



Geology 1:10,000 scale - Artificial and made ground



14.2 Artificial and made ground (10k)

Records within 500m 9

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on page 75

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	5m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
			Made Ground (Undivided)	Artificial Deposit





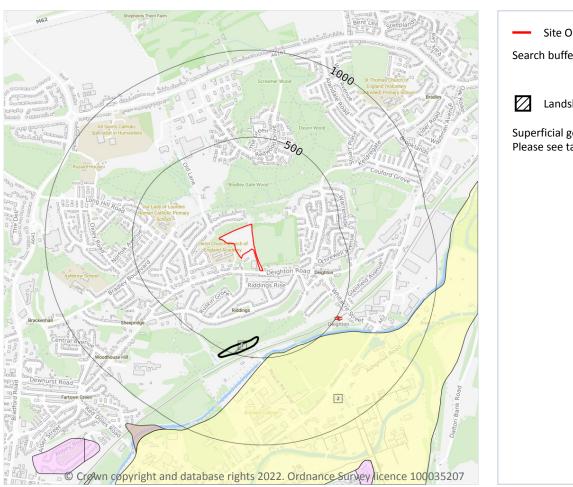
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ID	Location	LEX Code	Description	Rock description
5	160m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	375m SE	WGR-VOID	Worked Ground (Undivided)	Void
7	388m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8	493m S	WGR-VOID	Worked Ground (Undivided)	Void
9	497m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit





Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)

Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on page 77

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ID	Location	LEX Code	Description	Rock description
2	475m SE	ALV-XCSV	Alluvium - Clay, Sand And Gravel	Clay, Sand And Gravel



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14.4 Landslip (10k)

Records within 500m 1

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

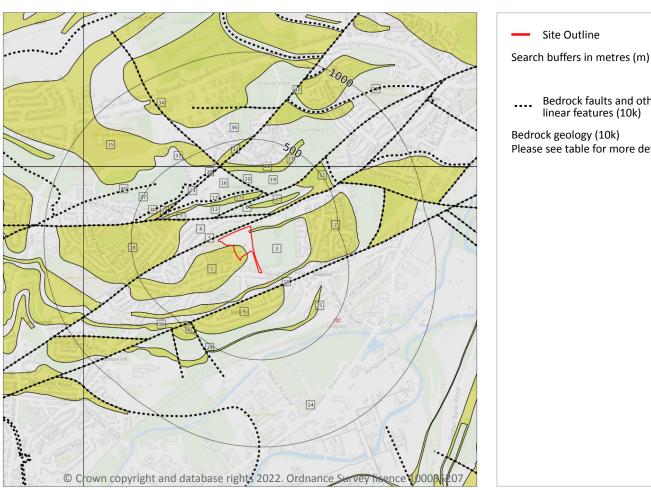
Features are displayed on the Geology 1:10,000 scale - Superficial map on page 77

ID	Location	LEX Code	Description	Rock description
1	382m S	SLIP-UKNOWN	Landslide Deposits	Unknown/unclassified Entry





Geology 1:10,000 scale - Bedrock



Bedrock faults and other linear features (10k)

Bedrock geology (10k) Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m 26

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on page 79

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
2	On site	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
3	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age





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ID	Location	LEX Code	Description	Rock age
4	15m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
6	64m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
8	106m N	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
9	109m SE	EF-SDST	Elland Flags - Sandstone	Langsettian Sub-age
11	119m NE	GR-SDST	Grenoside Sandstone - Sandstone	Langsettian Sub-age
12	123m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
14	141m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
15	154m N	GR-SDST	Grenoside Sandstone - Sandstone	Langsettian Sub-age
16	187m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
18	202m NW	GM-SDST	Greenmoor Rock - Sandstone	Langsettian Sub-age
19	208m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
21	314m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
22	316m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
24	317m NW	GR-SDST	Grenoside Sandstone - Sandstone	Langsettian Sub-age
25	330m S	EYR-SDST	80 Yard Rock - Sandstone	Langsettian Sub-age
27	343m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
28	350m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
31	381m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
33	382m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
35	402m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
36	410m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
37	456m SW	EF-SDST	Elland Flags - Sandstone	Langsettian Sub-age
38	456m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age



Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m 14

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

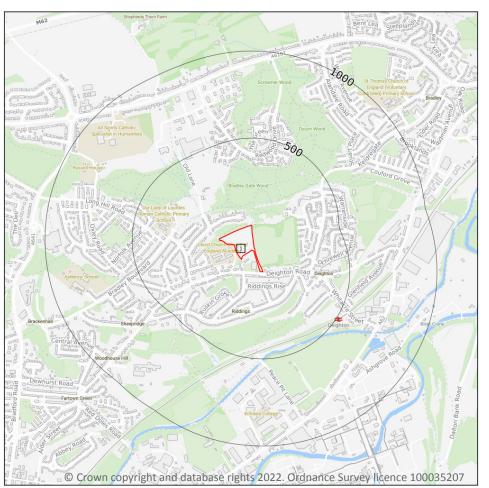
Features are displayed on the Geology 1:10,000 scale - Bedrock map on page 79

ID	Location	Category	Description
5	15m N	FAULT	Normal fault, inferred; crossmarks on downthrow side
7	64m N	FAULT	Normal fault, inferred; crossmarks on downthrow side
10	109m SE	FAULT	Normal fault, inferred; crossmarks on downthrow side
13	123m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
17	201m N	ROCK	Coal seam, inferred
20	208m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
23	316m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
26	338m NW	ROCK	Coal seam, observed
29	352m NW	ROCK	Coal seam, inferred
30	368m NW	ROCK	Coal seam, inferred
32	381m N	FAULT	Normal fault, inferred; crossmarks on downthrow side
34	382m N	FAULT	Normal fault, inferred; crossmarks on downthrow side
39	456m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
40	481m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side





15 Geology 1:50,000 scale - Availability



Site Outline
Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on page 82

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW077_huddersfield_v4





Geology 1:50,000 scale - Artificial and made ground



15.2 Artificial and made ground (50k)

Records within 500m 2

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on page 83

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	392m S	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT



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1

15.3 Artificial ground permeability (50k)

Records within 50m

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

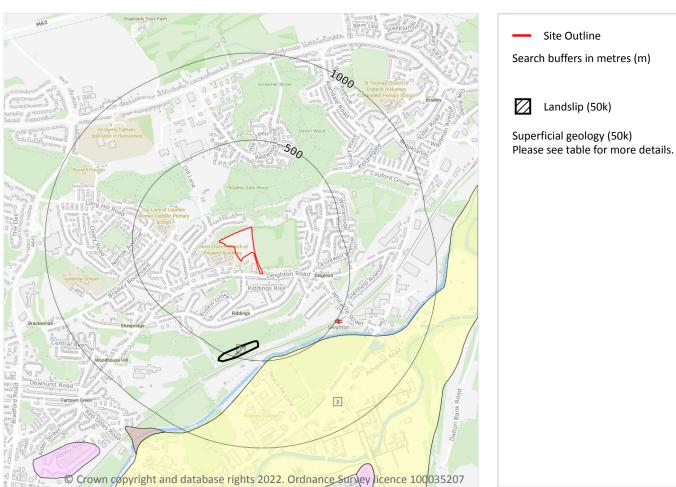
Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	Very High	Low

This data is sourced from the British Geological Survey.





