Environmental
Geotechnical
Specialists

RGS

# PHASE 1 ENVIRONMENTAL
# DESK STUDY
# REPORT

| | |
|---|---|
| job number | C3922/23/E/5949 |
| date | 19.03.2024 |
| site address | Wembley Works,<br>Hemingfield Road,<br>Wombwell, Barnsley,<br>South Yorkshire, S73 0LY |
| written by | S. Hale |
| checked by | R. Palmer |
| issued by | S. Hale |

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# Report on a Phase One Desk Study

| | |
|---|---|
| Location: | **Wembley Works**<br>Hemingfield Road, Wombwell, Barnsley, South Yorkshire, S73 0LY |
| For: | Resource Medical (UK) Ltd |
| Report No. | C3922/23/E/5949 Report date: March 2024 |

For and on behalf of **Rogers Geotechnical Services Ltd**

[redacted]

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## 1. Introduction

The site comprises an area of brownfield land associated with Wembley Works located on Hemingfield Road, Wombwell, Barnsley. The site is approximately 0.55 hectares in size and its National Grid reference is centred around 438990 402191.

It is understood that the development proposals currently comprise the construction of 17no. new residential dwellings with associated soft landscaping and car parking area. In order to assist with this decision-making process, and any planning and construction aspects of the development, a phase one environmental desk study has been commissioned and is the subject of this report.

In accordance with issued guidance, a site walkover was conducted on the 8th March 2024 and the following observations were made:

**General site description/current site use**
The site comprises a disused commercial building surrounded by hardstanding areas.

**Site boundaries/access**
The site is accessible via Hemingfield Road, Wombwell, Barnsley.

**Topography**
The boundaries of the site slope northeast towards the adjacent railway line.

**Surface cover of site**
Asphalt and concrete cover the majority of the external areas of the site, with the large commercial building present over the remaining area.

**Visible evidence of contamination/ contaminative sources**
Abandoned oil drums with leaking material were noted to the northeast side of the building, as well as a burnt-out car.

**Presence of vegetation and wildlife**
An area to the northeast side and to the south side of the building was overgrown with vegetation. This will need to be cleared prior to any site investigation to these areas. Vegetation seems to be healthy with no evidence of degradation. There were no obvious signs of invasive flora, fauna, nesting birds, burrowing animals or edible plants observed during the time of the site walkover.

**Services**
The status of underground services is unknown, however, some drains both open and sealed were noted to the site. There were no overhead services present within the site at the time of the walkover.

**Site neighbours**
The site is bordered by a railway line to the northeast and Hemingfield Road to the west. Residential areas are present to the northeast and west of the site.

In order to ensure that the site is fully characterised and to comply with the Environment Act 1995[1], a Phase One Desk Study has been commissioned by Resource Medical (UK) Ltd. The desk study is intended to assess the environmental impact of historical, current and future factors on the development. This report will present the data obtained and provide a conceptual ground model and preliminary risk assessment as well as discussing the scope of any intrusive investigation that may be required. This report does not consider ecological impacts (e.g. bats) or botanical risks (e.g. Japanese Knotweed).

## 2. Review and Summary of Published Data

As a part of this desk study the following data has been considered.

- Site Plan - Appendix 1
- Historical maps - Appendix 2
- Groundsure Reports - Appendix 3
- Photographs - Appendix 4
- Consultants Mining Report - Appendix 5

The data obtained from the above-mentioned sources has been summarised below[2].

[1]S57 of the Environment Act 1995 inserted the contaminated land regime into the Environmental Protection Act 1990 (Part 2A). The regime **'provides a risk-based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment'** See http://www.environment-agency.gov.uk/research/planning/40405.aspx. This places a duty on local authorities to inspect their areas for contaminated land and require its remediation using the 'suitable for use' approach. Much of this duty is discharged via the planning regime under the Town and Country Planning Act 1990 as historical land contamination is a 'material planning consideration.' The local authorities are required to secure the removal of unacceptable risks via remediation of the land, to therefore ensure the site is suitable for its new use. This is fulfilled via completion of a Phase One Environmental Desk Study, Phase Two Intrusive Investigation, Phase Three Remediation Strategy and Phase Four Validation Report. Therefore, as a minimum, once a site has been developed it should not be capable of being designated as 'contaminated land' under Part 2A of the Environmental Protection Act 1990, as inserted by the Environment Act 1995 (see also PPS 23 Planning and Pollution Control Section 8)

[2] This report is a summary only and reference must be made in full to the information provided in the Groundsure Report.

## 2.1 Historical Land Use

**Table 1: Historical Land Use[3]**

| HISTORICAL MAPPING SUMMARY | | |
|---|---|---|
| **Map Dates** | **On site** | **Within 250m** |
| 1854 | The site is part of and surrounded by part of the Wombwell Wood | The Wombwell Wood surrounds the site to all directions |
| 1890 – 1892 | The site remains unchanged. | Keeper's Lodge – 70m E<br>Football and Cricket Ground – 240m N |
| 1901 – 1904 | Part of the adjacent railway embankment cuts through the east side of the site, travelling from north to south. The remaining area of the site is still noted to be covered in trees and part of the Wombwell Wood. | The Football and Cricket Ground has been split in half by the railway line<br>Chapeltown Branch Extension Railway – Adjacent E<br>Goods Shed – 10m N<br>Wombwell Station – 240m NW |
| 1929 – 1931 | The area of the site covered in trees has now been cleared. | Residential dwellings have been constructed over the former Football and Cricket Ground<br>Residential dwellings – 30m SW & 140m SE<br>Wombwell Foundry (Iron and Brass) – 120m N |
| 1938 – 1948 | The site remains unchanged. | Surrounding land use remains unchanged |
| 1951 | Rectangular structure of unknown use is now present to the site. | Surrounding land use remains unchanged |
| 1961 | A factory is now present to the site. | Factory – 25m NW<br>Works – 90m N<br>Pond – 200m NE<br>Works – 200m N |
| 1976 – 1978 | The site remains unchanged. | Works 90m N of the site has expanded to the southeast<br>Goods Shed 10m N is still present but no longer labelled |
| 1985 – 1988 | The site remains unchanged. | Electrical Sub Station – 190m N, attached to the Works 90m N |
| 1993 | The site remains unchanged. | Electrical Sub Station – 90m N, attached to the Works 90m N |
| 2001 - 2003 | The site remains unchanged. | Surrounding land use remains unchanged |
| 2010 | The site remains unchanged. | Works 90m N and associated electrical sub stations have been demolished<br>Pond located 200m NE appears to have been infilled but is still noted on the map<br>Residential estate – 110m N |
| 2024 | The site remains unchanged. | Residential estate 110m N has expanded towards the south<br>Pond 200m NE no longer appears |

NB. All distances given are approximate only.

## 2.2 Published Geology and Geological Hazards

**Table 2: Geological Data for the Site**

| BGS MAPPING DATA | | | |
|---|---|---|---|
| **Strata Type** | **Strata Name[4]** | **Previous Name[4]** | **Description[5]** |
| Artificial Geology/Fill | N/A | N/A | Not indicated although previous construction may have resulted in the presence of made ground around the perimeter of the building on site. |
| Superficial Geology | N/A | N/A | Not indicated to underlie the site. |

[3] See Appendix 3
[4] Sources: British Geological Survey (NERC) Map Sheets 87; Barnsley; Solid and Drift Edition, and Geology of Britain Viewer [*online resource from www.bgs.ac.uk*]
[5] Sources: British Geological Survey (NERC) Lexicon of Named Rock Units [*online resource from www.bgs.ac.uk*]

| | | | |
|---|---|---|---|
| Solid Geology | Woolley Edge Rock<br><br>(Named sandstone member of the Pennine Middle Coal Measures Formation) | - | Sandstone, coarse-grained in the north, becoming finer southwards. |
| **GEOLOGICAL FEATURES** | | | |
| **Type** | **Location** | **Features** | **Comments** |
| Mining Activity | On site | Coal mining | The study site is located within a coal mining area as defined by the Coal Authority. |
| | 59m N & 192 SE | Non-coal Mining | Iron Ore (Bedded)<br><br>Underground mine workings have occurred in the past or current mines may be worked at significant depth to modern engineering standards. Difficult ground conditions are unlikely and are at a level where they need not be considered. |
| Linear features | 125m N | Coal Seam | Not expected to impact the site. |
| Landslip Deposits | No data | No data | No data. |
| **BGS BOREHOLE DATA** | | | |
| **Reference[6]** | **Location** | **Strata Description** | **Depth** |
| - | Within 250m | - | No relevant boreholes within 250m of the site. |

| **NATURAL GROUND SUBSIDENCE & HAZARDS[7]** | |
|---|---|
| **Type** | **Risk Rating** |
| Potential for shrinking or swelling clay ground stability | Negligible. |
| Potential for running sand ground stability | Negligible. |
| Potential for compressible ground stability | Negligible. |
| Potential for collapsible ground stability hazards | Very Low. |
| Potential for landslide ground stability | Very Low. |
| Potential for ground dissolution stability | Negligible. |
| Radon | The property is in a Radon Affected Area, as between 1 and 3% of properties are above the Action Level. No radon protective measures are necessary. |

[6] http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html
[7] See Groundsure report

## 2.3 Construction Issues

### 2.3.1 Foundation Construction

On the basis of the prevailing geology and assuming that there are no areas of significantly filled ground, it is anticipated that shallow strip or spread foundations could be utilised at this site. It should be appreciated that an intrusive investigation will be required to validate this opinion. Moreover, it is possible that undifferentiated strata within the Woolley Edge Rock Formation may include very fine-grained rocks which are likely to have weathered to cohesive soils at or near the surface. Such soils could be sensitive to soil moisture variations and thus be susceptible to desiccation as result of tree root action. In light of this, it is possible that footings within the zone of influence of trees (existing or previously removed), may need to founded at extended depths in excess of 1m.

### 2.3.2 Site Won Materials

Where sandstone outcrops, it is possible that the resulting soil may provide a suitable bulk granular fill and may prove suitable for re-compaction.

Should any residual mudstone be encountered at shallow depth over much of the site, this material is likely to be relatively difficult to re-engineer as a construction material. Therefore, depending on the results of laboratory testing, it may possible to modify/stabilise the soil using lime and/or cement to form a suitable sub-base replacement for pavements and hard standings.

### 2.3.3 Disposal of Site Materials

If made ground is present, then contamination/WAC testing will be required to establish the nature of the underlying soil before disposal to a licensed landfill site. However, it is anticipated that the naturally occurring soils would not be significantly contaminated, thus would probably be accepted by a waste disposal site catering for inert material.

## 2.4 Mining and Natural Cavities

### 2.4.1 Coal Mining

The Groundsure Report states that the site is within an area that may be affected by coal mining. A Consultant's Coal Mining Report has therefore been obtained that is included in appendix 5 of this report and may be summarised as follows:

**Table 3: Summary of the Consultant's Coal Mining Report**

| Has the report highlighted evidence or potential of: | | | |
|---|---|---|---|
| **Ref** | **Mining Feature** | **Yes/No** | **Comments** |
| 1 | Underground Coal Mining | Yes | The property is in a surface area that could be affected by underground mining in 9 seams of coal between 90m and 523m depth and worked between 1871 and 1979. |
| 2 | Probable Unrecorded Shallow Workings | No | None. |
| 3 | Spine Roadways at Shallow Depth | No | No spine roadway recorded at shallow depth. |
| 4 | Mine Entries | No | None recorded within 100 metres of the site boundary. |
| 5 | Abandoned mine plans | Yes | Plans of abandoned mine workings below the site are suggested to be available by the coal authority. |

| | | | |
|---|---|---|---|
| 6 | Outcrops | No | No outcrops recorded. |
| 7 | Geological Faults | No | No faults, fissures or breaklines recorded on site. |
| 8 | Opencast Mines | Yes | One unlicensed opencast site reported 460m south of the site. |
| 9 | Coal Authority Managed Tips | No | None recorded within 500 metres of the enquiry boundary. |
| 10 | Site Investigations | No | None recorded within 50 metres of the enquiry boundary. |
| 11 | Remediated Sites | No | None recorded within 50 metres of the enquiry boundary. |
| 12 | Coal Mining Subsidence | Yes | There are 1 claim(s) within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot.<br><br>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. |
| 13 | Mine Gas | No | None recorded within 500 metres of the enquiry boundary. |
| 14 | Mine Water Treatment Schemes | No | None recorded within 500 metres of the enquiry boundary. |
| 15 | Future Underground Mining | No | None recorded. |
| 16 | Coal Mining Licensing | No | None recorded within 200 metres of the enquiry boundary. |
| 17 | Court Orders | No | None recorded. |
| 18 | Section 46 Notices | No | No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence. |
| 19 | Withdrawal of Support Notices | Yes | The property is in an area where a notice to withdraw support was given in 1986.<br><br>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. |
| 20 | Payments to Owners of Former Copyhold Land | No | The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994. |

### 2.4.2 Non-Coal Mining

Underground mine workings have occurred in the past or current mines may be worked at significant depth to modern engineering standards. Two records of iron ore mining are noted with the Groundsure report located 59m N and 192m SE. Difficult ground conditions are unlikely and are at a level where they need not be considered

## 2.5 Waste Management and Gas Monitoring

| Table 4: Landfill Data and Artificial Ground, Recorded and Anticipated | | | |
|---|---|---|---|
| **ENVIRONMENT AGENCY, LOCAL AUTHORITY, BGS & HISTORIC LANDFILLS** | | | |
| **Waste Type** | **Location** | **Comments** | **Monitoring Requirement** |
| Active Landfill | Within 250m | None recorded within 250m | - |
| Historic Landfill | 87m NE | Wombwell Foundry – Waste Type: Industrial | N |
| Historic waste sites | Within 250m | None recorded within 250m | - |
| Licenced waste sites | 139m NE | Wombwell Foundry – Industrial Waste Landfill (Factory curtilage) | - |
| Waste Exemptions | Within 250m | None recorded within 250m | - |
| **MADE GROUND & INFILLED GROUNDWORKINGS** | | | |
| **Description** | **Location** | **Comments** | **Monitoring Requirement** |
| Records of Potentially Infilled Features | On site, 25m SE, 29m S, 142m NW, 145m NW, 197m NW & 216m NW | Cuttings | Y |
| | 72m N, 82m N & 88m N | Refuse Heap | N |
| | 82m NE | Unspecified Ground Workings | N |
| | 200m NE | Pond | N |

## 2.6 Hydrogeology, Hydrology

| Table 5: Ground/Controlled Water Sensitivity and Flooding | | |
|---|---|---|
| **ENVIRONMENT AGENCY AQUIFER DESIGNATION[8]** | | |
| **Strata** | **Designation** | **Description** |
| Solid Geology 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. |
| **GROUNDWATER SENSITIVITY[9]** | | |
| **Description** | **Location** | **Details** |
| Source Protection Zone | Within 250m | None recorded within 250m. |
| Abstraction Licences | Within 250m | None recorded within 250m. |
| Records of Part A(2) and Part B Activities and Enforcements | 236m NE | Process: Manufacturing of Coating Materials<br>Status: Historical<br>Permit Type: Part B |

[8] See Appendix 2
[9] See Appendix 2

| | | |
|---|---|---|
| Records of Licensed Discharge Consents | Within 250m | None recorded within 250m |
| High Soil Leaching Potential | On Site | Leaching Class: High |
| **CONTROLLED WATERS[10]** | | |
| **Description** | **Location** | **Details** |
| River Network Entries | 194m NE, 209m E & 241m E<br>201m E | Unnamed watercourses<br>Lake, loch or reservoir |
| Surface Water Features | Within 250m | 2 surface water records present within 250m. Unknown type. |

| **POLLUTION INCIDENTS[11]** | | | |
|---|---|---|---|
| **Pollutant** | **Receptor** | **Location** | **Date** |
| Atmospheric Pollutants and Effects (Dust) | Air Category 3 (Minor) | 98m N | Aug 2003 |
| Oils and Fuel (Insulating and Cable Oils | Land Category 3 (Minor) | 101m N | Oct 2003 |

| **ENVIRONMENT AGENCY FLOOD RISK[12]** | | |
|---|---|---|
| **Description** | **Location** | **Details** |
| Zone 2 | Within 250m | The site is not situated within a Zone 2 flood plain. |
| Zone 3 | Within 250m | The site is not situated within a Zone 3 flood plain. |
| Flood Defences | Within 250m | None recorded within 250m. |
| Groundwater Flooding Area | On site | Negligible potential for groundwater flooding to occur. |

## 2.7 Sensitive Land Use

**Table 6: Sensitive Land Uses within 250m**

| **REGISTERED SENSITIVE LAND USES [13]** | | |
|---|---|---|
| **Description** | **Location** | **Details** |
| Nitrate Vulnerable Zone | On site | River Dearne NVZ |
| Green Belt Land | 42m W | South and West Yorkshire |
| Designated Ancient Woodland | 60m W, 90m S, 96m NW & 159m S<br>84m SW | Wombwell Wood South - Ancient and Semi-Natural Woodland<br>Wombwell Wood South – Ancient Replanted Woodland |

[10] See Appendix 2
[11] See Appendix 2
[12] See Appendix 2
[13] See Appendix 2

## 2.8 Industrial Land Use and Potential Sources of Contamination

In order for a conceptual site model and preliminary risk assessment to be completed the historical maps and Groundsure data requires analysis to identify any past or present activities on the site and in the area that may have the potential to cause contamination on the site. Guidance has been issued by the Environment Agency, NHBC and Chartered Institute of Environmental Health.[14] Within this document, annex 3 provides examples of important contaminants that are associated with individual uses of land. This data assists in the formulation of any chemical testing regime.

Those that we consider potentially contaminative according to the guidance are given below:

**Table 7: Potentially Contaminative Sources**

| HISTORICAL | | |
|---|---|---|
| **Land Use** | **Location** | **Classification** |
| Historical construction | On site | Artificial/made ground. |
| Factory<br>Goods Shed<br>Factory<br>Works<br>Electrical Sub Station<br>Works<br>Pond | On site<br>10m N<br>25m NW<br>90m N<br>90m N & 190m N<br>200m N<br>200m NE | Unspecified works/factories/features. |
| Railway Line<br>Wombwell Station | Adjacent to site NE<br>240m NW | Transport and haulage centres. |
| **CURRENT** | | |
| **Land Use** | **Location** | **Classification** |
| None noted | Within 250m | - |

# 3. Preliminary Qualitative Risk Assessment

The potential of contamination hazards on the land has been identified and the risks associated with them are assessed in the following preliminary risk assessment in accordance with industry practice and the 'suitable for use' approach. This has been conducted using the source-pathway-receptor approach. This method dictates that there must be a risk contaminant produced at a 'source' in sufficient concentration to cause harm and there must be a 'pathway' for the contaminant to reach an identifiable 'receptor' for the linkage to be proved and a contamination hazard to be considered present. Not all substances are contaminants and not all contaminants are considered to be a risk. Indeed, DEFRA and The Environment Agency state that **'a contaminant is a substance which has the potential to cause harm, while a risk itself is considered to exist if such a substance is present in sufficient concentration to cause harm and a pathway exists for a receptor to be exposed to the substance.'**

[14] Guidance for the Safe Development of Housing on Land Affected by Contamination, R&D Publication 66: 2008 Volume 1 and 2.

R&D Publication 66: 2008 states that the groups at risk of harm (receptors) can be identified by the following categorisation:

1. Humans: site personnel, end users, visitors and adjacent land users.
2. The water environment – receptors: groundwater, surface water, coastal waters and artificial drainage.
3. Ecosystems: plants and animals.
4. Construction/building materials/services

In order to complete a conceptual site model and therefore a preliminary risk assessment, an appraisal of the sources of contamination, potential and actual, on and in the area of the site has therefore been completed with reference to this pollution linkage.[15]

## 3.1 Conceptual Ground Model & Preliminary Qualitative Risk Assessment

It is understood that the development proposals currently comprise the construction of 17no. new residential dwellings with associated soft landscaping and car parking area. In view of the sensitivity of the end users it is considered that the soil screening values (SSVs) for a residential with plant uptake end use should be employed.

The preliminary risk assessment has been evaluated with reference to the following ratings and definitions:

**N/A -** A source-pathway-receptor linkage is not considered to exist and therefore a risk assessment is not required.

**Low -** A pollution linkage is unlikely and/or the likelihood of harm occurring is low and of minor consequence.

**Moderate -** The linkage exists but further field or laboratory data is required to confirm that the contaminant has reached the receptor and the levels of contaminant are harmful.

**High -** The linkage exists and the available data indicates that significant harm may be caused and remedial action could be necessary.

[15] This assessment has been based on the information as to the proposed development that has been provided by the client. If the plans should change, the assessment should be re-evaluated.

| Table 8: Conceptual Site Model and Preliminary Qualitative Risk Assessment | | | | |
|---|---|---|---|---|
| CONCEPTUAL SITE MODEL | | | PRELIMINARY RISK ASSESSMENT | |
| **Pathways** | **Receptor** | **Linkage Present?** | **Risk Rating** | **Notes** |
| Direct contact/dermal absorption/soil ingestion | Operative | Yes – operatives are likely to come in contact with the soil. | Moderate | There are potential on and off-site sources of contamination that may have caused contamination of the site.<br><br>Any on site sources of contamination could migrate to neighbouring properties.<br><br>Further testing required to reach a firm conclusion. |
| | End User | Yes – end users are likely to come in contact with the soil. | Moderate | |
| | Neighbours | Yes – possible source on site and immediate neighbours are present. | Moderate | |
| Inhalation of Dust/Vapours | Operative | Yes – contact with soil likely during works and dust may be produced during workings. | Moderate | There are potential on and off-site sources of contamination that may have caused contamination of the site.<br><br>Any on site sources of contamination could migrate to neighbouring properties.<br><br>Construction activities may create dust on and off site, which, if contaminated, could adversely affect operatives, end users and neighbours.<br><br>Further testing required to reach a firm conclusion. |
| | End User | Yes – dust may be produced by end users. | Moderate | |
| | Neighbours | Yes – neighbouring properties present and possible inhalation of dust during the works. | Moderate | |
| Ingestion of fruit/vegetables and/or waters | Operative | No – no edible plants or contained water sources in the area of the proposed new works. | N/A | There are potential on and off-site sources of contamination that may have caused contamination of the site. Further testing required to reach a firm conclusion. |
| | End User | Yes – soft landscaping proposed as part of the new development. | Moderate | |
| | Neighbours | Yes – residential dwellings present within 250m of the proposed development. | Moderate | |

| | | | | |
|---|---|---|---|---|
| Migration of hazardous gases via permeable strata | Operative | Yes – possible off-site sources and potential source on site associated with possible made ground present under current building. | Moderate | Possible source on site and within 250m. A programme of monitoring is recommended but is suggested to be limited to 4 readings over one month in the first instance. If significant made ground considered capable of producing harmful gases is revealed during the investigation works, the monitoring regime may require reassessment to consider a higher potential risk. |
| | End User | | Moderate | |
| | Neighbours | Yes – possible source on site due to historical construction. | Low to Moderate | It is not considered likely that any made ground that has been brought onto site for the construction of the current development will produce high levels of gas, thus presenting a significant risk of harm to this receptor. This should be re-assessed during any intrusive works should this be proven to the contrary. |
| Spillage/loss/run off direct to receiving water | Controlled Waters | Yes – possible source on site and controlled waters within 250m. | Moderate | There are potential on and off-site sources of contamination that may have caused contamination of the site.<br><br>Controlled waters within 250m.<br><br>Secondary A aquifer underlies the site. Permeability of underlying geology should be assessed.<br><br>Further testing required to reach a firm conclusion. |
| Migration via permeable unsaturated strata | Controlled Waters | Yes – possible source on site and Secondary A aquifer beneath the site. | Moderate | |
| Run off via drainage/sewers etc | Controlled Waters | Yes – possible source on site. | Moderate | |
| Direct contact with contaminated soils | Plants | Yes – some soft landscaping areas may be present as part of the proposed development. | Moderate | There are potential on and off-site sources of contamination that may have caused contamination of the site.<br><br>Any on site sources of contamination could migrate to neighbouring properties.<br><br>Further testing required to reach a firm conclusion. |
| Uptake via root system | | | Moderate | |
| Direct contact with contaminated soils/ | Building Materials | Yes – possible source on and off site and foundation and service installation materials may be affected by the site soil. | Moderate | There are potential on and off-site sources of contamination that may have caused contamination of the site. Further testing required to reach a firm conclusion. |
| Direct contact with contaminated groundwater | | | | |

| | | | | |
|---|---|---|---|---|
| Migration of mine gas via permeable strata | Operative<br>End User | Yes – in an area affected by coal mining activity, however, the Consultants Coal Mining Report states that there are no shallow workings beneath the site. | N/A | No further action required. |
| Exposure to Radon | Operative<br>End User | Yes – in a radon affected area. | Low | Between 1% and 3% of properties are affected. The publication BR211 states that no protection measures are necessary. |
| Mining Instability | End User | Yes – the property is in an area where underground mining in 9 seams of coal between 90m and 523m depth and worked between 1871 and 1979. However, instability at the surface from workings at these depths is unlikely. | Low | No further action required. |
| Unexploded Ordinance (UXO) Risk | Operative | Yes – the Zetica[16] online maps indicate that the site is at low risk from UXO. | Low | Unlikely to be affected by UXO. |

Notes:

1. The above data and table is a qualitative assessment of the probable risks identified at this site, based on the information made available to us from the client, third party professional data and walkover survey.

