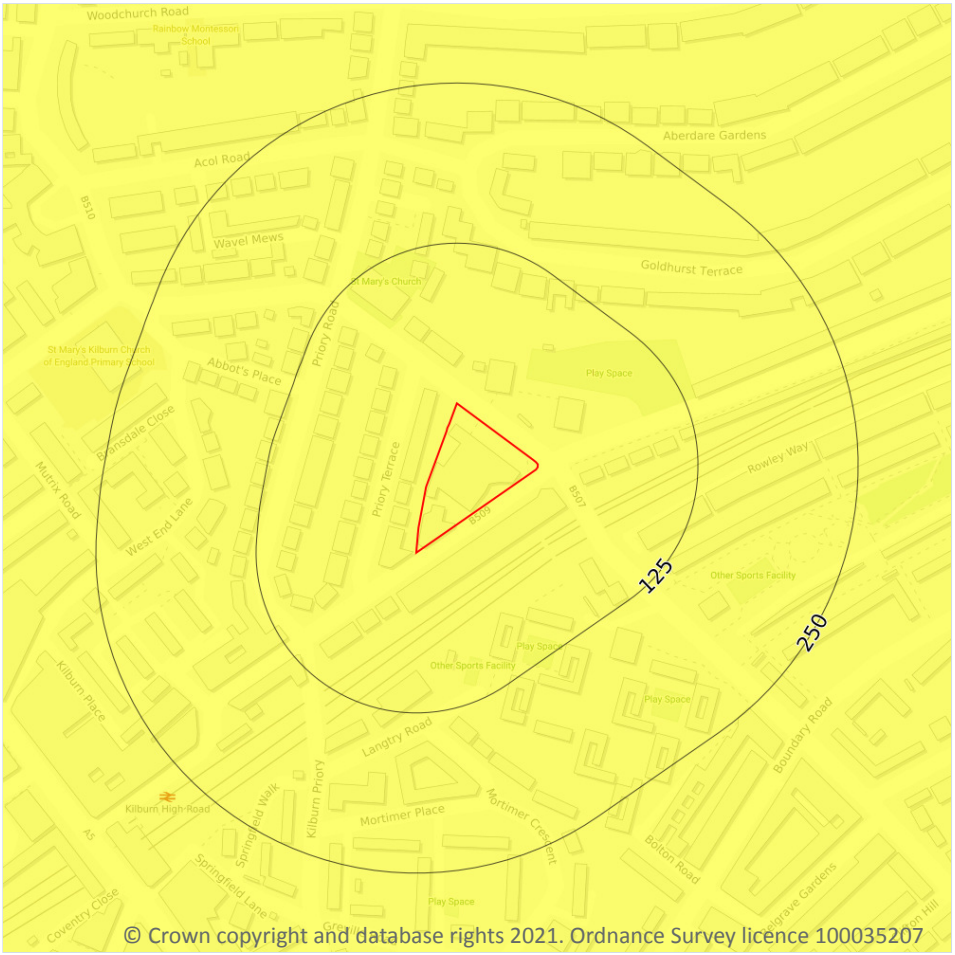
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 84**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

