15.3 Artificial ground permeability (50k)

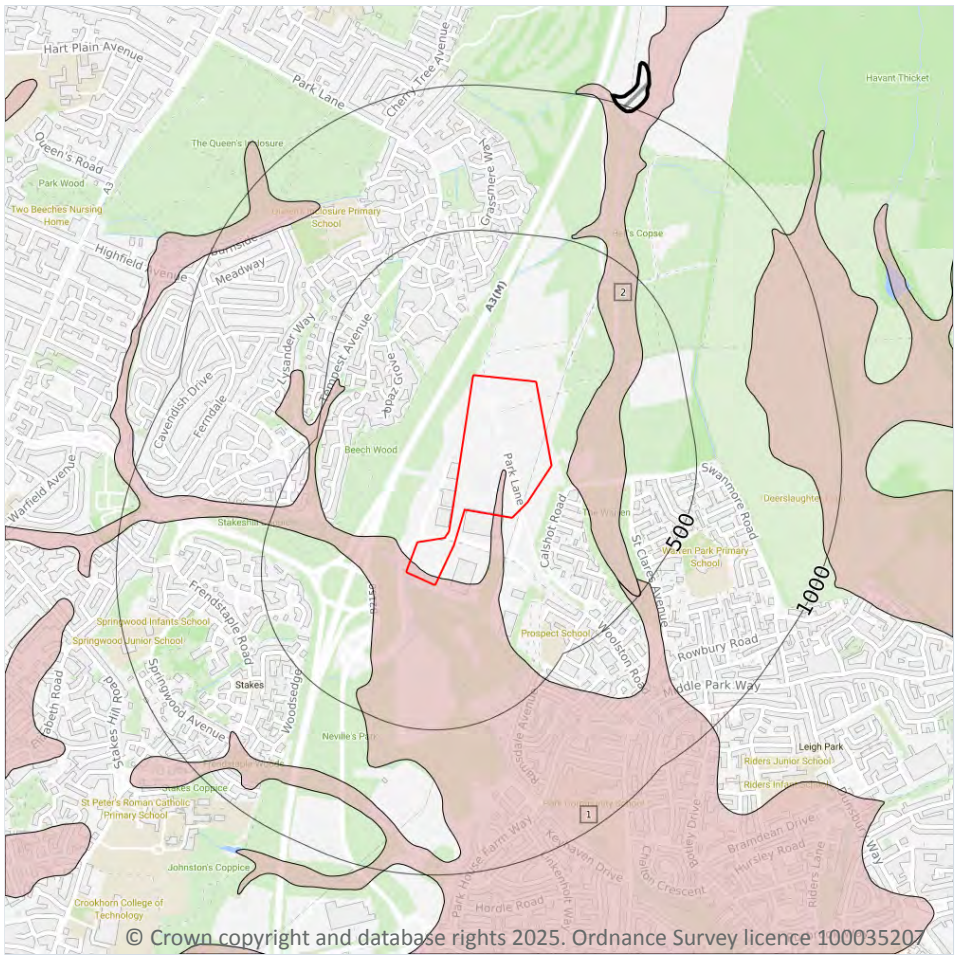
Records within 50m	1

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
31m W	Mixed	Very High	Low

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m	2

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 84 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**HEAD-XCZSV**	**HEAD**	**CLAY, SILT, SAND AND GRAVEL**
2	58m E	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

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).

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

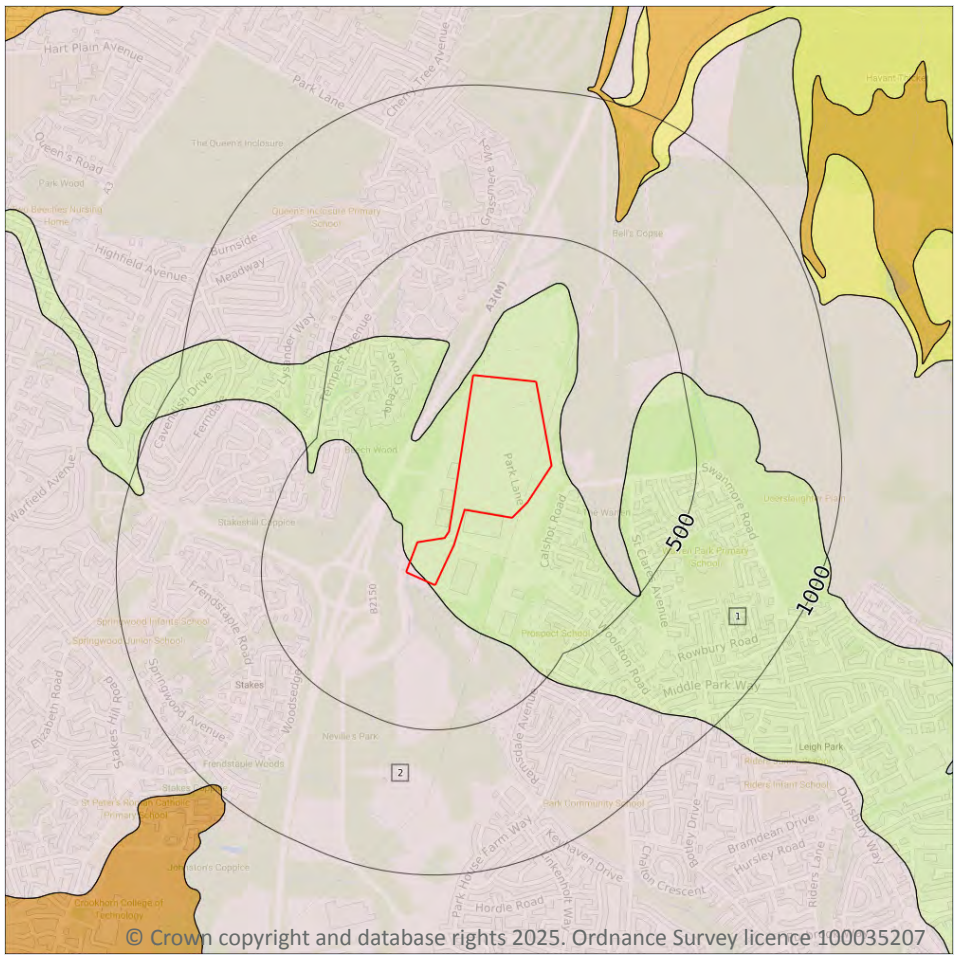
15.7 Landslip permeability (50k)

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).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	2

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 86 >**

ID	Location	LEX Code	Description	Rock age
1	On site	BOSA-S	BOGNOR SAND MEMBER - SAND	-
2	On site	LC-XCZS	LONDON CLAY FORMATION - CLAY, SILT AND SAND	YPRESIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	4

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	**Mixed**	**Moderate**	**Very Low**
On site	**Intergranular**	**High**	**High**
19m NW	Mixed	Moderate	Very Low
42m E	Mixed	Moderate	Very Low

This data is sourced from the British Geological Survey.

