WORTLEY VILLAGE (SouthWest), SHEFFIELD, SOUTH YORKSHIRE (PLOTS 4 and 5)

PHASE 1 (DESK STUDY) REPORT

Prepared by

SILKSTONE ENVIRONMENTAL LTD

For

WHARNCLIFFE ESTATES

JUNE 2016

16012/P1/0

Silkstone
Environmental Ltd
www.silkstoneenvironmental.co.uk
Geotechnical, Mineral, Waste Management & Environmental Consultancy for Industry

7 Hall Annex,
ThorncliffePark,
Chapeltown,
Sheffield.
S35 2PH.
Tel: 0114 2573487
Fax: 0114 2573459
mail@silkstoneenvironmental.co.uk

DOCUMENT ISSUE RECORD

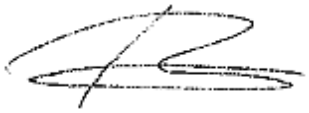
Contract No:	16012
Client:	Wharncliffe Estates
Contract:	Wortley Village (South West) Plots 4 and 5
Document:	Phase 1 Preliminary Risk Assessment (Desk Study)

Prepared By;
C. Evans
BSc (Hons), MSc, CGeol FGS
Engineering Geologist
Silkstone Environmental Ltd.



Appraised By;

R. LORD
B.Sc (Hons.)
Senior Engineer
Silkstone Environmental Ltd



Certified by;

M.A. BARRETT
B.Sc. (Hons.) M.Sc, C.Eng.
Managing Director
Silkstone Environmental Ltd



REVISION RECORD

Revision	Date	Description	Prepared by
0	19/05/16	Phase 1 PRA	CE

EXECUTIVE (Non-Technical) SUMMARY

Silkstone Environmental Ltd (SEL) have carried out this investigation for Wharncliffe Estates (WE), following an instruction from Mr C Orme. The stated purpose of the work was to carry out six separate desk studies for groups of joined plots within the village, by using four separate Groundsure Reports. This desk study concentrates on two plots numbered 4 and 5 which are located in the southwest of the village, northwest of Park Avenue.

The village of Wortley in South Yorkshire is situated approximately 13 km northwest of Sheffield city centre. The village centre is approximately National Grid Reference (NGR) 430800,399400.

Of these two plots Plot 4 will include further residential development and Plot 5 will be used for car parking. Plot 5 has historically always included minor structures or houses, plot 4 has been undeveloped but for houses in the south which have existed since before the 1890's.

Features local to the defined site boundary have included farms, a smithy, ponds, and most notably a gasworks northwest of plot 4. An open cast working existed beyond 100m south of plots 4 and 5. A ventilator presumably associated with deep mining was also located beyond 150m southeast. The wider area has included mills, pumping stations, coal pits, quarries and railways.

The site is shown to be underlain by sandstone and mudstone of the Pennine Lower Coal Measure Formation. This geology should provide good bearing capacity at shallow depths.

The Initial Environmental Risk Assessment has derived risk ratings of Moderate/Low which predominantly concerns potential ground gasses. It is therefore recommended that a Phase 2 intrusive investigation be undertaken for which details are provided.The site may also have been subjected to near surface mining and as such will require investigation by deeper boreholes also described by the report.

Prior to any site investigation or development work, records of services should be obtained to accurately locate the existing services on site and in the adjoining streets.

Should any development of the site commence, ongoing monitoring of any sub-surface materials exposed should take place. Should any unusual, oily, brightly coloured or odorous material, or unexpected tanks and containers be encountered, then the advice of a suitably qualified specialist should be sought.

TABLE OF CONTENTS

1 INTRODUCTION 6
1.1 Brief
1.2 Legislative and Regulatory Context
1.3 Guidance and Information Sources Used Within This Report

2 PHASE 1 (DESK STUDY) 8
2.1 Site Location
2.2 Historical Land Use
2.3 Site Description
2.4 Geology
2.5 Hydrogeology
2.6 Hydrology
2.7 Landfills and Licensed Waste Management Facilities
2.8 Ground Gases
2.9 Other Potentially Significant Information Relating to the Site

3 INITIAL RISK ASSESSMENTS AND CONCEPTUAL MODEL 14
3.1 Potential Pollutant Linkages
3.2 Potential Sources of Contamination
3.3 Potential Pathways and Receptors
3.4 Initial Conceptual Site Model
3.5 Initial Environmental Risk Assessment

4 CONCLUSIONS & RECOMMENDATIONS 19
4.1 Ground Investigation
4.2 Preliminary Summary

APPENDIX A i
(i) Site Location Plan

APPENDIX B ii
(i) Historical Mapping

APPENDIX C iii
(i) GroundSure EnviroInsight – Environmental Data Report
(ii) GroundSure GeoInsight
(iii) Coal Authority Report

APPENDIX D iv
(i) Photographic Record

TABLE OF CONTENTS

TABLES

Table 1:	Historical Land Uses of the Site and Surrounding Area	9
Table 2:	Geological summary	10
Table 3:	Potential Sources of Contamination on site	14
Table 4:	Initial Conceptual Site Model	16
Table 5:	Risk Classification System from CIRIA C552	18
Table 6:	Initial Environmental Risk Assessment	18
Table 7:	Preliminary Summary	21

REFERENCES

A. Contaminated Land Report 11 – Model Procedures for the Management of Land Contamination. Environment Agency (September 2004).
B. Town and Country Planning Act (1990)
C. National Planning Policy Framework (2012)
D. Planning Policy Statement 23 (2004)

1 INTRODUCTION

1.1 Brief

Silkstone Environmental Ltd (SEL) have carried out this desk study on behalf Wharncliffe Estates (WE). The stated purpose of the work was to carry out six Phase 1 Preliminary Risk Assessments (Desk Studies) for joining plots surrounding Wortley Village in Sheffield, to assess the potential for historic contamination at the site which may adversely impact human health and/or the environment in consideration of the site's proposed end use.

This report concentrates on two plots numbered 4 and 5 which are located in the southwest of the village, northeast of Park Avenue and understood to be for residential use and car parking. The report has been compiled in general accordance with Ref A. as a 'Preliminary Risk Assessment – Desk Study', as defined therein.

This preliminary desk study will highlight the potential requirements for an intrusive investigation. These have been assessed as follows:

- A description of the site showing location and layout.
- A review of the site history including previous surrounding land uses.
- Determination of the environmental setting by reference to geology, mining / quarrying risks associated with hazardous gas (including radon, landfill gas, mines gas and the like), proximity to land filled ground, proximity to Control of Major Accident Hazard (COMAH) or explosive sites, hydrology, flood risk and hydrogeology.
- A site walkover and inspection.
- An assessment of anticipated ground conditions including potential contaminants.
- An assessment of anticipated foundation and engineering issues associated with any redevelopment.
- Preparation of a conceptual ground model and design of an appropriate ground investigation.
- An inspection of historical and geological maps and information provided by the Local Planning Authority, Environment Agency, British Geological Survey and the Coal Authority.
- A risk assessment is given of the proposed development including an appraisal of actual and/or potential contaminant sources, pathways and receptors. A conceptual site model is also provided.

Conclusions are given alongside any further recommendations. No other site investigations are known or have been made available to SEL.

1.2 Legislative and Regulatory Context

If land, proposed to be developed, is suspected to be contaminated either historically, or by its current use, an investigation will be requested by the Local Authority under the Town and Country Planning Act (1990) (Ref B) and the National Planning Policy Framework (Ref C), which follows Planning Policy Statement 23 (Ref D), to determine the level of risk and if remediation is necessary. Under this regime investigations are carried out to determine whether the current condition of the site is suitable for its proposed use.

1.3 Guidance and Information Sources Used Within This Report

This report has been produced in line with relevant guidance and best practice and in particular Ref. A, B, C and D.

This list includes all of the sited references. It is not exhaustive and comprises only the principal references used in conducting this risk assessment.

2 PHASE 1 (DESK STUDY)

2.1 Site Location

The two plots in this report are numbered 4 and 5 and are located in the southwest of the village, northeast of Park Avenue and understood to be for residential development and car parking respectively. The village of Wortley in South Yorkshire is approximately 13 km northwest of Sheffield City centre. The village centre is approximately National Grid Reference (NGR) 430800, 399400 and the Groundsure information has been approximately centred on this point for all plots in the southwest of Wortley.

2.2 Historical Land Use

Information relating to historical land use of the site and surrounding area has been gained from historical maps (Appendix B) and the Groundsure Environmental Report (Appendix C). The information has been summarised in the table below, including dates of the significant maps referred to. It is important to note that the date referred to indicates the date the feature appears on the map and not necessarily the date the actual feature was present.

In addition, the marked site boundary may appear to move with respect to successive editions, this is predominantly due to minor variations in the Ordnance Survey with time.

In summary, Plot 5 has always included minor structures or houses, Plot 4 has been undeveloped but for houses in the south of the site which have existed since before the 1890's.

Features local to the defined site boundary have included farms, a smithy, ponds, and most notably a gasworks northwest of plot 4. An open cast working existed beyond 100m south of Plots 4 and 5. A ventilator presumably associated with deep mining was also located beyond 150m southeast. The wider area has included mills, pumping stations, coal pits, quarries and railways.

Table 1: Historical Land Uses of the Site and Surrounding Area

Date	Scale	Site	Surrounding Area
1855	1:10,560	Plot 5 includes small structures and probable houses.	70m NW: Farm 50M W: Smithy. 300m SE: Ashes Pond 700m N: Coal Pit 800m W: Railway
1891	1:10,560	House sized structures exist within the south of plot 4 north of which is open fields.	Boundary NE: Gasworks. 300m SE: Fish Pond 800m W Saw mill.
1893	1:2,500	No significant changes.	150m SE: "Ventilator"
1903	1:10,560		400m N: Reservoir. 400m SW: Spring.
1905	1:2,500		No significant changes.
1931	1:2,500		200m S: Pumping Station.
1932	1:10,560		300m N: Nursery. 850m S: Quarry.
1938	1:10,560		No significant changes.
1948	1:10,560		
1956	1:10,560		
1958	1:2,500		100m SW: Opencast workings.
1966	1:10,560		100m N: Mill.
1976	1:2,500		No significant changes.
1980	1:10,560		
1992	1:10,560		
1993	1:2,500		No significant changes.
2002	1:10,000		No significant changes.
2010	1:10,000		
2014	1:10,000		

2.3 Site Description

A site walkover was carried out on Thursday 26 May 2016, photographic records are presented at Appendix D. The selected sites in this report cover two near parallel thin strips of land extending north south by approximately 100m and each east to west by up to 30m.

Plot 4 was entered from the north side of Park Avenue at which point the site is situated on the west side of Victorian houses named Avenue Villas. The garden has largely been cleared. Soil in the northwest of the garden comprises thicknesses of made ground which appears to be soil mixed with building materials and ceramic fragments.

Some tyres and a drum had been dumped a little further south. A historical trackway lead north out of the site. Land to the east of this sloped down northeast and was filled by dense woodland.

Plot 5 required to be accessed from Halifax Road (west). This opens out into a communal courtyard area. The west of the courtyard is formed by the rear of houses and the east by former stables or outhouses. A wide rebate exists in the southeast corner of the site. Beyond the rebate is an electricity transformer that is not otherwise recorded. The rebate comprised mixed gravel hardstanding while the remainder of this site was covered with tarmac.

2.4 Geology

Information relating to the geology of the site has been gained from various sources and has been summarised in the table below.

Table 2: Geological summary

Maps / Publications Referenced	The Geological Survey Map of England and Wales, Sheet 87, Barnsley, Solid and Drift, 1:50,000 scale. BGS Geoindex website. The Coal Authority Mining Report.
Drift Geology	Not recorded within the mapped site area.
Made Ground	Not recorded within the mapped site area.
Solid Geology	Shown as the Pennine Lower Coal Measures Formation of Mudstone, Siltstone and Sandstone. Below Plots 4 and 5 shown as sandstone with mudstone in north tip of plot 4.
Dip of Solid Strata	From succession of rocks northeast.
Faults	Trending Northeast to Southwest and located 7m NW of Plot 5. Not considered to effect the proposals.
Coal Seams / Mining/Natural Cavities	With respect to quarrying or near surface non coal mining, such as ore workings. Groundsure consider that there is potential for small scale mining at the site. Historic open cast working has occurred south shown beyond approximately 100m from plots 4 and 5. This is potentially filled ground and as such we consider it merits a ground gas risk assessment. Groundsure have not recorded any non-coal mining cavities at the surface within 1km of the site boundary and subsequently attribute Mining, Extraction and Natural Cavities a "highly unlikely" classification. The site is within a recorded coal mining area consequently a report has been obtained from the Coal authority. The Coal Authority report is presented at Appendix C and is summarised below.

A Coal Authority Mining Report was obtained for the site. It states that;

"*the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past.*

The authority state that: *The property is not within the boundary of an opencast site, the property does not lie within 200m of the boundary of an open cast site".* However this conflicts with Ordnance Survey information which clearly defines an area of open cast at a short distance from the defined southwest site boundary.

They recommend that; *"technical advice relating to both investigation of coal and former coal mines and their treatment should be obtained before beginning work on the site".* No local boreholes are recorded, but a probable mine ventilator is situated southeast of the defined area.

The geological section of the named seams suggested that the Black Band Coal or Whinmoor Coal could be 10m to 15m below the southwest of the study site area with other lower coal seams within 30m of this depth below plots 4 and 5.

Nevertheless the authority explain that: "*The property is not within a surface area that could be affected by present underground mining and the property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.* However *"reserves of coal exist in the local area which could be worked at some time in the future"*.

A proposed ground investigation for near surface mining is described in section 4 of this report and others within the southwest localities.

2.4.1 Historical Borehole Data

There are no historical boreholes recorded within 250m of the site boundary by the British Geological Survey (BGS).

2.4.2 Natural Ground Subsidence Risks

The Groundsure Report considers other Natural Ground Subsidence Risks such as shrinking swelling of clay, landslides, ground dissolution, compressible deposits, collapsible ground and running sand.

In all respects either a low, very low or negligible risk has been attributed. Nevertheless near surface mudstone can weather to clays that can have the potential to shrink or swell below foundations. In this respect Ground investigation recommendations are given in section 4 of this report.

2.5 Hydrogeology

Superficial deposits are not recorded at the site however the bedrock geology is recorded as a Secondary A Aquifer. Secondary A aquifers are defined as 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. Generally Secondary A aquifers were previously classified as minor aquifers.

The site is not within a Source Protection Zone and as such groundwater will not be considered a potential receptor.

The Groundsure report records three groundwater abstraction licences within 500m of the site boundary which are all for spray irrigation. There are no surface water or potable water abstractions are within 2km.

Four licenced discharge consents are located beyond 400m from the site boundary. These are all licences for sewage discharges of final treated effluent or storm overflow and as such are not considered to effect the study site.

2.6 Hydrology

There are no surface water features recorded within 250m of the site boundary however ditches and ponds are recorded locally. An unnamed tertiary river is located beyond 300m east from the site boundary.

According to the Groundsure report the site is not within 250m of an Environment Agency Zone 2 or Zone 3 Flood Plain. The Environment agency consider there is a very low potential for onsite flooding.

Information supplied by the British Geological Survey (BGS) considers that there is a limited potential for flooding from ground water may occur from either shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater flooding). However this information is attributed a low confidence rating.

There are no flood defences, areas benefitting from flood defence, or areas used for flood storage within 250m of the site boundary.

Prior to any new developments at the site, regulators may require a standalone flood risk assessment in addition to this report.

2.7 Landfills and Licensed Waste Management Facilities

A historical landfill for inert and commercial waste types is situated southwest of the site boundary. This record likely relates to poorly recorded areas of opencast mining which have been estimated at 100m south of plots 4 and 5, potential landfill gasses from this process are considered to affect the study site. In addition historical gasworks located by ground sure at 29m from plot 4 and are typically associated with coal tar beds and localised filling which may generate similar gasses.

There are no Operational or Non-operational Waste Treatment, Transfer and Disposal Sites or Environment Agency Licensed Waste Sites listed within 500m.

2.8 Ground Gases

Section 4 of this report details a ground gas risk assessment for the site. Otherwise the property is not in a Radon Affected Area defined by the Health Protection Agency, as less than 1% properties are above the Action Level. Basic radon protective measures are not considered necessary under BR211 Radon Guidance on Protective Measures for New Dwellings.

2.9 Other Potentially Significant Information Relating to the Site

A historical gasworks recorded at 29m northeast of the plots which are in close proximity to former open cast workings and within an area of designated Green Belt. Similarly an unspecified mill is located at 64m northwest. A historical pumping station would have been beyond approximately 200m south of plots 4 and 5 but this is not listed under licenced abstractions.

Three current industries are listed within 250m of the site boundary. These include, vehicle repair and servicing, distribution and haulage and garden goods but are not considered to affect the study site.

Historically there are no records of garages and motor vehicle repair records within 500m from the site boundary and no historical petrol and fuel sites. Two records exist for historical tanks but these are located beyond 300m from the site boundary. Substations are not recorded within 500m of the site boundary.

No environmental, permits, incidents and registers are recorded within 500m of the site boundary. This list includes, pollution incidents, sites determined as contaminated land under Part 2A of the Environmental Protection Act and the principal environmental licenced activities.

3 INITIAL RISK ASSESSMENTS AND CONCEPTUAL MODEL

3.1 Potential Pollutant Linkages

To determine the potential for a pollutant linkage to be present the preliminary risk assessment process involves the identification of potential sources, pathways and receptors. A pollutant linkage can only be present if all three of these factors are involved. There must be a source of contamination present, a receptor for the contamination to impact on and a pathway for the contamination to reach the receptor.

3.2 Potential Sources of Contamination

Potential sources of contamination and associated contaminants which may be present on site are shown in the table below.

Table 3: Potential Sources of Contamination on site

Potential Sources	Potential Contaminants
On Site	
Sites former use as small developments. Potential made ground associated with minor structures, and surface spillages. Potential shallow mine workings.	Heavy metals such as Iron, Arsenic, Cadmium, Chromium, Nickel, Copper, Lead, Mercury, Zinc. Sulphates/Sulphides. Polycyclic Aromatic Hydrocarbons (PAHs) Petroleum Hydrocarbons (TPH) Asbestos. Mine Gasses.
Off Site	
Potential contaminant associated with the neighbouring site's historical development as gasworks, open cast mining. Electricity transformer.	Heavy metals such as Iron, Arsenic, Cadmium, Chromium, Nickel, Copper, Lead, Mercury, Zinc. Sulphates/Sulphides. Polycyclic Aromatic Hydrocarbons (PAHs) Petroleum Hydrocarbons (TPH) Landfill / mine gasses PCB's

3.3 Potential Pathways and Receptors

3.3.1 Human Health

- **Chronic Risks**

Potential exposure pathways are based on those in the Conceptual Exposure Model for human health which is detailed in Contaminated Land Report 10.

The chronic risks to human health take into account those risks to end users of the site. The proposed end use of the site is considered to be residential.

- Ingestion of soil
- Ingestion of dust
- Dermal contact with soil
- Dermal contact with dust
- Inhalation of gasses and vapours
- Inhalation of fugitive soil dust
- Inhalation of fugitive building dust
- Migration of contaminants through soil/groundwater

- **Acute Risks**

Acute risks are considered with respect to construction workers/engineers on site.

NB: During any intrusive ground works appropriate health and safety measures should be adopted to protect site workers from any potential risks associated with contamination in the ground. This should include the use of any personal protective equipment necessary and a general awareness of any possible risks to safety and human health on site.

3.3.2 Controlled Waters

- **Groundwater**

The site is underlain by a Secondary A aquifer. Aquifer. Secondary A aquifers are defined as 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. The site is not within a source protection zone and in this respect the groundwater would not usually be considered a receptor.

- **Surface Water**

No significant surface water features are recorded in close proximity to the site boundary. Therefore we would not consider that surface water is a significant receptor.

3.4 Initial Conceptual Site Model

Based on all the information gained in previous sections of this report the Initial Conceptual Site Model (ICSM) identifies the potential pollutant linkages which may exist on the site. Unexpected contaminated material may be encountered during the site preparation and may have the potential to impact on various receptors including human health of site-end-users and controlled waters.

An electricity transformer is situated at the southeast boundary of Plot 5. Otherwise there was no evidence of any significantly contaminated material on the site surface at the time of the site visit.

From the available information the initial conceptual model is presented in the table below:

Table 4: Initial Conceptual Site Model

Potential Pollutant (Source)	Potential Linkage (Pathway)	Receptor
Sites former use as small developments. Potential made ground associated with minor structures, and surface spillages. Potential shallow mine workings. Potential contaminant associated with the neighbouring site's historical development as gasworks, open cast mining. Electricity transformer.	Inhalation of soil gas, vapours or dust.	Construction/ maintenance workers. Site End-users. Surface water
	Ingestion of, and dermal contact with, contaminated soil or dust.	
	Migration of soluble contaminants.	

3.5 Initial Environmental Risk Assessment

This section aims to expand the ICSM to assess the level of risk for each potential pollutant linkage.

Risk is a combination of the 'likelihood' of an event occurring and the magnitude of its 'consequences'. Therefore, in order to assess risk, both the likelihood and the consequences of an event must be taken into account. SEL has adopted guidance provided in CIRIA C552 for use in the production of risk assessments.

The likelihood of an event can be classified on a four point system using the following terms:

- **Highly likely**: The event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;
- **Likely**: It is probable that an event will occur, or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;
- **Low likelihood**: Circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term;
- **Unlikely**: Circumstances are such that it is improbably the event would occur even in the long term.

The terms and definitions relating to severity are:

- **Severe**: Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
- **Medium**: Chronic damage to human health ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
- **Mild**: Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures or the environment; and
- **Minor**: Harm, not necessarily significant, but that could result in financial loss or expenditure to resolve. Non-permanent human health effects easily prevented by use of personal protective clothing. Easily repairable damage to buildings, structures and services.

Once the likelihood of an event occurring and its severity have been classified, a risk category can be assigned as below.

Table 5: Risk Classification System from CIRIA C552

Probability	Consequences			
	Severe	Medium	Mild	Minor
High	Very high	High	Moderate	Moderate / Low
Medium	High	Moderate	Moderate / Low	Low
Low	Moderate	Moderate / Low	Low	Very Low
Unlikely	Moderate / Low	Low	Very Low	Very Low

The pollutant linkages from the ICSM and resulting risks are considered in the table below:

Table 6: Initial Environmental Risk Assessment

Receptor	Potential Pollutant Linkage	Estimated Degree of Risk to Receptor
Site users	Inhalation of soil gas, vapours or dust.	Moderate/Low
	Ingestion of, and dermal contact with, contaminated soil or dust.	Low
Construction/ maintenance workers.	Inhalation of soil gas, odours or dust.	Low*
	Ingestion of, and dermal contact with, contaminated soil or dust.	Low*
Surface water	Migration of soluble contaminants.	Very Low **

* Assumes basic PPE is used.
** Assumes good site construction practice including regulation of spillages.

In this qualitative risk assessment, a **Moderate/Low** risk has been applied based on the existing land use and condition.

4 CONCLUSIONS & RECOMMENDATIONS

The report has reviewed the available data for the study site. Based on the historical land uses within the local area to the site, the Initial Environmental Risk Assessment has derived risk ratings of Moderate/Low for the site.

It is therefore recommended that a Phase 2 intrusive investigation be undertaken to determine the contamination status of the site and to make recommendations on remediation where necessary.

4.1 Ground Investigation

The objectives of an investigation are to:

- Clarify the Initial Conceptual Site Model
- Clarify the Initial Environmental Risk Assessment
- Provide data for the design of any remedial works that may be required
- Benchmark the contamination status of the site including potential leachates and or ground gases
- Investigating for the presence / absence of shallow old mine workings

To achieve these objectives it is recommended that an initial investigation be undertaken comprising a series of window samples. This would be used to obtain soil samples for testing the listed potential contaminants and to install combined gas groundwater monitoring points.

It is recommended that a minimum of two gas/groundwater monitoring points are located within the area of proposed development which are understood to only concern Plot 4. A ground gas risk assessment will then initially comprise a minimum of six visits over a three month period of monitoring.

Window samples have the added advantage of being able to provide standard penetration tests (SPT's) that will assist foundation designs. They also have the advantage of being less disruptive to the ground surface than trial pits and can be undertaken in proximity to building.

Nevertheless it will also be necessary to undertake near surface rotary drilling of the site in order to discount potential shallow coal mining. This should be to a target depth of 30m below areas of proposed development and this would be best to linking with other similar investigations recommended for Plots 2, 3, 9 and 14 to 16.

These boreholes should also be fitted with combined gas groundwater monitoring points to the depth of any encountered workings and thereby extend the ground gas risk assessment. It may be possible to combine both phases of the required works.

Where possible all exploratory holes should pass through made ground into underlying natural soils and extend below any obvious soil contamination.

Sampling of made ground and natural soils beneath the site should be undertaken to ensure that the site is acceptable for the intended use, which is understood to be mixed residential and car parking. Samples should be tested for the constituents of concern, as outlined in Table 4 within Section 3.2 of this report, and below.

Soil samples should be tested for arsenic, cadmium, chromium (total), lead, mercury, selenium, copper, nickel, zinc, speciated polycyclic aromatic hydrocarbons (PAH), Total Petroleum Hydrocarbons, organic matter content, soluble sulphate and pH. Any groundwater samples should be tested for similar contaminants. Selected samples should also be tested for the presence of asbestos or PCB's.

Thicknesses of clay, sand and/or gravel are predicted above shallow rock head at the site. This should provide good bearing capacity at shallow depths for any new development, where soil density has been interpreted from SPT testing by the window sample boreholes described above.

Where any development is proposed it is recommended that any clay soils encountered are tested for plasticity, which in the case of foundations near trees can be compared to Section 4.2 of NHBC Standards 2013 by a suitably qualified person. In addition to the testing outlined above, it would be good practice to undertake some basic soils testing to determine the likely environment for concrete foundations at the site.

Service providers may require an independent understanding of soil conditions prior to laying pipes and/or service materials. In addition warrantee providers and regulators for any new development would require soil analysis of any reused or imported soils that will be used for clean cover in areas of garden or landscaping.

Prior to any intrusive site investigation or development work records of services should be obtained to accurately locate the existing services on site and in the adjoining streets. Services should be protected in order to prevent damage by drilling or use of excavation equipment.

Should any investigation or development of the site commence, ongoing monitoring of any sub-surface materials exposed should take place. Should any unusual, oily, brightly coloured or odorous material or unexpected tanks and containers be encountered, then the advice of a suitably qualified specialist should be sought.

4.2 Preliminary Summary

The following table offers a preliminary summary of the ground conditions based solely on the information presented in this report, it is intended for guidance purpose only.

Table 7: Preliminary Summary

Description	Comments
Foundations	It is predicted that strip footings will prove viable where near surface rockhead is expected at the site.
Ground gases	A ground gas risk assessment is required and should include monitoring points below proposed development in Plot 4. This may be integrated with rotary borehole works.
Groundwater	Shallow groundwater is not expected.
Soakaways	In the event that these were considered regulators would likely require further investigation in addition to these recommendations.
Excavations	Following complete removal of surface tarmac and topsoils and exposed ground, soft ground plant with the use of hydraulic breaking equipment for competent rock should be viable for any development at the site.
Mining and Quarrying	The risk from shallow mining is considered significant at the site and requires discounting by a series of open hole boreholes to a target depth of 30m.
Made ground	May exist within the site area most especially below areas of garden at Plot 4. This should be investigated and sampled.

APPENDIX A

(i) Site Location Plan



Rev B 21.09.2011

- Omit Site 13 Woodland Parking.
- Amend boundary Site 8.

Wortley Village
Sheffield
South Yorkshire

SELECTED DEVELOPMENT SITES

This drawing and the copyright is the Architects property and maybe used or reproduced only by agreement. All Dimensions in Millimetres Unless specified otherwise and subject to verification on site.