Geology 1:50,000 scale - Superficial



Search buffers in metres (m) Landslip (50k)

Site Outline

15.4 Superficial geology (50k)

Records within 500m 1

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on page 85

ID	Location	LEX Code	Description	Rock description
2	480m SE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL



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0

1

15.5 Superficial permeability (50k)

Records within 50m

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

Features are displayed on the Geology 1:50,000 scale - Superficial map on page 85

ID	Location	LEX Code	Description	Rock description
1	389m S	SLIP-UKNOWN	LANDSLIDE DEPOSITS	UNKNOWN/UNCLASSIFIED ENTRY

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

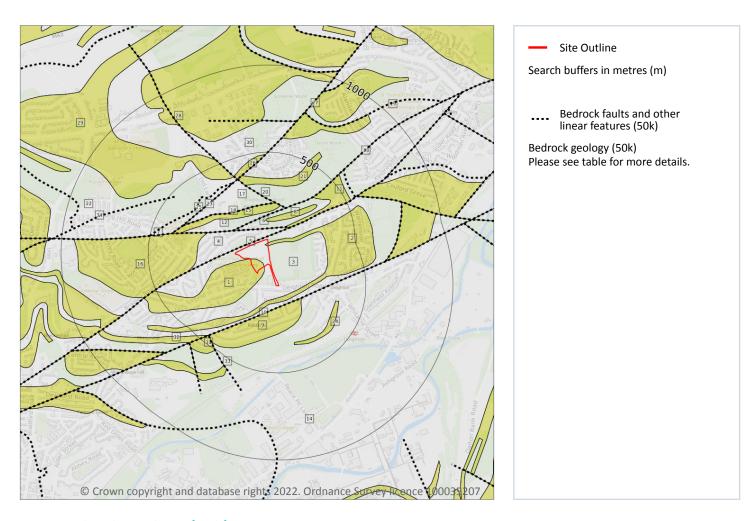
Records within 50m 0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).





Geology 1:50,000 scale - Bedrock



15.8 Bedrock geology (50k)

Records within 500m 22

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on page 87

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
2	On site	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN



Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561

ID	Location	LEX Code	Description	Rock age
3	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
4	13m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	62m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	103m N	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN
9	114m SE	EF-SDST	ELLAND FLAGS - SANDSTONE	WESTPHALIAN
11	119m NE	GR-SDST	GRENOSIDE SANDSTONE - SANDSTONE	WESTPHALIAN
12	120m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
14	147m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
15	154m N	GR-SDST	GRENOSIDE SANDSTONE - SANDSTONE	WESTPHALIAN
16	198m NW	GM-SDST	GREENMOOR ROCK - SANDSTONE	WESTPHALIAN
17	201m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
19	207m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
21	312m N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
22	314m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
24	337m SE	EYR-SDST	80 YARD ROCK - SANDSTONE	WESTPHALIAN
26	382m N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
29	400m N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
30	403m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
31	454m SW	EF-SDST	ELLAND FLAGS - SANDSTONE	WESTPHALIAN
32	454m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.



ct us with any questions at: Date: 4 November 2022



15.9 Bedrock permeability (50k)

Records within 50m

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Moderate	Low
On site	Fracture	High	Moderate
On site	Fracture	High	Moderate

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m 12

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on page 87

ID	Location	Category	Description
5	13m N	FAULT	Fault, inferred
7	62m N	FAULT	Fault, inferred
10	114m SE	FAULT	Fault, inferred
13	120m NW	FAULT	Fault, inferred
18	201m N	ROCK	Coal seam, inferred
20	207m NE	FAULT	Fault, inferred
23	314m NW	FAULT	Fault, inferred
25	340m NW	ROCK	Coal seam, inferred
27	382m N	FAULT	Fault, inferred
28	382m N	FAULT	Fault, inferred
33	454m SW	FAULT	Fault, inferred
34	475m NW	FAULT	Fault, inferred





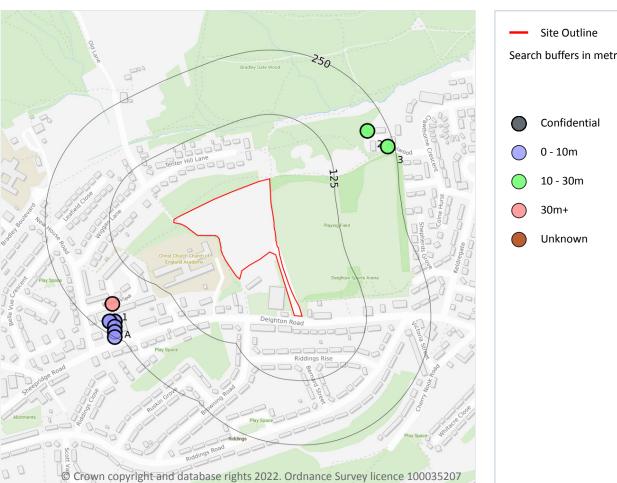
Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561

This data is sourced from the British Geological Survey.





16 Boreholes



Search buffers in metres (m)

16.1 BGS Boreholes

Records within 250m 10

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on page 91

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	198m SW	415655 419414	HUDDERSFIELD STEAM LAUNDRY SHEEPRIDGE HUDDERSFIELD	106.68	N	<u>40805</u>
2	211m NE	416150 419750	CHALWOOD DEIGHTON 2	20.0	N	<u>15631371</u>





Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561

ID	Location	Grid reference	Name	Length	Confidential	Web link
А	224m SW	415660 419380	SHEEPRIDGE HUDDERSFIELD	1.3	N	41020
А	224m SW	415660 419380	SHEEPRIDGE HUDDERSFIELD	0.3	N	41021
А	229m SW	415650 419380	SHEEPRIDGE HUDDERSFIELD	2.75	N	41016
А	229m SW	415650 419380	SHEEPRIDGE HUDDERSFIELD	3.0	N	41017
Α	232m SW	415660 419370	SHEEPRIDGE HUDDERSFIELD	0.3	N	41022
3	238m NE	416190 419720	CHALWOOD DEIGHTON 3	20.0	N	15631372
А	241m SW	415660 419360	SHEEPRIDGE HUDDERSFIELD	2.0	N	41019
Α	250m SW	415660 419350	SHEEPRIDGE HUDDERSFIELD	2.0	N	41018



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m 2

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

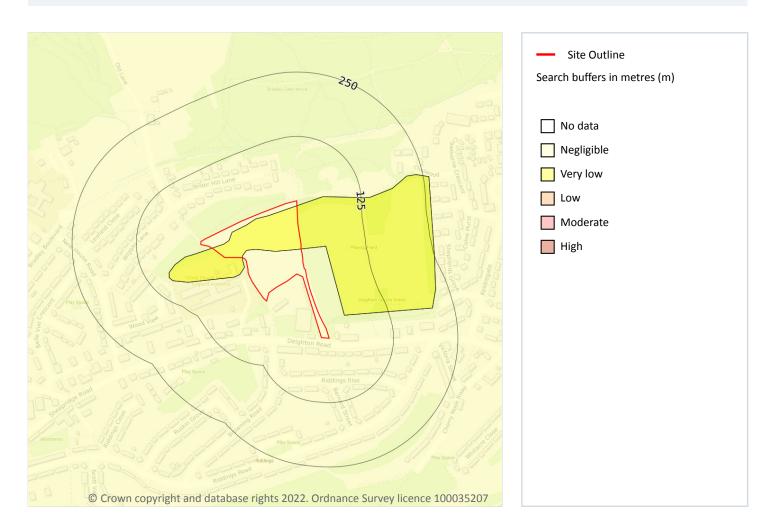
Features are displayed on the Natural ground subsidence - Shrink swell clays map on page 93

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.





Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m 2

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on page 94

info@groundsure.com 08444 159 000

Location	Hazard rating	Details
On site	Negligible	Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.