2. Should any additional or new data come to light, the risk assessment should be revisited and any necessary changes made to any recommendations resulting from this study.

3. Where further testing is recommended as part of the risk assessment, this is in order to provide a quantitative assessment of any contamination issues. It should at all times be considered that uncertainties may remain, and therefore any testing regime and ground investigation philosophy should be ready to accommodate any necessary alterations should any data come to light or it become evident that it has not been previously considered.

[16] Pre-desk study assessment [*online resource from www.zeticauxo.com*].

# 4. Intrusive Investigation

## 4.1 Site Investigation Philosophy

The information from the Phase 1 Desk Study shows there are potential sources of contamination on the site and in the surrounding area. In view of the above, any intrusive investigation should be undertaken in accordance with the sampling strategies given in BS10175: 2011 +A2:2017 and CLR4:1994. These two sampling strategies may be classified as:

- Non-Targeted – using a defined sampling pattern (BS10175)
- Targeted – based on prior knowledge and professional judgement (CLR4)

These sampling strategies are considered in more detail below. However, it is emphasised that they can be used individually or in combination depending on the depth of site knowledge.

**Non-Targeted Sampling**

If no obvious 'hot spots' of contamination have been identified on a site, it would be recommended that a stratified random pattern of sampling points be considered. This work should be undertaken with reference to BS10175: 2011 +A2: 2017 *Investigation of potentially contaminated sites – Code of practice*: 7.6, and BS5930 2015 + A1:2020, *Code of practice for ground investigations.*

**Targeted Sampling**

If a possible 'hot spot' of contamination has been identified on a site, it is recommended that a herringbone pattern of sampling points be considered in the immediate vicinity. If strong evidence of contamination has then been identified, it is recommended that sampling be highly focused to reflect that evidence and the investigator's experience. This work should be undertaken with reference to CLR4, *Sampling Strategies for Contaminated Land, 1994*.

The density of sampling required is defined in BS10175: 2011: +A2: 2017: 7.7.2.2.3, which indicates that an *exploratory* investigation usually requires a lower density sample spacing than does a *main* investigation. The BS goes on to state that *the actual density should depend upon the confidence and robustness required of decisions that will be based on the information obtained. Thus, the area and depth of interest will be related to the contaminants present, the pathways and the receptors. Typical densities of sampling grids can vary from 25m to 50m centres for exploratory investigations, and 10m to 25m centres for main investigations.*

## 4.2 Site Specific Investigation

In view of the information provided above it is considered that an investigation of the site should include the following main elements.

### 4.2.1 Contamination Assessment

It may be appreciated that BS 10175 clause 7.7.2.2.3 suggests that the number of sampling points at the site should be based on a minimum of three testing locations or the size of the site with respect to the appropriate grid spacing, whichever the greater. On the basis of the site area being 0.55ha, the number of sampling points at the site should be considered with respect to the table below.

**Table 9: Summary of Sampling Strategy**

| NUMBER OF SAMPLING POINTS | | | | | |
|---|---|---|---|---|---|
| | **Soil** | **Water** | **Asbestos** | **Standpipes** | **Standpipe Readings** |
| Exploratory Investigation 50m x 50m grid | 3 | - | 3 | 3 | A minimum of 4 readings over 1 month would be required as per risk assessment, however any regime must take into account the guidance detailed below. |
| Target Areas | Should be assessed during any investigation. | | | | |

Chemical testing should be undertaken on the above grid spacing and the following standard testing regime should be undertaken:

- **Metals** – Cd, Cr, Cu, Hg, Ni, Pb, Zn, V.
- **Semi Metals and Non-Metals** – As, Se, Free Cyanide and Phenols.
- **Hydrocarbons** – Polycyclic aromatic hydrocarbons (PAH EPA16), Total petroleum hydrocarbons (TPH CWG).
- **Others** – pH, Organic Content.
- **Asbestos**

#### Sampling Method

Investigation should include the installation of three gas monitoring standpipes for subsequent monitoring. Furthermore, soils should be obtained for chemical sampling. The sampling strategy should employ the non-targeted strategy given above in the first instance, i.e. at least three sampling points, if it is anticipated that made ground is significant across the site. However, if the made ground at the site is thought to be localised to specific areas, then the targeted strategy should be used.

It should be possible to carry out the above work with a windowless sampling drilling rig, however, it may be more pragmatic to employ hand-held digging tools for a targeted strategy.

#### Gas Monitoring

The final gas monitoring regime should be undertaken in accordance with Table 4.2 of CIRIA C665: 2007: *Assessing risks posed by hazardous ground gasses to buildings*. In that document guidance for the frequency of monitoring is provided on tables 5.5a and 5.5b *Typical/idealised frequency and period of monitoring* on page 60. For convenience, these tables have been combined and reproduced below.

| Table 10: Typical/idealised Frequency and Period of Monitoring. | | | | | |
|---|---|---|---|---|---|
| **Sensitivity of development** | **Generation potential of source** | | | | |
| | **Very low** | **Low** | **Moderate** | **High** | **Very High** |
| Low (commercial) | 4/1 | 6/2 | 6/3 | 12/6 | 12/12 |
| Moderate (flats) | 6/2 | 6/3 | 9/6 | 12/12 | 24/24 |
| **High (residential + gardens)** | **6/3** | **9/6** | **12/6** | **24/12** | **24/24** |

Notes:

a) The first number is the minimum number of readings and the second number is the minimum period in months, for example 4/1 – four sets of readings over 1 month.

b) At least two sets of readings must be at low and falling atmospheric pressure (but not restricted to periods below 1000mb) known as worst case conditions.

c) The frequency and period stated are considered to represent typical minimum requirements. Depending on specific circumstances fewer or additional readings may be required (e.g. any such variation subject to site specific justification). The NHBC guidance is also recommending these periods/frequencies of monitoring.

d) Historical data can be used as part of the data set.

e) Not all sites will require gas monitoring. However, this would need to be confirmed with demonstrable evidence.

f) Placing high sensitivity end use on a high hazard site is not normally acceptable unless the source is removed or treated to reduce its gassing potential. Under such circumstances long-term monitoring may not be appropriate or required.

g) This guidance should be read in conjunction with BS 8576:2013 figure 6 which may justify fewer readings in the first instance, where the generation potential is considered to be very low to low. However, this should be undertaken pragmatically, and further readings obtained according to the above table, where a potentially significant source is identified and initial readings suggest that remedial measures are not necessary.

### 4.2.2 Geotechnical Assessment

In addition to the above contamination assessment which is likely to be required by planning authorities and insurance providers, the following investigation strategy could be considered:

**Sampling Method**

It is anticipated that a windowless sampling drilling rig will be able to gain sufficient data in regard to the near surface soils. Moreover, such equipment should be able to undertake Standard Penetration Testing (SPT) and/or Dynamic Probing.

### Soakaway Design

Should soakaway data be required for drainage design, trialpits could be excavated and infiltration tests conducted. Alternatively, these tests could be undertaken within boreholes.

### Geotechnical Testing

An allowance for geotechnical testing of the soils should be included in any ground investigation.

## 4.2.3 Reporting

The above data will need to be formulated into a formal assessment that should include the following:

- Geotechnical recommendations.
- Contamination assessment.
- Contamination remediation strategy.
- Any recommendations for further work, if required and including validation reports where site remediation is necessary.

As soon is as practicable, and prior to the above, this Phase 1 report should be forwarded to the relevant authorities, in order to ensure they have sufficient time to review and discuss any issues.

# 5. References


- British Standards Institution (2015), BS5930 2015 + A1:2020: *Code of practice for site investigations*, B.S.I., London.
- British Standards Institution (2007), Amendment No 1 to BS5930: *Code of practice for ground investigations*, B.S.I., London.
- British Standards Institution (2011) +A2:2017, BS 10175: *Investigation of potentially contaminated sites – Code of Practice,* British Standards Institute.
- British Standards Institution (2013), BS 8576 Guidance on Investigations for Ground Gas – Permanent Gases and Volatile Organic Compounds.
- Department for Environment, Food and Rural Affairs and the Environment Agency, DEFRA R&D Publications, Environment Agency, Bristol.
- CLR 2, 1994, *Guidance on preliminary site inspection of contaminated land*, Volume 1.
- CLR 4, 1994, *Sampling Strategies for contaminated land*.
- R&D Publication 66: 2008 Guidance for the Safe Development of Housing on Land Affected by Contamination.
- CIRIA Report C665 (2007), Assessing risks posed by ground gasses in buildings.
- The Environment Agency: Groundwater source protection.

# Appendix 1

## Site Plans

| | | |
|---|---|---|
| 0 | SCALE 1:50 | 5m |
| 0 | SCALE 1:100 | 10m |
| 0 | SCALE 1:200 | 20m |
| 0 | SCALE 1:500 | 50m |
| 0 | SCALE 1:1250 | 125m |

**IMPORTANT NOTES**

ALL MEASUREMENTS MUST BE CHECKED ON-SITE PRIOR TO COMMENCEMENT OF ANY WORKS.

MEASUREMENTS TO BE USED AS A GUIDE ONLY. PROPOSALS SUBJECT TO FULL TOPOGRAPHICAL SITE SURVEY TO ASCERTAIN CORRECT SITE LEVELS & EXACT BUILDING LOCATIONS, ETC.

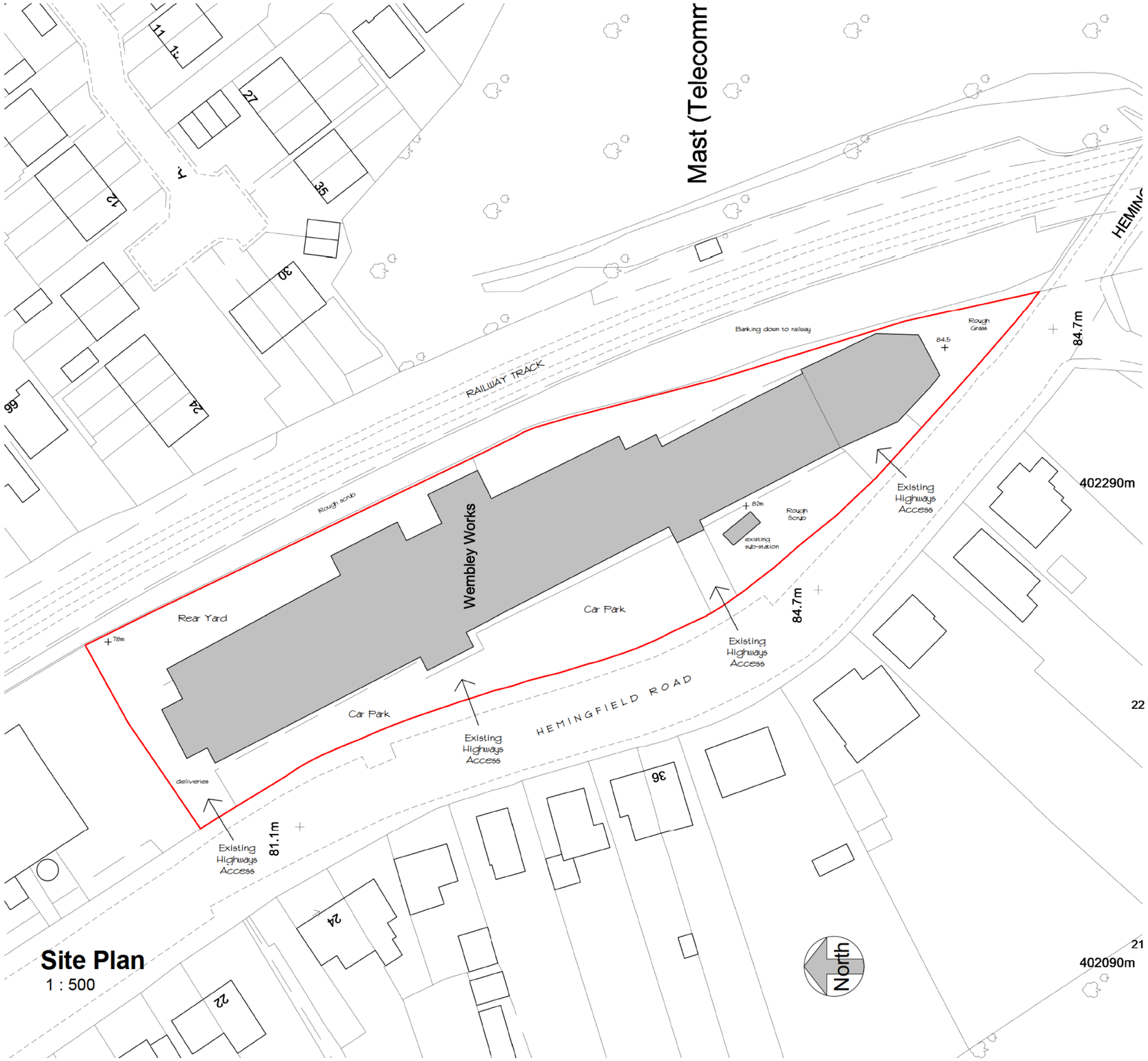
ANY UNDERGROUND DRAINAGE ROUTES ARE INDICATIVE ONLY. TBC BY BUILDER ON-SITE & APPROVED BY YW AND BC PRIOR TO COMMENCEMENT OF ANY WORKS.

CADVIS3D HOLDS NO RESPONSIBILITY FOR UNDERGROUND DRAINAGE ON-SITE. YORKSHIRE WATER MAPPING REQUEST RECOMMENDED TO CHECK FOR EXISTING UNDERGROUND DRAINAGE RUNS (IF AVAILABLE)

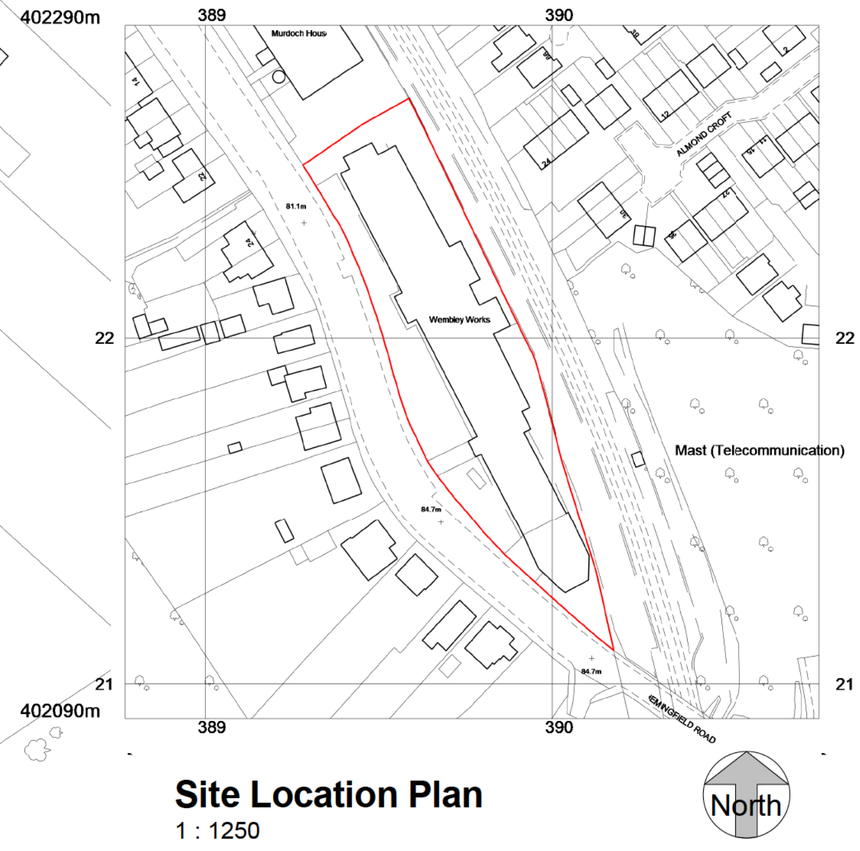
NO UTILITY SERVICES TAKEN INTO ACCOUNT AT THIS STAGE - SUBJECT TO FULL SURVEY. GAS AND ELECTRICITY SUPPLIES ASSUMED FROM EXISTING HIGHWAY

ALL STRUCTURAL DESIGN TBC BY APPOINTED STRUCTURAL ENGINEER. ANY ALTERATIONS TO PROPOSED DESIGN DUE TO STRUCTURAL CONSTRAINTS IDENTIFIED BY ENGINEER TO BE AGREED/APPROVED BY CLIENT PRIOR TO COMMENCEMENT OF ANY WORKS

DRAWING TO BE USED FOR OUTLINE PLANNING PURPOSES ONLY




## Site Plan
1 : 500




## Site Location Plan
1 : 1250

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project
Residential Development,
Wembley Works, Hemingfield Road,
Barnsley S73 0LY

title
Site Plans - As Existing

client
Akrams Group

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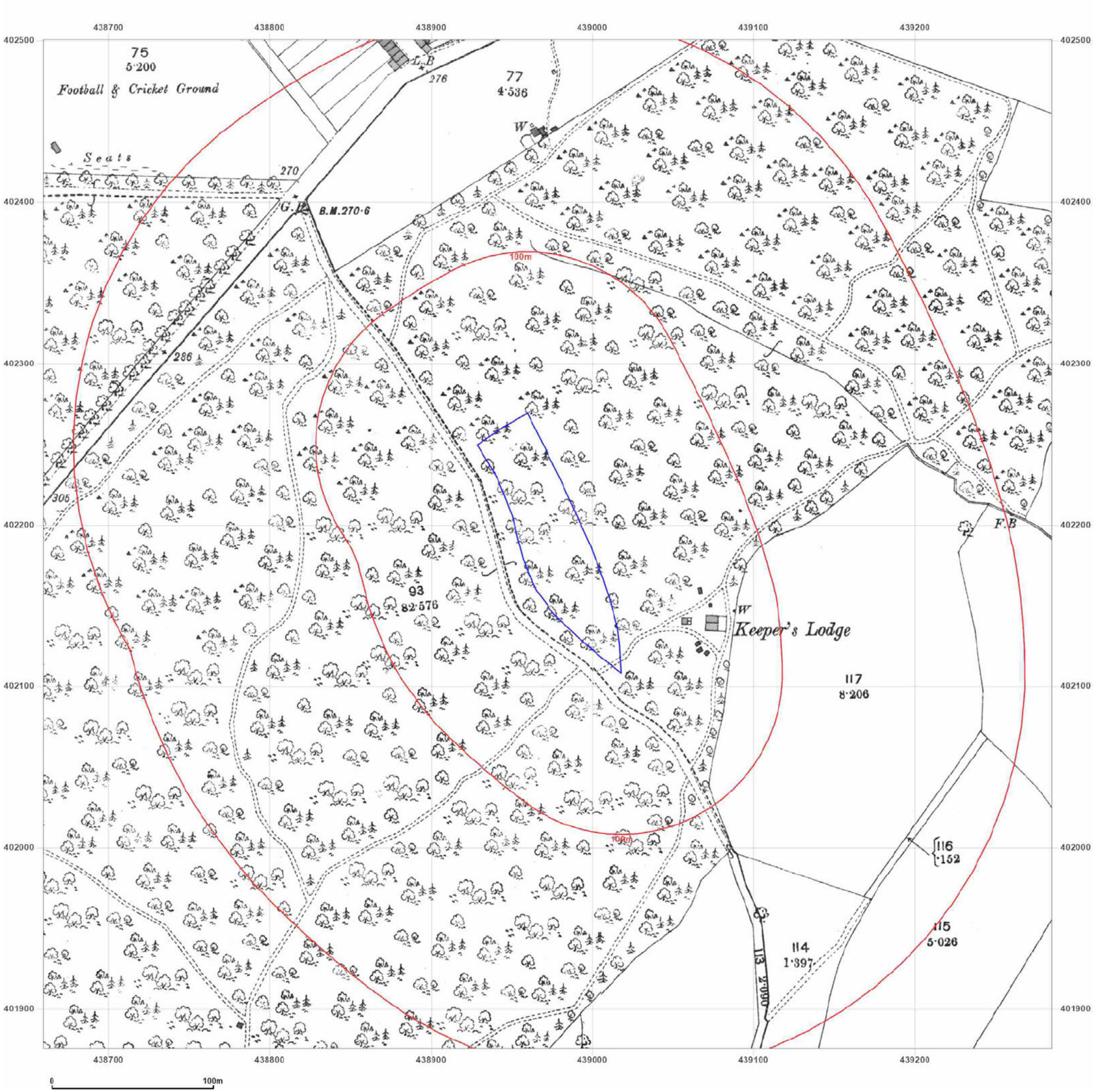
DO NOT SCALE FROM THIS DRAWING.
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AS FAR AS REASONABLY PRACTICABLE, THIS DESIGN HAS BEEN PREPARED IN SUCH A WAY AS TO REDUCE THE RISKS TO THE HEALTH AND SAFETY OF PERSON(S) WHO MAY BE AFFECTED.