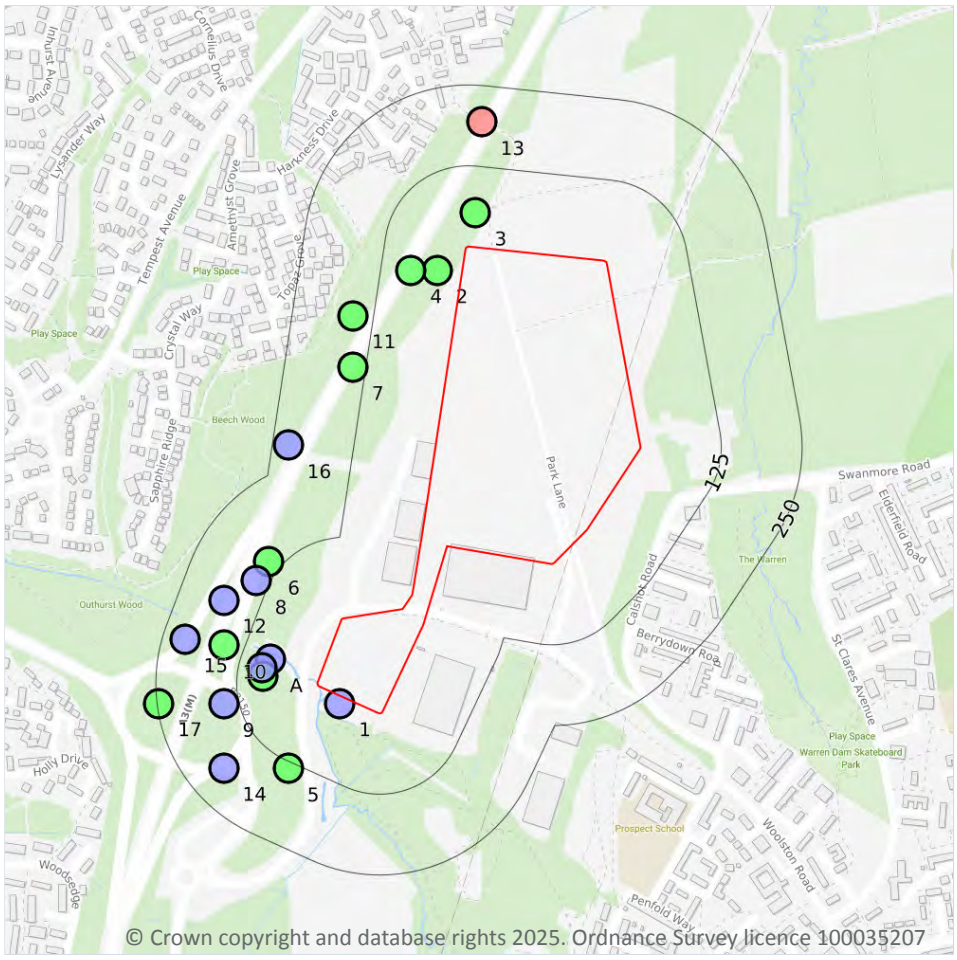
15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

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.

This data is sourced from the British Geological Survey.

16 Boreholes



16.1 BGS Boreholes

Records within 250m	20

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.

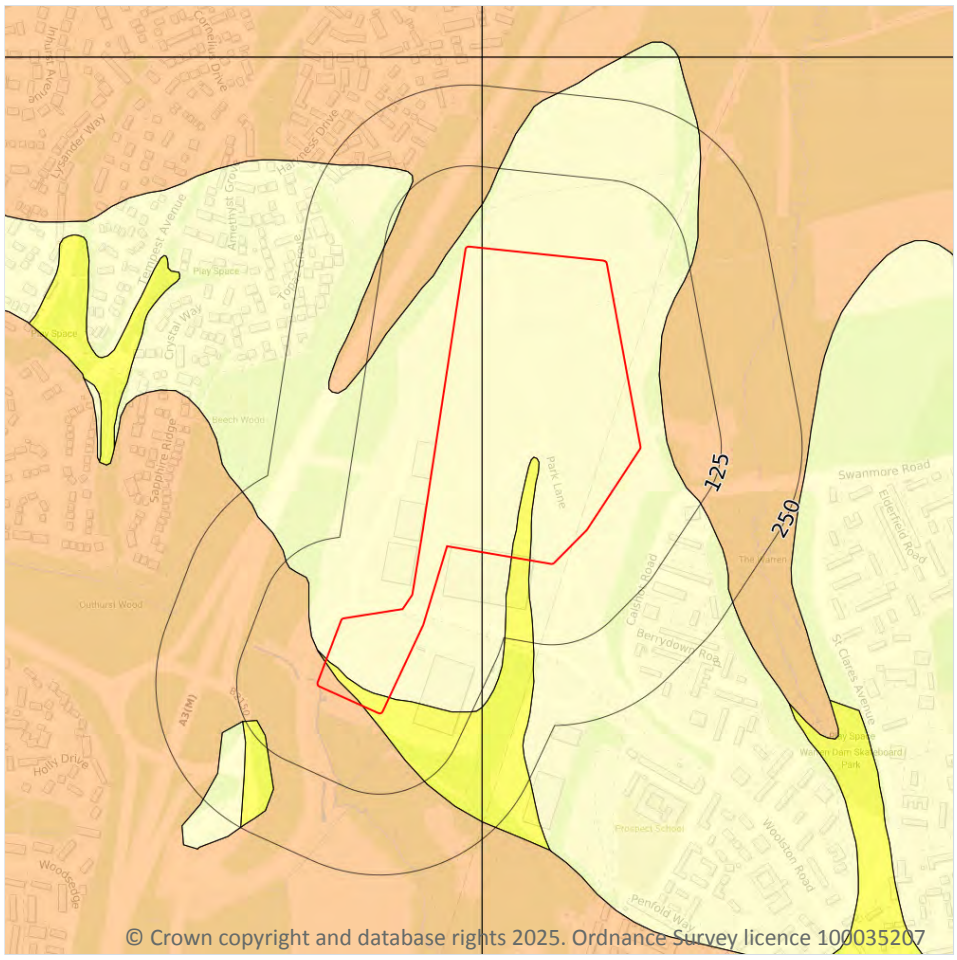
Features are displayed on the Boreholes map on **page 88 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	11m SW	469780 109000	HULBERT RD RELIEF SEWER BH6	3.35	N	420054 ↗
2	39m W	469930 109670	A3 HORNDEAN-BROADMARSH 206	15.0	N	419992 ↗
3	54m N	469990 109760	A3 HORNDEAN-BROADMARSH BH15	24.0	N	420003 ↗

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	78m W	469890 109670	A3 HORNDEAN-BROADMARSH 205	15.0	N	419991 ↗
A	80m W	469673 109068	A3/A3M SLOPE REPAIRS AT NINE LOCATIONS SITES 1,3,4,8 AND 9 TP8.2	1.65	N	19508350 ↗
A	85m W	469661 109043	A3/A3M SLOPE REPAIRS AT NINE LOCATIONS SITES 1,3,4,8 AND 9 BH8.1	16.63	N	19508348 ↗
A	89m W	469660 109055	A3/A3M SLOPE REPAIRS AT NINE LOCATIONS SITES 1,3,4,8 AND 9 TP8.1	2.2	N	19508349 ↗
5	135m SW	469700 108900	A3 HORNDEAN-BROADMARSH BH191	15.0	N	419980 ↗
6	144m NW	469670 109220	A3 HORNDEAN-BROADMARSH BH13	30.0	N	420001 ↗
7	145m W	469800 109520	A3 HORNDEAN-BROADMARSH BH14	12.0	N	420002 ↗
8	146m NW	469650 109190	A3 HORNDEAN-BROADMARSH 202	5.0	N	419988 ↗
9	149m W	469600 109000	A3 HORNDEAN-BROADMARSH 201	10.0	N	419987 ↗
10	157m W	469600 109090	A3 HORNDEAN-BROADMARSH 200&200A	15.0	N	419986 ↗
11	157m W	469800 109600	A3 HORNDEAN-BROADMARSH 204	15.0	N	419990 ↗
12	181m W	469600 109160	HULBERT RD RELIEF SEWER BH5	4.26	N	420053 ↗
13	194m N	469999 109900	A3 HORNDEAN-BROADMARSH BH207-209	36.0	N	419993 ↗
14	194m SW	469600 108900	A3 HORNDEAN-BROADMARSH BH190	6.0	N	419979 ↗
15	216m W	469540 109100	A3 HORNDEAN-BROADMARSH 199	10.0	N	419985 ↗
16	226m W	469700 109400	A3 HORNDEAN-BROADMARSH 203	7.0	N	419989 ↗
17	247m W	469500 109000	A3 HORNDEAN-BROADMARSH 195-198	30.0	N	419984 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	5

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).