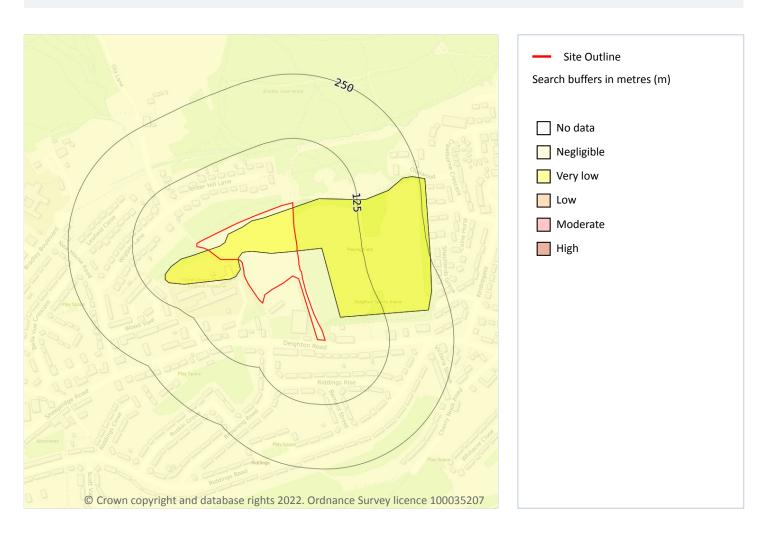
Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.





Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m 2

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 96

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.
On site	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.





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This data is sourced from the British Geological Survey.





Natural ground subsidence - Collapsible deposits



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 98

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





Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m 4

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 99

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.





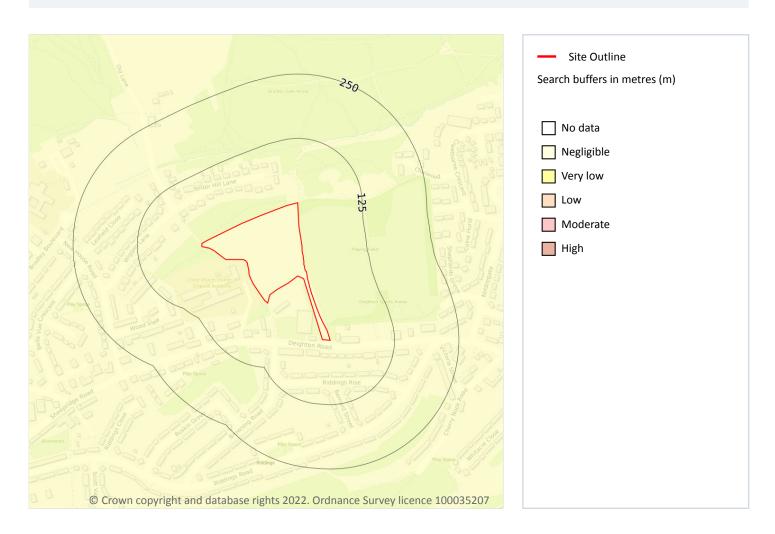
Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561

Location	Hazard rating	Details
On site	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
16m N	Moderate	Slope instability problems are probably present or have occurred in the past. Land use should consider specifically the stability of the site.
41m SE	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.





Natural ground subsidence - Ground dissolution of soluble rocks



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 101**

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.



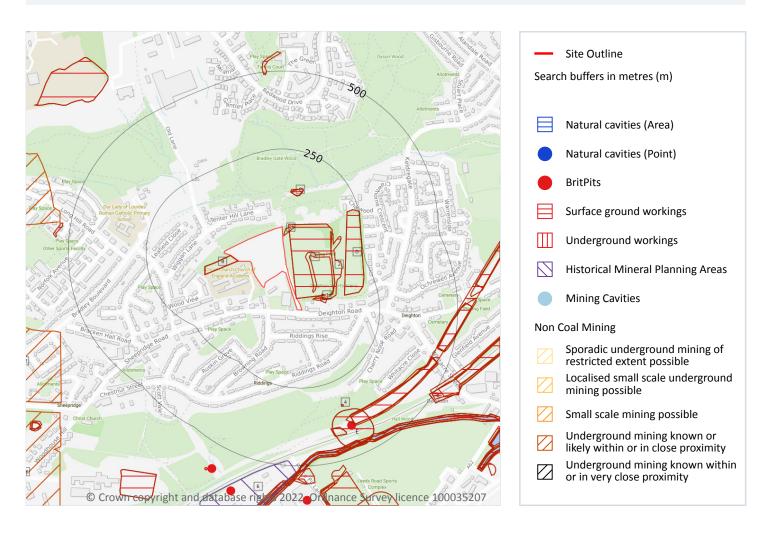


Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561





18 Mining, ground workings and natural cavities



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.



Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561

18.2 BritPits

Records within 500m

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.

Features are displayed on the Mining, ground workings and natural cavities map on page 103

ID	Location	Details	Description
E	403m SE	Name: Peace Pit Address: Sheepbridge, HUDDERSFIELD, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

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.

Features are displayed on the Mining, ground workings and natural cavities map on page 103

ID	Location	Land Use	Year of mapping	Mapping scale	
Α	On site	Unspecified Heap	1975	1:10000	
Α	On site	Unspecified Heap	1988	1:10000	
В	0m W	Unspecified Heap	1975	1:10000	
В	0m W	Unspecified Heap	1988	1:10000	
В	0m W	Unspecified Heap	1965	1:10560	
1	4m NE	Unspecified Heap	1965	1:10560	
2	45m SE	Unspecified Heaps	1965	1:10560	
3	66m SE	Mill Pond	1905	1:10560	
С	109m NE	Unspecified Pit	1948	1:10560	



(104)

Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561

ID	Location	Land Use	Year of mapping	Mapping scale
С	111m NE	Unspecified Pit	1956	1:10560
С	111m NE	Unspecified Pit	1965	1:10560
D	145m SE	Unspecified Heap	1975	1:10000
D	145m SE	Unspecified Heap	1988	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m 3

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 103

ID	Location	Land Use	Year of mapping	Mapping scale
4	329m SE	Unspecified Shaft	1905	1:10560
Ν	584m S	Unspecified Old Shaft	1948	1:10560
N	584m S	Unspecified Old Shaft	1905	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m 1

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.

Features are displayed on the Mining, ground workings and natural cavities map on page 103

I	D	Location	Site Name	Mineral	Туре	Planning Status	Planning Status Date
6)	485m S	Fieldhouse Fireclay Works	Fireclay	Surface mineral working	Valid	Not available

This data is sourced from the British Geological Survey.



(105)

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6

18.6 Non-coal mining

Records within 1000m

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).

Features are displayed on the Mining, ground workings and natural cavities map on page 103

ID	Location	Name	Commodity	Class	Likelihood
10	535m W	Elland Flag Mines	Sandstone - Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
12	583m W	Elland Flag Mines	Sandstone - Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
16	734m SW	Elland Flag Mines	Sandstone - Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
-	778m W	Elland Flag Mines	Sandstone - Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
-	849m NW	Elland Flag Mines	Sandstone - Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered
-	882m NW	Elland Flag Mines	Sandstone - Elland Flags	D	Underground mining is known or considered likely to have occurred within or close to the area. Potential for difficult ground conditions are at a level where they should be considered

This data is sourced from the British Geological Survey.



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18.7 Mining cavities

Records within 1000m

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 1

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

Location Details

On site

The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

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.



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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

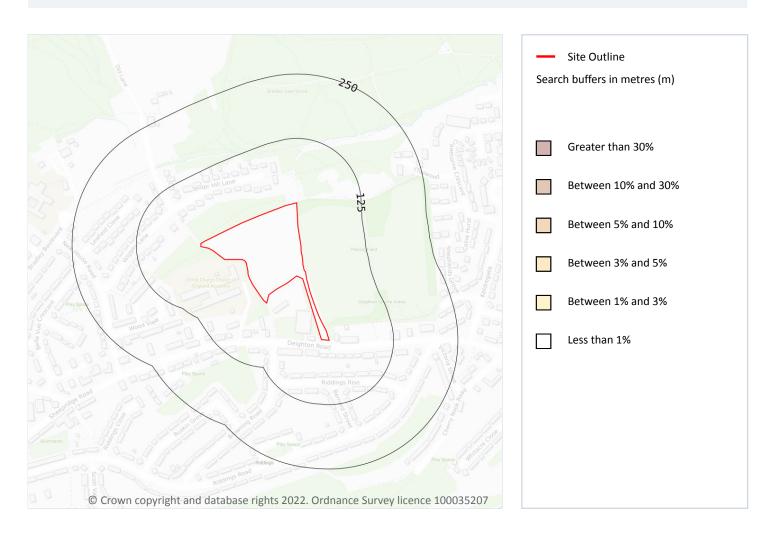
Generalised areas that may be affected by kaolin and ball clay extraction.