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# Appendix 2

## Historical Maps




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Edition 1892
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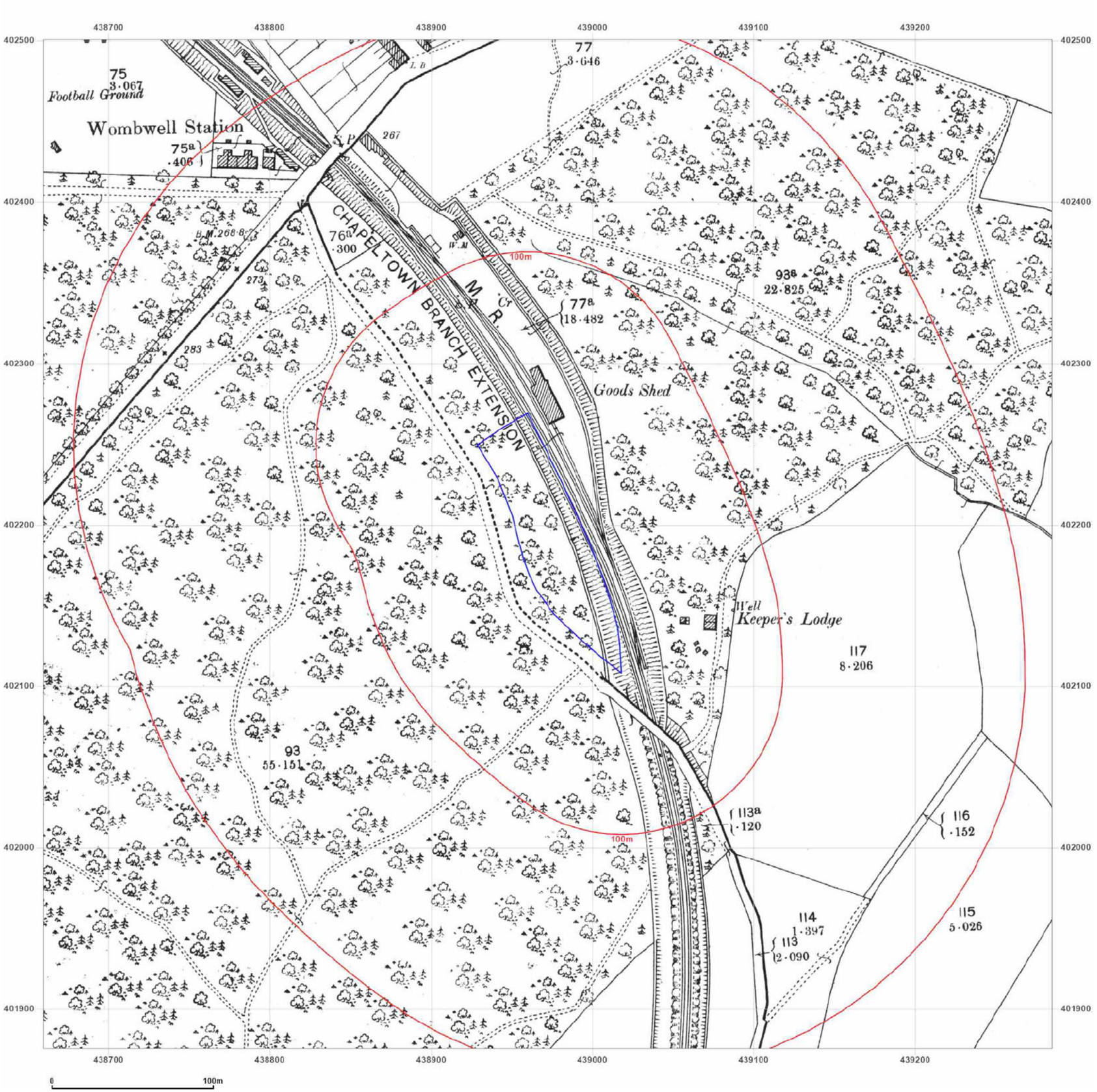
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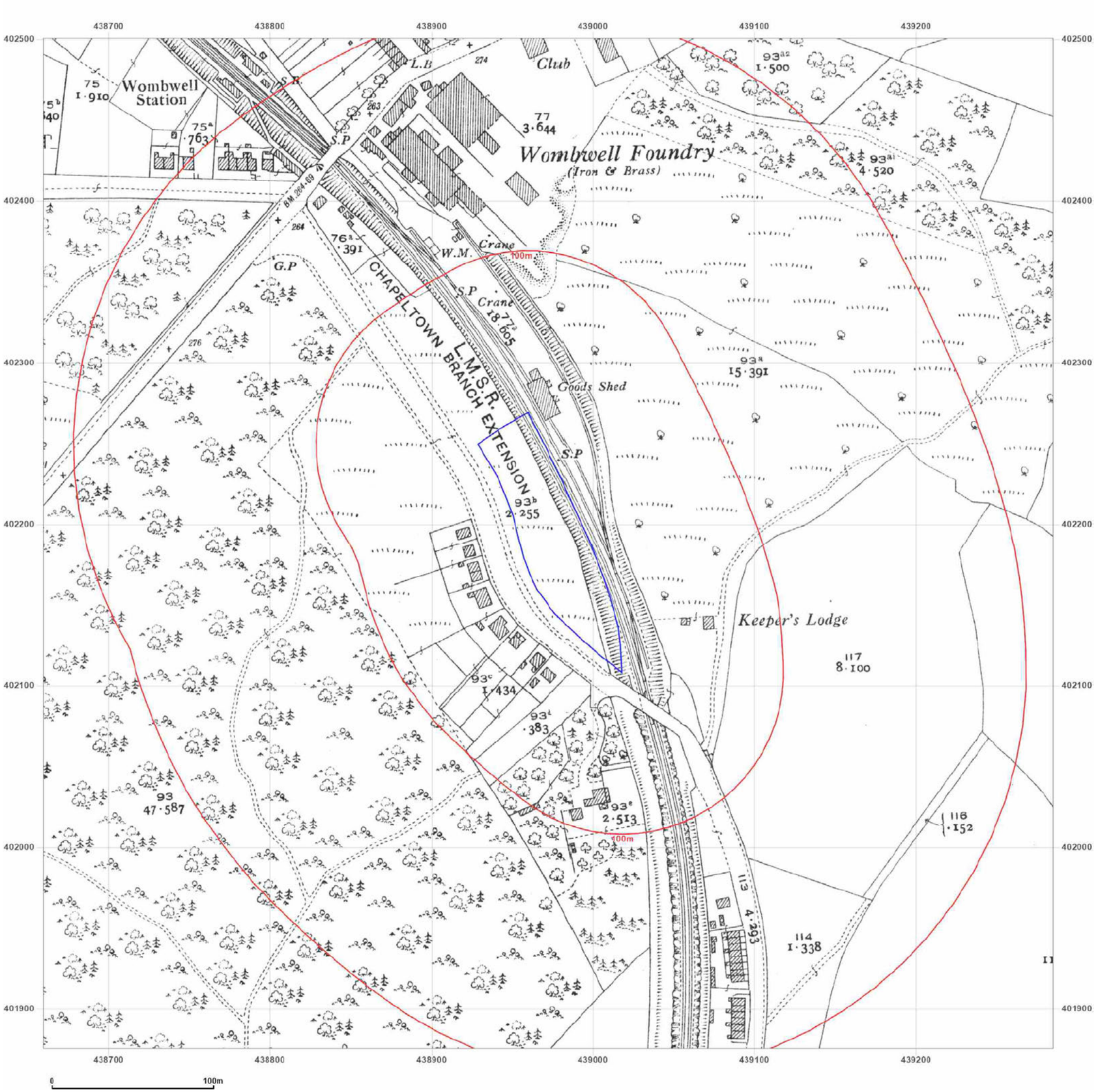
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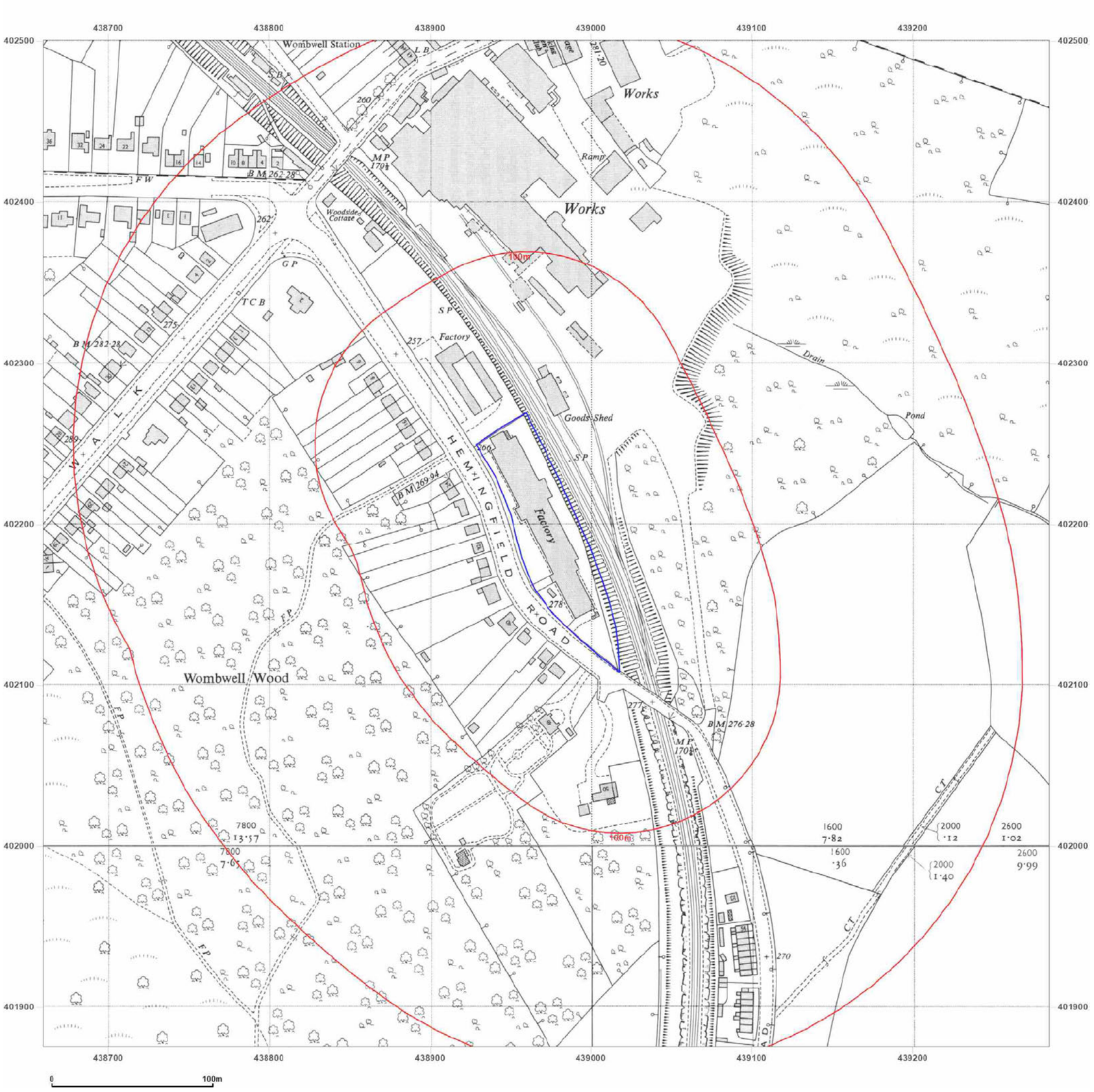
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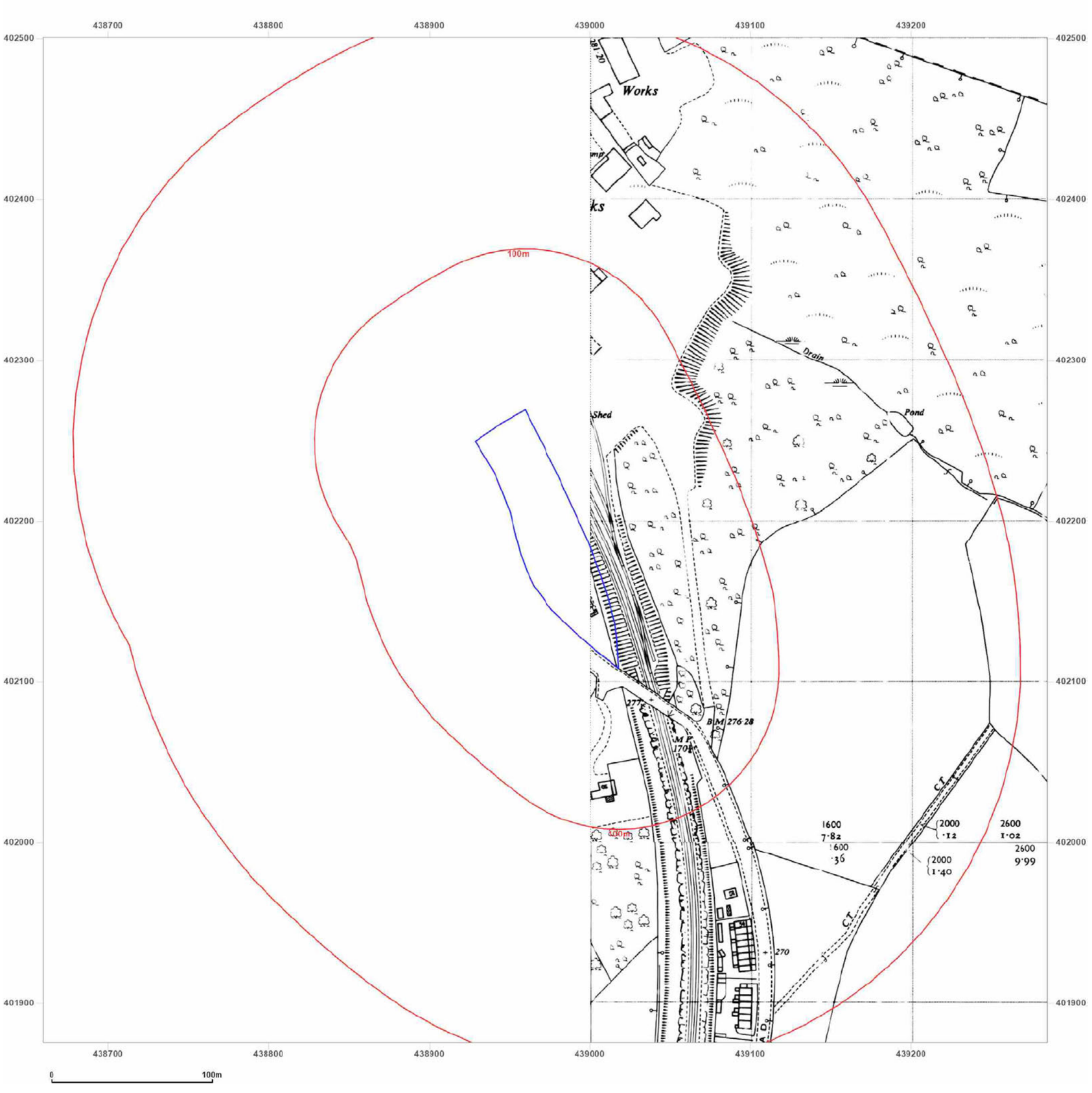
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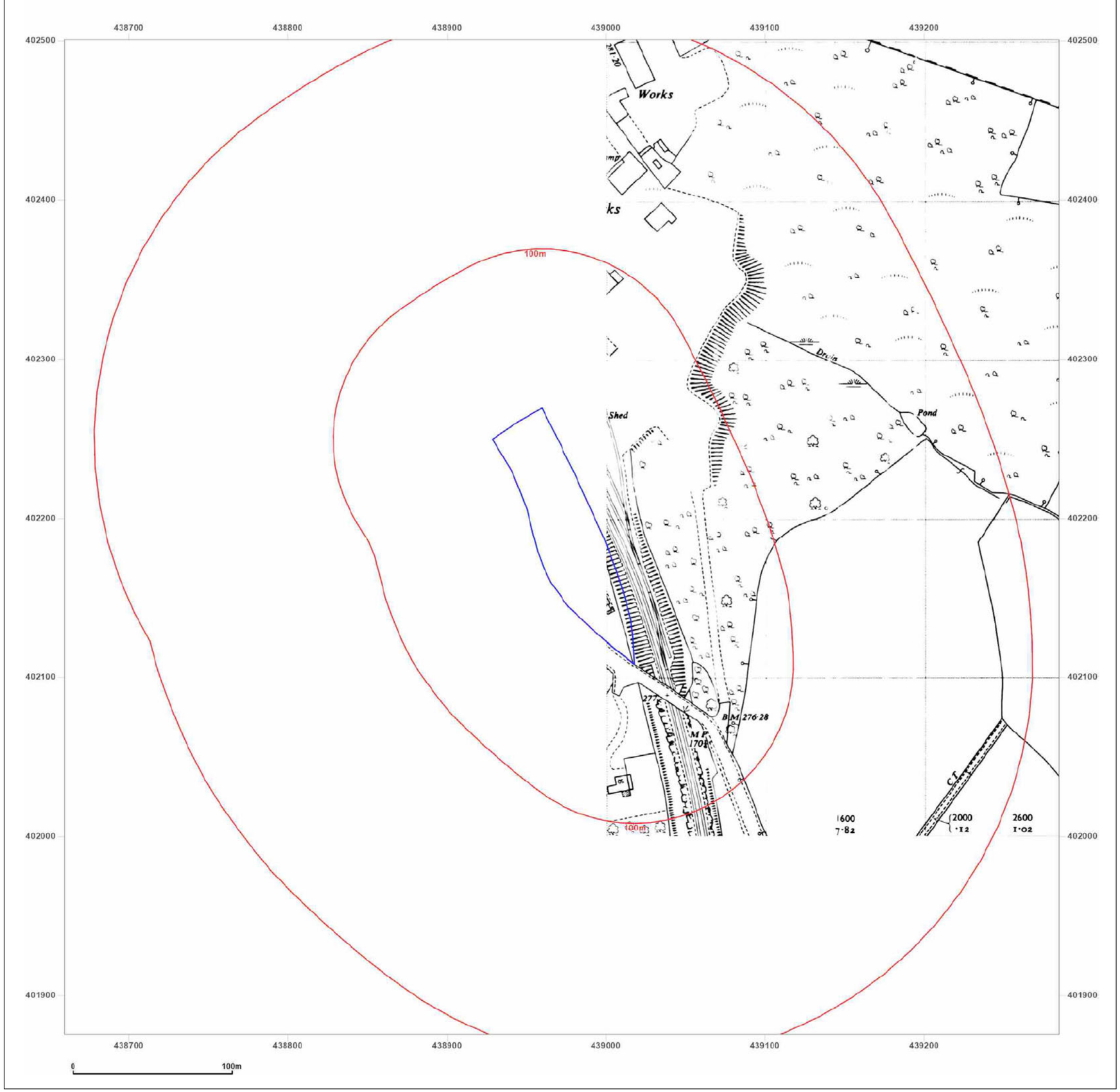
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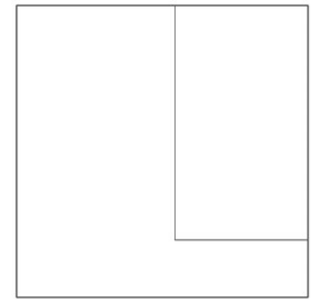
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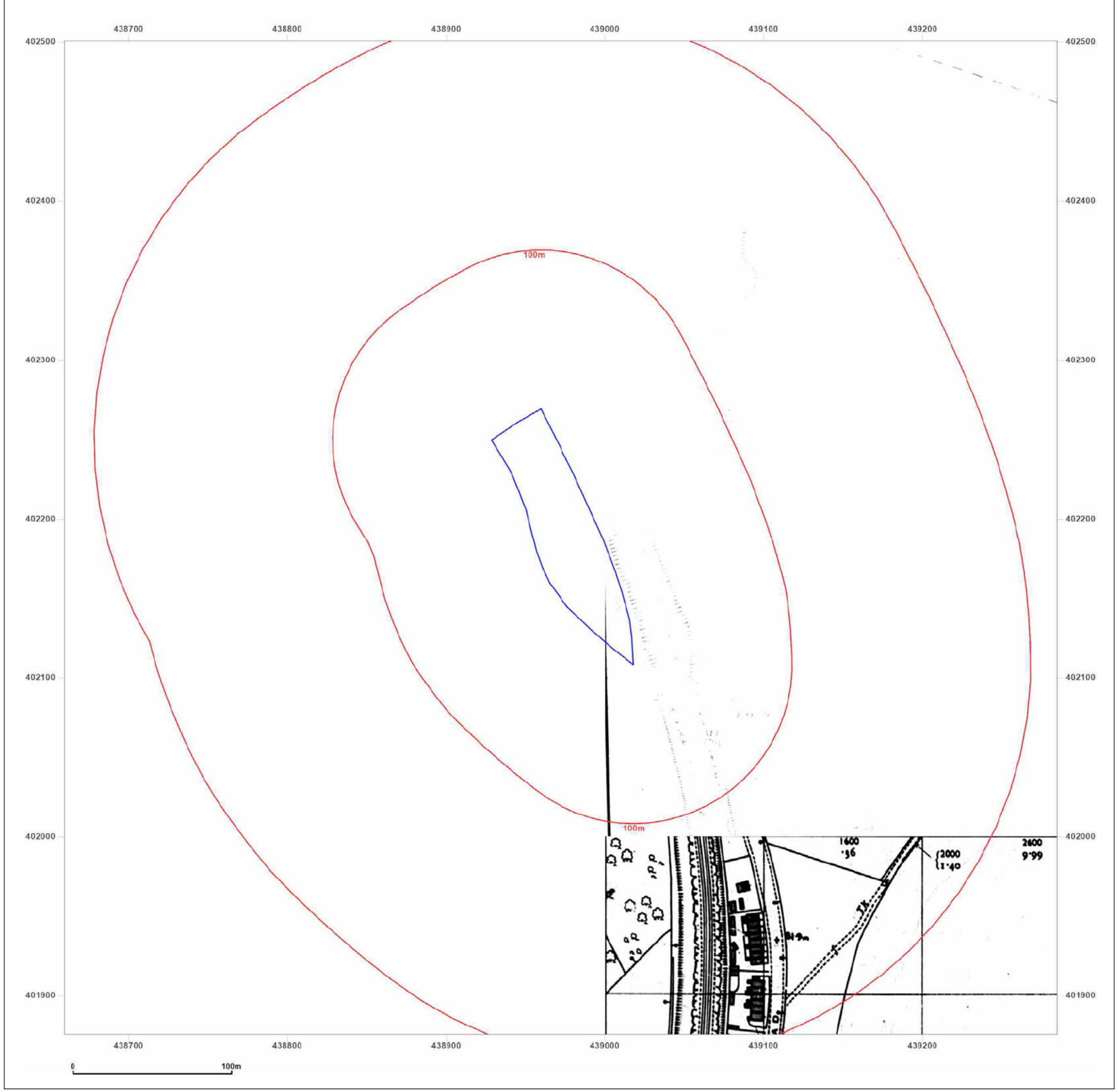
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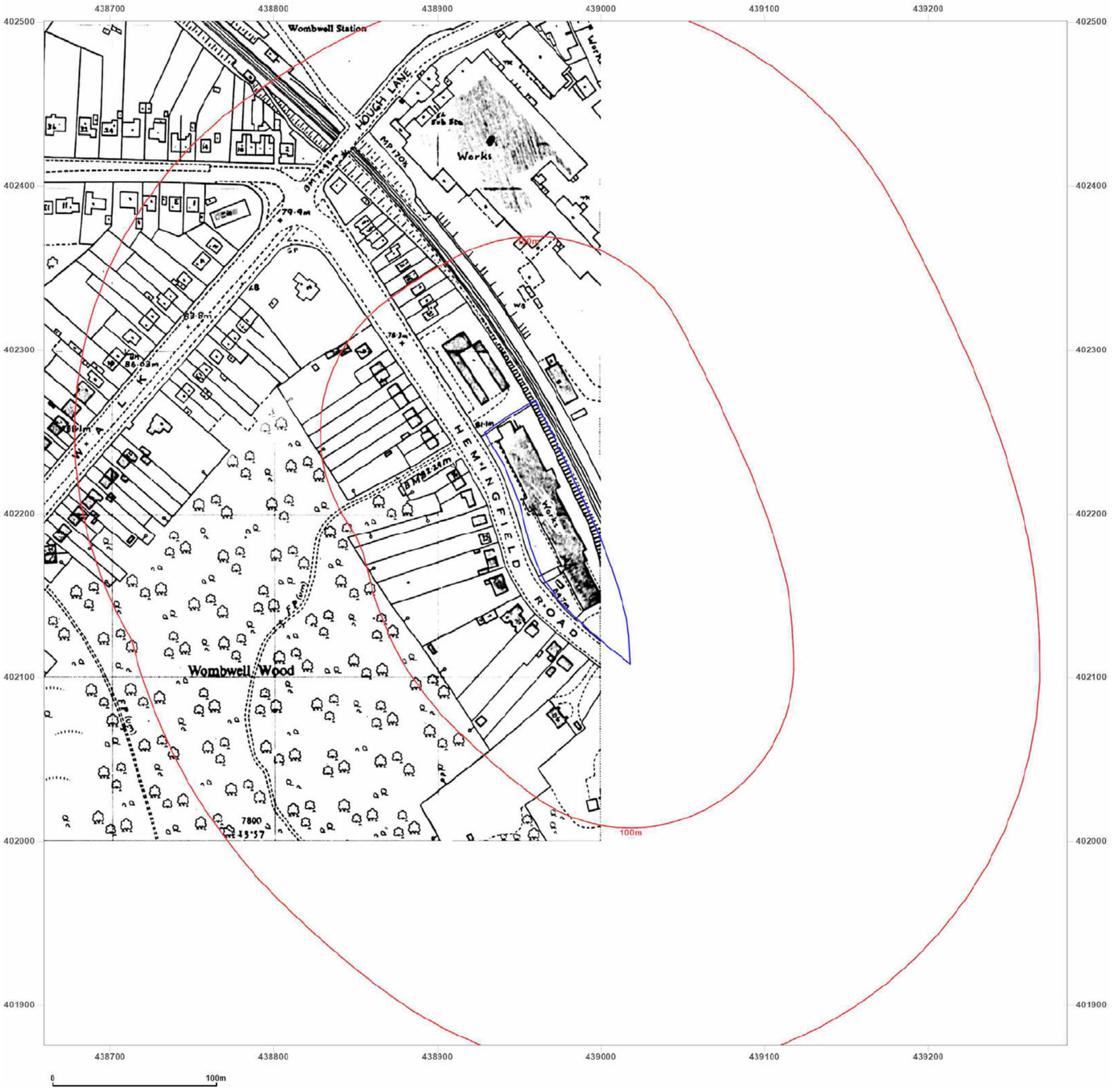
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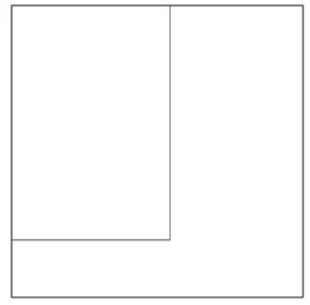
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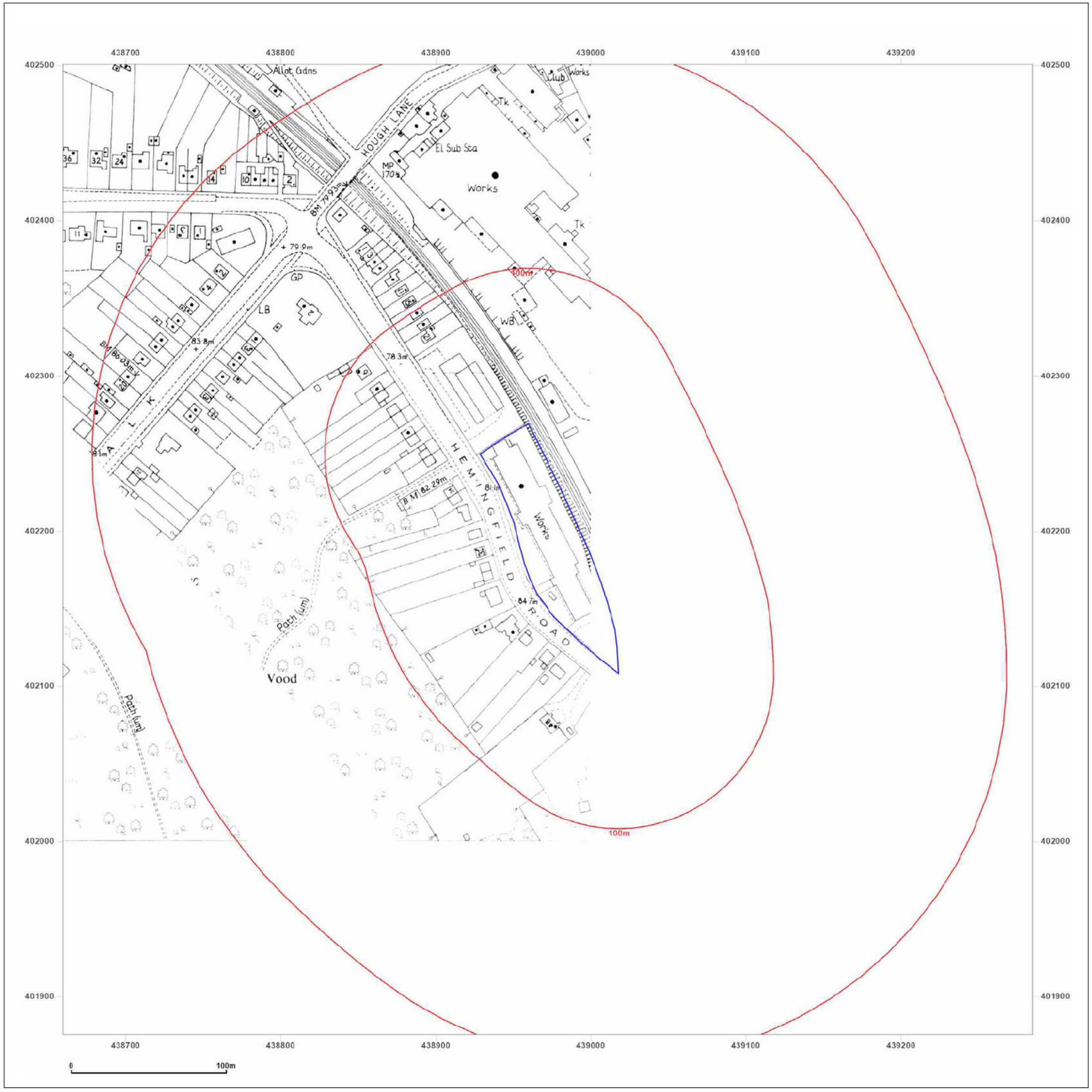
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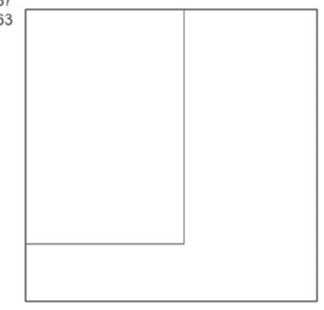
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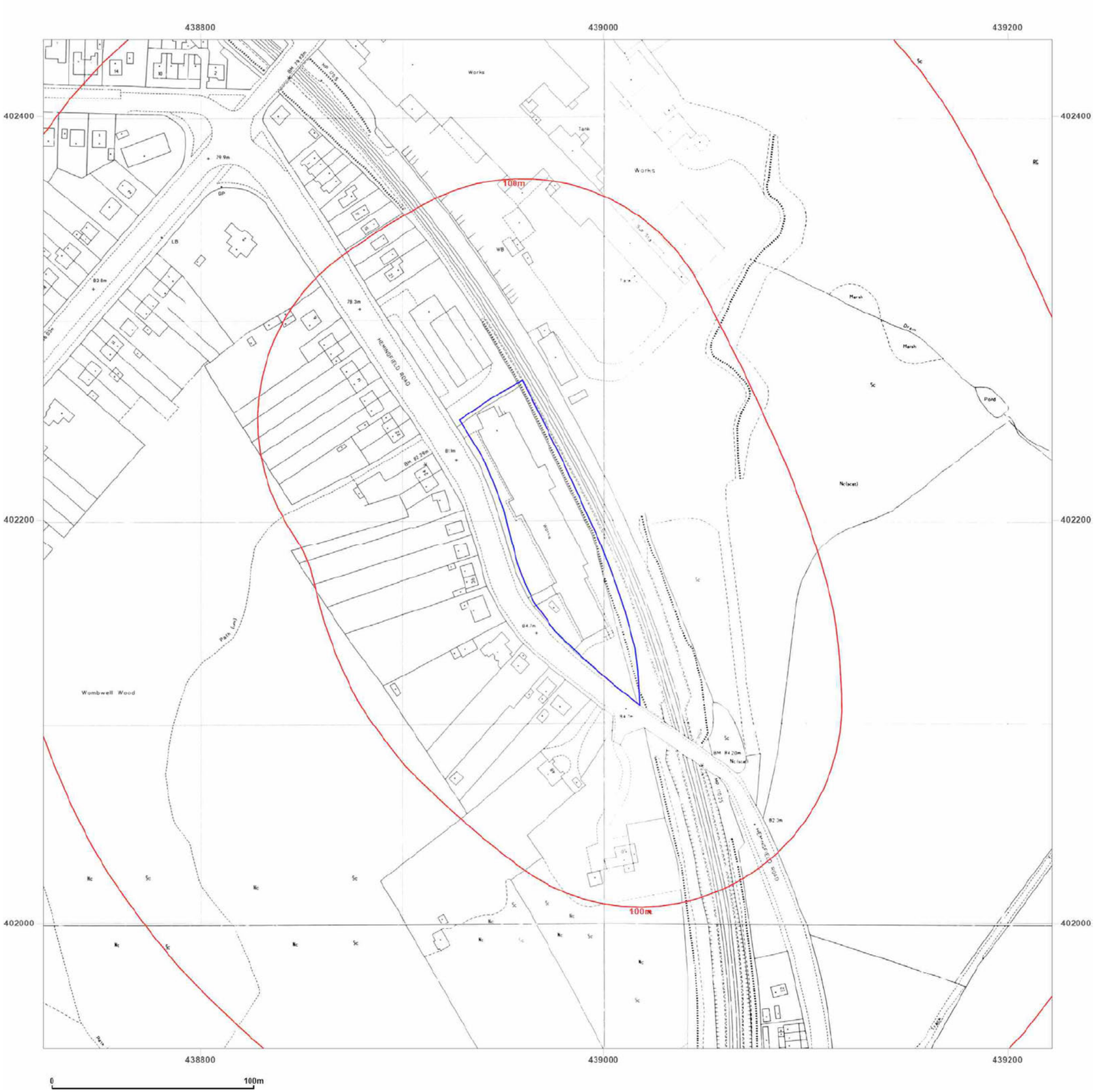
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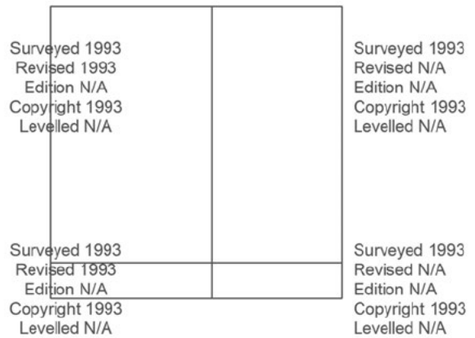
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HEMINGFIELD ROAD,
HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** National Grid
**Map date:** **1993**
**Scale:** 1:1,250
**Printed at:** 1:2,000