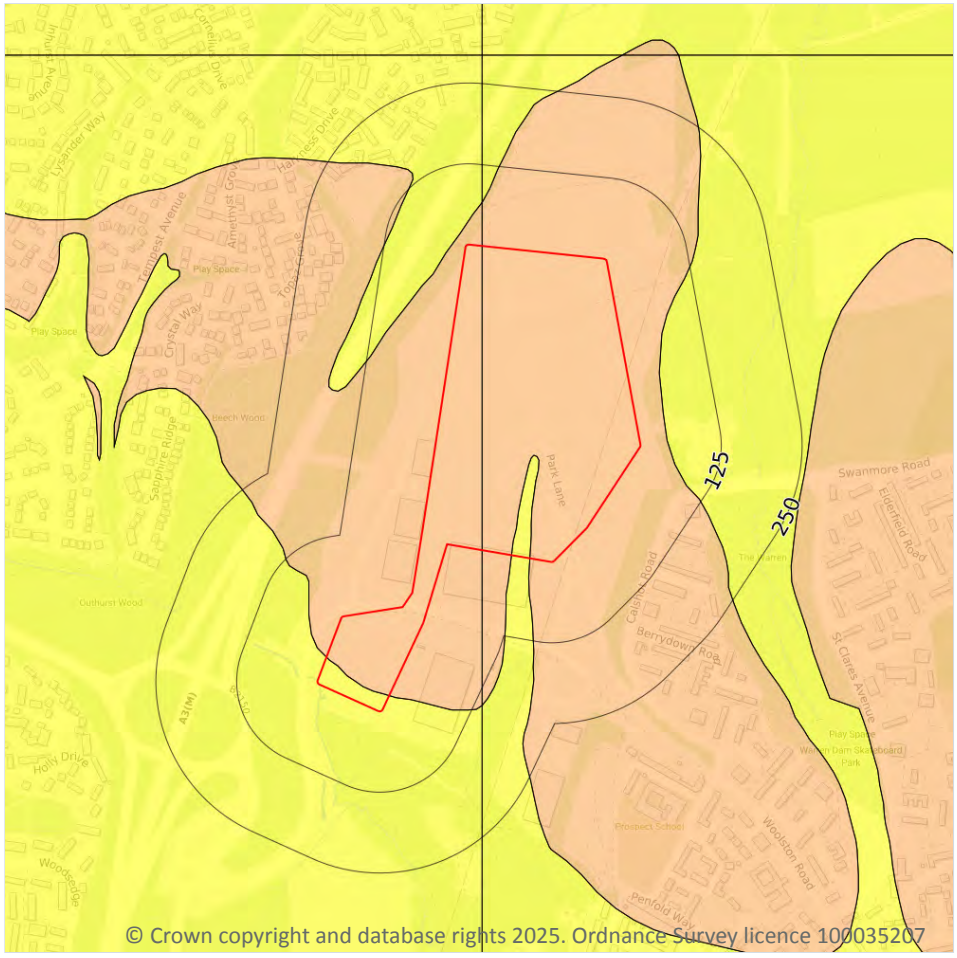
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 90 >**

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

Location	Hazard rating	Details
19m NW	Low	Ground conditions predominantly medium plasticity.
42m E	Low	Ground conditions predominantly medium plasticity.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

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.

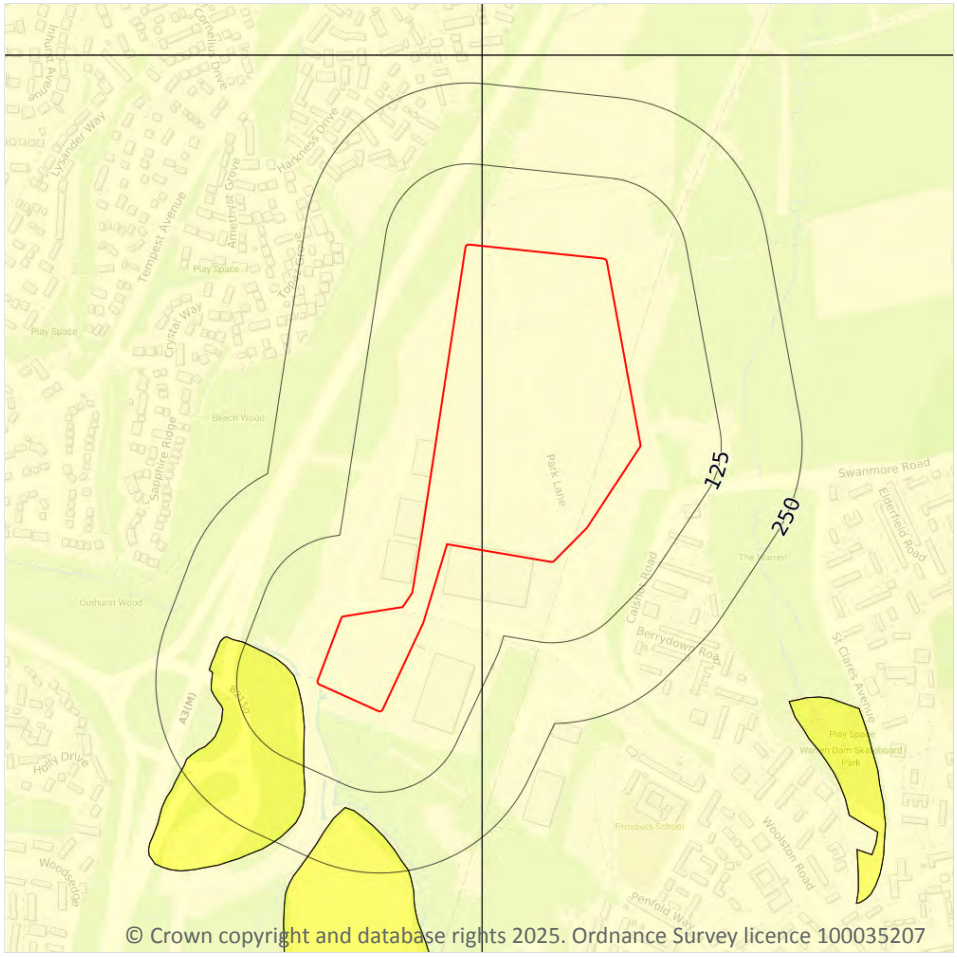
Features are displayed on the Natural ground subsidence - Running sands map on **page 92 >**

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.**

Location	Hazard rating	Details
On site	**Low**	**Running sand conditions may be present. Constraints may apply to land uses involving excavation or the addition or removal of water.**

This data is sourced from the British Geological Survey.

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	2

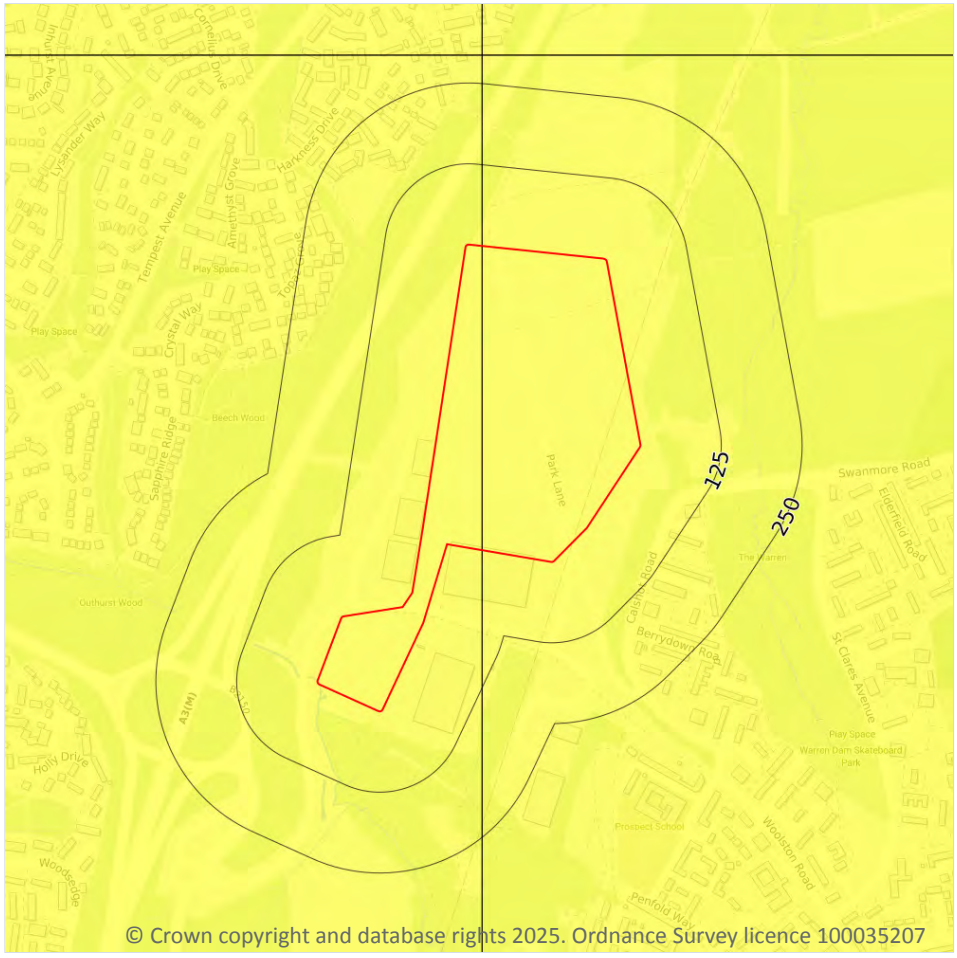
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 94 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
31m W	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