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





19 Radon



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 109

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 14

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 km². 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 km²; 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	Cadmiu m	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
On site	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
13m N	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
17m SE	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
17m SE	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
38m NE	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg
38m NE	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	30 - 45 mg/kg





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Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmiu m	Chromium	Nickel
39m NE	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg
39m NE	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m 0

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 km²).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m 0

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 km².

This data is sourced from the British Geological Survey.



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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

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m 0

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.

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.





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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 0

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

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 0

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.

This data is sourced from HS2 ltd.



Date: 4 November 2022



Ref: EMS-822282_1057112 Your ref: EMS_822282_1016755 Grid ref: 415904 419561

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.

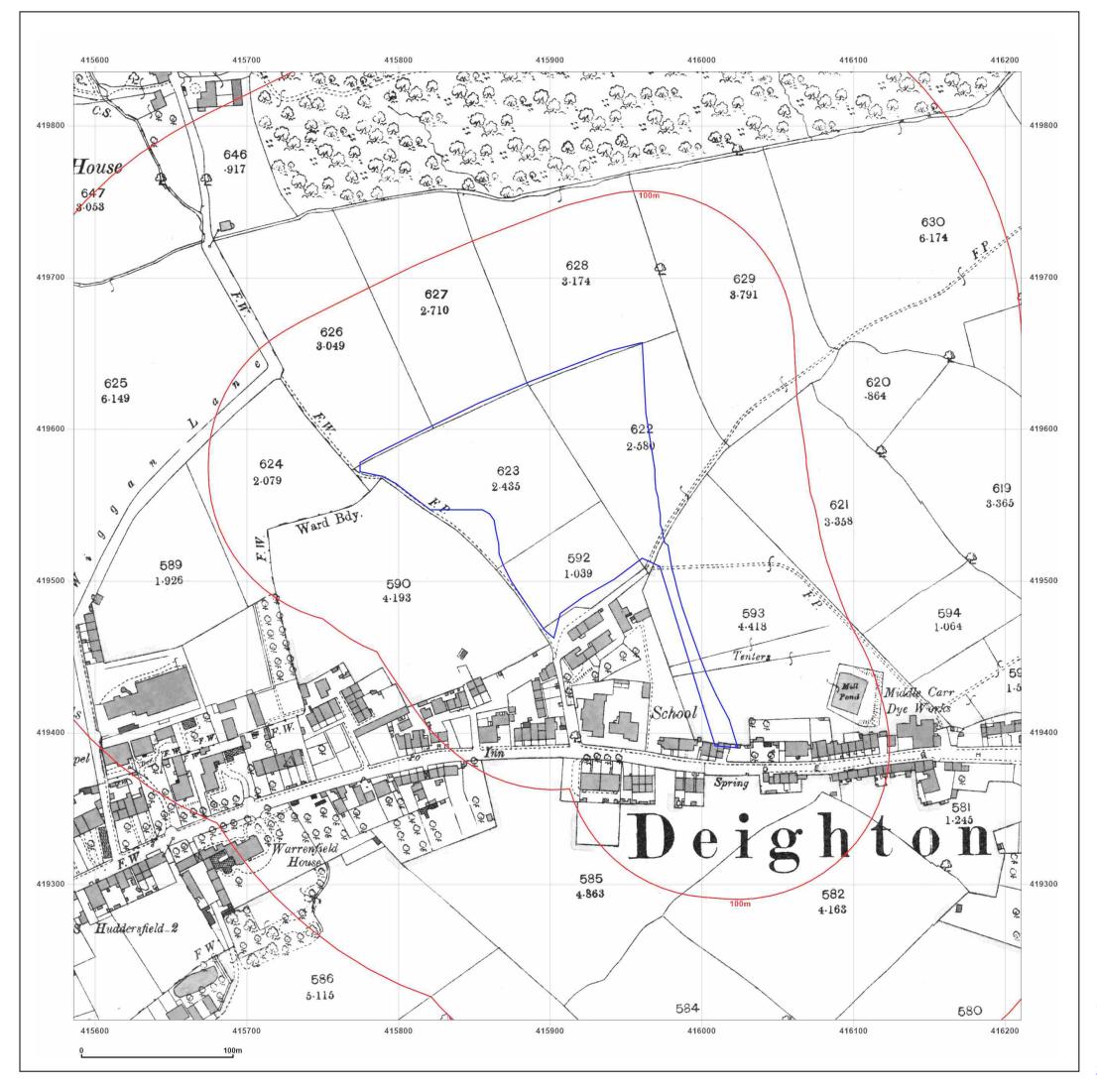
Terms and conditions

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





Appendix III



Site Details:

Joseph Norton SEMH School, Land off Deighton Road, Deighton, Huddersfield, HD2

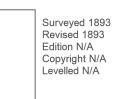
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Map Name: County Series

Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500





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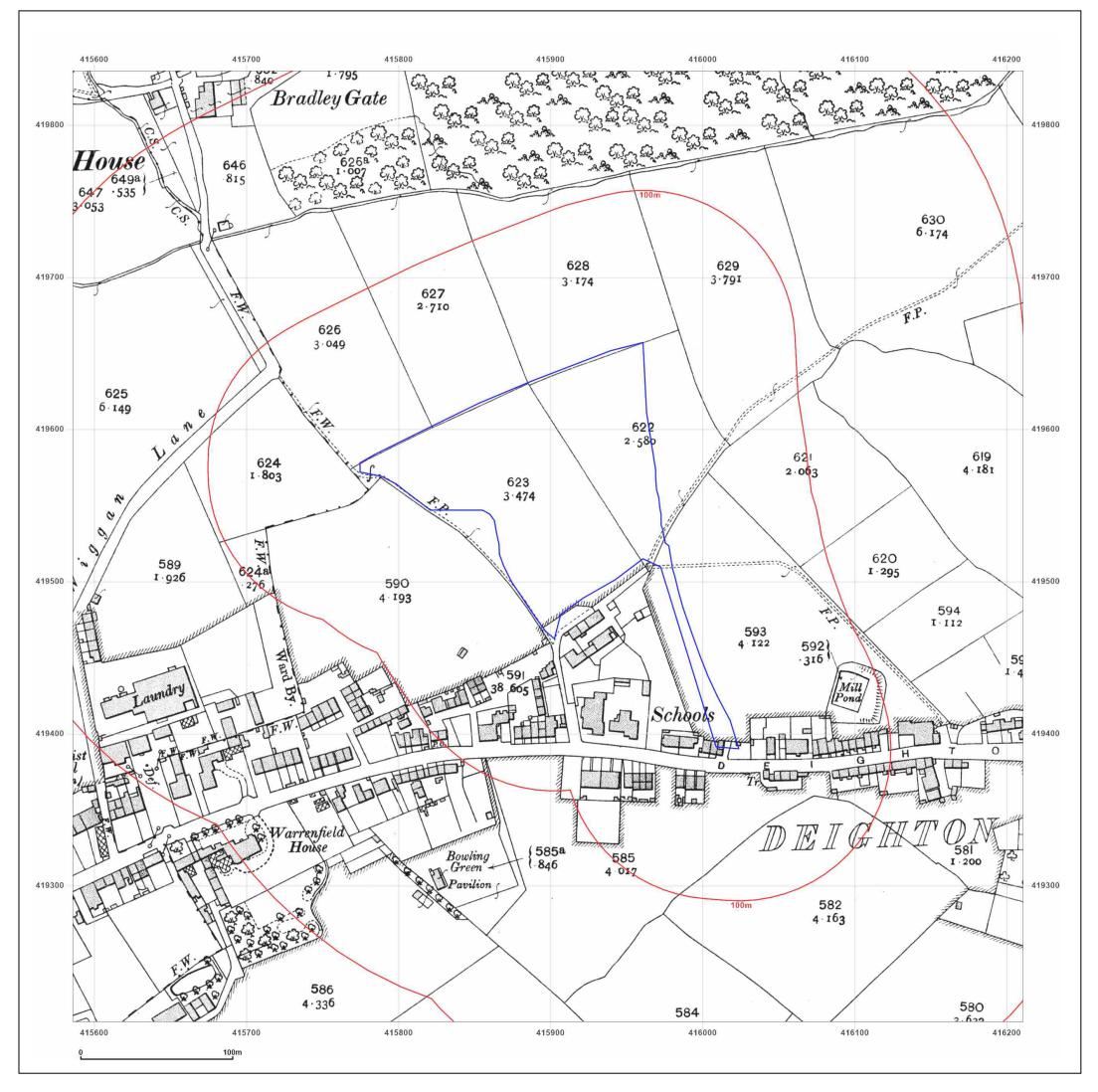