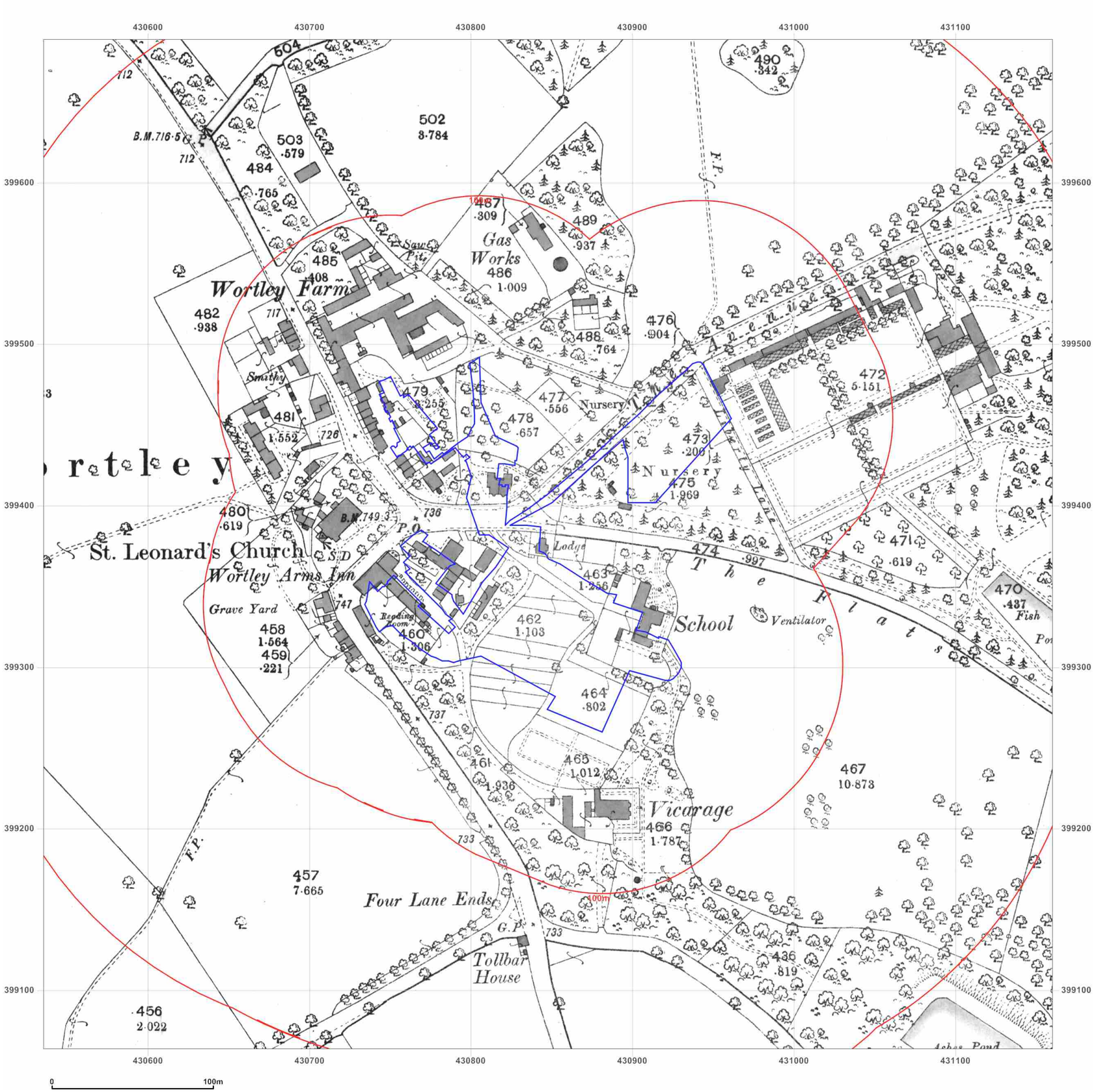
0 cm 2 cm 4 cm 6 cm 8 cm 10 cm 12 cm 14 cm 16 cm 18 cm 20 cm 22 cm

Scale: 1:2500 | Date: Sept 2010 | Ref: 21.70 | Rev: - | Drwg No: P24 Rev B

Chris Carr Associates
ARCHITECTS
6a Eastgate Barnsley
S70 2EP
Tel: 01226 286256 Fax:01226 207304
Email: mail@cca-arch.co.uk

APPENDIX B

(i) Historical Mapping



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1893
Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

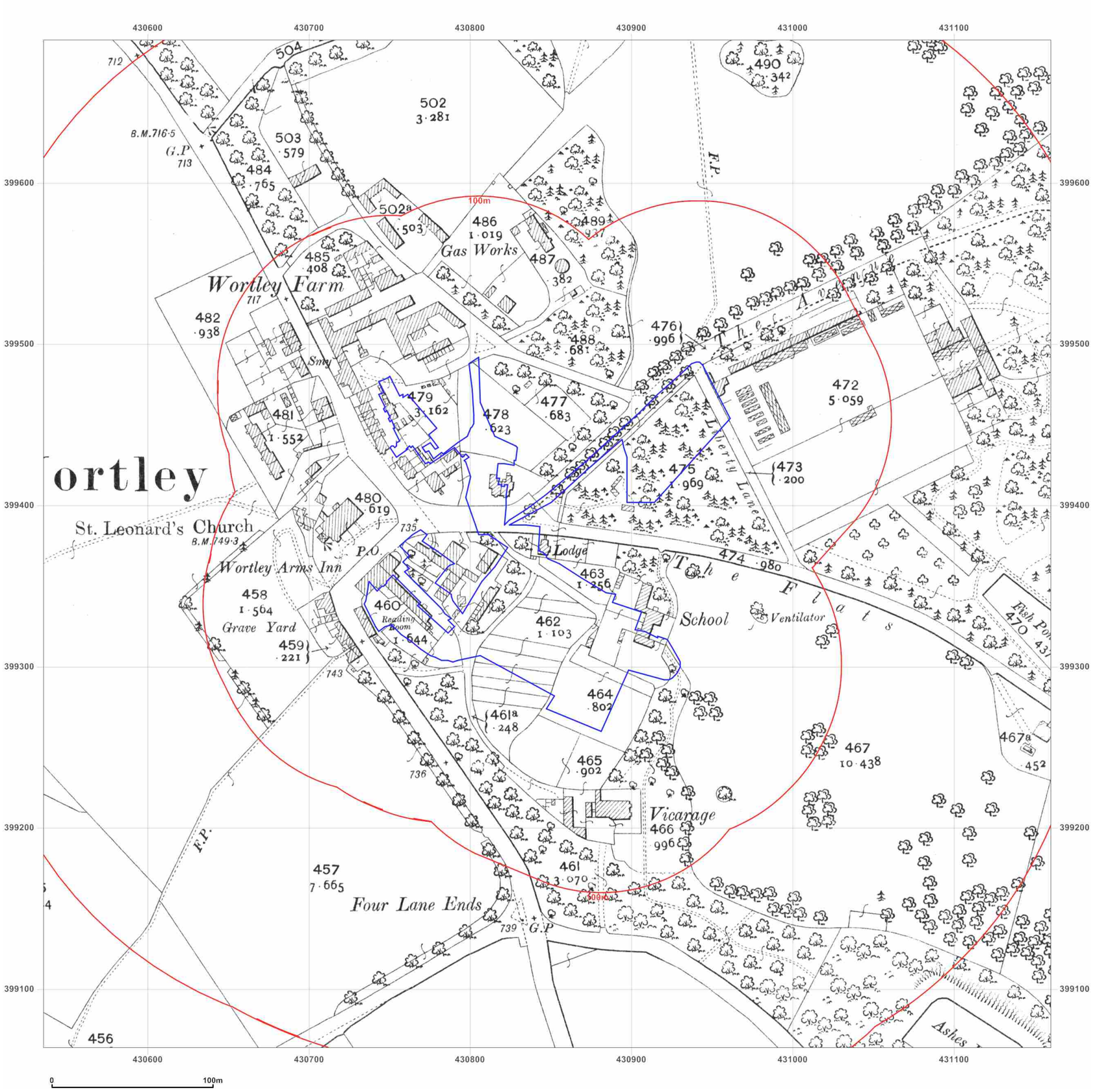
Powered by

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: County Series

Map date: **1905**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1905
Revised 1905
Edition N/A
Copyright N/A
Levelled N/A

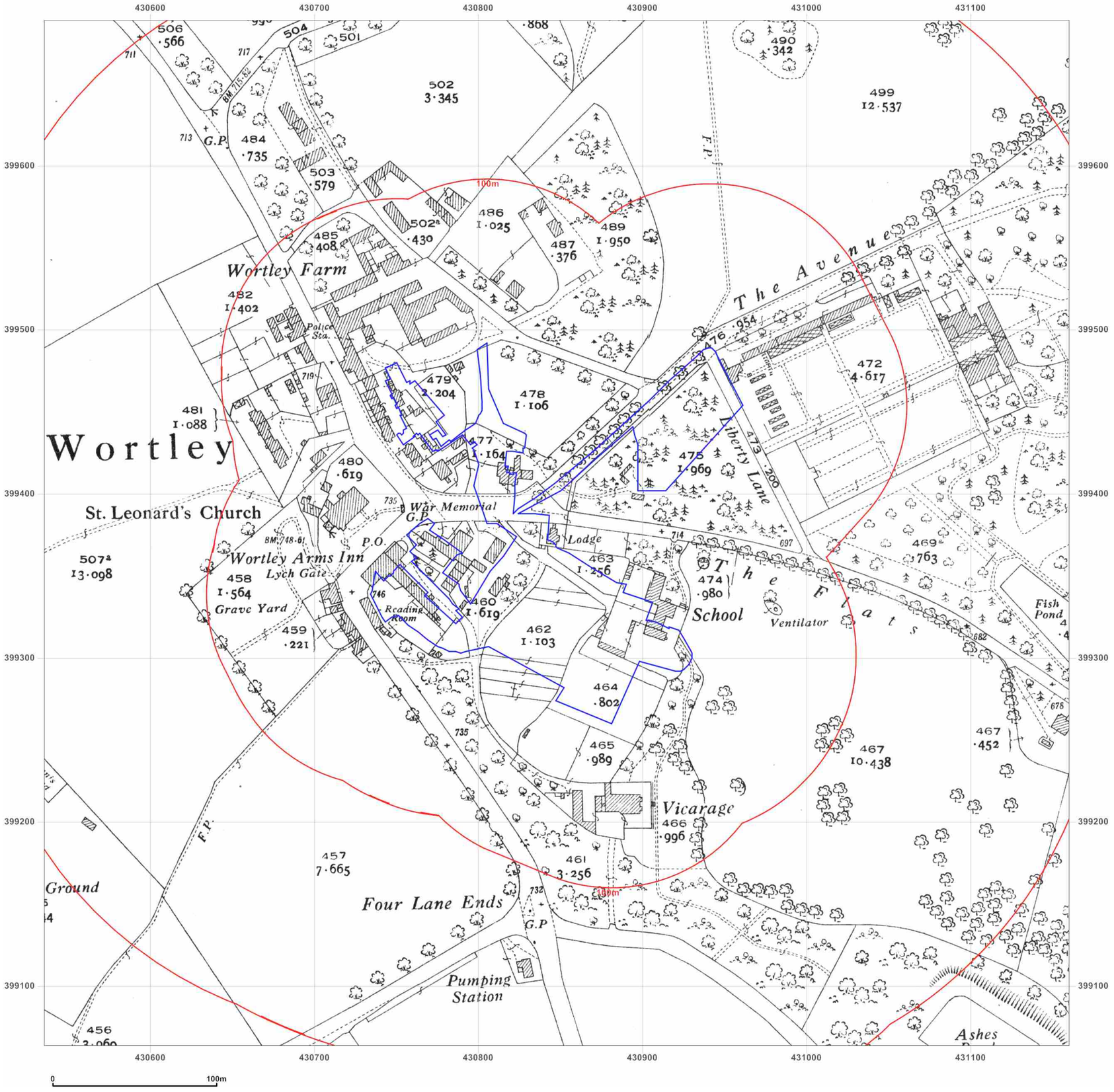
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: County Series

Map date: **1931**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1931
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

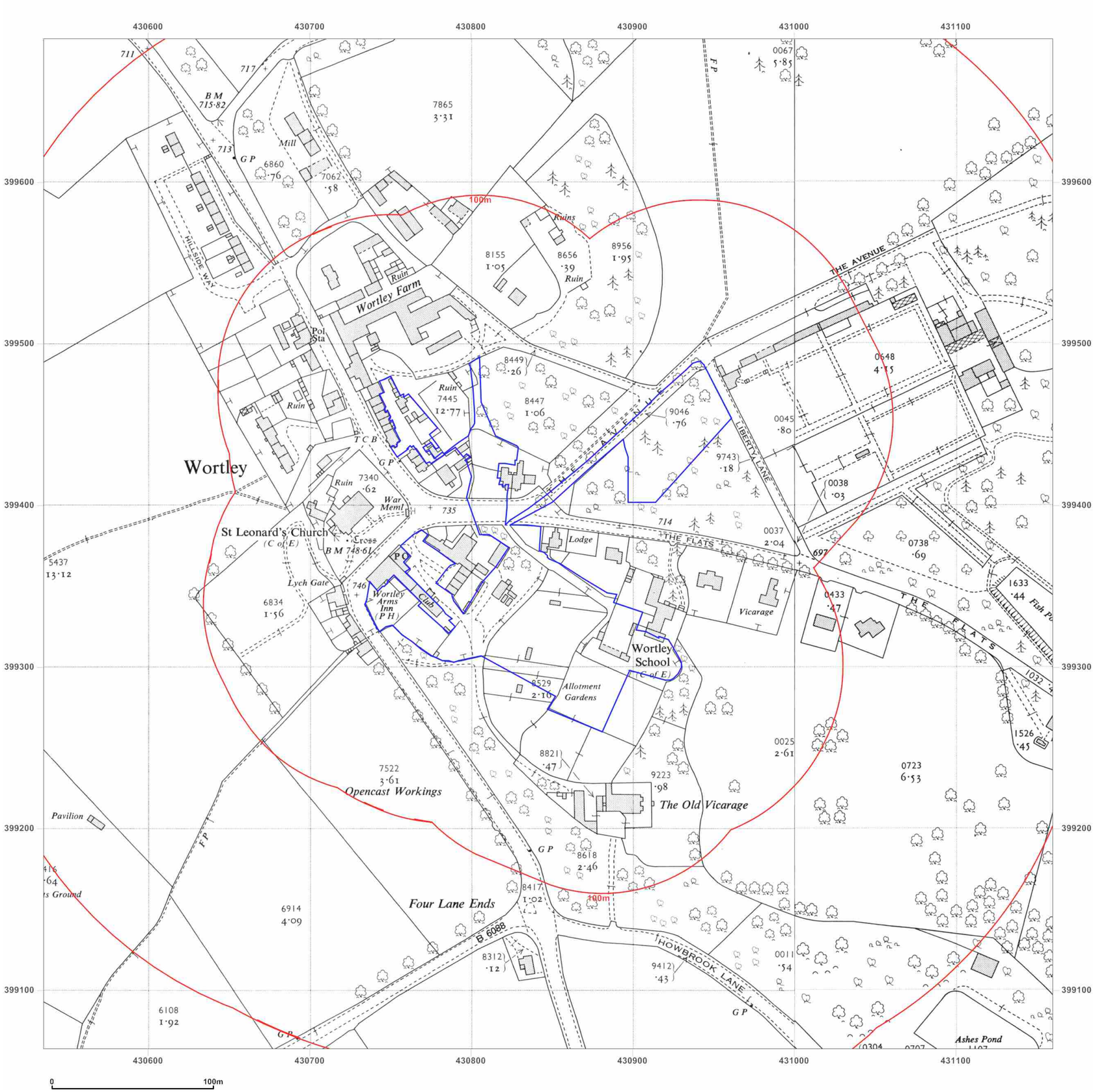
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: National Grid

Map date: **1956-1958**

Scale: 1:2,500

Printed at: 1:2,500

N W E S

Surveyed 1958	Surveyed 1956
Revised 1958	Revised 1956
Edition N/A	Edition N/A
Copyright 1959	Copyright N/A
Levelled 1930	Levelled 1930

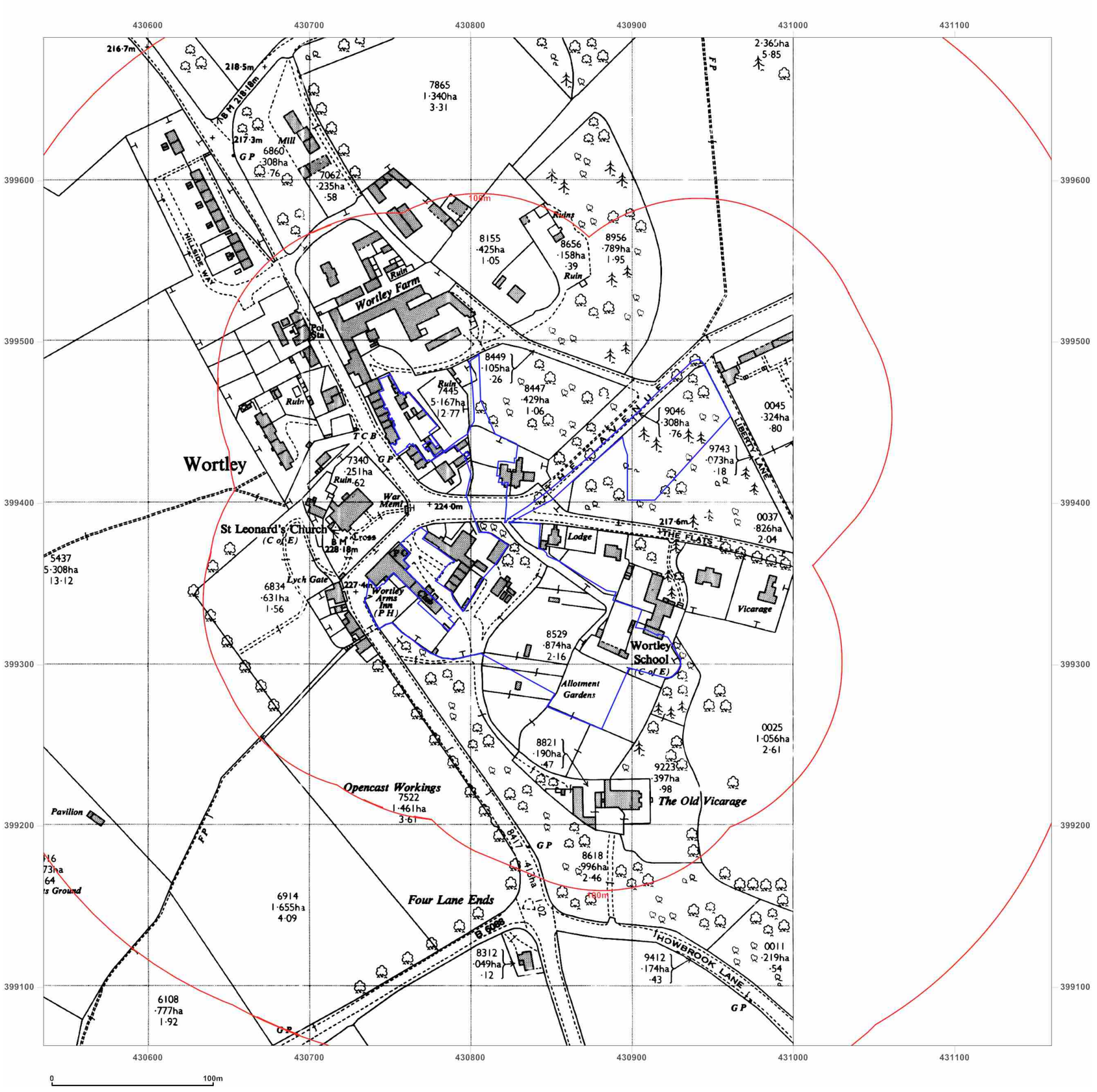
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: National Grid

Map date: **1976**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1976
Levelled N/A

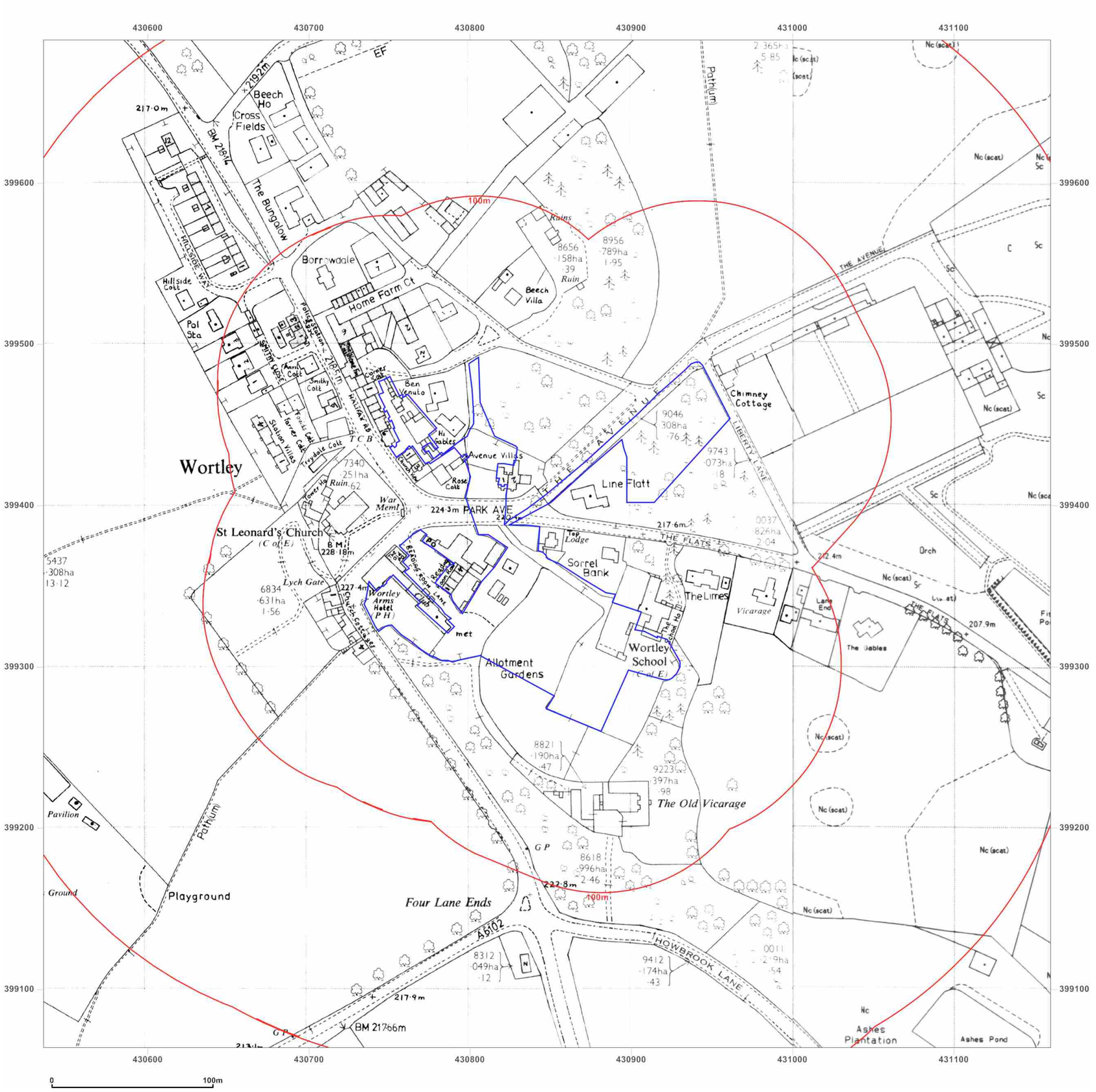
Powered by

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: National Grid

Map date: **1991-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1963	Surveyed 1993
Revised 1991	Revised N/A
Edition N/A	Edition N/A
Copyright 1991	Copyright 1993
Levelled 1963	Levelled N/A

Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

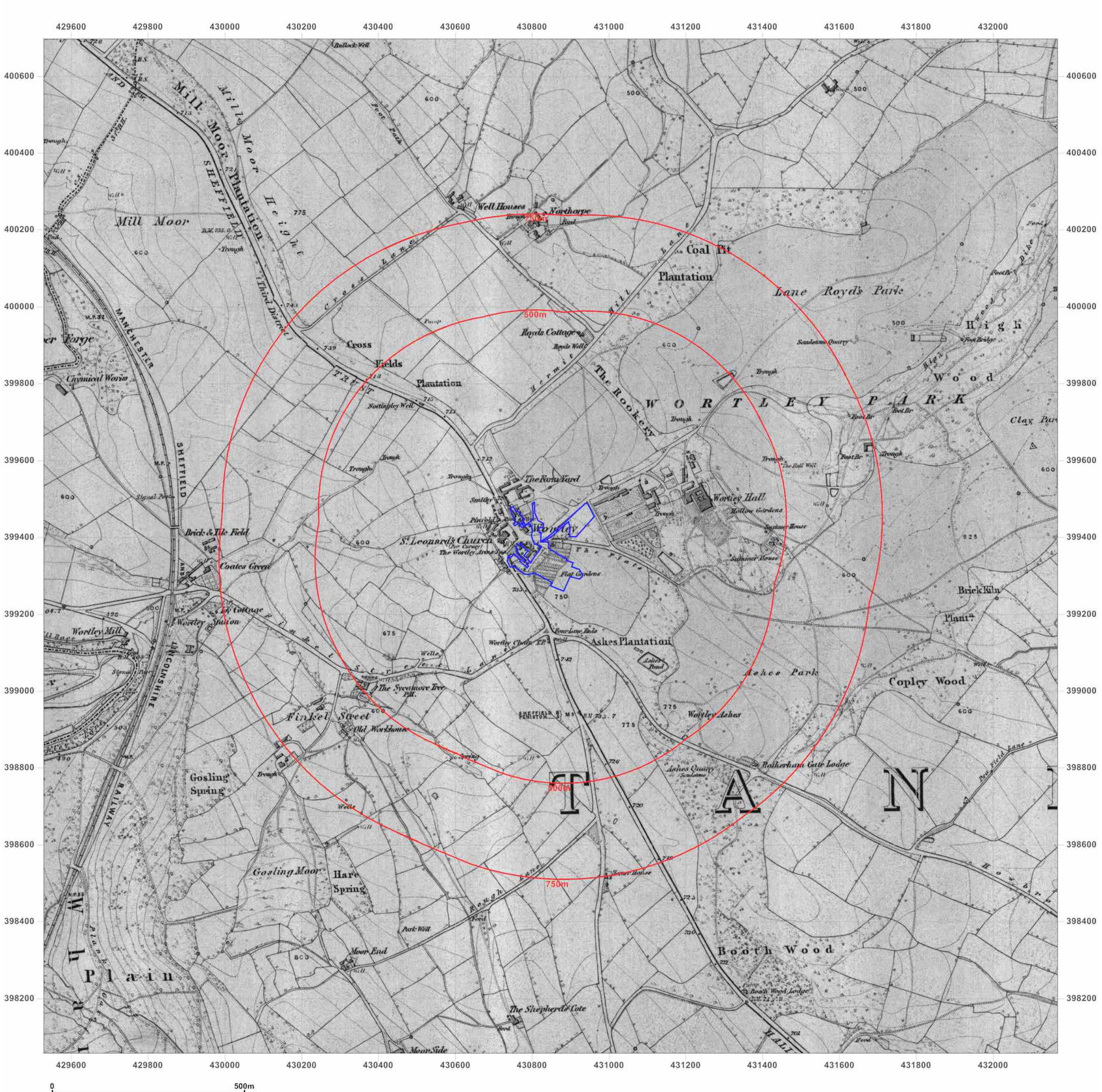
Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: County Series

Map date: **1855**

Scale: 1:10,560

Printed at: 1:10,560

N W E S

Surveyed 1851
Revised N/A
Edition 1855
Copyright N/A
Levelled N/A

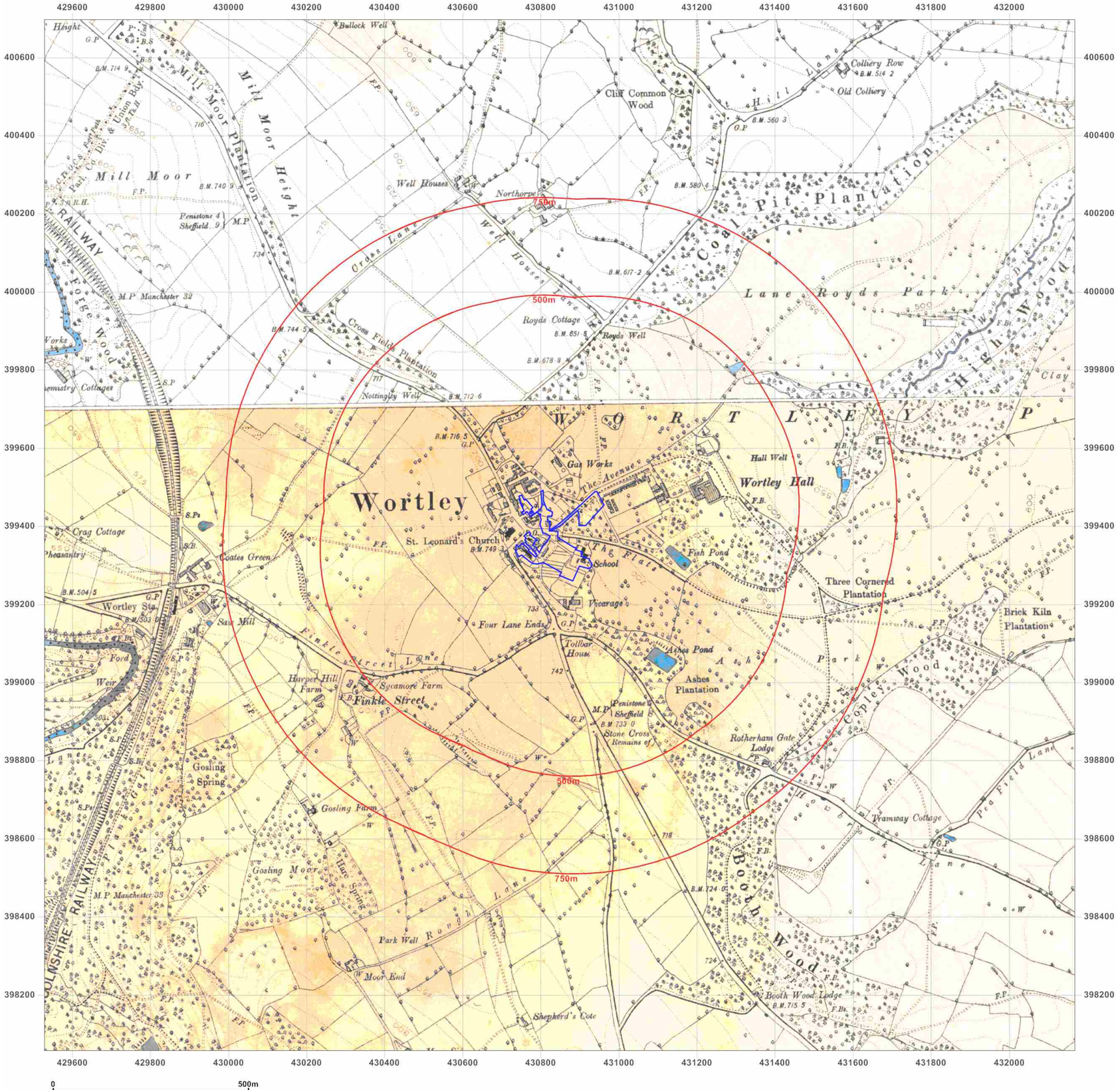
Powered by

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: County Series

Map date: **1891**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
Levelled N/A