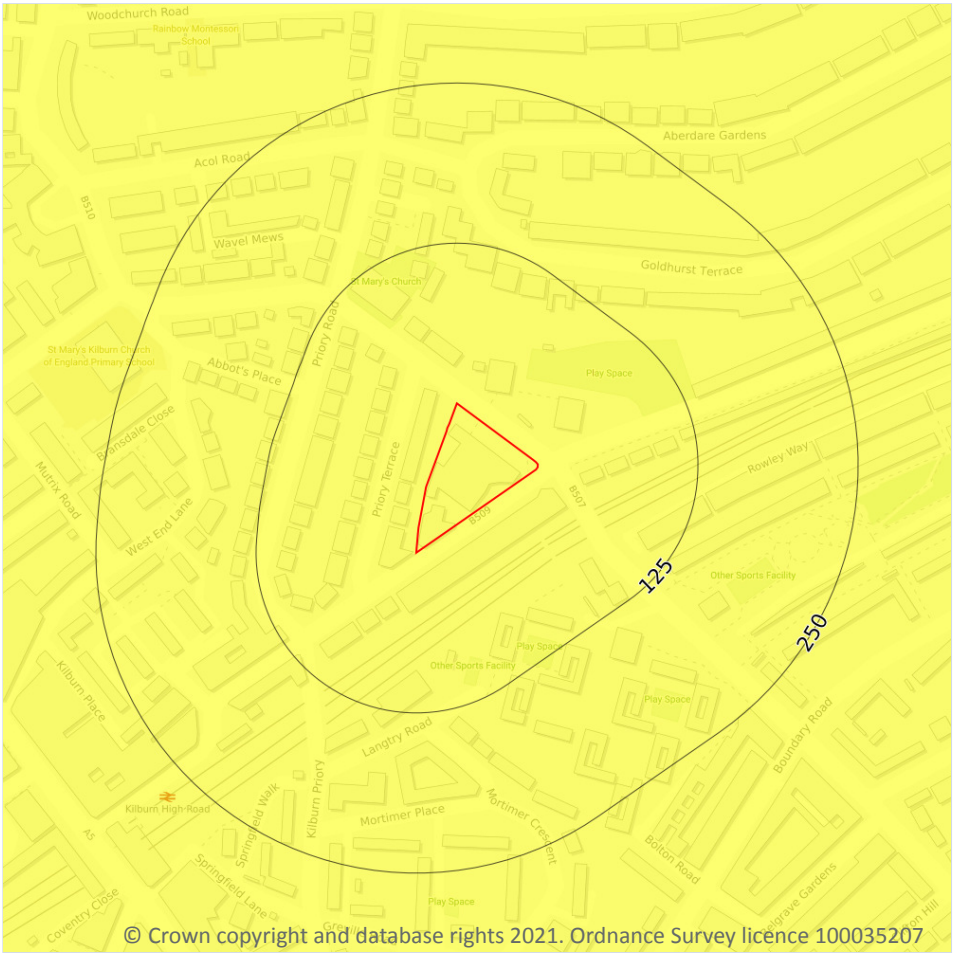
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 85**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 86**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 87**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities

Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	0

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	34

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Land Use	Year of mapping	Mapping scale
-	650m E	Air Shafts	1940	1:10560
-	655m E	Tunnel	1973	1:10000
-	655m E	Tunnel	1968	1:10560
-	655m E	Tunnel	1989	1:10000
-	655m E	Tunnel	1957	1:10560
-	658m E	Air Shafts	1940	1:10560
-	667m E	Air Shaft	1968	1:10560
-	667m E	Air Shaft	1957	1:10560
-	667m E	Air Shaft	1940	1:10560
-	669m E	Air Shaft	1920	1:10560
-	673m E	Air Shaft	1940	1:10560
-	696m E	Tunnel	1968	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
E	736m E	Tunnel	1973	1:10000
E	736m E	Tunnel	1968	1:10560
E	736m E	Tunnel	1957	1:10560
-	740m E	Tunnels	1957	1:10560
-	744m E	Tunnel	1973	1:10000
-	744m E	Tunnel	1968	1:10560
-	744m E	Tunnel	1989	1:10000
-	744m E	Tunnels	1957	1:10560
-	750m E	Tunnel	1973	1:10000
-	750m E	Tunnel	1968	1:10560
-	750m E	Tunnel	1989	1:10000
-	751m E	Tunnel	1973	1:10000
-	751m E	Tunnel	1968	1:10560
-	751m E	Tunnel	1989	1:10000
-	751m E	Tunnel	1957	1:10560
-	782m NE	Air Shaft	1940	1:10560
-	783m NE	Air Shaft	1920	1:10560
-	785m NE	Air Shaft	1957	1:10560
-	857m NE	Air Shaft	1940	1:10560
-	862m NE	Air Shaft	1957	1:10560
-	969m E	Air Shaft	1973	1:10000
-	969m E	Air Shaft	1968	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	**0**

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Radon

Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 93**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None****

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	**1**

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**No data**	**No data**	**No data**	**No data**	**No data**	**No data**	**No data**

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	**8**

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	**16**	**2.8**	**325**	**223**	**4.6**	**119**	**104**	**39**	**63**
On site	**16**	**2.8**	**379**	**260**	**3.1**	**111**	**96**	**37**	**50**
On site	**16**	**2.8**	**327**	**225**	**4.2**	**117**	**102**	**39**	**60**
7m E	17	3	405	278	3.2	114	101	38	55
15m NE	17	3	498	342	2.2	109	98	37	50
16m SW	16	2.8	308	212	4.1	115	101	39	58
16m S	16	2.8	338	232	4.4	118	104	39	62
17m NW	16	2.8	365	251	2.9	109	94	37	48