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

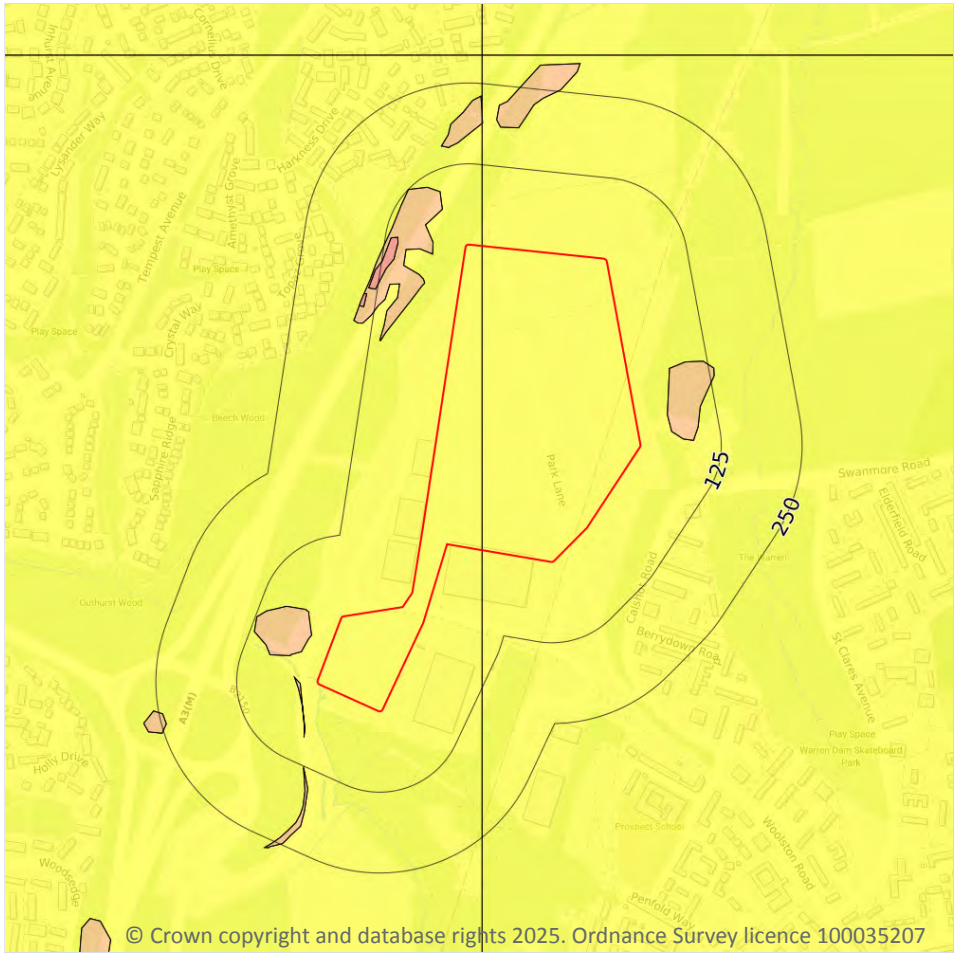
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 96 >**

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	5

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.

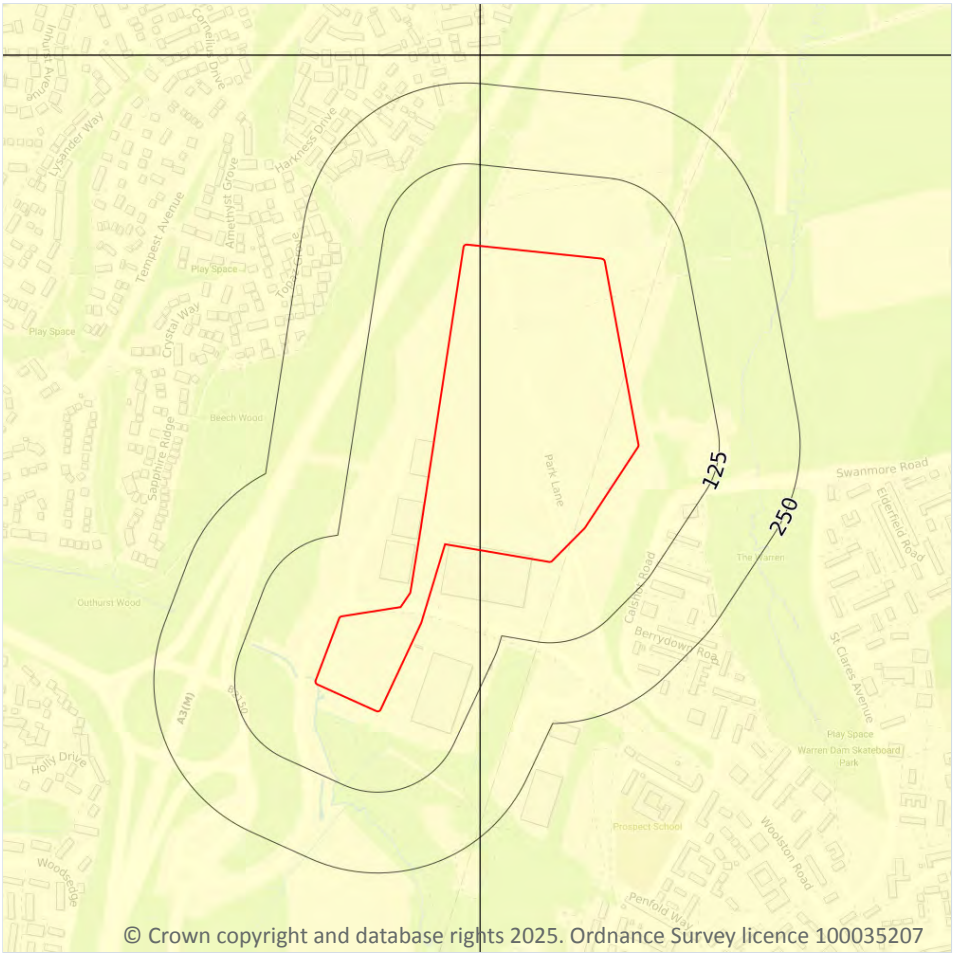
Features are displayed on the Natural ground subsidence - Landslides map on **page 97 >**

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.**

Location	Hazard rating	Details
27m W	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
34m W	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
49m W	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
49m E	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