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Map legend available at:



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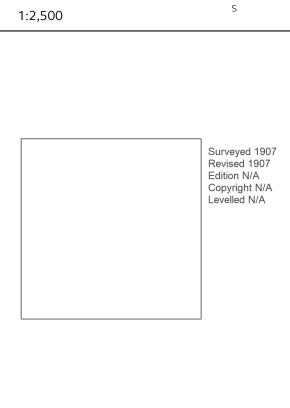
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Map Name: County Series

1907 Map date:

1:2,500 Scale:

Printed at: 1:2,500





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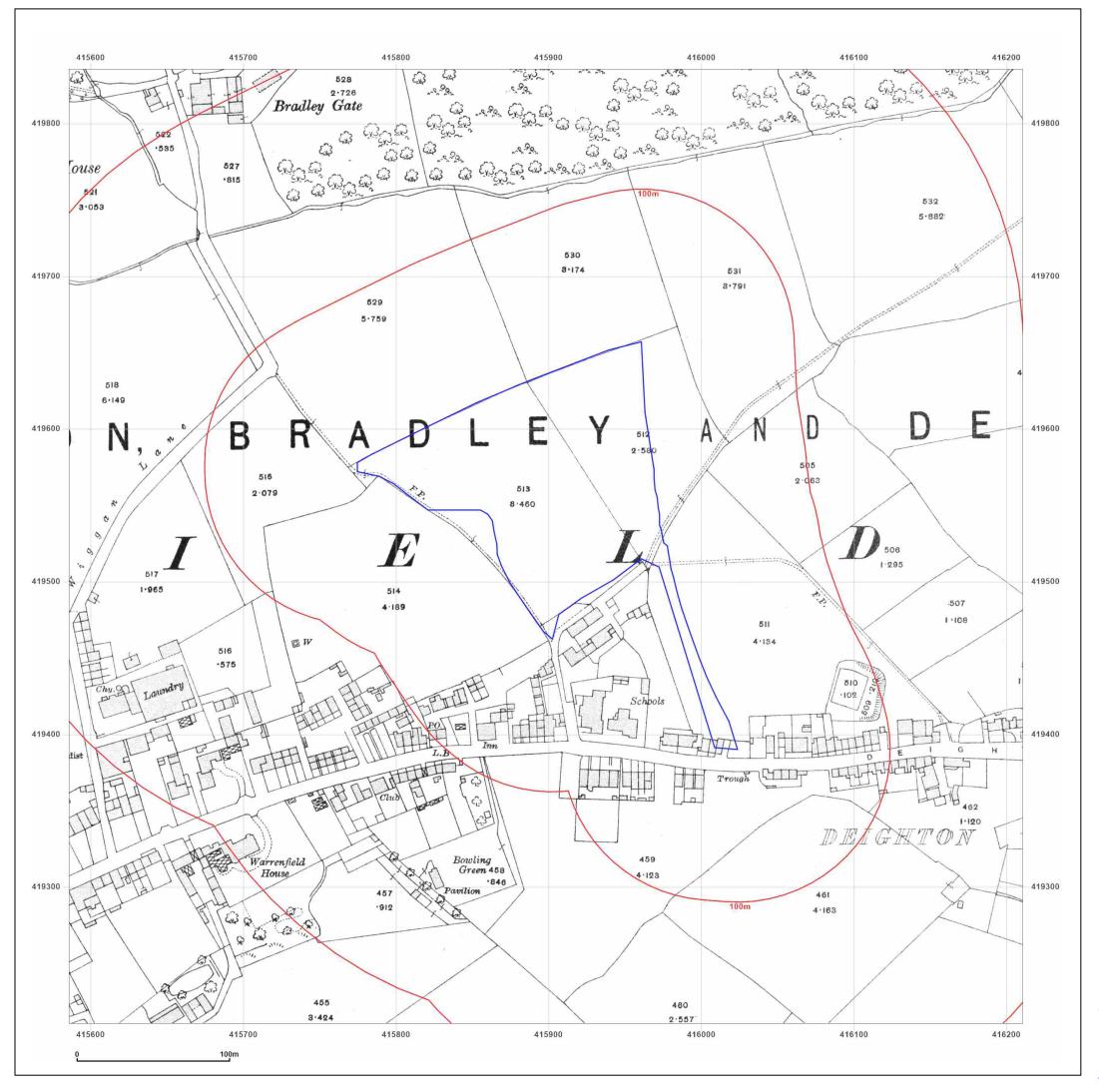


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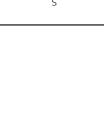
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Map Name: County Series

Map date: 1918

Scale: 1:2,500

Printed at: 1:2,500



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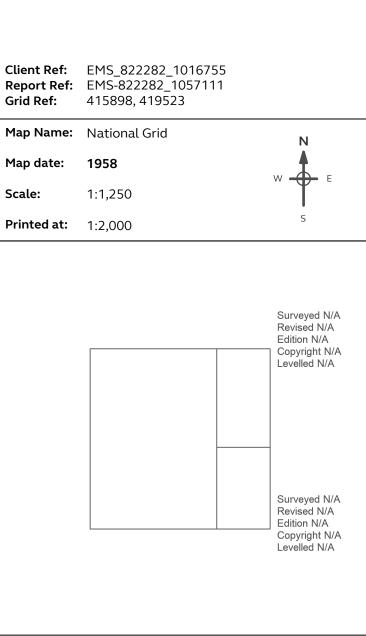


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Grid Ref:

Map date:





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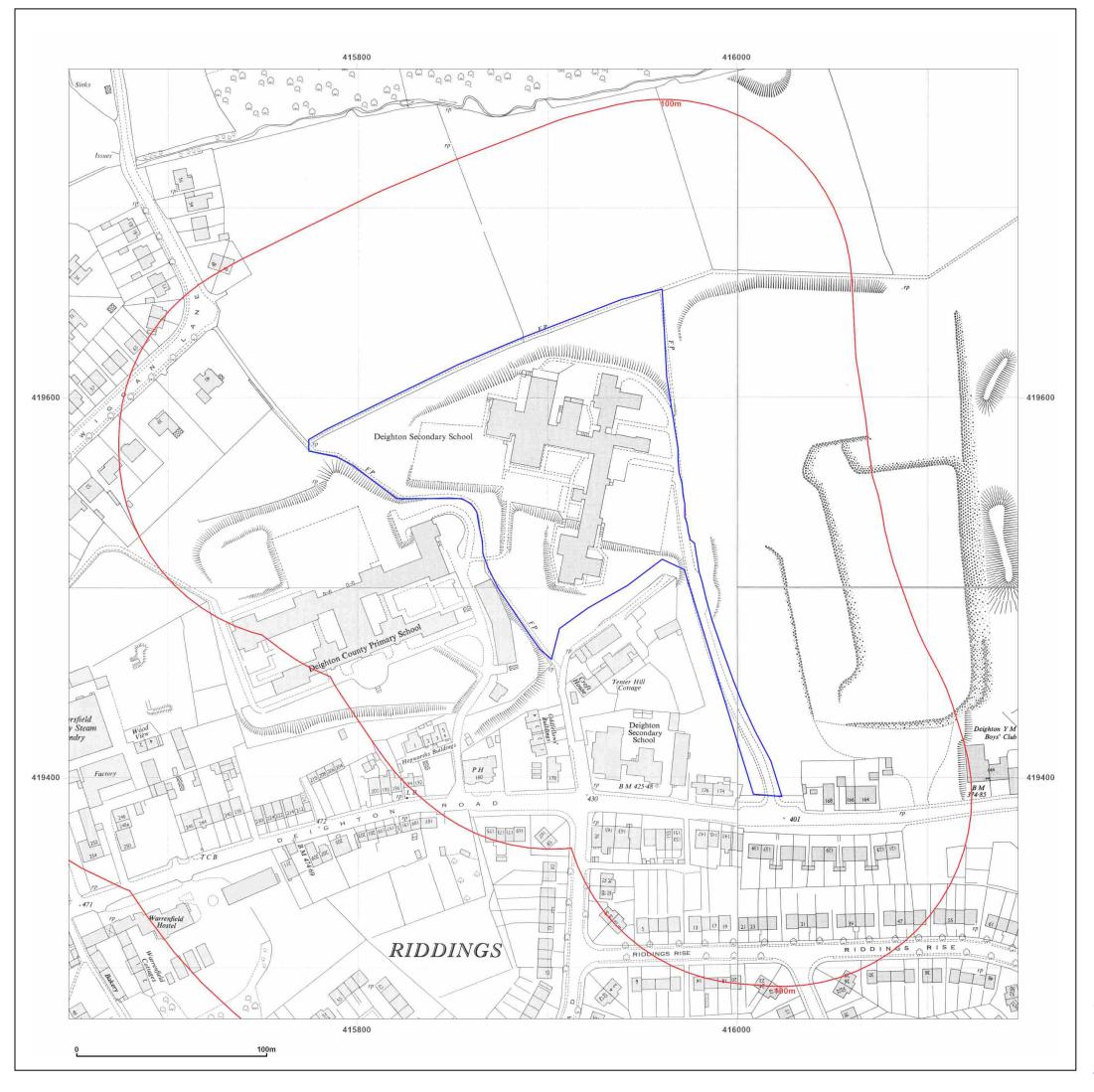


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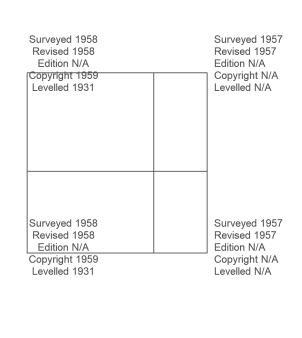
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Map Name: National Grid

Map date: 1957-1959

Scale: 1:1,250

Printed at: 1:2,000





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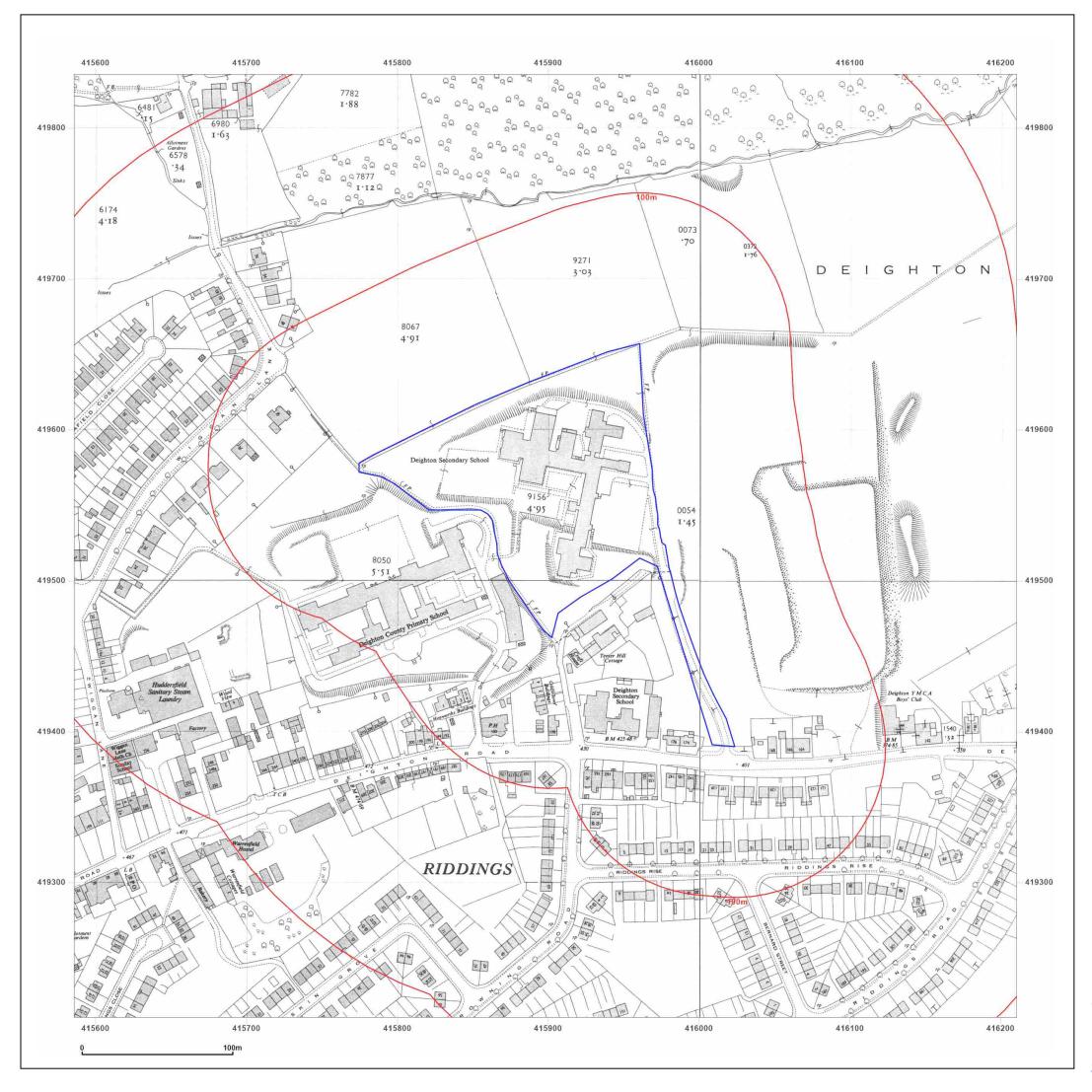


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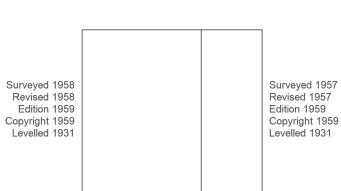
 Grid Ref:
 415898, 419523

Map Name: National Grid

Map date: 1959

Scale: 1:2,500

Printed at: 1:2,500





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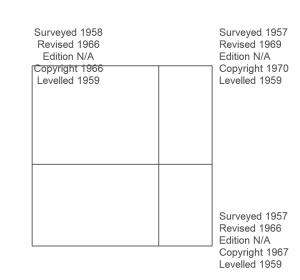
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Map Name: National Grid