N
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Production date: 06 March 2024

Map legend available at:
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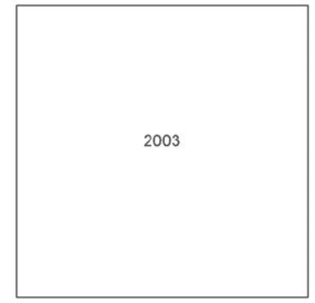
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HEMINGFIELD ROAD,
HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** LandLine
**Map date:** **2003**
**Scale:** 1:1,250
**Printed at:** 1:1,250

N
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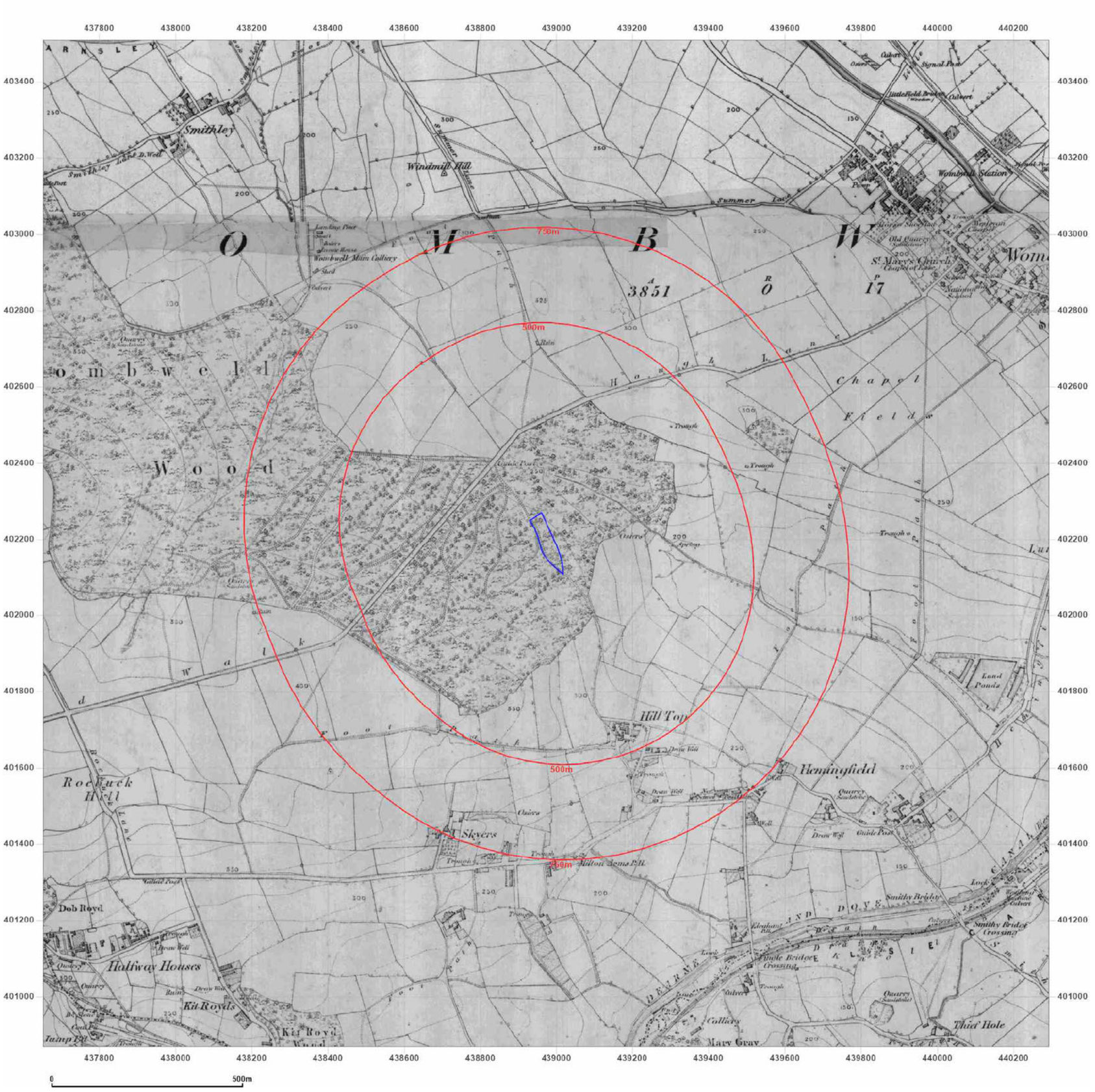

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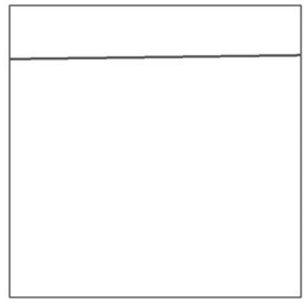
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HEMINGFIELD, BARNSLEY, S73
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**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** County Series
**Map date:** **1850-1854**
**Scale:** 1:10,560
**Printed at:** 1:10,560

N
W E
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Surveyed 1850
Revised N/A
Edition 1854
Copyright N/A
Levelled N/A



Surveyed 1850
Revised N/A
Edition 1850
Copyright N/A
Levelled N/A

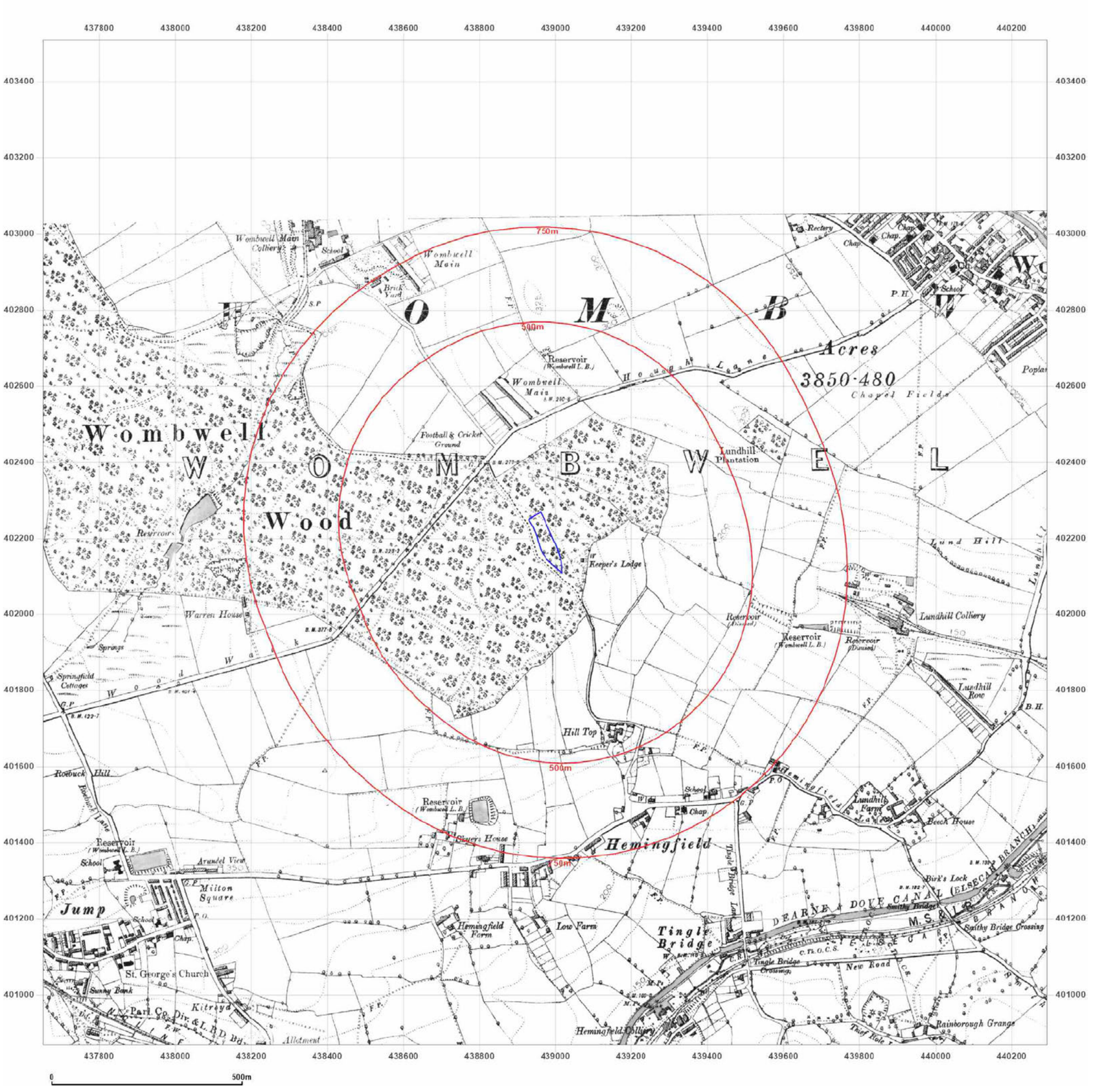
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HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** County Series

**Map date:** **1890**

**Scale:** 1:10,560

**Printed at:** 1:10,560

N
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Surveyed 1890
Revised N/A
Edition 1890
Copyright N/A
Levelled N/A

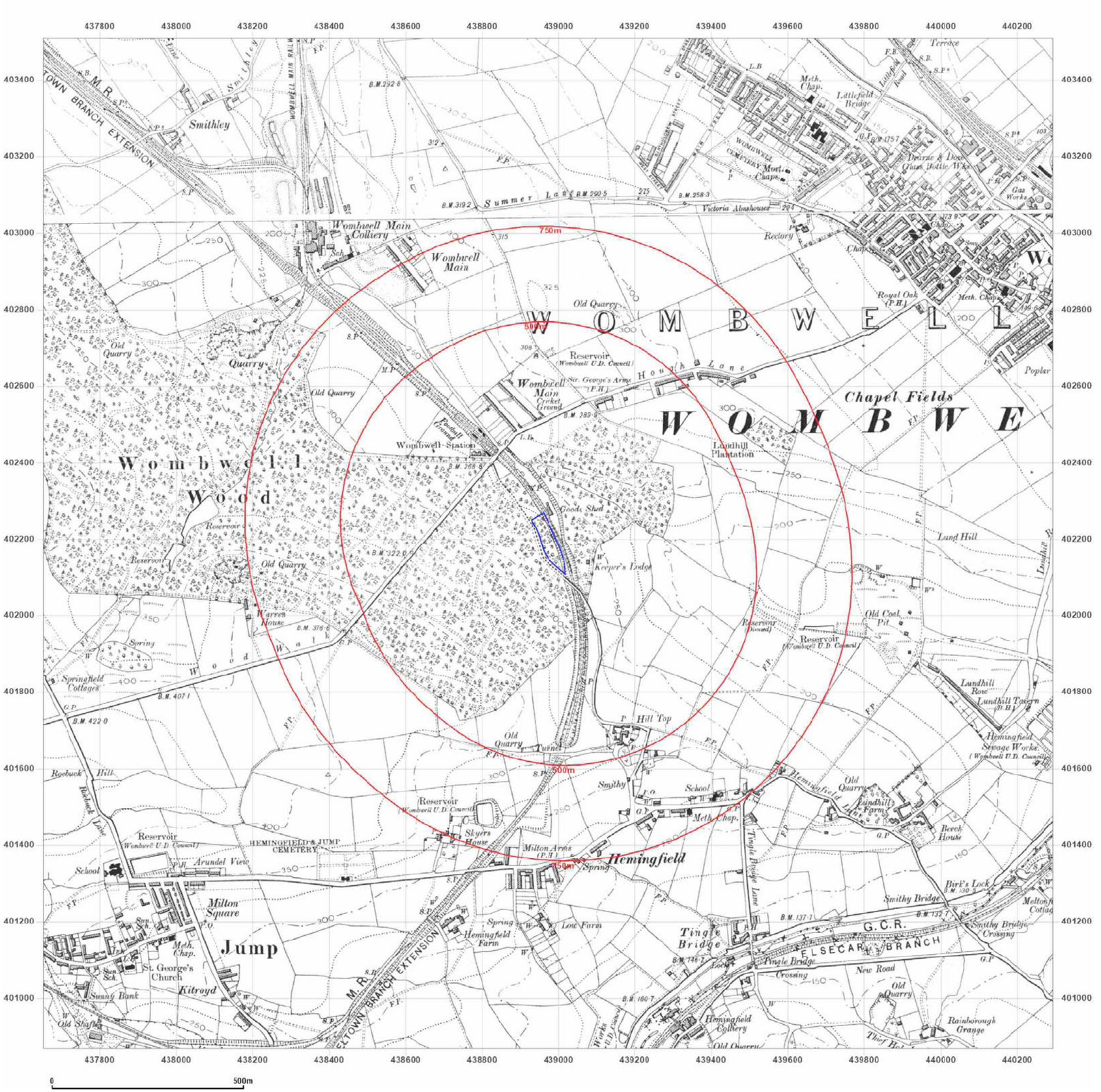
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0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** County Series
**Map date:** **1901-1904**
**Scale:** 1:10,560
**Printed at:** 1:10,560