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

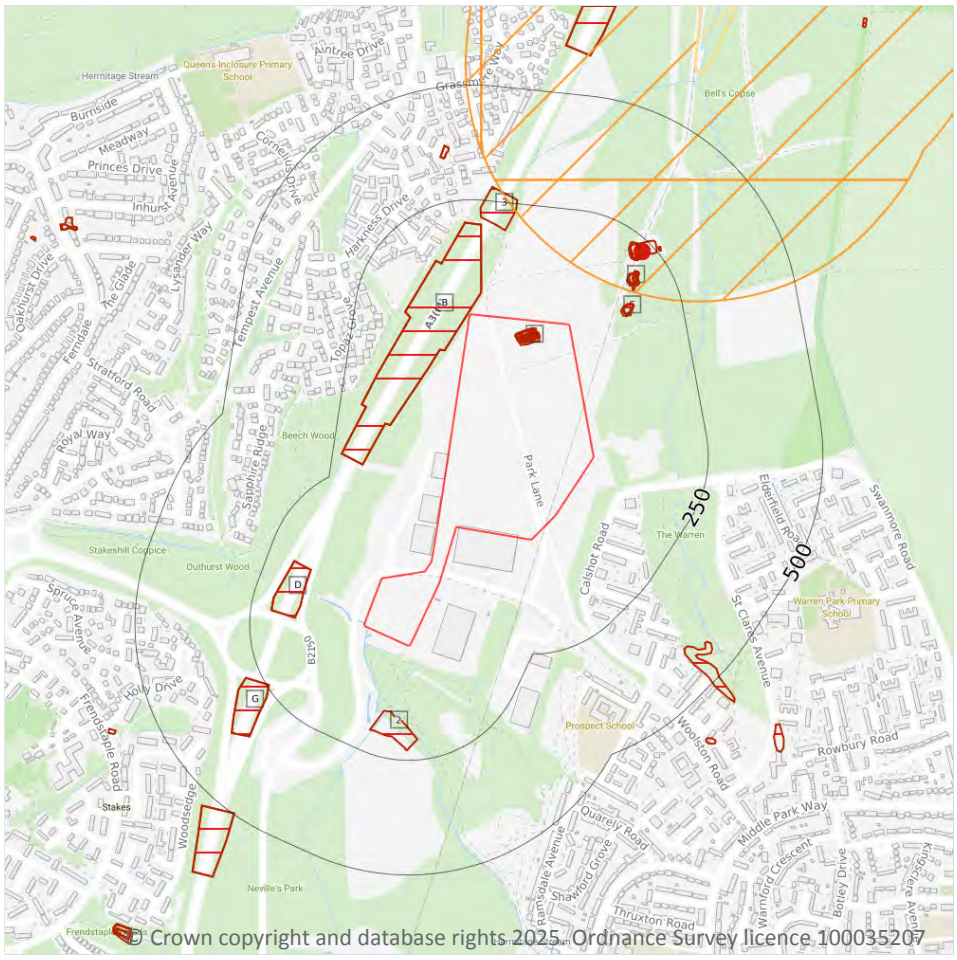
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 99 >**

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 and ground workings



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18.1 BritPits

Records within 500m	1

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 and ground workings map on **page 101 >**

ID	Location	Details	Description
F	225m NE	Name: Dunsbury Hill Brick Yard Address: Horndean, WATERLOOVILLE, Hampshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m **31**

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 and ground workings map on **page 101 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Pond**	**1895**	**1:10560**
A	**On site**	**Pond**	**1866**	**1:10560**
A	**On site**	**Pond**	**1963**	**1:10560**
A	**On site**	**Pond**	**1930**	**1:10560**
A	**On site**	**Pond**	**1907**	**1:10560**
A	**On site**	**Pond**	**1991**	**1:10000**
A	**On site**	**Pond**	**1975**	**1:10000**
A	**On site**	**Pond**	**1930**	**1:10560**
A	**On site**	**Pond**	**1867**	**1:10560**
B	6m NW	Cuttings	1991	1:10000
B	6m NW	Cuttings	1980	1:10000
C	117m E	Unspecified Pit	1963	1:10560
C	122m E	Unspecified Pit	1942	1:10560
C	123m E	Unspecified Pit	1933	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
D	145m W	Cuttings	1991	1:10000
D	145m W	Cuttings	1980	1:10000
2	148m S	Brick and Tile Works	1866	1:10560
E	158m NE	Unspecified Pit	1963	1:10560
E	158m NE	Pond	1867	1:10560
E	162m NE	Unspecified Pit	1933	1:10560
E	163m NE	Unspecified Ground Workings	1942	1:10560
E	171m NE	Pond	1942	1:10560
3	190m N	Cuttings	1991	1:10000
F	199m NE	Unspecified Pit	1963	1:10560
F	201m NE	Clay Pit	1867	1:10560
F	203m NE	Unspecified Pit	1933	1:10560
F	203m NE	Unspecified Pit	1942	1:10560
F	203m NE	Old Clay Pit	1907	1:10560
F	203m NE	Old Clay Pit	1895	1:10560
G	246m SW	Cuttings	1991	1:10000
G	246m SW	Cuttings	1980	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	**0**

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

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from 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	5

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 and ground workings map on **page 101 >**

ID	Location	Name	Commodity	Class	Likelihood
1	120m NE	Not available	Chalk	C	Underground mine workings may have occurred in the past, or current mines may be operating to modern engineering standards. Potential for difficult ground conditions should be considered.
4	297m N	Not available	Chalk	C	Underground mine workings may have occurred in the past, or current mines may be operating to modern engineering standards. Potential for difficult ground conditions should be considered.
5	359m N	Not available	Chalk	C	Underground mine workings may have occurred in the past, or current mines may be operating to modern engineering standards. Potential for difficult ground conditions should be considered.

ID	Location	Name	Commodity	Class	Likelihood
9	620m NE	Not available	Chalk	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	996m N	Not available	Chalk	C	Underground mine workings may have occurred in the past, or current mines may be operating to modern engineering standards. Potential for difficult ground conditions should be considered.

This data is sourced from the British Geological Survey.

18.7 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.

18.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 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.

18.13 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.

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 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 Ground cavities and sinkholes

19.1 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.

19.2 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.

19.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

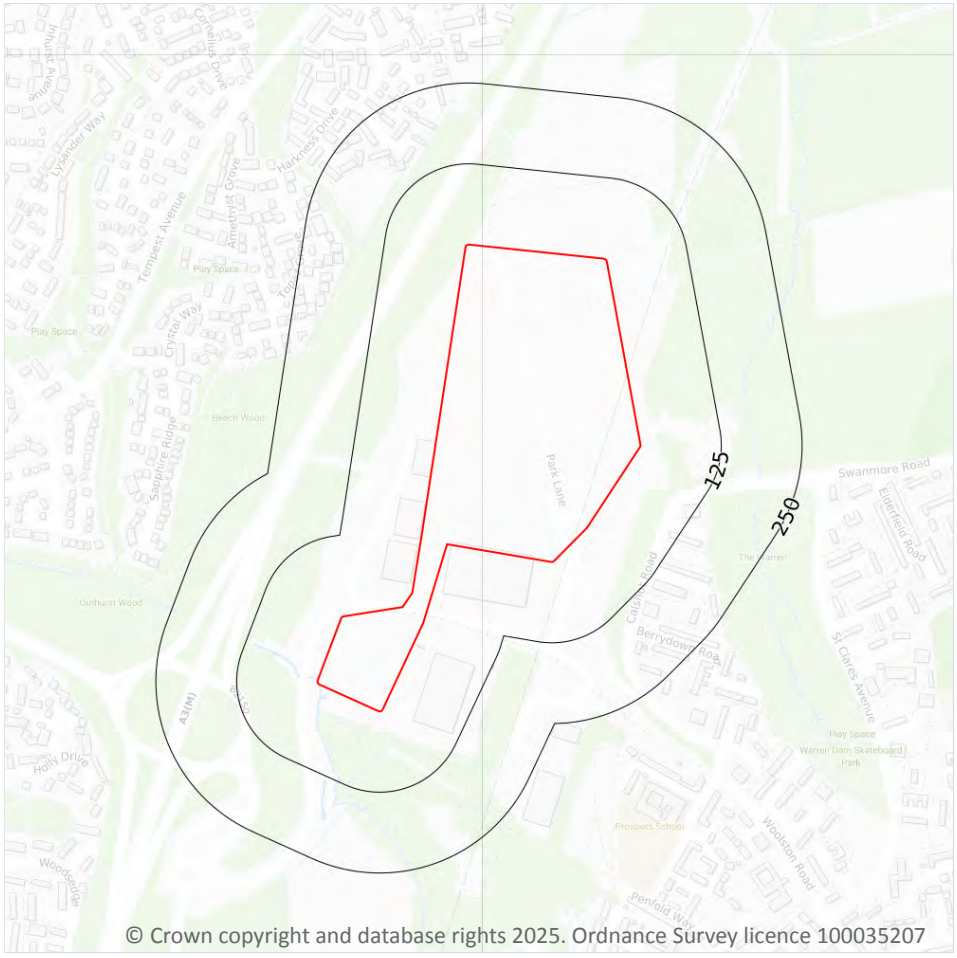
Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

