

FINAL V1

EG Carter Ltd and Bromford Group

Phase I Desk Study and Coal Mining Risk Assessment Report

Barrington Close

Bristol

BS15 4QD

Report No: 21-11-02

November 2023







Geo-Integrity, 4 Church Street, Maids Moreton, Bucks. MK18 1QE

Landline: (01280) 816409 Mob.: 07858 367 125 Email:- murraybateman@geo-integrity.co.uk

DOCUMENT RECORD

Report Title Phase I Desk Study and Coal Mining Risk Assessment Report
 Project Address Barrington Close, Bristol, BS15 4QD
 Project Number 21-11-02
 Client Name EG Carter Ltd and Bromford Group

Issue No	Status	Prepared by	Checked by
1 November 2021	Draft report	Lee Ashworth B.Sc. M.Sc. F.G.S Engineering Geologist	Danny Lusardi B.Eng C.Geol FGS Senior Engineering Geologist
		SIGNATURE 	SIGNATURE 
2 November 2023	Final V1 report	Lee Ashworth B.Sc. M.Sc. F.G.S Engineering Geologist	Danny Lusardi B.Eng C.Geol FGS Senior Engineering Geologist
		SIGNATURE 	SIGNATURE 

© This Report is the copyright of Geo-Integrity Ltd. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

CONTENTS


1	INTRODUCTION	0
1.1	SCOPE AND OBJECTIVES	0
1.2	SOURCES OF INFORMATION	1
1.3	DEVELOPMENT PROPOSALS	1
1.4	REMOTE SITE SURVEY	1
2	GEOLOGY AND COAL MINING ASSESSMENT	3
2.1	PUBLISHED BGS GEOLOGY	3
2.1.1	<i>Historical Boreholes</i>	3
2.2	BRISTOL COAL FIELD	4
2.2.1	<i>Website</i>	5
2.2.2	<i>Consultant Report</i>	6
3	PHASE I DESK STUDY	6
3.1	HISTORY OF THE SITE	6
3.2	ORDNANCE SURVEY	6
3.2.1	<i>Freely Available Satellite Information</i>	7
3.3	UNEXPLODED ORDNANCE AND BOMB SITES	7
3.4	HYDROLOGY	7
3.5	HYDROGEOLOGY	7
3.6	DESIGNATED ENVIRONMENTALLY SENSITIVE SITES	8
3.7	WASTE	8
3.7.1	<i>Landfills</i>	8
3.7.2	<i>Other Waste Treatment Sites</i>	8
3.8	INDUSTRIAL USAGE SITES	8
3.8.1	<i>Historical Site Usage</i>	8
3.9	WORKED OUT GROUND & ARTIFICIAL GROUND	9
3.10	GROUND GASES	9
3.10.1	<i>Radon</i>	9
3.10.2	<i>Landfill Gasses</i>	10
3.11	POTENTIAL GEOTECHNICAL HAZARDS	10
4	INITIAL CONCEPTUAL SITE MODEL	11
5	SUMMARY OF GEOTECHNICAL RISK	12
5.1	IDENTIFICATION AND ASSESSMENT OF SITE SPECIFIC COAL MINING RISK	14
5.2	MITIGATION STRATEGY PROPOSED	14
5.2.1	<i>The Coal Authority Permit</i>	16
6	CONCLUSION	16
7	REFERENCES	17

APPENDICES



APPENDIX A - PLANS

-  Site Location Plan
-  Proposed Development Plan

APPENDIX B - MINING INFORMATION

-  Consultants Coal Mining Report and Summary Map

APPENDIX C - DESK STUDY INFORMATION

-  Ordnance Survey and National Grid Maps
-  Groundsure Datasheet

PHASE I DESK STUDY AND MINING ASSESSMENT REPORT

1 INTRODUCTION







1.1 SCOPE AND OBJECTIVES

Geo-Integrity Ltd were commissioned by Mathew Vye on behalf of EG Carter Ltd, on the 3rd of November 2021 via an email to undertake a desk study and coal mining risk assessment at Barrington Close and Fairfield Close, Bristol, BS15 4QD. This phase I desk study and coal mining risk assessment has been completed to gather geotechnical, past mining and geo-environmental data to inform the intrusive investigation.

The site is located at OS Reference ST 65596 74584.








The report is likely to be reviewed by the Local Authority with reference to the NPPF once the planning permission has been approved. Once the redevelopment is completed, and as a minimum, land must not be capable of being determined as 'contaminated land' under the terms of Part IIA of the Environmental Protection Act 1990. However, it also states that "Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner." As such the desk study in this report is the first stage in investigating whether the site is likely to be considered "contaminated", in accordance with clause 184 of the NPPF.

The objectives of this phase I desk study and mining assessment report are:-

-  To undertake a remote site survey to identify any possible pollution sources on the site.
-  To gather historical, geological and environmental information.
-  To complete a preliminary site conceptual model so that potential pollutant linkages can be established and investigated further.
-  To establish any potential geotechnical hazards on the site that can also be investigated further.
-  Present a desk-based review of all available information on the coal mining issues which are relevant to the application site.
-  Use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues.

1.2 SOURCES OF INFORMATION

The following sources of information have been used to compile this report:-

-  Extracts of available historical Ordnance Survey (OS) maps covering the period from 1881 to 2021, which are presented in the Appendices
-  Groundsure Report Ref GS-8323136 included in the Appendices
-  The British Geological Survey (BGS) and Environment Agency (EA) websites
-  Geological Memoir “Geology of the Bristol District: Memoir for 1:63360 geological special sheet (England and Wales)”
-  Coal Authority interactive mapping viewer available on the internet
-  Coal Authority consultants coal mining report Ref GS-8323135, dated 9th November 2021)
-  Information from various internet sites on site history and environmental setting.

It should be noted that the information provided in the desk study is obtained from independent third-party sources. It is provided in good faith, but no guarantee can be provided as to its accuracy. The desk study information and remote site survey is not necessarily exhaustive and further information relevant to the site may be available from other sources.

1.3 DEVELOPMENT PROPOSALS

Geo-Integrity understands it is proposed to redevelop the existing residential estate. The proposed development plan is shown in Appendix A. This comprises the construction of a new residential estate which will include private gardens, roads and pavements, associated amenities and areas of soft landscaping.

1.4 REMOTE SITE SURVEY

A remote site survey was undertaken on 6th October 2021 using freely available data from the internet and the initial site research and sketch scheme undertaken by Nash Partnership dated April 2021. A site location and layout plan are included in the Appendices.

The site is located in the Kingswood area of east Bristol within a largely residential area.

The site area is irregular in shape, governed by the existing roads and paths, with a maximum north-south distance of 166m and east-west distance of 171m and an area of approximately 2 hectares.

The site is located on a steeply dipping slope which slopes to the south. The information supplied by Nash Partnership Ltd provided a cross section of the slope from the northern boundary to the southern boundary recording an elevation difference of 12m across the 166m north-south length.

The site currently comprises of flats of non-traditional construction with communal gardens, rows of domestic garages, roads, paths and mature trees. The site also contains electricity substations located across the site and poorly maintained communal bin stores. The surrounding area is also residential.

Due to there not being a site walkover conducted, the present-day potential sources of contamination on the site are not fully known, but it is assumed that similar low risk sources that would be found on a residential estate are present on this site.

2 GEOLOGY AND COAL MINING ASSESSMENT

2.1 PUBLISHED BGS GEOLOGY

Reference to the British Geological Survey sheet 264, Bristol, 2004, Solid and Drift, indicates that the site is underlain by Carboniferous Bedrock of the South Wales Middle Coal Measures Formation. It also indicates several nearby faults; two faults intersect at the western end of the site orientated east to west with a downthrow to the north.

The South Wales Middle Coal Measures Formation is described as “Grey, coal bearing mudstones and siltstones with seatearths and minor sandstones. The thickness of this unit in the site area is recorded up to 120m thick. These deposits were worked in the area for their coal seams, and can lead to unstable ground, through voiding.

Three large areas of Made Ground have been identified within 600m of the site. The closest area of recorded Made Ground is located 290m north-west of the site labelled as Lees Playing Field however the historic maps show no indication of why the Made Ground is there. Another area of Made Ground is located 470m south-west and is associated with an infilled quarry. The last area of recorded Made Ground is located 580m south-east of the site labelled as Siston Common which from historic maps previously comprised of a historic railway and tramway lines and numerous clay pits.

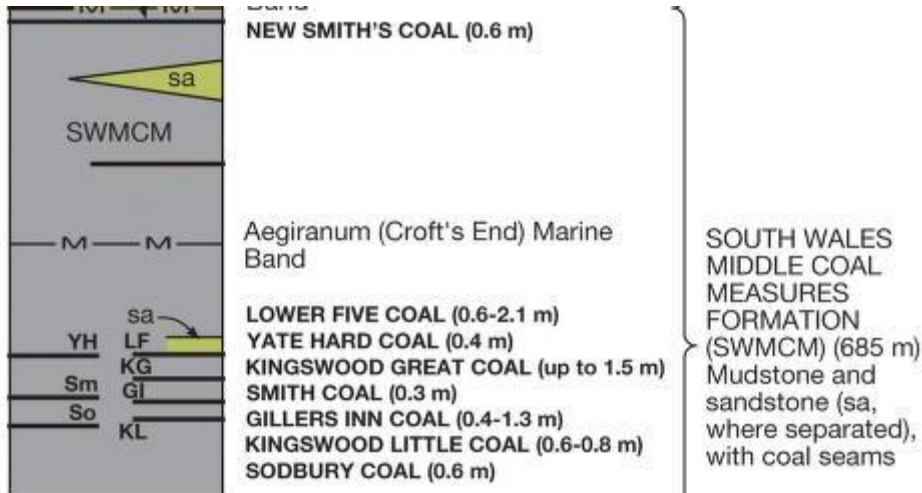
2.1.1 Historical Boreholes

The British Geological Survey holds records of a series of boreholes put down 600m west of the site for the Soundwell Technical College.



The boreholes generally recorded firm becoming very stiff, grey, brown silty clay down to depths ranging between 2.60m and 3.50m bgl, overlying grey, weathered mudstone with occasional plant remains down to the base of the exploratory holes in excess of 5.18m bgl.

2.2 BRISTOL COAL FIELD

The site is located at the eastern edge of the coalfield. As described above the site is located on the South Wales Middle Coal Measures Formation. The geological stratigraphy and salient layers are shown below:



There are several faults located within the site and surrounding area within the South Wales Middle Coal Measures Formation;

-  Two faults intersect at the western end of the site orientated east to west with a downthrow to the north.
-  The axial plane of a major anticline known as the Kingswood Anticline is recorded approximately 300m north of the site, orientated east-west.

Reference to the BGS geological map (sheet 264, Bristol) and the Consultants Coal Mining Report (ref.GS-8323135) records that a coal seam daylights at the northern end of the site. The same coal seam is labelled differently on the BGS geological map and the consultants coal mining report. The BGS geological map records the seam as the Gillers Inn Coal Seam with a thickness in the range of 0.40m to 1.30m, whereas the Consultant's report records the coal seam as the Six-Foot Bottom Leaf Coal Seam.








Reference to the Geological Memoir "Geology of the Bristol District: Memoir for 1:63360 geological special sheet (England and Wales)" the Gillers Inn Coal Seam is of considerable interest by virtue of its association with a band of black band ironstone formerly worked in mines at Lodge Hill Colliery (located 1km west of the site), Hopewell Hill Colliery (Location unknown), and Kingswood

Colliery (located 2km west of the site). Sections of the Gillers Inn Coal Seam and its roof and floor show considerable variation but generally indicate that the coal band rests on a fire clay floor and that it consists of a number of layers of coal separated by shale.

In addition, the Gillers Inn Coal Seam was historically used as a marker bed for the underlying Kingswood Little Coal Seam and overlying Kingswood Great Coal Seam. The geological memoir records the Kingswood Great Vein Coal Seam is located 30ft (9.14m) above the Gillers Inn Coal Seam, as such given the Gillers Inn outcrops at the northern of the site it is considered the Kingswood Great Coal Seam is unlikely to underlay the site. However, the Kingswood Little Coal Seam is recorded to exist 45ft (13.70m) below the Gillers Inn Coal Seam with a thickness range of 0.60m to 0.80m. The Sodbury Coal Seam is recorded below the Kingswood Little Coal however there is little to no mention of it within the memoir and therefore locating the depth of the seam is not possible.

The memoir also records the depths of a further four coal seams below the Kingswood Little Coal as shown below.

Coal bands inferred from the maps, cross sections, and stratigraphy, to be located beneath the site include (in sequential order);

-  Gillers Inn Coal (GI) – Ground Level / approximately 0.40m – 1.30m thick
-  Kingswood Little Coal – 9.14m bgl / approximately 0.60m – 0.80m thick
-  Sodbury Coal - >9.14m bgl / approximately 0.60m thick
-  Slate Vein – 26.74m bgl / approximately 0.60m thick
-  Stoney Vein – 65.14m bgl / approximately 0.45m thick
-  Smith Coal –110.94m bgl / approximately 0.60m thick
-  Hard Venture Vein – 196.14 / approximately 0.91m thick

2.2.1 Website

Reference to the Coal Authority Interactive Website indicates that the site area is within a Coal Mining Reporting Area, Development High Risk Area, Probable Shallow Coal Mine Workings and Surface Coal Resource Area.

2.2.2 Consultant Report

Reference to the Coal Authority Consultant Report, reference GS-8323135, dated 9th November 2021, indicates that the site is underlain by a workable coal seam relating to the Six Ft Bottom Leaf. As discussed above this coal seam is also known as the Giller Inn Coal Seam.

It is considered probable that there are unrecorded shallow workings beneath the site, but no recorded spine roadways are indicated at shallow depth. There is one recorded mine entry within 100m of the site located 50m south-west of the site.

The summary of findings map indicates that two faults intersect at the site which generally trend east-west with a downthrow to the north.

There has been no remedial action recorded within 50m of the site. In addition, no coal mining subsidence has been recorded within 50m (going back to 1994) and no record of mine gas within 500m. There are no provided faults, fissures or breaklines, and no Coal Authority tips.

There are no records of licences for future mining, no court orders, no Section 46 notices (which state the land is at risk of subsidence), and no notices of withdrawal of support.

3 PHASE I DESK STUDY

3.1 HISTORY OF THE SITE

The history of the site has been established by the review of old Ordnance Survey maps going back to 1881 and internet searches. The maps and any other relevant information are included in the Appendices and indicated the following.

3.2 ORDNANCE SURVEY

The first maps, dated from the early 1880s, record the site to be located immediately north-east of New Cheltenham and east of Cockshot Hill. During this time the site expands across four undeveloped fields. Three ponds are recorded immediately north-west. The site is mainly surrounded by undeveloped fields, residential houses to the west. Further afield an old coal pit is recorded 200m west, a colliery is recorded 500m north-east, a quarry is located 500m south-west and the town of Kingswood is located 750m south. A pond is first recorded at the eastern end of the site between in 1948.

The site shows very little change until between 1966 and 1972 when a residential estate is constructed on site, bringing the sites footprint coherent with its existing layout. The pond

previously recorded is no longer seen and considered to have been infilled. Two electricity substations are recorded located at the western and northern boundary. The ponds previously located immediately north-west of the site are also no longer recorded and considered to have been infilled.

There is little change seen to the site and its immediate environs from this date.

3.2.1 Freely Available Satellite Information

Freely available satellite information records the site from 1999 to 2021 and shows no significant changes occur to the residential estate supporting the historical OS maps.

3.3 UNEXPLODED ORDNANCE AND BOMB SITES

Reference to an online UXO risk map produced by Zetica indicates that the site is located in an area where there is a low risk of unexploded ordnance. Low-risk regions are those with a bombing density of up to 15 bombs per 1000 acres or less.

Care is however required when assessing the risk for specific sites where the risk may be higher because of local wartime activity, such as munitions factories, pivotal infrastructure, airfields and dummy airfields, many of which were removed from historical maps in the interest of national security.

3.4 HYDROLOGY

The Groundsure Report indicates that there are no surface water features recorded within 250m of the site.

There are no recorded active surface water abstraction licenses located within 2000m of the site.

3.5 HYDROGEOLOGY

There are no groundwater abstraction licenses located within 2000m of the site.

Reference to the Environment Agency website indicates that the site is not located on a superficial aquifer but is located on a Secondary A Bedrock Aquifer (associated with the Coal Measures).

The site is not located within a Source Protection Zone.

The aquifer designation data is based on geological mapping provided by the British Geological Survey. The maps are divided into two different types of aquifer designation:

Superficial (Drift) - permeable unconsolidated (loose) deposits. For example, sands and gravels.

Bedrock - solid permeable formations e.g. sandstone, chalk and limestone.

For each type there are four designations: - Principal, Secondary A, Secondary B and Unproductive Strata, ranked by importance.

A Source Protection Zone (SPZ) is a designated area around a well or abstraction borehole.

3.6 DESIGNATED ENVIRONMENTALLY SENSITIVE SITES

The site is not located within a designated environmentally sensitive area.

3.7 WASTE

3.7.1 Landfills

There are no records of active or recent landfills within 500m of the site.

3.7.2 Other Waste Treatment Sites

There are no records of other waste treatment sites within 500m of the site.

3.8 INDUSTRIAL USAGE SITES

Records of past and present potentially contaminative activities have been identified in the surrounding area within 250m of the site.

The historical potentially contaminative activities include an old colliery located 131m south-west of the site, an old coal pit located 227m west of the site, and an unspecified heap located 229m west of the site.

The recent potentially contaminative industrial land-uses include two electricity substations located 1m south-west of the site and 3m north-west of the site, and an aviation engineers located 55m west of the site

The site is not located within 500m of an active petrol station.

3.8.1 Historical Site Usage





Historical information records the site to have been an open undeveloped field, likely used for agricultural purposes, since 1881. The site is developed between 1966 and 1972 with the construction of a residential estate including rows of domestic garages and two nearby electricity substations. A pond which was previously recorded in 1948 was no longer recorded after the construction of the new residential estate and is considered to have been infilled. This is also

considered to be the case for three ponds which were previously recorded immediately north of the site.

3.9 WORKED OUT GROUND & ARTIFICIAL GROUND

Three large areas of Made Ground have been identified within 600m of the site. The closest area of recorded Made Ground is located 290m north-west of the site labelled as Lees Playing Field however the historic maps show no indication of why the Made Ground is there. Another area of Made Ground is located 470m south-west and is associated with an infilled quarry. The last area of recorded Made Ground is located 580m south-east of the site labelled as Siston Common which from historic maps previously comprised of a historic railway and tramway lines and numerous clay pits.

Information obtained from the historical maps and Groundsure data indicate a number of old collieries, coal pits and shafts surrounding the site including:

-  Mine Shaft located 50m south-west
-  Old Colliery located 131m south-west
-  Old Coal Pit located 227m west
-  Colliery located 440m north-east

The coal authority interactive map viewer indicates one shaft within the 100m of the site area, located 50m south-west.

Information obtained from the Consultants Coal Mining Report it is considered probable that there are unrecorded shallow workings beneath the site, but no recorded spine roadways are indicated at shallow depth.

3.10 GROUND GASES

3.10.1 Radon

According to the information from the British Geological Survey and the National Geoscience Information Service the estimated proportion of homes near the site that are above the radon action level is <1%. The BGS recommends that no radon protection measures are necessary in new dwellings or extensions.

3.10.2 Landfill Gasses

In accordance with BS8576:2013 the site has provisionally assessed for the risk of ground gases. This has been done with reference to “A pragmatic approach to ground gas risk assessment for the 21st Century” Card and Wilson, 2011.

- Some credible sources or pathways for landfill gas migration from potentially infilled ponds have been identified on site and immediately north of the site.
- The site has not been a registered landfill.
- The Made Ground may be 5m deep or an average of 3m in thickness associated with potential extraction of coal from unrecorded bell pits.
- The site is not directly located on a carbonate rich rock that can produce carbon dioxide.
- No radon protection measures are recommended for this site.
- The site does not significantly lie on a potential naturally organic soil.

It is considered that there is a low to medium risk of ground gases impacting the site from infilled material associated with the historic ponds on and adjacent to the site. Therefore, gas monitoring should be undertaken alongside groundwater monitoring as part of the phase II ground investigation in line with BS8576:2013 standards.

3.11 POTENTIAL GEOTECHNICAL HAZARDS

The desk study information identified that the site does lie within an area affected by coal mining activities, as discussed in detail within section 2. The desk study indicates the site is also recorded within an area affected by non-coal mining activities associated with iron ore relating to the Gillers Inn Coal Seam which contains bands of black band ironstone.

The risk of naturally occurring geotechnical hazards at the site is recorded in the Groundsure report to be as follows:

Ground Stability Hazard	Maximum Hazard Potential Rating
Shrinking and Swelling Clays	Very Low
Landslides	Very Low
Ground Dissolution of Soluble Rocks	Negligible
Compressible Deposits	Negligible
Collapsible Deposits	Very Low
Running Sand	Negligible

Given the risks with possible coal mining the risks may however be higher on site.






4 INITIAL CONCEPTUAL SITE MODEL

In accord with the Environment Agency LCRM “Land Contamination Risk Management” 2020, this desk study and site reconnaissance report constitutes a preliminary risk assessment in order to establish the potential presence of pollutant linkages. The table below illustrates the potential linkages.

Reference to the information gathered within this desk study and remote site survey indicates that the site was previously an open undeveloped field, likely used for agricultural purposes, since 1881. The site is developed between 1966 and 1972 with the construction of a residential estate including rows of domestic garages and two nearby electricity substations. A pond which was previously recorded in 1948 was no longer recorded after the construction of the new residential estate and is considered to have been infilled. This is also considered to be the case for three ponds which were previously recorded immediately north of the site.

Whilst there are no records of any significant mining processes occurring on site, the site is within an area where historic coal mining has been undertaken. It is possible the site has been opencast mined or undermined in the past for shallow coal seams which could be daylighting on the site associated with the Gillers Inn Coal Seam; the Kingswood Little Coal seam could be present at 9.14m bgl.

As such, there are six primary potential sources of contamination on site:-

-  Contaminants including heavy metals, poly-aromatic hydrocarbons (PAH's), and total petroleum hydrocarbons (TPH's) within the ground from the construction of the residential estate.
-  Asbestos within the ground from the long human history of the site.
-  Accidental spillages and leaks of TPH from any vehicles parked on site.
-  Polychlorinated biphenyls (PCB's) from the nearby electricity substations
-  Ground gas generation from thick Made Ground/ infilled ground associated with the historic ponds and potentially unrecorded shallow mine workings.

Therefore, further intrusive investigation is recommended at the site prior to any development/redevelopment, and currently it is considered that the following potential source/pathway/receptors may be present at and around the site:




Potential Source	Potential Pathway	Potential Receptor	Considered Risk
Heavy metals, PAH's, TPH's, PCB's, and asbestos within the ground from long human history, construction of the residential estate, possible fuel spills.	Ingestion, inhalation or absorption from direct contact with soil	End Users	Moderate risk
	Volatile vapours possible	End Users	Moderate risk
	Leaching through the ground	Controlled Waters	Moderate risk
	Possible contact during work phase	Construction Workers	Moderate risk
	Possible contact	Underground Services	Moderate risk
Ground gas from Made Ground	Inhalation in buildings if present	End Users	Moderate risk

It is therefore considered that there may be a potential risk of contamination at the site, which may impact on both human health and the environment, via a source/pathway/receptors linkage. Therefore, it is recommended that a full Phase II investigation should be undertaken to include both a Human Health and Environmental risk assessment and sampling of the soils across the investigation area.

Furthermore, it is considered that given the mining and industrial legacy of the site that the proposed development is at risk from ground gasses, and therefore confirmatory ground gas monitoring should be undertaken as part of the phase II investigation.

5 SUMMARY OF GEOTECHNICAL RISK

From reviewing the BGS geological maps, memoirs, and the consultants mining report it is likely that the ground conditions at the site are to be possibly Made Ground soils, overlying grey, coal bearing mudstones and siltstones with seatearths and minor sandstones of the Coal Measures. Coal seams may be daylighting on site associated with the Gillers Inn Coal Seam. The Kingswood Little Coal seam could be present at 9.14m bgl. The desk study information also identified an additional five coal seams which may underlie the Kingswood Little Coal Seam as described below.

-  Sodbury Coal - >9.14m bgl / approximately 0.60m thick
-  Slate Vein – 26.74m bgl / approximately 0.60m thick -unlikely to impact shallow foundations
-  Stoney Vein – 65.14m bgl / approximately 0.45m thick – unlikely to impact shallow foundations.

- Smith Coal – 110.94m bgl / approximately 0.60m thick- unlikely to impact shallow foundations
- Hard Venture Vein – 196.14 / approximately 0.91m thick- unlikely to impact shallow foundations

It is considered there is a high chance of unrecorded shallow coal-mining and ironstone mining on the site itself associated with the Gillers Inn Coal Seam which is recorded to daylight at the northern end of the site, and will be present at or very close to the surface. The BGS memoir also indicates this coal seam was used as a marker bed for the underlying Kingswood Little Coal Seam which has been recorded at 9.14m below the Gillers Inn Coal Sea. Additional coal seams are also recorded below the Kingswood Little Coal within the Memoir however are not recorded on the geological map. Therefore, there is a significant risk of possible unrecorded bell pits, which may have been excavated at the site (a field prior to 1960).

In addition, given the sites location on a slope it may be required to undertake a slope stability analysis.

5.1 IDENTIFICATION AND ASSESSMENT OF SITE-SPECIFIC COAL MINING RISK

The table below summarises the potential risks associated with coal mining legacy for the proposed development site, identified from the previously listed sources of information in Section 1.2.

Coal Mining Issue	Yes	No	Risk Assessment
Underground coal mining (recorded at shallow depths)		X	No underground mining recorded beneath the site.
Underground coal mining (probable at shallow depths)	X		Shallow seams are expected to daylight on the surface with a thickness of 0.40m to 1.30m associated with the Gillers Inn Coal Seam and is expected to have been worked, possibly by bell pit mining. The Kingswood Little Coal is recorded 9.14m bgl and is approximately 0.60m to 0.80m thick. See section 2 for all the potentially underlying coal seams.
Mine entries (shafts and adits)	X		One mine entry is recorded within 100m of the boundary of the site located 50m south-west of the site
Coal mining geology (fissures)	X		The site is located on the southern limb of the Kingswood Anticline and two additional faults intersect at the western end of the site.
Record of past mine gas emissions or potential		X	No mine gas emissions have been recorded.
Recorded coal mining surface hazard		X	No subsidence has been recorded.
Surface mining (opencast workings)		X	Historical maps indicate a number of old collieries and quarries within 250m of the site including an old colliery located 131m south-west, an old coal pit located 227m west of the site.

5.2 MITIGATION STRATEGY PROPOSED

The results of the desk study indicate that the site is likely to be underlain by the Gillers Inn Coal Seam which could daylight at the northern end of the site with a thickness ranging between 0.40m and 1.30m, and the Kingswood Little Coal seam at approximately 9.14m bgl with a thickness ranging between 0.60m to 0.80m. These are considered likely to have been worked and so could have been extracted by adits or by bell pits. At present there is a potential risk of either voided ground or un-engineered backfilled ground across the site.

Where voided ground is present within ground it is considered that a sufficient thickness of solid rock quality strata needs to separate the void from the softer ground above to prevent any effects

to the development above. This is taken to be 10x the thickness of the worked seam or 15m, whichever is thickest, but this depends on the competency of the overlying rock strata.

Where voided ground is present, mitigation measures are likely to be required prior to any development to improve the overall ground bearing characteristics. This could be in the form of grid drilling beneath the building’s footprint and cartilage around the structure (typically 2-3m). The grid would typically consist 6m by 6m with centre holes, although this depends on the state of the workings and the grout to be used. The boreholes should be extended to around 2.00m below the base of the Broken Ground Zone/coal seam and should be pressure grouted with a cementitious grout comprising 10:1 pulverised fuel ash(or sand) and cement. If grout takes are high then additional grouting boreholes may be required. For particularly high grout takes beneath the building footprint, consideration may need to be given to the requirements or otherwise for stabilisation of more sensitive external areas. The advice of specialist grouting contractors should be sought to confirm a suitable technique before the commencement of works.

If un-engineered backfill overburden exists across the site this should be treated as Made Ground and cannot be relied upon as founding strata and is a potential source of gas.

Therefore, given the perceived risks, it is recommended that an intrusive site investigation be undertaken at the site that includes the following exploratory holes for the following reasons:-

Exploratory Hole Method	Reason
Window sample boreholes to approx 6.0m bgl.	Near surface window sample holes can be used for site coverage, Made Ground contouring, collection of geo-environmental data, and installation of ground gas monitoring points. If thick Made Ground is encountered shallow foundations are unlikely to be suitable.
Rotary drilling to approx 30.0m bgl.	To investigate the make-up and consistency of any Made Ground and underlying Middle Coal Measures strata, as well as to confirm the location of the coal seams including the Gillers Inn Coal Seam, Kingswood Little Coal Seam and identify whether these have been worked. If voided ground is encountered, a stabilisation scheme maybe required across part of the site to allow for shallow foundations; this type of scheme can be expensive. Alternatively, a piled solution may be required and deeper boreholes would be required for pile design. Deeper boreholes may require sonic drilling due to potential rock quality mudstone of the South Wales Middle Coal Measures Formation.

5.2.1 *The Coal Authority Permit*

The above methods are intrusive and are likely to disturb or enter coal seams, mine workings or coal mine entries (shafts and adits). Therefore, a Coal Authority Permit will be required to undertake these works and this will be applied for prior to the site works.

6 CONCLUSION

From a geo-environmental standpoint, it is considered that there could be heavy metals, hydrocarbons, polychlorinated biphenyls and asbestos present in the ground from the long human history of the site, the construction of the residential estate including the electricity substations, and accidental spillages and leaks from parked vehicles on site. In addition, there is a gas risk from potentially infilled ponds and unrecorded shallow coal and ironstone mine workings associated with the Gillers Inn Coal Seam. There are pathways as well as receptors from these pollution sources and therefore these should be investigated further with a Phase II intrusive investigation.

From a geotechnical standpoint, it is considered there is a high chance of shallow coal-mining and ironstone mining associated with the Gillers Inn Coal Seam which is recorded to daylight at the northern end of the site. The BGS memoir also indicates this coal seam was used as a marker bed for the underlying Kingswood Little Coal Seam which has been recorded at 9.14m below the Gillers Inn Coal Seam. Additional coal seams including the Sodbury Coal Seam are also recorded below the Kingswood Little Coal within the Memoir however are not recorded on the geological.