N
W E
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Surveyed 1890
Revised 1904
Edition 1904
Copyright N/A
Levelled N/A

Surveyed 1890
Revised 1901
Edition 1901
Copyright N/A
Levelled N/A

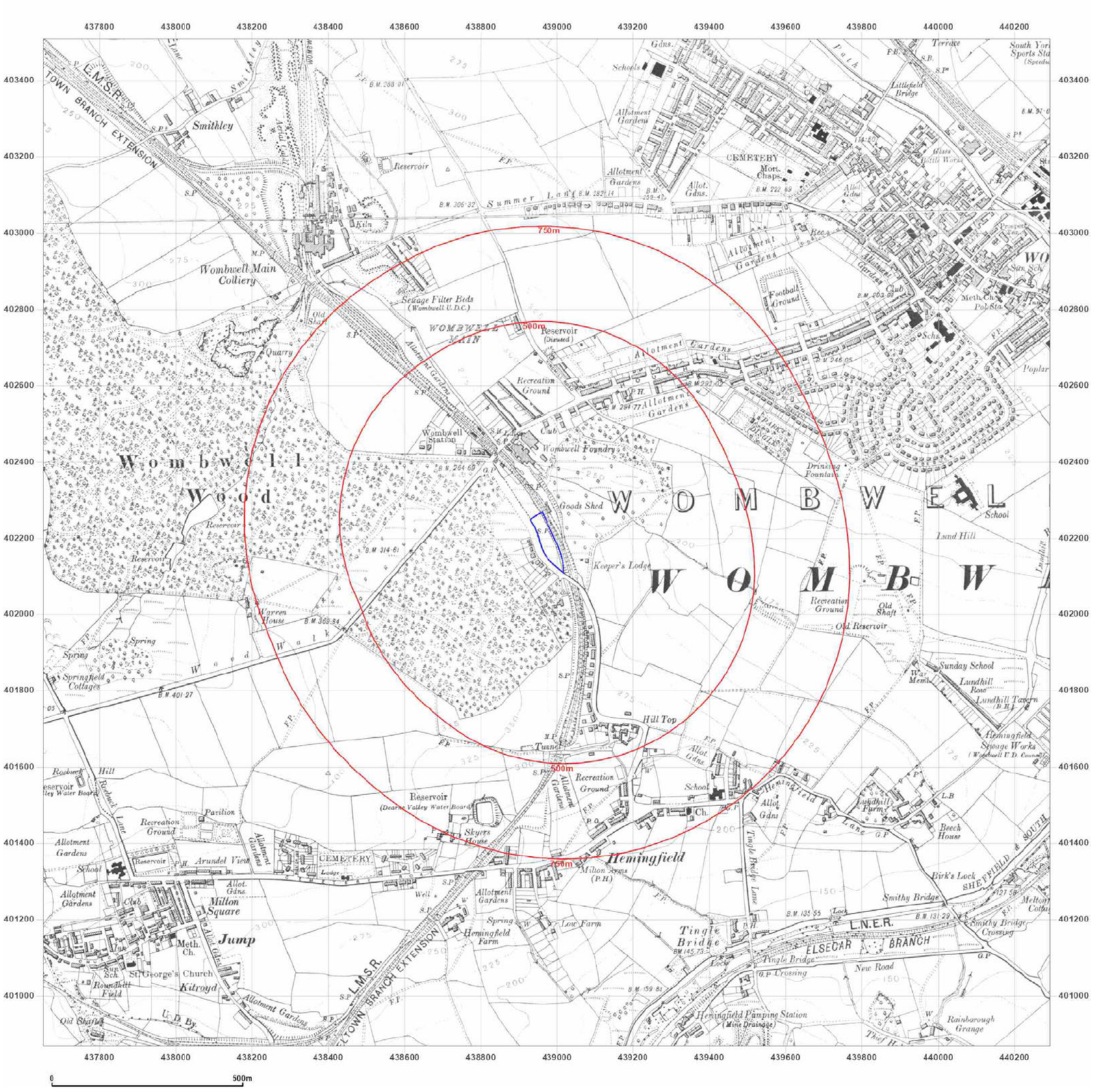
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HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** County Series

**Map date:** **1929-1931**

**Scale:** 1:10,560

**Printed at:** 1:10,560

N
W E
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Surveyed 1851
Revised 1929
Edition 1931
Copyright N/A
Levelled N/A

Surveyed 1850
Revised 1929
Edition 1929
Copyright N/A
Levelled 1915

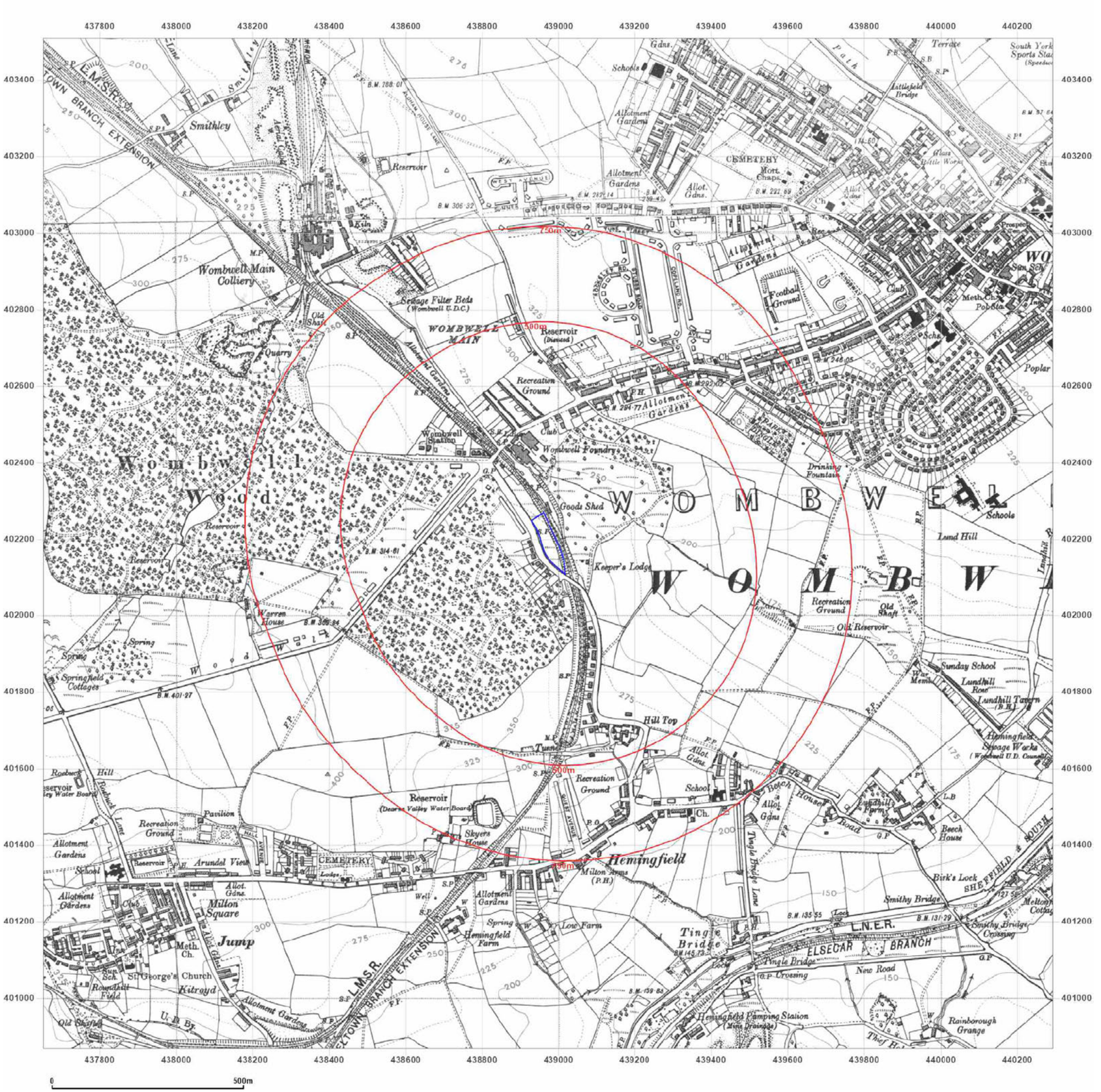
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**Site Details:**

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HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** County Series

**Map date:** **1938**

**Scale:** 1:10,560

**Printed at:** 1:10,560

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

Surveyed 1850
Revised 1938
Edition 1938
Copyright N/A
Levelled 1929

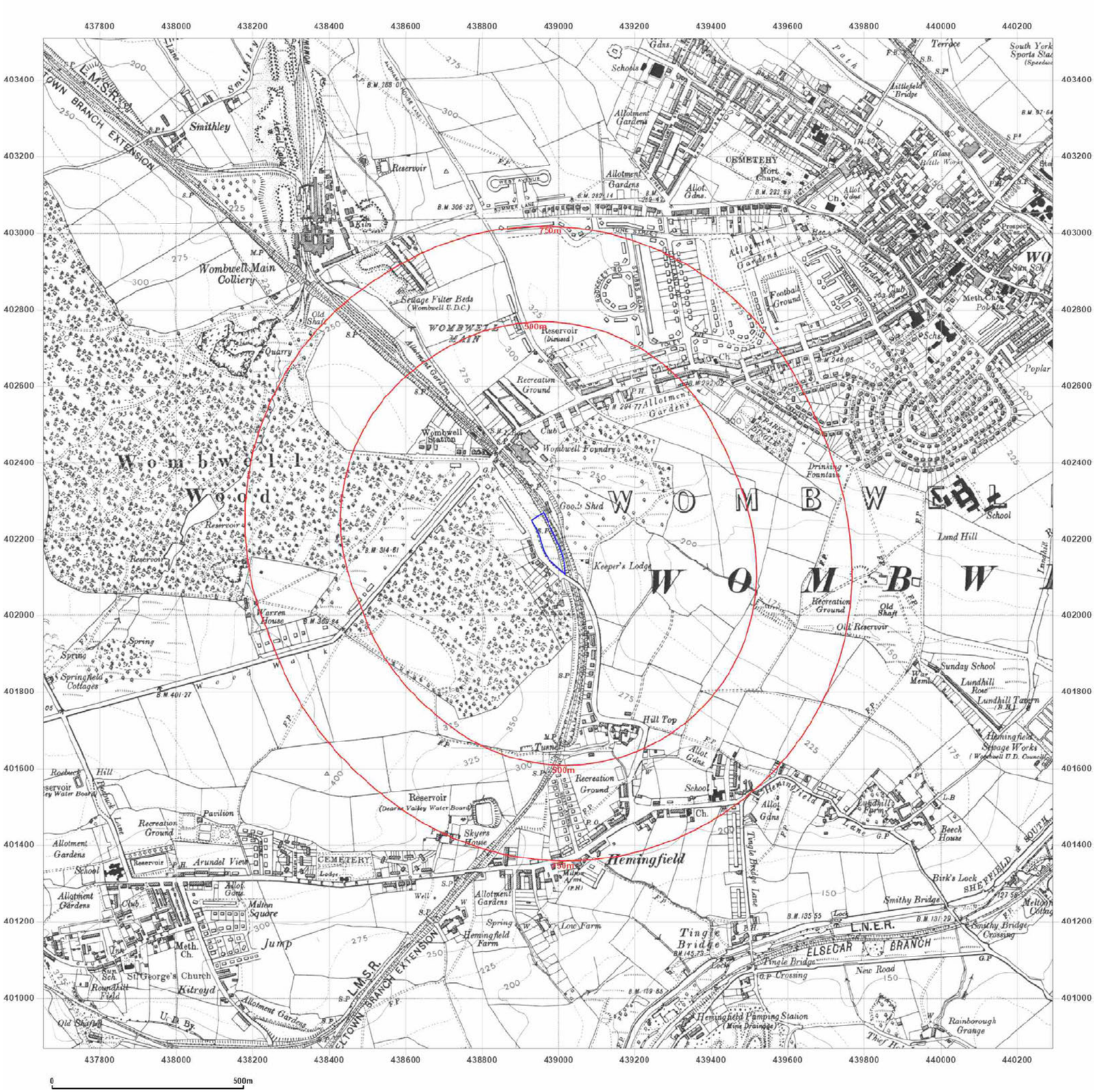
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Groundsure INSIGHTS

**Site Details:**

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HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**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 1948
Copyright N/A
Levelled 1929

Surveyed 1850
Revised 1948
Edition 1948
Copyright N/A
Levelled 1929

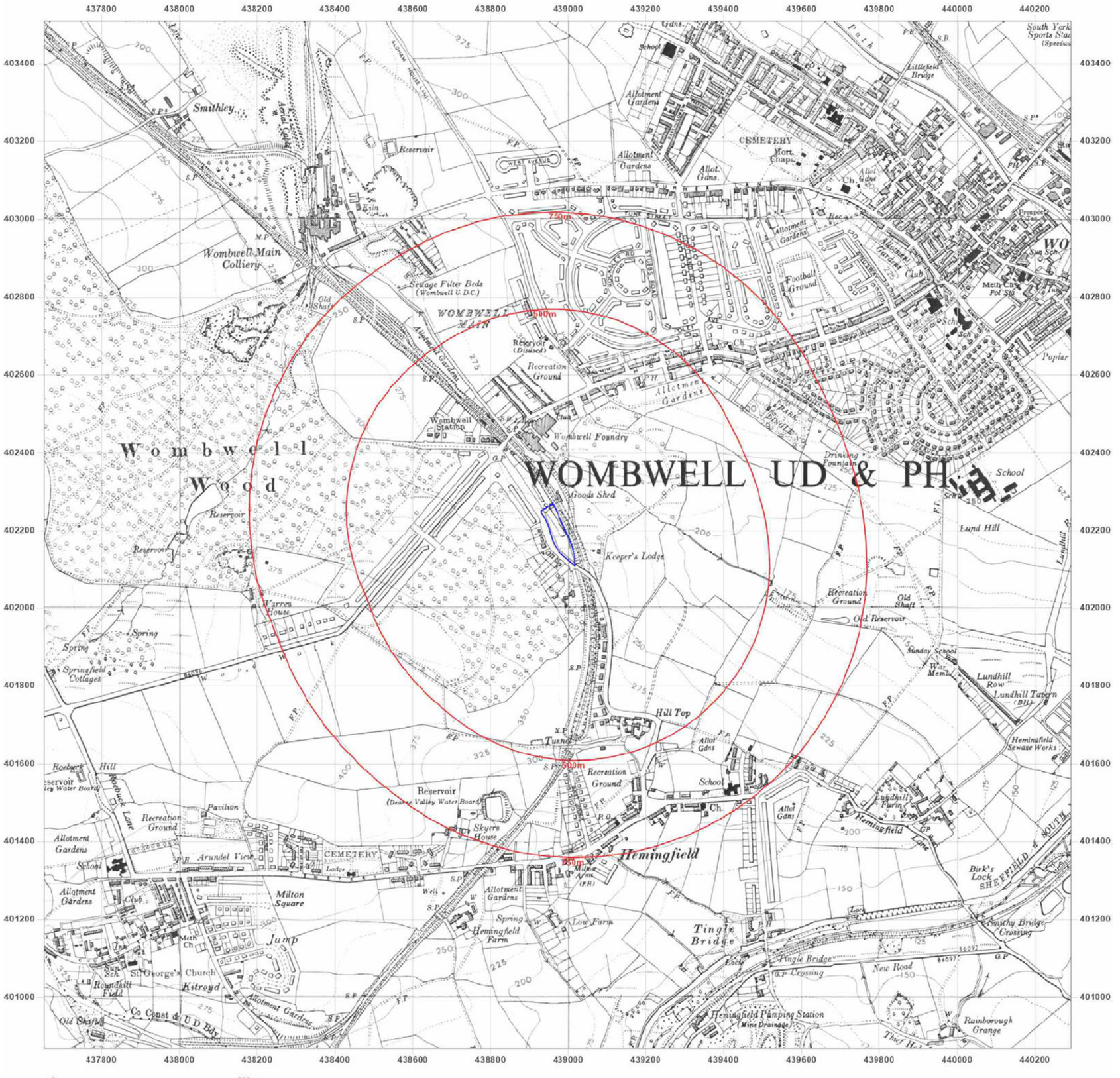
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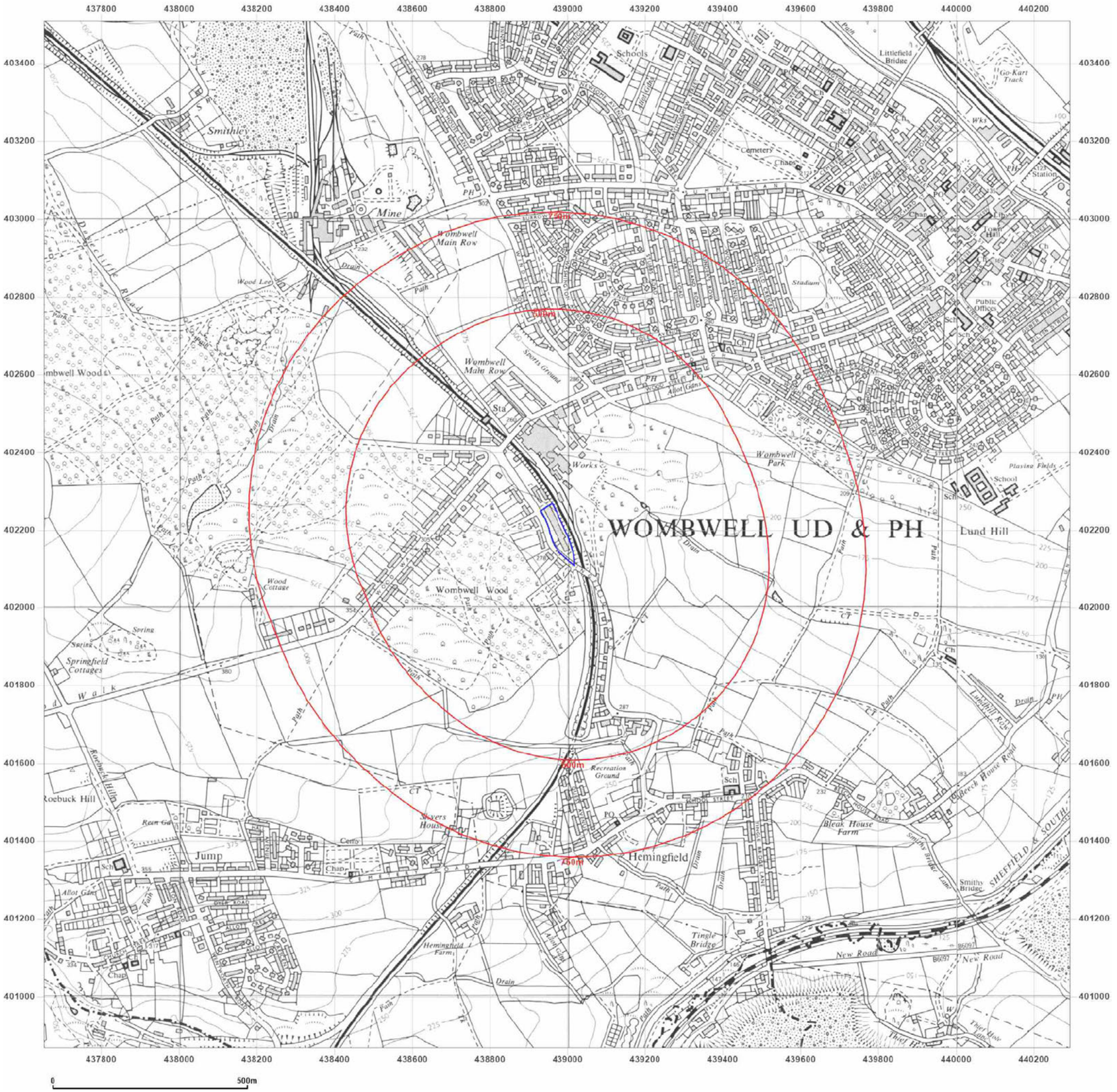
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WOMBWELL UD & PH
Wombwell Wood
Smithley
Wombwell Main Colliery
Sewage Filter Beds (Wombwell U.D.C.)
WOMBWELL MAIN
Reservoir (Disused)
Recreation Ground
Wombwell Station
Wombwell Foundry
Goods Shed
Keeper's Lodge
Warren House
Reservoir
Reservoir
Spring
Springfield Cottages
Roebuck Hill
Roebuck Lane
Recreation Ground
Pavilion
Allotment Gardens
School
Arundel View
CEMETERY
Lodge
Milton Square
Club
Jump
St George's Church
Kitroyd
Roundhill Field
Co Const & U D Bdy
Old Shaft
Reservoir (Dearne Valley Water Board)
Skyers House
Hemingfield
Hemingfield Farm
Low Farm
Tingle Bridge
Tingle Bridge
Hemingfield Pumping Station (Mine Drainage)
Rainborough Grange
New Road
Hill Top
Tunnel
Recreation Ground
School
Allot Gdns
Lundhill Farm
Hemingfield
Lundhill Row
Lundhill Tavern (PH)
Hemingfield Sewage Works
Sunday School
War Mem
Old Reservoir
Old Shaft
Recreation Ground
Lund Hill
Birk's Lock
SHEFFIELD & SOUTH
Tankhy Bridge Crossing
Driving Fountain
Football Ground
Cricket Club
Bowling Green
Prospect Terrace
Poplar
Meth Ch
Pol Stn
Sch
Ch
PARK
TINGLE
Allotment Gardens
Allot. Gdns.
CEMETERY
Mort. Chaps.
Ch. Gdns
Lattle Head Bridge
South Yorks Sports Stad
(Speedway)
School
Path
Reservoir
Old Shaft
Allotment Gardens
Club
Ch
Ch. Gdns
Allot Gdns
Allotment Gardens
Allotment Gardens
Allotment Gardens