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

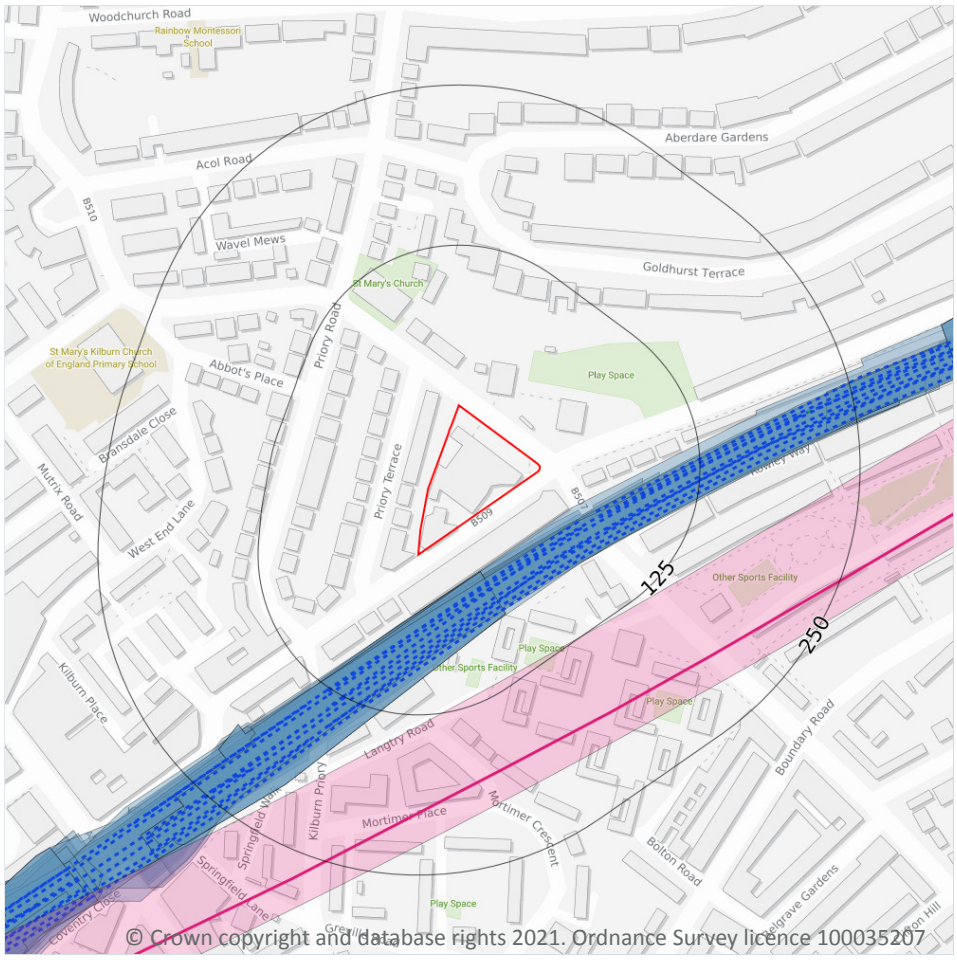
Records within 50m	**1**

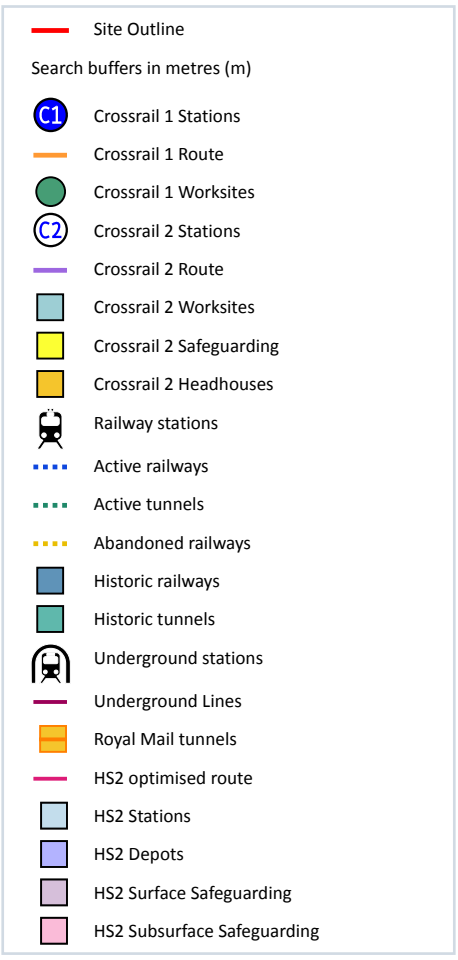
The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

Location	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Lead (mg/kg)	Tin (mg/kg)	Sample Type
15m S	15.7	4.9	120.4	105.7	39.7	319.3	65.3	Topsoil

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects





21.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	1

Railway tunnels taken from contemporary Ordnance Survey mapping.