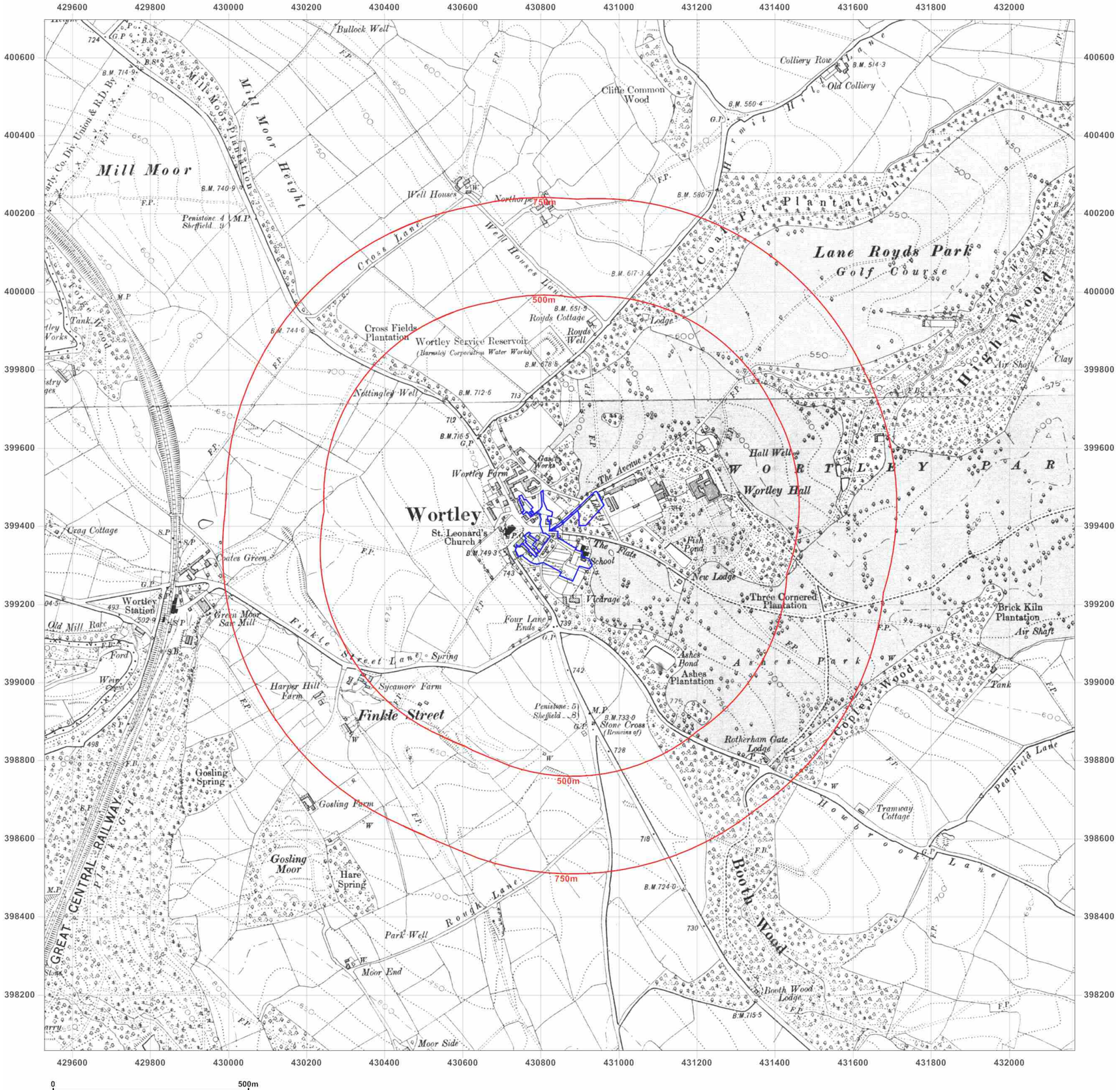
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: County Series

Map date: **1903**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1891
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1891
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

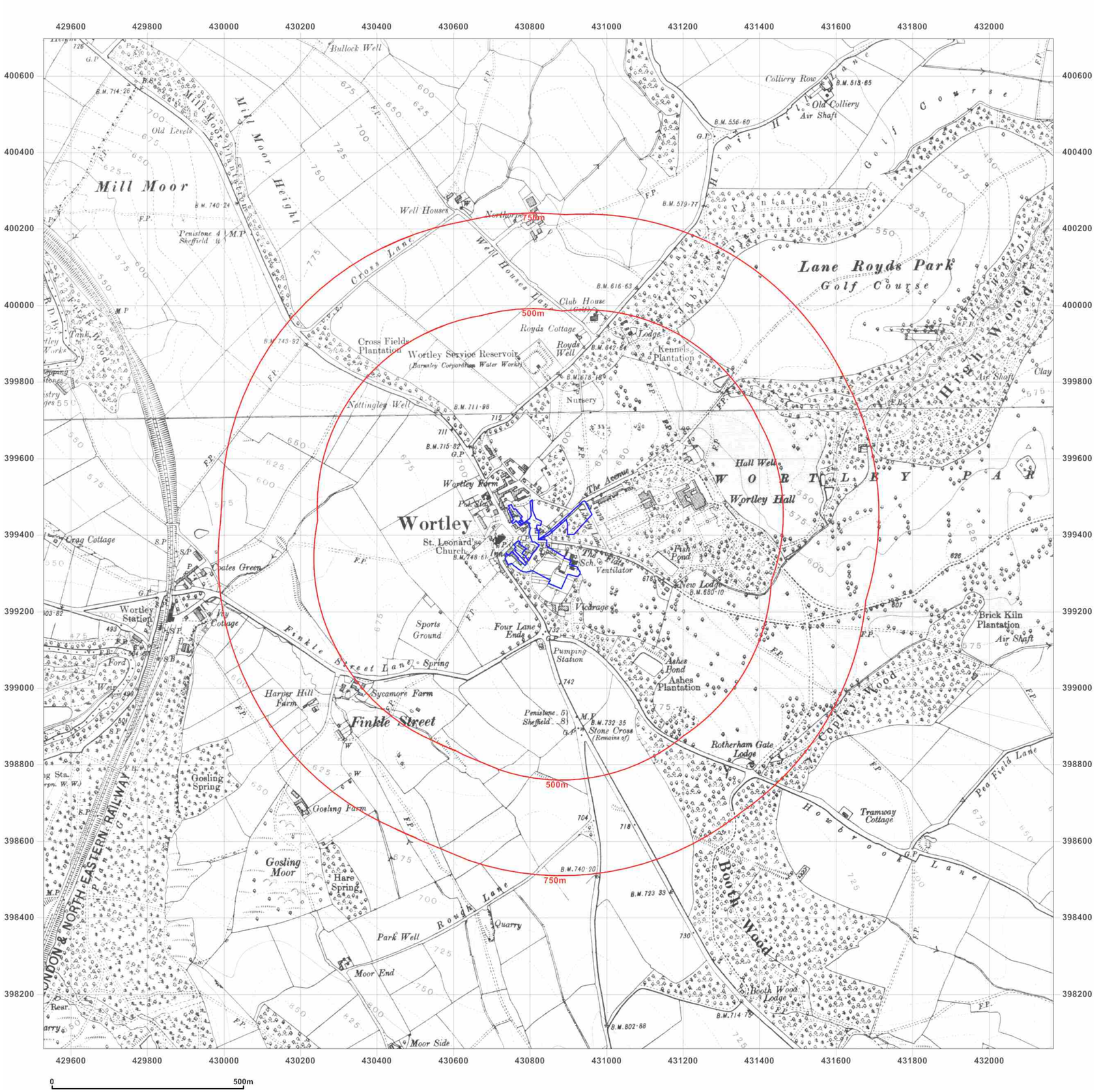
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: County Series

Map date: **1929-1932**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1851
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1929
Edition N/A
Copyright N/A
Levelled N/A

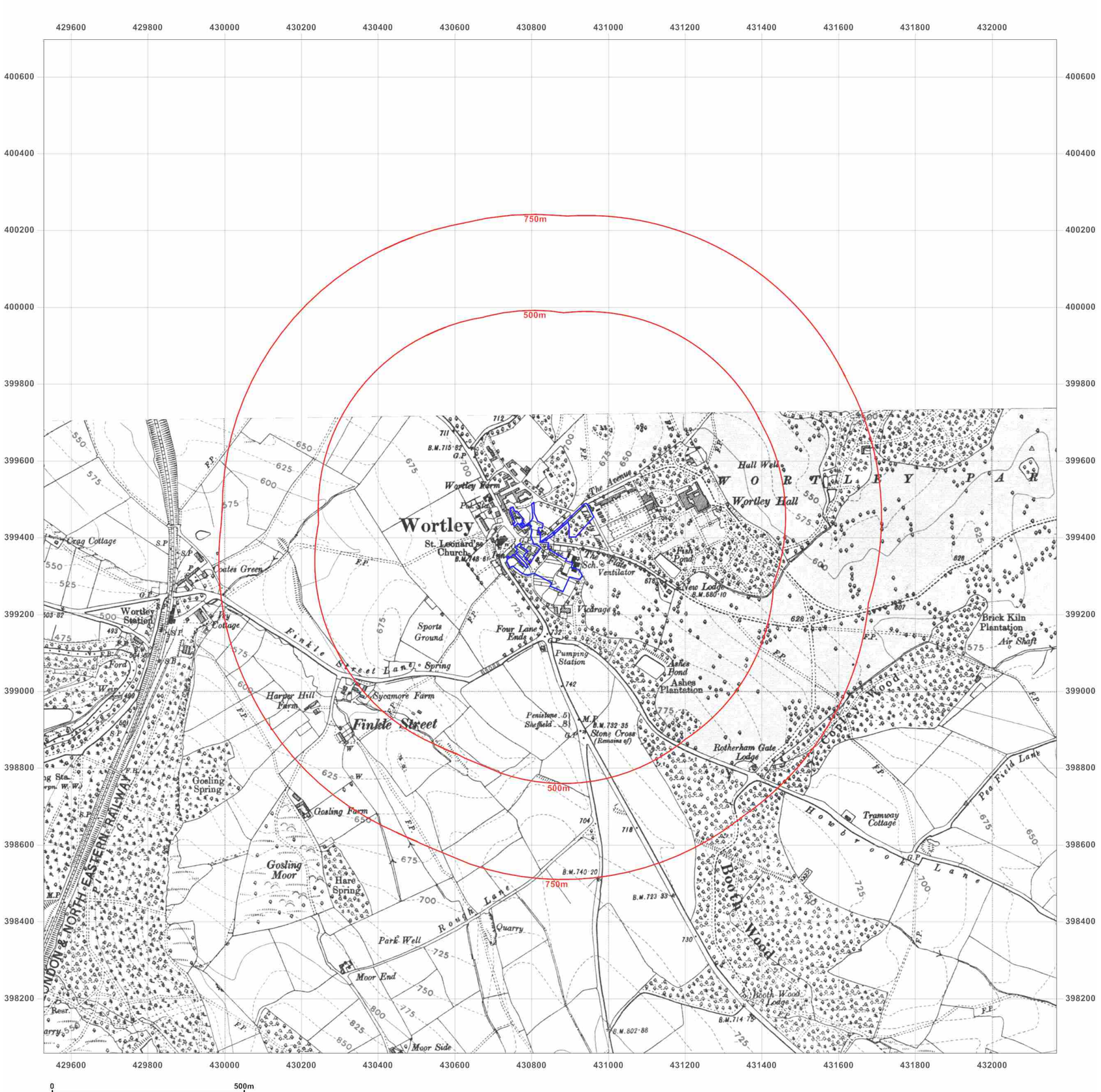
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1851
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

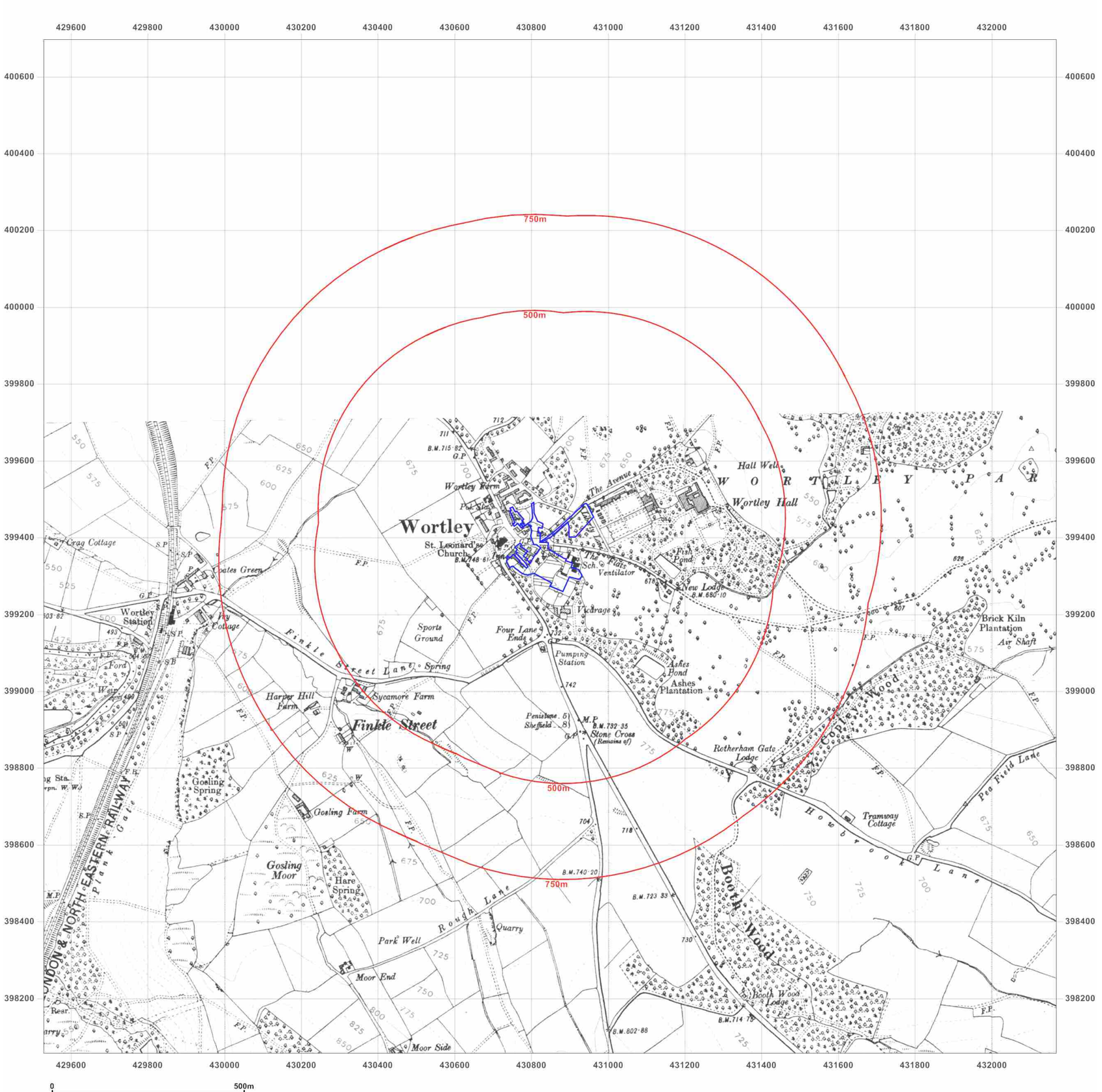
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

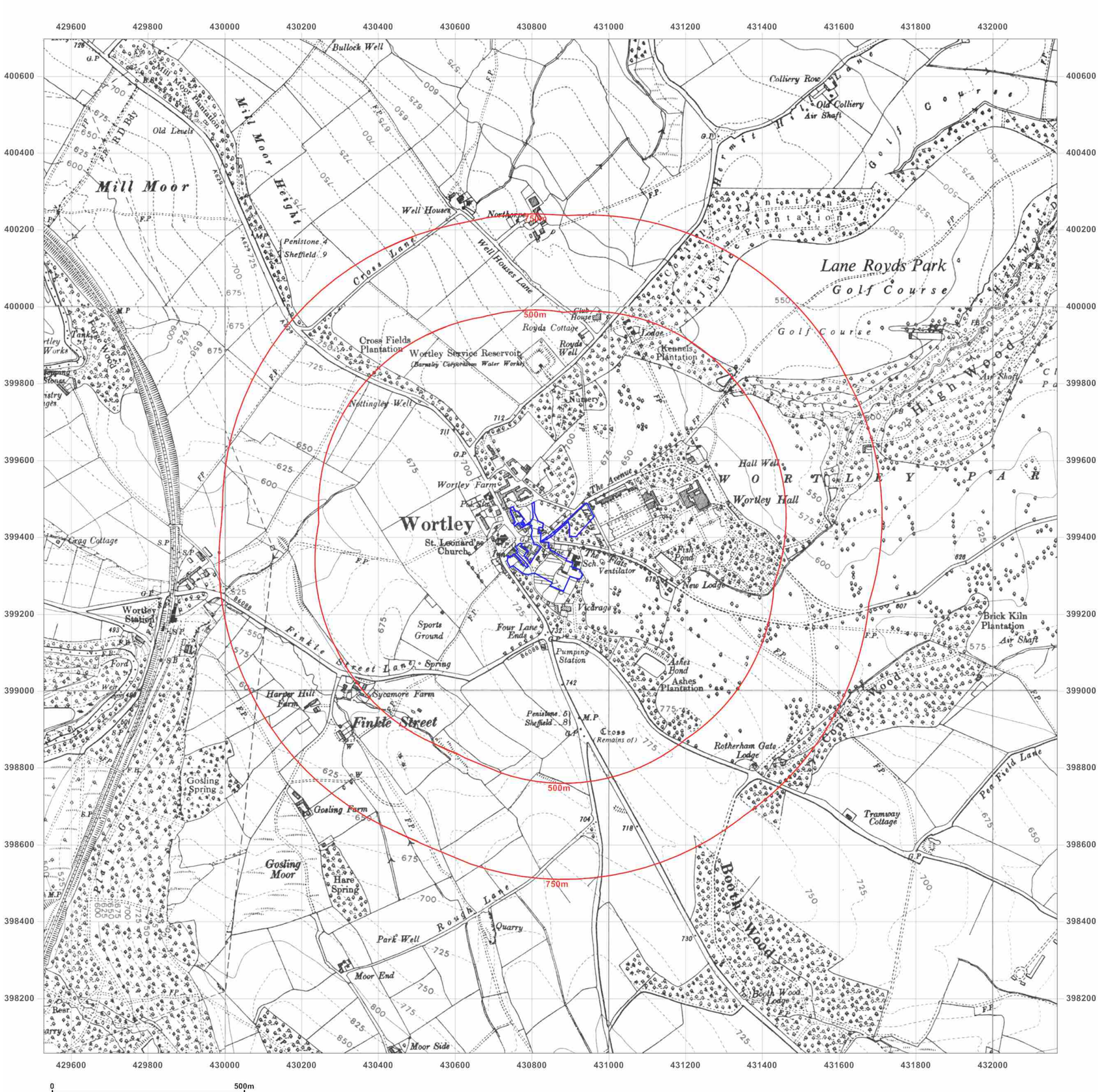
Powered by

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: Provisional

Map date: **1951-1956**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised 1955
Edition N/A
Copyright 1956
Levelled N/A

Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled N/A

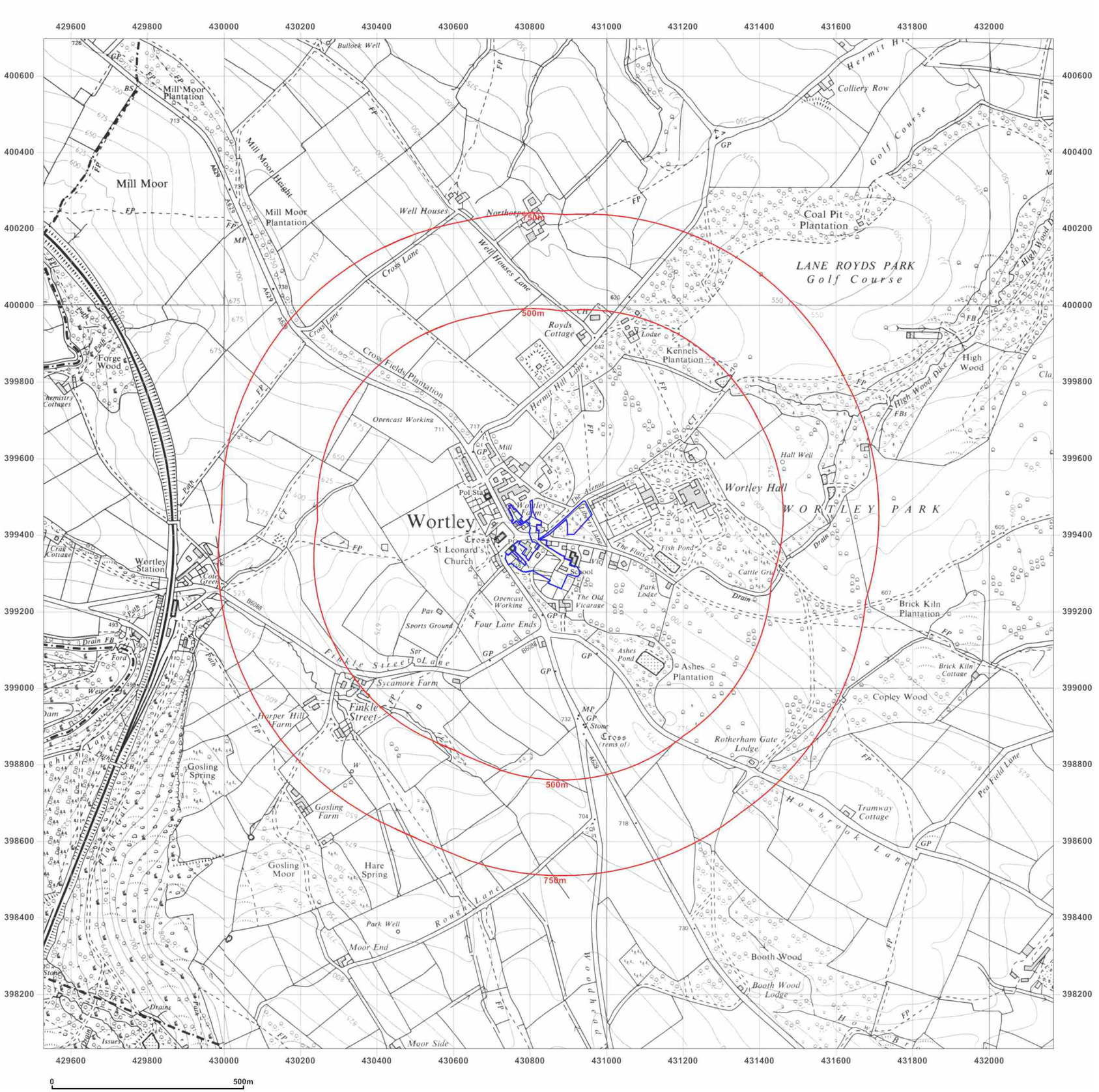
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: Provisional

Map date: **1965-1966**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1965
Revised 1965
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1965
Revised 1965
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

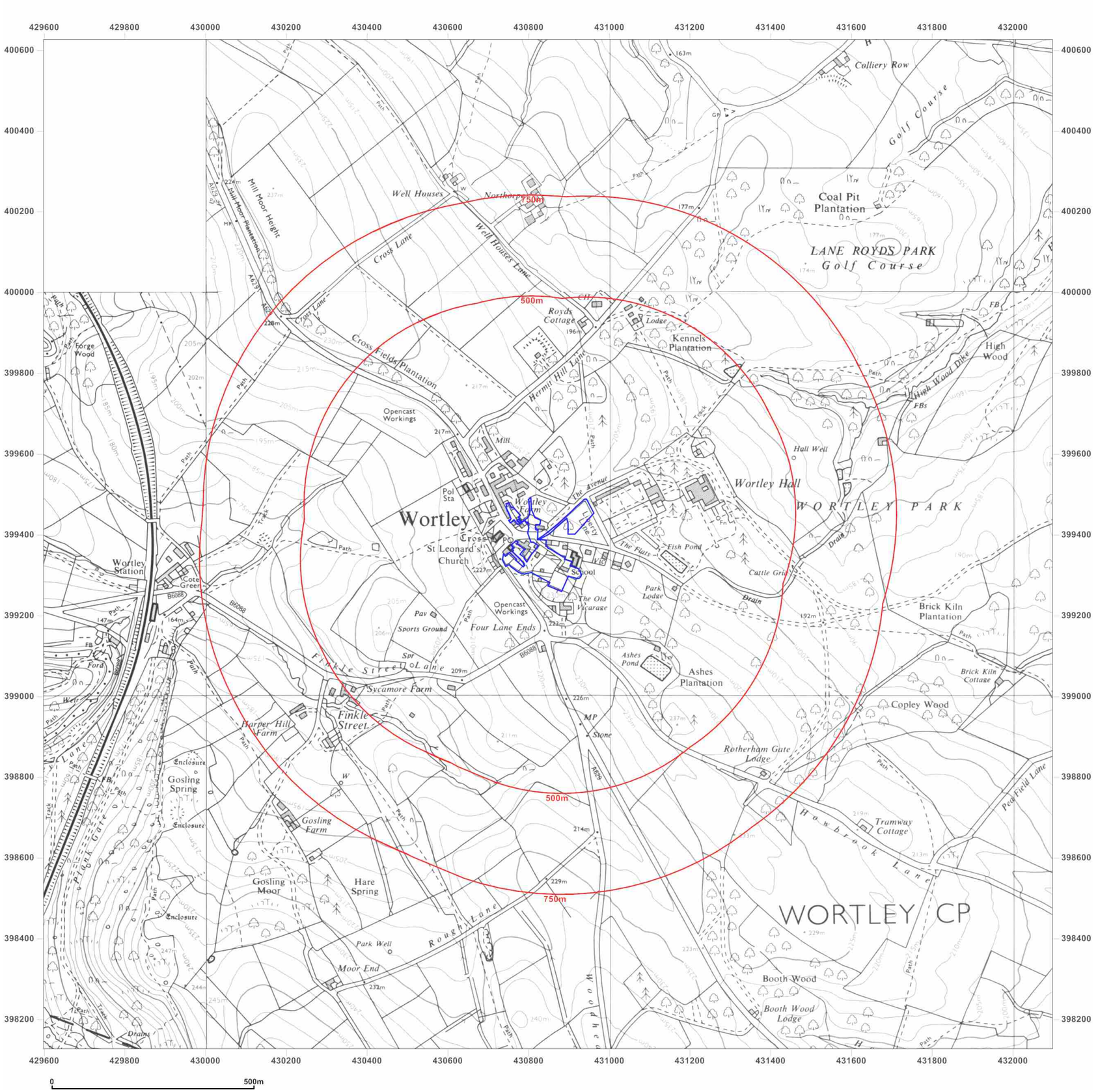
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: National Grid

Map date: **1977-1980**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1973
Revised 1977
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1974
Revised 1978
Edition N/A
Copyright N/A
Levelled N/A

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

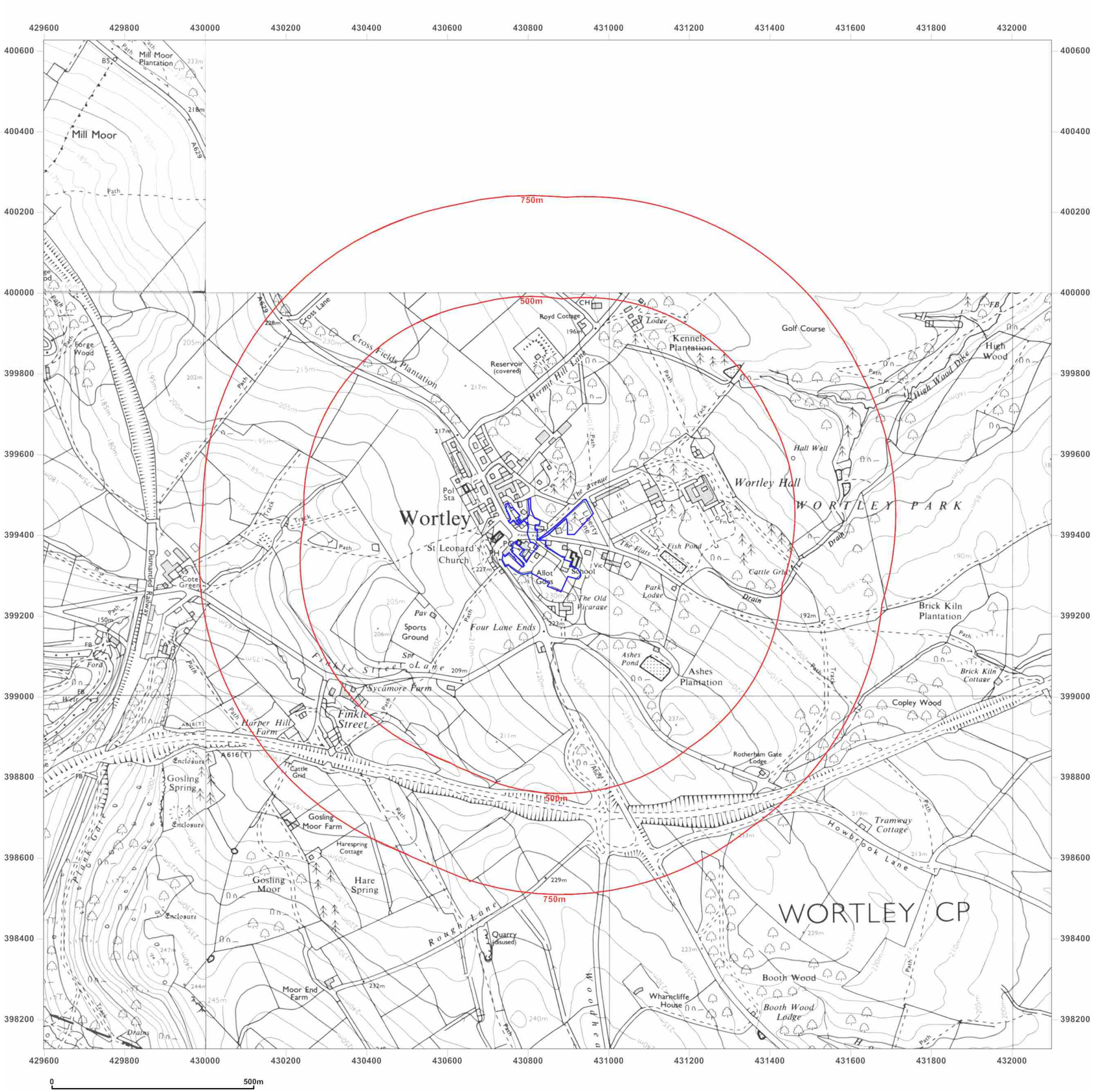
Powered by

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: National Grid

Map date: **1987-1992**

Scale: 1:10,000

Printed at: 1:10,000

N W E S

Surveyed 1984
Revised 1987
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1981
Revised 1990
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1991
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