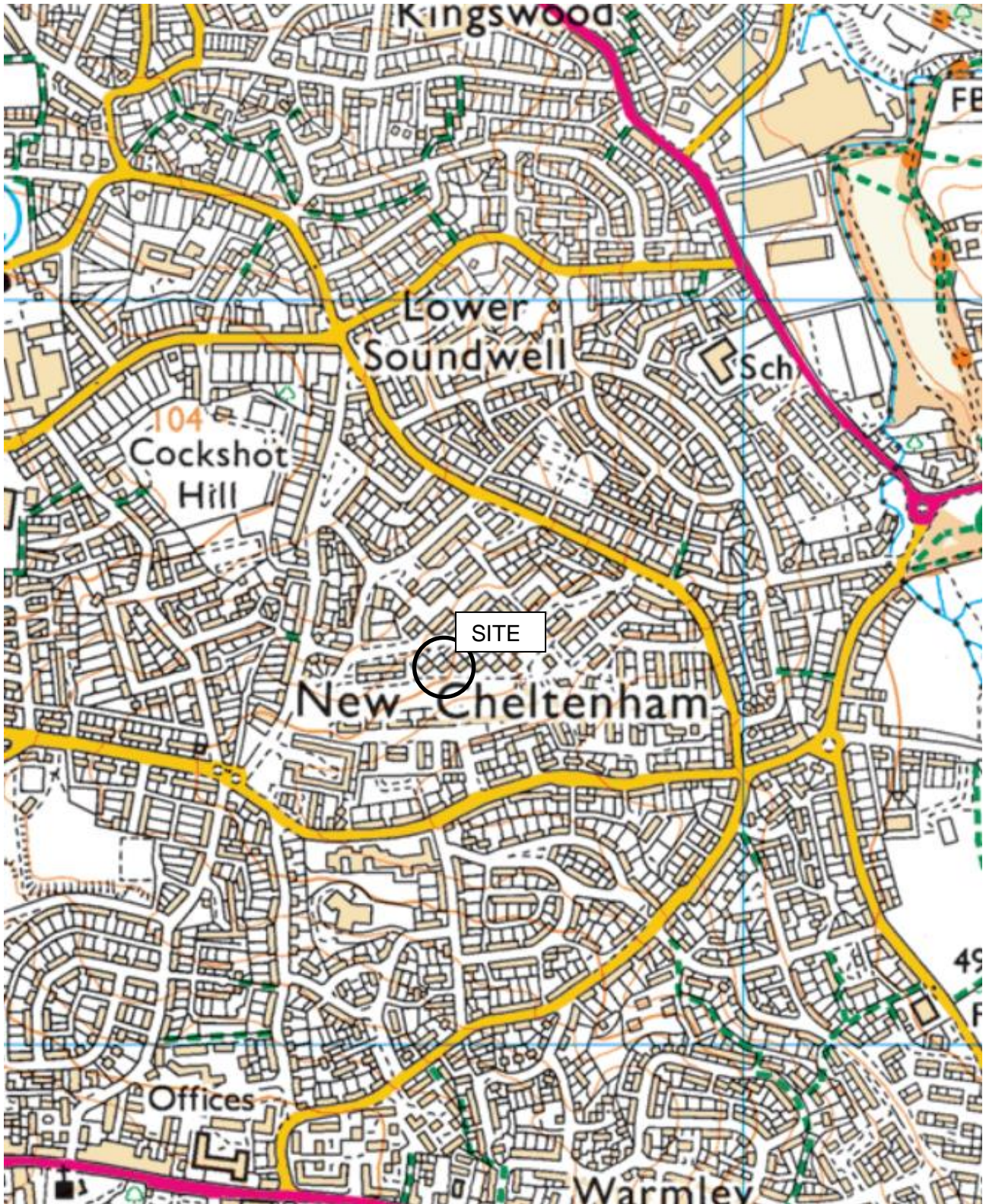
Due to the high possibility of unrecorded shallow ground workings, a Phase II intrusive site investigation is considered necessary prior to any development. Multiple investigation techniques are recommended in Section 5.2 above, and the investigation is likely to consist of a number of phases.

7 REFERENCES

-  BGS Geology of Britain Viewer: 2016. www.bgs.ac.uk. British Geological Survey.
-  BS 8576:2013 Guidance on Investigations for Ground Gas - Permanent Gases and Volatile Organic Compounds (VOCs).
-  BS10175:2011 Investigation of Potentially Contaminated Sites, Code of Practice.
-  BS5930:1999+A2 2010 Site Investigations, Code of Practice.
-  Building Research Establishment (BRE) BR 211, Radon: guidance on protective measures for new buildings. 2007.
-  Coal Authority Interactive Map Viewer: 2020. www.bgs.ac.uk/coalauthority. Coal Authority.
-  Environment Agency, 'Human Health Toxicological Assessment of Contaminants in Soil', August 2008.
-  Environment Agency, 'Land Contamination Risk Management', LCRM, 2020.
-  G Card and S Wilson, An Alternative Approach for Ground Gas Risk Assessment, 2011.
-  Geology Map Sheet 154; Lichfield, 1970, British Geological Society.
-  Health and Safety Executive (HSE), "Protection of Workers and the General Public during Development of Contaminated Land" HS(G) 66. HMSO London 1991.
-  National House Building Council (NHBC) Standards, Chapter 4.1 Land Quality – Managing Ground Conditions. 2011.
-  National House Building Council (NHBC) Standards, Chapter 4.2 Building Near Trees. 2011.



APPENDIX A PLANS

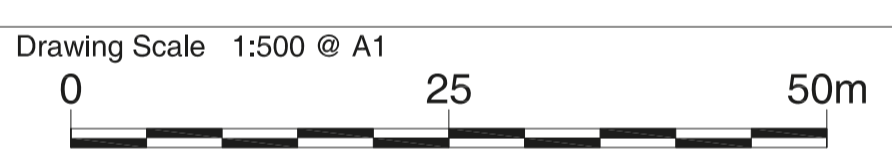




Responsibility is not accepted for errors made by others in scaling from this drawing. Contractors must check all dimensions on site. Discrepancies must be reported immediately to the architect before proceeding. This drawing is copyright ©2023 Nash Partnership. All rights reserved.

Rev.	Date	Notes	Int.
1	10.11.23	First Issue	PM
2	29.11.23	Planning Issue	FB
3	04.12.23	Planning Issue	PM

CDM Regulations



Bath : 01225 442424 | 23a Sydney Buildings, Bath, BA2 6BZ
 Bristol : 0117 3327560 | The Generator, Counterslip, Redcliffe, Bristol, BS1 6BX
www.nashpartnership.com
mail@nashpartnership.com

File Name: 21027-NP-XX-XX-DR-A-1002

PLANNING

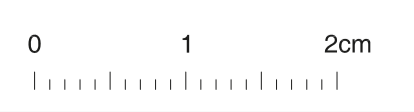
Job Number	Originator	Zone	Level
21027	NP	XX	XX
Type	Role	Drawing Number	Revision
DR	A	1002	3

Project
 Barrington Close & Fairford Close
 Kingswood Regeneration

Title
 Proposed Site Plan

Drawn by	Project Manager	Scale
PM	AT	1:500 @ A1

- Key**
- Application boundary
 - Retained Trees
 - Indicative Proposed Trees (Refer to landscape drawings)
 - Resident parking space
 - Visitor parking space
 - Visitor/displaced parking space





APPENDIX B MINING INFORMATION



The Coal
Authority

Consultants Coal Mining Report

34, Barrington Close, Kingswood
Gloucestershire
BS15 4QD

Date of enquiry:	9 November 2021
Date enquiry received:	9 November 2021
Issue date:	9 November 2021

Our reference:	51002714859001
Your reference:	GS-8323135

Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

GROUNDSURE LIMITED

Enquiry address

34, Barrington Close, Kingswood
Gloucestershire
BS15 4QD

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

 /company/the-coal-authority

 /thecoalauthority

 /thecoalauthority



Approximate position of property



Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2018. All rights reserved.

Ordnance Survey Licence number: 100020315

Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	365174-094	365519 174470		Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

SWR3425	17639	POO
---------	-------	-----

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
SIX FT BOTTOM LEAF	Coal	Yes	Within	N/A	5

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

Withdrawal of support notices

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices





Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

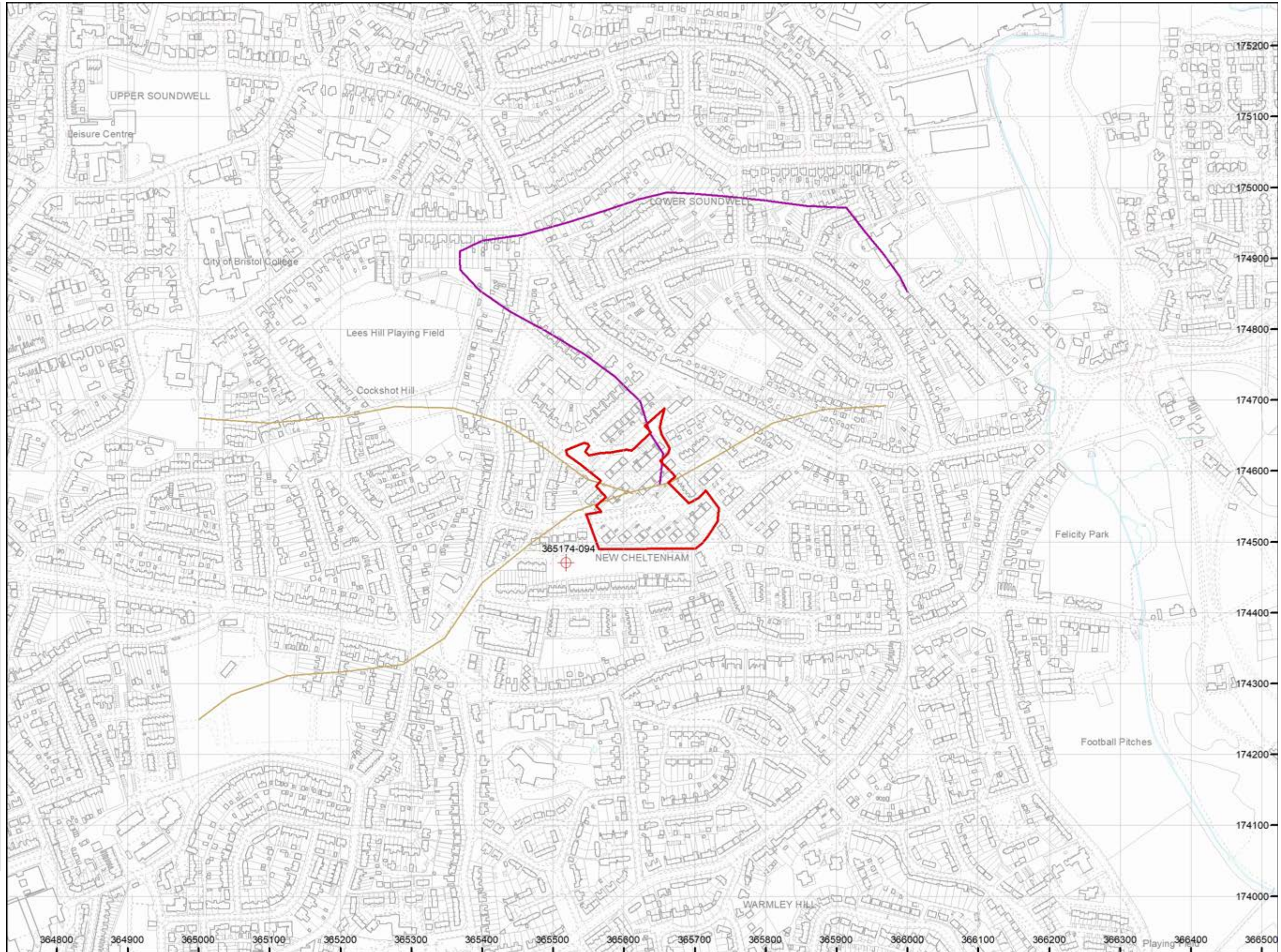
Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Outcrop (Proven) 
- Geological faults 



How to contact us
0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com



APPENDIX C DESK STUDY INFORMATION

Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

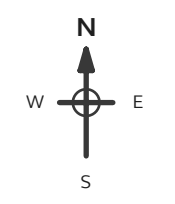
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1882

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1882
Revised 1882
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1882
Revised 1882
Edition N/A
Copyright N/A
Levelled N/A

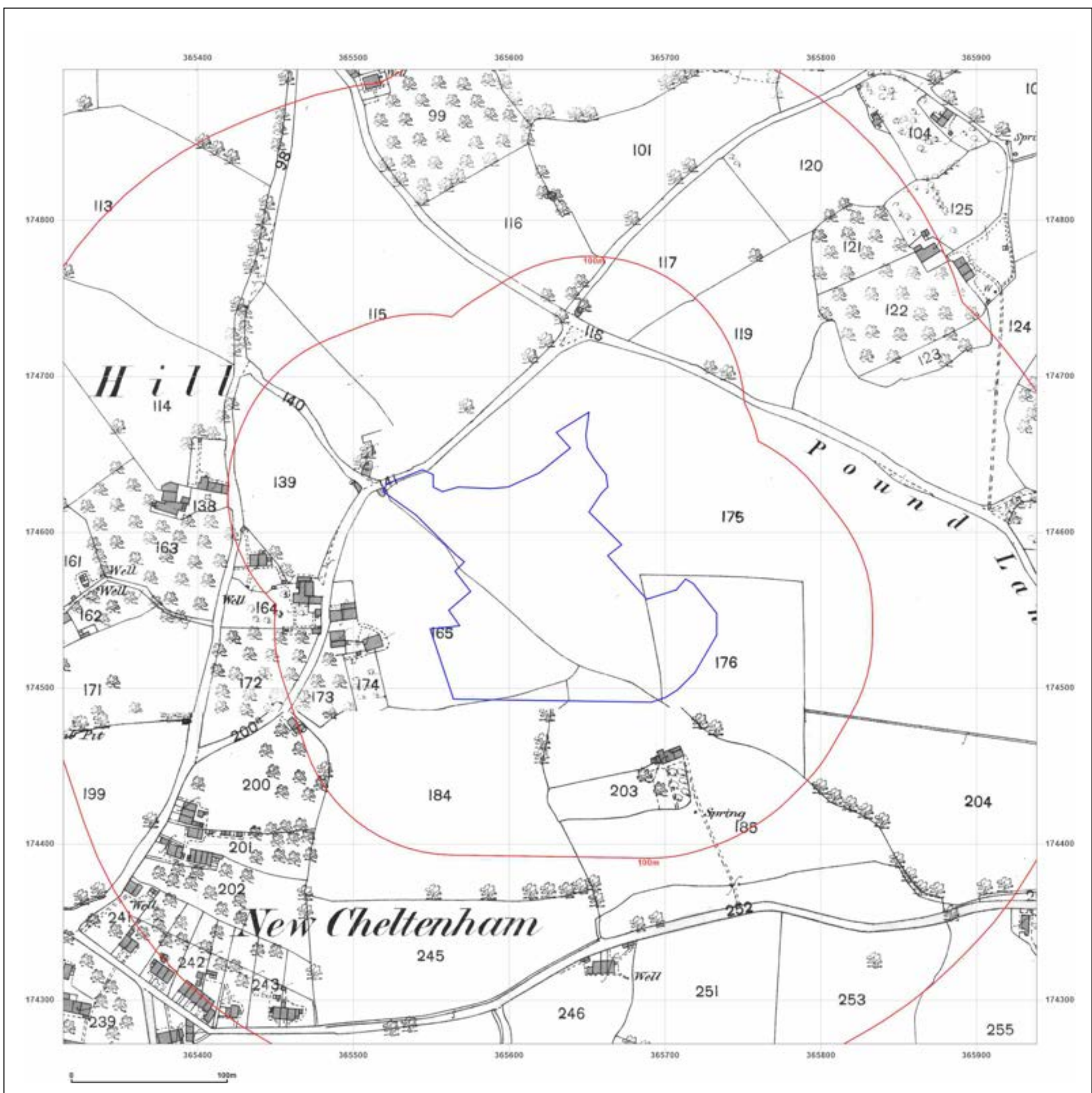


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1903

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1903
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1903
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

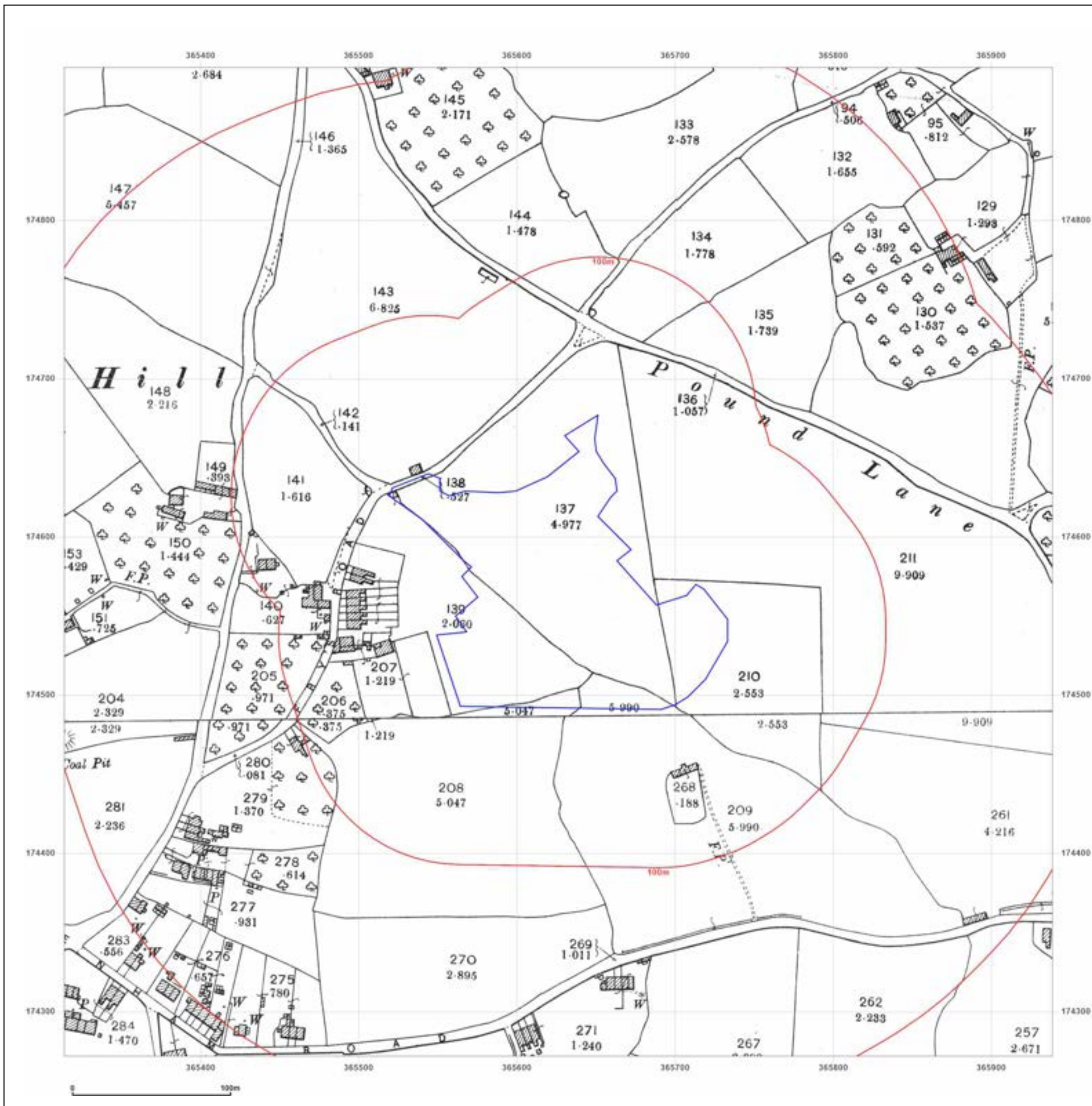


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

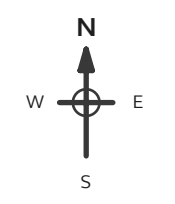
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1916

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1916
Revised 1916
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1916
Revised 1916
Edition N/A
Copyright N/A
Levelled N/A

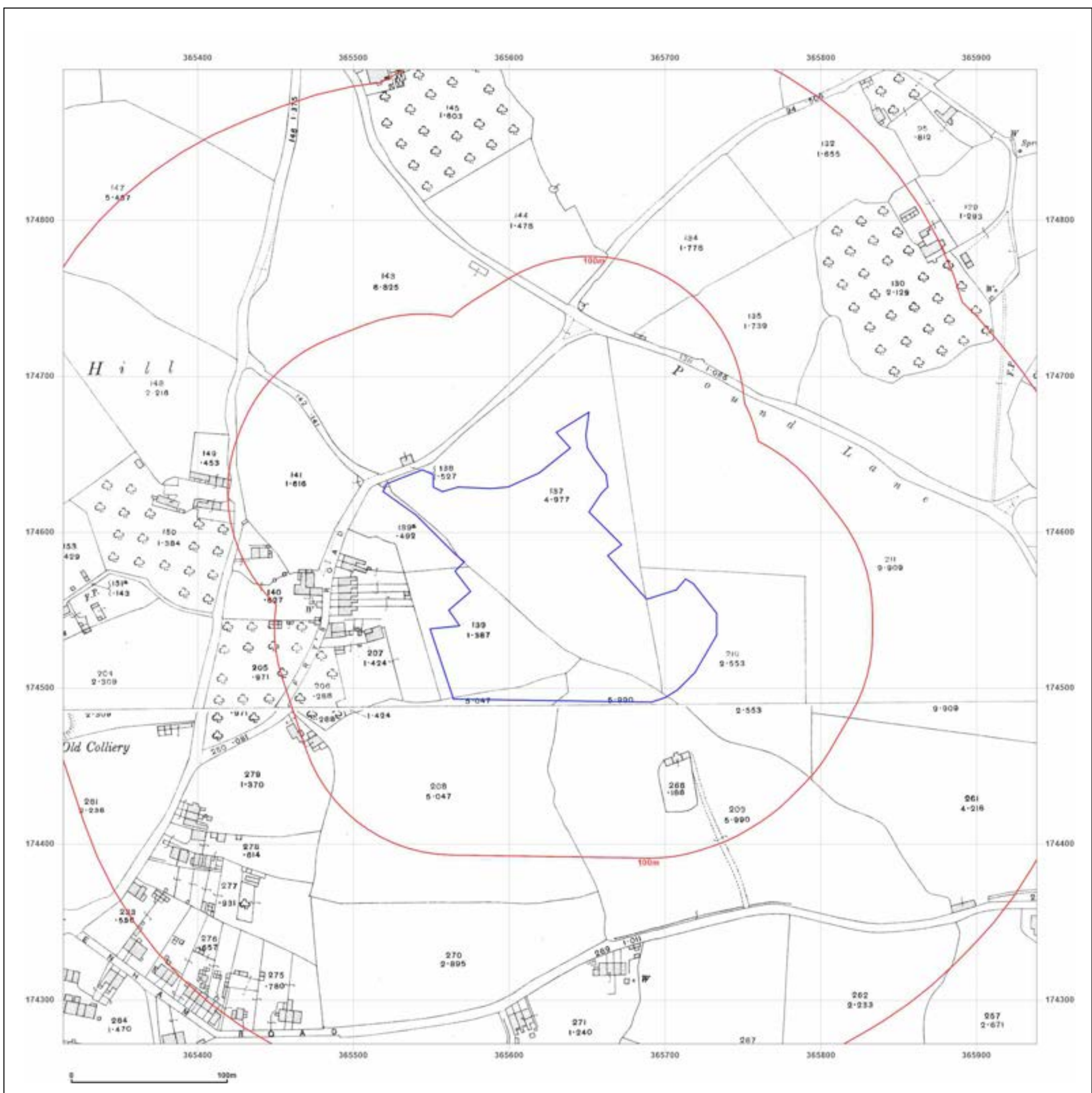


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1948-1949

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1949 Revised 1949 Edition N/A Copyright N/A Levelled 1945	Surveyed 1949 Revised 1949 Edition N/A Copyright N/A Levelled 1945
Surveyed 1949 Revised 1949 Edition N/A Copyright N/A Levelled 1945	Surveyed 1948 Revised 1948 Edition N/A Copyright N/A Levelled 1945

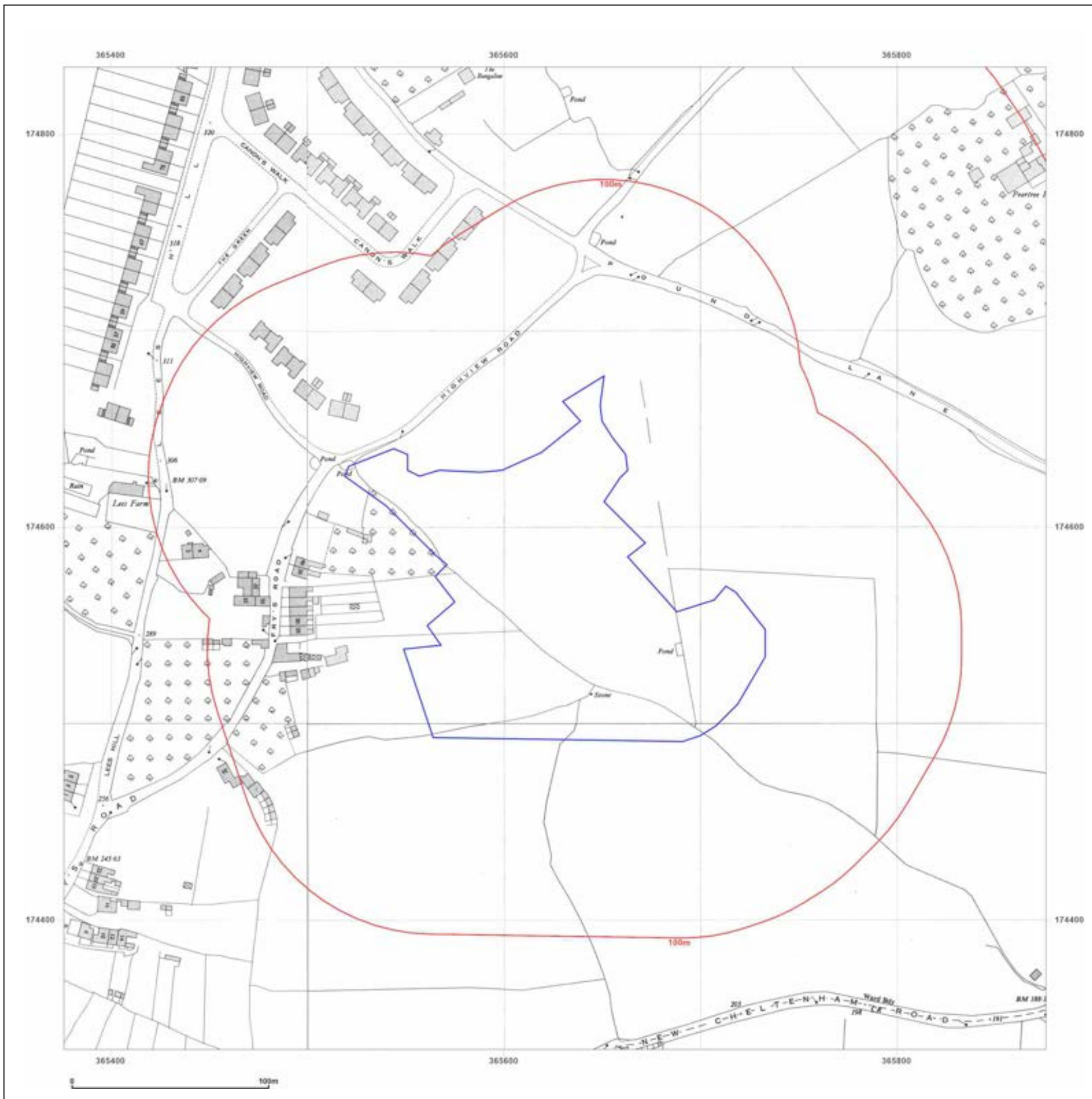


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

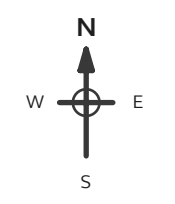
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1949

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1949
Revised 1949
Edition N/A
Copyright N/A
Levelled 1945

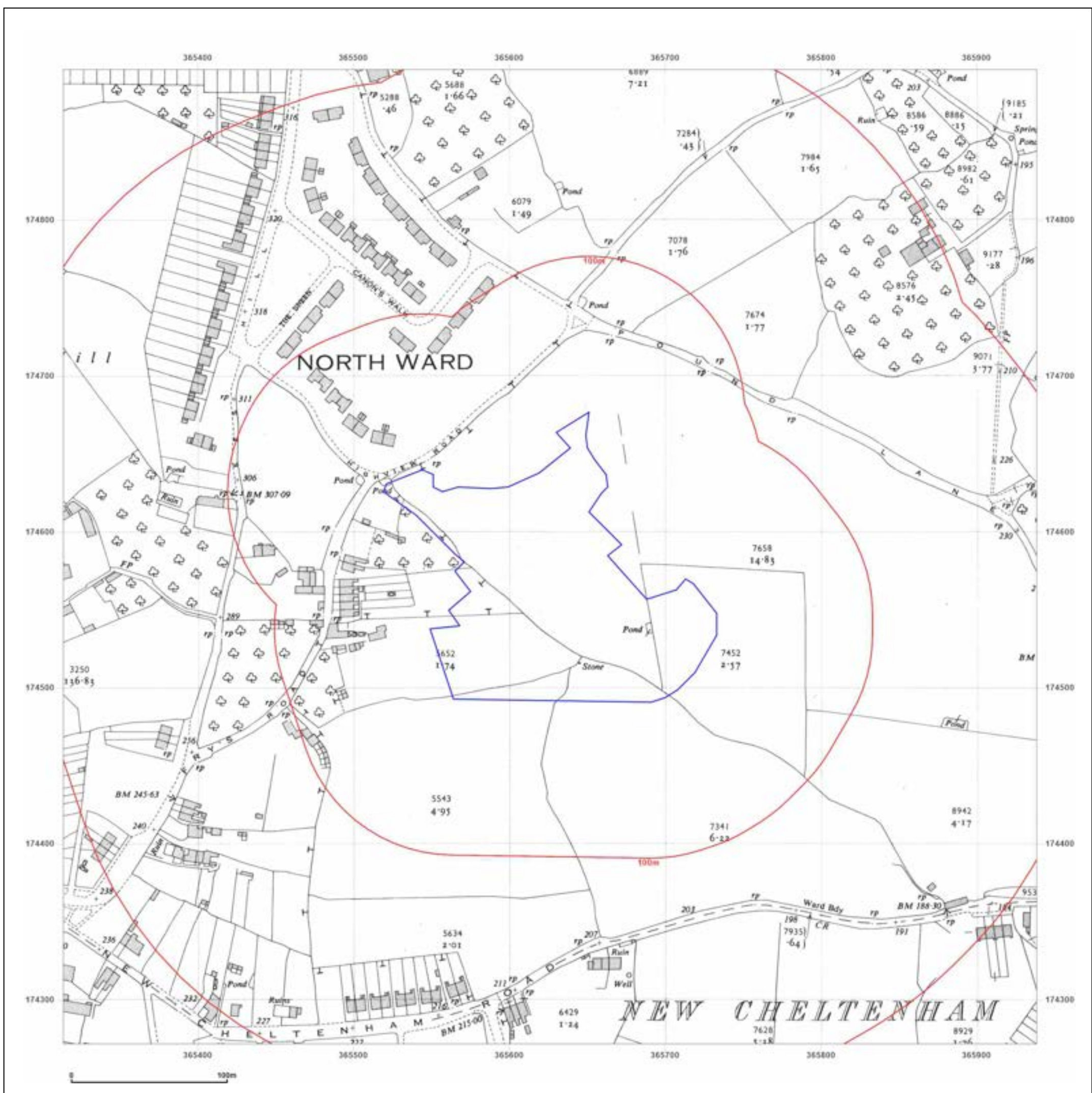


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1950-1952

Scale: 1:1,250

Printed at: 1:2,000



<p>Surveyed 1950 Revised 1950 Edition N/A Copyright N/A Levelled 1945</p>
<p>Surveyed 1952 Revised 1952 Edition N/A Copyright N/A Levelled 1945</p>