Features are displayed on the Railway infrastructure and projects map on **page 96**

Location	Type
213m E	Railway Tunnel

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	13

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 96**

Location	Land Use	Year of mapping	Mapping scale
37m SE	Railway Sidings	1957	10560
38m SE	Railway	1898	-
38m SE	Railway	1930	-
38m SE	Railway Sidings	1989	10000
38m SE	Railway Sidings	1973	10000
38m SE	Railway Sidings	1968	10560
40m SE	Railway	1897	-
41m SE	Railway	1915	-
41m SE	Railway	1873	-
43m SE	Railway	1935	-
43m SE	Railway Sidings	1894	10560
226m E	Railway	1912	-
226m E	Railway	1866	-

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	26

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

Features are displayed on the Railway infrastructure and projects map on **page 96**

Location	Name	Type
48m SE	Not given	Multi Track
49m SE	Not given	Multi Track
49m SE		rail
52m SE	Watford DC Lines	rail
53m SE	Not given	Multi Track
54m SE	Not given	Multi Track
55m SE	Not given	Multi Track
60m SE	Not given	Multi Track
61m SE	West Coast Main Line	rail
64m SE	Not given	Multi Track

Location	Name	Type
64m SE	Not given	Multi Track
64m SE	West Coast Main Line	rail
70m SE	West Coast Main Line	rail
70m SE	Not given	Multi Track
73m SE	West Coast Main Line	rail
125m SW	Not given	Multi Track
128m SW		rail
132m SW	Watford DC Lines	rail
146m SW	Not given	Multi Track
157m SW	Not given	Multi Track
168m SW	Not given	Multi Track
205m E	West Coast Main Line	rail
205m E	Not given	Multi Track
210m SW		rail
220m E	Not given	Multi Track
226m SW	Not given	Multi Track

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	2

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

Features are displayed on the Railway infrastructure and projects map on **page 96**

Location	Track Type	Speed (mph)	Speed (km/h)	Status
179m SE	Tunnel	112mph	180kph	Current preferred consultation route
240m S	Tunnel	140mph	225kph	Current preferred consultation route

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

Appendix 3 Historical Borehole and Water Well Records

Record of Historical Borehole or Water Well

BGS Reference: TQ28SE377
Location: ABBEY ESTATE NO.15 HAMPSTEAD
National Grid Ref: 525720,183840
Depth: 12.19m

GEOLOGICAL SURVEY OF GREAT BRITAIN

RECORD OF SHAFT OR BORE FOR MINERALS

(*For Survey use only*)
6-inch Map Registered No. TQ28SE/377

Name of Shaft or Bore given by Geological Survey:

Name and Number given by owner: Abbey estate no15.

For whom made

Town or Village Hampstead County London

Exact site see plan { Attach a tracing from a map, or a sketch-map, if possible.

Purpose for which made Trial

Nat. Grid Reference 2572.8384

1" N.S.Map No.	1" O.S.Map No.	Confidential or not
256		

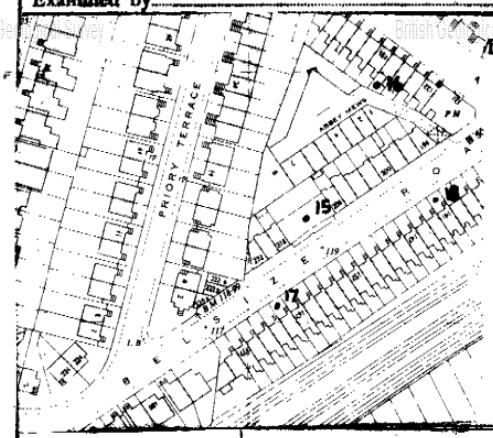
Ground Level at shaft bore relative to O.D. If not ground level give O.D. of beginning of shaft bore

Made by Date of sinking

Information from Date received

Examined by

NUMBERS AND ADDITIONAL NOTES



(*For Survey use only*) Geological Classification	Description of Strata	Thickness Ft.	Thickness In.	Depth Ft.	Depth In.
3'6"-5'0"	Brown fissured clay, blue in fissures with selenite crystals				
8'6"-10'0"	Brown fissured clay with selenite crystals				
13'6"-15'0"	Brown fissued clay with selenite crystals				
18'6"-20'0"	Brown fissured clay with selenite crystals				
23'6"-25'0"	Blue fissured clay				
28'6"-30'0"	Blue fissured clay				
33'6"-35'0"	Blue fissured clay				
38'6"-40'0"	Blue fissured clay				

Record of Historical Borehole or Water Well

BGS Reference: TQ28SE378
Location: ABBEY ESTATE NO.16 HAMPSTEAD
National Grid Ref: 525750,183900
Depth: 12.19m

GEOLOGICAL SURVEY OF GREAT BRITAIN

RECORD OF SHAFT OR BORE FOR MINERALS

(*For Survey use only*)
6-inch Map Registered No. TQ28SE/378

Name of Shaft or Bore given by Geological Survey:

Name and Number given by owner: Abbey estate no. 16.