Groundsure INSIGHTS

**Site Details:**

WEMBLEY WORKS,
HEMINGFIELD ROAD,
HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** Provisional
**Map date:** **1966-1967**
**Scale:** 1:10,560
**Printed at:** 1:10,560

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

Surveyed 1967
Revised 1967
Edition N/A
Copyright 1967
Levelled N/A

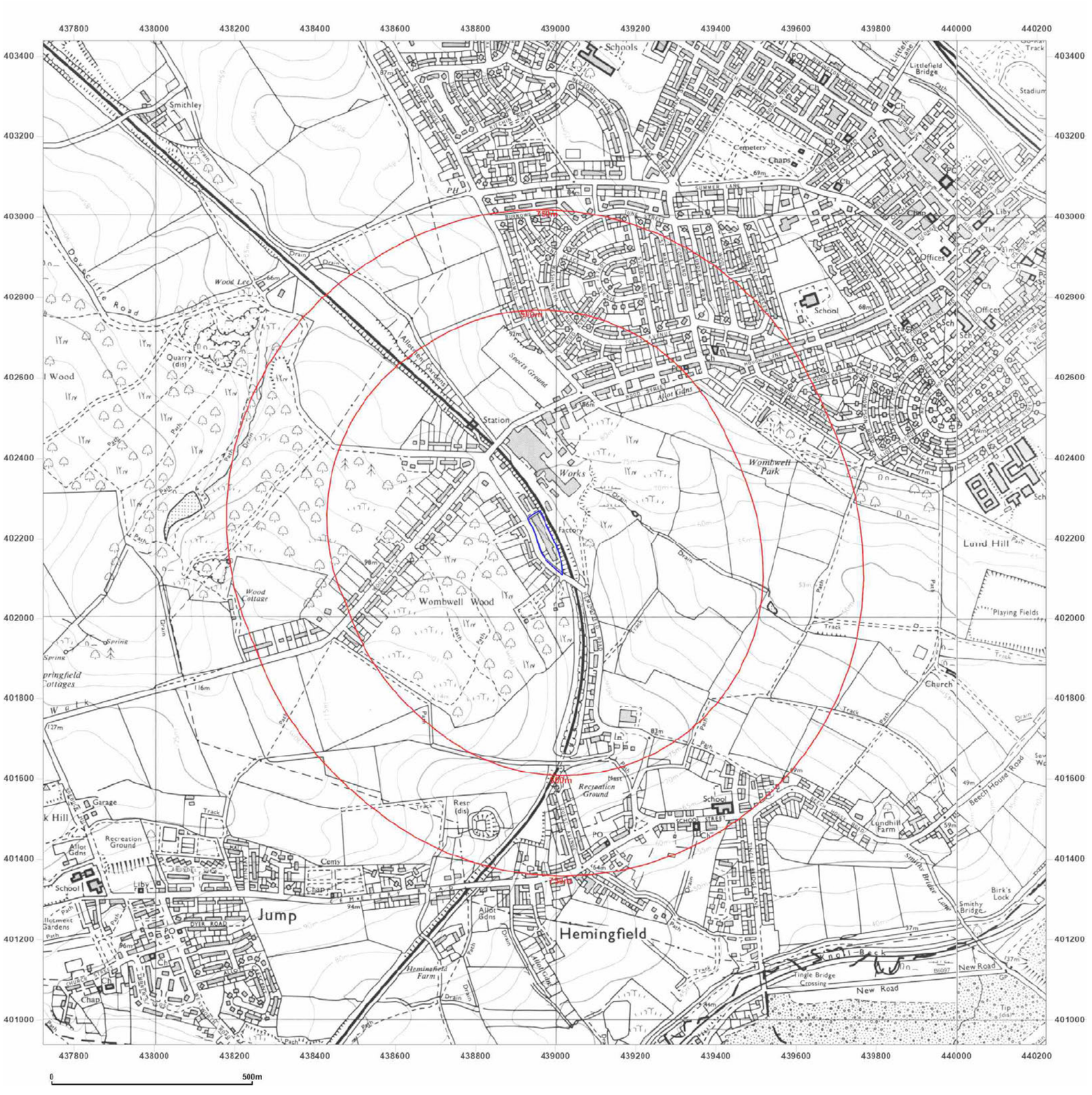
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**Site Details:**

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HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** National Grid

**Map date:** **1977**

**Scale:** 1:10,000

**Printed at:** 1:10,000

N
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Surveyed 1976
Revised 1977
Edition N/A
Copyright 1978
Levelled 1978

Surveyed 1976
Revised 1977
Edition N/A
Copyright 1978
Levelled 1978

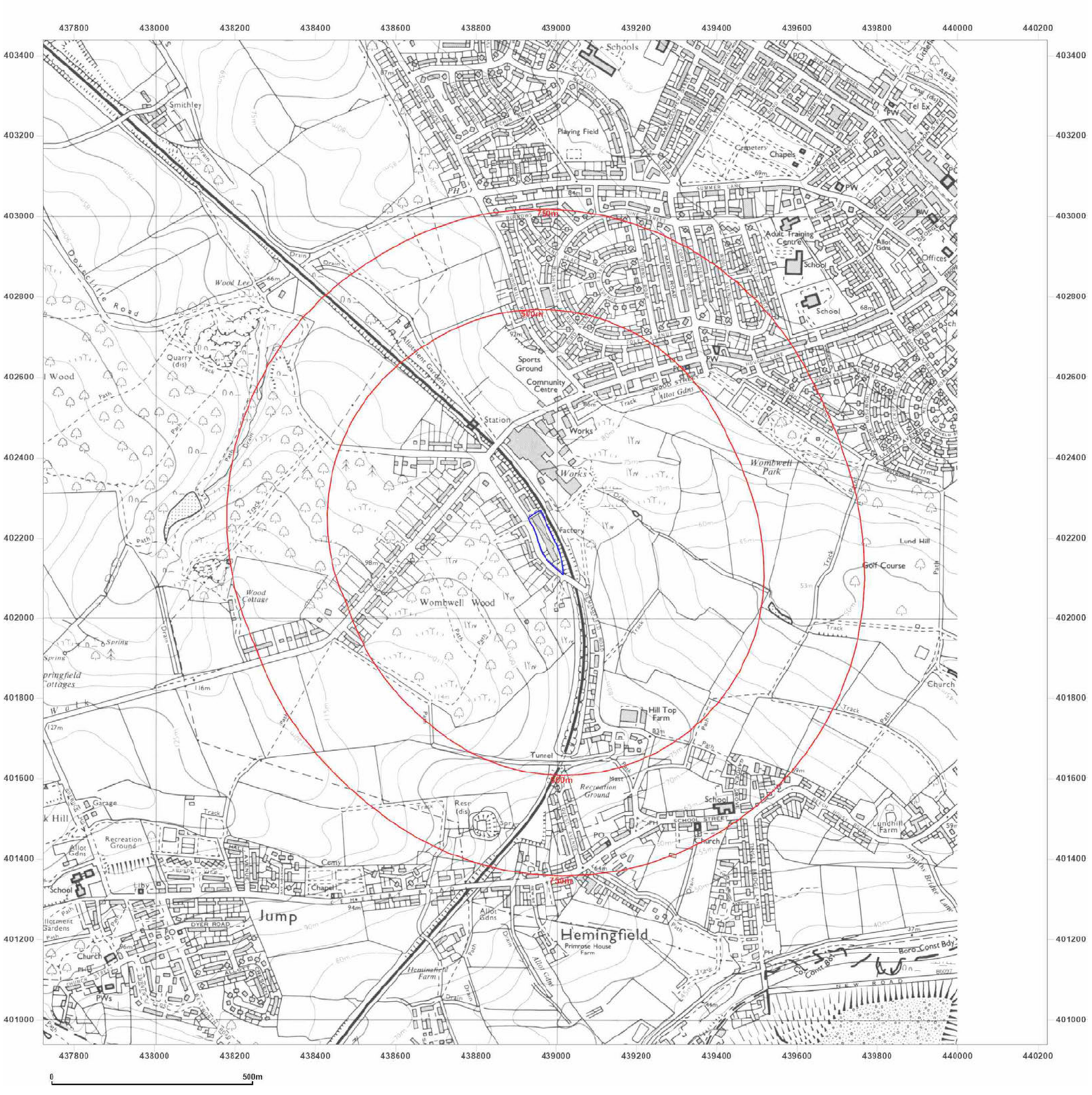
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HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** National Grid

**Map date:** **1987**

**Scale:** 1:10,000

**Printed at:** 1:10,000

N
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S

Surveyed 1986
Revised 1987
Edition N/A
Copyright 1988
Levelled 1978

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HEMINGFIELD ROAD,
HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** National Grid

**Map date:** **1987-1988**

**Scale:** 1:10,000

**Printed at:** 1:10,000

N
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Surveyed 1986
Revised 1987
Edition N/A
Copyright 1988
Levelled 1978

Surveyed 1983
Revised 1988
Edition N/A
Copyright 1989
Levelled 1978

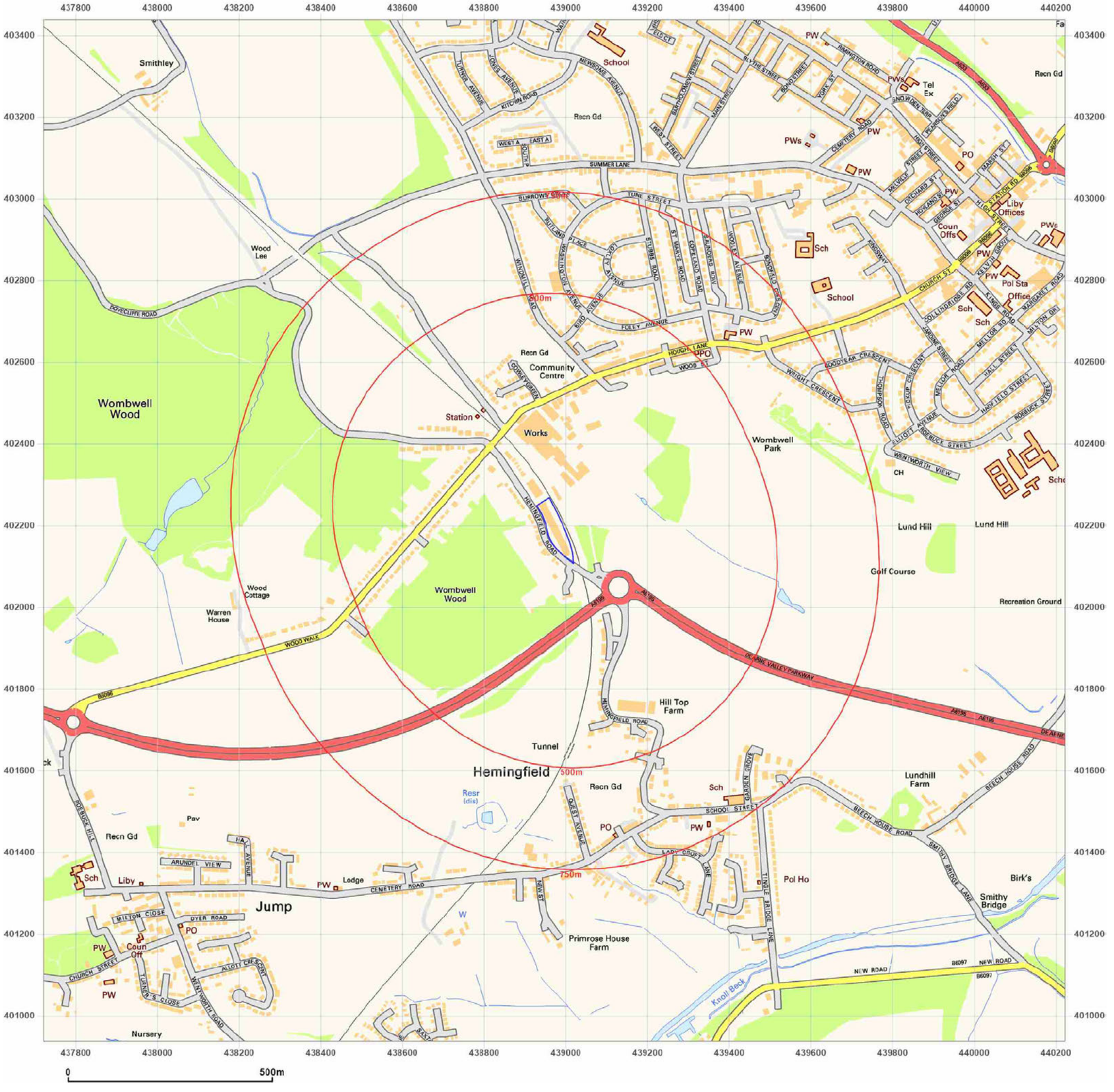
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HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** National Grid
**Map date:** 2001
**Scale:** 1:10,000
**Printed at:** 1:10,000

N
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2001

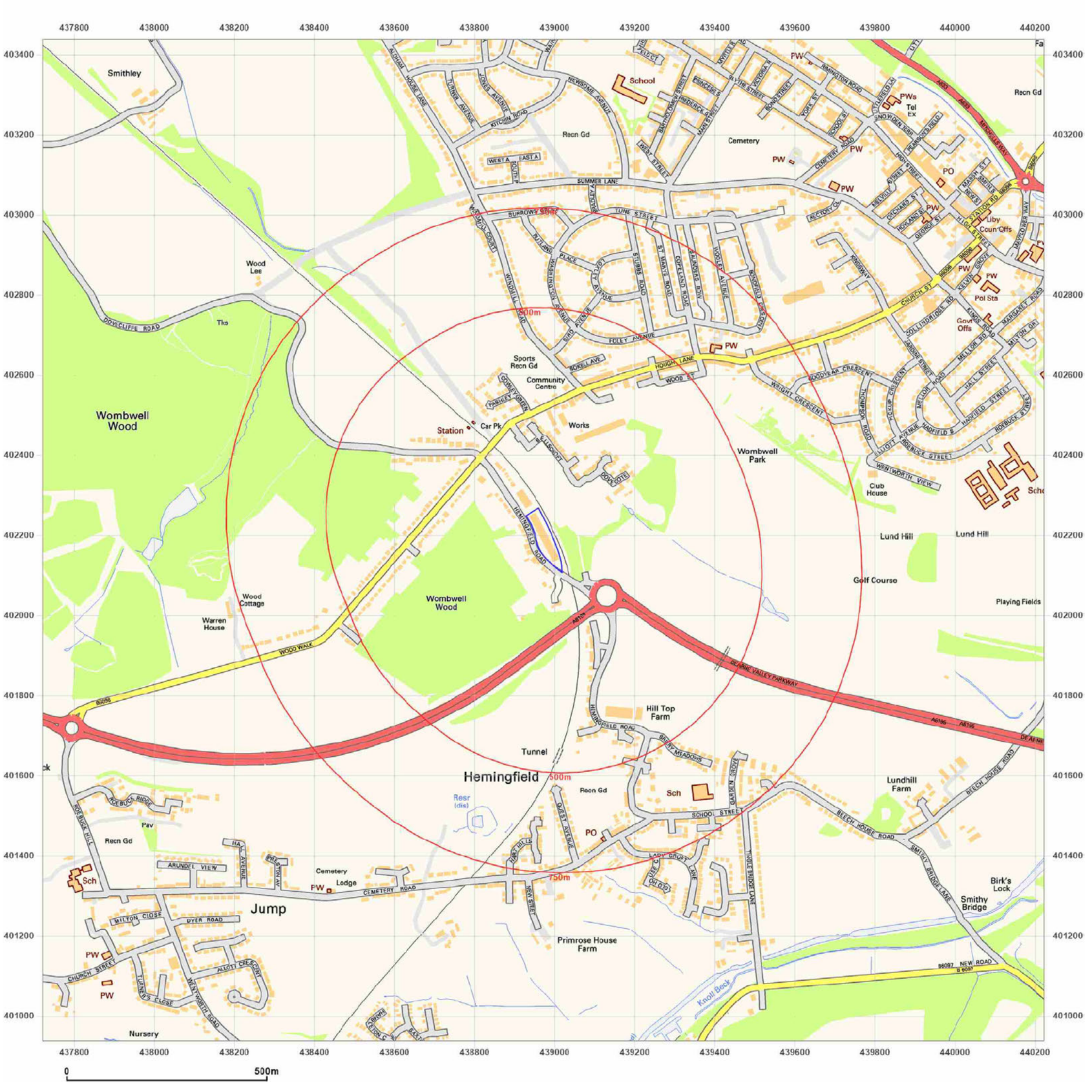
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HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** National Grid
**Map date:** **2010**
**Scale:** 1:10,000
**Printed at:** 1:10,000

N
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2010

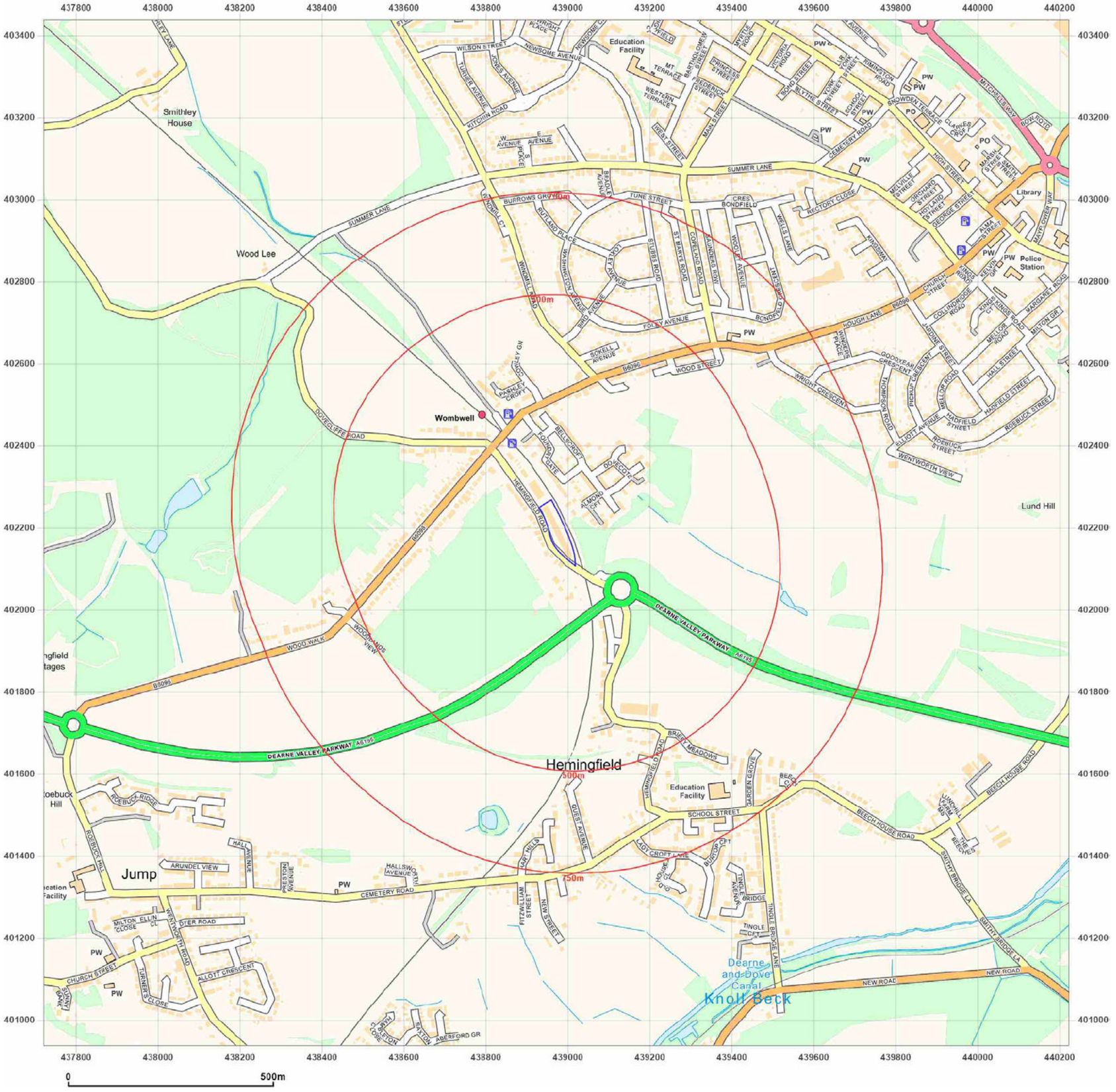
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**Site Details:**

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HEMINGFIELD ROAD,
HEMINGFIELD, BARNSLEY, S73
0LY

**Client Ref:** C3922_23_E_5949_PO-2906
**Report Ref:** GS-ZJ7-PDL-1ET-IPD
**Grid Ref:** 438972, 402188

**Map Name:** National Grid
**Map date:** **2024**
**Scale:** 1:10,000
**Printed at:** 1:10,000

N
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2024

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# Appendix 3

## Groundsure Reports

Groundsure
LOCATION INTELLIGENCE

# Enviro+Geo Insight

## WEMBLEY WORKS, HEMINGFIELD ROAD, HEMINGFIELD, BARNSLEY, S73 0LY

## Order Details

**Date:** 06/03/2024

**Your ref:** C3922_23_E_5949_PO-2906

**Our Ref:** GS-759-WKQ-ESI-1M4

## Site Details

**Location:** 438990 402191

**Area:** 0.55 ha

**Authority:** Barnsley Metropolitan Borough Council ↗





**Summary of findings** p. 2 >

**Aerial image** p. 9 >

**OS MasterMap site plan** p.14 >

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Contact us with any questions at:
info@groundsure.com ↗
01273 257 755