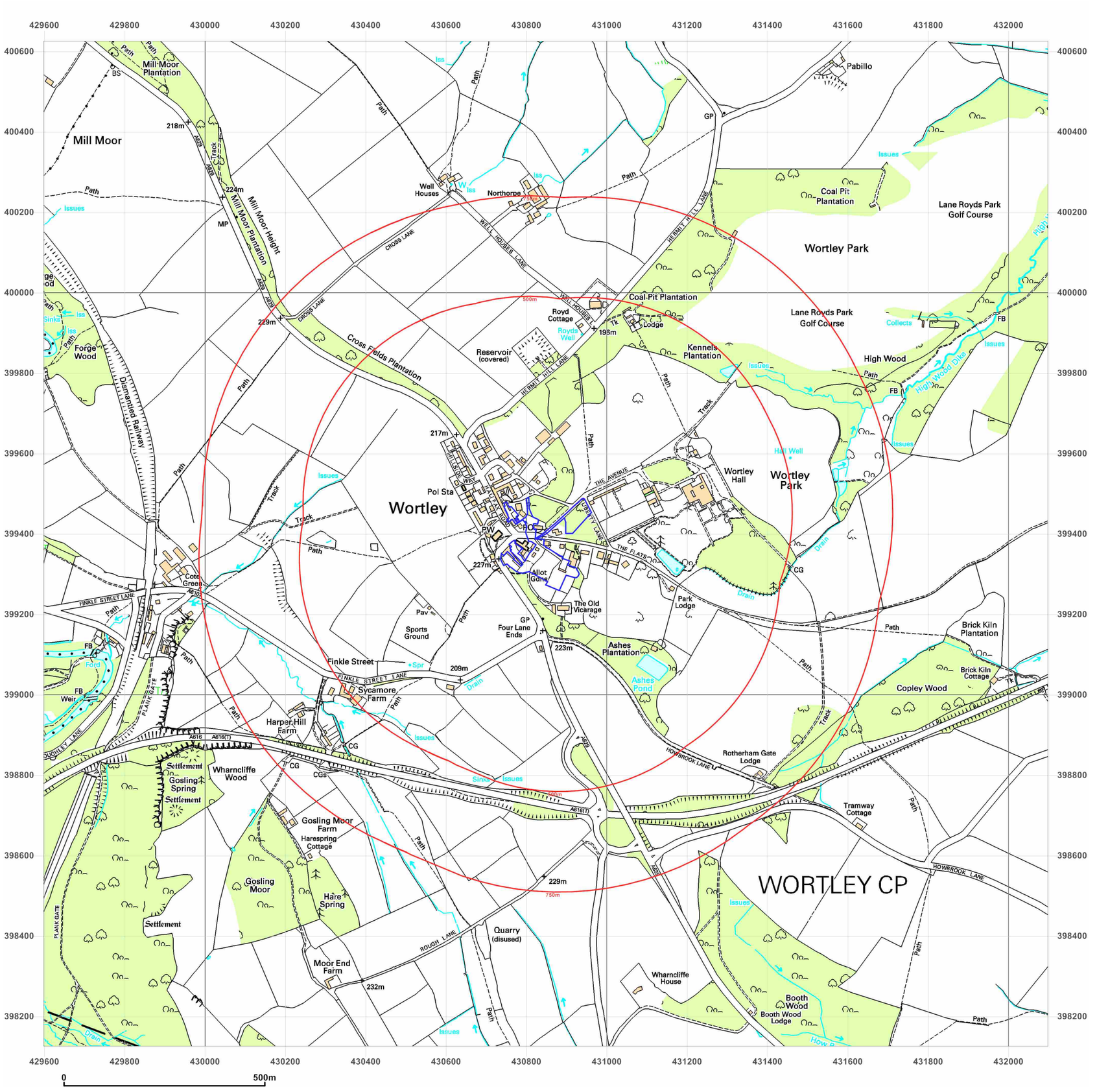
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: 1:10,000 Raster

Map date: **2002**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2002

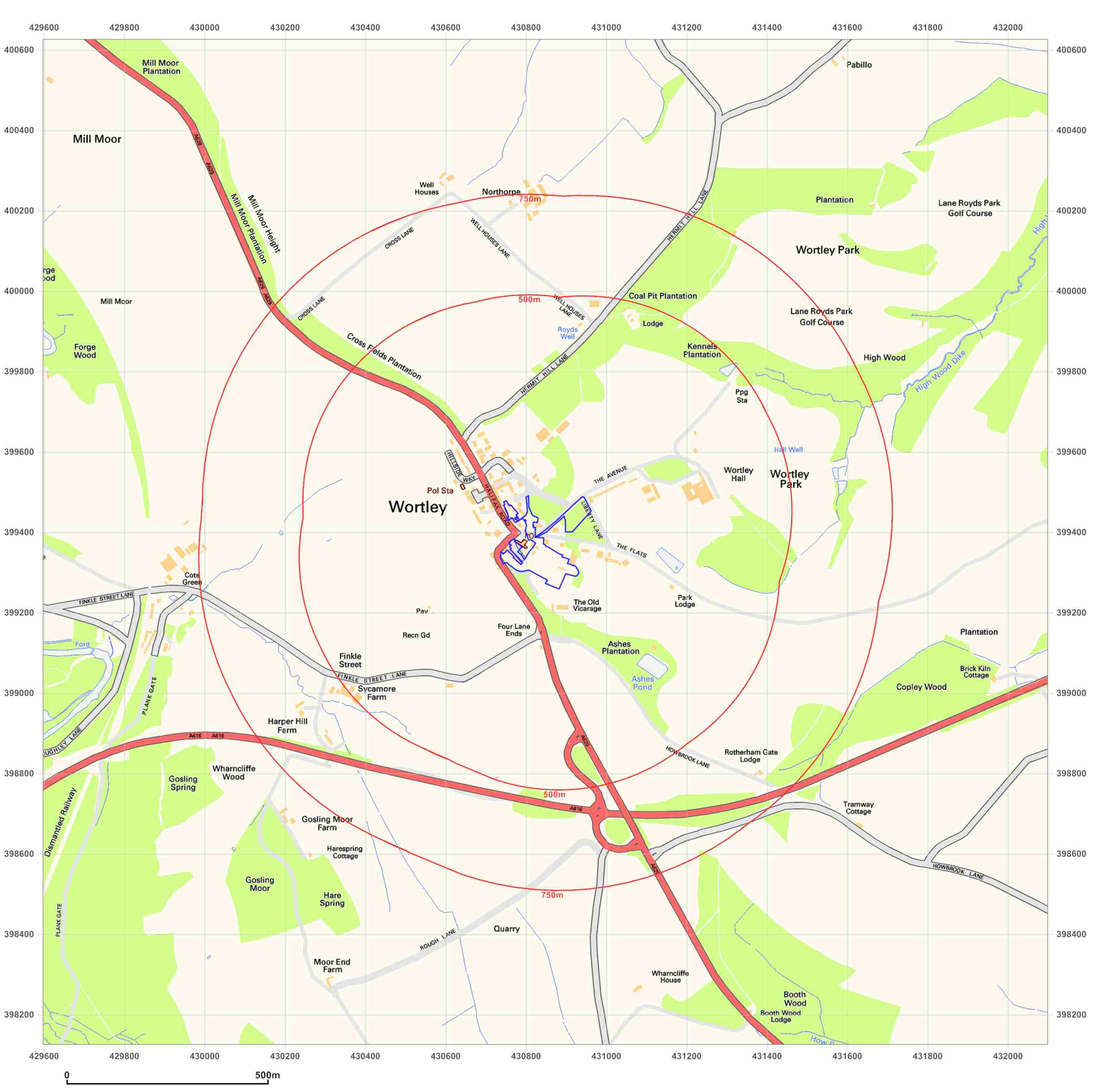
Powered by OS

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2010

Powered by

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*



Groundsure INSIGHTS

Site Details:

Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Client Ref: 16012
Report Ref: GS-2989911
Grid Ref: 430848, 399376

Map Name: National Grid

Map date: **2014**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2014

Powered by

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

© Crown copyright and database rights 2015 Ordnance Survey 100035207

Production date: 19 May 2016

To view map legend click here *Legend*

APPENDIX C

(i) GroundSure EnviroInsight – Environmental Data Report

(ii) GroundSure GeoInsight

(iii) Coal Authority Report

Groundsure
LOCATION INTELLIGENCE

Silkstone Environmental Ltd

THORNCLIFFE HALL ANNEXE SILKSTONE ENVIRONMENTAL, NEWTON CHAMBERS ROAD,
SHEFFIELD/CHAPELTOWN, S35 2PH

Groundsure Reference:	GS-2989909
Your Reference:	16012
Report Date	19 May 2016
Report Delivery Method:	Email - pdf

Groundsure Enviro Insight

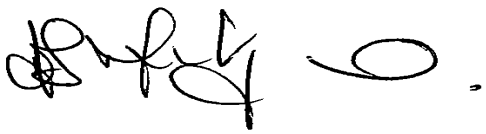
Address: Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Dear Sir/ Madam,

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

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

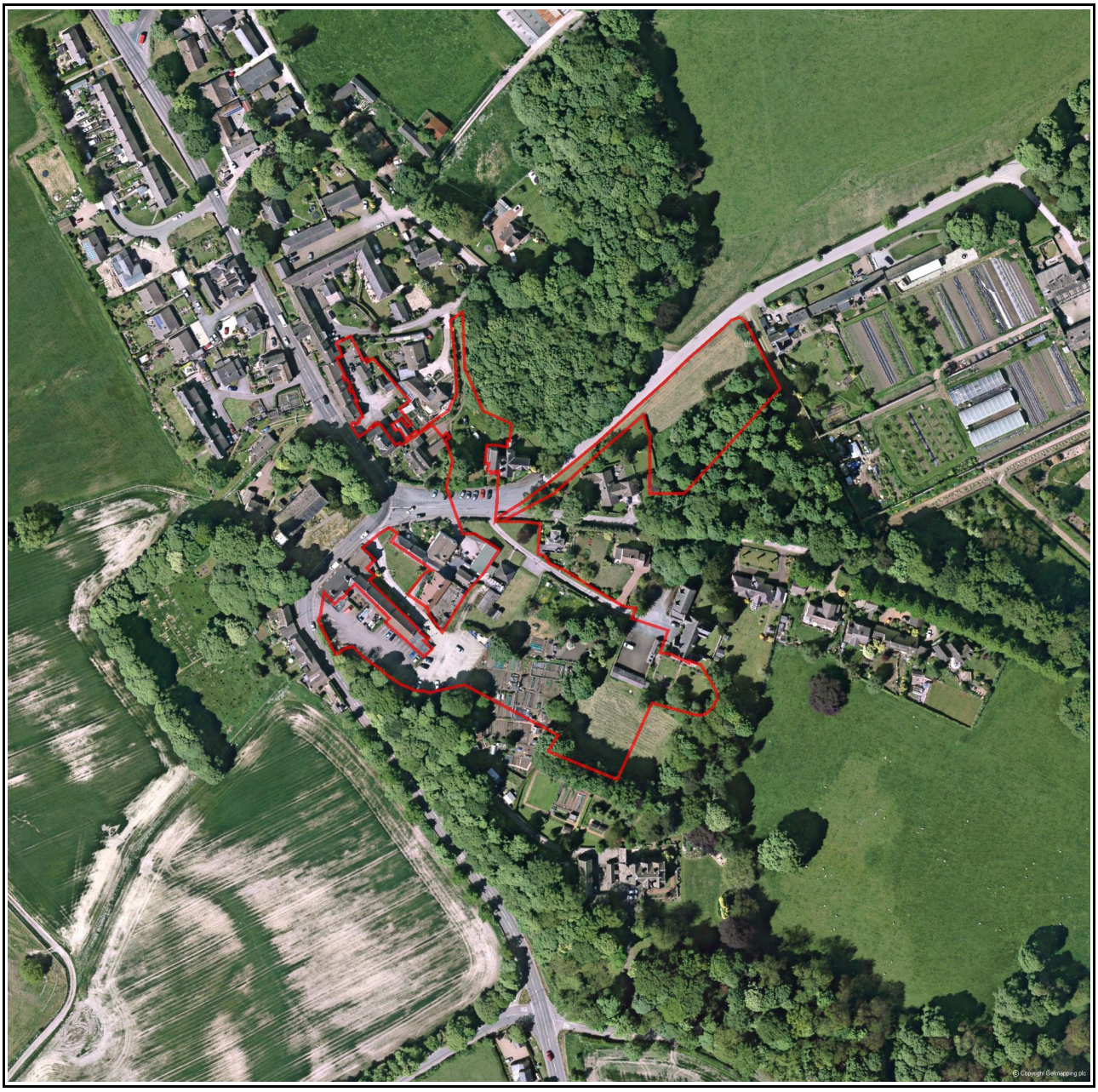
Groundsure Enviro Insight

Address:	**Wortley Village Phase 1 Desk Study South-West Area , S35 7DT**
Date:	**19 May 2016**
Reference:	**GS-2989909**
Client:	**Silkstone Environmental Ltd**

NW N NE

W E

SW S SE



Aerial Photograph Capture date:	07-Jun-2013
Grid Reference:	430813,399398
Site Size:	1.75ha

Report Reference: GS-2989909
Client Reference: 16012

Contents Page

Contents Page 3
Overview of Findings 6
Using this report 10
1. Historical Land Use 11
1. Historical Industrial Sites 12
1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping 12
1.2 Additional Information – Historical Tank Database 13
1.3 Additional Information – Historical Energy Features Database 13
1.4 Additional Information – Historical Petrol and Fuel Site Database 13
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database 13
1.6 Potentially Infilled Land 14
2. Environmental Permits, Incidents and Registers Map 16
2. Environmental Permits, Incidents and Registers 17
2.1 Industrial Sites Holding Licences and/or Authorisations 17
2.1.1 Records of historic IPC Authorisations within 500m of the study site: 17
2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site: 17
2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site: 17
2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site: 17
2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site: 17
2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site: 18
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations: 18
2.1.8 Records of Licensed Discharge Consents within 500m of the study site: 18
2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site: 19
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site: 19
2.2 Dangerous or Hazardous Sites 19
2.3 Environment Agency Recorded Pollution Incidents 19
2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site: 19
2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site: 19
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990 20
3. Landfill and Other Waste Sites Map 21
3. Landfill and Other Waste Sites 22
3.1 Landfill Sites 22
3.1.1 Records from Environment Agency landfill data within 1000m of the study site: 22
3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site: 22
3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site: 23
3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site: 23
3.2 Other Waste Sites 23
3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site: 23
3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site: 23
4. Current Land Use Map 24
4. Current Land Uses 25
4.1 Current Industrial Data 25
4.2 Petrol and Fuel Sites 25
4.3 National Grid High Voltage Underground Electricity Transmission Cables 25
4.4 National Grid High Pressure Gas Transmission Pipelines 26
5. Geology 27
5.1 Artificial Ground and Made Ground 27

5.2 Superficial Ground and Drift Geology 27
5.3 Bedrock and Solid Geology 27
6 Hydrogeology and Hydrology 28
6a. Aquifer Within Superficial Geology 28
6b. Aquifer Within Bedrock Geology and Abstraction Licenses 29
6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses 30
6d. Hydrogeology – Source Protection Zones within confined aquifer 31
6e. Hydrology – Detailed River Network and River Quality 32
6.Hydrogeology and Hydrology 33
6.1 Aquifer within Superficial Deposits 33
6.2 Aquifer within Bedrock Deposits 33
6.3 Groundwater Abstraction Licences 33
6.4 Surface Water Abstraction Licences 34
6.5 Potable Water Abstraction Licences 34
6.6 Source Protection Zones 34
6.7 Source Protection Zones within Confined Aquifer 35
6.8 Groundwater Vulnerability and Soil Leaching Potential 35
6.9 River Quality 35
6.9.1 Biological Quality: 35
6.9.2 Chemical Quality: 36
6.10 Detailed River Network 36
6.11 Surface Water Features 36
7a. Environment Agency Flood Map for Planning (from rivers and the sea) 37
7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map 38
7 Flooding 39
7.1 River and Coastal Zone 2 Flooding 39
7.2 River and Coastal Zone 3 Flooding 39
7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating 39
7.4 Flood Defences 39
7.5 Areas benefiting from Flood Defences 39
7.6 Areas benefiting from Flood Storage 40
7.7 Groundwater Flooding Susceptibility Areas 40
7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes 40
7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions? 40
7.8 Groundwater Flooding Confidence Areas 40
8. Designated Environmentally Sensitive Sites Map 41
8. Designated Environmentally Sensitive Sites 42
8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site: 42
8.2 Records of National Nature Reserves (NNR) within 2000m of the study site: 42
8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site: 42
8.4 Records of Special Protection Areas (SPA) within 2000m of the study site: 42
8.5 Records of Ramsar sites within 2000m of the study site: 42
8.6 Records of Ancient Woodland within 2000m of the study site: 43
8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site: 44
8.8 Records of World Heritage Sites within 2000m of the study site: 44
8.9 Records of Environmentally Sensitive Areas within 2000m of the study site: 44
8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site: 44
8.11 Records of National Parks (NP) within 2000m of the study site: 44
8.12 Records of Nitrate Sensitive Areas within 2000m of the study site: 44
8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site: 45

8.14 Records of Green Belt land within 2000m of the study site:.....45
9. Natural Hazards Findings 46
9.1 Detailed BGS GeoSure Data.....46
9.1.1 Shrink Swell.....46
9.1.2 Landslides.....46
9.1.3 Soluble Rocks.....46
9.1.4 Compressible Ground.....47
9.1.5 Collapsible Rocks.....47
9.1.6 Running Sand.....47
9.2 Radon.....47
9.2.1 Radon Affected Areas.....47
9.2.2 Radon Protection.....48
10. Mining 49
10.1 Coal Mining.....49
10.2 Non-Coal Mining.....49
10.3 Brine Affected Areas 49
Contact Details 50
Standard Terms and Conditions 52

Overview of Findings

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

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	7	14	13
1.2 Additional Information – Historical Tank Database	0	0	0	2
1.3 Additional Information – Historical Energy Features Database	0	0	0	0
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Potentially Infilled Land	0	2	11	31

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	4
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	0
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency Historic Landfill Sites	0	0	0	2	1	0
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	0	0

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	1	2	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	None
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	No
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	3	0	1
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	2	0	0	1	Not searched	Not searched

	On-site	0-50m	51-250	251-500	501-1000	1000-1500

Section 6: Hydrogeology and Hydrology	0-500m					
6.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Detailed River Network entries within 500m of the site	0	0	0	6	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 7: Flooding	
7.1 Are there any Enviroment Agency Zone 2 floodplains within 250m of the study site?	No
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site	No
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low
7.4 Are there any Flood Defences within 250m of the study site?	No
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Limited potential
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Low

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	1
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	8	17
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	1
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	0	0	2	1
8.14 Records of Green Belt land	1	0	0	0	3	3

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?	Very Low
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Negligible
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?	Yes
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	Yes
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

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

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

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

6. Hydrogeology and Hydrology

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

7. Flooding

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

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

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

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

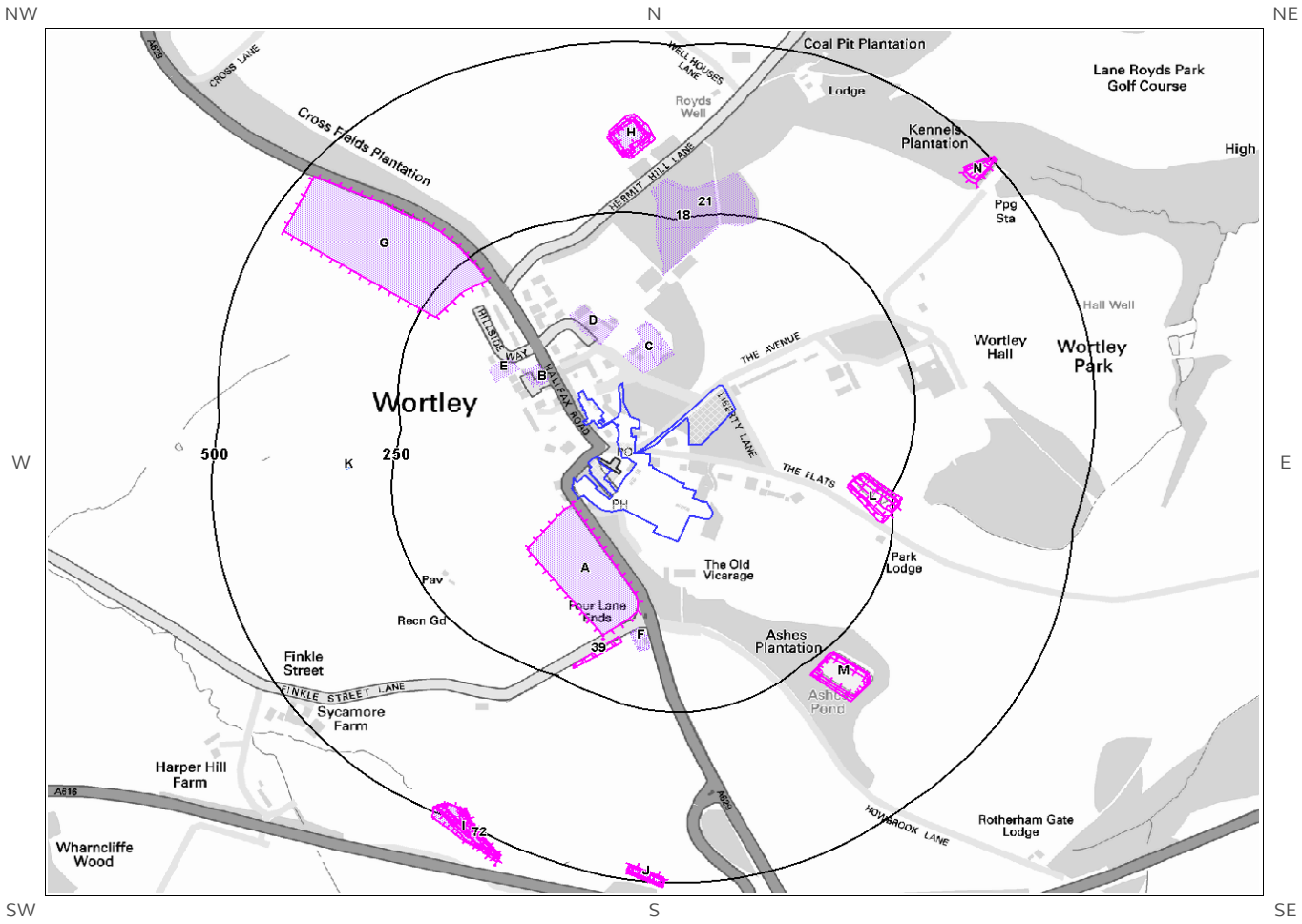
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

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

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

250
500
Search Buffers (m)

Historical 1:10,000 and 1:10,560 scale mapping

Industrial Land Use

Potentially Infilled Land

Historical 1:2,500, 1:1,250 and 1:500 scale mapping

Energy Features

Petrol Stations

Tanks

Garages

1. Historical Industrial Sites

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

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

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

ID	Distance [m]	Direction	Use	Date
1A	12	SW	Opencast Workings	1980
2A	12	SW	Opencast Workings	1966
3C	29	NE	Gas Works	1903
4B	47	NW	Police Station	1948
5B	47	NW	Police Station	1966
6B	47	NW	Police Station	1951
7B	48	NW	Police Station	1938
8C	54	NE	Gas Works	1891
9D	64	NW	Unspecified Mill	1980
10D	64	NW	Unspecified Mill	1966
11C	70	NE	Gasometer	1903
12C	70	NE	Gasometer	1891
13E	89	NW	Police Station	1980
14E	89	NW	Police Station	1992
15F	136	S	Pumping Station	1951
16F	138	S	Pumping Station	1938
17F	141	S	Pumping Station	1948
18	167	N	Nursery	1951
19G	208	NW	Opencast Workings	1980
20G	208	NW	Opencast Workings	1966
21	231	N	Nursery	1932
22H	329	N	Unspecified Heap	1980
23H	329	N	Unspecified Heap	1966
24I	477	SW	Unspecified Ground Workings	1903
25J	478	S	Unspecified Pit	1951
26I	478	SW	Unspecified Ground Workings	1948
27I	479	SW	Unspecified Pit	1951
28I	480	SW	Unspecified Ground Workings	1938
29I	480	SW	Unspecified Ground Workings	1938
30J	481	S	Unspecified Pit	1948
31J	482	S	Unspecified Pit	1938
32J	482	S	Unspecified Pit	1938

33I	484	SW	Unspecified Ground Workings	1891
34I	484	SW	Unspecified Ground Workings	1948

1.2 Additional Information – Historical Tank Database

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

Records of historical tanks within 500m of the search boundary: 2

ID	Distance (m)	Direction	Use	Date
35K	309	W	Tanks	1958
36K	311	W	Tanks	1991

1.3 Additional Information – Historical Energy Features Database

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

Records of historical energy features within 500m of the search boundary: 0

Database searched and no data found.

1.4 Additional Information – Historical Petrol and Fuel Site Database

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

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

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

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

1.6 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 44

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

ID	Distance(m)	Direction	Use	Date
37A	12	SW	Opencast Workings	1966
38A	12	SW	Opencast Workings	1980
39	160	S	Pond	1948
40L	190	E	Fish Pond	1891
41L	190	E	Fish Pond	1903
42L	190	E	Fish Pond	1948
43L	192	SE	Fish Pond	1938
44L	193	SE	Fish Pond	1980
45L	193	SE	Fish Pond	1966
46L	193	SE	Fish Pond	1951
47L	195	SE	Fish Pond	1992
48G	208	NW	Opencast Workings	1980
49G	208	NW	Opencast Workings	1966
50M	258	SE	Pond	1951
51M	258	SE	Pond	1992
52M	258	SE	Pond	1966
53M	258	SE	Pond	1980
54M	261	SE	Pond	1891
55M	261	SE	Pond	1948
56M	261	SE	Pond	1903
57M	261	SE	Pond	1938
58H	329	N	Unspecified Heap	1980
59H	329	N	Unspecified Heap	1966
60H	331	N	Reservoir	1932
61H	331	N	Reservoir	1903
62H	333	N	Covered Reservoir	1992
63H	333	N	Reservoir	1951
64N	456	NE	Pond	1932
65N	461	NE	Pond	1980
66N	461	NE	Pond	1992
67N	461	NE	Pond	1951
68N	461	NE	Pond	1966
69N	461	NE	Pond	1891
70I	477	SW	Unspecified Ground Workings	1903
71J	478	S	Unspecified Pit	1951
72	478	SW	Unspecified Ground Workings	1948

73I	479	SW	Unspecified Pit	1951
74I	480	SW	Unspecified Ground Workings	1938
75I	480	SW	Unspecified Ground Workings	1938
76J	481	S	Unspecified Pit	1948
77J	482	S	Unspecified Pit	1938
78J	482	S	Unspecified Pit	1938
79I	484	SW	Unspecified Ground Workings	1891
80I	484	SW	Unspecified Ground Workings	1948

2. Environmental Permits, Incidents and Registers Map



© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

250
500
Search Buffers (m)

Recorded Pollution Incident

Dangerous Substances (List 1)

Dangerous Substances (List 2)

Water Industry Referrals

Licenced Discharge Consents

Red List Discharge Consents

RAS 3 & 4 Authorisations

Part A(1) Authorised Processes and Historic IPC Authorisations

Part A(2) and Part B Authorised Processes

COMAH / NIHHS Sites

Sites Determined as Contaminated Land

Hazardous Substance Consents and Enforcements

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

4

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1A	415	NE	431300 399700	Address: WORTLEY EAST STW, WORTLEY, SHEFFIELD, SOUTH YORKSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 3717(SS) Permit Version: 1	Receiving Water: Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 17/06/1983 Effective Date: 17-Jun-1983 Revocation Date: -
2A	415	NE	431300 399700	Address: WORTLEY EAST STW, WORTLEY, SHEFFIELD, SOUTH YORKSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 3717(SS) Permit Version: 1	Receiving Water: Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 17/06/1983 Effective Date: 17-Jun-1983 Revocation Date: -
3B	438	W	430300 399400	Address: WORTLEY WEST STW, WORTLEY, SHEFFIELD, SOUTH YORKSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: E757(SS) Permit Version: 1	Receiving Water: Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 21/05/1982 Effective Date: 21-May-1982 Revocation Date: 30/09/1985
4B	438	W	430300 399400	Address: WORTLEY WEST STW, WORTLEY, SHEFFIELD, SOUTH YORKSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: E757(SS) Permit Version: 2	Receiving Water: Status: TRANSFERRED FROM COPA 1974 Issue date: 01/10/1985 Effective Date: 01-Oct-1985 Revocation Date: -

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

0

Database searched and no data found.

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

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

2.3 Environment Agency Recorded Pollution Incidents

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

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

Database searched and no data found.

3. Landfill and Other Waste Sites Map



© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

250
500
Search Buffers (m)

E.A. Active Landfill

E.A. Historic Landfill

BGS / DoE Survey Landfill

Historic and Planned Waste Sites

E.A. Licensed Waste Site

Local Authority/Historical Mapping Landfill Records

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

3

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

ID	Distance (m)	Direction	NGR	Details	
1	255	SW	430800 398800	Site Address: Land being part of Northorpe Farm Holding Sycamore Farm, Finkle Street, Wortley, Sheffield Waste Licence: Yes Site Reference: WD20 B531, 4400/B531, 20B531(25) Waste Type: Inert, Commercial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 14-Aug-1986 Licence Surrendered: 13-May-1987 Licence Holder Address: Hooton, South Wirral, Cheshire Operator: McAlpine Construction Limited Licence Holder: Alfred McAlpine Construction Limited First Recorded: 14-Aug-1986 Last Recorded: 13-May-1987
2	453	SW	430500 398800	Site Address: Sycamore Farm, Finkle Street, Wortley Waste Licence: - Site Reference: 4400/(26) Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Wharncliffe Estates Licence Holder: Wharncliffe estates First Recorded: 31-Dec-1986 Last Recorded: 31-Dec-1987
Not shown	840	S	430600 398300	Site Address: Disused Quarry, Rough Lane, Wortley, Sheffield Waste Licence: Yes Site Reference: 20B361(48), WD2C B361, 4400/B361, WD20 B361 Waste Type: Inert, Commercial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 14-Oct-1983 Licence Surrendered: 29-Apr-1994 Licence Holder Address: 1A Arundel Road, Chapletown, Sheffield Operator: H and J Wroe Licence Holder: H and J Wroe First Recorded: 31-Oct-1983 Last Recorded: 30-Jun-1995

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

0

Database searched and no data found.