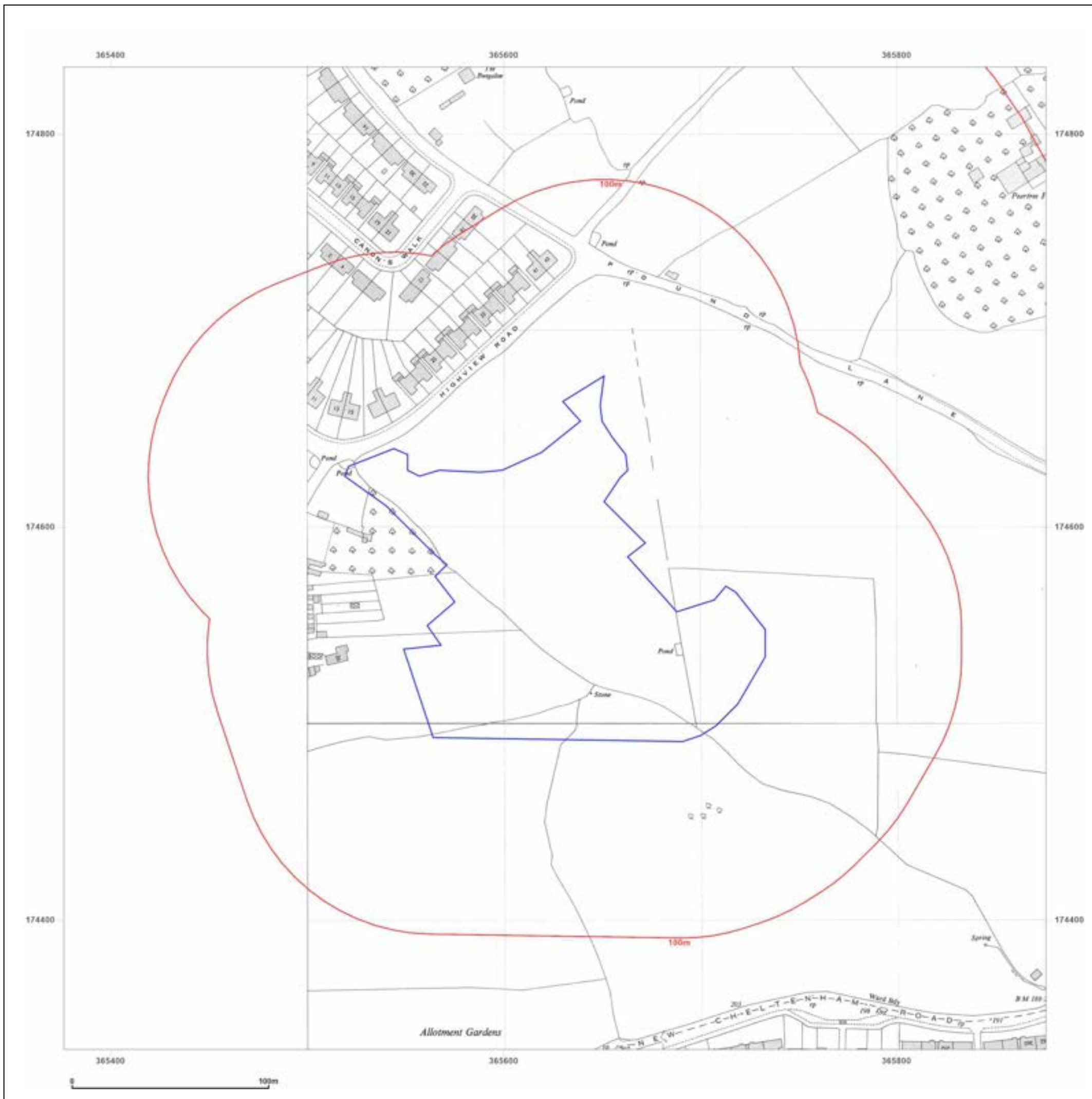


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1952

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1952
Revised 1952
Edition N/A
Copyright N/A
Levelled 1945

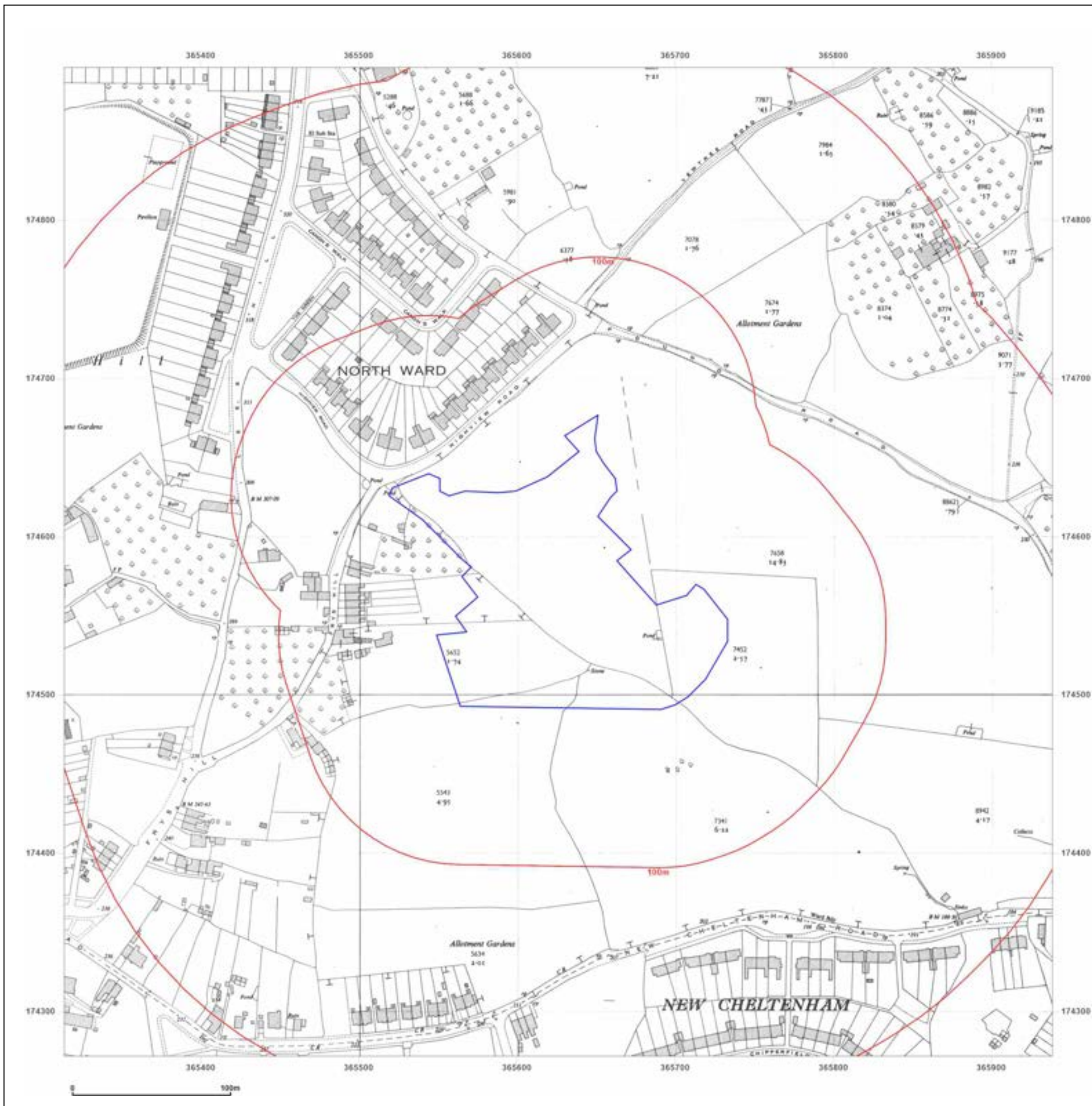


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1952-1957

Scale: 1:1,250

Printed at: 1:2,000



<p>Surveyed 1949 Revised 1952 Edition N/A Copyright N/A Levelled 1945</p>
<p>Surveyed 1948 Revised 1957 Edition N/A Copyright N/A Levelled N/A</p>

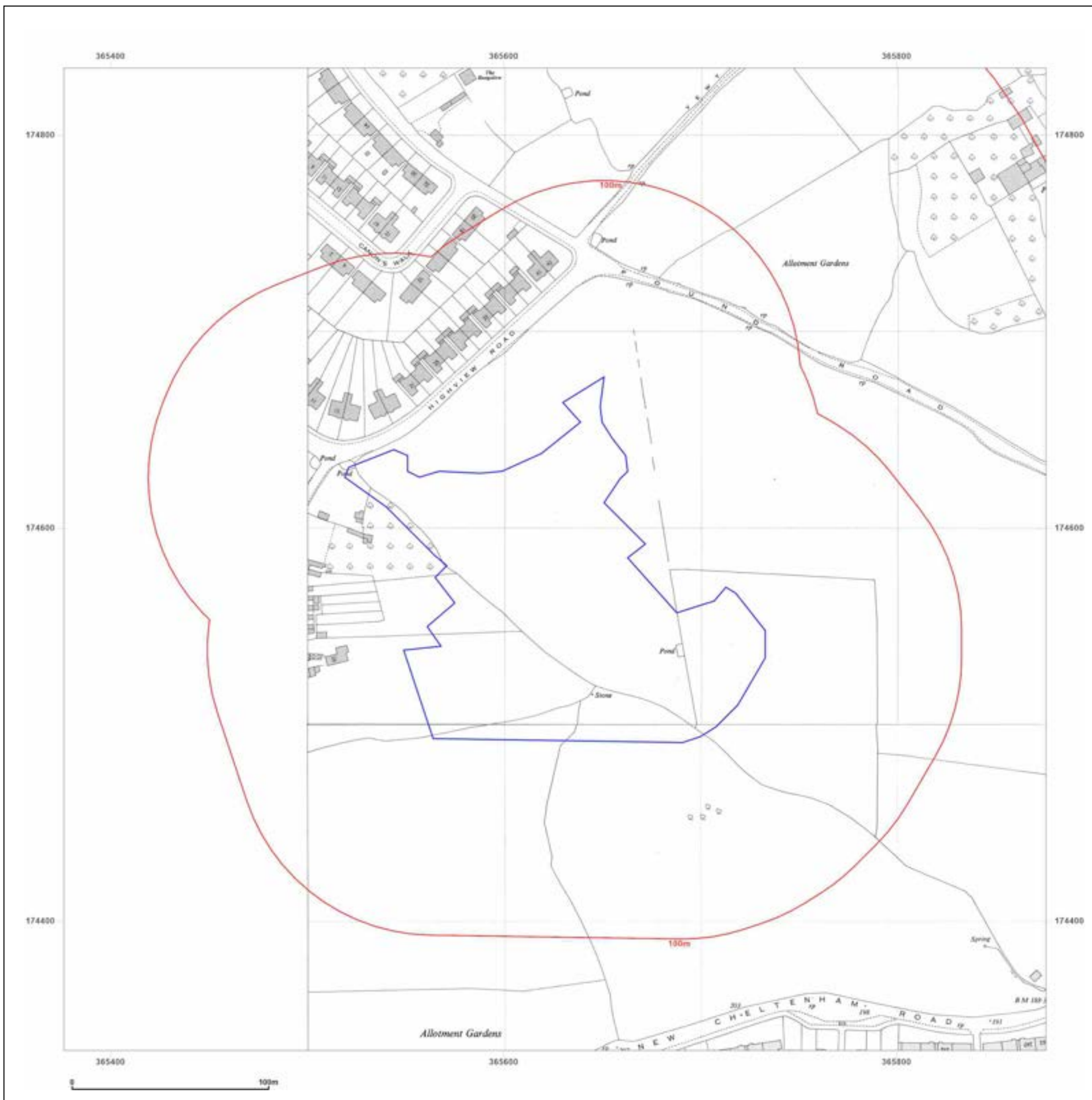


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1956-1959

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1949 Revised 1958 Edition N/A Copyright 1959 Levelled 1945	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A
Surveyed 1949 Revised 1958 Edition N/A Copyright 1959 Levelled 1945	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A

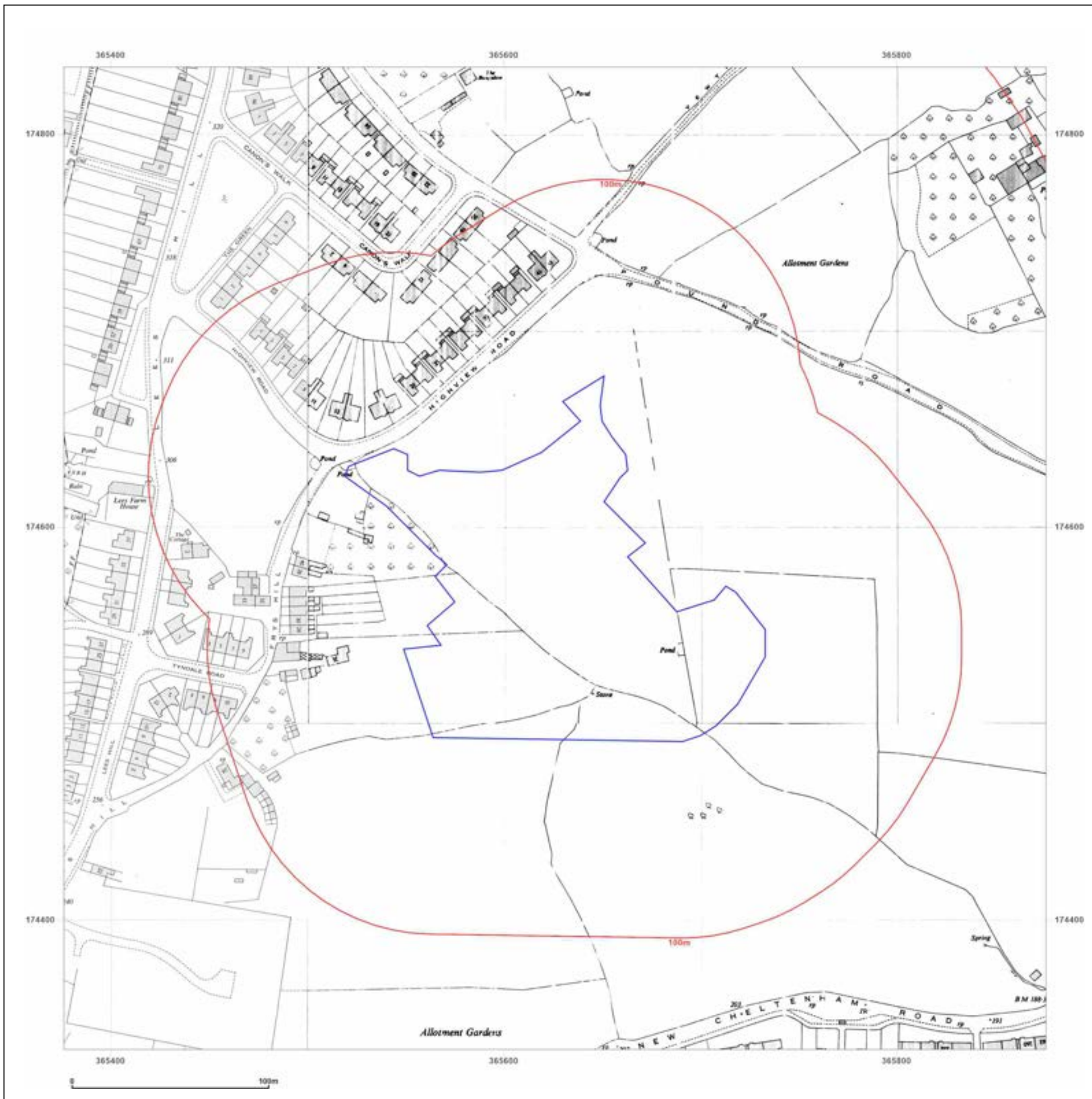


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1966-1969

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1949 Revised 1965 Edition N/A Copyright 1966 Levelled 1957	Surveyed 1949 Revised 1967 Edition N/A Copyright 1967 Levelled 1957
Surveyed 1949 Revised 1968 Edition N/A Copyright 1969 Levelled 1957	Surveyed 1948 Revised 1967 Edition N/A Copyright 1967 Levelled 1957

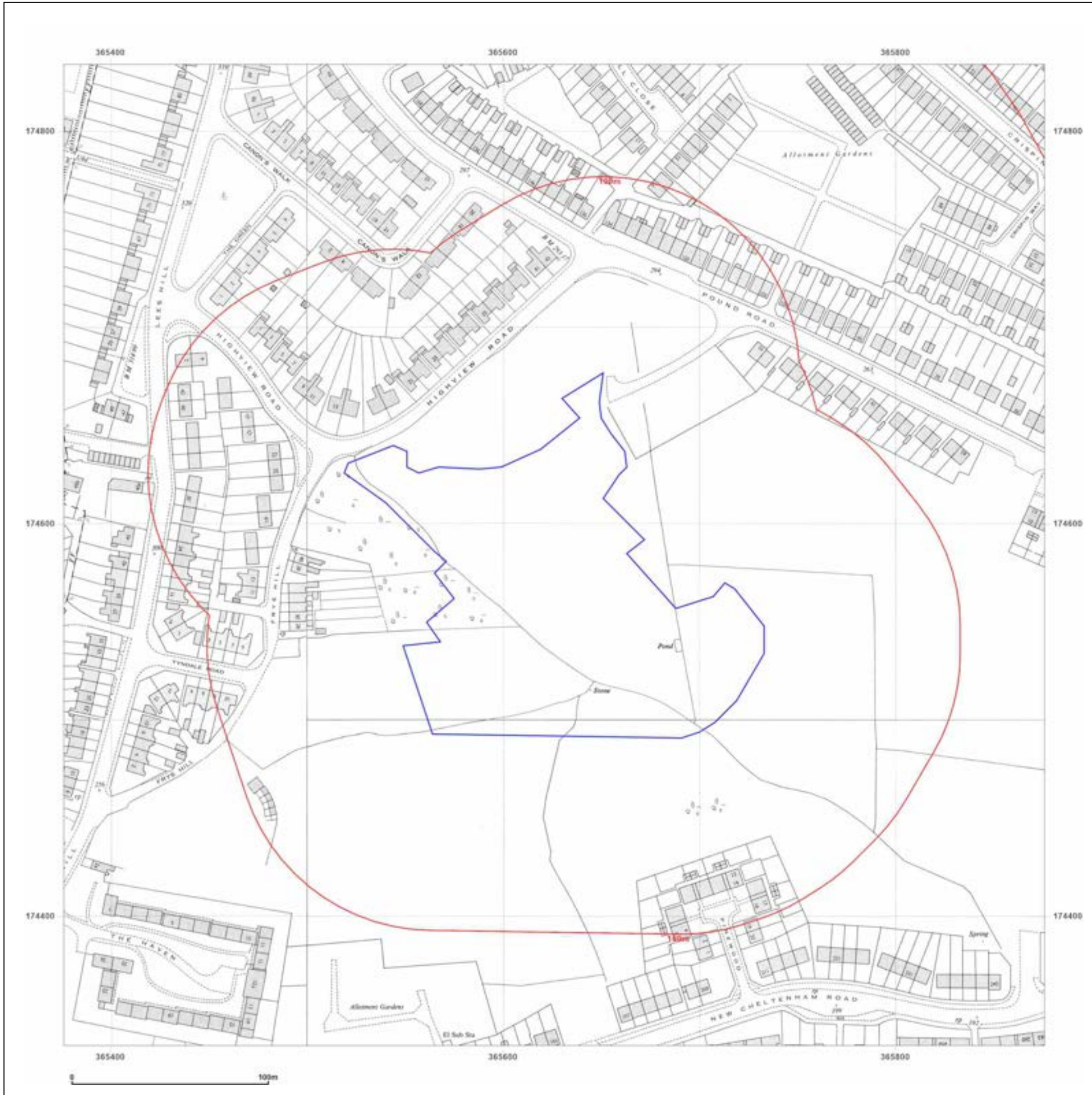


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

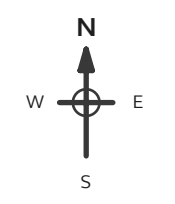
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1972-1975

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1975 Revised 1975 Edition N/A Copyright N/A Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A
Surveyed 1975 Revised 1975 Edition N/A Copyright N/A Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1986-1989

Scale: 1:1,250

Printed at: 1:2,000



<p>Surveyed 1957 Revised 1988 Edition N/A Copyright 1989 Levelled 1957</p>
<p>Surveyed 1957 Revised 1988 Edition N/A Copyright 1986 Levelled 1957</p>



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

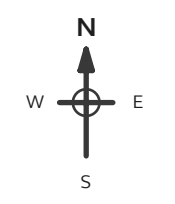
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1991-1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A
Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A

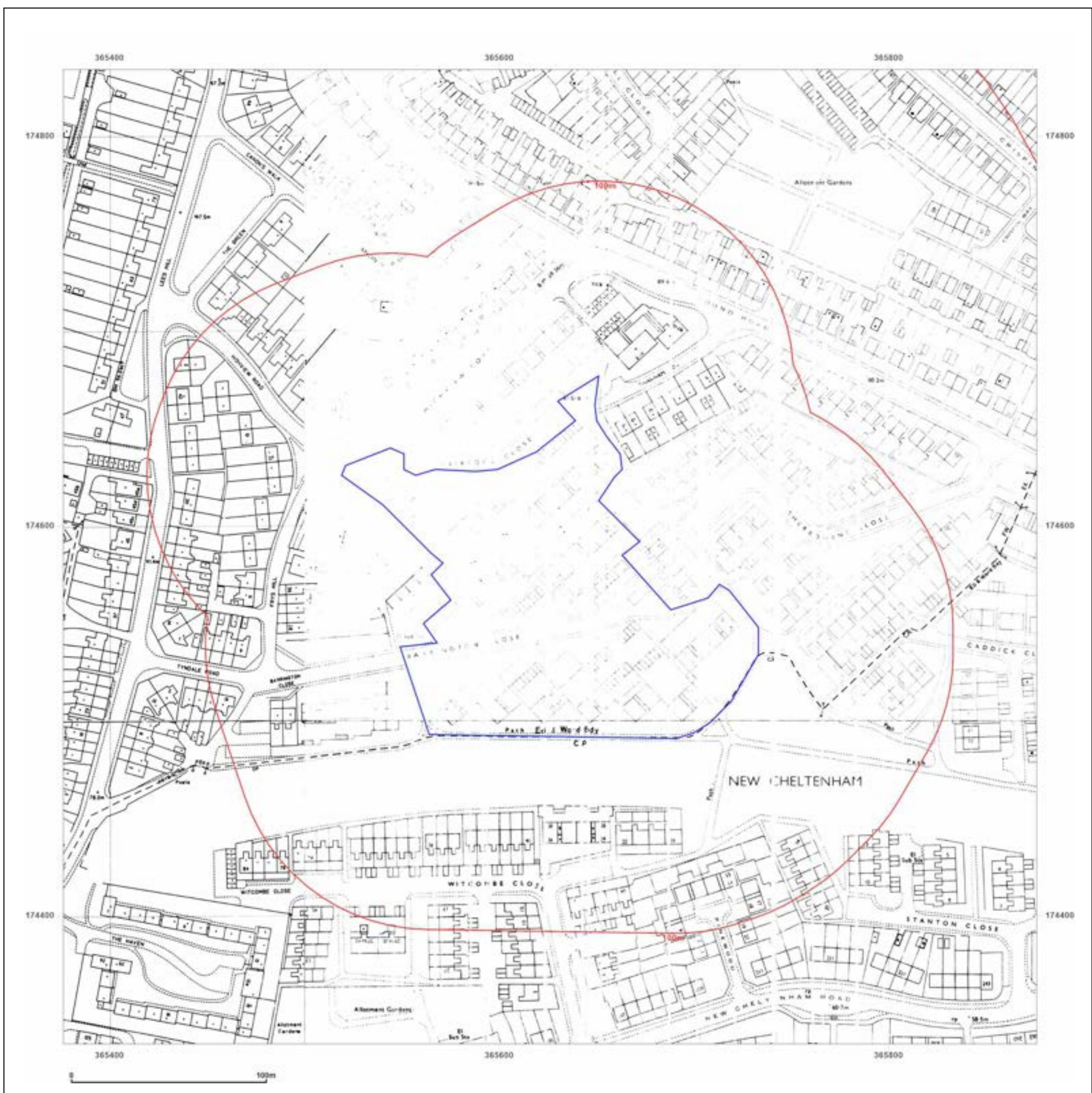


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1992-1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A
Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

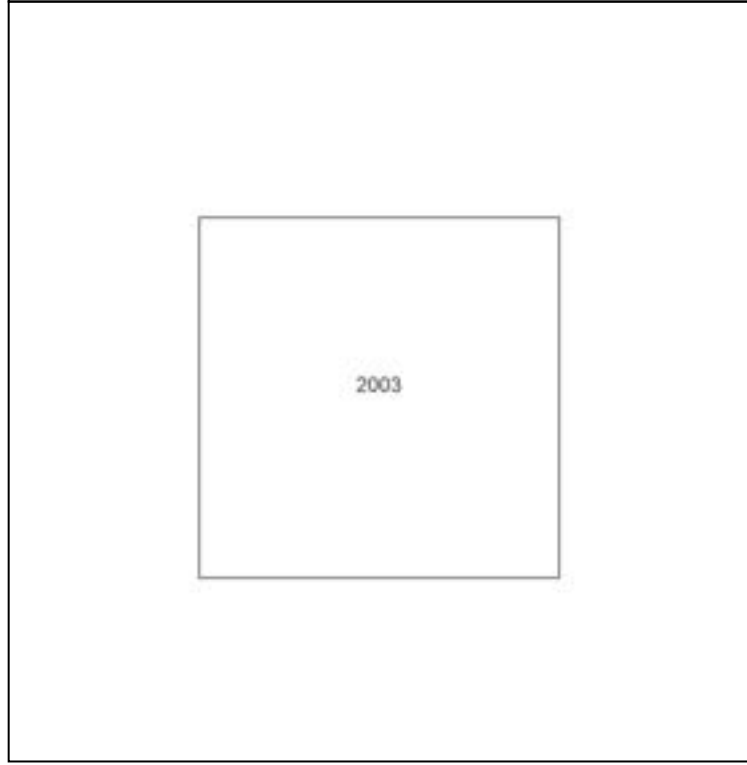
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250

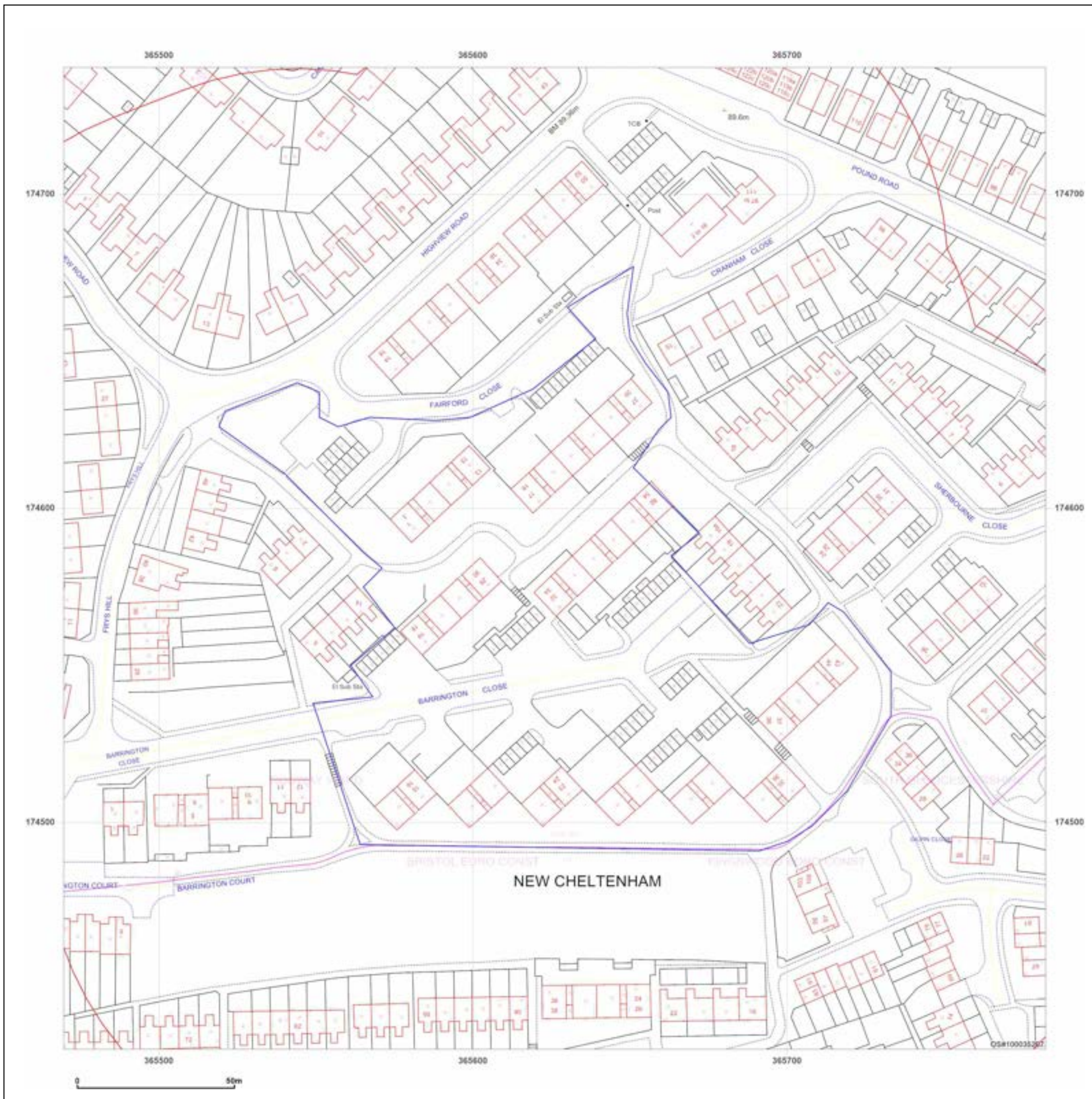


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

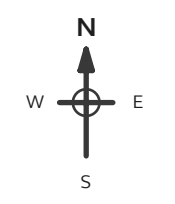
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1881