20 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%

20.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 110 >**

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

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	19

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	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**90 - 120 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**90 - 120 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
18m W	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
19m NW	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
42m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
45m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
45m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
48m E	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 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 km^2).

This data is sourced from the British Geological Survey.

21.3 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 km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects

22.1 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.

22.2 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.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 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.

22.5 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.

22.6 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.

22.7 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.

22.8 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.

22.9 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.

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: www.groundsure.com/terms-and-conditions-april-2023/ ↗.

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Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

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127-131 Great Suffolk Street
London
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UNITED KINGDOM
stantec.com

Appendix C Exploratory Hole Location Plan, Exploratory Hole Logs and Photographs

Site Investigation Photograph 1	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.07	

Site Investigation Photograph 2	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.07 – man- made materials.	

Site Investigation Photograph 3	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.07 – arisings.	

Site Investigation Photograph 4	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.07 backfilled with arisings after completion of works.	

Site Investigation Photograph 5	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.09.	

Site Investigation Photograph 6	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.09 – brick fragments (possible clay pipe).	

Site Investigation Photograph 7	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.09 arisings.	

Site Investigation Photograph 8	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.09 backfilled with arisings after completion of works.	

Site Investigation Photograph 9	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.08.	

Site Investigation Photograph 10	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.08 arisings.	

Site Investigation Photograph 11	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.11.	

Site Investigation Photograph 12	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.11 arisings.	

Site Investigation Photograph 13	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.11 backfilled with arisings after completion of works.	

Site Investigation Photograph 14	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.10.	

Site Investigation Photograph 15	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.10 arisings.	

Site Investigation Photograph 16	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.10 backfilled with arisings after completion of works.	

Site Investigation Photograph 17	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.06.	

Site Investigation Photograph 18	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.06 side walls.	

Site Investigation Photograph 19	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.06 arisings.	

Site Investigation Photograph 20	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.05.	

Site Investigation Photograph 21	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.05 side walls.	

Site Investigation Photograph 22	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.05 arisings.	

Site Investigation Photograph 23	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.03.	

Site Investigation Photograph 24	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.03 arisings.	

Site Investigation Photograph 25	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.02.	

Site Investigation Photograph 26	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.02 arisings.	

Site Investigation Photograph 27	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.02 backfilled with arisings after completion of works.	

Site Investigation Photograph 28	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.04.	

Site Investigation Photograph 29	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.04 side walls.	

Site Investigation Photograph 30	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.01.	

Site Investigation Photograph 31	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP7.01 arisings.	

Site Investigation Photograph 32	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.01.	

Site Investigation Photograph 33	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.01 arisings.	

Site Investigation Photograph 34	
Date: 21/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.01 being backfilled with gravel and pipework for infiltration testing.	

Site Investigation Photograph 35	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.02.	

Site Investigation Photograph 36	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.02 arisings.	

Site Investigation Photograph 37 **Date:** 22/07/21 **Direction Photograph Taken:** n/a. **Description:** TP4.03.	

Site Investigation Photograph 38 **Date:** 22/07/21 **Direction Photograph Taken:** n/a. **Description:** TP4.03 side walls.	

Site Investigation Photograph 39	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.03 arisings.	

Site Investigation Photograph 40	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.04.	

Site Investigation Photograph 41	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.03 side walls.	

Site Investigation Photograph 42	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.04 arisings.	

Site Investigation Photograph 43	
Date:23/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.05 backfilled with arisings after completion of works.	

Site Investigation Photograph 44	
Date:23/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.06.	

Site Investigation Photograph 45	
Date:23/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.06 side walls.	

Site Investigation Photograph 46	
Date:23/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.06 arisings.	

Site Investigation Photograph 47	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.01.	

Site Investigation Photograph 48	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.01 arisings.	

Site Investigation Photograph 49	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.01 backfilled with arisings after completion of works.	

Site Investigation Photograph 50	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.02.	

Site Investigation Photograph 51	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.02 arisings.	

Site Investigation Photograph 52	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.04.	

Site Investigation Photograph 53	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.04 arisings.	

Site Investigation Photograph 54	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.03.	

Site Investigation Photograph 55	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.03 arisings.	

Site Investigation Photograph 56	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP1.03 backfilled with arisings after completion of works.	

Site Investigation Photograph 57	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.01	

Site Investigation Photograph 58	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.01 side walls.	

Site Investigation Photograph 59	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.01 arisings.	

Site Investigation Photograph 60	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.01 backfilled with arisings after completion of works	

Site Investigation Photograph 61	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.02.	

Site Investigation Photograph 62	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.02 side walls.	

Site Investigation Photograph 63	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.02 orange brown and light grey mottled sandy clay.	

Site Investigation Photograph 64	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.02 arisings.	

Site Investigation Photograph 65	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.03	

Site Investigation Photograph 66	
Date: 22/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.03 arisings.	

Site Investigation Photograph 67	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.05.	

Site Investigation Photograph 68	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.05 orange brown and light grey mottled clay.	

Site Investigation Photograph 69	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.05 arisings.	

Site Investigation Photograph 70	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.09.	

Site Investigation Photograph 71	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.09 side walls.	

Site Investigation Photograph 72	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.09 clay pipe.	

Site Investigation Photograph 73	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.09 arisings.	

Site Investigation Photograph 74	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.08.	

Site Investigation Photograph 75	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.08 side walls.	

Site Investigation Photograph 76	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.08 arisings.	

Site Investigation Photograph 77	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.07.	

Site Investigation Photograph 78	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.07 side walls.	

Site Investigation Photograph 79	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.07 arisings.	

Site Investigation Photograph 80	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.06.	

Site Investigation Photograph 81	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.06 arisings.	

Site Investigation Photograph 82	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.04.	

Site Investigation Photograph 83	
Date: 23/07/21	
Direction Photograph Taken: n/a.	
Description: TP6.04 arisings.	

Site Investigation Photograph 84	
Date: 27/07/21	
Direction Photograph Taken: n/a.	
Description: WS4.02.	

Site Investigation Photograph 85	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: Setting up WS rig at location WS4.05.	

Site Investigation Photograph 86	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS4.05.	

Site Investigation Photograph 87	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: Monitoring well installed at WS4.05.	

Site Investigation Photograph 88	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS4.06	

Site Investigation Photograph 89	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: TP4.07 excavated by hand to 0.80m bgl.	

Site Investigation Photograph 90	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS7.03.	

Site Investigation Photograph 91	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: Monitoring well installed at WS7.03.	

Site Investigation Photograph 92	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS7.02.	

Site Investigation Photograph 93	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS7.05.	

Site Investigation Photograph 94	
Date: 29/07/21	
Direction Photograph Taken: n/a.	
Description: WS6.05	

Site Investigation Photograph 95	
Date: 29/07/21	
Direction Photograph Taken: n/a.	
Description: WS6.04.	