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

0

Database searched and no data found.

3.2 Other Waste Sites

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

0

Database searched and no data found.

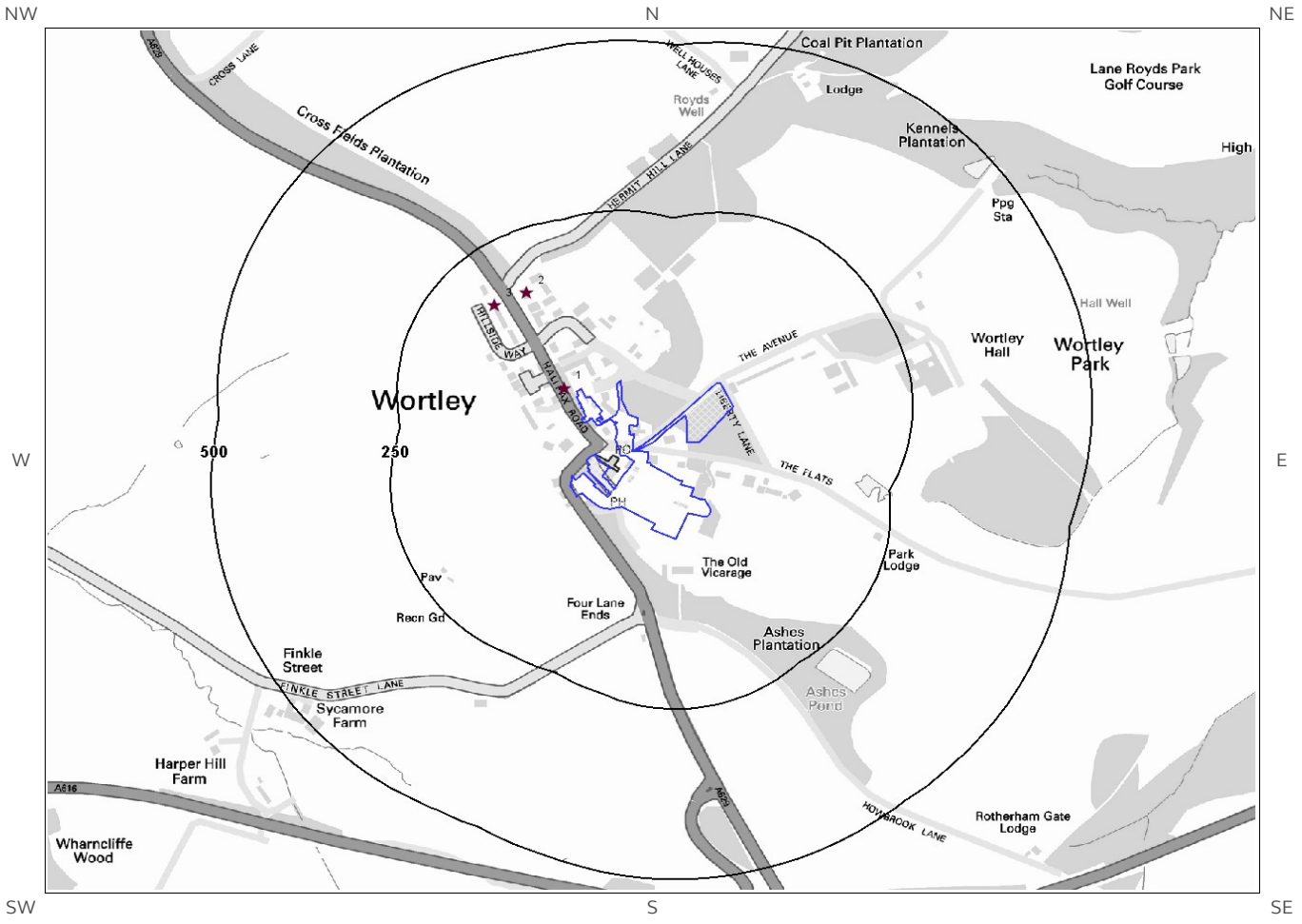
3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

0

Database searched and no data found.

---

4. Current Land Use Map



© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

Search Buffers (m)
250
500

Current Industrial Sites

Petrol & Fuel Sites

Electricity Transmission Cables

Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 3

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

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	19	W	John Grindle Motor Vehicle Repairs	430724 399482	Home Farm, Wortley Village, Wortley, Sheffield, S35 7DB	Vehicle Repair, Testing and Servicing	Repair and Servicing
2	161	NW	Transparent Energy Ltd	430672 399622	Crossfields, Wortley Village, Wortley, Sheffield, S35 7DB	Distribution and Haulage	Transport, Storage and Delivery
3	171	NW	Boardwalk	430628 399604	10, Hillside Way, Wortley, Sheffield, S35 7DD	Garden Goods	Consumer Products

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 0

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

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

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

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

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

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

5.2 Superficial Ground and Drift Geology

Database searched and no data found.

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

5.3 Bedrock and Solid Geology

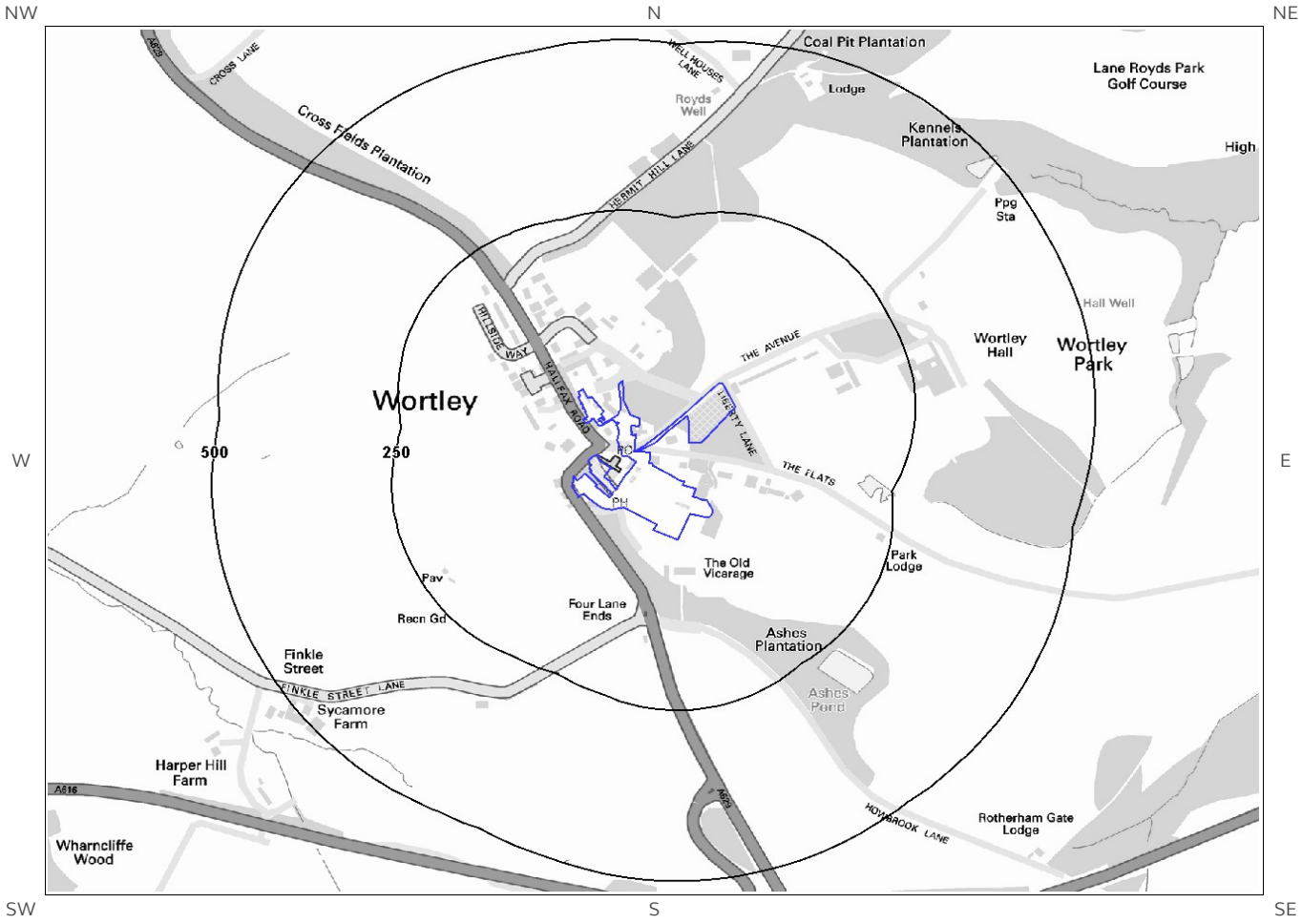
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION	SANDSTONE
PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION	SANDSTONE
PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION	SANDSTONE
PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE

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

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



© Crown copyright and database rights 2016
Ordnance Survey license 100035207.

Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

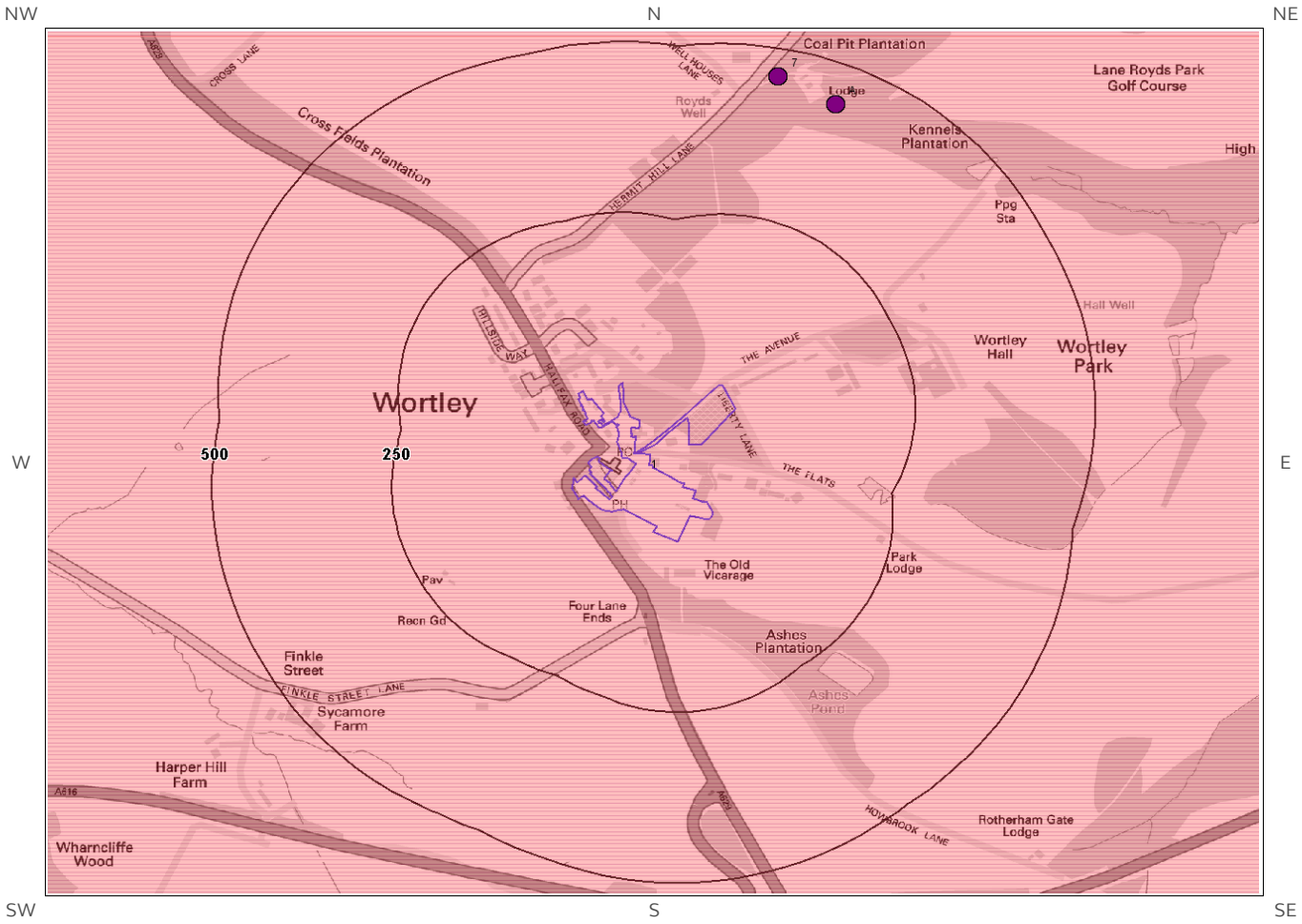
Secondary (B) Aquifer - Lower Permeability Layers

Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

6b. Aquifer Within Bedrock Geology and Abstraction Licenses



© Crown copyright and database rights 2016
Ordnance Survey license 100035207.

Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Groundwater Abstraction Licence

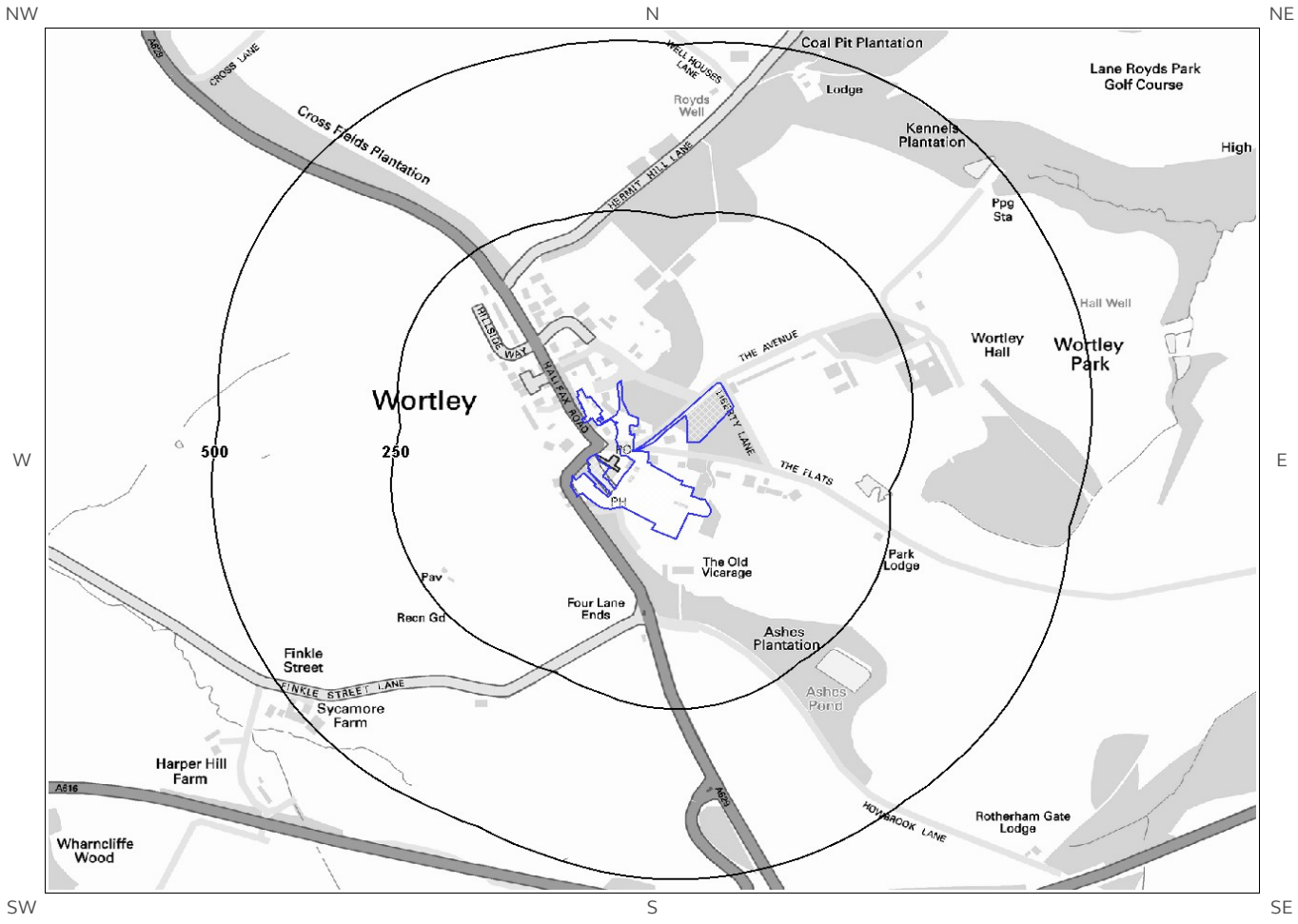
Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

Surface Water Abstraction Licence

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



© Crown copyright and database rights 2016
Ordnance Survey license 100035207.

Site Outline

250
500
Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

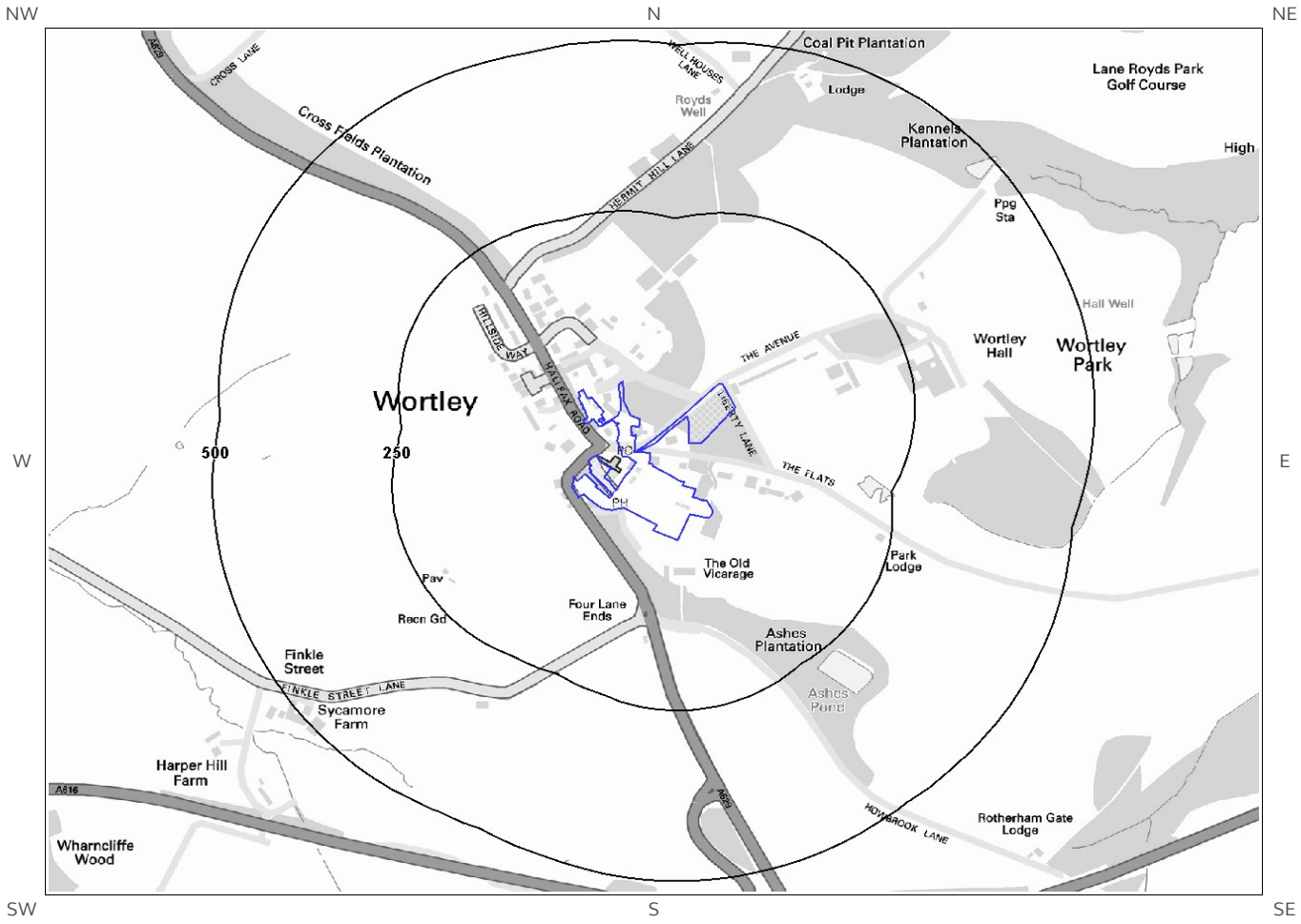
Source Protection Zone 2 - Outer Catchment

Source Protection Zone 3 - Total Catchment

Source Protection Zone 4 - Zone of Special Interest

Potable Water Abstraction Licence

6d. Hydrogeology – Source Protection Zones within confined aquifer



© Crown copyright and database rights 2016
Ordnance Survey license 100035207.

Source Protection Zone 1 - Inner Catchment

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

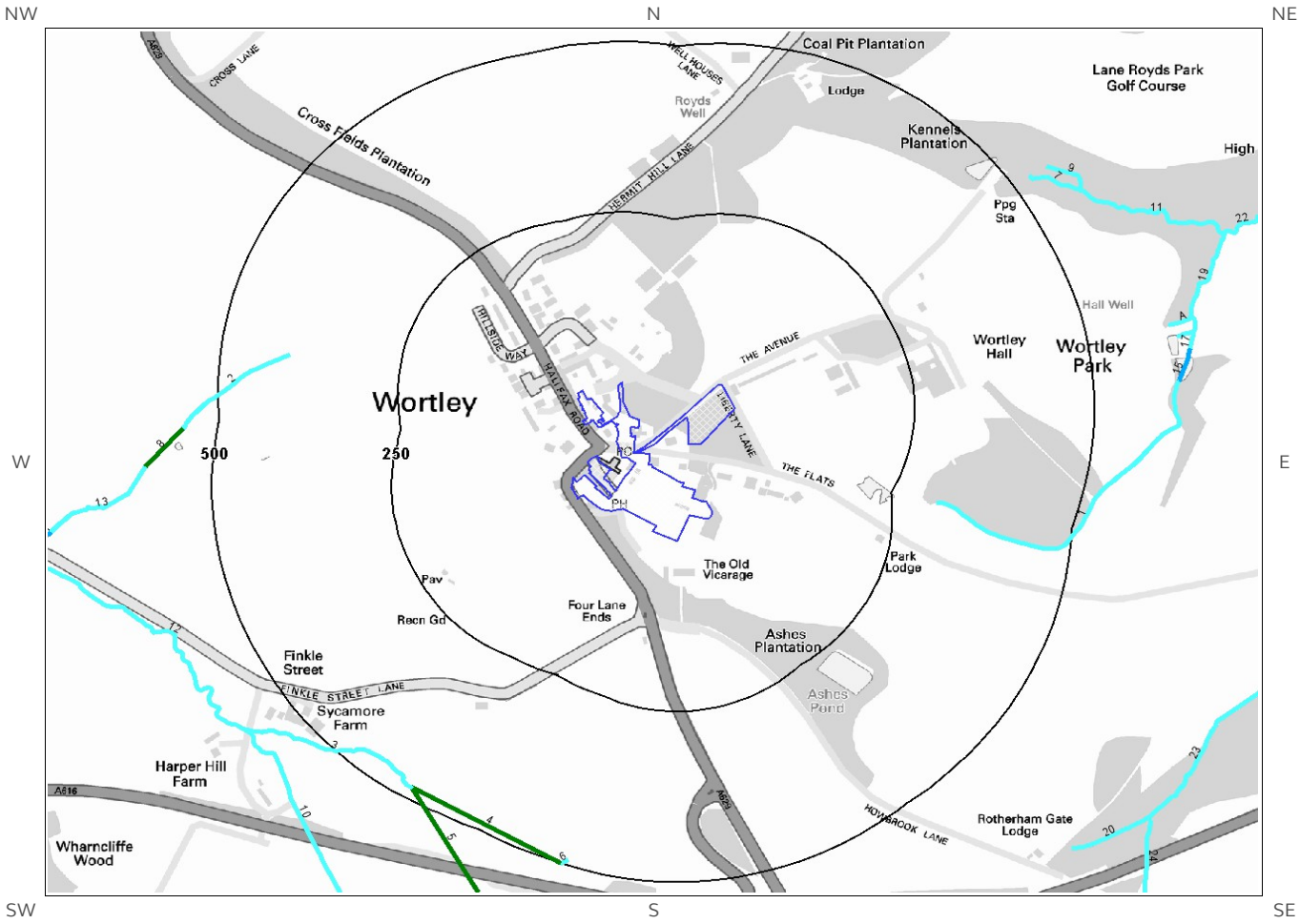
Source Protection Zone 3C - Total Catchment within Confined Aquifer

Potable Water Abstraction Licence

Site Outline

250
500
Search Buffers (m)

6e. Hydrology – Detailed River Network and River Quality



© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

250
500
Search Buffers (m)

Primary River
Secondary River
Tertiary River
Lake/Reservoir
Underground River (inferred)
General Quality Assessment: Biology
General Quality Assessment: Chemistry

Canal
Canal Tunnel
Culvert
Multiple Channel Culvert
Underground River (Potential Sewer)
Underground River (local knowledge)

6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? No

Database searched and no data found.

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

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

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? Yes

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

ID	Distance (m)	Direction	NGR	Details	
5A	440	N	431100 399900	Status: Historical Licence No: 2/27/08/108 Details: Spray Irrigation - Direct Direct Source: Groundwaters Point: Borehole - Coal Measures - Wortley Sheffield Data Type: Point Name: WORTLEY GOLF CLUB	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 6469 Original Start Date: 24/6/1994 Expiry Date: 30/9/2003 Issue No: 100 Version Start Date: 3/2/1999 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
6A	440	N	431100 399900	Status: Historical Licence No: 2/27/08/108 Details: Spray Irrigation - Direct Direct Source: Groundwaters Point: Borehole Data Type: Point Name: WORTLEY GOLF CLUB	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: 6469 Original Start Date: 24/6/1994 Expiry Date: 30/09/2003 Issue No: 100 Version Start Date: 3/2/1999 Version End Date:
7	458	N	431020 399940	Status: Active Licence No: 2/27/08/134 Details: Spray Irrigation - Direct Direct Source: Groundwaters Point: Borehole- Coal Measures - Wortley-Sheffield Data Type: Point Name: WORTLEY GOLF CLUB	Annual Volume (m^3): 7000 Max Daily Volume (m^3): 89 Original Application No: 8106 Original Start Date: 9/3/2004 Expiry Date: 31/3/2017 Issue No: 3 Version Start Date: 13/2/2008 Version End Date:
Not shown	1645	E	432600 399600	Status: Historical Licence No: 03/28/20/0057 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: Red House Farm, Ratcliife Culey - Well Data Type: Point Name: MESSRS J D & G G HUNT	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/1/1966 Expiry Date: - Issue No: 100 Version Start Date: 8/6/1994 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
0	On Site	Minor Aquifer/High Leaching Potential	H3	Coarse textured or moderately shallow soils which readily transmit non-adsorbed pollutants and liquid discharges but have some ability to attenuate adsorbed pollutants because of their clay or organic matter content.
387	NE	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.

6.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? No

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

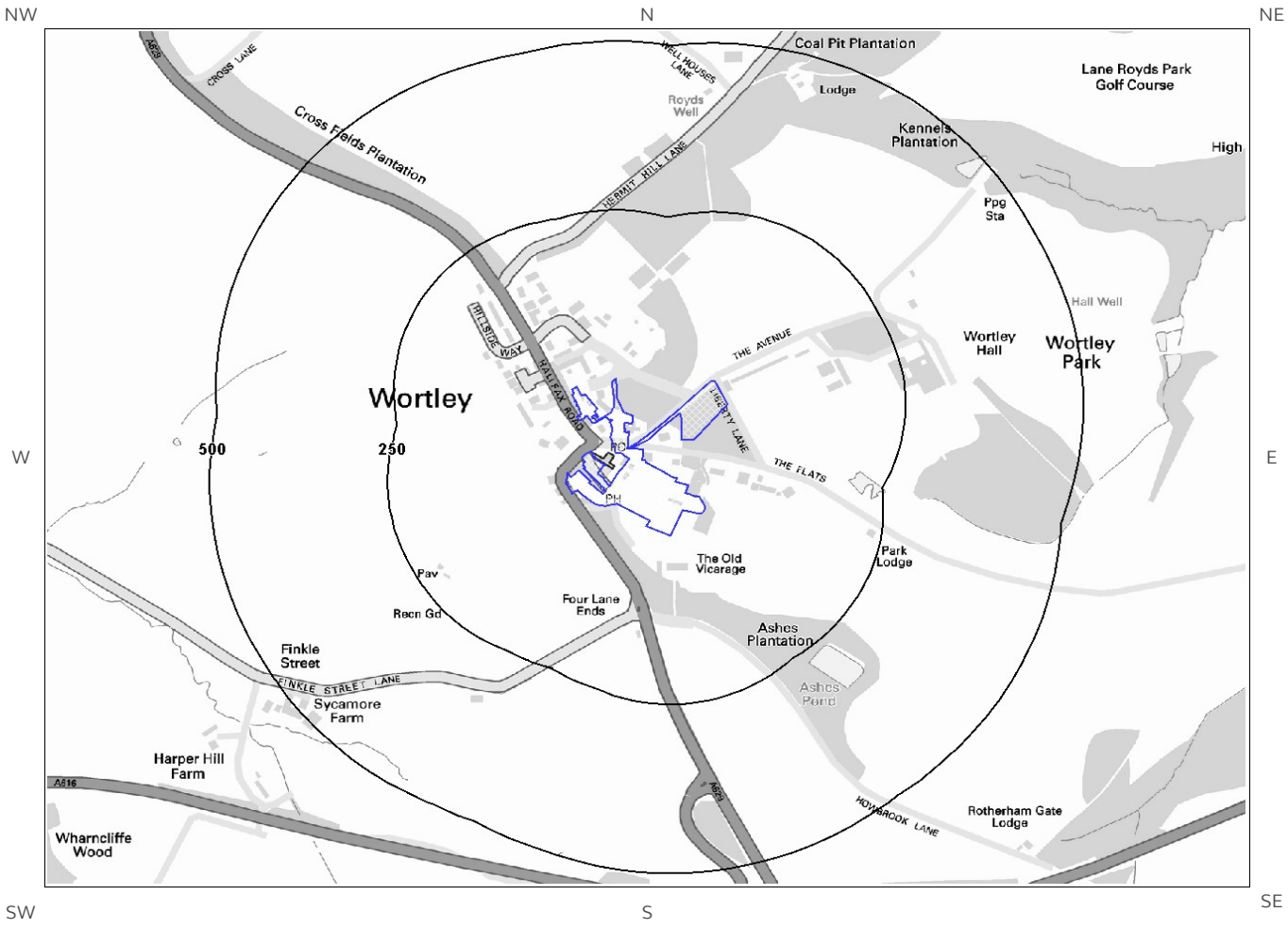
ID	Distance (m)	Direction	Details	
1	312	E	River Name: Drain Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
2	404	W	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
3	468	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
4	482	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
5	482	SW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Culvert Main River Status: Currently Undefined
6	492	S	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined

6.11 Surface Water Features

Are there any surface water features within 250m of the study site? No

Database searched and no data found.