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1881
Revised 1881
Edition N/A
Copyright N/A
Levelled N/A

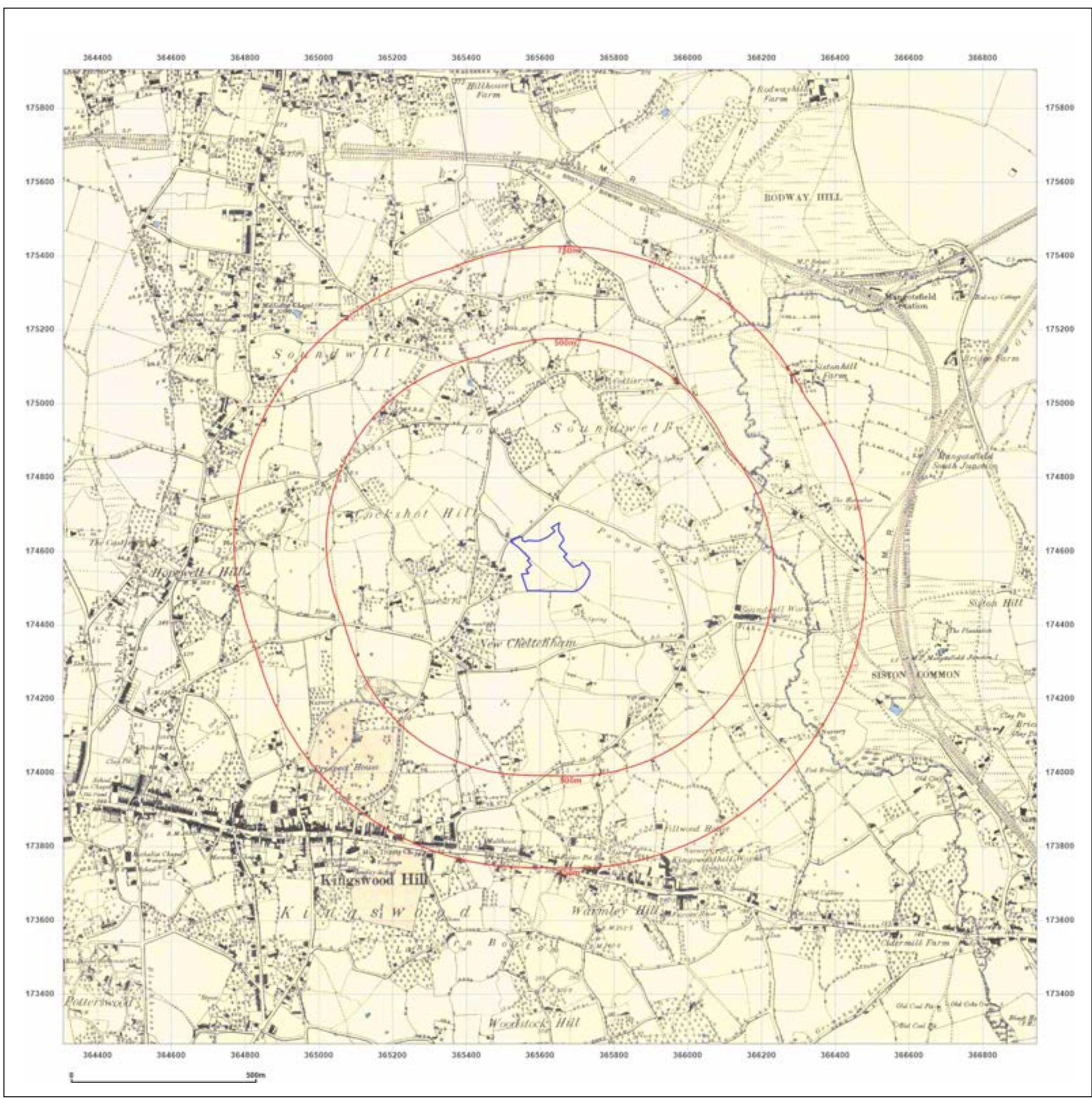


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

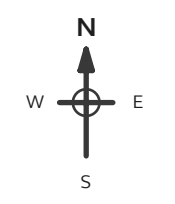
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1883-1887

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1881
Revised N/A
Edition 1887
Copyright N/A
Levelled N/A

Surveyed 1883
Revised 1883
Edition N/A
Copyright N/A
Levelled N/A

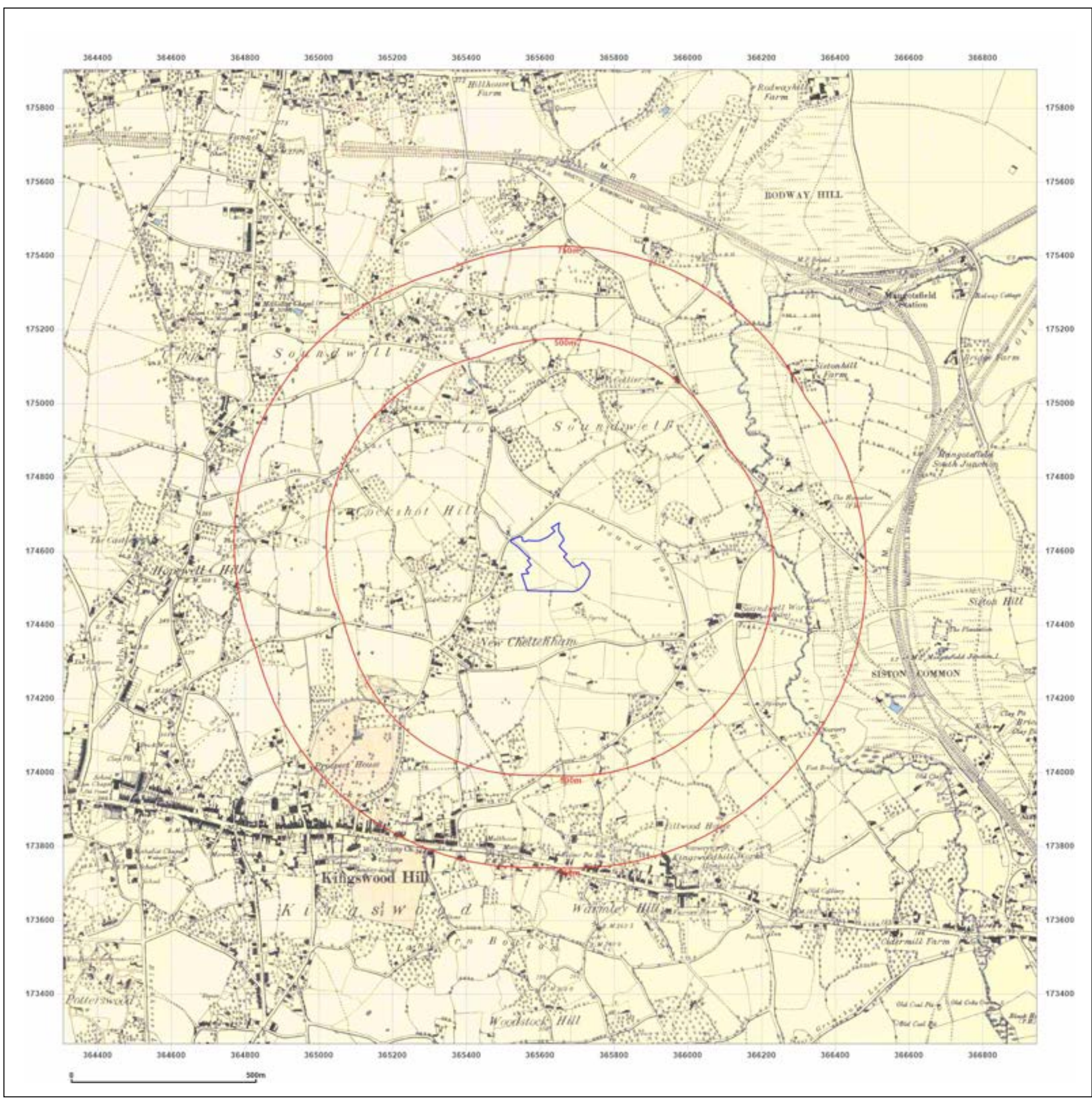


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1902

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1880
Revised 1902
Edition N/A
Copyright N/A
Levelled N/A

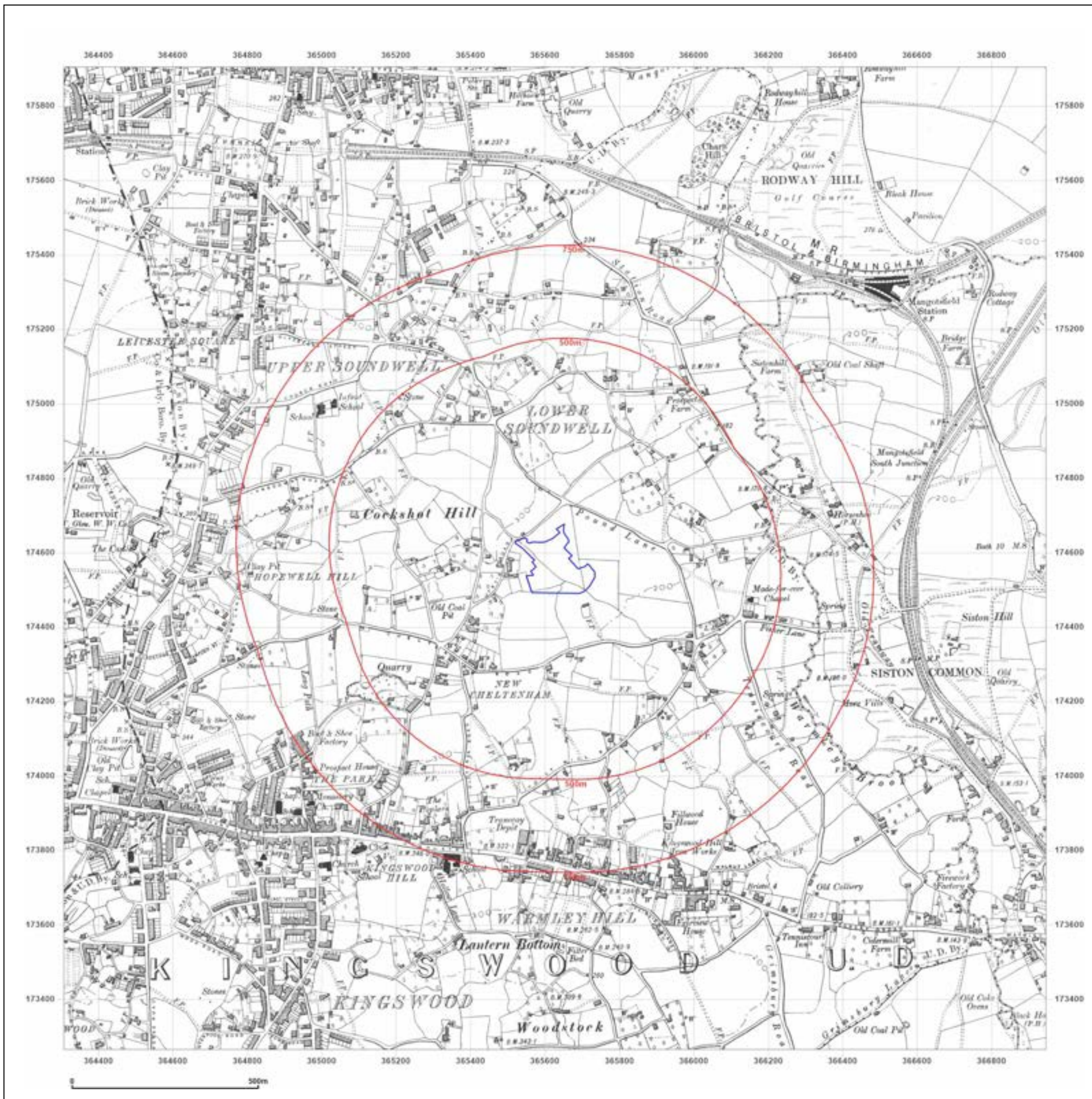


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1912

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1880
Revised 1912
Edition N/A
Copyright N/A
Levelled N/A

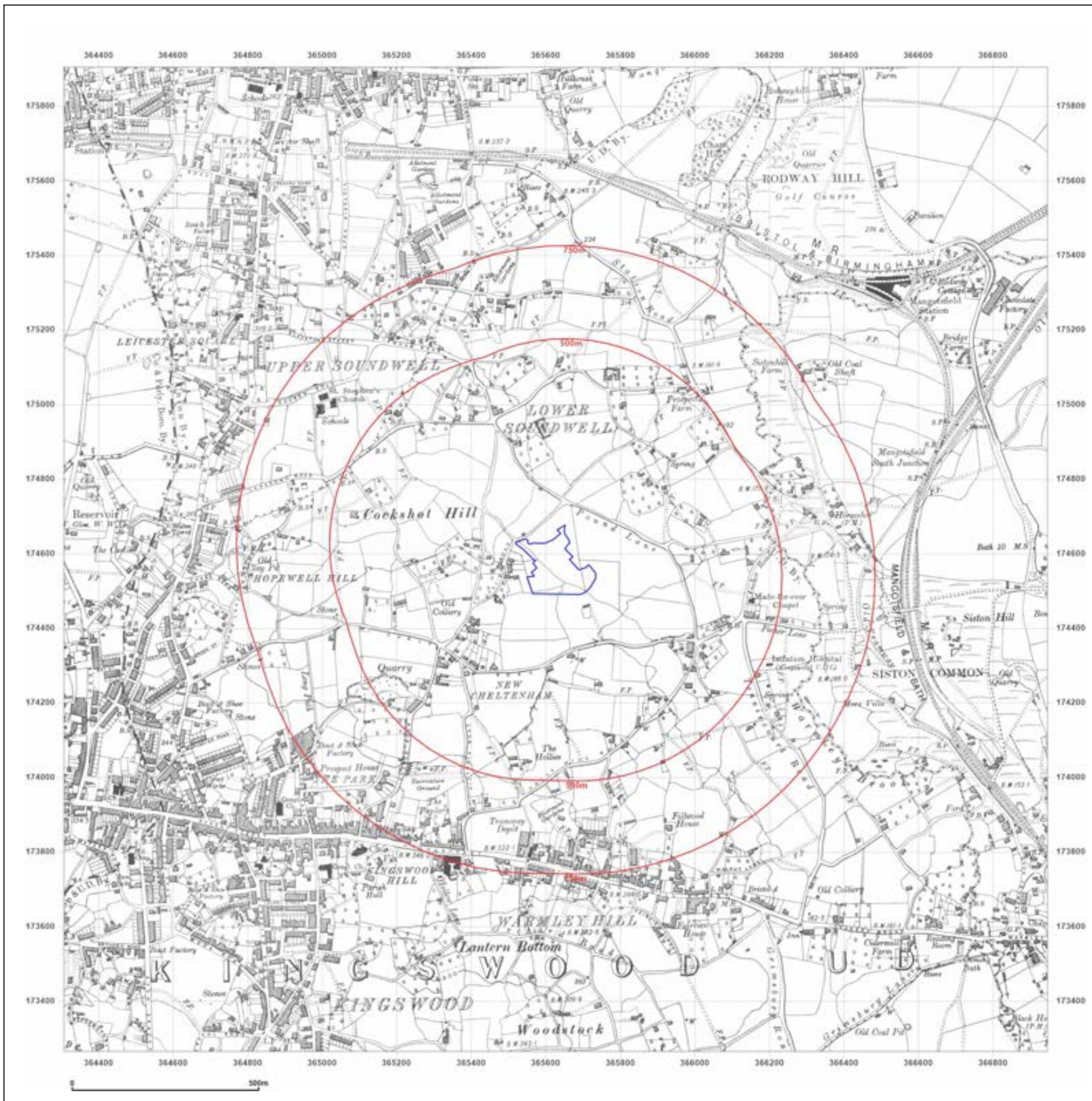


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1921

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1882
Revised 1921
Edition N/A
Copyright N/A
Levelled N/A

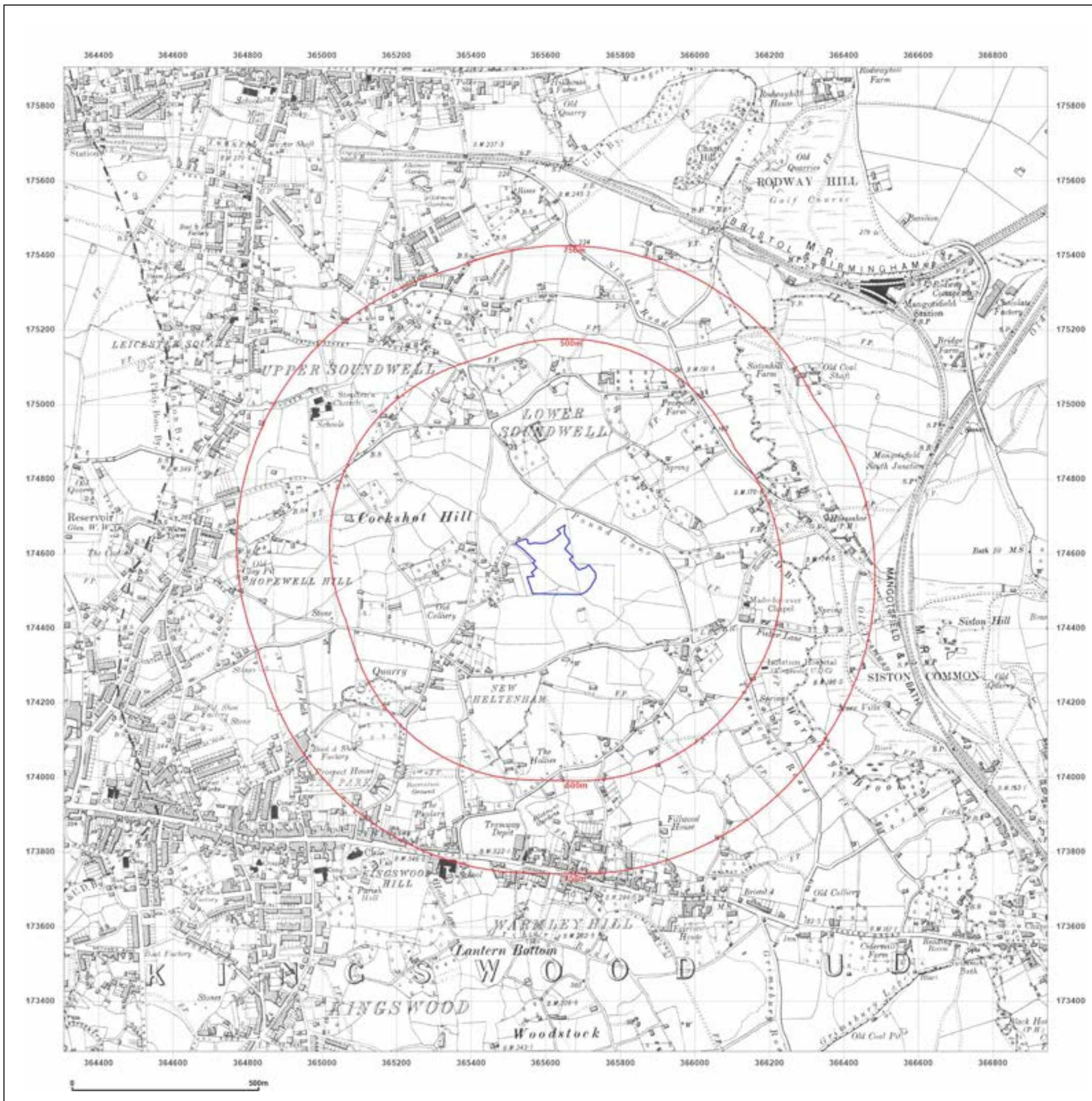


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1880
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

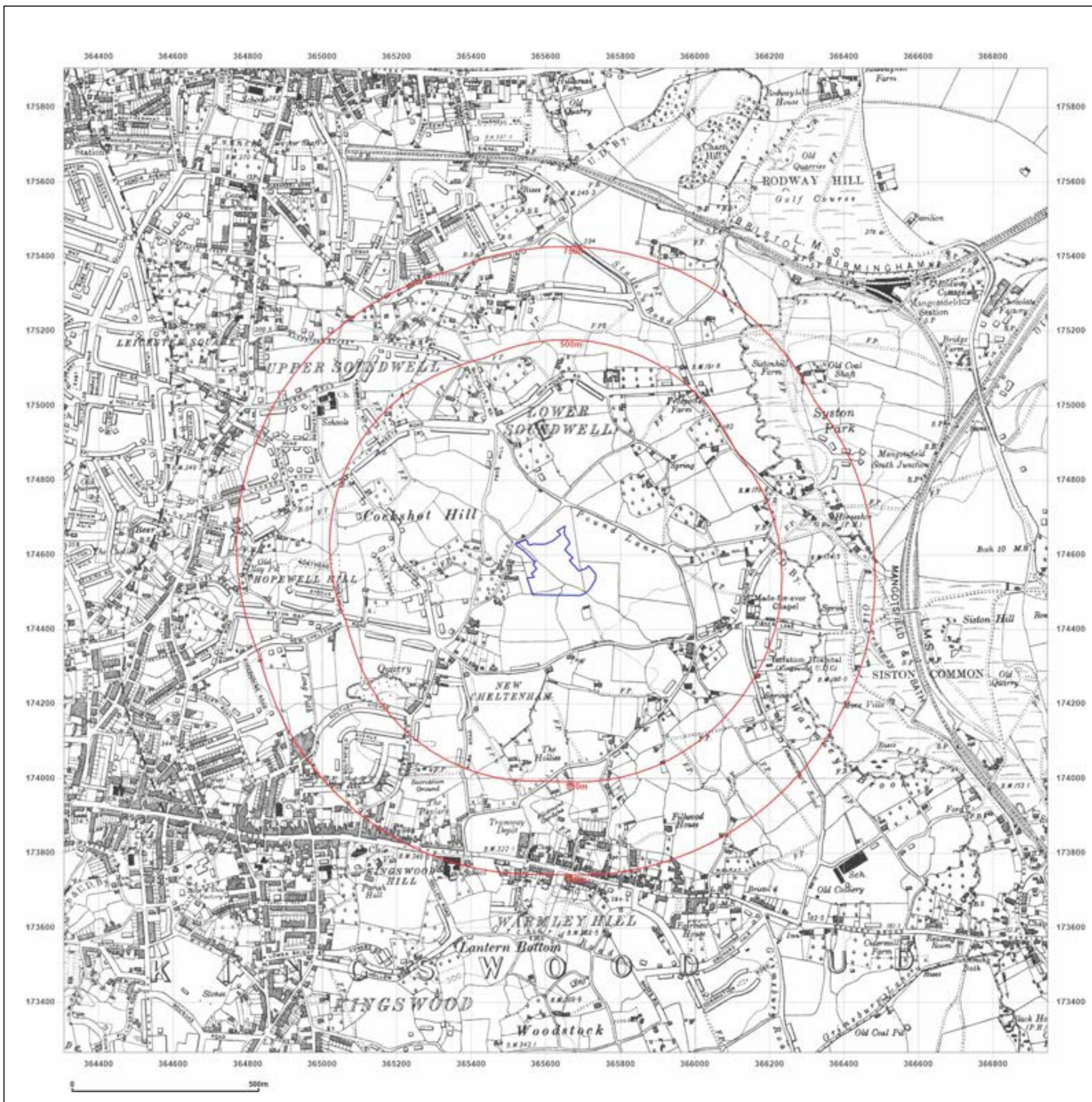


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1880
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A

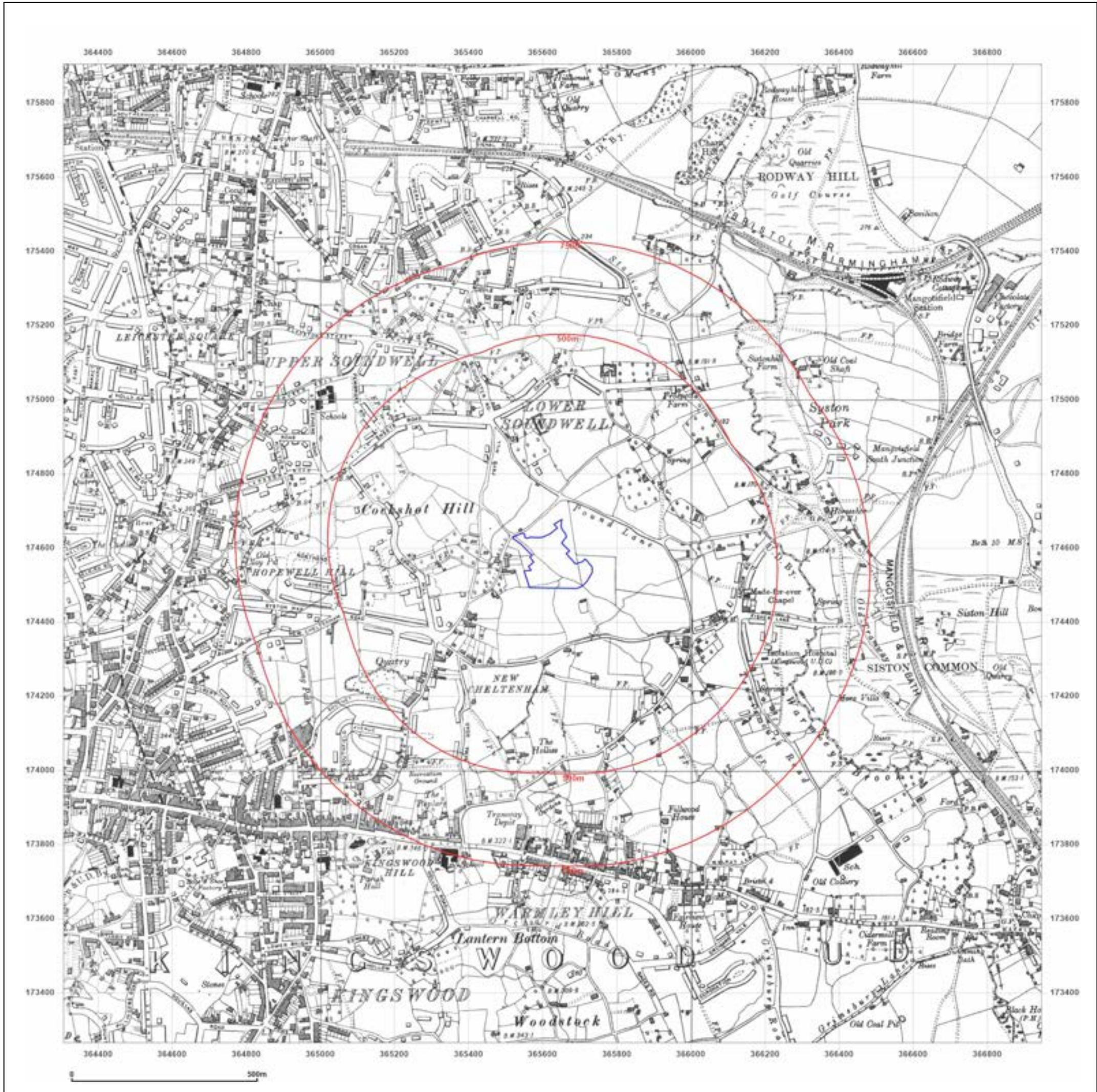


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: Provisional

Map date: 1953-1955

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A Revised 1954 Edition 1955 Copyright N/A Levelled N/A	Surveyed 1953 Revised 1953 Edition N/A Copyright N/A Levelled N/A
Surveyed 1955 Revised 1955 Edition N/A Copyright N/A Levelled N/A	Surveyed 1953 Revised 1953 Edition N/A Copyright N/A Levelled N/A



Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: Provisional

Map date: 1965-1969

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A Revised 1969 Edition 1955 Copyright N/A Levelled N/A		Surveyed 1965 Revised 1965 Edition N/A Copyright N/A Levelled N/A
---	--	---

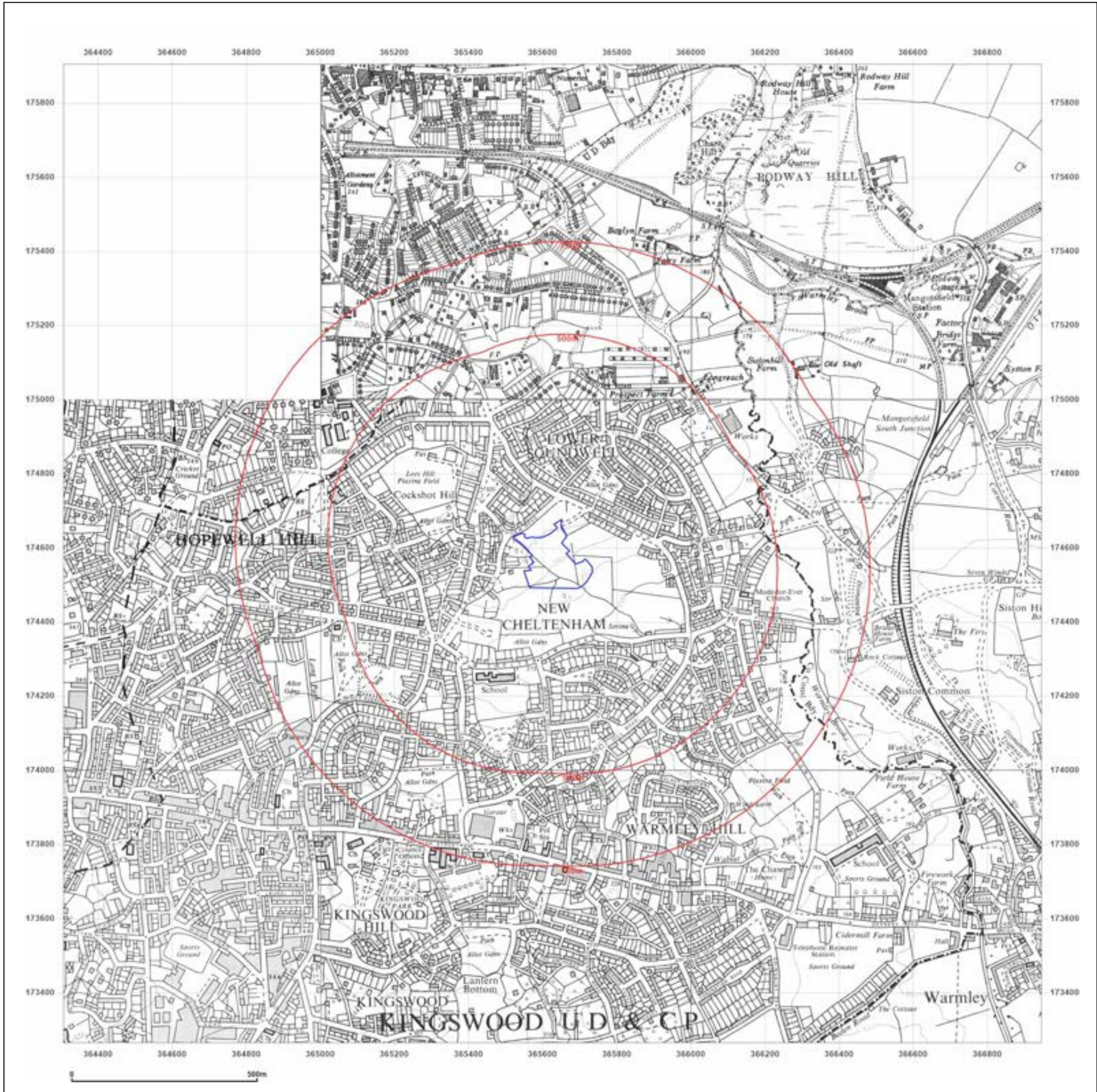


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

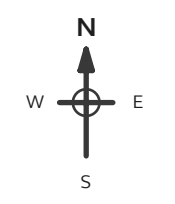
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