Site Investigation Photograph 96	
Date: 29/07/21	
Direction Photograph Taken: n/a.	
Description: Monitoring well installed at WS6.04.	

Site Investigation Photograph 97	
Date: 29/07/21	
Direction Photograph Taken: n/a.	
Description: WS6.01.	

Site Investigation Photograph 98	
Date: 26/07/21	
Direction Photograph Taken: n/a.	
Description: WS1.01.	

Site Investigation Photograph 99	
Date: 26/07/21	
Direction Photograph Taken: n/a.	
Description: WS1.02 hand pit arisings.	

Site Investigation Photograph 100	
Date: 26/07/21	
Direction Photograph Taken: n/a.	
Description: WS1.02.	

Site Investigation Photograph 101	
Date: 27/07/21	
Direction Photograph Taken: n/a.	
Description: WS4.03.	

Site Investigation Photograph 102	
Date: 27/07/21	
Direction Photograph Taken: n/a.	
Description: WS4.04.	

Site Investigation Photograph 103	
Date: 27/07/21	
Direction Photograph Taken: n/a.	
Description: Monitoring well installed at WS4.04.	

Site Investigation Photograph 104	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS7.04.	

Site Investigation Photograph 105	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS7.06.	

Site Investigation Photograph 106	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS7.01.	

Site Investigation Photograph 107	
Date: 28/07/21	
Direction Photograph Taken: n/a.	
Description: WS6.07.	

Site Investigation Photograph 108	
Date: 27/07/21	
Direction Photograph Taken: n/a.	
Description: WS6.06.	

Site Investigation Photograph 109	
Date: 29/07/21	
Direction Photograph Taken: n/a.	
Description: WS6.03.	

Site Investigation Photograph 110	
Date: 10/08/21	
Direction Photograph Taken: n/a.	
Description: Wooden post installed next to monitoring wells.	

Site Investigation Photograph 111	
Date: 10/08/21	
Direction Photograph Taken: n/a.	
Description: Wooden post installed next to monitoring wells.	

Site Investigation Photograph 112	
Date: 26/08/21	
Direction Photograph Taken: n/a.	
Description: HP7.01 excavated to 1.00m bgl.	

Hydrock	Project: Dunsbury Park	Borehole No BH1.01 Page No. 1 of 3	
Method: Cable Percussion	Date(s): 23/08/2021	Logged By: SR	Drilled By: SEDS
Client: Portsmouth City Council	Co-ords: 469818.80, 109068.53	Checked By: DP	Flush:
Hydrock Project No: 19453	Ground Level: 23.34m OD		Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Depth (m)	Type	Results							
				Pink and grey silty fine to coarse SAND and fine to coarse angular to subangular GRAVEL of limestone and brick (MADE GROUND - SURFACE COVERING)	0.10	(0.10)	23.24		
0.40 0.40	B ES			Orangish brown clayey silty fine to coarse SAND with rare fine to coarse flint and brick gravel. Rare glass fragments. (MADE GROUND)	0.60	(0.50)	22.74		
1.00 1.00	B ES			Stiff orangish brown mottled grey silty sandy CLAY. Sand is fine to medium. Rare remnant rootlets. (LONDON CLAY FORMATION (WEATHERED))	1				
1.50 1.50 2.00	SPT D D	N=5 (1,0,1,1,1,2)			2	(2.10)			
2.50 - 2.95	U				2.70		20.64		
3.00	D			Pale greenish grey mottled orange mottled brown and occasionally dark brown clayey fine and medium SAND. Frequent pockets of stiff brown mottled grey sandy Clay. (LONDON CLAY FORMATION (WEATHERED))	3	(0.80)			
3.50 3.50 4.00	SPT D D	N=41 (3,6,7,9,12,13)			3.50		19.84		
4.50 4.50	SPT D	N=46 (5,9,11,12,11,12)		Brown mottled dark grey clayey fine and medium SAND. Frequent pockets of stiff brown mottled grey and orange sandy Clay. (LONDON CLAY FORMATION)	4	(1.90)			
					5				
5.50 - 6.00	B			Dark grey clayey silty fine and medium SAND. (LONDON CLAY FORMATION)	5.40		17.94		
6.00 6.00	SPT D	N=23 (3,5,6,5,6,6)			6	(1.30)			
					6.70		16.64		
7.00	D			Dark grey MUDSTONE (LONDON CLAY FORMATION)	7.00	(0.30)	16.34		
7.50 7.50 - 8.00	U B			Stiff to very stiff dark brownish grey silty CLAY with rare shell fragments. (LONDON CLAY FORMATION)	7				
					8				
8.50	D								
9.00 9.00	SPT D	N=25 (3,5,5,6,6,8)			9				
10.00	D				10				

Progress and Observations

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)

Chiselling

From (m)	To (m)	Duration (HH:MM)

General Remarks:
1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.00m and 6.90m bgl. 3. Monitoring well installed at 10.00m bgl.

Logged in general accordance with BS5930:2015

Hydrock	Project: Dunsbury Park	Borehole No BH1.01 Page No. 2 of 3
Method: Cable Percussion	Date(s): 23/08/2021	Logged By: SR / Drilled By: SEDS
Client: Portsmouth City Council	Co-ords: 469818.80, 109068.53	Checked By: DP / Flush:
Hydrock Project No: 19453	Ground Level: 23.34m OD	Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Depth (m)	Type	Results							
				Stiff to very stiff dark brownish grey silty CLAY with rare shell fragments. (LONDON CLAY FORMATION)					
10.50 - 10.80	U								
10.85	D				11				
11.50	D								
12.00	SPT	N=29 (4,5,6,7,7,9)			12				
12.00	D								
					13				
13.50 - 13.75	U					(13.45)			
13.80	D				14				
14.50	D								
15.00	SPT	N=33 (5,7,7,8,8,10)			15				
15.00	D								
16.00	D				16				
16.50 - 16.80	U								
16.85	D				17				
17.50	D								
18.00	SPT	N=44 (7,9,9,11,11,13)			18				
18.00	D								
19.00	D				19				
19.50 - 19.80	U								
19.85	D				20				

Progress and Observations

Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)

Chiselling

From (m)	To (m)	Duration (HH:MM)

General Remarks:
1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.00m and 6.90m bgl. 3. Monitoring well installed at 10.00m bgl.

Logged in general accordance with BS5930:2015

Hydrock	Project: Dunsbury Park	Borehole No BH1.01 Page No. 3 of 3

Method: Cable Percussion	Date(s): 23/08/2021	Logged By: SR	Drilled By: SEDS
Client: Portsmouth City Council	Co-ords: 469818.80, 109068.53	Checked By: DP	Flush:
Hydrock Project No: 19453	Ground Level: 23.34m OD		Scale: 1:50

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Depth (m)	Type	Results							
				Stiff to very stiff dark brownish grey silty CLAY with rare shell fragments. (LONDON CLAY FORMATION)					
					20.45		2.89		
				End of Borehole at 20.45m					

Progress and Observations									Chiselling			General Remarks:
Rig	Date	Time	Borehole Depth (m)	Casing Depth (m)	Casing Diam.(mm)	Water Depth (m)	Flush Type	Returns (colour)	From (m)	To (m)	Duration (HH:MM)	1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 5.00m and 6.90m bgl. 3. Monitoring well installed at 10.00m bgl.