Map date: 1966-1970

Scale: 1:1,250

Printed at: 1:2,000





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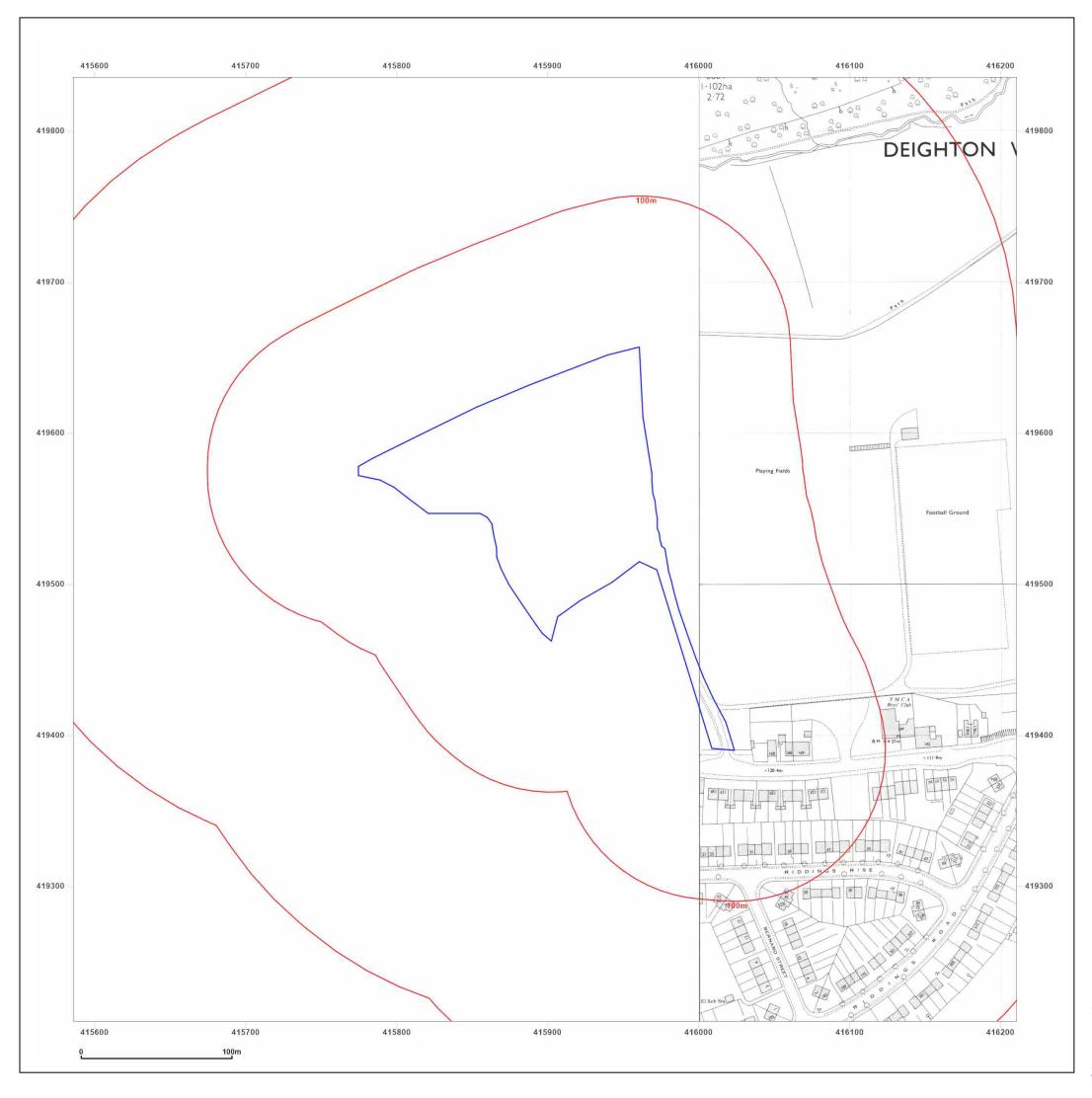


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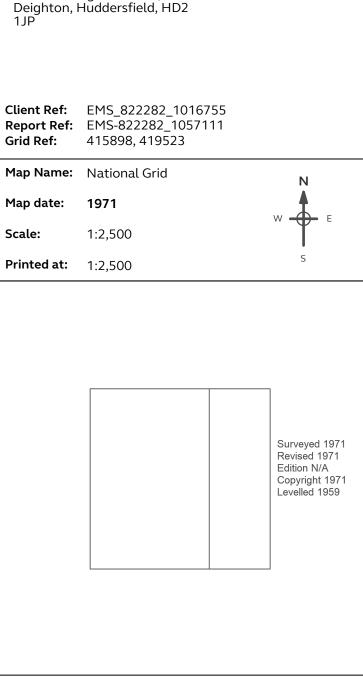




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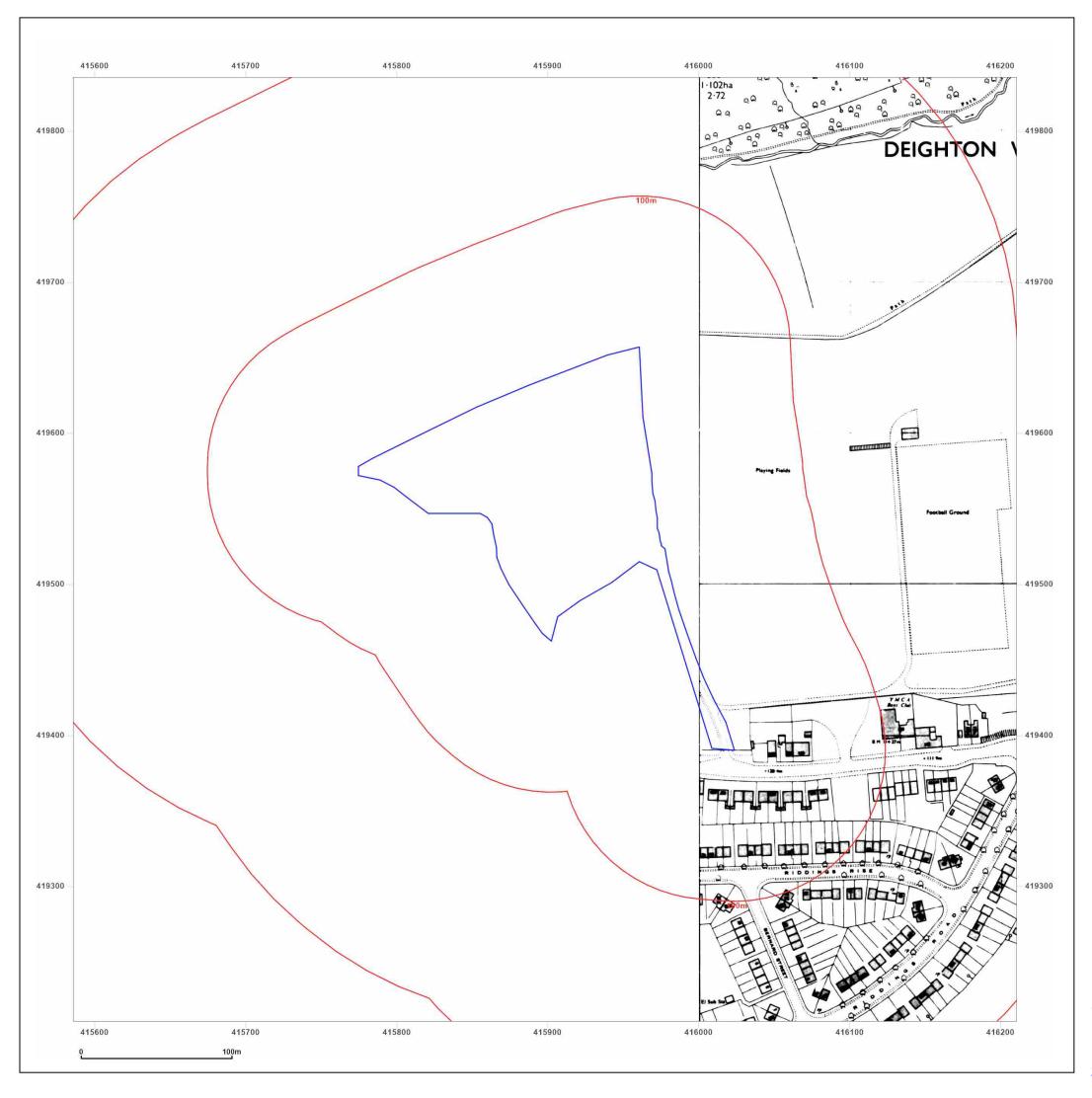