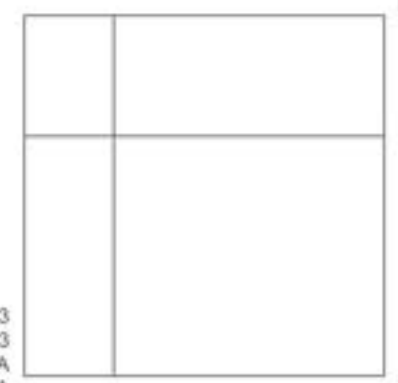
Map date: 1971-1973

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1971
Revised 1971
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1973
Revised 1973
Edition N/A
Copyright N/A
Levelled N/A

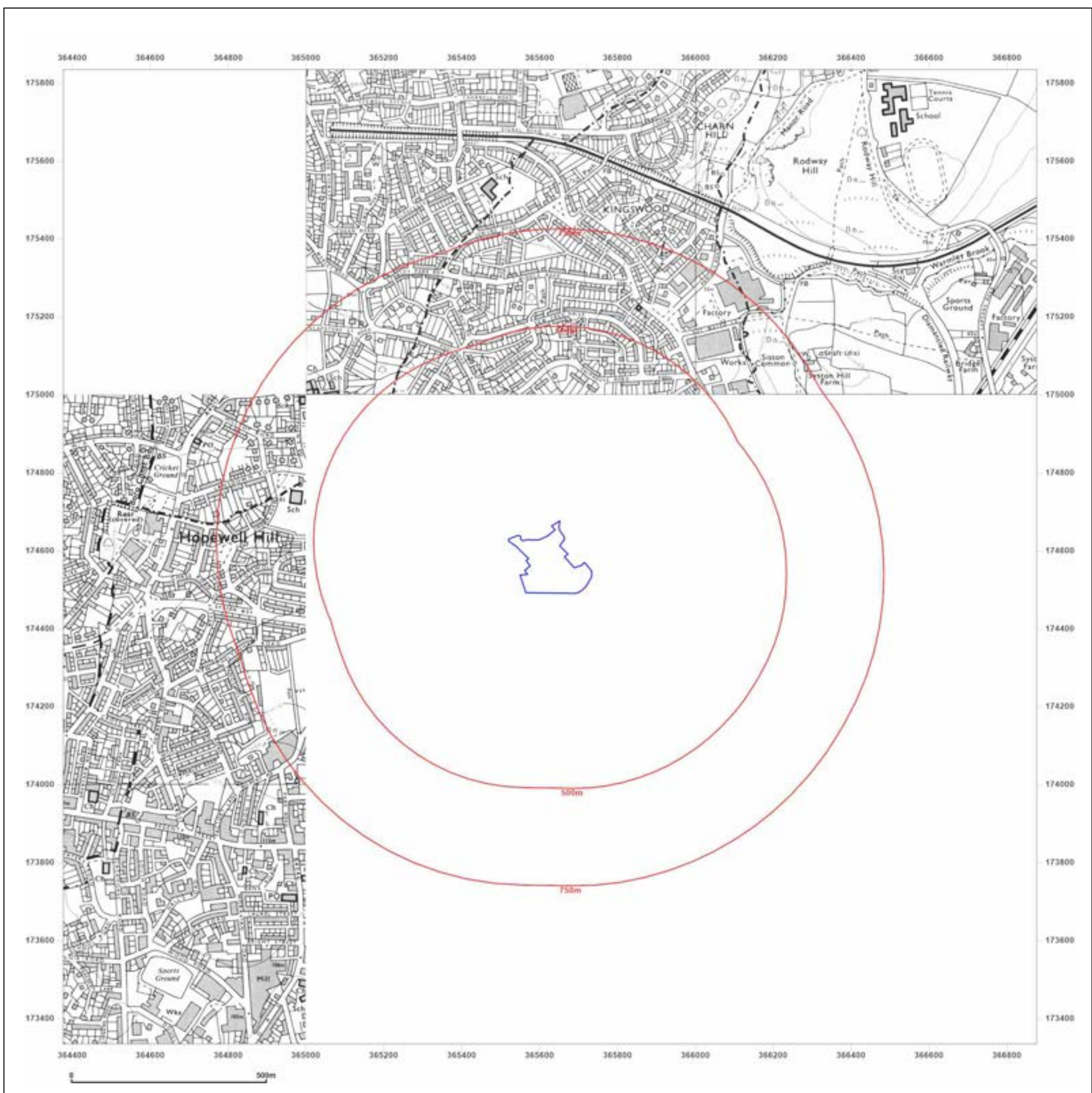


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

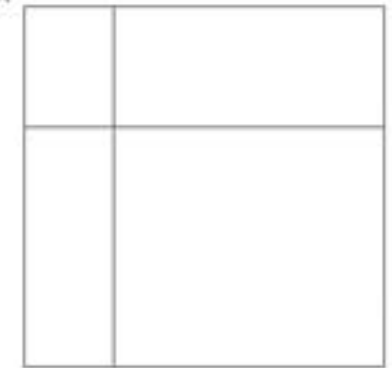
Map date: 1978-1983

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1977
Revised 1978
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1980
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A

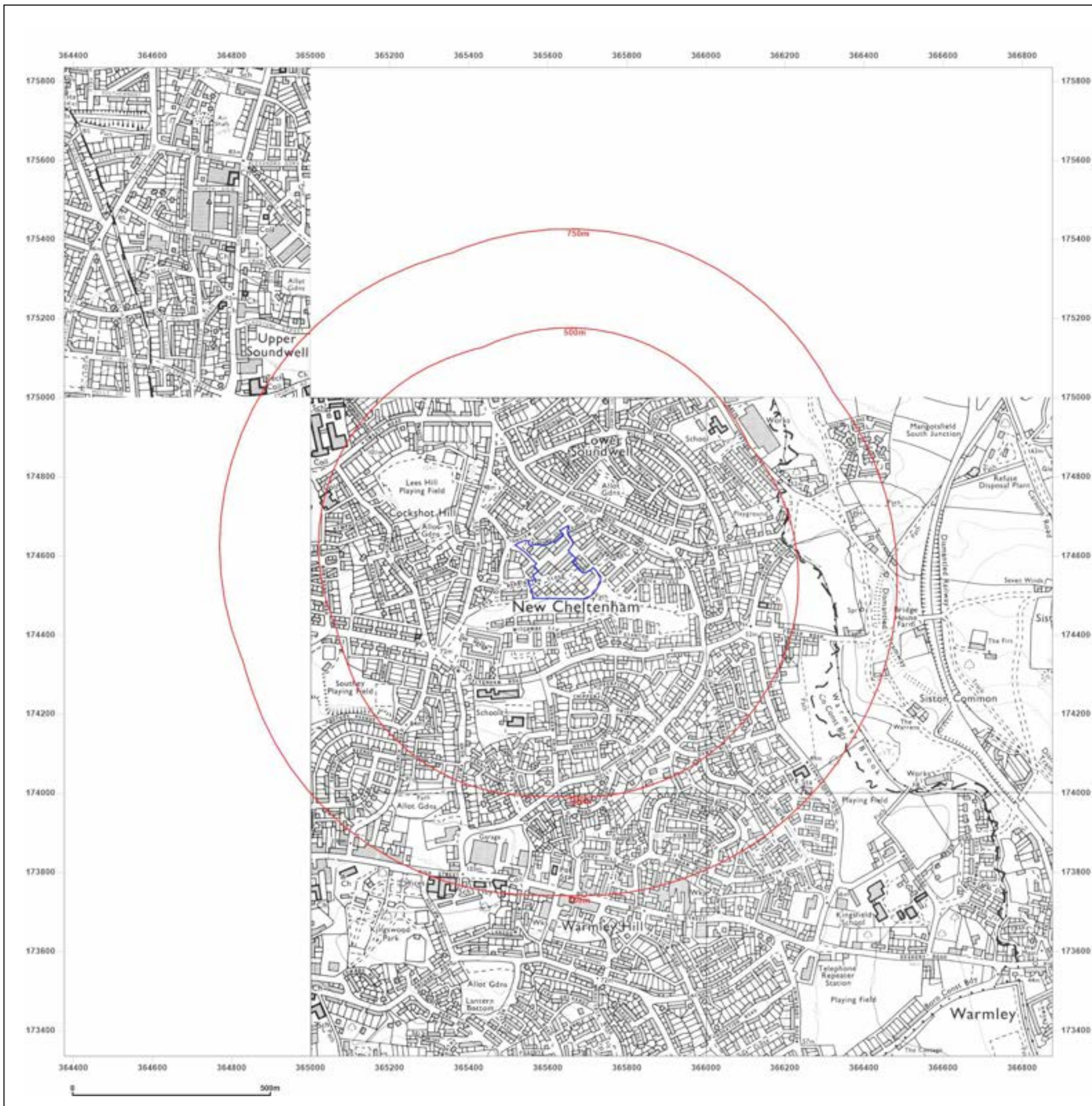


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 1986-1991

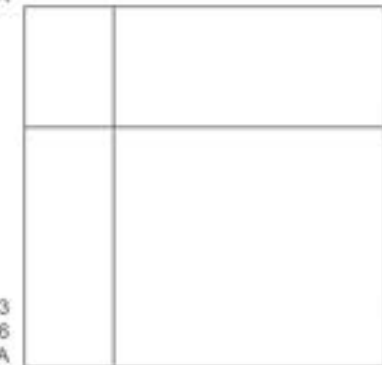
Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1988
Revised 1990
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1990
Revised 1991
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1983
Revised 1986
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1991
Revised 1991
Edition N/A
Copyright N/A
Levelled N/A

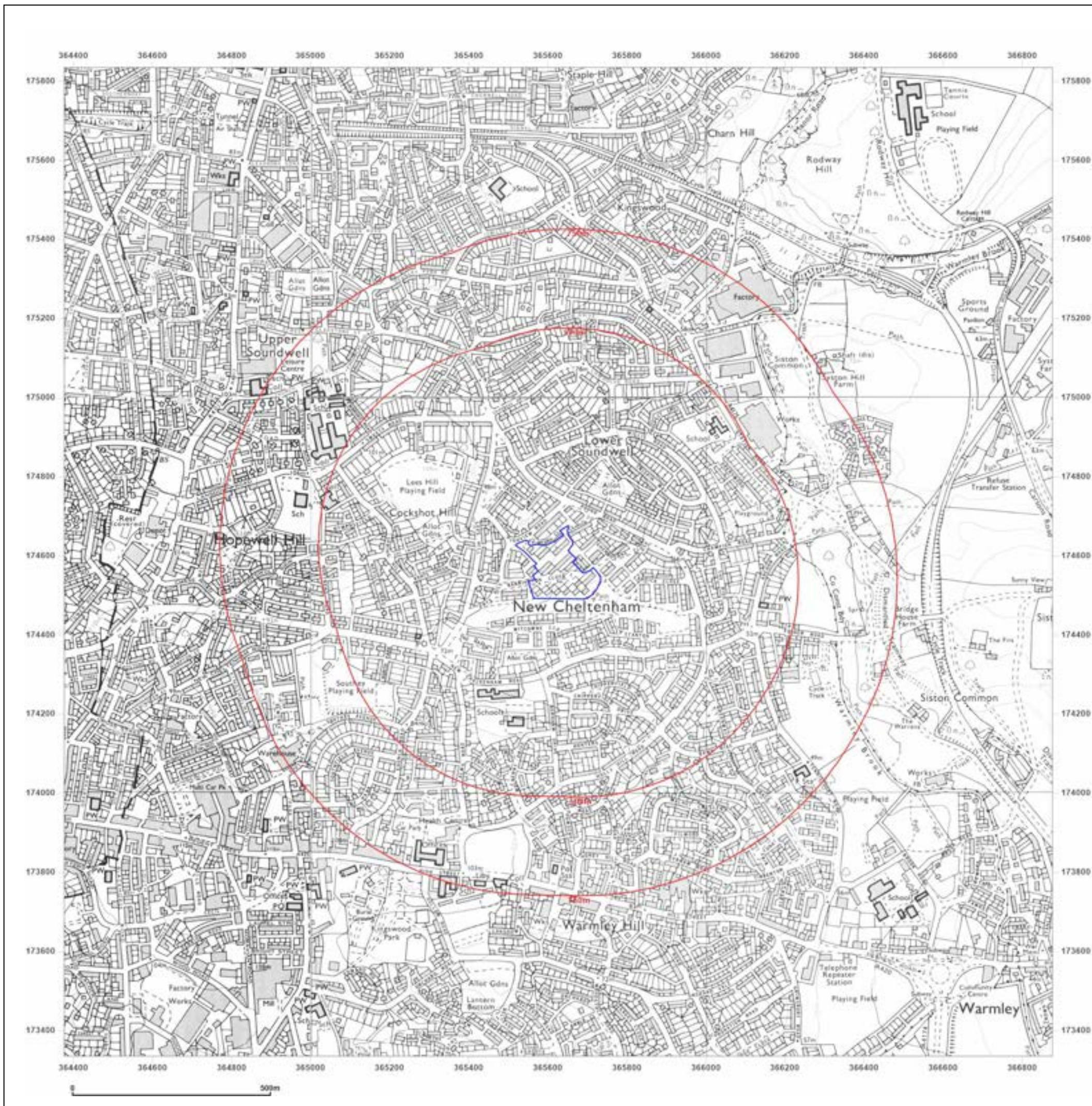


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

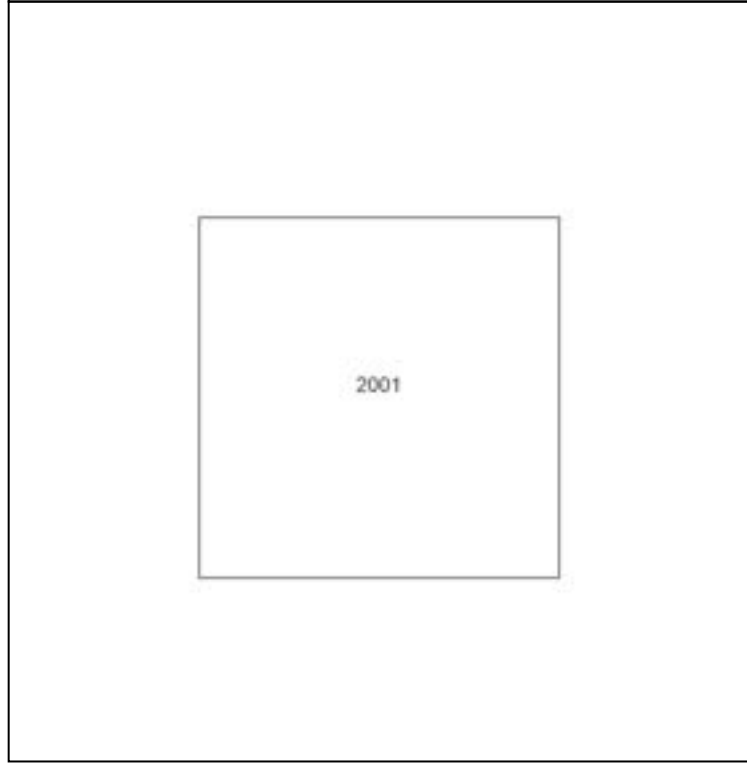
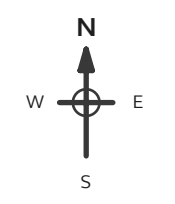
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

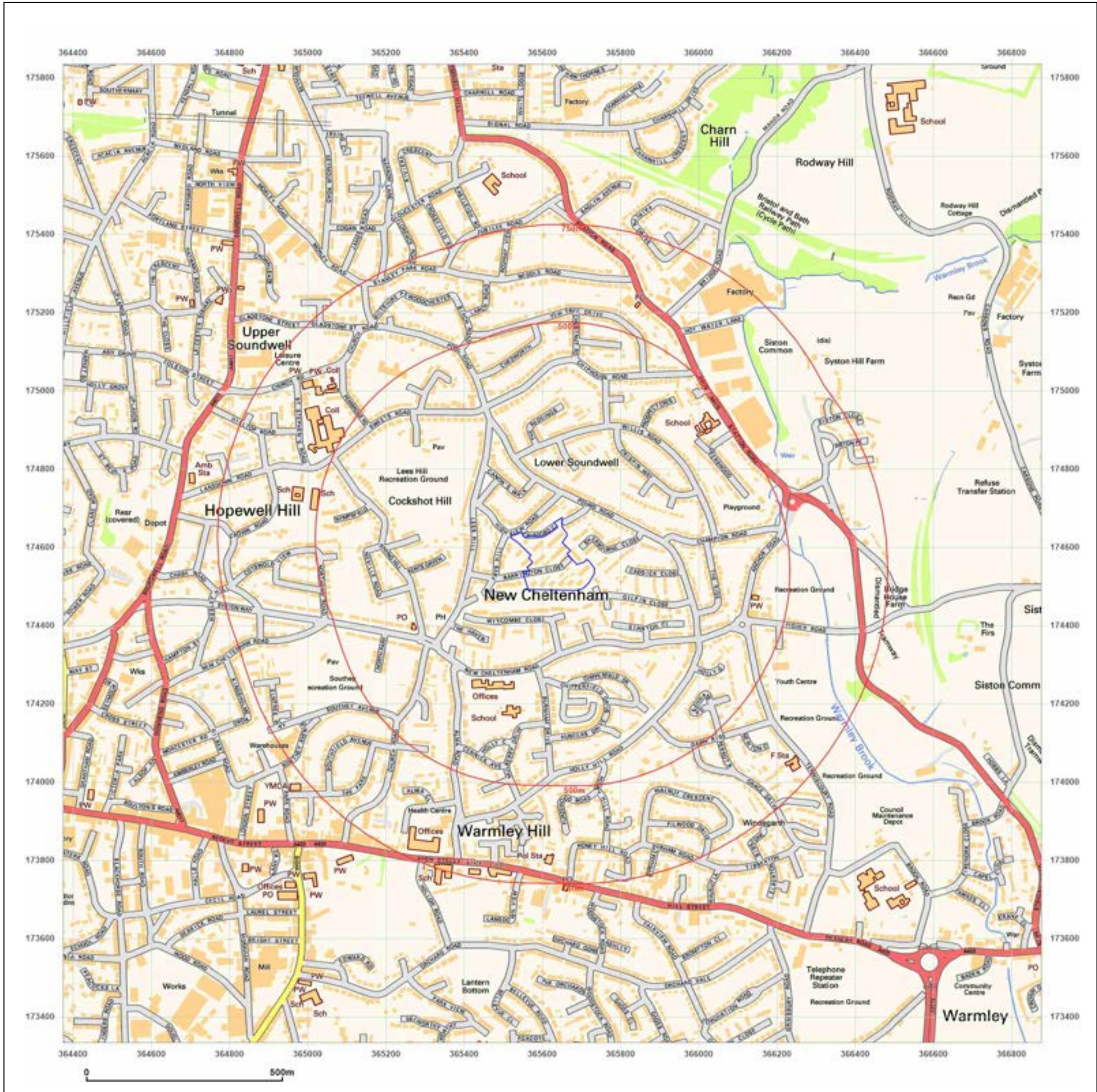


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

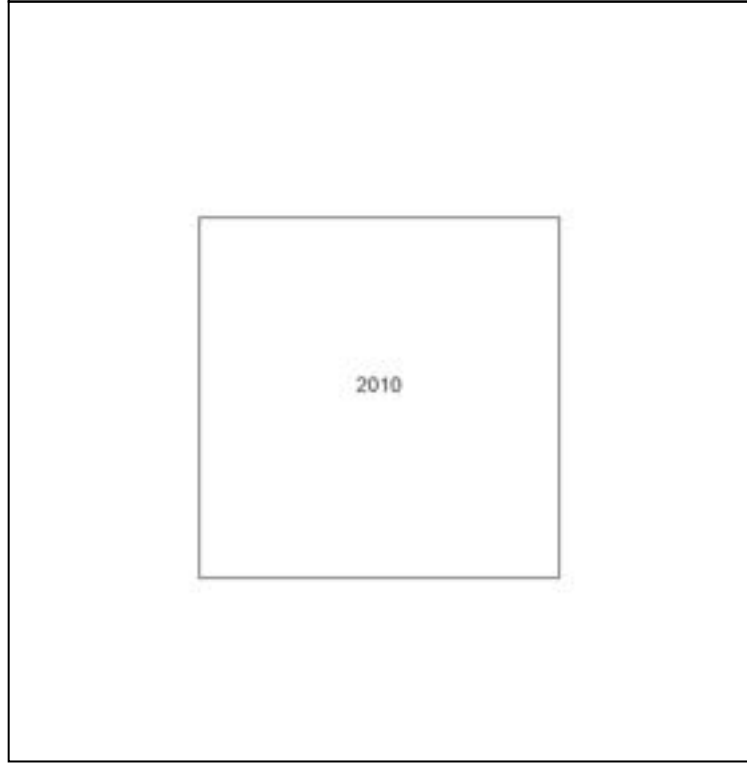
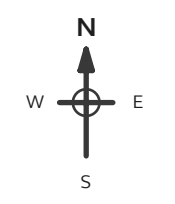
Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000

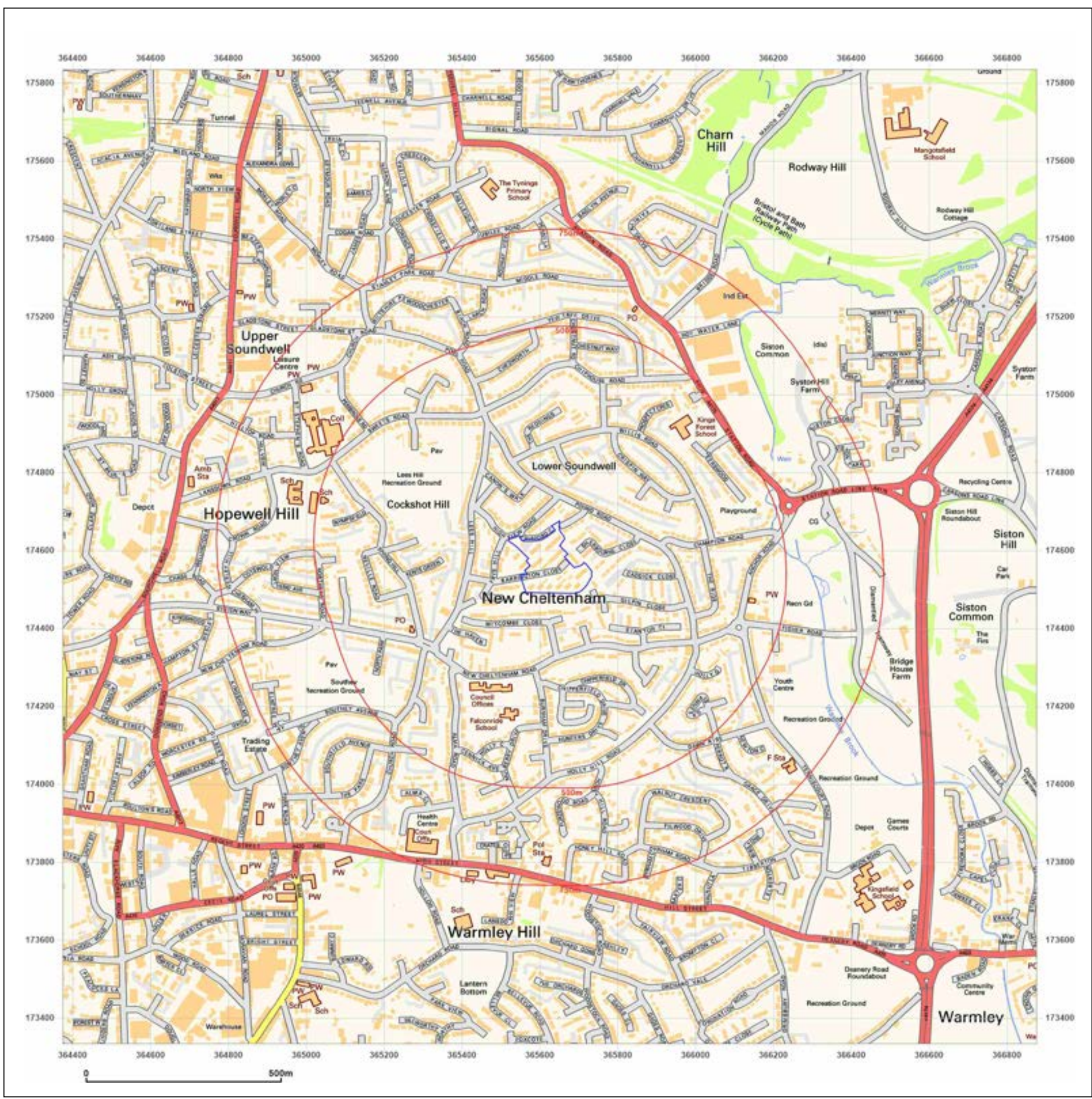


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

34, BARRINGTON CLOSE,
KINGSWOOD, BS15 4QD

Client Ref: 21-11-02
Report Ref: GS-8323134
Grid Ref: 365626, 174584

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000

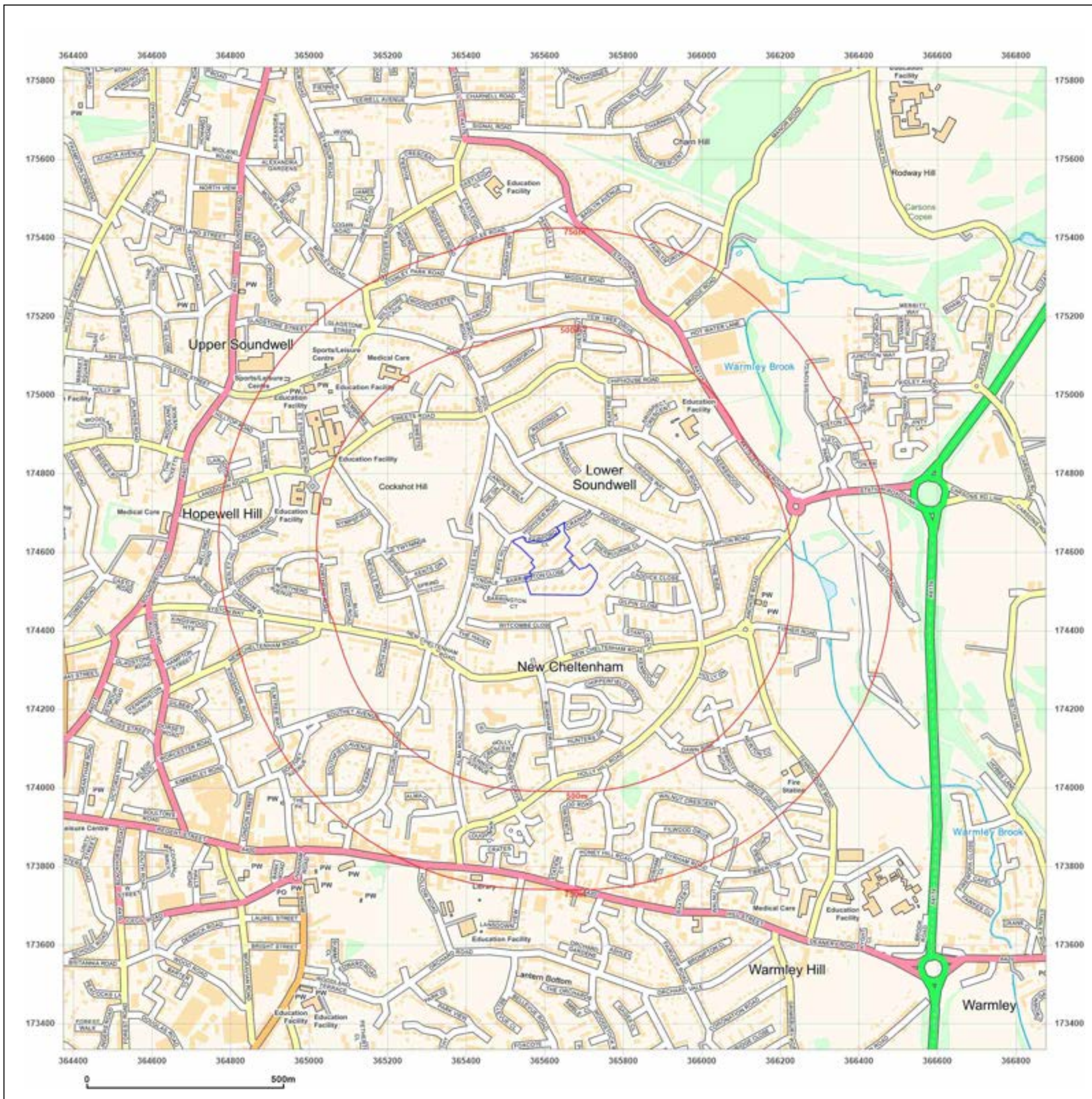


Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 09 November 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



34, BARRINGTON CLOSE, KINGSWOOD, BS15 4QD

Order Details

Date: 09/11/2021
Your ref: 21-11-02
Our Ref: GS-8323136
Client: Geo-Integrity Ltd

Site Details

Location: 365628 174556
Area: 2.04 ha
Authority: [South Gloucestershire Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	0	0	7	24	-
16	1.2	<u>Historical tanks</u>	0	0	1	4	-
16	1.3	<u>Historical energy features</u>	1	2	12	18	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	<u>Historical garages</u>	0	0	0	5	-
19	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
20	2.1	<u>Historical industrial land uses</u>	0	0	11	28	-
22	2.2	<u>Historical tanks</u>	0	0	1	4	-
22	2.3	<u>Historical energy features</u>	1	3	17	41	-
25	2.4	Historical petrol stations	0	0	0	0	-
25	2.5	<u>Historical garages</u>	0	0	0	10	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
27	3.1	Active or recent landfill	0	0	0	0	-
27	3.2	Historical landfill (BGS records)	0	0	0	0	-
28	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
28	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
28	3.5	Historical waste sites	0	0	0	0	-
28	3.6	Licensed waste sites	0	0	0	0	-
28	3.7	<u>Waste exemptions</u>	0	0	0	3	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
30	4.1	<u>Recent industrial land uses</u>	0	2	7	-	-
31	4.2	<u>Current or recent petrol stations</u>	0	0	0	1	-
31	4.3	Electricity cables	0	0	0	0	-
32	4.4	Gas pipelines	0	0	0	0	-
32	4.5	Sites determined as Contaminated Land	0	0	0	0	-