Certified B Corporation

# Summary of findings

| Page | Section | Past land use > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 15 > | 1.1 > | Historical industrial land uses > | 13 | 12 | 19 | 23 | - |
| 18 > | 1.2 > | Historical tanks > | 0 | 0 | 2 | 0 | - |
| 18 > | 1.3 > | Historical energy features > | 0 | 0 | 3 | 0 | - |
| 19 | 1.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 19 > | 1.5 > | Historical garages > | 0 | 0 | 1 | 0 | - |
| 20 | 1.6 | Historical military land | 0 | 0 | 0 | 0 | - |
| **Page** | **Section** | **Past land use - un-grouped >** | **On site** | **0-50m** | **50-250m** | **250-500m** | **500-2000m** |
| 21 > | 2.1 > | Historical industrial land uses > | 16 | 19 | 24 | 37 | - |
| 25 > | 2.2 > | Historical tanks > | 0 | 0 | 6 | 0 | - |
| 26 > | 2.3 > | Historical energy features > | 0 | 0 | 4 | 0 | - |
| 26 | 2.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 26 > | 2.5 > | Historical garages > | 0 | 0 | 1 | 0 | - |
| **Page** | **Section** | **Waste and landfill >** | **On site** | **0-50m** | **50-250m** | **250-500m** | **500-2000m** |
| 27 | 3.1 | Active or recent landfill | 0 | 0 | 0 | 0 | - |
| 27 | 3.2 | Historical landfill (BGS records) | 0 | 0 | 0 | 0 | - |
| 28 | 3.3 | Historical landfill (LA/mapping records) | 0 | 0 | 0 | 0 | - |
| 28 > | 3.4 > | Historical landfill (EA/NRW records) > | 0 | 0 | 1 | 0 | - |
| 28 | 3.5 | Historical waste sites | 0 | 0 | 0 | 0 | - |
| 28 > | 3.6 > | Licensed waste sites > | 0 | 0 | 2 | 0 | - |
| 29 | 3.7 | Waste exemptions | 0 | 0 | 0 | 0 | - |
| **Page** | **Section** | **Current industrial land use >** | **On site** | **0-50m** | **50-250m** | **250-500m** | **500-2000m** |
| 30 > | 4.1 > | Recent industrial land uses > | 2 | 1 | 3 | - | - |
| 31 | 4.2 | Current or recent petrol stations | 0 | 0 | 0 | 0 | - |
| 31 | 4.3 | Electricity cables | 0 | 0 | 0 | 0 | - |
| 31 | 4.4 | Gas pipelines | 0 | 0 | 0 | 0 | - |
| 32 | 4.5 | Sites determined as Contaminated Land | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 32 | 4.6 | Control of Major Accident Hazards (COMAH) | 0 | 0 | 0 | 0 | - |
| 32 | 4.7 | Regulated explosive sites | 0 | 0 | 0 | 0 | - |
| 32 | 4.8 | Hazardous substance storage/usage | 0 | 0 | 0 | 0 | - |
| 32 | 4.9 | Historical licensed industrial activities (IPC) | 0 | 0 | 0 | 0 | - |
| 33 | 4.10 | Licensed industrial activities (Part A(1)) | 0 | 0 | 0 | 0 | - |
| 33 > | 4.11 > | Licensed pollutant release (Part A(2)/B) > | 0 | 0 | 1 | 2 | - |
| 33 | 4.12 | Radioactive Substance Authorisations | 0 | 0 | 0 | 0 | - |
| 34 | 4.13 | Licensed Discharges to controlled waters | 0 | 0 | 0 | 0 | - |
| 34 | 4.14 | Pollutant release to surface waters (Red List) | 0 | 0 | 0 | 0 | - |
| 34 | 4.15 | Pollutant release to public sewer | 0 | 0 | 0 | 0 | - |
| 34 | 4.16 | List 1 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| 34 | 4.17 | List 2 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| 35 > | 4.18 > | Pollution Incidents (EA/NRW) > | 0 | 0 | 2 | 0 | - |
| 35 | 4.19 | Pollution inventory substances | 0 | 0 | 0 | 0 | - |
| 35 | 4.20 | Pollution inventory waste transfers | 0 | 0 | 0 | 0 | - |
| 36 | 4.21 | Pollution inventory radioactive waste | 0 | 0 | 0 | 0 | - |

| Page | Section | Hydrogeology | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 37 | 5.1 | Superficial aquifer | None (within 500m) | | | | |
| 38 > | 5.2 > | Bedrock aquifer > | Identified (within 500m) | | | | |
| 39 > | 5.3 > | Groundwater vulnerability > | Identified (within 50m) | | | | |
| 40 | 5.4 | Groundwater vulnerability- soluble rock risk | None (within 0m) | | | | |
| 40 | 5.5 | Groundwater vulnerability- local information | None (within 0m) | | | | |
| 41 > | 5.6 > | Groundwater abstractions > | 0 | 0 | 0 | 0 | 4 |
| 42 | 5.7 | Surface water abstractions | 0 | 0 | 0 | 0 | 0 |
| 43 | 5.8 | Potable abstractions | 0 | 0 | 0 | 0 | 0 |
| 43 | 5.9 | Source Protection Zones | 0 | 0 | 0 | 0 | - |
| 43 | 5.10 | Source Protection Zones (confined aquifer) | 0 | 0 | 0 | 0 | - |

| Page | Section | Hydrology > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 44 > | 6.1 > | Water Network (OS MasterMap) > | 0 | 0 | 4 | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 45 > | 6.2 > | Surface water features > | 0 | 0 | 2 | - | - |
| 45 > | 6.3 > | WFD Surface water body catchments > | 2 | - | - | - | - |
| 46 > | 6.4 > | WFD Surface water bodies > | 0 | 0 | 0 | - | - |
| 46 > | 6.5 > | WFD Groundwater bodies > | 1 | - | - | - | - |

| Page | Section | River and coastal flooding | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 47 | 7.1 | Risk of flooding from rivers and the sea | None (within 50m) | | | | |
| 47 | 7.2 | Historical Flood Events | 0 | 0 | 0 | - | - |
| 47 | 7.3 | Flood Defences | 0 | 0 | 0 | - | - |
| 48 | 7.4 | Areas Benefiting from Flood Defences | 0 | 0 | 0 | - | - |
| 48 | 7.5 | Flood Storage Areas | 0 | 0 | 0 | - | - |
| 49 | 7.6 | Flood Zone 2 | None (within 50m) | | | | |
| 49 | 7.7 | Flood Zone 3 | None (within 50m) | | | | |

| Page | Section | Surface water flooding > | |
|---|---|---|---|
| 50 > | 8.1 > | Surface water flooding > | 1 in 30 year, 0.3m - 1.0m (within 50m) |

| Page | Section | Groundwater flooding > | |
|---|---|---|---|
| 52 > | 9.1 > | Groundwater flooding > | Negligible (within 50m) |

| Page | Section | Environmental designations > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 53 > | 10.1 > | Sites of Special Scientific Interest (SSSI) > | 0 | 0 | 0 | 0 | 2 |
| 54 | 10.2 | Conserved wetland sites (Ramsar sites) | 0 | 0 | 0 | 0 | 0 |
| 54 | 10.3 | Special Areas of Conservation (SAC) | 0 | 0 | 0 | 0 | 0 |
| 54 | 10.4 | Special Protection Areas (SPA) | 0 | 0 | 0 | 0 | 0 |
| 54 | 10.5 | National Nature Reserves (NNR) | 0 | 0 | 0 | 0 | 0 |
| 55 | 10.6 | Local Nature Reserves (LNR) | 0 | 0 | 0 | 0 | 0 |
| 55 > | 10.7 > | Designated Ancient Woodland > | 0 | 0 | 5 | 7 | 7 |
| 56 | 10.8 | Biosphere Reserves | 0 | 0 | 0 | 0 | 0 |
| 56 | 10.9 | Forest Parks | 0 | 0 | 0 | 0 | 0 |
| 56 | 10.10 | Marine Conservation Zones | 0 | 0 | 0 | 0 | 0 |
| 56 > | 10.11 > | Green Belt > | 0 | 1 | 0 | 0 | 2 |
| 57 | 10.12 | Proposed Ramsar sites | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 57 | 10.13 | Possible Special Areas of Conservation (pSAC) | 0 | 0 | 0 | 0 | 0 |
| 57 | 10.14 | Potential Special Protection Areas (pSPA) | 0 | 0 | 0 | 0 | 0 |
| 58 | 10.15 | Nitrate Sensitive Areas | 0 | 0 | 0 | 0 | 0 |
| 58 > | 10.16 > | Nitrate Vulnerable Zones > | 1 | 0 | 0 | 0 | 0 |
| 59 > | 10.17 > | SSSI Impact Risk Zones > | 1 | - | - | - | - |
| 60 > | 10.18 > | SSSI Units > | 0 | 0 | 0 | 0 | 2 |
| Page | Section | Visual and cultural designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 62 | 11.1 | World Heritage Sites | 0 | 0 | 0 | - | - |
| 62 | 11.2 | Area of Outstanding Natural Beauty | 0 | 0 | 0 | - | - |
| 62 | 11.3 | National Parks | 0 | 0 | 0 | - | - |
| 62 | 11.4 | Listed Buildings | 0 | 0 | 0 | - | - |
| 63 | 11.5 | Conservation Areas | 0 | 0 | 0 | - | - |
| 63 | 11.6 | Scheduled Ancient Monuments | 0 | 0 | 0 | - | - |
| 63 | 11.7 | Registered Parks and Gardens | 0 | 0 | 0 | - | - |
| Page | Section | Agricultural designations > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 64 > | 12.1 > | Agricultural Land Classification > | Urban (within 250m) | | | | |
| 65 | 12.2 | Open Access Land | 0 | 0 | 0 | - | - |
| 65 | 12.3 | Tree Felling Licences | 0 | 0 | 0 | - | - |
| 65 | 12.4 | Environmental Stewardship Schemes | 0 | 0 | 0 | - | - |
| 65 | 12.5 | Countryside Stewardship Schemes | 0 | 0 | 0 | - | - |
| Page | Section | Habitat designations > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 66 > | 13.1 > | Priority Habitat Inventory > | 0 | 3 | 3 | - | - |
| 67 | 13.2 | Habitat Networks | 0 | 0 | 0 | - | - |
| 67 > | 13.3 > | Open Mosaic Habitat > | 0 | 0 | 1 | - | - |
| 67 | 13.4 | Limestone Pavement Orders | 0 | 0 | 0 | - | - |
| Page | Section | Geology 1:10,000 scale > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 69 > | 14.1 > | 10k Availability > | Identified (within 500m) | | | | |
| 70 > | 14.2 > | Artificial and made ground (10k) > | 1 | 1 | 1 | 1 | - |
| 72 | 14.3 | Superficial geology (10k) | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 72 | 14.4 | Landslip (10k) | 0 | 0 | 0 | 0 | - |
| 73 > | 14.5 > | Bedrock geology (10k) > | 1 | 2 | 3 | 4 | - |
| 74 > | 14.6 > | Bedrock faults and other linear features (10k) > | 0 | 0 | 1 | 3 | - |
| Page | Section | Geology 1:50,000 scale > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 75 > | 15.1 > | 50k Availability > | Identified (within 500m) | | | | |
| 76 > | 15.2 > | Artificial and made ground (50k) > | 0 | 1 | 0 | 1 | - |
| 77 > | 15.3 > | Artificial ground permeability (50k) > | 0 | 1 | - | - | - |
| 78 | 15.4 | Superficial geology (50k) | 0 | 0 | 0 | 0 | - |
| 78 | 15.5 | Superficial permeability (50k) | None (within 50m) | | | | |
| 78 | 15.6 | Landslip (50k) | 0 | 0 | 0 | 0 | - |
| 78 | 15.7 | Landslip permeability (50k) | None (within 50m) | | | | |
| 79 > | 15.8 > | Bedrock geology (50k) > | 1 | 1 | 3 | 3 | - |
| 80 > | 15.9 > | Bedrock permeability (50k) > | Identified (within 50m) | | | | |
| 80 > | 15.10 > | Bedrock faults and other linear features (50k) > | 0 | 0 | 1 | 5 | - |
| Page | Section | Boreholes | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 82 | 16.1 | BGS Boreholes | 0 | 0 | 0 | - | - |
| Page | Section | Natural ground subsidence > | | | | | |
| 83 > | 17.1 > | Shrink swell clays > | Very low (within 50m) | | | | |
| 84 > | 17.2 > | Running sands > | Very low (within 50m) | | | | |
| 86 > | 17.3 > | Compressible deposits > | Very low (within 50m) | | | | |
| 88 > | 17.4 > | Collapsible deposits > | Very low (within 50m) | | | | |
| 89 > | 17.5 > | Landslides > | Very low (within 50m) | | | | |
| 90 > | 17.6 > | Ground dissolution of soluble rocks > | Negligible (within 50m) | | | | |
| Page | Section | Mining and ground workings > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 92 > | 18.1 > | BritPits > | 0 | 0 | 0 | 1 | - |
| 93 > | 18.2 > | Surface ground workings > | 7 | 6 | 14 | - | - |
| 94 > | 18.3 > | Underground workings > | 0 | 0 | 0 | 6 | 7 |
| 95 | 18.4 | Underground mining extents | 0 | 0 | 0 | 0 | - |
| 95 | 18.5 | Historical Mineral Planning Areas | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 95 > | 18.6 > | Non-coal mining > | 0 | 0 | 2 | 1 | 7 |
| 97 | 18.7 | JPB mining areas | None (within 0m) | | | | |
| 97 | 18.8 | The Coal Authority non-coal mining | 0 | 0 | 0 | 0 | - |
| 97 | 18.9 | Researched mining | 0 | 0 | 0 | 0 | - |
| 98 | 18.10 | Mining record office plans | 0 | 0 | 0 | 0 | - |
| 98 | 18.11 | BGS mine plans | 0 | 0 | 0 | 0 | - |
| 98 > | 18.12 > | Coal mining > | Identified (within 0m) | | | | |
| 98 | 18.13 | Brine areas | None (within 0m) | | | | |
| 99 | 18.14 | Gypsum areas | None (within 0m) | | | | |
| 99 | 18.15 | Tin mining | None (within 0m) | | | | |
| 99 | 18.16 | Clay mining | None (within 0m) | | | | |
| Page | Section | Ground cavities and sinkholes | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 100 | 19.1 | Natural cavities | 0 | 0 | 0 | 0 | - |
| 100 | 19.2 | Mining cavities | 0 | 0 | 0 | 0 | 0 |
| 100 | 19.3 | Reported recent incidents | 0 | 0 | 0 | 0 | - |
| 100 | 19.4 | Historical incidents | 0 | 0 | 0 | 0 | - |
| 101 | 19.5 | National karst database | 0 | 0 | 0 | 0 | - |
| Page | Section | Radon > | | | | | |
| 102 > | 20.1 > | Radon > | Between 1% and 3% (within 0m) | | | | |
| Page | Section | Soil chemistry > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 104 > | 21.1 > | BGS Estimated Background Soil Chemistry > | 2 | 0 | - | - | - |
| 104 | 21.2 | BGS Estimated Urban Soil Chemistry | 0 | 0 | - | - | - |
| 104 | 21.3 | BGS Measured Urban Soil Chemistry | 0 | 0 | - | - | - |
| Page | Section | Railway infrastructure and projects > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 105 | 22.1 | Underground railways (London) | 0 | 0 | 0 | - | - |
| 105 | 22.2 | Underground railways (Non-London) | 0 | 0 | 0 | - | - |
| 106 | 22.3 | Railway tunnels | 0 | 0 | 0 | - | - |
| 106 > | 22.4 > | Historical railway and tunnel features > | 5 | 2 | 0 | - | - |
| 106 | 22.5 | Royal Mail tunnels | 0 | 0 | 0 | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 107 | 22.6 | Historical railways | 0 | 0 | 0 | - | - |
| **107 >** | **22.7 >** | **Railways >** | 0 | 5 | 7 | - | - |
| 107 | 22.8 | Crossrail 1 | 0 | 0 | 0 | 0 | - |
| 108 | 22.9 | Crossrail 2 | 0 | 0 | 0 | 0 | - |
| 108 | 22.10 | HS2 | 0 | 0 | 0 | 0 | - |

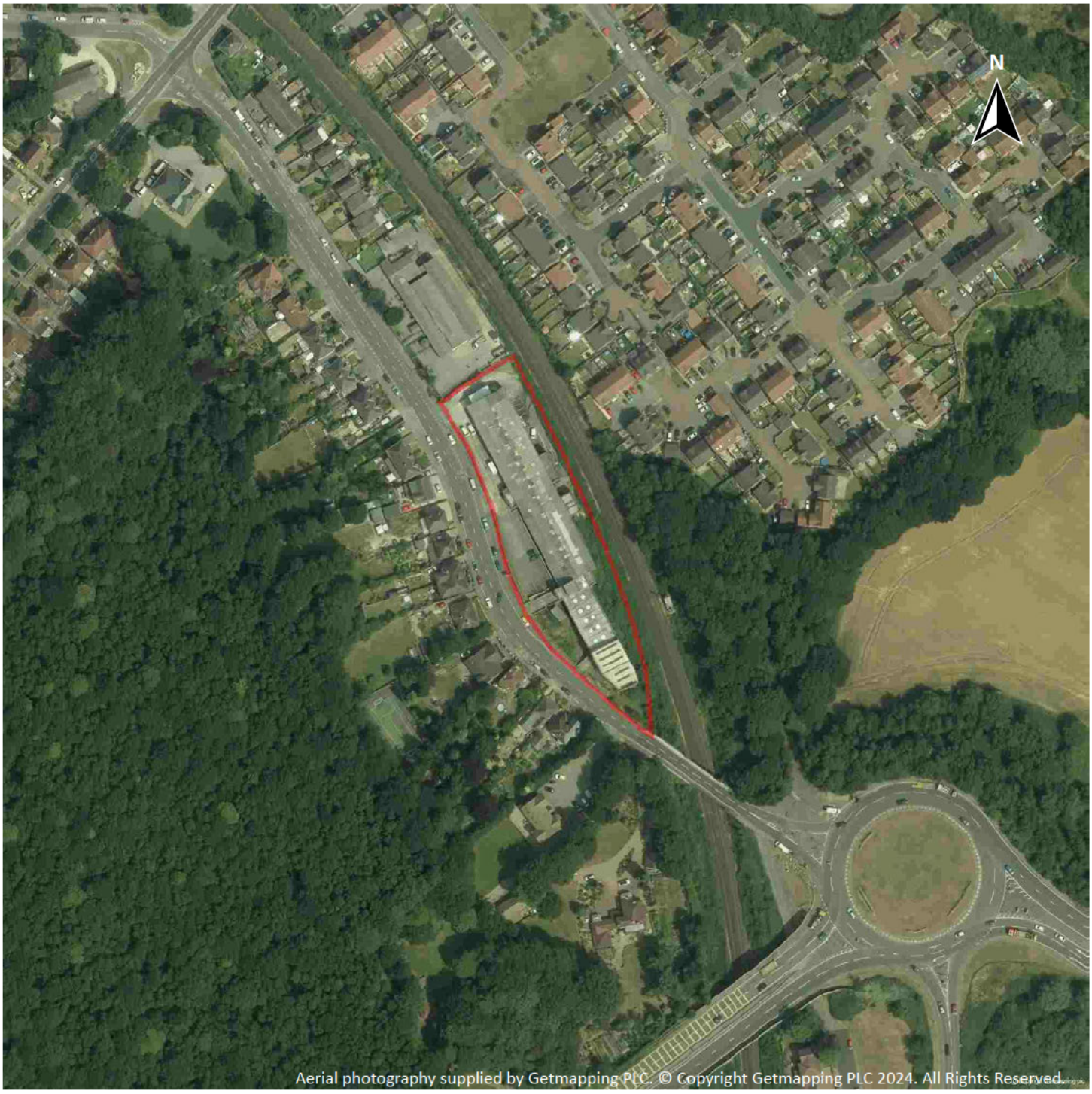
## Recent aerial photograph




Capture Date: 19/04/2021

Site Area: 0.55ha

## Recent site history - 2018 aerial photograph




Capture Date: 01/07/2018

Site Area: 0.55ha

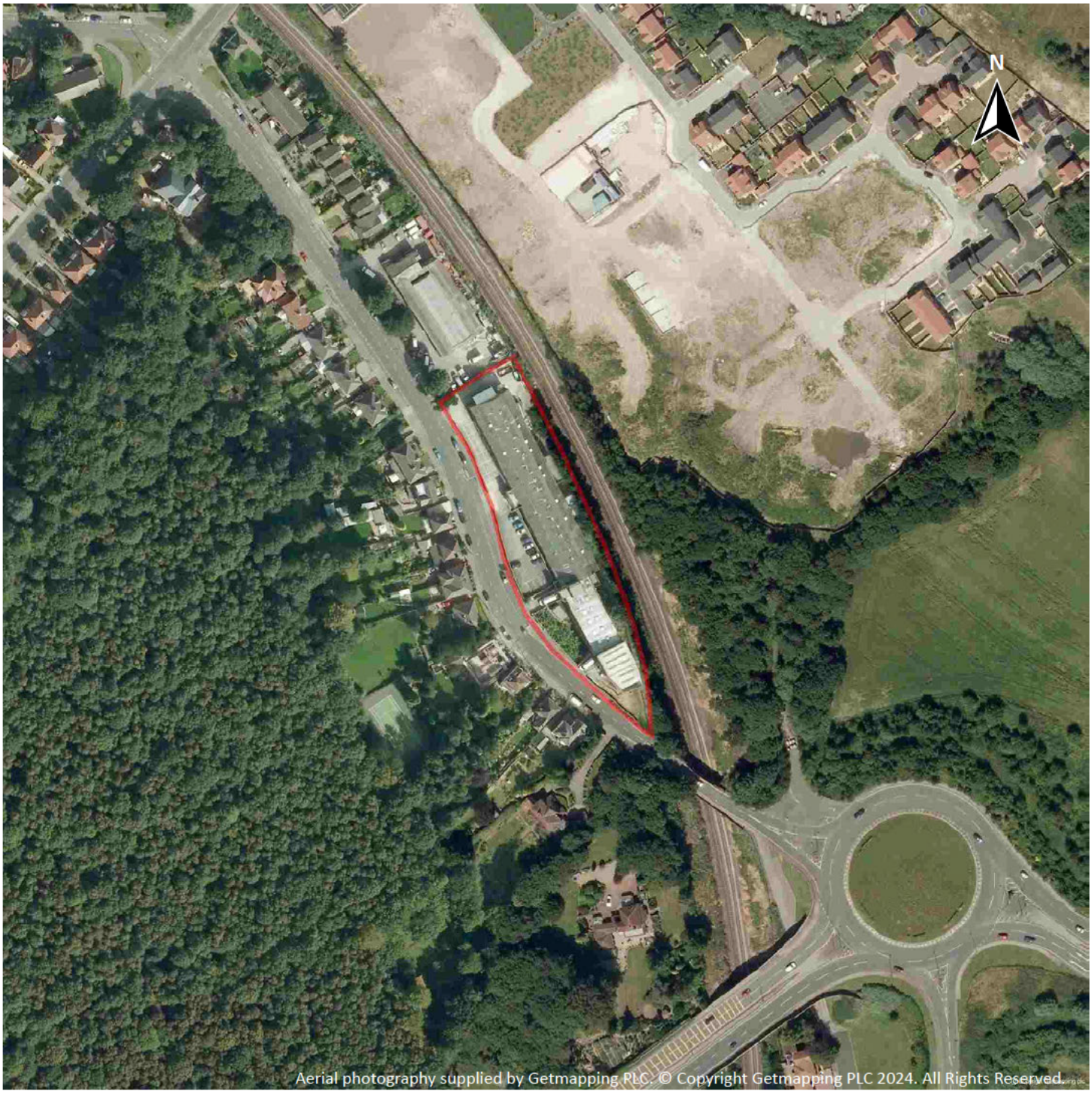
# Recent site history - 2013 aerial photograph