For whom made L.C.C.

Town or Village Hampstead County London

Exact site See plan filed under TQ28SE/377

Attach a tracing from a map, or a sketch-map, if possible.

Purpose for which made Trial

Nat. Grid Reference 25758390

1" N.S.Map No.	1" O.S.Map No.	Confidential or not
256		

Ground Level at shaft bore relative to O.D. ..... If not ground level give O.D. of beginning of shaft bore .....

Made by ..... Date of sinking .....

Information from ..... Date received .....

Examined by .....

SPECIMEN NUMBERS AND ADDITIONAL NOTES

(*For Survey use only*) Geological Classification	DESCRIPTION OF STRATA	Thickness Ft.	Thickness In.	Depth Ft.	Depth In.
3'6"- 5'0"	Brown fissured clay with fine roots				
8'6"-10'0"	Brown fissured clay, blue in fissures with selenite crystals				
13'6"-15'0"	Brown fissured clay, blue in fissures with selenite crystals				
18'6"-20'0"	Brown fissured clay with selenite crystals				
23'6"-25'0"	Brown fissured clay with selenite crystals				
28'6"-30'0"	Blue fissured clay				
33'6"-35'0"	Blue fissured clay				
38'6"-40'0"	Blue fissured clay				

Record of Historical Borehole or Water Well

Stantec

BGS Reference: TQ28SW317
Location: ALBERT RD, WEST KILBURN
National Grid Ref: 524780,183200
Depth: 182.88m

TQ 28 SW /317
2478 8320

RECORD OF WELL (SHAFT OR BORE) 256

1" N.S.
1" O.S.
Grid Ref.

At Walter Davies Ltd. Albert Rd, West Kilburn
Town or Village West Kilburn County Middlesex Six-inch quarter sheet
Exact site See 6" map. (A rough sketch-map or a tracing from a map is very desirable) 87
in parish of
Level of ground surface above sea-level (O.D.) 32.0 M ft. If well starts below ground surface, state how far ft.
Shaft ft., diameter ft. Bore ft. Diameter of bore: at top ins.; at bottom ins.
Details of permanent lining tubes (internal diameters preferred) 8' x 12" ...

Water struck at depths of (feet)
Rest-level of water below top of well 296 feet. Suction at feet. Yield on hours' days' test
gallons per (with pump of capacity g.p.h.); depressing water level to feet below top. Time of recovery hrs. Amount normally pumped daily g.p.h. for hours.
Quality (attach copy of analysis if available)
Sunk by C. Isler & Co. for Mr. Date of well 25th April 37
Information from C. Isler

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	Thickness Feet.	Thickness Inches.	Depth Feet.	Depth Inches.
	Light Well.				
	Concrete CONCRETE	1	6		
	Made ground MADE GROUND	1	0		
	Brown clay BROWN CLAY	20	0		
	Blue clay BLUE CLAY	200	0		
	Mottled clay MOTTLED CLAY	40	0	CMS	
	Clay & Pebbles CLAY & PEBBLES	5	0		
	Mottled sand & pebbles MOTTLED SAND & PEBBLES	5	0		
	Grey sand GREY SAND	31	6	R	
	Green coated flint GREEN COATED FLINTS		6		
	Chalk. CHALK	282	0	600	-

N.B. ... - borehole filled in etc. 150' ... withdrawn. 12" ... left in.

Site visited 20th May 1946. Manager thought bore went down further to c. 800' — but still no water. Sited on 6" map.
R. May 1946

Record of Historical Borehole or Water Well

BGS Reference: TQ28SE1769
Location: CAMDEN BOROUGH COUNCIL, SWISS COTTAGE
National Grid Ref: 526800,184300
Depth: 159m

AC NO 45499

SWISS COTTAGE OPEN SPACE

TQ28/209

Owner L B CAMDEN	Licence No	Nat Grid Ref	TQ 268 843
Occupier	IGS Ref No	Status	LIC
Ground Level 56 m OD	ft OD	Aquifer	UPPER CHALK
Level of Well Top	m OD	ft OD	
Rest Water Level 90	m bwt	ft bwt	
(Date 02/11/04)	m OD	ft OD	
Construction 25/06/04			