32	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
32	4.7	Regulated explosive sites	0	0	0	0	-
32	4.8	Hazardous substance storage/usage	0	0	0	0	-
33	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
33	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
33	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
33	4.12	Radioactive Substance Authorisations	0	0	0	0	-
33	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	0	7	-
35	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
35	4.15	Pollutant release to public sewer	0	0	0	0	-
35	4.16	List 1 Dangerous Substances	0	0	0	0	-
35	4.17	List 2 Dangerous Substances	0	0	0	0	-
35	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	2	-
36	4.19	Pollution inventory substances	0	0	0	0	-
36	4.20	Pollution inventory waste transfers	0	0	0	0	-
36	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
37	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
38	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
40	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
41	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
41	5.5	Groundwater vulnerability- local information	None (within 0m)				
42	5.6	Groundwater abstractions	0	0	0	0	0
42	5.7	Surface water abstractions	0	0	0	0	0
42	5.8	Potable abstractions	0	0	0	0	0
42	5.9	Source Protection Zones	0	0	0	0	-
43	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
44	6.1	Water Network (OS MasterMap)	0	0	0	-	-



44	6.2	Surface water features	0	0	0	-	-
45	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
45	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
46	6.5	<u>WFD Groundwater bodies</u>	2	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
47	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
47	7.2	Historical Flood Events	0	0	0	-	-
47	7.3	Flood Defences	0	0	0	-	-
48	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
48	7.5	Flood Storage Areas	0	0	0	-	-
49	7.6	Flood Zone 2	None (within 50m)				
49	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
50	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
52	9.1	<u>Groundwater flooding</u>	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
53	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
54	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
54	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
54	10.4	Special Protection Areas (SPA)	0	0	0	0	0
54	10.5	National Nature Reserves (NNR)	0	0	0	0	0
55	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
55	10.7	Designated Ancient Woodland	0	0	0	0	0
55	10.8	Biosphere Reserves	0	0	0	0	0
55	10.9	Forest Parks	0	0	0	0	0
56	10.10	Marine Conservation Zones	0	0	0	0	0
56	10.11	<u>Green Belt</u>	0	0	0	0	1
56	10.12	Proposed Ramsar sites	0	0	0	0	0



56	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
57	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
57	10.15	Nitrate Sensitive Areas	0	0	0	0	0
57	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
58	10.17	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
59	10.18	SSSI Units	0	0	0	0	0

Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
------	---------	----------------------------------	---------	-------	---------	----------	-----------

60	11.1	World Heritage Sites	0	0	0	-	-
60	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
60	11.3	National Parks	0	0	0	-	-
60	11.4	Listed Buildings	0	0	0	-	-
61	11.5	Conservation Areas	0	0	0	-	-
61	11.6	Scheduled Ancient Monuments	0	0	0	-	-
61	11.7	Registered Parks and Gardens	0	0	0	-	-

Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
------	---------	---------------------------	---------	-------	---------	----------	-----------

62	12.1	<u>Agricultural Land Classification</u>	Urban (within 250m)				
63	12.2	Open Access Land	0	0	0	-	-
63	12.3	Tree Felling Licences	0	0	0	-	-
63	12.4	Environmental Stewardship Schemes	0	0	0	-	-
63	12.5	Countryside Stewardship Schemes	0	0	0	-	-

Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
------	---------	----------------------	---------	-------	---------	----------	-----------

64	13.1	Priority Habitat Inventory	0	0	0	-	-
64	13.2	Habitat Networks	0	0	0	-	-
64	13.3	Open Mosaic Habitat	0	0	0	-	-
64	13.4	Limestone Pavement Orders	0	0	0	-	-

Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
------	---------	------------------------	---------	-------	---------	----------	-----------

65	14.1	<u>10k Availability</u>	Identified (within 500m)				
66	14.2	<u>Artificial and made ground (10k)</u>	0	0	2	2	-
68	14.3	<u>Superficial geology (10k)</u>	0	0	0	1	-



69	14.4	Landslip (10k)	0	0	0	0	-
70	14.5	<u>Bedrock geology (10k)</u>	3	1	3	7	-
71	14.6	<u>Bedrock faults and other linear features (10k)</u>	3	0	2	7	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
73	15.1	<u>50k Availability</u>	Identified (within 500m)				
74	15.2	<u>Artificial and made ground (50k)</u>	0	0	1	2	-
75	15.3	Artificial ground permeability (50k)	0	0	-	-	-
76	15.4	<u>Superficial geology (50k)</u>	0	0	0	1	-
77	15.5	Superficial permeability (50k)	None (within 50m)				
77	15.6	Landslip (50k)	0	0	0	0	-
77	15.7	Landslip permeability (50k)	None (within 50m)				
78	15.8	<u>Bedrock geology (50k)</u>	2	1	3	7	-
79	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
80	15.10	<u>Bedrock faults and other linear features (50k)</u>	3	0	4	11	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
81	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
82	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
84	17.2	<u>Running sands</u>	Negligible (within 50m)				
85	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
86	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
87	17.5	<u>Landslides</u>	Low (within 50m)				
89	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
90	18.1	Natural cavities	0	0	0	0	-
91	18.2	<u>BritPits</u>	0	0	0	4	-
92	18.3	<u>Surface ground workings</u>	0	0	11	-	-
92	18.4	<u>Underground workings</u>	0	0	3	1	10
93	18.5	Historical Mineral Planning Areas	0	0	0	0	-

93	18.6	<u>Non-coal mining</u>	1	0	0	1	2
94	18.7	Mining cavities	0	0	0	0	0
94	18.8	JPB mining areas	None (within 0m)				
94	18.9	<u>Coal mining</u>	Identified (within 0m)				
95	18.10	Brine areas	None (within 0m)				
95	18.11	Gypsum areas	None (within 0m)				
95	18.12	Tin mining	None (within 0m)				
95	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
96	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
97	20.1	<u>BGS Estimated Background Soil Chemistry</u>	5	5	-	-	-
98	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
98	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
99	21.1	Underground railways (London)	0	0	0	-	-
99	21.2	Underground railways (Non-London)	0	0	0	-	-
99	21.3	Railway tunnels	0	0	0	-	-
99	21.4	Historical railway and tunnel features	0	0	0	-	-
99	21.5	Royal Mail tunnels	0	0	0	-	-
100	21.6	Historical railways	0	0	0	-	-
100	21.7	Railways	0	0	0	-	-
100	21.8	Crossrail 1	0	0	0	0	-
100	21.9	Crossrail 2	0	0	0	0	-
100	21.10	HS2	0	0	0	0	-



Recent aerial photograph

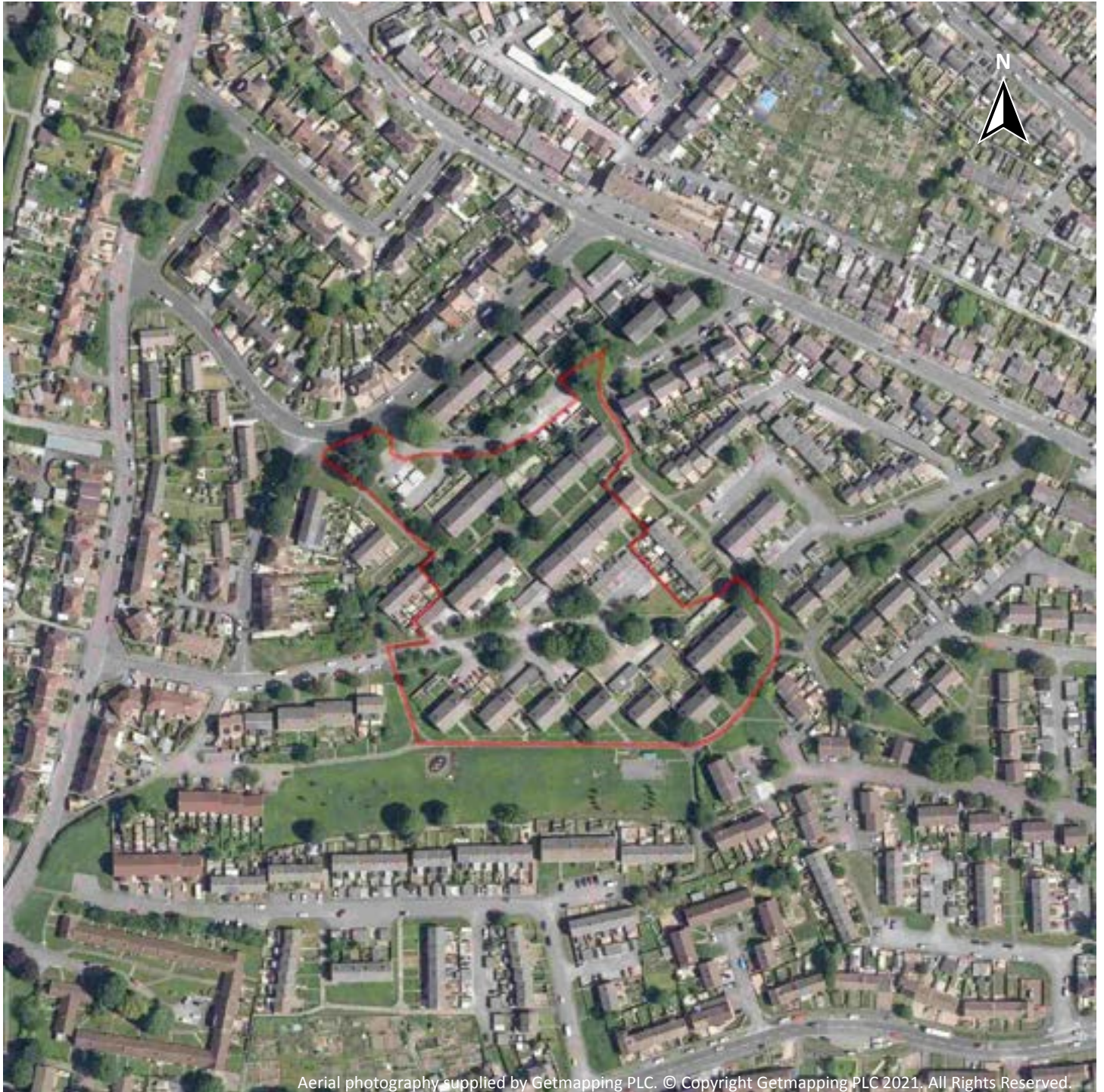


Capture Date: 06/05/2020

Site Area: 2.04ha



Recent site history - 2017 aerial photograph

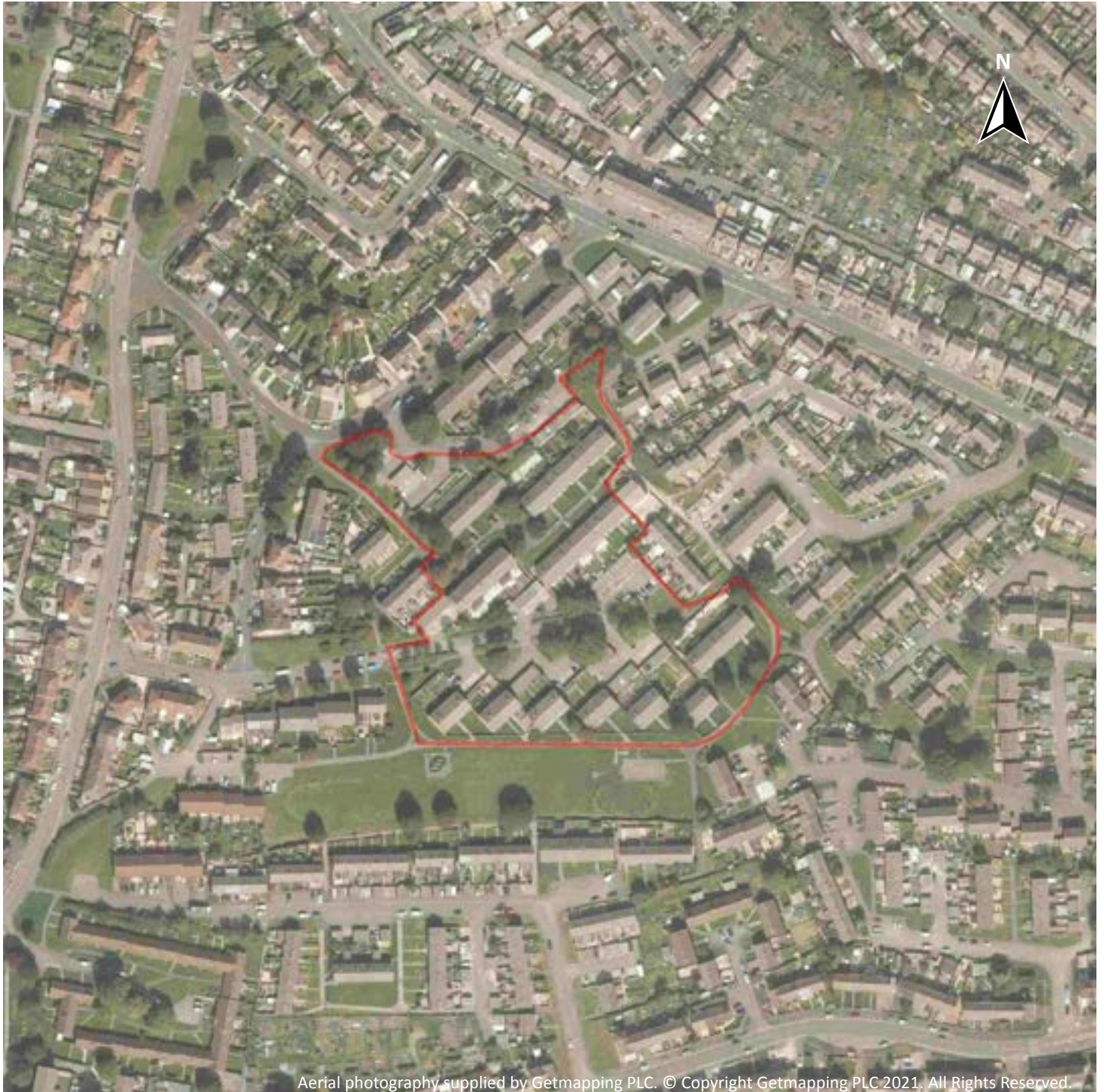


Capture Date: 14/06/2017

Site Area: 2.04ha



Recent site history - 2014 aerial photograph

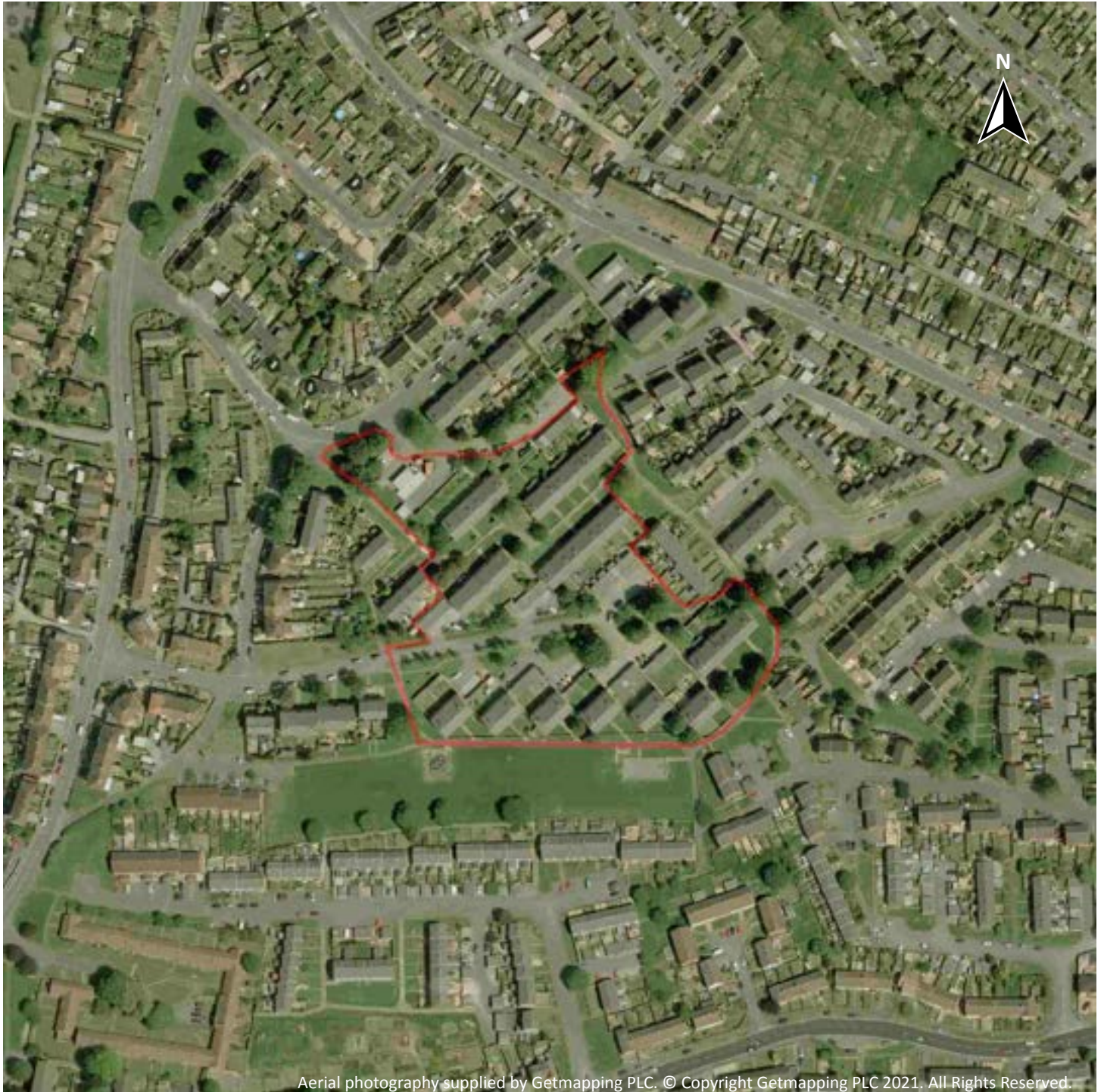


Capture Date: 09/09/2014

Site Area: 2.04ha



Recent site history - 2006 aerial photograph



Capture Date: 05/06/2006

Site Area: 2.04ha



Recent site history - 1999 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2021. All Rights Reserved.

Capture Date: 24/07/1999

Site Area: 2.04ha



OS MasterMap site plan



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Area: 2.04ha



1 Past land use



Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

1.1 Historical industrial land uses

Records within 500m

31

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
B	131m SW	Old Colliery	1912 - 1921	1268512

ID	Location	Land use	Dates present	Group ID
B	227m W	Unspecified Ground Workings	1887	1217368
B	227m W	Old Coal Pit	1881	1190631
B	228m W	Old Coal Pit	1902	1222866
B	229m W	Unspecified Heap	1912	1235593
B	230m W	Unspecified Heap	1938	1220830
B	244m W	Unspecified Heap	1921	1228436
B	262m W	Old Coal Pit	1887	1255033
B	262m W	Old Coal Pit	1887	1259806
5	380m N	Colliery	1887	1218996
J	403m E	Boiler Works	1881	1190884
J	404m E	Boiler Works	1887	1233839
L	409m SW	Unspecified Quarry	1887	1223695
L	409m SW	Unspecified Quarry	1887	1226357
L	415m SW	Unspecified Quarry	1912	1236825
L	415m SW	Unspecified Quarry	1881	1258373
L	417m SW	Unspecified Quarry	1921 - 1938	1232740
L	417m SW	Unspecified Quarry	1902	1239456
L	418m SW	Unspecified Quarry	1938	1220501
L	436m SW	Unspecified Ground Workings	1969	1205763
7	446m NE	Colliery	1881	1159715
O	462m SE	Isolation Hospital	1921 - 1938	1191046
L	463m SW	Unspecified Old Quarry	1953	1181040
P	463m SW	Unspecified Pits	1983	1167130
P	463m SW	Unspecified Ground Workings	1991	1258302
O	469m SE	Isolation Hospital	1912	1192290
O	481m SE	Isolation Hospital	1938	1266109
10	492m NE	Unspecified Foundry	1953	1165726
S	493m NE	Unspecified Works	1969	1194399



ID	Location	Land use	Dates present	Group ID
S	493m NE	Unspecified Works	1991	1217152
S	493m NE	Unspecified Works	1983	1271377

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	5
----------------------------	----------

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
G	246m N	Unspecified Tank	1916	174412
G	261m N	Unspecified Tank	1952	190282
G	262m N	Unspecified Tank	1952	181130
G	273m N	Unspecified Tank	1916	174414
9	474m W	Tanks	1975	169840

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	33
----------------------------	-----------

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
1	On site	Electricity Substation	1989 - 1992	108026



ID	Location	Land use	Dates present	Group ID
A	2m NW	Electricity Substation	1992	102163
A	3m NW	Electricity Substation	1989	102016
2	125m SE	Electricity Substation	1986 - 1992	112122
3	155m S	Electricity Substation	1967 - 1992	106567
C	177m N	Electricity Substation	1967 - 1989	106969
C	177m N	Electricity Substation	1992	103494
D	212m N	Electricity Substation	1952 - 1975	106175
D	213m N	Electricity Substation	1993	105643
E	218m W	Electricity Substation	1993	98297
E	218m W	Electricity Transformer	1975	99899
F	220m W	Electricity Substation	1993	113007
F	224m W	Electricity Substation	1969	107199
F	225m W	Electricity Transformer	1975	99898
H	250m NE	Electricity Substation	1989	107394
H	250m NE	Electricity Substation	1967 - 1992	107399
I	280m SE	Electricity Substation	1986 - 1992	112877
I	281m SE	Electricity Substation	1948 - 1967	108121
4	314m NE	Electricity Substation	1967 - 1992	108404
K	408m NW	Electricity Substation	1993	98295
K	412m NW	Electricity Transformer	1975	99900
6	429m E	Electricity Substation	1969 - 1994	106710
M	436m S	Electricity Substation	1948 - 1992	107602
M	436m S	Electricity Substation	1949 - 1952	112201
N	447m NE	Electricity Substation	1992	98292
N	452m NE	Electricity Substation	1994	111025
N	453m NE	Electricity Substation	1969 - 1977	102825
8	468m N	Electricity Substation	1991 - 1992	106741
Q	479m SE	Electricity Substation	1967 - 1986	103136



ID	Location	Land use	Dates present	Group ID
Q	479m SE	Electricity Substation	1992	109638
R	482m SE	Electricity Substation	1973 - 1992	110808
R	488m SE	Electricity Substation	1955	113453
O	497m SE	Electricity Substation	1973 - 1992	103914

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
----------------------------	----------

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	5
----------------------------	----------

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
J	430m E	Garage	1990 - 1992	34968
J	430m E	Garage	1990	32847
J	432m E	Garage	1964	33675
J	432m E	Garage	1948 - 1973	36969
J	432m E	Garage	1953	33787

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.







2 Past land use - un-grouped



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

— Site Outline

Search buffers in metres (m)

-  Historical industrial land uses
-  Historical tanks
-  Historical energy features
-  Historical garages

2.1 Historical industrial land uses

Records within 500m

39

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 20**

ID	Location	Land Use	Date	Group ID
D	131m SW	Old Colliery	1912	1268512
D	147m SW	Old Colliery	1921	1268512
D	227m W	Unspecified Ground Workings	1887	1217368

ID	Location	Land Use	Date	Group ID
D	227m W	Unspecified Ground Workings	1887	1217368
D	227m W	Old Coal Pit	1881	1190631
D	228m W	Old Coal Pit	1902	1222866
D	229m W	Unspecified Heap	1912	1235593
D	230m W	Unspecified Heap	1938	1220830
D	230m W	Unspecified Heap	1938	1220830
D	230m W	Unspecified Heap	1938	1220830
D	244m W	Unspecified Heap	1921	1228436
D	262m W	Old Coal Pit	1887	1255033
D	262m W	Old Coal Pit	1887	1259806
N	380m N	Colliery	1887	1218996
N	380m N	Colliery	1887	1218996
O	403m E	Boiler Works	1881	1190884
O	404m E	Boiler Works	1887	1233839
O	404m E	Boiler Works	1887	1233839
Q	409m SW	Unspecified Quarry	1887	1226357
Q	409m SW	Unspecified Quarry	1887	1223695
Q	415m SW	Unspecified Quarry	1912	1236825
Q	415m SW	Unspecified Quarry	1881	1258373
Q	417m SW	Unspecified Quarry	1921	1232740
Q	417m SW	Unspecified Quarry	1938	1232740
Q	417m SW	Unspecified Quarry	1902	1239456
Q	418m SW	Unspecified Quarry	1938	1220501
Q	436m SW	Unspecified Ground Workings	1969	1205763
1	446m NE	Colliery	1881	1159715
U	462m SE	Isolation Hospital	1921	1191046
Q	463m SW	Unspecified Old Quarry	1953	1181040
V	463m SW	Unspecified Ground Workings	1991	1258302



ID	Location	Land Use	Date	Group ID
V	463m SW	Unspecified Pits	1983	1167130
U	469m SE	Isolation Hospital	1912	1192290
U	481m SE	Isolation Hospital	1938	1266109
U	482m SE	Isolation Hospital	1938	1191046
3	492m NE	Unspecified Foundry	1953	1165726
Z	493m NE	Unspecified Works	1991	1217152
Z	493m NE	Unspecified Works	1983	1271377
Z	493m NE	Unspecified Works	1969	1194399

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

5

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 20**

ID	Location	Land Use	Date	Group ID
J	246m N	Unspecified Tank	1916	174412
J	261m N	Unspecified Tank	1952	190282
J	262m N	Unspecified Tank	1952	181130
J	273m N	Unspecified Tank	1916	174414
2	474m W	Tanks	1975	169840

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

62

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.



Features are displayed on the Past land use - un-grouped map on **page 20**

ID	Location	Land Use	Date	Group ID
A	On site	Electricity Substation	1989	108026
A	0m SW	Electricity Substation	1992	108026
B	2m NW	Electricity Substation	1992	102163
B	3m NW	Electricity Substation	1989	102016
C	125m SE	Electricity Substation	1986	112122
C	126m SE	Electricity Substation	1992	112122
E	155m S	Electricity Substation	1967	106567
E	155m S	Electricity Substation	1986	106567
E	156m S	Electricity Substation	1992	106567
F	177m N	Electricity Substation	1989	106969
F	177m N	Electricity Substation	1992	103494
F	178m N	Electricity Substation	1967	106969
G	212m N	Electricity Substation	1952	106175
G	212m N	Electricity Substation	1975	106175
G	213m N	Electricity Substation	1993	105643
H	218m W	Electricity Substation	1993	98297
H	218m W	Electricity Transformer	1975	99899
I	220m W	Electricity Substation	1993	113007
I	224m W	Electricity Substation	1969	107199
I	225m W	Electricity Transformer	1975	99898
K	250m NE	Electricity Substation	1989	107394
K	250m NE	Electricity Substation	1967	107399
K	250m NE	Electricity Substation	1992	107399
L	280m SE	Electricity Substation	1986	112877
L	280m SE	Electricity Substation	1992	112877
L	281m SE	Electricity Substation	1948	108121
L	281m SE	Electricity Substation	1967	108121



ID	Location	Land Use	Date	Group ID
L	281m SE	Electricity Substation	1952	108121
L	281m SE	Electricity Substation	1949	108121
L	281m SE	Electricity Substation	1952	108121
M	314m NE	Electricity Substation	1989	108404
M	314m NE	Electricity Substation	1992	108404
M	314m NE	Electricity Substation	1967	108404
P	408m NW	Electricity Substation	1993	98295
P	412m NW	Electricity Transformer	1975	99900
R	429m E	Electricity Substation	1992	106710
R	430m E	Electricity Substation	1969	106710
R	430m E	Electricity Substation	1994	106710
R	430m E	Electricity Substation	1977	106710
S	436m S	Electricity Substation	1948	107602
S	436m S	Electricity Substation	1949	112201
S	436m S	Electricity Substation	1967	107602
S	436m S	Electricity Substation	1952	107602
S	436m S	Electricity Substation	1952	112201
S	436m S	Electricity Substation	1992	107602
S	437m S	Electricity Substation	1986	107602
T	447m NE	Electricity Substation	1992	98292
T	452m NE	Electricity Substation	1994	111025
T	453m NE	Electricity Substation	1969	102825
T	454m NE	Electricity Substation	1977	102825
W	468m N	Electricity Substation	1991	106741
W	468m N	Electricity Substation	1992	106741
X	479m SE	Electricity Substation	1986	103136
X	479m SE	Electricity Substation	1967	103136
X	479m SE	Electricity Substation	1992	109638



ID	Location	Land Use	Date	Group ID
Y	482m SE	Electricity Substation	1973	110808
Y	483m SE	Electricity Substation	1990	110808
Y	483m SE	Electricity Substation	1992	110808
Y	488m SE	Electricity Substation	1955	113453
U	497m SE	Electricity Substation	1990	103914
U	499m SE	Electricity Substation	1973	103914
U	499m SE	Electricity Substation	1992	103914

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
----------------------------	----------

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	10
----------------------------	-----------

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 20**

ID	Location	Land Use	Date	Group ID
O	430m E	Garage	1990	34968
O	430m E	Garage	1990	32847
O	431m E	Garage	1992	34968
O	432m E	Garage	1964	33675
O	432m E	Garage	1955	36969
O	432m E	Garage	1948	36969

ID	Location	Land Use	Date	Group ID
O	432m E	Garage	1961	36969
O	432m E	Garage	1973	36969
O	432m E	Garage	1950	36969
O	432m E	Garage	1953	33787

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

- Site Outline
- Search buffers in metres (m)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m **0**

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m **0**

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m **0**

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m **0**

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m **3**

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 27**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	350m N	1c Pool Road BRISTOL BS15 1XL	EPR/RF0708FH /A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal

ID	Location	Site	Reference	Category	Sub-Category	Description
A	354m N	1C, POOL ROAD, BRISTOL, BS15 1XL	WEX273609	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	354m N	1C, POOL ROAD, BRISTOL, BS15 1XL	WEX082768	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- ▲ Current or recent petrol stations
- ◆ Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

4.1 Recent industrial land uses

Records within 250m

9

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 30**

ID	Location	Company	Address	Activity	Category
1	1m SW	Electricity Sub Station	Gloucestershire, BS15	Electrical Features	Infrastructure and Facilities
2	3m NW	Electricity Sub Station	Gloucestershire, BS15	Electrical Features	Infrastructure and Facilities
3	55m W	Nextclerk Ltd	30, Frys Hill, Bristol, Gloucestershire, BS15 4QJ	Aviation Engineers	Engineering Services

ID	Location	Company	Address	Activity	Category
4	119m SE	Electricity Sub Station	Gloucestershire, BS15	Electrical Features	Infrastructure and Facilities
5	156m S	Electricity Sub Station	Gloucestershire, BS15	Electrical Features	Infrastructure and Facilities
6	180m N	Electricity Sub Station	Gloucestershire, BS15	Electrical Features	Infrastructure and Facilities
7	213m W	Electricity Sub Station	Gloucestershire, BS15	Electrical Features	Infrastructure and Facilities
8	220m N	Electricity Sub Station	Gloucestershire, BS15	Electrical Features	Infrastructure and Facilities
9	225m W	Electricity Sub Station	Gloucestershire, BS15	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 30**

ID	Location	Company	Address	LPG	Status
16	459m E	UNBRANDED	11, Fisher Road, New Cheltenham, Bristol, South Gloucestershire, BS15 4RQ	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.