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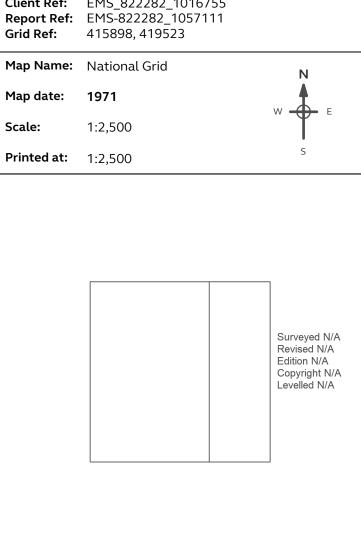




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Client Ref: EMS_822282_1016755 **Report Ref:** EMS-822282_1057111





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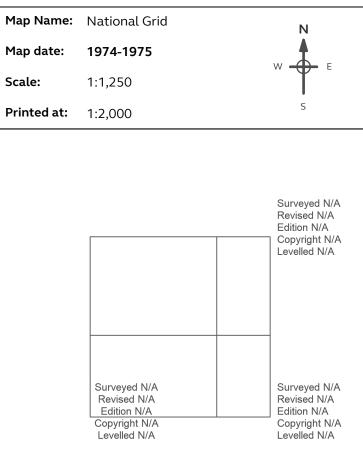
Joseph Norton SEMH School, Land off Deighton Road, Deighton, Huddersfield, HD2

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 Report Ref:
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Map date:

Scale:





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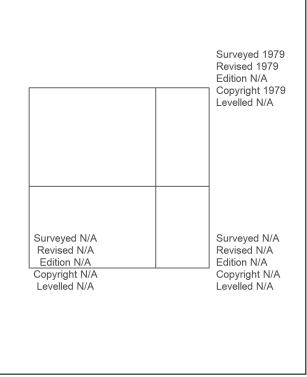
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Map Name: National Grid

Map date: 1975-1979

Scale: 1:1,250

Printed at: 1:2,000





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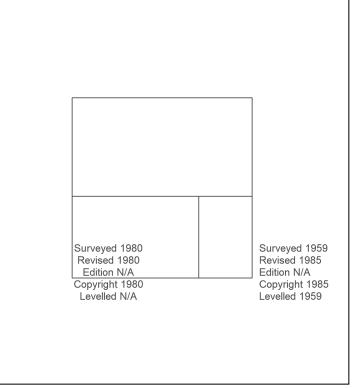
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Report Ref: EMS-822282_1057111
Grid Ref: 415898, 419523

Map Name: National Grid

Map date: 1980-1985

Scale: 1:1,250

Printed at: 1:2,000





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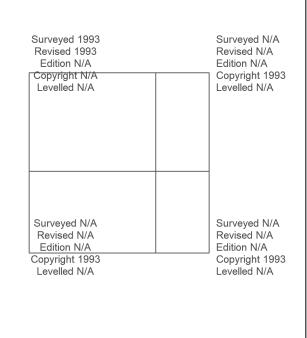
Client Ref: EMS_822282_1016755 Report Ref: EMS-822282_1057111 Grid Ref: 415898, 419523

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000





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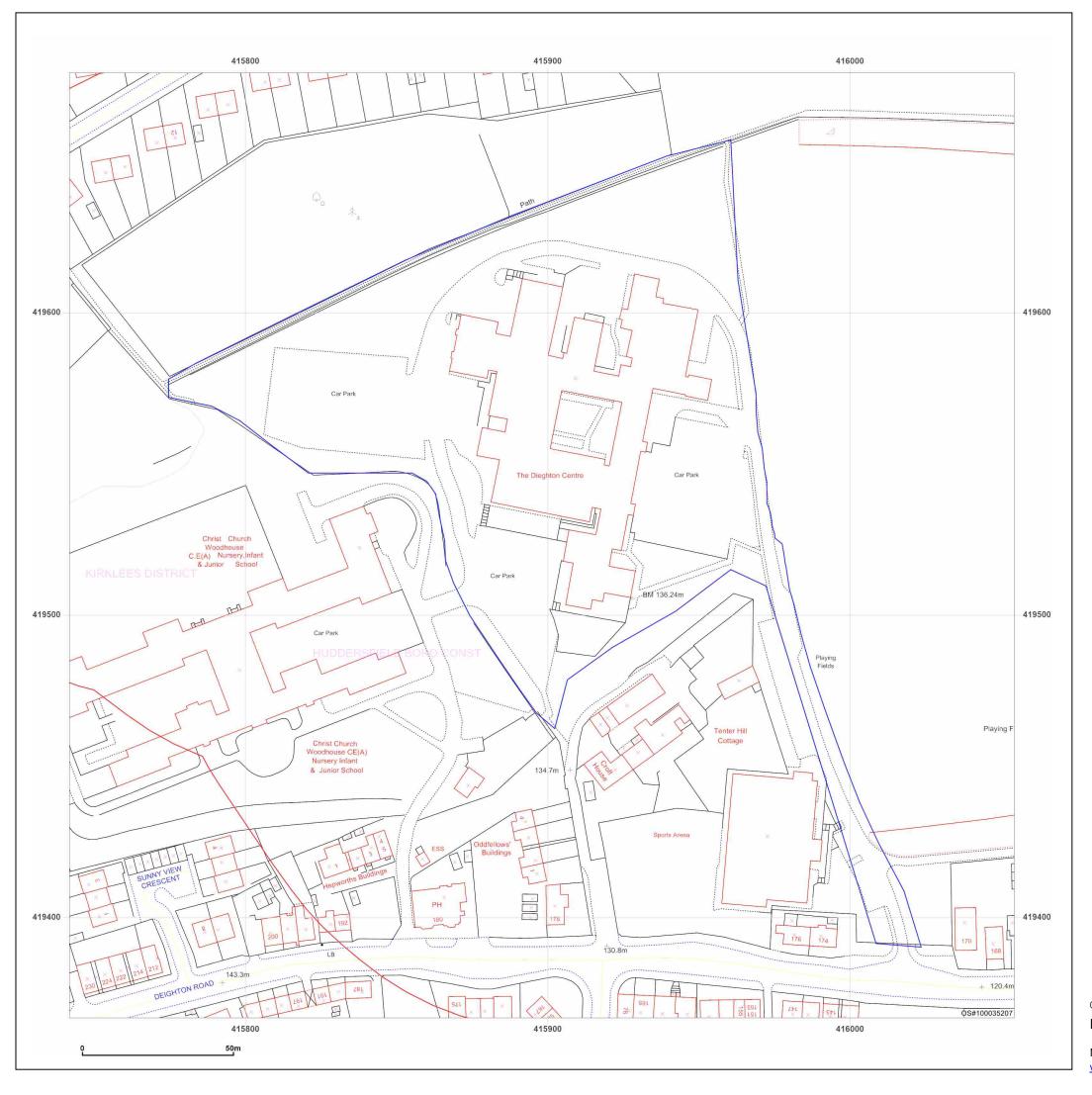


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Client Ref: EMS_822282_1016755 Report Ref: EMS-822282_1057111 Grid Ref: 415898, 419523

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250







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