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



© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

Search Buffers (m)

Zone 2 Floodplain

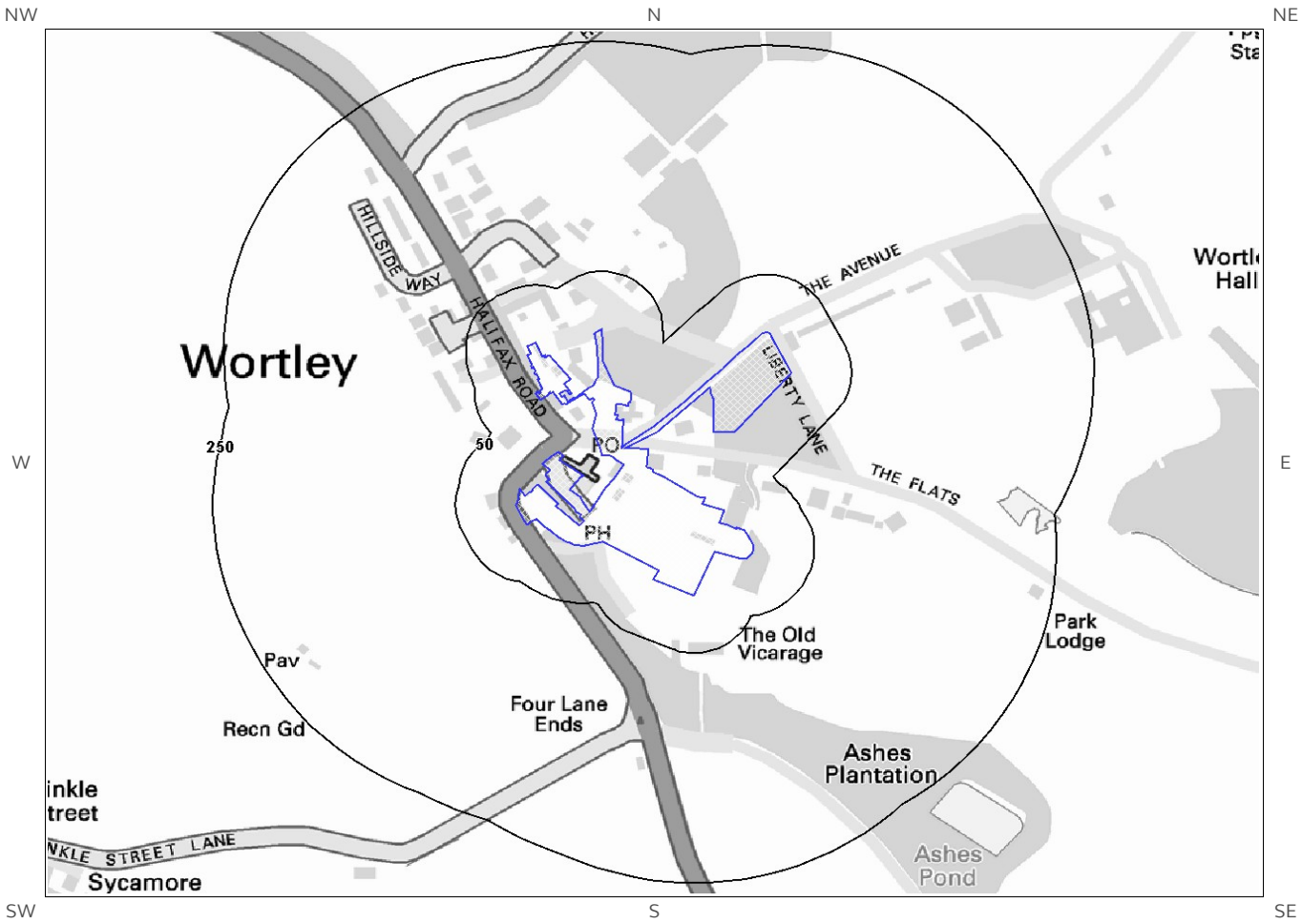
Zone 3 Floodplain

Flood Defences

Area used for Flood Storage

Area Benefiting from Flood Defences

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



© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

100
250
Search Buffers (m)

RoFRaS Rating

- Very Low
- Low
- Medium
- High

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

Database searched and no data found.

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

Database searched and no data found.

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

What is the highest risk of flooding onsite? Very Low

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

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

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No

Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Limited potential

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

7.8 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? Low

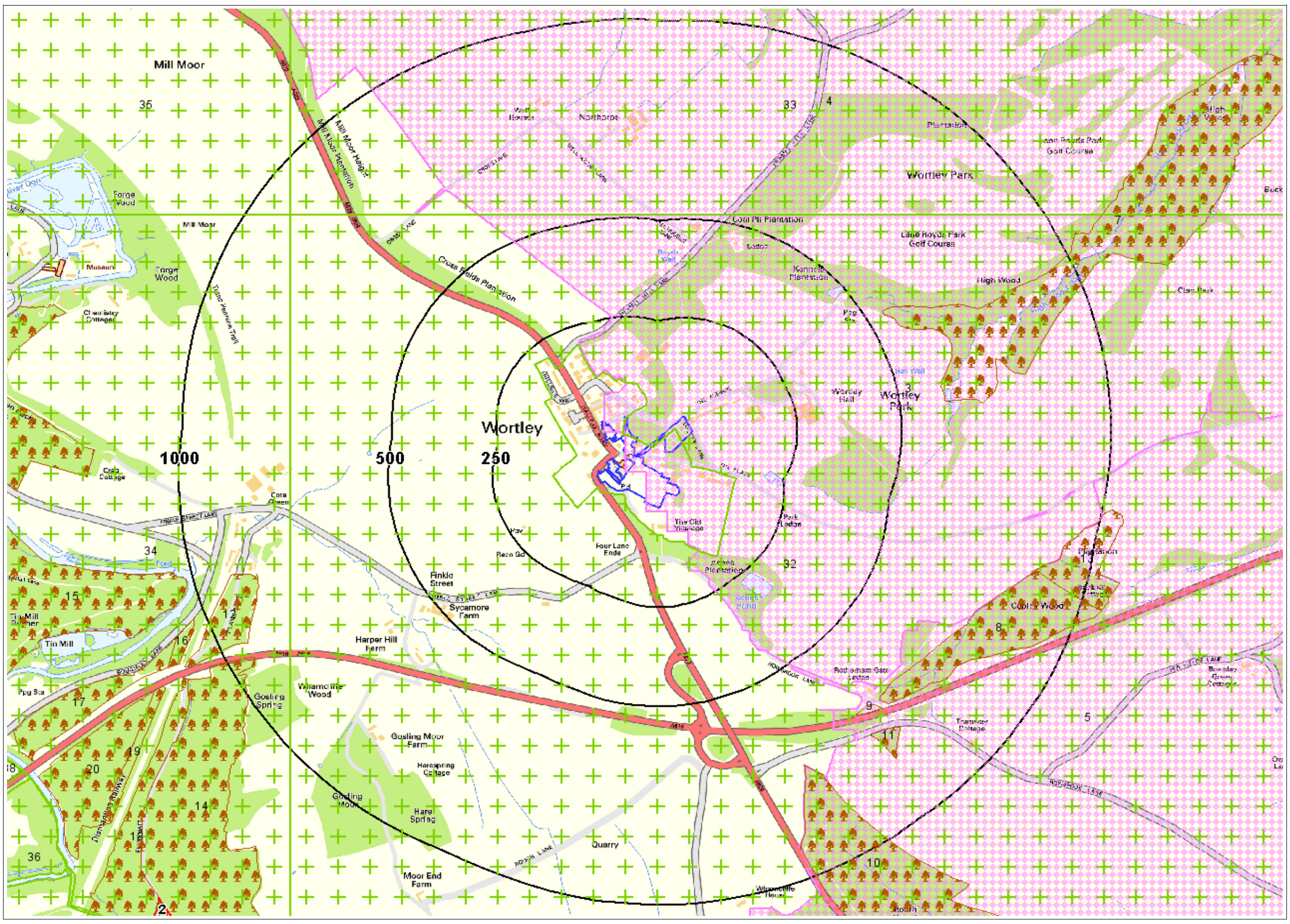
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map

NW N NE

W E



SW S SE

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

100 / 250 Search Buffers (m)

- AONB
- National Park
- SSSI
- Special Protection Areas
- Nitrate Vulnerable Zones
- Green Belt
- Environmentally Sensitive Areas
- Special Areas of Conservation
- World Heritage Sites
- Nitrate Sensitive Areas
- Ancient Woodland
- National Nature Reserve
- Local Nature Reserves
- Ramsar Sites

8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

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

1

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

ID	Distance (m)	Direction	SSSI Name	Data Source
Not shown	1795	SW	Wharncliffe Crags	Natural England

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

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

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

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
7	541	NE	UNKNOWN	Ancient and Semi-Natural Woodland
8	695	SE	UNKNOWN	Ancient Replanted Woodland
9	697	SE	UNKNOWN	Ancient Replanted Woodland
10	735	SE	UNKNOWN	Ancient Replanted Woodland
11	759	SE	UNKNOWN	Ancient Replanted Woodland
12	850	W	UNKNOWN	Ancient and Semi-Natural Woodland
13	873	E	UNKNOWN	Ancient and Semi-Natural Woodland
14	937	SW	UNKNOWN	Ancient and Semi-Natural Woodland
15	1017	W	UNKNOWN	Ancient Replanted Woodland
16	1028	W	UNKNOWN	Ancient and Semi-Natural Woodland
17	1083	W	UNKNOWN	Ancient Replanted Woodland
18	1102	SW	UNKNOWN	Ancient Replanted Woodland
19	1161	SW	UNKNOWN	Ancient and Semi-Natural Woodland
20	1190	SW	UNKNOWN	Ancient Replanted Woodland
21	1204	W	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1307	SW	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1443	SW	UNKNOWN	Ancient Replanted Woodland
Not shown	1478	NE	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1498	SE	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1577	W	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1616	SE	UNKNOWN	Ancient Replanted Woodland
Not shown	1687	N	UNKNOWN	Ancient Replanted Woodland
Not shown	1689	E	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1735	SW	UNKNOWN	Ancient Replanted Woodland
Not shown	1943	S	UNKNOWN	Ancient Replanted Woodland

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

1

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
2	1487	SW	Wharncliffe Heath	Natural England

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

0

Database searched and no data found.

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

4

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
3	0	On Site	Existing	DEFRA
4	508	N	Existing	DEFRA
5	509	SE	Existing	DEFRA
6	1255	NW	Existing	DEFRA

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

7

Green Belt data contains Ordnance Survey data © Crown copyright and database right [2015].

ID	Distance	Direction	Green Belt Name	Local Authority Name
32	0	On Site	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)
33	508	N	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)
34	734	W	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)
35	909	NW	Liverpool, Manchester and West Yorks Greenbelt	Barnsley District (B)
36	1470	SW	Liverpool, Manchester and West Yorks Greenbelt	Sheffield District (B)
Not shown	1514	SW	Liverpool, Manchester and West Yorks Greenbelt	Sheffield District (B)
38	1560	SW	Liverpool, Manchester and West Yorks Greenbelt	Sheffield District (B)

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure Geo Insight, available from our website. The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell*[*] hazard rating identified on the study site? Very Low

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

Hazard
Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Low

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

Hazard
Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property Ö no significant increase in insurance risk due to natural slope instability problems.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

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

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

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

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

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

Hazard
No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

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

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Negligible

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

Hazard
No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

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

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

9.2.2 Radon Protection

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

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? Yes

The following coal mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Sheffield Area	Vein Mineral/Iron ore	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

Past underground mine workings may occur. The rock types present in these areas are such that small mineral veins may be present on which it is possible that small scale mining has been undertaken and/or it is possible that limited underground extraction of other materials may have occurred. All such occurrences are likely to be of minor localised extent and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No
Guidance: No Guidance Required.

Contact Details

Groundsure Helpline
Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

Environment Agency
National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 08708 506 506
Web:**www.environment-agency.gov.uk**
Email:**enquiries@environment-agency.gov.uk**

Public Health England
Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe
Email:**enquiries@phe.gov.uk**
Main switchboard**: 020 7654 8000**

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

Ordnance Survey
Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Local Authority
Authority: Barnsley Metropolitan Borough Council
Phone: 01226 770770
Web: http://www.barnsley.gov.uk/
Address: PO Box 634, Barnsley, South Yorkshir, S70 9GG

Gemapping PLC
Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444

Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data.
PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028].
This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

I**n these terms and conditions unless the context otherwise requires:**

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with Groundsure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to Groundsure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"Groundsure" means Groundsure Limited, a company registered in England and Wales under number 03421028.

"Groundsure Materials" means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

"Services" means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested Groundsure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1Groundsure shall charge and the Client shall pay fees at the rate and

frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner. In the event you are not satisfied with Groundsure's complaints handling process or you are unable to resolve the complaint, at your discretion you may refer the complaint to The Property Ombudsman Scheme at the following URL/email: website www.tpos.co.uk or email: admin@tpos.co.uk

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. **© Groundsure Limited June 2013**

Groundsure
LOCATION INTELLIGENCE

Silkstone Environmental Ltd

THORNCLIFFE HALL ANNEXE SILKSTONE ENVIRONMENTAL, NEWTON CHAMBERS ROAD,
SHEFFIELD/CHAPELTOWN, S35 2PH

Groundsure Reference:	GS-2989910
Your Reference:	16012
Report Date	19 May 2016
Report Delivery Method:	Email - pdf

Groundsure Geo Insight

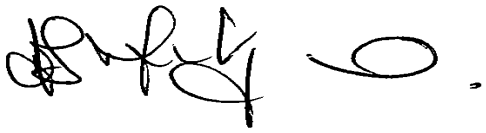
Address: Wortley Village Phase 1 Desk Study South-West Area , S35 7DT

Dear Sir/ Madam,

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

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
Groundsure Geoinsight

Groundsure Geo Insight

Address:	**Wortley Village Phase 1 Desk Study South-West Area , S35 7DT**
Date:	**19 May 2016**
Reference:	**GS-2989910**
Client:	**Silkstone Environmental Ltd**

NW N NE

W E



SW S SE

Aerial Photograph Capture date:	07-Jun-2013
Grid Reference:	430813,399398
Site Size:	1.75ha

Contents Page

Overview of Findings 5
1 Geology 8
1.1 Artificial Ground Map 8
1 Geology 9
1.1 Artificial Ground 9
1.1.1Artificial/ Made Ground 9
1.1.2 Permeability of Artificial Ground 9
1.2 Superficial Deposits and Landslips Map 10
1.2 Superficial Deposits and Landslips 11
1.2.1 Superficial Deposits/ Drift Geology 11
1.2.2 Permeability of Superficial Ground 11
1.2.3 Landslip 11
1.2.4 Landslip Permeability 11
1.3 Bedrock and Faults Map 12
1.3 Bedrock, Solid Geology & Faults 13
1.3.1 Bedrock/ Solid Geology 13
1.3.2 Permeability of Bedrock Ground 14
1.3.3 Faults 14
1.4 Radon Data 15
1.4.1 Radon Affected Areas 15
1.4.2 Radon Protection 15
2 Ground Workings Map 16
2 Ground Workings 17
2.1 Historical Surface Ground Working Features derived from Historical Mapping 17
2.2 Historical Underground Working Features derived from Historical Mapping 18
2.3 Current Ground Workings 18
3 Mining, Extraction & Natural Cavities Map 21
3 Mining, Extraction & Natural Cavities 22
3.1 Historical Mining 22
3.2 Coal Mining 22
3.3 Johnson Poole and Bloomer 23
3.4 Non-Coal Mining 23
3.5 Non-Coal Mining Cavities 23
3.6 Natural Cavities 24
3.7 Brine Extraction 24
3.8 Gypsum Extraction 24
3.9 Tin Mining 24
3.10 Clay Mining 24
4 Natural Ground Subsidence 25
4.1 Shrink-Swell Clay Map 25
4.2 Landslides Map 26
4.3 Ground Dissolution Soluble Rocks Map 27
4.4 Compressible Deposits Map 28
4.5 Collapsible Deposits Map 29
4.6 Running Sand Map 30
4 Natural Ground Subsidence 31
4.1 Shrink-Swell Clays 31
4.2 Landslides 31
4.3 Ground Dissolution of Soluble Rocks 32

4.4 Compressible Deposits....32
4.5 Collapsible Deposits....32
4.6 Running Sands....32
5 Borehole Records Map....33
5 Borehole Records....34
6 Estimated Background Soil Chemistry....35
7 Railways and Tunnels Map....36
7 Railways and Tunnels....37
7.1 Tunnels....37
7.2 Historical Railway and Tunnel Features....37
7.3 Historical Railways....38
7.4 Active Railways....38
7.5 Railway Projects....38

Overview of Findings

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

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

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

Section 1:Geology		
1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	No
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	No
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	Yes
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	2	10	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	2
2.3 Current Ground Workings	0	0	0	4	22

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	2	2	0	2
3.2 Coal Mining	1	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	1	0	0	0	3
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

Section 4: Natural Ground Subsidence	On-site
4.1 Shrink Swell Clay	Very Low
4.2 Landslides	Low
4.3 Ground Dissolution of Soluble Rocks	Negligible
4.4 Compressible Deposits	Negligible
4.5 Collapsible Deposits	Very Low
4.6 Running Sand	Negligible

Section 5: Borehole Records	On-site	0-50m	51-250
5 BGS Recorded Boreholes	0	0	0

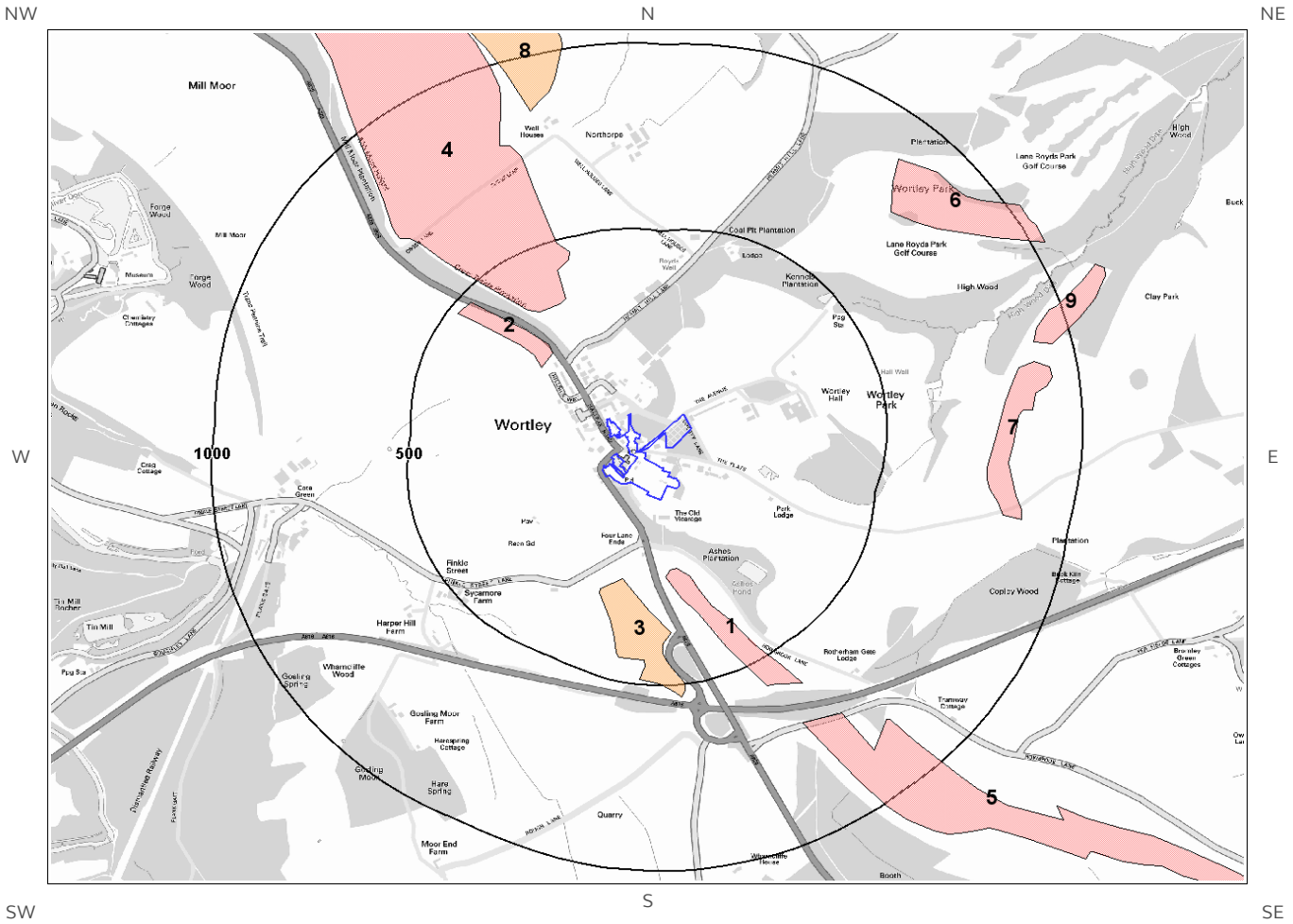
Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250
6 Records of Background Soil Chemistry	3	7	15

Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.1 Tunnels	0	0	0	Not Searched
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched
7.3 Historical Railways	0	0	0	Not Searched
7.4 Active Railways	0	0	0	Not Searched

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

1 Geology

1.1 Artificial Ground Map



Artificial Ground Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

500
1000
Search Buffers (m)

Made Ground (undivided)

Disturbed Ground (undivided)

Worked Ground (undivided)

Landscaped Ground (undivided)

Infilled Ground

Reclaimed Ground

1 Geology

1.1 Artificial Ground

1.1.1Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:087

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

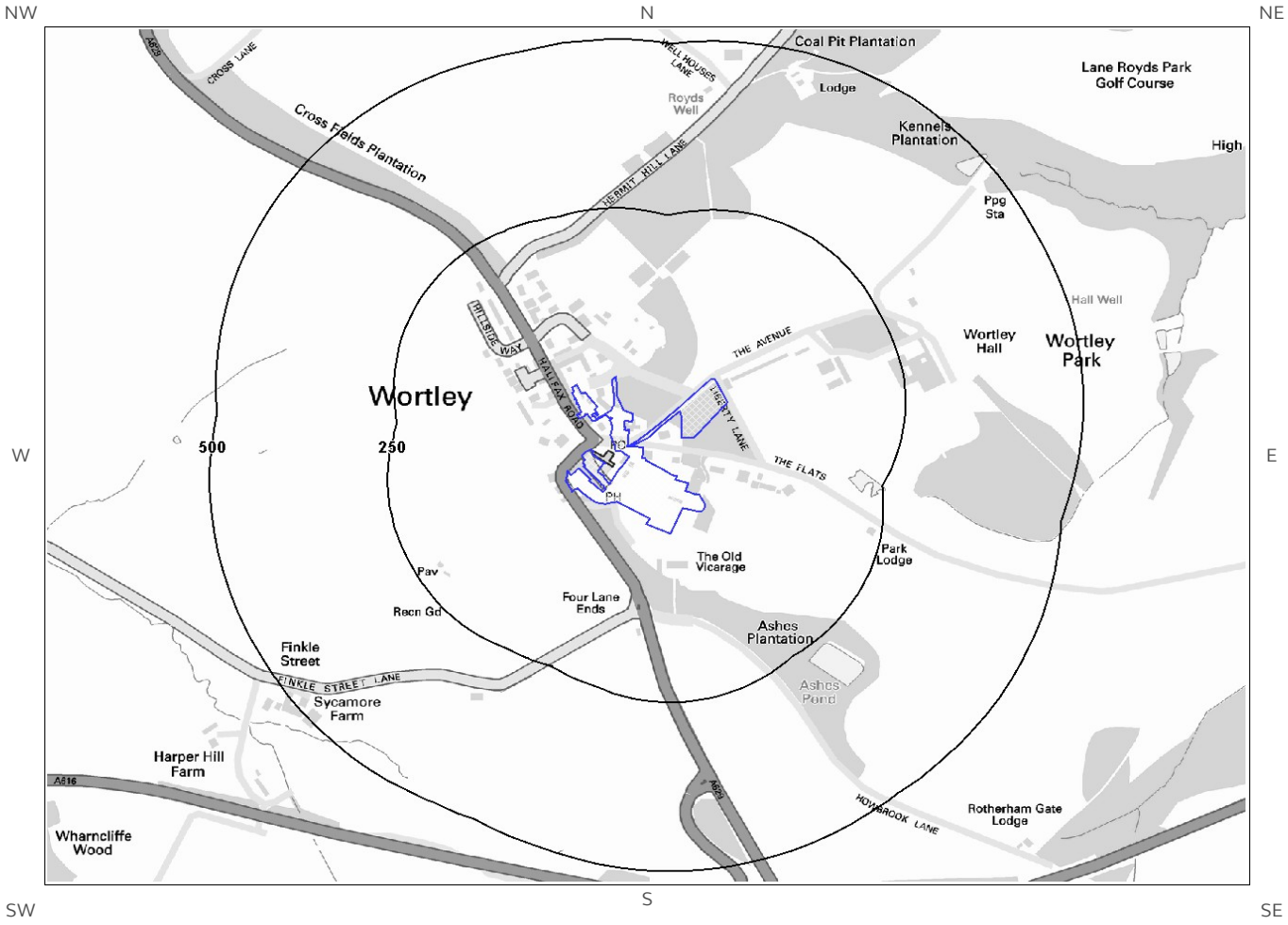
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	187.0	S	WMGR-MGRD	INFILLED GROUND	ARTIFICIAL DEPOSIT
2	217.0	NW	WMGR-MGRD	INFILLED GROUND	ARTIFICIAL DEPOSIT
3	232.0	S	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	334.0	N	WMGR-MGRD	INFILLED GROUND	ARTIFICIAL DEPOSIT

1.1.2 Permeability of Artificial Ground

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

Database searched and no data found.

1.2 Superficial Deposits and Landslips Map



Superficial Deposits and Landslips Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

500
1000
Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

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

Database searched and no data found.

1.2.2 Permeability of Superficial Ground

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

Database searched and no data found.

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

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

1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site* boundary? No

Database searched and no data found.