4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.



4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m

0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m

7

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 30**



ID	Location	Address	Details	
10	266m SW	NEW CHELTENHAM ROAD, KINGSWOOD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 010735 Permit Version: 1 Receiving Water: WARMLEY BROOK	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: - Effective Date: 12/09/1989 Revocation Date: 05/05/2000
11	300m SW	CHURCH ROAD, KINGSWOOD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 010734 Permit Version: 1 Receiving Water: WARMLEY BROOK	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: - Effective Date: 12/09/1989 Revocation Date: 05/05/2000
12	318m SE	NEW CHELTENHAM ROAD, KINGSWOOD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 010736 Permit Version: 1 Receiving Water: WARMLEY BROOK	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: - Effective Date: 12/09/1989 Revocation Date: 05/05/2000
A	379m SE	HOLLY HILL ROAD CSO, KINGSWOOD, BRISTOL, BS15 4RD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100898 Permit Version: 1 Receiving Water: WARMLEY BROOK(S)	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 05/05/2000 Effective Date: 05/05/2000 Revocation Date: 21/04/2014
A	379m SE	HOLLY HILL ROAD CSO, KINGSWOOD, BRISTOL, BS15 4RD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 100898 Permit Version: 2 Receiving Water: WARMLEY BROOK(S)	Status: VARIED UNDER EPR 2010 Issue date: 22/04/2014 Effective Date: 22/04/2014 Revocation Date: 20/01/2021
14	403m E	ANCHOR ROAD, KINGSWOOD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 010737 Permit Version: 1 Receiving Water: WARMLEY BROOK	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: - Effective Date: 12/09/1989 Revocation Date: 05/05/2000
15	433m SE	DAWN RISE, KINGSWOOD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 010755 Permit Version: 1 Receiving Water: WARLEY BROOK	Status: TEMPORARY CONSENTS (WATER ACT 1989, SECTION 113) Issue date: - Effective Date: 12/09/1989 Revocation Date: 05/05/2000

This data is sourced from the Environment Agency and Natural Resources Wales.



4.14 Pollutant release to surface waters (Red List)

Records within 500m	0
---------------------	---

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0
---------------------	---

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0
---------------------	---

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0
---------------------	---

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	2
---------------------	---

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 30**

ID	Location	Details	
13	402m NE	Incident Date: 08/09/2003 Incident Identification: 188282 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
17	485m E	Incident Date: 14/03/2003 Incident Identification: 143177 Pollutant: Oils and Fuel Pollutant Description: Gas and Fuel Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0
----------------------------	----------

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0
----------------------------	----------

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory radioactive waste

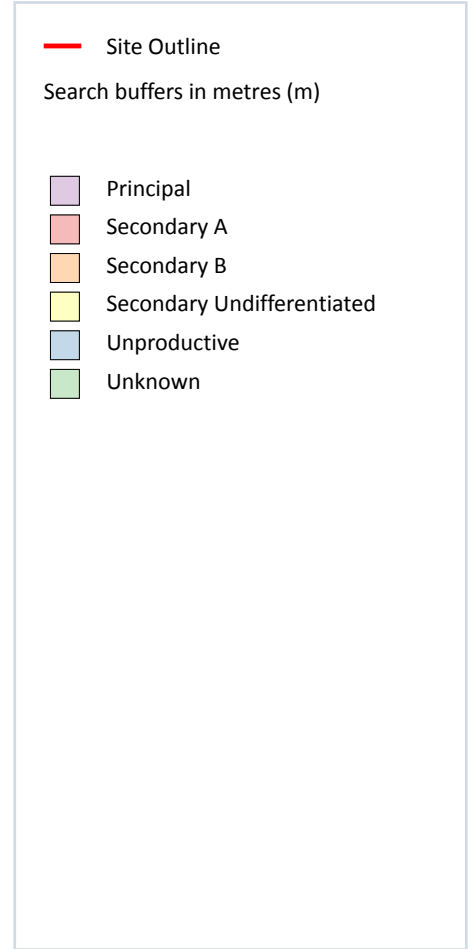
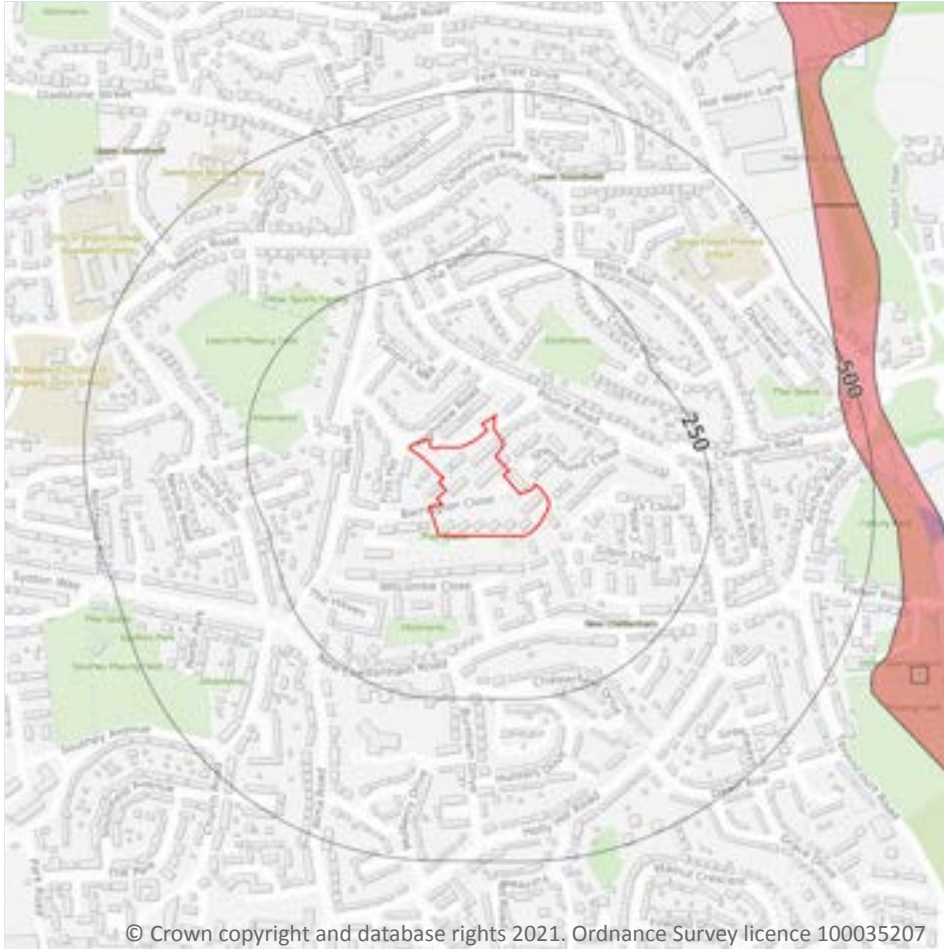
Records within 500m	0
----------------------------	----------

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

1

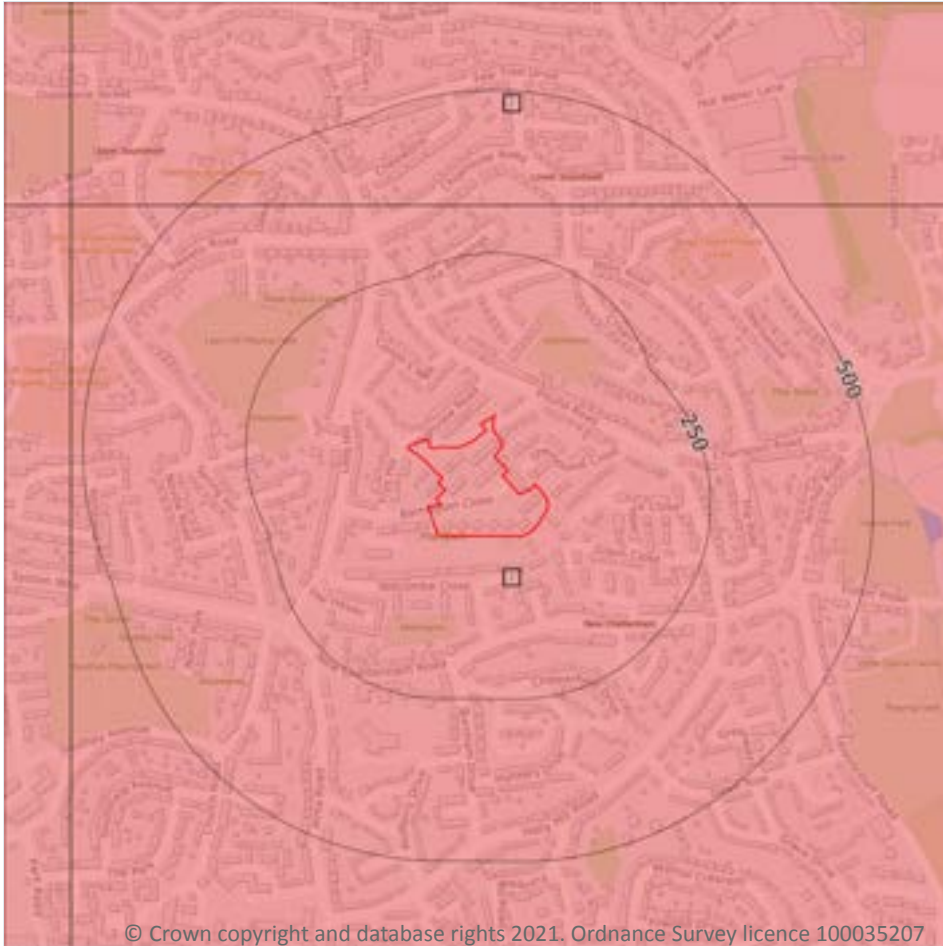
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 37**

ID	Location	Designation	Description
1	472m E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

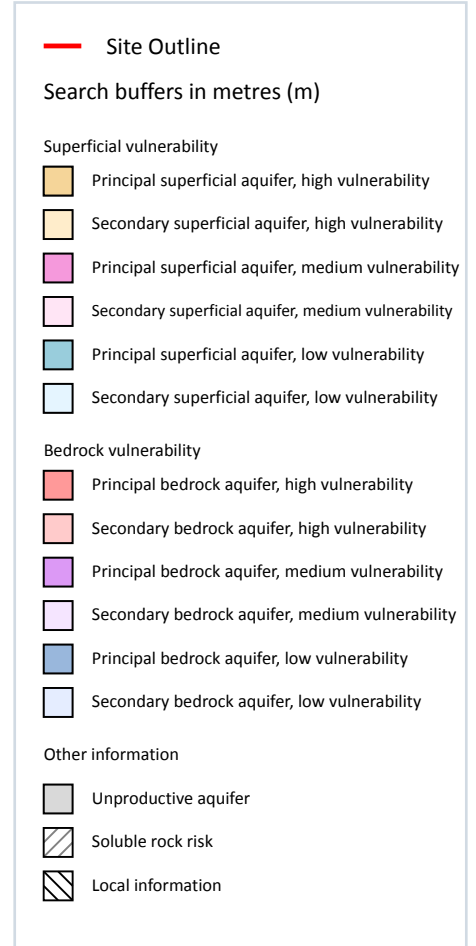
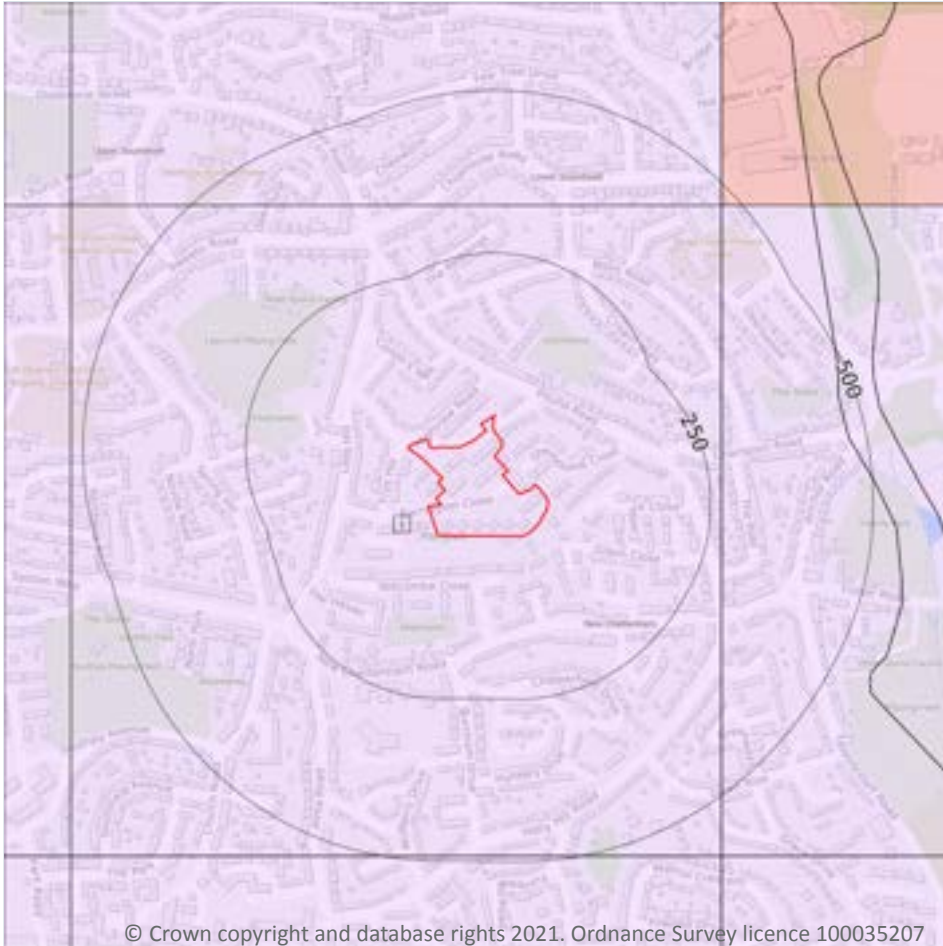
Features are displayed on the Bedrock aquifer map on **page 38**

ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	323m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 40**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0
------------------------	----------

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

Records on site	0
------------------------	----------

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones

5.6 Groundwater abstractions

Records within 2000m	0
----------------------	---

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	0
----------------------	---

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	0
----------------------	---

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0
---------------------	---

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.



5.10 Source Protection Zones (confined aquifer)

Records within 500m

0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- ⊞ WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1
------------------------	----------

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 44**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River WB catchment	Siston Bk - source to conf R Avon (Brist)	GB109053027450	Bristol Avon Urban	Avon Bristol and North Somerset Streams

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1
---------------------------	----------

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 44**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1662m E	River	Siston Bk - source to conf R Avon (Brist)	GB109053027450	Moderate	Good	Moderate	2016

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site

2

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 44**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Bristol Triassic	GB40902G804800	Poor	Poor	Good	2015
A	On site	Bristol Triassic	GB40902G804800	Poor	Poor	Good	2016

This data is sourced from the Environment Agency and Natural Resources Wales.



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m

0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m

0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m

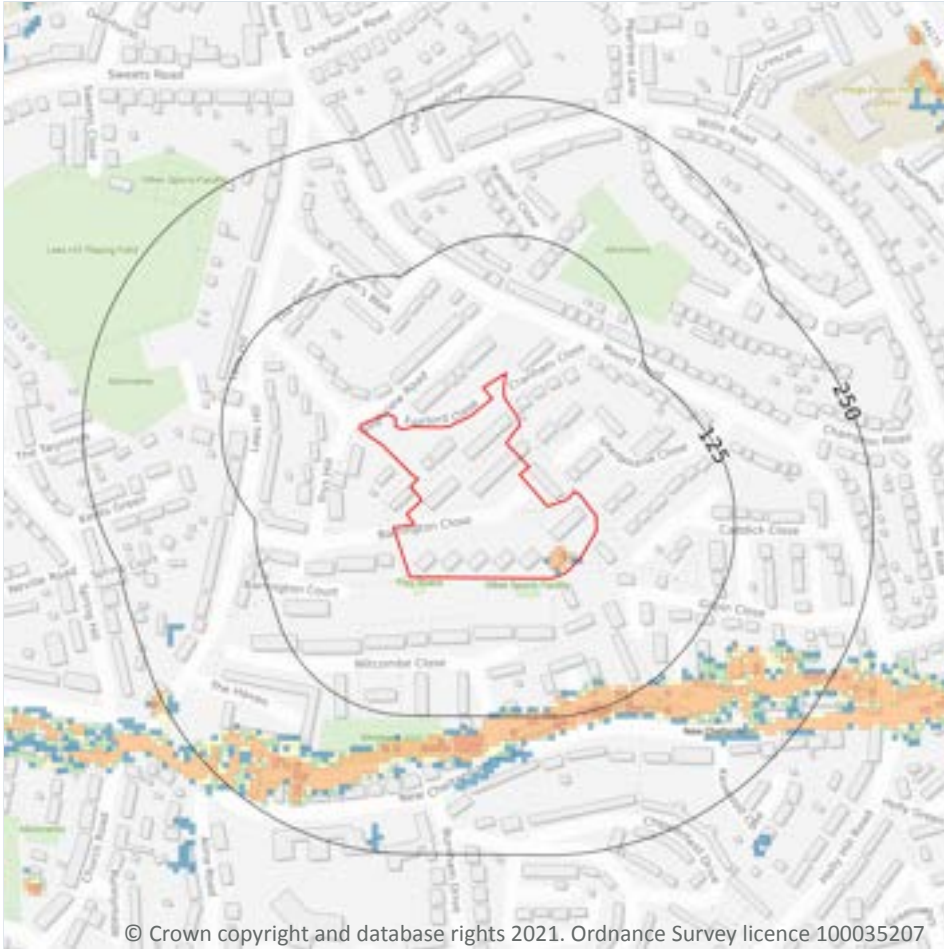
0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.3m - 1.0m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 50**

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 52**

This data is sourced from Ambient Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m

0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m

0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.6 Local Nature Reserves (LNR)

Records within 2000m

0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

0

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.



10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m

1

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 53**

ID	Location	Name	Local Authority name
1	859m E	Bath and Bristol	South Gloucestershire

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

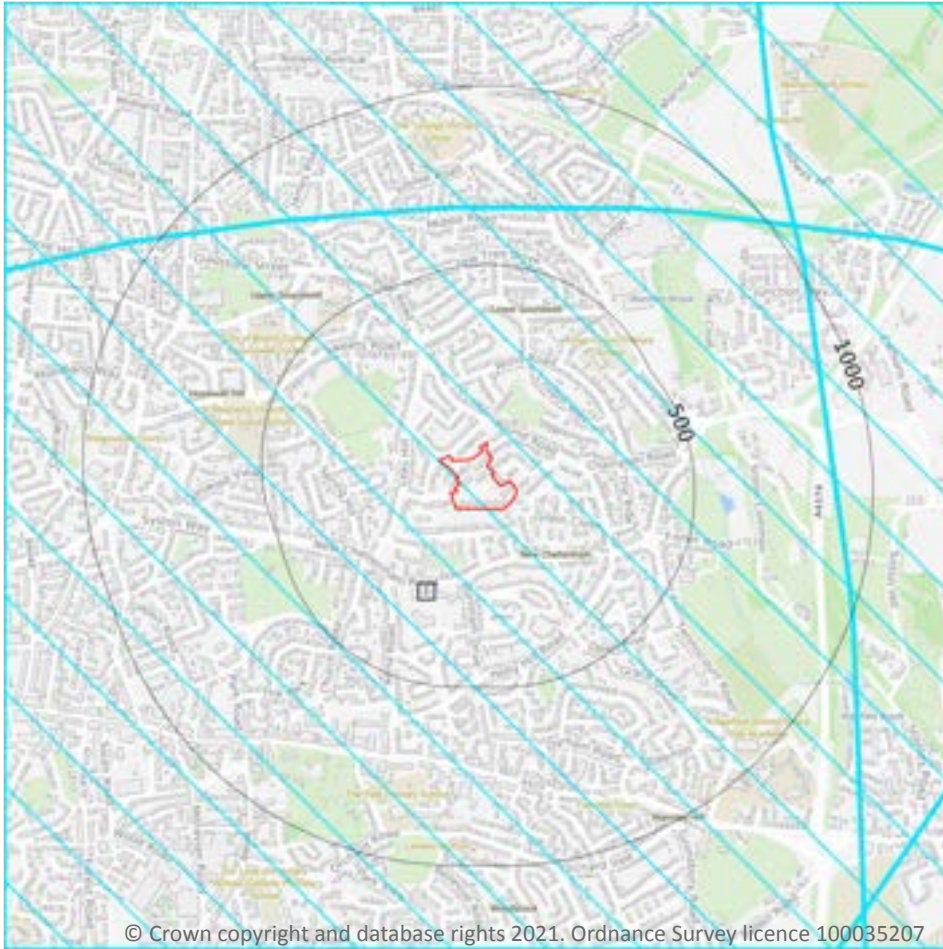
0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 58**

ID	Location	Type of developments requiring consultation
1	On site	<p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Oil & gas exploration/extraction.</p> <p>Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t.</p> <p>Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion</p> <p>Discharges - Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location)</p>

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0
----------------------	---

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.



This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m

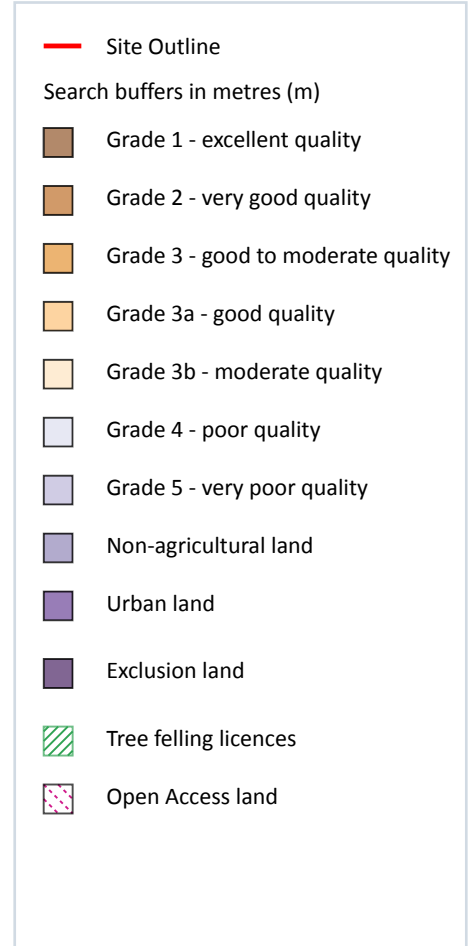
0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



12 Agricultural designations



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

12.1 Agricultural Land Classification

Records within 250m

1

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 62**

ID	Location	Classification	Description
1	On site	Urban	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.



13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m

0

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

2

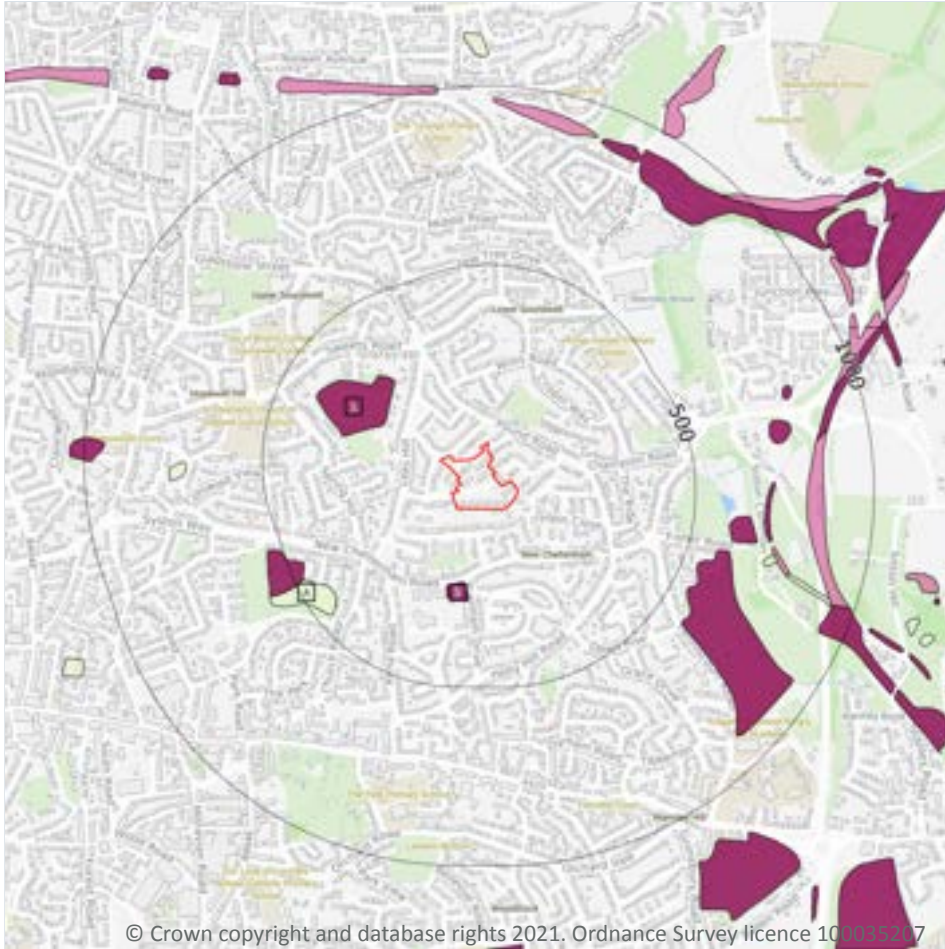
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 65**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	ST67SE
2	323m N	Full	Full	Full	No coverage	ST67NE

This data is sourced from the British Geological Survey.