Logged in general accordance with BS5930:2015

Hydrock

Project: Dunsbury Park

Trialpit No
TP1.01
Page No. 1 of 1

Method: Trial Pit	Date(s): 23/07/2021	Logged By: DP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 469803.31, 109101.24	Stability: Stable	Dimensions: 3.50m x 0.60m; Scale: 1:25
Hydrock Project No: 19453	Ground Level: 23.95m OD	Plant: KUBOTA KX080-40	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
0.20	ES			Reddish grey, slightly sandy GRAVEL. Gravel is subangular to angular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING)	0.25	(0.25)	23.70	
0.50	B			Orange brown, silty, fine SAND weakly cemented (hard to dig) with occasional fragments of aggregates and rare calcite crystals up to 10mm long. (MADE GROUND)	1.00	(0.75)	22.95	
1.20	HSV	54kPa		Soft to firm, greyish orangish brown, slightly sandy, silty CLAY with occasional well rounded medium to coarse of flint. (MADE GROUND)				
1.30	B							
2.00	D					(1.30)		
2.00	HSV	68kPa			2.30		21.65	
2.50	B			Light grey and orange, slightly silty, fine SAND with a slight sea/salty odour and locally ferreous staining. (BOGNOR SAND MEMBER)		(0.70)		
3.00	D			Base of Excavation at 3.00m	3.00		20.95	

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Dunsbury Park

Trialpit No
TP1.02
Page No. 1 of 1

Method: Trial Pit	Date(s): 23/07/2021	Logged By: DP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 469863.80, 109113.47	Stability: Stable	Dimensions: 3.70m x 0.60m; Scale: 1:25
Hydrock Project No: 19453	Ground Level: 24.78m OD	Plant: KUBOTA KX080-40	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
				Grass over reddish grey, silty, sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING)	0.17	(0.17)	24.61	
0.25	ES			Orangish brown, silty, fine SAND very weakly cemented with rare calcite crystal. (MADE GROUND)	0.65	(0.48)	24.13	
0.75	B			Light grey and orange, silty fine SAND with a slight sea/salty odour and locally ferreous staining. (BOGNOR SAND MEMBER)				
1.50	D					(1.65)		
2.00	D				2.30		22.48	
2.50	B			Blueish grey/dark grey, very silty, fine SAND or friable sandy SILT with occasional orange staining/partings. (LONDON CLAY FORMATION)		(1.20)		
3.50	D			*... At 3.40m bgl occasional damp pockets of sandy silt.*	3.50		21.28	
				Base of Excavation at 3.50m				

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Dunsbury Park

Trialpit No
TP1.03
Page No. 1 of 1

Method: Trial Pit	Date(s): 23/07/2021	Logged By: DP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 469781.40, 109035.77	Stability: Stable	Dimensions: 3.50m x 0.60m; Scale: 1:25
Hydrock Project No: 19453	Ground Level: 23.02m OD	Plant: KUBOTA KX080-40	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
				Reddish grey, slightly sandy GRAVEL. Gravel is subangular to angular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING)	0.21	(0.21)	22.81	
0.30	ES			Orangish brown, silty, fine SAND with occasional to common gravel of subangular to angular fine to coarse of well cemented/bound limestone aggregates and rounded to subrounded medium to coarse of flint. Rare glass and tile fragments. Rare plastic and metal fragments. (MADE GROUND)				
0.50	D			*... At 0.70m bgl rare band not cemented sandy silt.*				
1.00	B			*... Between 1.0m to 1.50m bgl faint ammonia odour.*	1	(1.59)		
1.50	D				1.80		21.22	
				Orangish brown silty gravelly fine SAND Gravel is subangular to angular fine to coarse of aggregates. Rare metal, intact bricks, cobble sized limestone aggregates. (MADE GROUND)	2	(0.80)		
2.50	B				2.60		20.42	
2.80	HSV	52kPa		Soft to firm, greyish brown, silty CLAY with dark grey organic grey pockets in the top 100mm and occasional to rare plant relics. (MADE GROUND)		(0.50)		
3.00	D				3			
					3.10		19.92	
				Base of Excavation at 3.10m				
					4			
					5			

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Dunsbury Park

Trialpit No
TP1.04
Page No. 1 of 1

Method: Trial Pit	Date(s): 23/07/2021	Logged By: DP	Checked By: DP
Client: Portsmouth City Council	Co-ords: 469815.28, 109021.05	Stability: Stable	Dimensions: 3.50m x 0.60m; Scale: 1:25
Hydrock Project No: 19453	Ground Level: 22.94m OD	Plant: KUBOTA KX080-40	

Samples / Tests			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend
Depth (m)	Type	Results						
				Grass over reddish grey, silty, sandy GRAVEL. Gravel is angular to subangular fine to coarse of limestone aggregates. (MADE GROUND - SURFACE COVERING)	0.18	(0.18)	22.76	
0.45 0.50	ES B			Orangish brown, silty, fine SAND very weakly cemented with occasional subangular to subrounded fine to coarse rare gravel of limestone aggregates; rare brick fragments; a single piece of fibrous material (possible glass fibres or asbestos) and occasional glass and tile fragments. (MADE GROUND)				
1.20	D					(1.82)		
1.50	ES							
2.00	B				2.00		20.94	
				Orangish brown, silty, gravelly, fine SAND with rare cobble of flint. Gravel is rounded to subangular fine to coarse of flint, limestone aggregates, bricks and tiles fragments. (MADE GROUND)		(0.40)		
					2.40		20.54	
				Greyish brown, silty, fine SAND with organic dark grey silt/clay pockets. Possible old natural surface. (BOGNOR SAND MEMBER)	2.50	(0.10)	20.44	
2.60 2.60	D HSV	42kPa		Soft, greyish brown, slightly gravelly, silty sandy CLAY. Gravel is subrounded to well rounded medium to coarse of flint. (LONDON CLAY FORMATION)				
3.00	HSV	51kPa				(1.00)		
3.50 3.50	B HSV	73kPa		Base of Excavation at 3.50m	3.50		19.44	

General Remarks:
1. No groundwater encountered. 2. Backfilled with arisings.

Logged in general accordance with BS5930:2015

Hydrock

Project: Dunsbury Park

Borehole No
WS1.01
Page No. 1 of 1

Method: Dynamic (Windowless) Sampler	Date(s): 26/07/2021	Logged By: LC	Drilled By: Impact Geotechnical
Client: Portsmouth City Council	Co-ords: 469838.41, 109101.78	Checked By: DP	Rig: Terrier
Hydrock Project No: 19453	Ground Level: 24.45m OD		Scale: 1:30

Sample Run Info			Testing			Water-Strikes	Stratum Description	Depth mbgl	Thickness (m)	Level m OD	Legend	Instrumentation / Backfill
Sample Run	Run Ø	Recovery	Depth (m)	Type	Results							
							Reddish brown, gravelly, fine to coarse SAND. Gravel is subangular to angular fine to coarse of ballast/aggregate. (MADE GROUND - SURFACE COVERING)	0.10	(0.10)	24.35		
			0.50	ES			Light brown, gravelly, fine to medium SAND. (MADE GROUND)		(0.60)			
			0.50 - 0.70	B				0.70		23.75		
			0.70 - 1.00	B			Orange brown, fine to medium SAND. (BOGNOR SAND MEMBER)					
1.00 - 2.00		100%					1		(0.50)			
			1.20	SPT	N=22 (3,4,4,6,6,6)			1.20		23.25		
							Orange brown, slightly clayey, fine to medium SAND with occasional patches of light grey and dark orange coloured sand. (BOGNOR SAND MEMBER)					
			1.50	ES								
			1.50 - 2.00	B								
2.00 - 3.00		100%	2.00	SPT	N=15 (2,3,4,4,4,3)		2		(1.80)			
3.00 - 4.00		85%	3.00	SPT	N=8 (2,2,2,2,2,2)		3	3.00		21.45		
			3.20	D			Very soft, brown and grey mottled orange, very sandy CLAY. Sand is fine to medium. (LONDON CLAY FORMATION (WEATHERED))	3.10	(0.10)	21.35		
							Soft to firm, dark grey, sandy CLAY. Sand is fine. (LONDON CLAY FORMATION)					
4.00 - 5.00		85%	4.00	SPT	N=12 (2,2,3,3,3,3)		4		(2.35)			
			5.00	SPT	N=23 (3,4,4,6,6,7)		5					
			5.00	D				5.45		19.00		
							End of Borehole at 5.45m					
							6					

General Remarks:
1. Inspection hand pit excavated to 1.20m bgl. 2. Groundwater encountered at 3.50m bgl. 3. Monitoring well installed to 5.0m bgl.

Logged in general accordance with BS5930:2015