Depth bwt m	Diameter mm	Linings (below well top) From m	To m	Diameter mm	Type
0 - 9	250	0	117	150	SOLID STEEL
9 - 117	244	0	157	113/103	uPVC
117 - 157	150				

Abstraction Rates	Type of Pump
gph	Chem/Bact Anal YES NO
gpd	Well Driller DRILL CORP

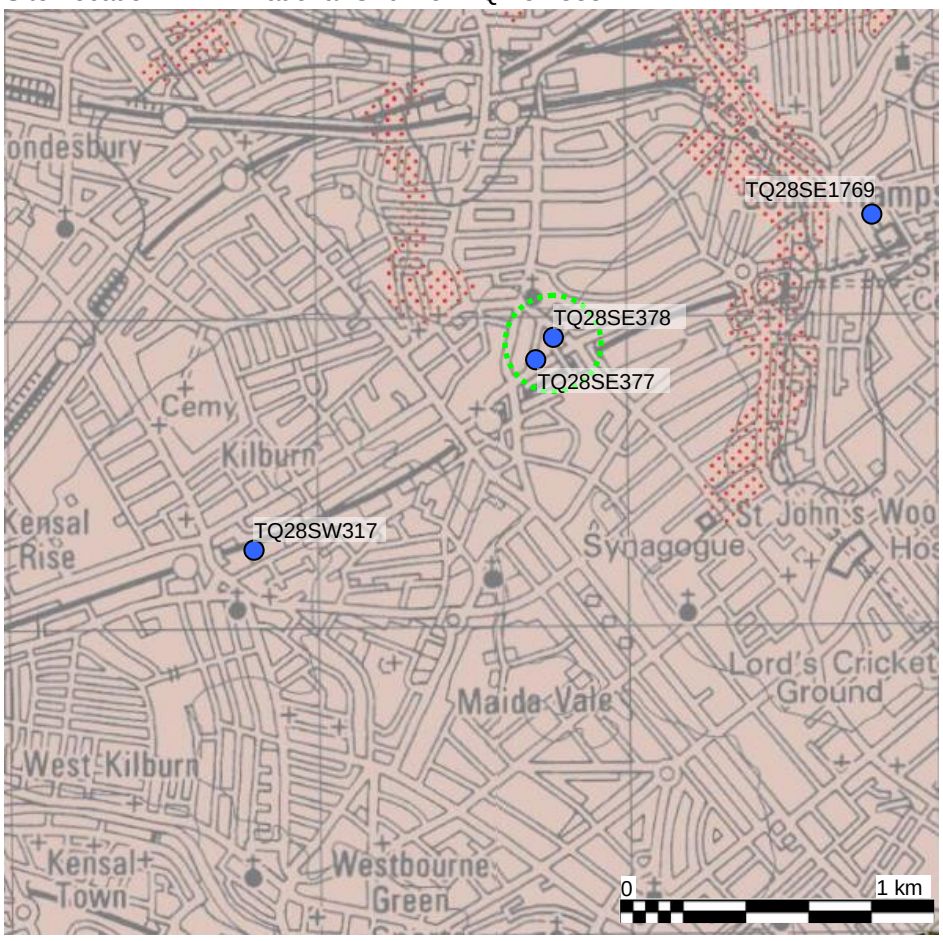
If insufficient space has been allowed, continue in 'Notes' overleaf

Summary of Geological Section	Thickness	Depth
MADE GROUND	0.5	0.5
TOP SOIL	0.7	1.2
LONDON CLAY	83.0	84.2
N. R. B.	12.0	96.2
THANNET SAND	4.2	100.4
PUTTY CHALK	11.6	112.0
UPPER CHALK	47.0	159.0

RECEIVED FROM
- 4 JUL 2005
ENVIRON AGENCY

Extract of Geological Map

Map Record Details	Sheet number	256
	Sheet title	North London
	Map type	Bedrock and Superficial
	Scale	1:50 000
	Publication year	2006
Site Location	National Grid Ref:	TQ 257 838



EXPLANATION OF GEOLOGICAL SYMBOLS AND COLOURS

Head Propensity

LC London Clay

Historical Borehole/Water Well

Project Name Abbey Area Redevelopment, Camden Project No. TB6349 Engineer Atkins Ltd Client London Borough of Camden	**Exploratory Hole Log**	Hole ID. **BHA** Header