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



— Site Outline
Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

4

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 66**

ID	Location	LEX Code	Description	Rock description
1	190m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	205m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	418m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	456m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

- 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

1

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 68**

ID	Location	LEX Code	Description	Rock description
1	466m E	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

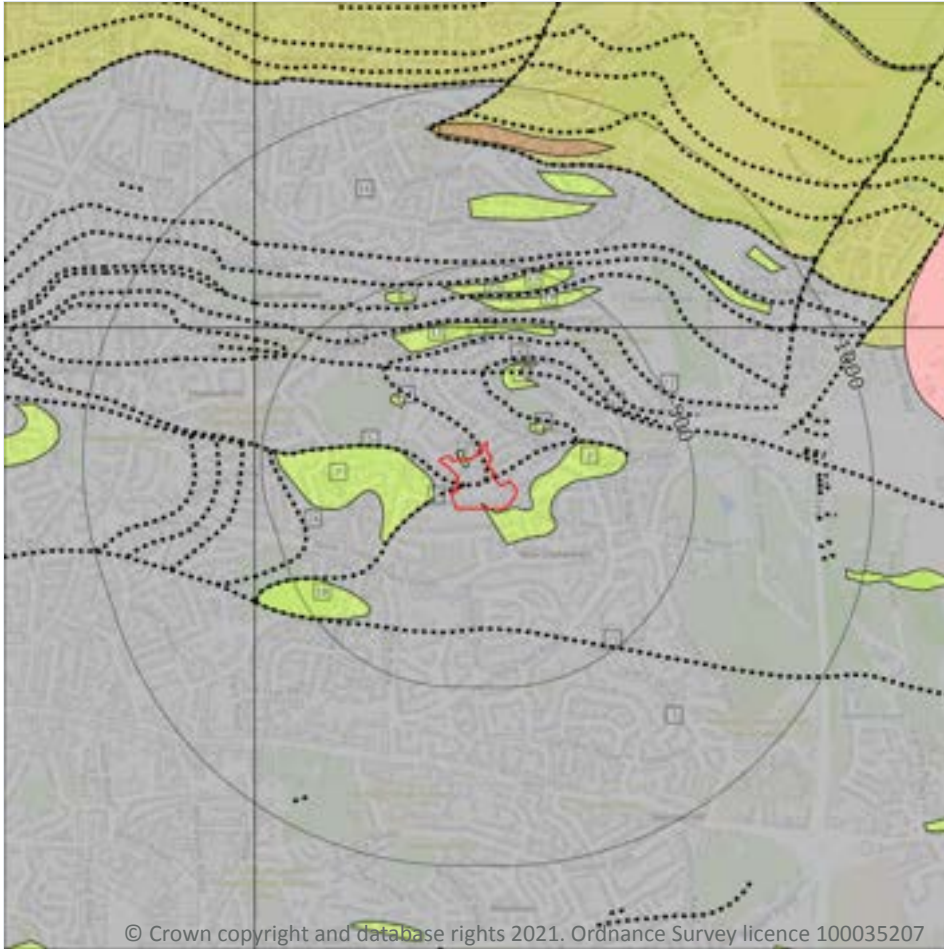
0

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.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (10k)
- Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

14

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 70**

ID	Location	LEX Code	Description	Rock age
1	On site	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
2	On site	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age

ID	Location	LEX Code	Description	Rock age
3	On site	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
7	49m W	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
9	124m E	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
10	162m NE	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
11	181m NW	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
13	303m NW	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
14	323m N	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
16	336m N	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
18	366m SW	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
19	373m N	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
23	419m N	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
25	442m N	SWMCM-SDST	South Wales Middle Coal Measures Formation - Sandstone	Bolsovia Sub-age - Duckmantian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

12

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 70**

ID	Location	Category	Description
4	On site	ROCK	Coal seam, inferred

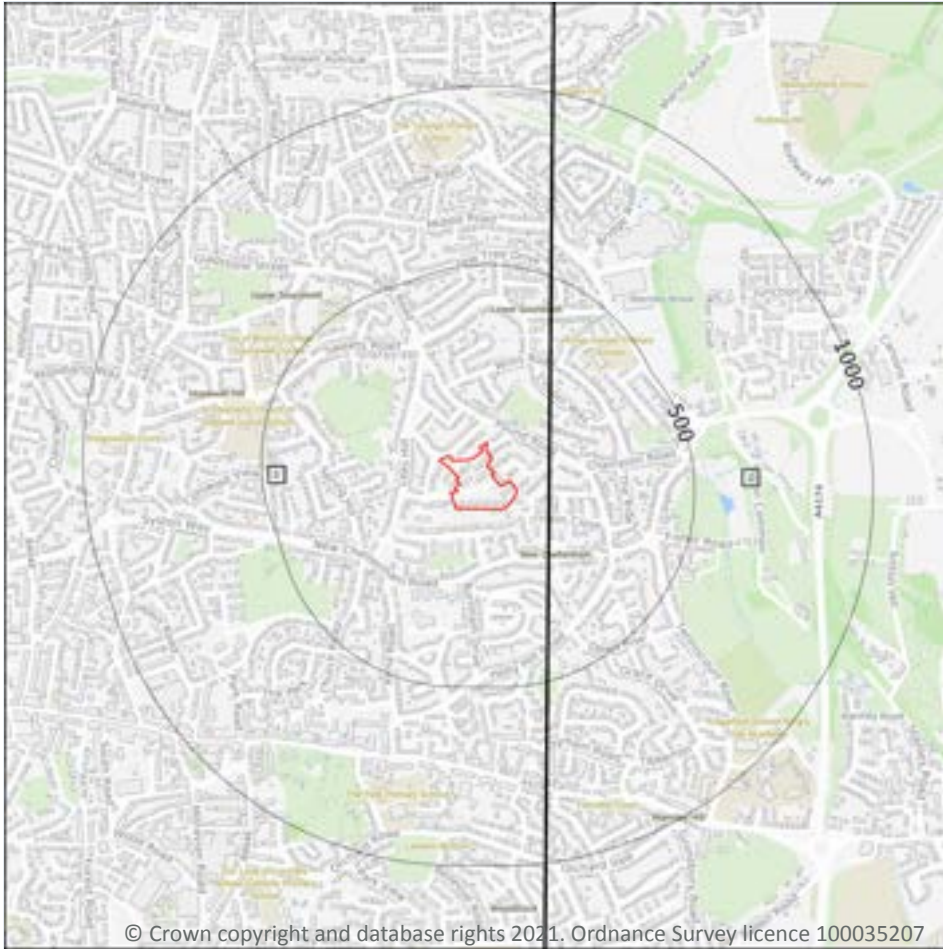


ID	Location	Category	Description
5	On site	FAULT	Normal fault, inferred
6	On site	FAULT	Normal fault, inferred
8	116m NE	ROCK	Coal seam, inferred
12	198m N	FOLD_AXIS	Axial plane trace of major anticline
15	336m S	FAULT	Normal fault, inferred
17	344m N	ROCK	Coal seam, inferred
20	378m N	ROCK	Coal seam, inferred
21	393m NE	ROCK	Coal seam, inferred
22	412m N	ROCK	Coal seam, inferred
24	420m SW	ROCK	Coal seam, inferred
26	455m N	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
Search buffers in metres (m)

Geological map tile

© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

15.1 50k Availability

Records within 500m

2

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

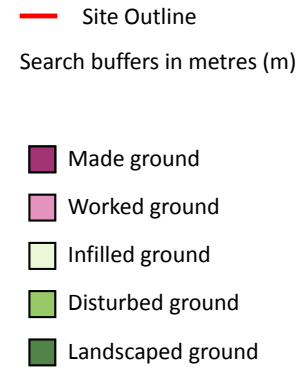
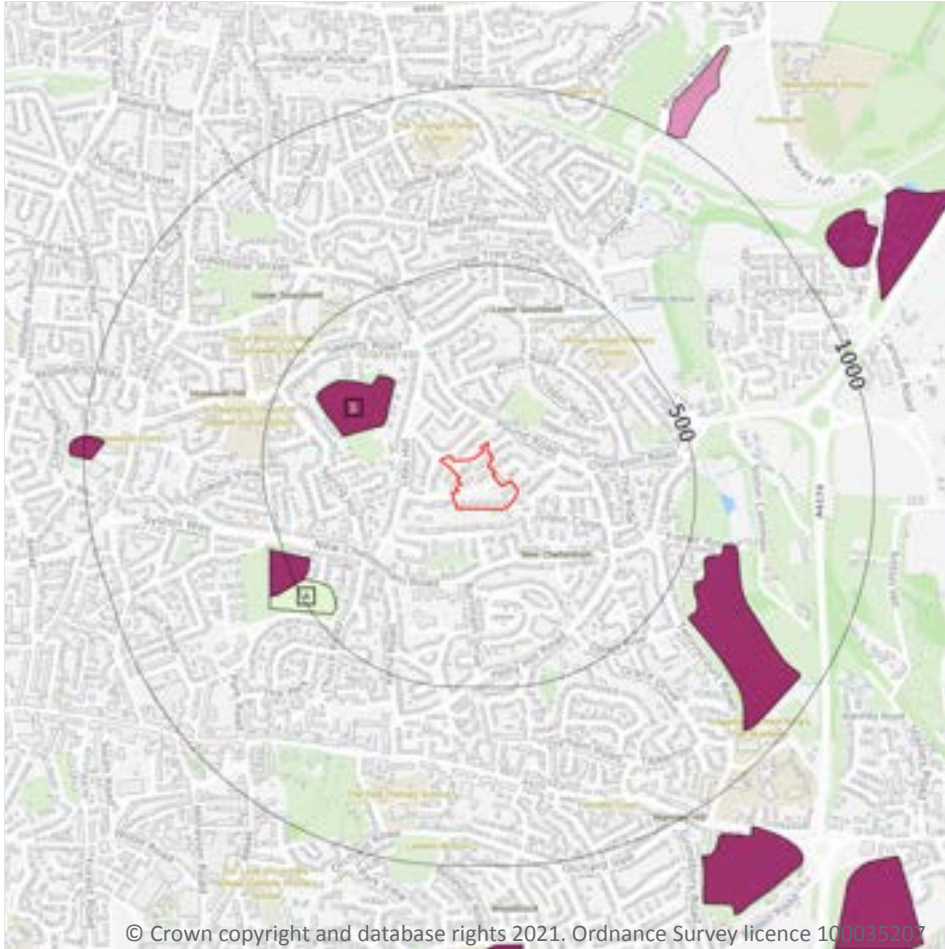
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 73**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW264_bristol_v4
2	92m E	No coverage	Full	Full	Full	EW265_bath_v4

This data is sourced from the British Geological Survey.



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



15.2 Artificial and made ground (50k)

Records within 500m

3

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 74**

ID	Location	LEX Code	Description	Rock description
1	190m NW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
A	418m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
A	436m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground 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 artificial 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 - Superficial



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

- 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

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 76**

ID	Location	LEX Code	Description	Rock description
1	465m E	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial 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 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

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

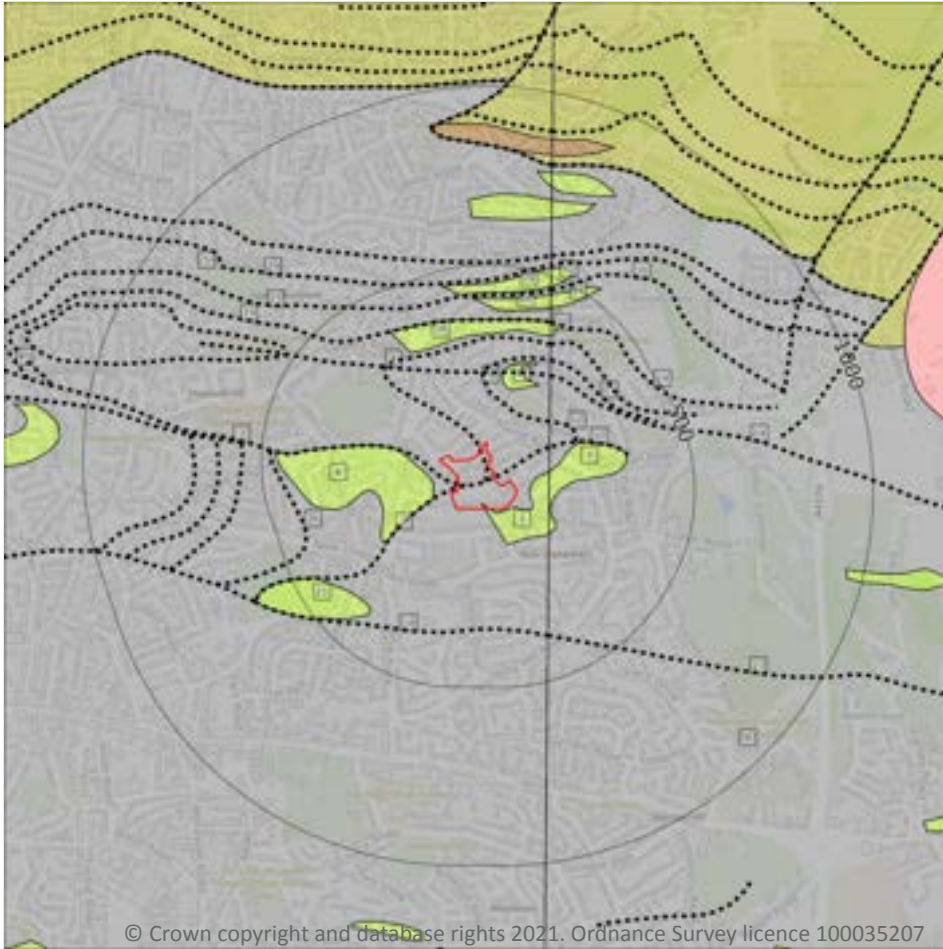
0

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.

© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

15.8 Bedrock geology (50k)

Records within 500m

13

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 78**

ID	Location	LEX Code	Description	Rock age
1	On site	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
5	On site	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
6	49m W	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
7	92m E	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
8	102m E	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
11	162m NE	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
16	304m NW	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
20	350m NE	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
21	365m SW	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
22	373m N	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
27	420m NE	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
28	421m N	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
31	473m N	SWMCM-SDST	SOUTH WALES MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	3
---------------------------	----------

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	High	Moderate
On site	Fracture	Moderate	Low
49m W	Fracture	High	Moderate

This data is sourced from the British Geological Survey.



15.10 Bedrock faults and other linear features (50k)

Records within 500m

18

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 78**

ID	Location	Category	Description
2	On site	FAULT	Fault, inferred, displacement unknown
3	On site	FAULT	Fault, inferred, displacement unknown
4	On site	ROCK	Coal seam, inferred
9	116m NE	ROCK	Coal seam, inferred
10	146m NE	FAULT	Fault, inferred, displacement unknown
12	186m E	ROCK	Coal seam, inferred
13	197m N	FOLD_AXIS	Axial plane trace of major anticline
14	259m NE	FOLD_AXIS	Axial plane trace of major anticline
15	292m NE	ROCK	Coal seam, inferred
17	330m NE	ROCK	Coal seam, inferred
18	336m S	FAULT	Fault, inferred, displacement unknown
19	345m N	ROCK	Coal seam, inferred
23	377m S	FAULT	Fault, inferred, displacement unknown
24	382m NE	ROCK	Coal seam, inferred
25	414m N	ROCK	Coal seam, inferred
26	420m SW	ROCK	Coal seam, inferred
29	455m N	ROCK	Coal seam, inferred
30	464m NE	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

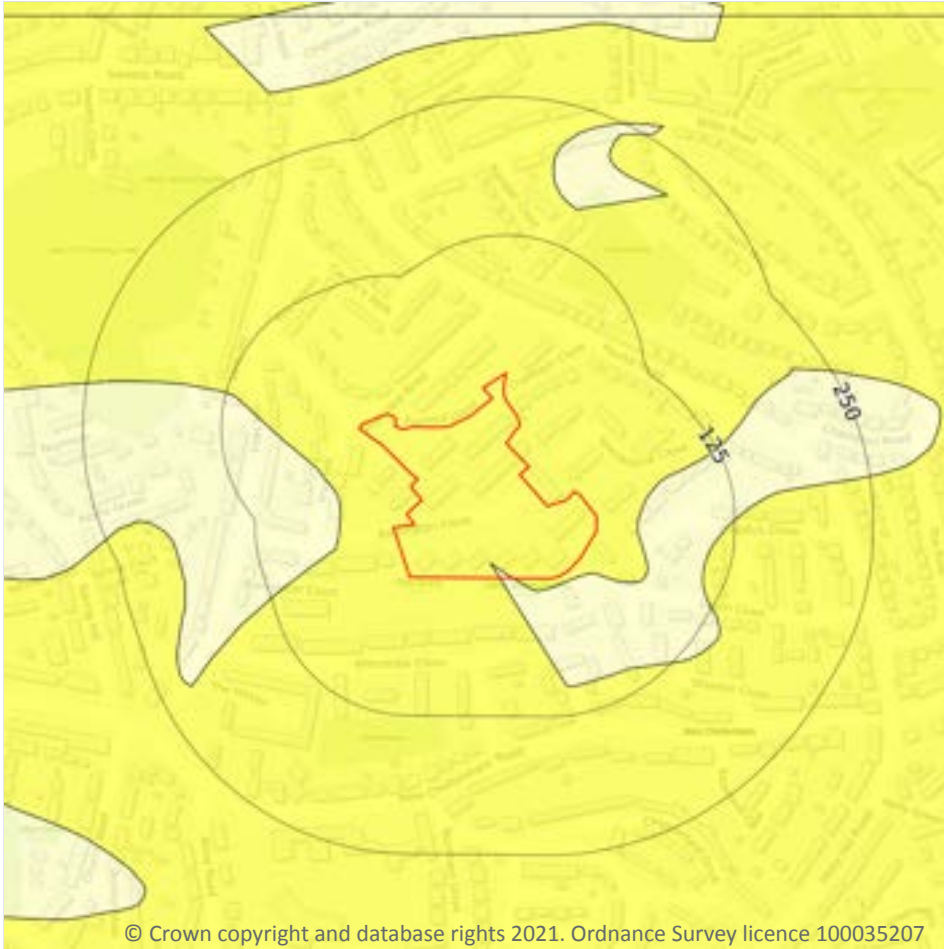
0

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.

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

— Site Outline
Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m

3

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).

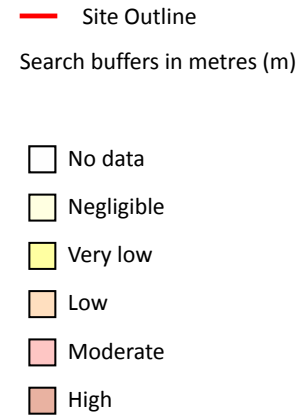
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 82**

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.
On site	Very low	Ground conditions predominantly low plasticity.
49m W	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

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 84**

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.

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

1

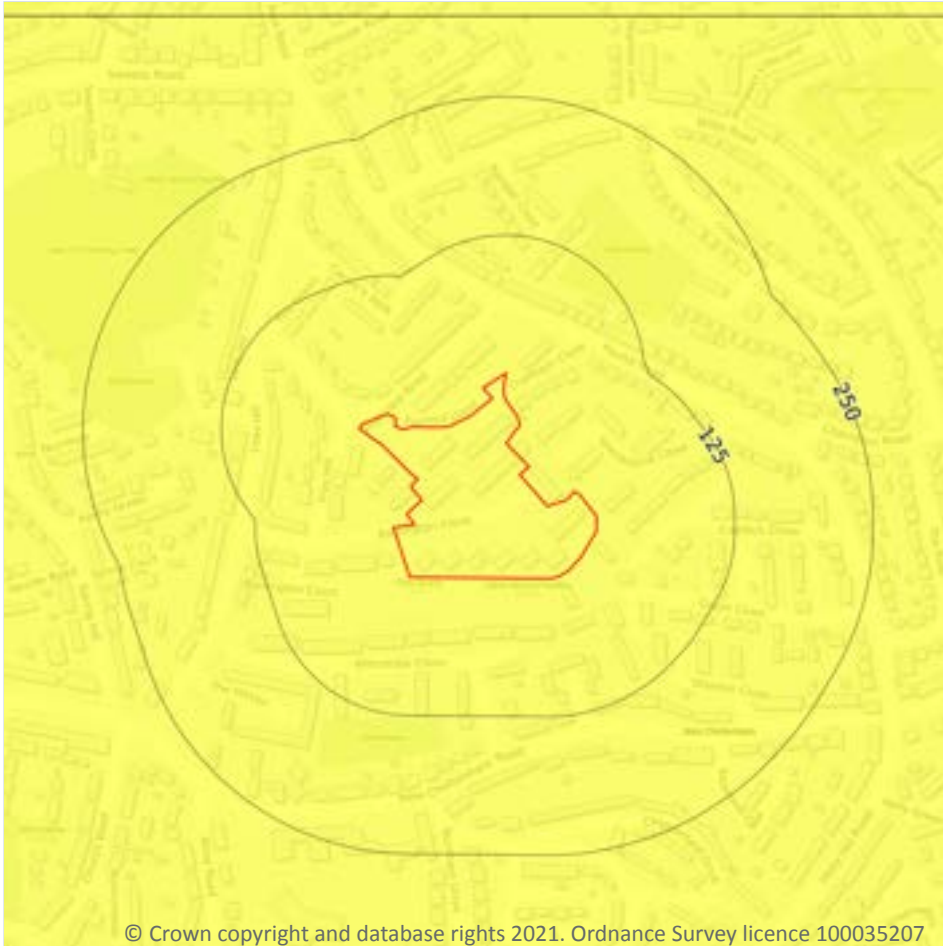
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

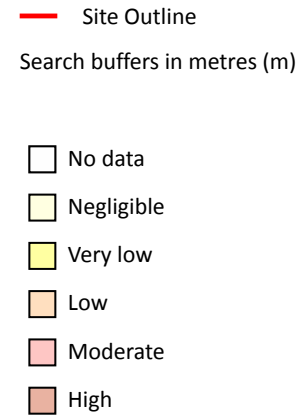
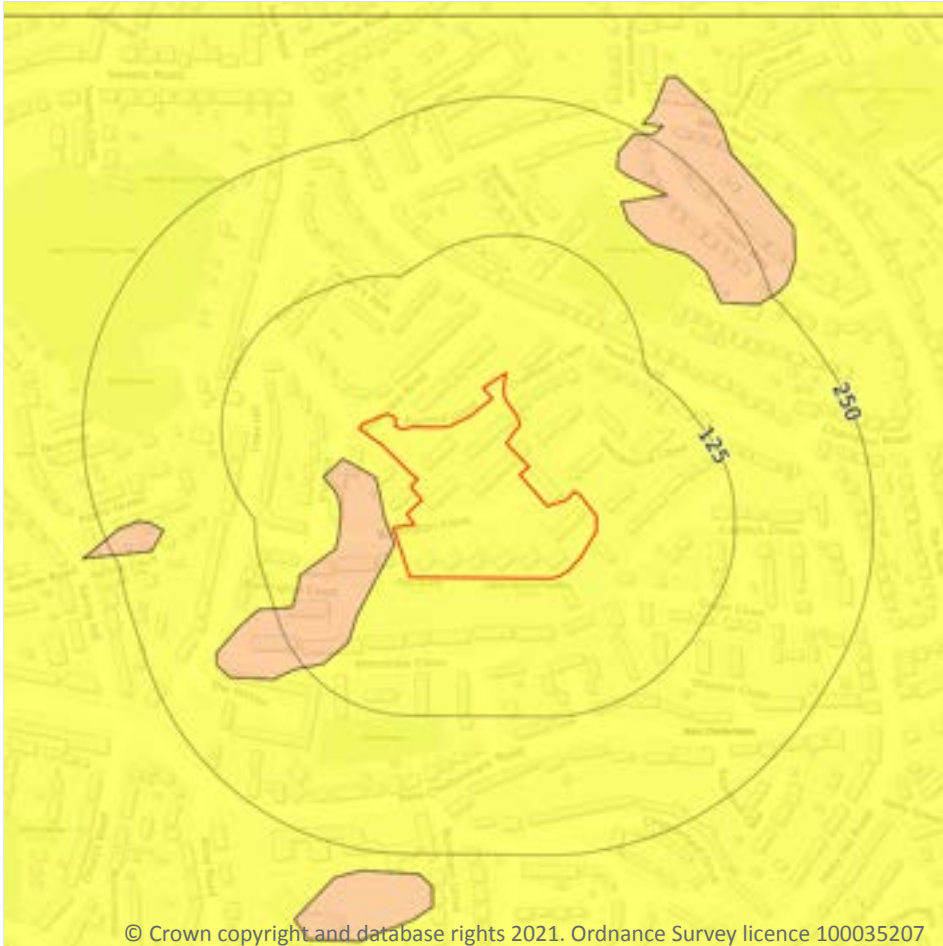
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

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



17.5 Landslides

Records within 50m

2

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 87**

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
3m W	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

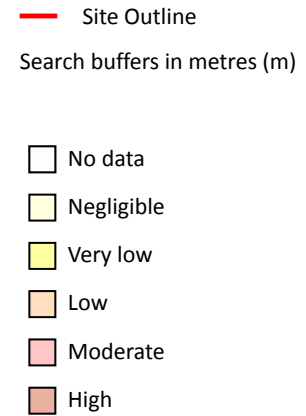
This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207



17.6 Ground dissolution of soluble rocks

Records within 50m

1

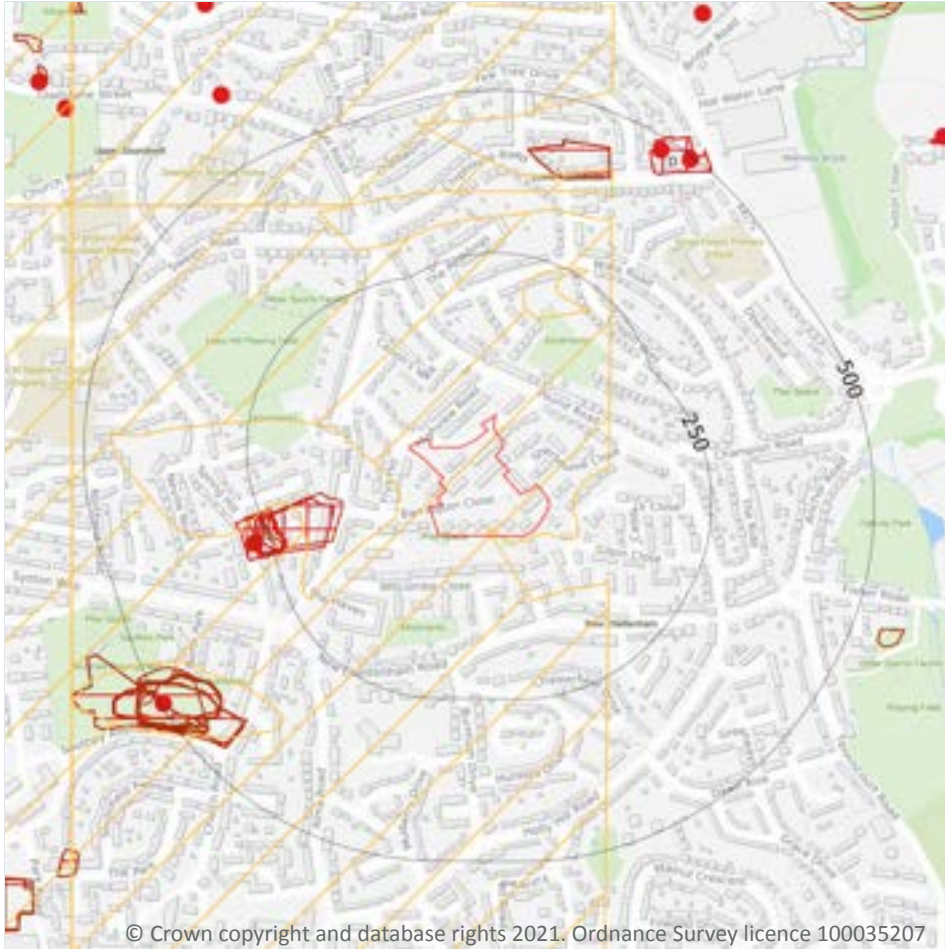
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 89**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

4

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 90**

ID	Location	Details	Description
A	275m W	Name: New Cheltenham Pit Address: New Cheltenham, Kingswood, BRISTOL, Avon 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
D	480m NE	Name: Lower Soundwell Pits Address: Kingswood, BRISTOL, Avon 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
D	494m NE	Name: Lower Soundwell Pits Address: Kingswood, BRISTOL, Avon 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
C	495m SW	Name: Prospect House Address: Kingswood Hill, BRISTOL, Avon Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site 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

11

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 90**

ID	Location	Land Use	Year of mapping	Mapping scale
A	131m SW	Old Colliery	1912	1:10560
A	147m SW	Old Colliery	1921	1:10560
A	227m W	Unspecified Ground Workings	1887	1:10560
A	227m W	Unspecified Ground Workings	1887	1:10560
A	227m W	Old Coal Pit	1881	1:10560
A	228m W	Old Coal Pit	1902	1:10560
A	229m W	Unspecified Heap	1912	1:10560
A	230m W	Unspecified Heap	1938	1:10560
A	230m W	Unspecified Heap	1938	1:10560
A	230m W	Unspecified Heap	1938	1:10560
A	244m W	Unspecified Heap	1921	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

14

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 90**

ID	Location	Land Use	Year of mapping	Mapping scale
A	147m SW	Old Colliery	1921	1:10560
A	227m W	Old Coal Pit	1881	1:10560
A	228m W	Old Coal Pit	1902	1:10560
D	446m NE	Colliery	1881	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
F	790m NE	Unspecified Disused Shaft	1991	1:10000
F	790m NE	Unspecified Disused Shaft	1971	1:10000
F	790m NE	Unspecified Old Shaft	1953	1:10560
F	796m NE	Old Coal Shaft	1921	1:10560
F	796m NE	Old Coal Shaft	1938	1:10560
F	796m NE	Old Coal Shaft	1902	1:10560
-	961m SE	Old Colliery	1938	1:10560
-	961m SE	Old Colliery	1902	1:10560
-	963m SE	Old Colliery	1921	1:10560
-	999m SE	Old Colliery	1881	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0
----------------------------	----------

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	4
-----------------------------	----------

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 90**

ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Iron Ore (Bedded)	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered



ID	Location	Name	Commodity	Class	Likelihood
2	345m N	Not available	Iron Ore (Bedded)	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
3	519m W	Not available	Iron Ore (Bedded)	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
6	639m NW	Not available	Iron Ore (Bedded)	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

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.

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.

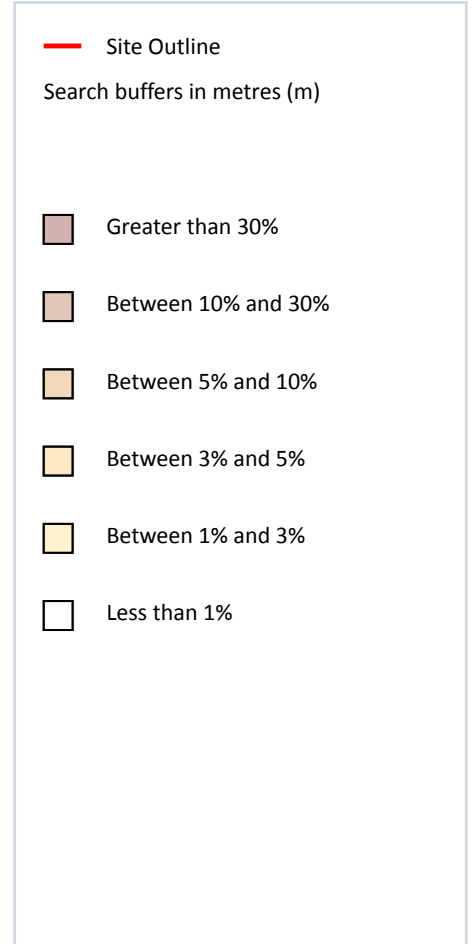
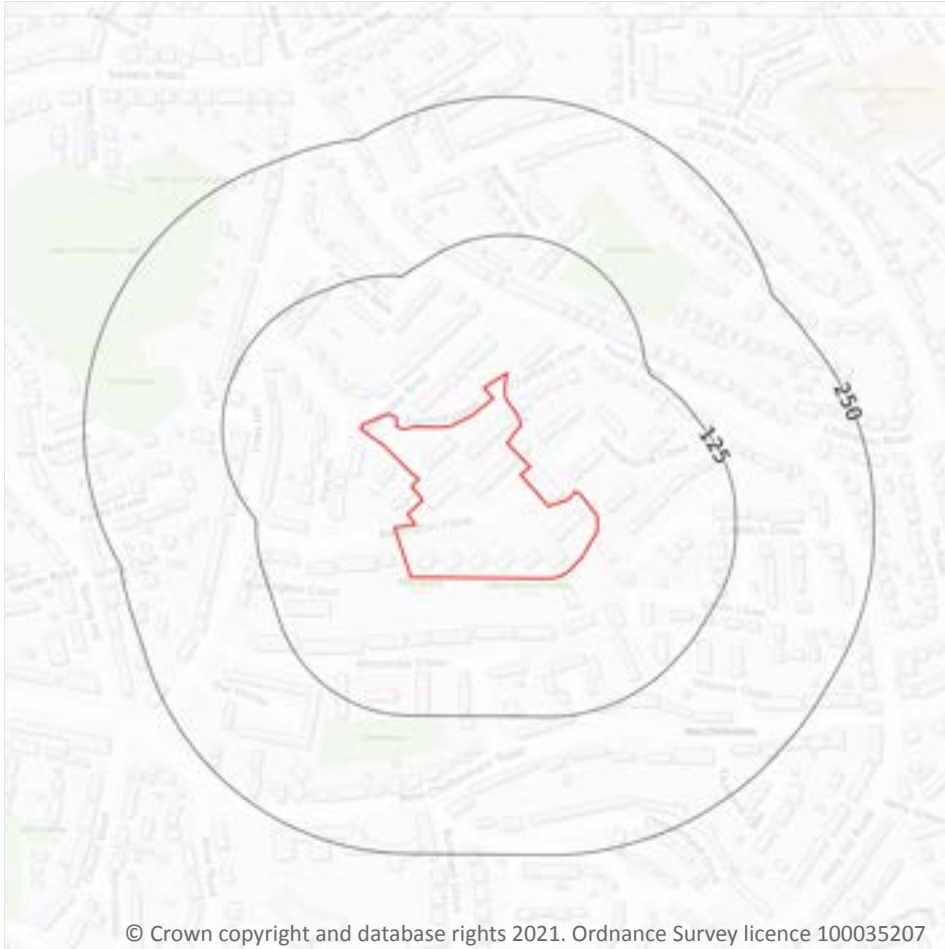
18.13 Clay mining

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 96**

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

10

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	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 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	60 - 90 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	60 - 90 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	60 - 90 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	60 - 90 mg/kg	15 - 30 mg/kg
19m NW	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
37m E	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
49m W	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
49m W	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
50m W	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 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.



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

0

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.



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.



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/>.