---

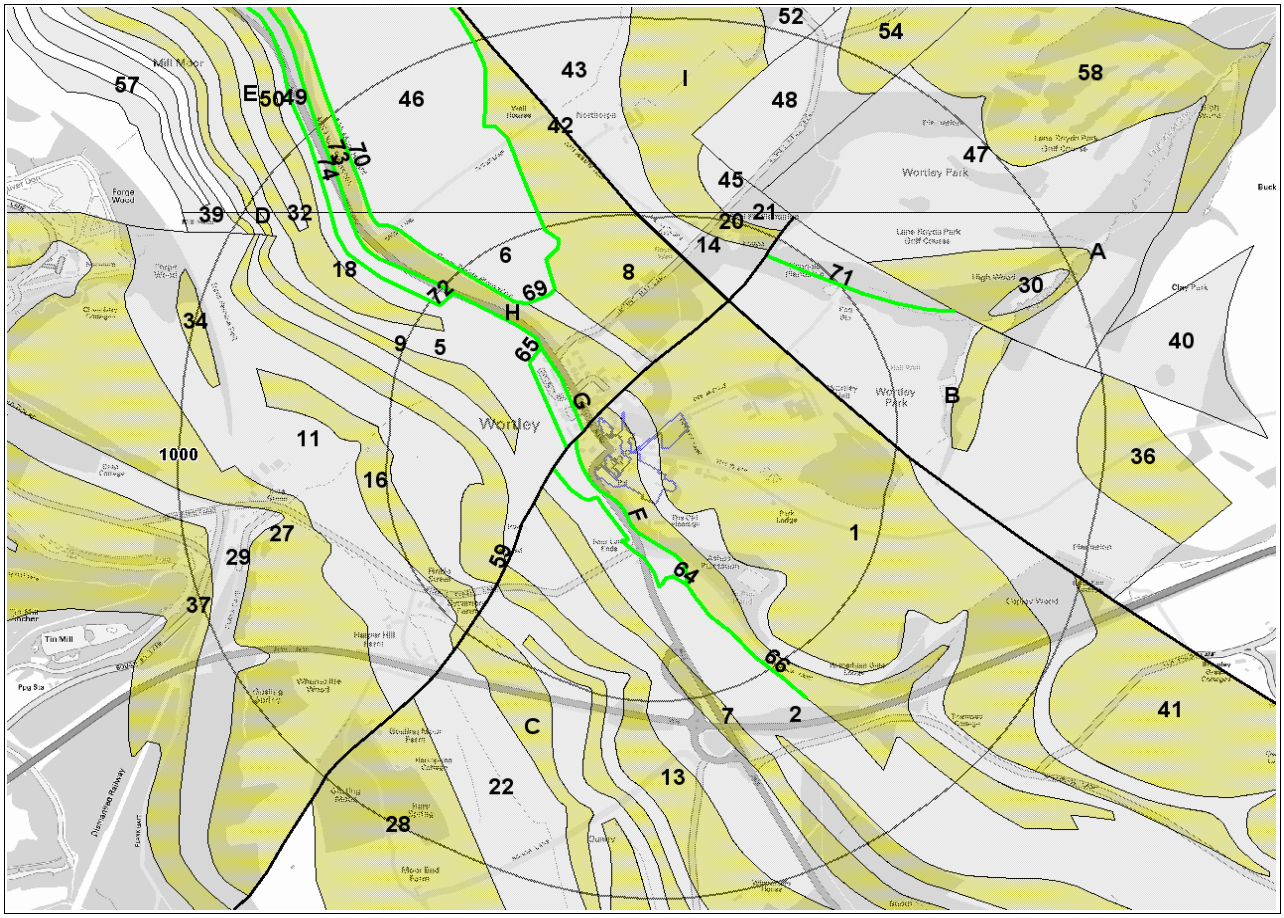
* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map

NW N NE

W E

SW S SE



Bedrock and Faults Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

500
1000
Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:087

1.3.1 Bedrock/ Solid Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian
2	0.0	On Site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
3	0.0	On Site	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian
4H	7.0	NW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian
5	42.0	W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
6	102.0	N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
7	114.0	SW	PF-SDST	Penistone Flags - Sandstone	Langsettian
8	143.0	NW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian
9	194.0	W	PF-SDST	Penistone Flags - Sandstone	Langsettian
10	213.0	W	PF-SDST	Penistone Flags - Sandstone	Langsettian
11	268.0	W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
12B	287.0	NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
13	305.0	SW	PF-SDST	Penistone Flags - Sandstone	Langsettian
14	308.0	N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
15	358.0	SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian
16	409.0	SW	PF-SDST	Penistone Flags - Sandstone	Langsettian
17	426.0	SW	PF-SDST	Penistone Flags - Sandstone	Langsettian
18	431.0	NW	PF-SDST	Penistone Flags - Sandstone	Langsettian
19C	446.0	SW	PF-SDST	Penistone Flags - Sandstone	Langsettian
20	452.0	N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian

1.3.2 Permeability of Bedrock Ground

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

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	High	Low
0.0	On Site	Fracture	High	Low

1.3.3 Faults

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

ID	Distance (m)	Direction	Category Description	Feature Description
59	7.0	NW	FAULT	Fault, inferred, displacement unknown
60F	16.0	SW	ROCK	Coal seam, inferred
61G	42.0	W	ROCK	Coal seam, inferred
62F	43.0	SW	ROCK	Coal seam, inferred
63G	84.0	NW	ROCK	Coal seam, inferred
64	187.0	S	ROCK	Coal seam, inferred
65	217.0	NW	ROCK	Coal seam, observed
66	219.0	S	ROCK	Coal seam, inferred
67H	226.0	NW	ROCK	Coal seam, inferred
68I	287.0	NE	FAULT	Fault, inferred, displacement unknown
69	334.0	N	ROCK	Coal seam, inferred
70	338.0	NW	ROCK	Coal seam, inferred
71	450.0	NE	ROCK	Coal seam, inferred
72	470.0	NW	ROCK	Coal seam, observed
73	470.0	NW	ROCK	Coal seam, inferred
74	477.0	NW	ROCK	Coal seam, inferred

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

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

* This includes an automatically generated 50m buffer zone around the site

1.4 Radon Data

1.4.1 Radon Affected Areas

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

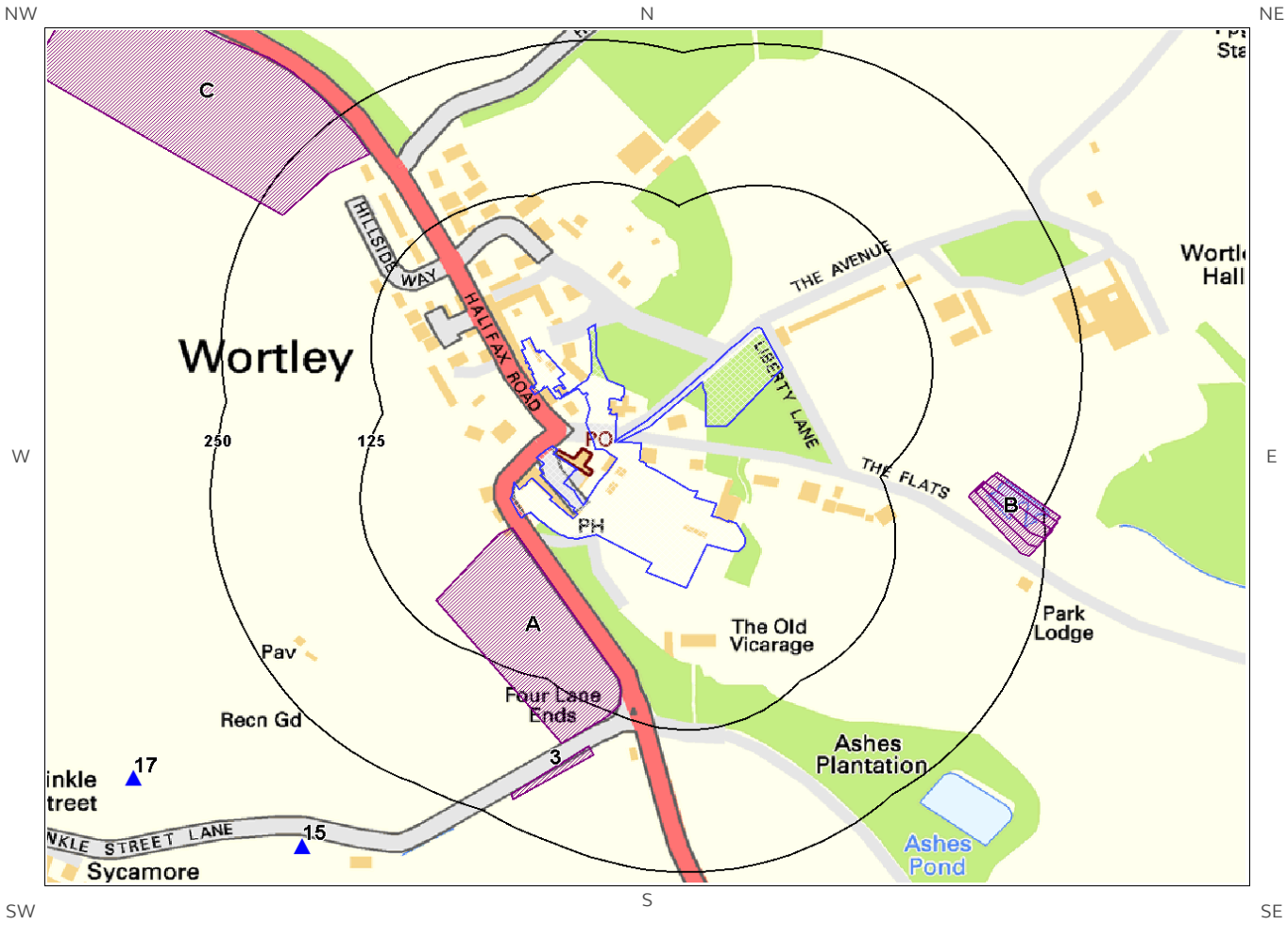
---

1.4.2 Radon Protection

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

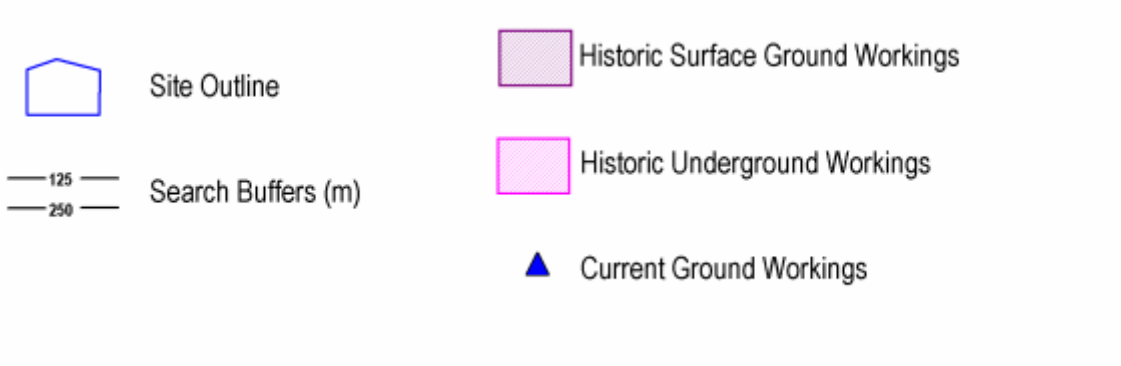
---

2 Ground Workings Map



Ground Workings Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.



2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

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

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

The following Historical Surface Ground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
1A	12.0	SW	430749 399218	Opencast Workings	1966
2A	12.0	SW	430749 399218	Opencast Workings	1980
3	160.0	S	430769 399097	Pond	1948
4B	190.0	E	431151 399321	Fish Pond	1948
5B	190.0	E	431151 399321	Fish Pond	1903
6B	190.0	E	431151 399321	Fish Pond	1891
7B	193.0	SE	431155 399328	Fish Pond	1951
8B	193.0	SE	431155 399328	Fish Pond	1966
9B	193.0	SE	431155 399328	Fish Pond	1980
10B	195.0	SE	431159 399333	Fish Pond	1992
11C	208.0	NW	430475 399691	Opencast Workings	1966
12C	208.0	NW	430475 399691	Opencast Workings	1980

2.2 Historical Underground Working Features derived from Historical Mapping

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

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

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	881.0	N	431517 400479	Old Colliery	1903
Not shown	881.0	N	431517 400479	Old Colliery	1891

2.3 Current Ground Workings

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

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

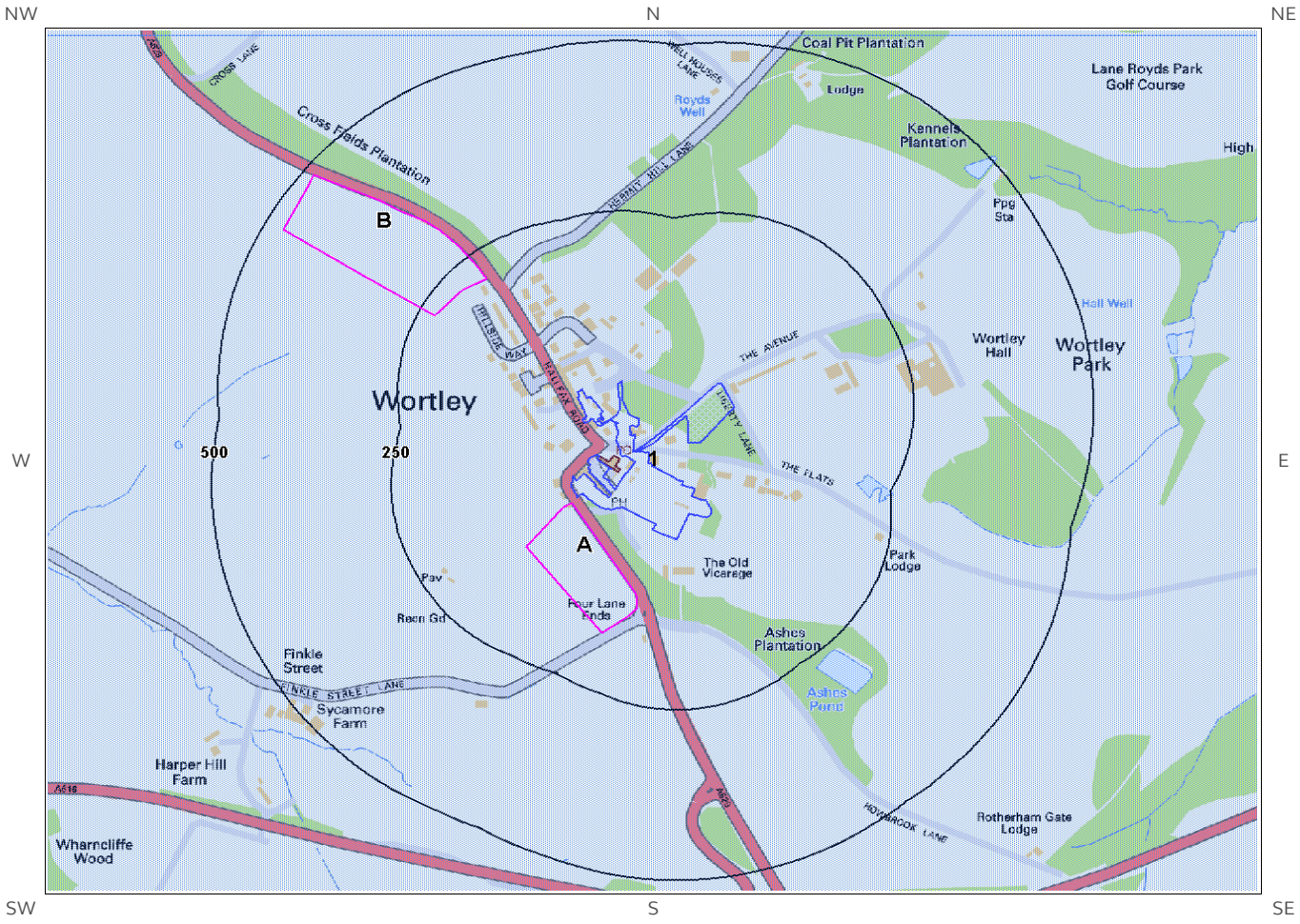
The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
15	343.0	SW	430560 399032	Sandstone	Finkle Street	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	391.0	SW	430653 398934	Sandstone	Finkle Street	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
17	397.0	SW	430419 399092	Sandstone	Finkle Street	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	469.0	SE	431132 398864	Sandstone	Ashes	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	549.0	SE	431229 398836	Sandstone	Ashes	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	574.0	N	431102 400040	Coal, Deep	Lane Royds Park Mine	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)	Ceased
Not shown	618.0	SE	431292 398796	Sandstone	Ashes	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	664.0	N	431067 400141	Coal, Deep	Cliff Common Drift	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)	Ceased
Not shown	704.0	N	431061 400183	Coal, Deep	Cliff Common Drift	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)	Ceased
Not shown	705.0	S	430966 398560	Sandstone	Wortley	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	739.0	N	431094 400212	Coal, Deep	Cliff Common Drift	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)	Ceased
Not shown	750.0	NE	431283 400157	Coal, Deep	Lane Royds Park Pit	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)	Ceased
Not shown	804.0	N	431135 400270	Coal, Deep	Cliff Common Drift	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)	Ceased
Not shown	809.0	NE	431630 399916	Sandstone	Lane Royd Park	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	811.0	W	429927 399422	Clay & Shale	Coates Green Brick & Tile Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	840.0	N	431155 400302	Coal, Deep	Cliff Common Crop Workings	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	843.0	NE	431394 400200	Coal, Deep	Lane Royds Park Pit	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)	Ceased
Not shown	867.0	N	431167 400326	Coal, Deep	Cliff Common Drift	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)	Ceased
Not shown	879.0	S	430687 398403	Sandstone	RoughLane	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	887.0	NE	431633 400046	Coal, Surface Mined	Lane Royds Park OCCS	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)	Ceased
Not shown	892.0	N	431176 400350	Coal, Deep	Cliff Common Drift	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)	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	918.0	NE	431409 400279	Coal, Deep	Lane Royds Park Pit	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)	Ceased
Not shown	926.0	N	431179 400384	Coal, Deep	Cliff Common Drift	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)	Ceased
Not shown	947.0	N	431151 400413	Coal, Deep	Cliff Common Crop Workings	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	962.0	N	431236 400405	Coal, Deep	Cliff Common Bell Pits	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)	Ceased
Not shown	980.0	N	431187 400438	Coal, Deep	Cliff Common Bell Pits	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)	Ceased

3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.



3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

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

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

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
5A	12.0	SW	430749 399218	Opencast Workings	1966
6A	12.0	SW	430749 399218	Opencast Workings	1980
7B	208.0	NW	430475 399691	Opencast Workings	1966
8B	208.0	NW	430475 399691	Opencast Workings	1980
Not shown	881.0	N	431517 400479	Old Colliery	1891
Not shown	881.0	N	431517 400479	Old Colliery	1903

3.2 Coal Mining

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

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

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

3.3 Johnson Poole and Bloomer

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

Are there any JPB Mining areas within 1000m of the study site boundary? No

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

3.4 Non-Coal Mining

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

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

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Sheffield Area	Vein Mineral/Iron ore	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
2	508.0	N	Sheffield Area	Vein Mineral/Iron ore	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
Not shown	734.0	W	Sheffield Area	Vein Mineral/Iron ore	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
Not shown	909.0	NW	Sheffield Area	Vein Mineral/Iron ore	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

3.5 Non-Coal Mining Cavities

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

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

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

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

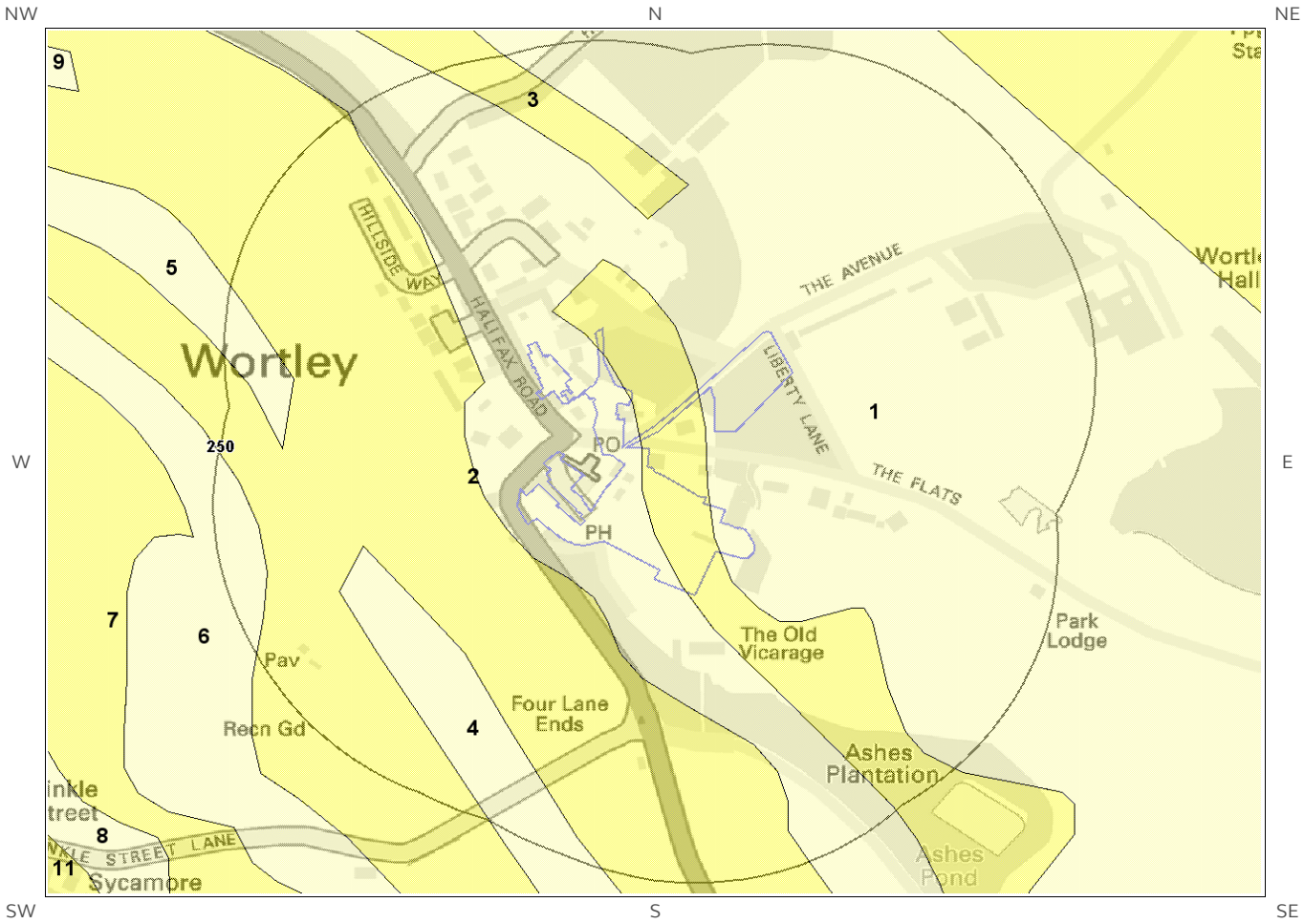
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map

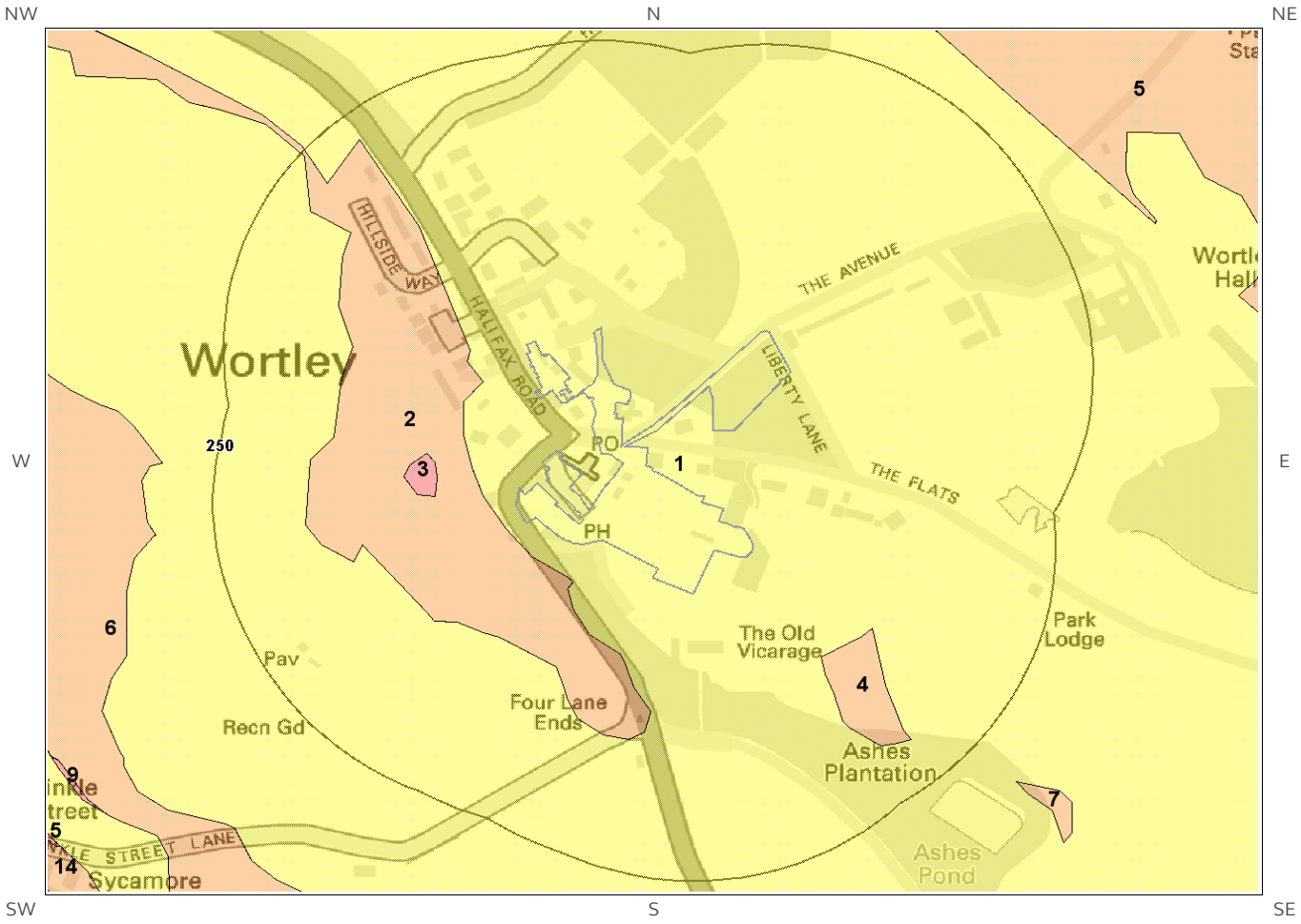


Shrink Swell Clay Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.



4.2 Landslides Map

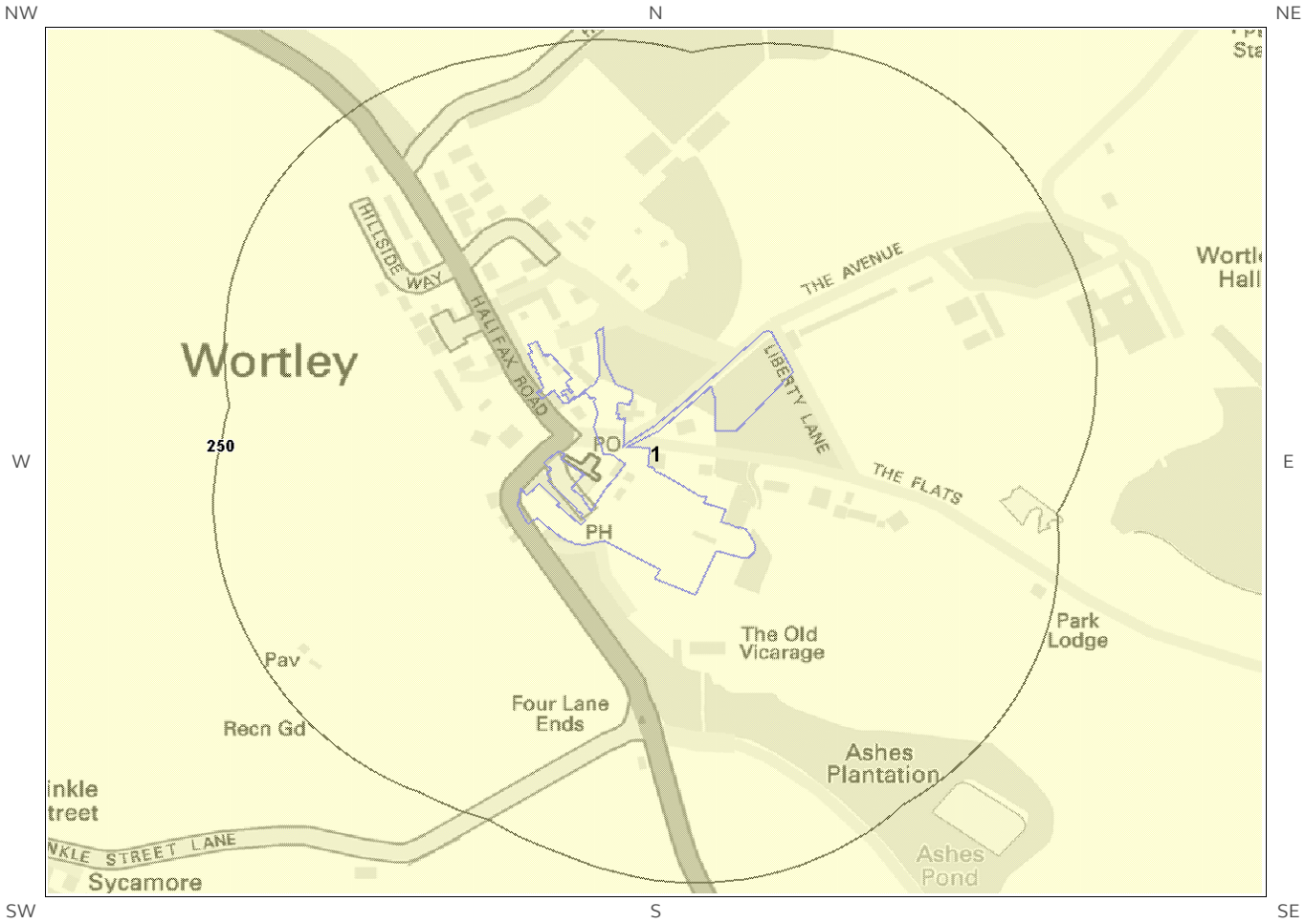


Landslides Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.