Ground Level 36.53m OD Coordinates 525724.48 E, 183891.67 N National Grid

Date Started 11/09/2012 Date Completed 12/09/2012 Inclination Vertical

Top	Base	Type	Date Started	Date Ended	Crew	Section Logged By	Core Barrel	Core Bit	Equipment	Shoring / Support	Remarks
0.00	1.20	IP	11/09/2012	11/09/2012	IP	PG			Breaker & Hand Tools		
1.20	25.00	CP	11/09/2012	12/09/2012	IP	PG			Dando 2000		

PROGRESS

Date	Time	Hole depth	Casing depth	Water depth	Remarks
11/09/2012	0900	0.00	0.00	NR	Start of IP
11/09/2012	1100	1.20	0.00	1.00	End of IP
11/09/2012	1101	1.20	0.00	1.00	Start of CP
11/09/2012	1600	20.00	4.10	DRY	End of Shift
12/09/2012	0800	20.00	4.10	DRY	Start of Shift
12/09/2012	1030	25.00	4.10	DRY	End of Hole

WATER STRIKES

Date	Time	Strike at depth	Rise to depth	Time taken to rise	Casing depth at strike time	Casing depth to seal flow

CABLE PERCUSSION DETAILS

Hard Strata Depth from	Hard Strata Depth to	Chiselling Start time hhmm	Chiselling Duration hhmm	Remarks

SPT DETAILS

Depth	Type	Incremental blow count / penetration in mm	Hammer No.	Energy ratio %	Casing depth	Water depth
1.20	SPT	N=3 (1,0,1,1,0,1)	SEDS05	-	NR	DAMP
2.50	SPT	N=3 (1,0,1,0,1,1)	SEDS05	-	2.50	DAMP
4.00	SPT	N=17 (1,2,2,4,5,6)	SEDS05	-	4.00	DAMP
7.00	SPT	N=30 (3,5,7,7,8,8)	SEDS05	-	4.10	DRY
10.00	SPT	N=33 (3,5,7,8,8,10)	SEDS05	-	4.10	DRY
13.00	SPT	N=36 (5,6,8,8,9,11)	SEDS05	-	4.10	DRY
16.00	SPT	N=38 (5,6,8,9,10,11)	SEDS05	-	4.10	DRY
19.00	SPT	49/200mm (9,13,21,15,13/50)	SEDS05	-	4.10	DRY
22.00	SPT	N=46 (8,9,10,11,12,13)	SEDS05	-	4.10	DRY

* Seating blows only.

ROTARY FLUSH DETAILS

From depth	To depth	Flush type	Flush return %	Flush colour

HOLE DIAMETER / CASING

Hole diameter	Depth of hole	Casing diameter	Depth of casing
150	25.00	150	4.10

DYNAMIC SAMPLING

Top	Base	Diameter	Time hhmmss	Recovery %

INSTALLATION DETAILS

Distance from G.L.	ID	Type	Response zone Top	Response zone Base

PIPE CONSTRUCTION

ID	Pipe Top	Pipe Base	Dia. of pipe	Type of pipe

BACKFILL DETAILS

Top of section	Base of section	Material	Remarks
0.00	0.10	Bituminous material	
0.10	0.60	Concrete	
0.60	25.00	Grout	

GENERAL NOTES

1. Groundwater seepage from 1.00m to 4.05m.

NOTES: All depths in metres, all diameters in millimetres.
Water strike rise time in minutes, hard strata time in hhmm
For details of abbreviations, see key

Log Print Date And Time: 30/10/2012 16:01:36

SOIL ENGINEERING

Project Name	Abbey Area Redevelopment, Camden	Exploratory Hole Log	Hole ID.
Project No.	TB6349		BHA
Engineer	Atkins Ltd		Sheet 1 of 3
Client	London Borough of Camden		

Ground Level	36.53m OD	Coordinates	525724.48 E, 183891.67 N National Grid
Hole Type	IP+CP	Inclination	Vertical