4.3 Ground Dissolution Soluble Rocks Map

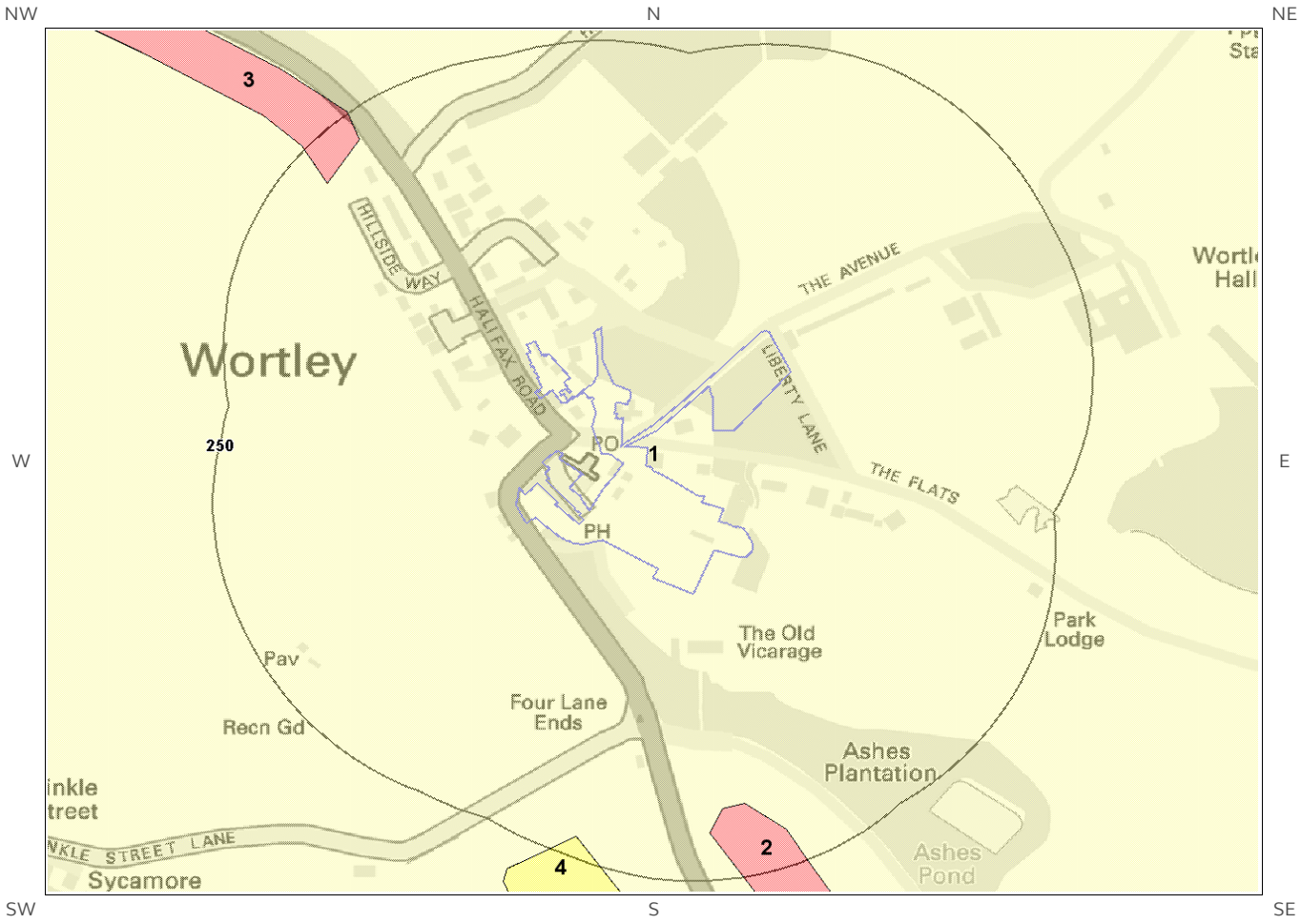


Ground Dissolution Soluble Rocks Legend

© Crown copyright and database rights 2016. Ordnance Survey license 100035207.



4.4 Compressible Deposits Map

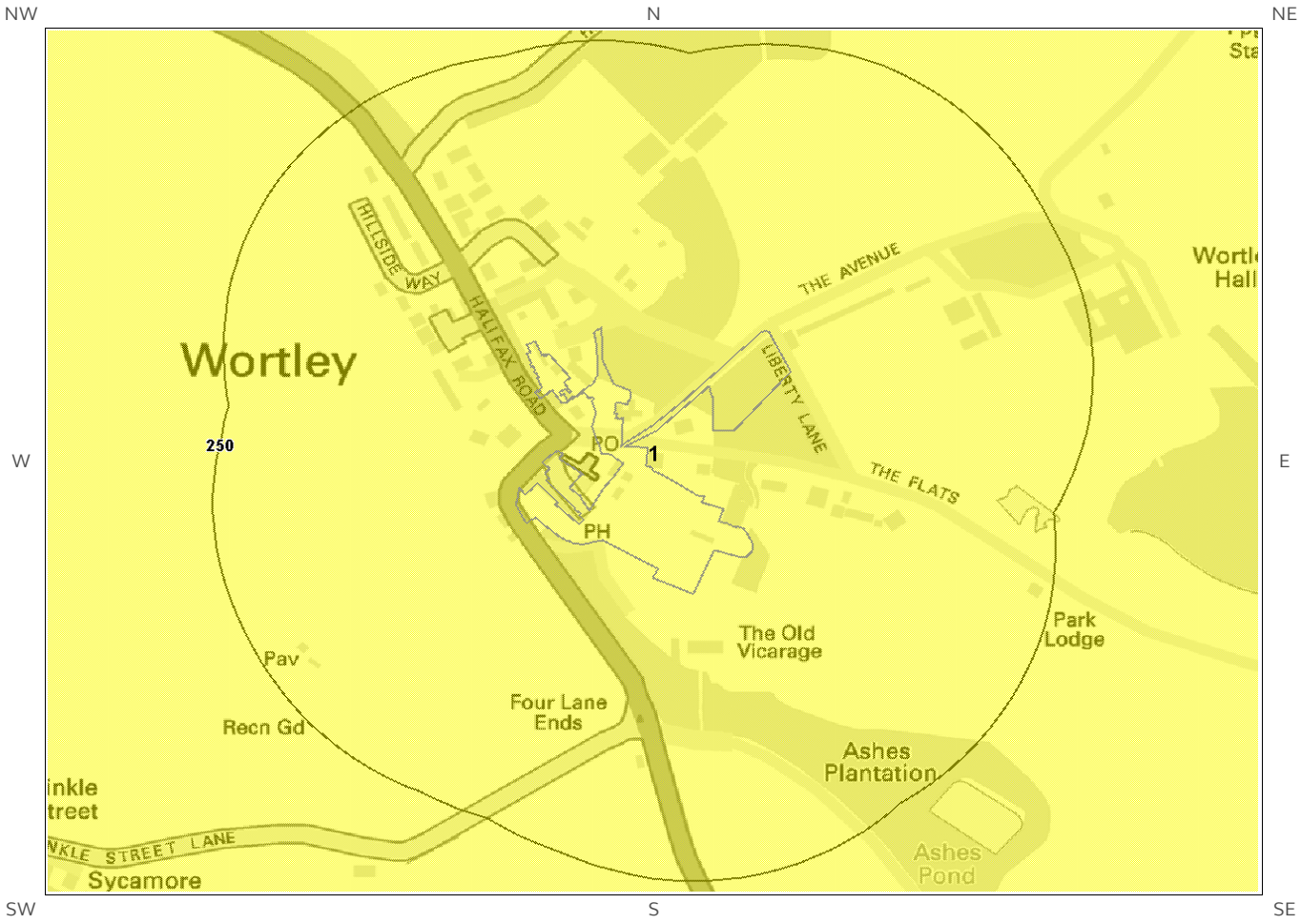


Compressible Deposits Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.



4.5 Collapsible Deposits Map

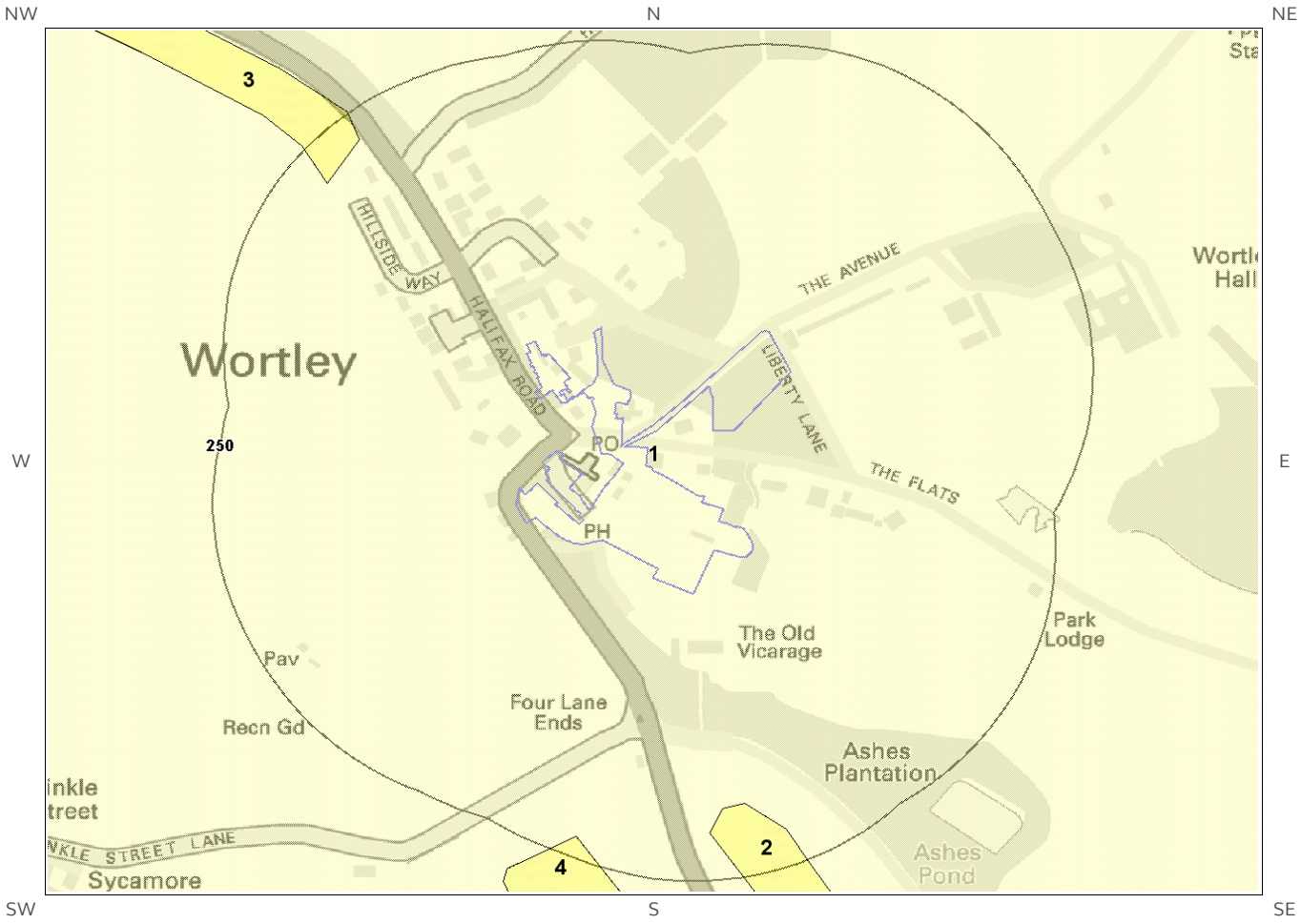


Collapsible Deposits Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.



4.6 Running Sand Map



Running Sand Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.



4 Natural Ground Subsidence

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

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

What is the maximum hazard rating of natural subsidence within the study site*[*] boundary? Low

4.1 Shrink-Swell Clays

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

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

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
2	16.0	SW	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to the ground, such as drainage or excavations, take place. Possible increase in construction cost to reduce potential slope stability problems. For existing property, no significant increase in insurance risk due to natural slope instability problems.

* This includes an automatically generated 50m buffer zone around the site

4.3 Ground Dissolution of Soluble Rocks

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

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

4.4 Compressible Deposits

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

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible ground identified. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.

4.5 Collapsible Deposits

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

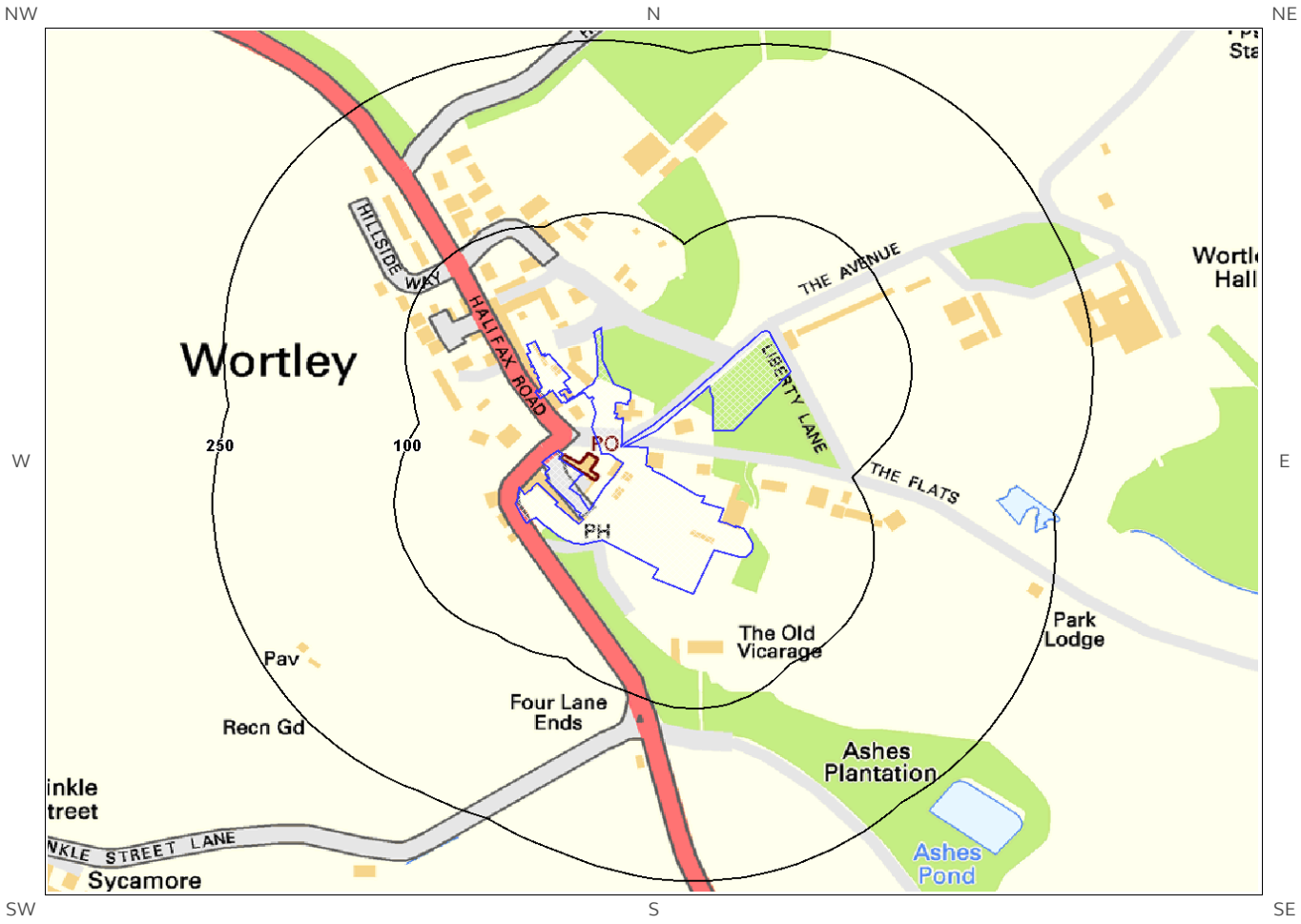
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

4.6 Running Sands

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

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

5 Borehole Records Map



Borehole Records Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.

Site Outline

Borehole Locations

125
250
Search Buffers (m)

5 Borehole Records

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

Records of boreholes within 250m of the study site boundary:	0

Database searched and no data found.

6 Estimated Background Soil Chemistry

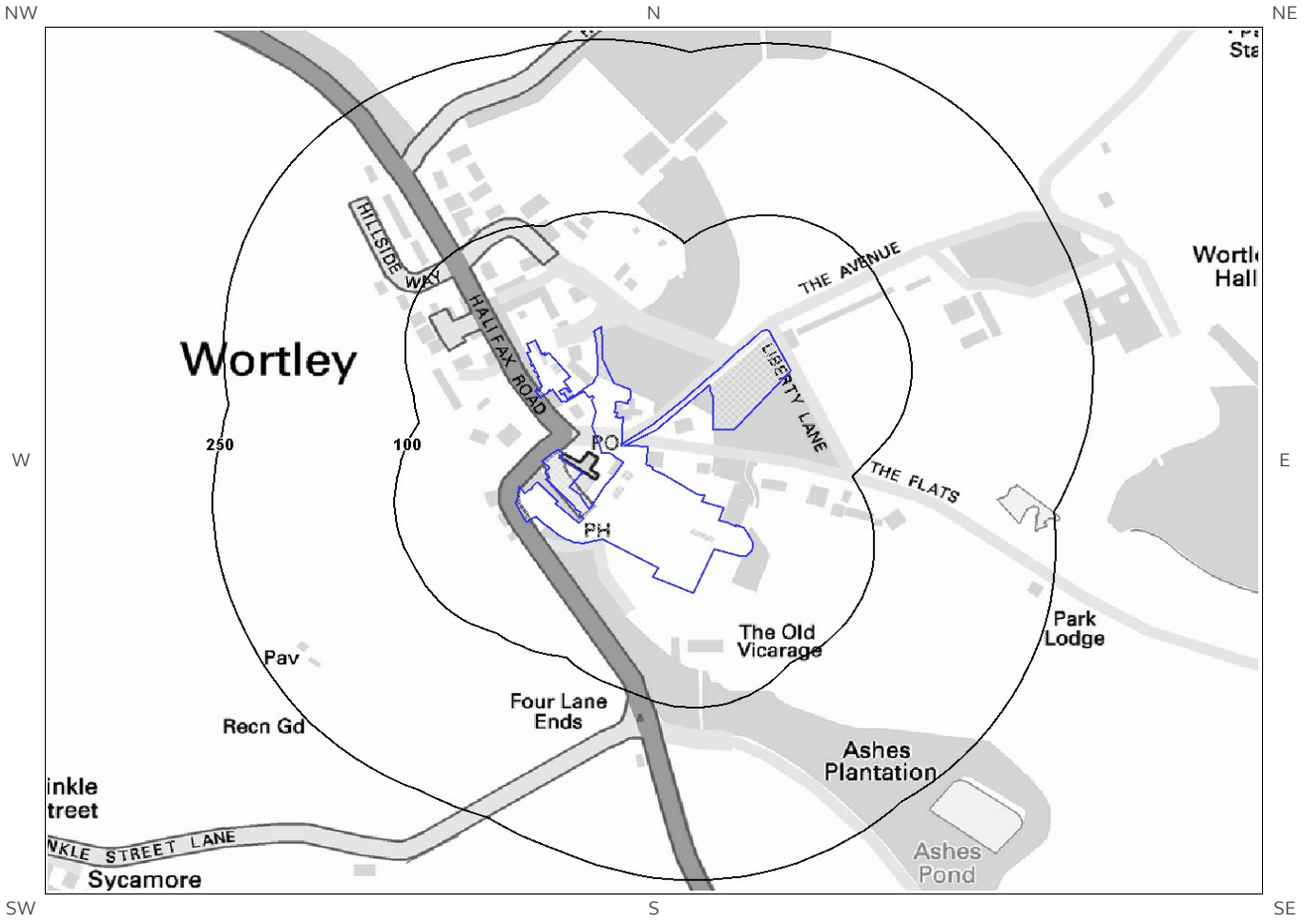
Records of background estimated soil chemistry within 250m of the study site boundary: 25

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

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
6.0	SW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
8.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
11.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
16.0	NW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
20.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
22.0	NW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
39.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
56.0	NE	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
56.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
81.0	SE	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
90.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
106.0	SW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
136.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
158.0	SW	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
172.0	N	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
177.0	SE	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
215.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
217.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg
231.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
234.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
244.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
245.0	W	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg

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

7 Railways and Tunnels Map



Railways and Tunnels Legend

© Crown copyright and database rights 2016.
Ordnance Survey license 100035207.
© OpenStreetMapContributors

- Site Outline
- 250 / 500 Search Buffers (m)
- Underground or Partially Underground Railway / Subway System
- Railway Tunnel (OS Mapping)
- Abandoned or Dismantled Railway (OpenStreetMap)
- Railway Track (OS Mapping)
- Railway Track (OpenStreetMap)
- High Speed 2
- Crossrail 1
- Railway and/or Tunnel Feature from Historical Mapping

7 Railways and Tunnels

7.1 Tunnels

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

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

Database searched and no data found.

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

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

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

Database searched and no data found.

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

7.2 Historical Railway and Tunnel Features

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

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

Database searched and no data found.

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

7.3 Historical Railways

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

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

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

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

7.4 Active Railways

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

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

Database searched and no data found.

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

7.5 Railway Projects

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

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

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

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

Contact Details

Groundsure Helpline

Telephone: 08444 159 000
info@groundsure.com

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:**enquiries@bgs.ac.uk**
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries

British Gypsum

British Gypsum Ltd
East Leake
Loughborough
Leicestershire
LE12 6HX

The Coal Authority

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

Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
https://www.gov.uk/government/organisations/public-health-england
Email: **enquiries@phe.gov.uk**
Main switchboard: 020 7654 8000

Johnson Poole & Bloomer Limited

Harris and Pearson Building, Brettel Lane
Brierley Hill, West Midlands
DY5 3LH
Tel: +44 (0) 1384 262 000
Email:**enquiries.gs@jpb.co.uk**
Website: **www.jpb.co.uk**

Ordnance Survey

Adanac Drive, Southampton
SO16 0AS

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

Getmapping PLC

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

Contact Details

Peter Brett Associates

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

Acknowledgements: Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

I**n these terms and conditions unless the context otherwise requires:**
"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.
"Client" means the party or parties entering into a Contract with Groundsure.
"Commercial" means any building or property which is not Residential.
"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than
(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and
(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).
"Support Services" means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.
"Contract" means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.
"Third Party Data Provider" means any third party providing Third Party Content to Groundsure.
"Data Reports" means reports comprising factual data with no accompanying interpretation.
"Fees" has the meaning set out in clause 5.1.
"Groundsure" means Groundsure Limited, a company registered in England and Wales under number 03421028.
"Groundsure Materials" means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.
"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.
"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.
"Order" means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.
"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.
"Order Website" means the online platform through which Orders may be placed by the Client and accepted by Groundsure.
"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.
"Residential" means any building or property used as or intended to be used as a single dwelling.
"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.
"Services" means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.
"Site" means the area of land in respect of which the Client has requested Groundsure to provide the Services.
"Third Party Content" means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.
"User Guide" means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.
2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.
2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.
2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.
2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.
2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and
(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and
(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.
3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.
3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.
3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.
3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.
3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.
4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;
(i) the Beneficiary,
(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
(iv) the first purchaser or first tenant of the Site, and
(v) the professional advisers and lenders of the first purchaser or tenant of the Site.
4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.
4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1Groundsure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").
5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.
5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to
(i) full payment of all relevant Fees and
(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.
6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure

acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.
6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.
6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.
6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.
7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.
7.4 Groundsure shall not be liable for

(i) loss of profits;
(ii) loss of business;
(iii) depletion of goodwill and/or similar losses;
(iv) loss of anticipated savings;
(v) loss of goods;
(vi) loss of contract;
(vii) loss of use;
(viii) loss or corruption of data or information;
(ix) business interruption;
(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;
(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
(xiii) loss or damage to a computer, software, modem, telephone or other property; and
(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.
7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.
8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.
9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event
(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.
12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.
12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.
12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.
12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.
12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.
12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;
(ii) fire, storm, flood, tempest or epidemic;
(iii) Acts of God or the public enemy;
(iv) riot, civil commotion or war;
(v) strikes, labour disputes or industrial action;
(vi) acts or regulations of any governmental or other agency;
(vii) suspension or delay of services at public registries by Third Party Data Providers;
(viii) changes in law; or
(ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner. In the event you are not satisfied with Groundsure's complaints handling process or you are unable to resolve the complaint, at your discretion you may refer the complaint to The Property Ombudsman Scheme at the following URL/email: website www.tpos.co.uk or email: admin@tpos.co.uk

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent
required by law

© Groundsure Limited June 2013

The Coal Authority

Resolving the impacts of mining

CON29M Non-Residential Mining Report







1 HOME FARM COURT
WORTLEY
SHEFFIELD
S35 7DT

Date of enquiry:	25 May 2016
Date enquiry received:	25 May 2016
Issue date:	25 May 2016
Our reference:	51001175892001
Your reference:	16012SW

CON29M Non-Residential Mining Report

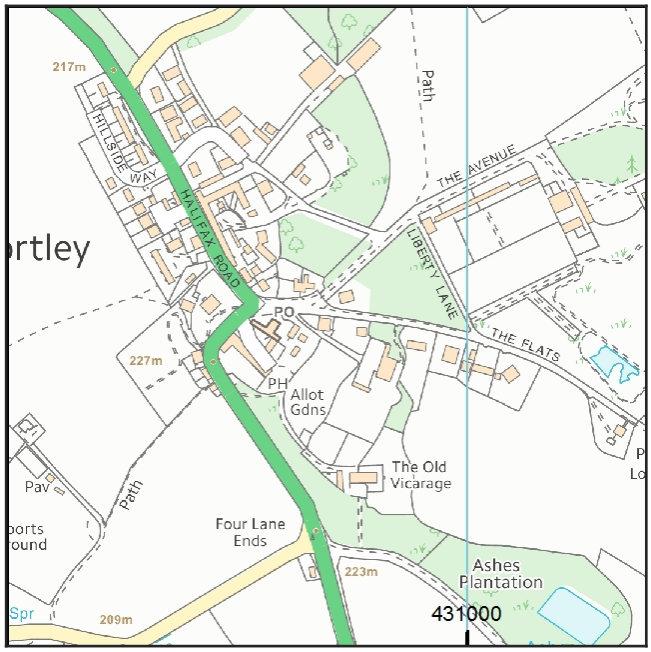
This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

Silkstone Environmental Ltd

Enquiry address

1 HOME FARM COURT, WORTLEY, SHEFFIELD, S35 7DT



Approximate position of property

Mapping sourced from Ordnance Survey

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2016. All rights reserved.

Ordnance Survey Licence number: 100020315

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.gov.uk/coalauthority

/company/the-coal-authority
/thecoalauthority
/coalauthority

Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	Yes
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	Yes
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is not within a surface area that could be affected by past underground mining.

However the property is in an area where the Coal Authority believe there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered prior to any site works or future development activity. Your attention is drawn to the Comments on the Coal Authority information section of the report.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

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

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

There may however be mine entries/additional mine entries in the local area which the Coal Authority has no knowledge of.

5. Coal mining geology
The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining
The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining
The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining
There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence
The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31st 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.

10. Mine gas
The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining
The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support
The property is in an area where a notice to withdraw support was given in 1954.

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.

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. 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.

15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Comments on the Coal Authority information

The Coal Authority own the copyright in this report and the information used is protected by our database right.

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

Disclaimer

The Coal Authority owns the copyright in this report. The information we have used to write this report is protected by our database rights. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

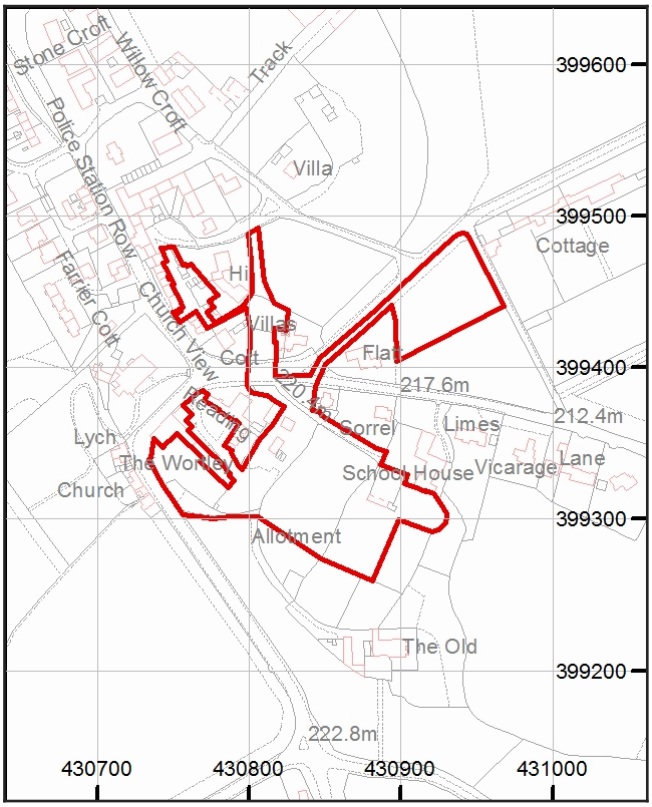
Alternative formats

If you would like this report in an alternative format, please contact our communications team.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



Mapping sourced from Ordnance Survey

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2016. All rights reserved.

Ordnance Survey Licence number: 100020315

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.gov.uk/coalauthority

/company/the-coal-authority
/thecoalauthority
/coalauthority

VAT receipt	
Issued by:	The Coal Authority 200 Lichfield Lane Mansfield Nottinghamshire NG18 4RG
Tax point date:	25 May 2016
Issued to:	SILKSTONE ENVIRONMENTAL LTD THORNCLIFFE HALL ANNEXE NEWTON CHAMBERS ROAD CHAPELTOWN SHEFFIELD S35 2PH
Property search for:	1 HOME FARM COURT WORTLEY SHEFFIELD S35 7DT
Reference number:	51001175892001
Date of issue:	25 May 2016
Cost:	£77.00
VAT @ 20%:	£15.40
Total received:	£92.40
VAT registration:	598 5850 68

APPENDIX D

(i) Photographic Record

Photo Reference	Description
A & B	Plot 4 was entered alongside Avenue villas located north of Park Avenue.
C & D	The garden area has largely been cleared.
E	Soil in the northwest of the garden comprises thicknesses of made ground.
F	This made ground comprised soil mixed with building materials and ceramic fragments.
G	Some tyres and a drum had been dumped a little further south.
H	A historical trackway lead north out of the site. Land to the east of this sloped down northeast and was filled by a thick woodland.
I	Plot 5 required to be entered from Halifax Road (west).
J	This opened out into a communal courtyard area.
K	Buildings to the west comprised houses.
L	Buildings to the east comprised former stables or outhouses.
M	A wide rebate existed in the southeast corner.
N	Beyond the rebate was an electricity transformer not otherwise recorded.
O	The rebate comprised mixed gravel while the courtyard looked to be tarmacked.

PHOTO ‘A’



PHOTO ‘B’



PHOTO ‘C’



PHOTO ‘D’



PHOTO 'E'



PHOTO 'F'



PHOTO 'G'



PHOTO 'H'



PHOTO 'I'



PHOTO 'J'



PHOTO 'K'



PHOTO 'L'



PHOTO 'M'



PHOTO 'N'



PHOTO ‘O’