Description of Strata	Legend	Depth	Datum Level	Sampling Details	Dia.	Blow Count And Sample Recovery TCR	SCR	RQD	In Situ Test Details	Install-ation
MADE GROUND: Asphalt.		0.10	36.43	ES001 0.20						
MADE GROUND: Brown fine to coarse sand sized fragments and fine to coarse gravel sized fragments of brick.		0.50	36.03	ES002 0.50 B003 0.50-1.00						
MADE GROUND: Dark grey and brown slightly sandy slightly gravelly clay. Gravel sized fragments are fine to coarse of brick and clinker with rare wood and slate. Sand sized fragments are fine to coarse.				ES004 1.00 D005 1.20					SPT3 1.20 1.65	
from 2.00m slightly sandy and slightly gravelly clay with pockets of orange brown and grey slightly sandy silty clay				ES006 1.50 D007 2.00 ES008 2.00 ES009 2.50 D010 2.50 ES011 3.00					SPT3 2.50 2.95	
Firm very closely fissured brown silty CLAY with blue grey staining and coarse sand sized selenite crystals. Fissures are undulating. (WEATHERED LONDON CLAY FORMATION)		3.50	33.03	D012 3.50 ES013 3.50						
from 4.00m fissured. Very closely spaced and undulating. Rare root remains. Becoming stiff to very stiff				ES014 4.00 D015 4.00 ES016 4.50					SPT17 4.00 4.45	
from 5.00m with orange brown staining				D017 5.00 ES018 5.00						
at 5.50m high strength				UT019 5.50-5.95	100	(65) 100%				
from 6.00m with partings of orange brown fine to medium sand				D020 6.00 D021 6.50 D022 7.00					SPT30 7.00 7.45	
Very stiff extremely closely fissured high to very high strength grey silty CLAY. Fissures are undulating. (LONDON CLAY FORMATION)		8.00	28.53	D023 8.00						
				UT024 8.50-8.95	100	(65) 100%				
from 9.10m to 9.15m driller notes mudstone (claystone)				D025 9.00 D026 9.50						

NOTES: All depths in metres, all diameters in millimetres.
See header sheet for details of boring, progress and water.
For details of abbreviations, see key

Log Print Date And Time: 30/10/2012 16:01:39

Project Name	Abbey Area Redevelopment, Camden	Exploratory Hole Log	Hole ID.
Project No.	TB6349		BHA
Engineer	Atkins Ltd		Sheet 2 of 3
Client	London Borough of Camden		

Ground Level	36.53m OD	Coordinates	525724.48 E, 183891.67 N National Grid
Hole Type	IP+CP	Inclination	Vertical

Description of Strata	Legend	Depth	Datum Level	Sampling Details	Sampling Dia.	Blow Count And Sample Recovery TCR	SCR	RQD	In Situ Test Details	Install-ation
Very stiff extremely closely fissured high to very high strength grey silty CLAY. Fissures are undulating. (LONDON CLAY FORMATION)				D027 10.00					SPT33 10.00 10.45	
				D028 11.00						
				UT029 11.50-11.95	100	(75) 100%				
at 12.00m coarse gravel sized nodule of iron pyrite				D030 12.00						
				D031 12.50						
				D032 13.00					SPT36 13.00 13.45	
				D033 14.00						
				UT034 14.50-14.95	100	(80) 100%				
				D035 15.00						
				D036 15.50						
at 16.00m rare shell fragments				D037 16.00					SPT38 16.00 16.45	
				D038 17.00						
below 17.00m becoming very high strength				UT039 17.50-17.95	100	(100) 100%				
				D040 18.00						
				D041 18.50						
				D042 19.00					SPT49/200mm 19.00 19.35	

NOTES: All depths in metres, all diameters in millimetres.
See header sheet for details of boring, progress and water.
For details of abbreviations, see key

Log Print Date And Time: 30/10/2012 16:01:42

Project Name	Abbey Area Redevelopment, Camden	Exploratory Hole Log	Hole ID. BHA
Project No.	TB6349		
Engineer	Atkins Ltd		Sheet 3 of 3
Client	London Borough of Camden		

Ground Level	36.53m OD	Coordinates	525724.48 E, 183891.67 N National Grid
Hole Type	IP+CP	Inclination	Vertical

Description of Strata	Legend	Depth	Datum Level	Sampling Details	Sampling Dia.	Blow Count And Sample Recovery TCR	SCR	RQD	In Situ Test Details	Install-ation
Very stiff extremely closely fissured high to very high strength grey silty CLAY. Fissures are undulating. (LONDON CLAY FORMATION)				D043 20.00						
				UT044 20.50-20.95	100	(100)		100%		
from 21.00m rare partings of dark grey fine to medium sand				D045 21.00						
				D046 21.50						
				D047 22.00					SPT46 22.00 22.45	
				D048 23.00						
				UT049 23.50-23.95	100	(100)		100%		
				D050 24.00						
				D051 24.50						
		25.00	11.53	D052 25.00						
Exploratory hole complete at 25.00 m.										

NOTES: All depths in metres, all diameters in millimetres.
See header sheet for details of boring, progress and water.
For details of abbreviations, see key

SOIL ENGINEERING

Log Print Date And Time: 30/10/2012 16:01:44