Capture Date: 07/06/2013

Site Area: 0.55ha

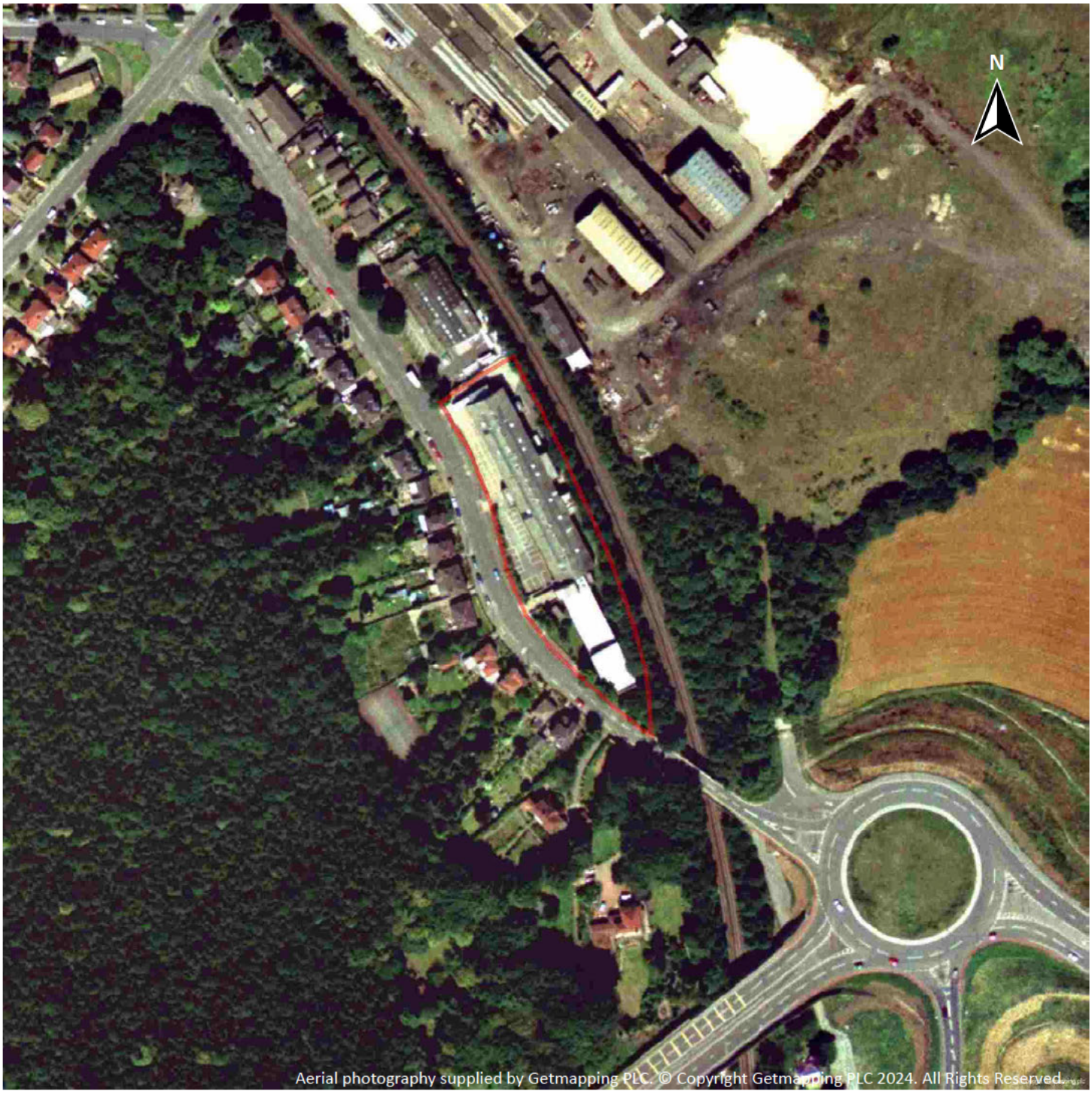
## Recent site history - 2009 aerial photograph




Capture Date: 11/09/2009

Site Area: 0.55ha

## Recent site history - 1999 aerial photograph




Capture Date: 10/07/1999

Site Area: 0.55ha

## OS MasterMap site plan




Site Area: 0.55ha

# 1 Past land use




## 1.1 Historical industrial land uses

| Records within 500m | 67 |
|---|---|

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

Features are displayed on the Past land use map on **page 15 >**

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| 1 | On site | Unspecified Factory | 1961 | 1517280 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| **A** | **On site** | **Railway Sidings** | **1901** | **1462588** |
| **A** | **On site** | **Railway Sidings** | **1938 - 1948** | **1466421** |
| **B** | **On site** | **Cuttings** | **1948** | **1485791** |
| **B** | **On site** | **Cuttings** | **1951** | **1486059** |
| **B** | **On site** | **Cuttings** | **1966** | **1489006** |
| **B** | **On site** | **Cuttings** | **1901** | **1498662** |
| **B** | **On site** | **Cuttings** | **1977 - 1987** | **1532273** |
| **C** | **On site** | **Railway Sidings** | **1961 - 1966** | **1520404** |
| **C** | **On site** | **Railway Sidings** | **1951** | **1534998** |
| **D** | **On site** | **Unspecified Factory** | **1961** | **1526013** |
| **D** | **On site** | **Unspecified Factory** | **1977 - 1987** | **1554374** |
| **E** | **On site** | **Cuttings** | **1938** | **1546187** |
| A | 9m N | Railway Sidings | 1961 | 1552831 |
| A | 10m N | Goods Shed | 1948 | 1531408 |
| A | 10m N | Goods Shed | 1938 | 1467974 |
| A | 11m N | Goods Shed | 1901 | 1514973 |
| A | 15m N | Goods Shed | 1961 | 1511228 |
| A | 16m N | Goods Shed | 1951 | 1536772 |
| A | 19m N | Railway Building | 1966 - 1987 | 1477168 |
| E | 25m SE | Cuttings | 1948 - 1987 | 1541765 |
| E | 29m S | Cuttings | 1901 | 1495487 |
| F | 33m NE | Unspecified Works | 1961 | 1550846 |
| F | 46m N | Unspecified Works | 1966 | 1471340 |
| F | 46m N | Unspecified Works | 1977 - 1987 | 1523196 |
| F | 73m N | Refuse Heap | 1938 | 1495756 |
| F | 73m N | Unspecified Foundry | 1948 | 1516270 |
| G | 74m E | Ground Workings | 1961 | 1442610 |
| G | 82m NE | Unspecified Ground Workings | 1966 - 1987 | 1534028 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| F | 82m N | Refuse Heap | 1948 | 1493288 |
| F | 88m N | Unspecified Foundry | 1951 | 1528404 |
| F | 88m N | Refuse Heap | 1951 | 1534311 |
| F | 96m N | Unspecified Foundry | 1938 | 1463941 |
| F | 142m NW | Cuttings | 1901 | 1504321 |
| F | 142m NW | Cuttings | 1948 - 1951 | 1557054 |
| F | 142m NW | Cuttings | 1938 | 1545975 |
| H | 171m N | Unspecified Works | 1987 | 1531240 |
| H | 171m N | Unspecified Works | 1961 | 1556669 |
| F | 181m NW | Railway Building | 1901 | 1504788 |
| F | 181m NW | Railway Building | 1948 | 1534972 |
| F | 197m NW | Cuttings | 1901 | 1459054 |
| F | 197m NW | Cuttings | 1948 - 1951 | 1480528 |
| F | 201m NW | Railway Station | 1961 | 1488912 |
| H | 218m N | Garage | 1961 | 1457803 |
| F | 250m NW | Railway Building | 1901 | 1430542 |
| F | 253m NW | Railway Station | 1938 | 1464246 |
| F | 255m NW | Railway Sidings | 1951 | 1541848 |
| F | 258m NW | Railway Station | 1948 | 1474029 |
| F | 258m NW | Railway Station | 1901 | 1547258 |
| F | 261m NW | Railway Station | 1966 - 1987 | 1553800 |
| 3 | 276m NW | Cuttings | 1901 | 1495079 |
| C | 280m NW | Cuttings | 1938 | 1510205 |
| C | 281m NW | Cuttings | 1948 - 1966 | 1518676 |
| C | 341m NW | Cuttings | 1977 - 1987 | 1494961 |
| I | 376m NW | Railway Sidings | 1904 - 1948 | 1482471 |
| I | 376m NW | Railway Sidings | 1901 | 1469227 |
| J | 435m S | Tunnel | 1951 - 1987 | 1515731 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| J | 441m S | Tunnel | 1938 | 1510957 |
| J | 443m S | Tunnel | 1948 | 1463034 |
| J | 443m S | Tunnel | 1901 | 1511940 |
| K | 455m S | Unspecified Pit | 1951 | 1488168 |
| K | 459m S | Unspecified Pit | 1938 - 1948 | 1513366 |
| K | 459m S | Unspecified Old Quarry | 1901 | 1440842 |
| J | 475m S | Cuttings | 1951 - 1987 | 1488350 |
| J | 477m S | Cuttings | 1938 | 1513105 |
| J | 477m S | Cuttings | 1948 | 1464918 |
| J | 477m S | Cuttings | 1901 | 1470581 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.2 Historical tanks

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

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

Features are displayed on the Past land use map on page 15 >

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| F | 120m N | Unspecified Tank | 1963 - 1993 | 245259 |
| F | 202m N | Unspecified Tank | 1963 - 1993 | 233816 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.3 Historical energy features

| Records within 500m | 3 |
|---|---|

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or

succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on page 15 >

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| 2 | 91m N | Electricity Substation | 1999 | 131166 |
| F | 181m N | Electricity Substation | 1963 - 1987 | 134859 |
| F | 184m N | Electricity Substation | 1993 | 142323 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.4 Historical petrol stations

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

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.5 Historical garages

| Records within 500m | 1 |
|---|---|

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

Features are displayed on the Past land use map on page 15 >

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| H | 218m N | Garage | 1961 | 41518 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.6 Historical military land

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

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

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

# 2 Past land use - un-grouped




## 2.1 Historical industrial land uses

| Records within 500m | 96 |
|---|---|

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

Features are displayed on the Past land use - un-grouped map on **page 21 >**

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| 1 | On site | Unspecified Factory | 1961 | 1517280 |
| 2 | On site | Cuttings | 1938 | 1546187 |
| A | On site | Cuttings | 1966 | 1489006 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| **A** | **On site** | **Cuttings** | **1977** | **1532273** |
| **A** | **On site** | **Cuttings** | **1987** | **1532273** |
| **A** | **On site** | **Cuttings** | **1948** | **1485791** |
| **A** | **On site** | **Cuttings** | **1901** | **1498662** |
| **A** | **On site** | **Cuttings** | **1951** | **1486059** |
| **B** | **On site** | **Unspecified Factory** | **1961** | **1526013** |
| **B** | **On site** | **Unspecified Factory** | **1977** | **1554374** |
| **B** | **On site** | **Unspecified Factory** | **1987** | **1554374** |
| **C** | **On site** | **Railway Sidings** | **1966** | **1520404** |
| **C** | **On site** | **Railway Sidings** | **1951** | **1534998** |
| **D** | **On site** | **Railway Sidings** | **1948** | **1466421** |
| **D** | **On site** | **Railway Sidings** | **1901** | **1462588** |
| **D** | **On site** | **Railway Sidings** | **1938** | **1466421** |
| D | 9m N | Railway Sidings | 1961 | 1552831 |
| D | 10m N | Goods Shed | 1948 | 1531408 |
| D | 10m N | Goods Shed | 1938 | 1467974 |
| D | 11m N | Goods Shed | 1901 | 1514973 |
| D | 15m N | Goods Shed | 1961 | 1511228 |
| D | 16m N | Goods Shed | 1951 | 1536772 |
| D | 19m N | Railway Building | 1966 | 1477168 |
| D | 19m N | Railway Building | 1977 | 1477168 |
| D | 19m N | Railway Building | 1987 | 1477168 |
| E | 25m SE | Cuttings | 1966 | 1541765 |
| E | 25m SE | Cuttings | 1977 | 1541765 |
| E | 25m SE | Cuttings | 1987 | 1541765 |
| E | 25m SE | Cuttings | 1951 | 1541765 |
| E | 29m S | Cuttings | 1948 | 1541765 |
| E | 29m S | Cuttings | 1901 | 1495487 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| F | 33m NE | Unspecified Works | 1961 | 1550846 |
| F | 46m N | Unspecified Works | 1966 | 1471340 |
| F | 46m N | Unspecified Works | 1977 | 1523196 |
| F | 46m N | Unspecified Works | 1987 | 1523196 |
| F | 73m N | Refuse Heap | 1938 | 1495756 |
| F | 73m N | Refuse Heap | 1938 | 1495756 |
| F | 73m N | Unspecified Foundry | 1948 | 1516270 |
| G | 74m E | Ground Workings | 1961 | 1442610 |
| G | 82m NE | Unspecified Ground Workings | 1966 | 1534028 |
| G | 82m NE | Unspecified Ground Workings | 1977 | 1534028 |
| G | 82m NE | Unspecified Ground Workings | 1987 | 1534028 |
| F | 82m N | Refuse Heap | 1948 | 1493288 |
| F | 88m N | Refuse Heap | 1951 | 1534311 |
| F | 88m N | Unspecified Foundry | 1951 | 1528404 |
| F | 96m N | Unspecified Foundry | 1938 | 1463941 |
| F | 142m NW | Cuttings | 1948 | 1557054 |
| F | 142m NW | Cuttings | 1901 | 1504321 |
| F | 142m NW | Cuttings | 1938 | 1545975 |
| F | 145m NW | Cuttings | 1951 | 1557054 |
| H | 171m N | Unspecified Works | 1987 | 1531240 |
| H | 171m N | Unspecified Works | 1961 | 1556669 |
| F | 181m NW | Railway Building | 1948 | 1534972 |
| F | 181m NW | Railway Building | 1901 | 1504788 |
| F | 197m NW | Cuttings | 1948 | 1480528 |
| F | 197m NW | Cuttings | 1901 | 1459054 |
| F | 201m NW | Railway Station | 1961 | 1488912 |
| F | 216m NW | Cuttings | 1951 | 1480528 |
| H | 218m N | Garage | 1961 | 1457803 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| F | 250m NW | Railway Building | 1901 | 1430542 |
| F | 253m NW | Railway Station | 1938 | 1464246 |
| F | 255m NW | Railway Sidings | 1951 | 1541848 |
| F | 258m NW | Railway Station | 1948 | 1474029 |
| F | 258m NW | Railway Station | 1901 | 1547258 |
| F | 261m NW | Railway Station | 1966 | 1553800 |
| F | 261m NW | Railway Station | 1977 | 1553800 |
| F | 261m NW | Railway Station | 1987 | 1553800 |
| 4 | 276m NW | Cuttings | 1901 | 1495079 |
| C | 280m NW | Cuttings | 1938 | 1510205 |
| C | 281m NW | Cuttings | 1948 | 1518676 |
| C | 286m NW | Cuttings | 1951 | 1518676 |
| C | 341m NW | Cuttings | 1966 | 1518676 |
| C | 341m NW | Cuttings | 1977 | 1494961 |
| C | 341m NW | Cuttings | 1987 | 1494961 |
| I | 376m NW | Railway Sidings | 1948 | 1482471 |
| I | 376m NW | Railway Sidings | 1901 | 1469227 |
| I | 382m NW | Railway Sidings | 1938 | 1482471 |
| J | 435m S | Tunnel | 1966 | 1515731 |
| J | 435m S | Tunnel | 1977 | 1515731 |
| J | 435m S | Tunnel | 1987 | 1515731 |
| J | 435m S | Tunnel | 1951 | 1515731 |
| J | 441m S | Tunnel | 1938 | 1510957 |
| J | 443m S | Tunnel | 1948 | 1463034 |
| J | 443m S | Tunnel | 1901 | 1511940 |
| K | 455m S | Unspecified Pit | 1951 | 1488168 |
| K | 459m S | Unspecified Pit | 1938 | 1513366 |
| K | 459m S | Unspecified Pit | 1938 | 1513366 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| K | 459m S | Unspecified Old Quarry | 1901 | 1440842 |
| K | 459m S | Unspecified Pit | 1948 | 1513366 |
| J | 475m S | Cuttings | 1966 | 1488350 |
| J | 475m S | Cuttings | 1977 | 1488350 |
| J | 475m S | Cuttings | 1987 | 1488350 |
| J | 475m S | Cuttings | 1951 | 1488350 |
| J | 477m S | Cuttings | 1938 | 1513105 |
| J | 477m S | Cuttings | 1948 | 1464918 |
| J | 477m S | Cuttings | 1901 | 1470581 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.2 Historical tanks

| Records within 500m | 6 |
|---|---|

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

Features are displayed on the Past land use - un-grouped map on page 21 >

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| F | 120m N | Unspecified Tank | 1963 | 245259 |
| F | 120m N | Unspecified Tank | 1987 | 245259 |
| F | 122m N | Unspecified Tank | 1993 | 245259 |
| F | 202m N | Unspecified Tank | 1963 | 233816 |
| F | 202m N | Unspecified Tank | 1987 | 233816 |
| F | 203m N | Unspecified Tank | 1993 | 233816 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.3 Historical energy features

| Records within 500m | 4 |
|---|---|

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

Features are displayed on the Past land use - un-grouped map on page 21 >

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| 3 | 91m N | Electricity Substation | 1999 | 131166 |
| F | 181m N | Electricity Substation | 1963 | 134859 |
| F | 181m N | Electricity Substation | 1987 | 134859 |
| F | 184m N | Electricity Substation | 1993 | 142323 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.4 Historical petrol stations

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

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

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.5 Historical garages

| Records within 500m | 1 |
|---|---|

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

Features are displayed on the Past land use - un-grouped map on page 21 >

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| H | 218m N | Garage | 1961 | 41518 |

*This data is sourced from Ordnance Survey / Groundsure.*

# 3 Waste and landfill




Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Licensed waste sites

## 3.1 Active or recent landfill

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

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

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

## 3.2 Historical landfill (BGS records)

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

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

*This data is sourced from the British Geological Survey.*

## 3.3 Historical landfill (LA/mapping records)

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

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

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

## 3.4 Historical landfill (EA/NRW records)

| Records within 500m | 1 |
|---|---|

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

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

| ID | Location | Details | | |
|---|---|---|---|---|
| 1 | 87m NE | Site Address: Wombwell Foundry, Hough Lane, Wombwell, Barnsley, South Yorkshire<br>Licence Holder Address: Wombwell Foundry Ltd, Hough Lane, Wombwell, Barnsley, South Yorkshire | Waste Licence: Yes<br>Site Reference: WD20 B142, NE4243<br>Waste Type: Industrial<br>Environmental Permitting Regulations (Waste) Reference: YQ1/L/WOM001<br>Licence Issue: 09/12/1977<br>Licence Surrender: 07/06/2005 | Operator: Wombwell Foundry<br>Licence Holder: Wombwell Foundry Limited<br>First Recorded 31/12/1977<br>Last Recorded: - |

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

## 3.5 Historical waste sites

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

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

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

## 3.6 Licensed waste sites

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

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

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

| ID | Location | Details | | |
|---|---|---|---|---|
| A | 139m NE | Site Name: Wombwell Foundry<br>Site Address: Hough Lane, Wombwell, Barnsley, South Yorkshire, S73 0LT<br>Correspondence Address: - | Type of Site: Industrial Waste Landfill (Factory curtilage)<br>Size: 25000 tonnes<br>Environmental Permitting Regulations (Waste) Licence Number: WOM001<br>EPR reference: EA/EPR/AP3690ZL/S002<br>Operator: Wombwell Foundry Ltd<br>Waste Management licence No: 60558<br>Annual Tonnage: 36000 | Issue Date: 09/12/1977<br>Effective Date: -<br>Modified: -<br>Surrendered Date: Jun 7 2005 12:00AM<br>Expiry Date: -<br>Cancelled Date: -<br>Status: Surrendered |
| A | 139m NE | Site Name: Wombwell Foundry<br>Site Address: Hough Lane, Wombwell, Barnsley, South Yorkshire, S73 0LT<br>Correspondence Address: - | Type of Site: Industrial Waste Landfill (Factory curtilage)<br>Size: >= 25000 tonnes 75000 tonnes<br>Environmental Permitting Regulations (Waste) Licence Number: 630481<br>EPR reference: EA/EPR/AP3690ZL<br>Operator: Wombwell Foundry Limited<br>Waste Management licence No: 60558<br>Annual Tonnage: 36000 | Issue Date: 09/12/1977<br>Effective Date: 09/12/1977<br>Modified: -<br>Surrendered Date: -<br>Expiry Date: -<br>Cancelled Date: -<br>Status: Surrendered |

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

## 3.7 Waste exemptions

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

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

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

# 4 Current industrial land use




## 4.1 Recent industrial land uses

| Records within 250m | 6 |
|---|---|

Current potentially contaminative industrial sites.

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

| ID | Location | Company | Address | Activity | Category |
|---|---|---|---|---|---|
| A | On site | Rage Motorsport | Wembley Works, Hemingfield Road, Hemingfield, Barnsley, South Yorkshire, S73 0LY | Vehicles | Industrial Products |
| A | On site | Ultralife Nutrition Ltd | Wembley Works, Hemingfield Road, Hemingfield, Barnsley, South Yorkshire, S73 0LY | Catering and Non Specific Food Products | Foodstuffs |

| ID | Location | Company | Address | Activity | Category |
|---|---|---|---|---|---|
| 1 | 27m SE | Mast (Telecommunication) | South Yorkshire, S73 | Telecommunications Features | Infrastructure and Facilities |
| 2 | 156m SE | European Tank Installations Ltd | 52, Hemingfield Road, Hemingfield, Barnsley, South Yorkshire, S73 0QA | General Construction Supplies | Industrial Products |
| 3 | 184m N | Mast | South Yorkshire, S73 | Telecommunications Features | Infrastructure and Facilities |
| 4 | 190m NW | Electricity Sub Station | South Yorkshire, S73 | Electrical Features | Infrastructure and Facilities |

*This data is sourced from Ordnance Survey.*

## 4.2 Current or recent petrol stations

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

Open, closed, under development and obsolete petrol stations.

*This data is sourced from Experian.*

## 4.3 Electricity cables

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

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

## 4.4 Gas pipelines

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

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

## 4.5 Sites determined as Contaminated Land

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

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

*This data is sourced from Local Authority records.*

## 4.6 Control of Major Accident Hazards (COMAH)

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

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

*This data is sourced from the Health and Safety Executive.*

## 4.7 Regulated explosive sites

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

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

*This data is sourced from the Health and Safety Executive.*

## 4.8 Hazardous substance storage/usage

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

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

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

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

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

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

## 4.10 Licensed industrial activities (Part A(1))

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

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

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

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

| Records within 500m | 3 |
|---|---|

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

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

| ID | Location | Address | Details | |
|---|---|---|---|---|
| 5 | 236m NE | Balmoral Tanks Ltd, 321 Hough Lane, Wombwell, Barnsley, S73 0LR | Process: Manufacture of Coating Materials<br>Status: Historical Permit<br>Permit Type: Part B | Enforcement: No Enforcement Notified<br>Date of enforcement: No Enforcement Notified<br>Comment: No Enforcement Notified |
| 6 | 255m N | Galglass Ltd, 321 Hough Lane, Wombell, Barnsley, S73 0LR | Process: Coating Processes<br>Status: Historical Permit<br>Permit Type: Part B | Enforcement: No Enforcement Notified<br>Date of enforcement: No Enforcement Notified<br>Comment: No Enforcement Notified |
| 7 | 495m NW | Wombwell Foundry Ltd, Hough Lane, Wombwell, Barnsley, S73 0LT | Process: Non-ferrous Metal Foundry Processes<br>Status: Historical Permit<br>Permit Type: Part B | Enforcement: No Enforcements Notified<br>Date of enforcement: No Enforcements Notified<br>Comment: No Enforcements Notified |

*This data is sourced from Local Authority records.*

## 4.12 Radioactive Substance Authorisations

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

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

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

## 4.13 Licensed Discharges to controlled waters

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

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

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

## 4.14 Pollutant release to surface waters (Red List)

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

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

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

## 4.15 Pollutant release to public sewer

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

Discharges of Special Category Effluents to the public sewer.

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

## 4.16 List 1 Dangerous Substances

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

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

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

## 4.17 List 2 Dangerous Substances

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

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

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

## 4.18 Pollution Incidents (EA/NRW)

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

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

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

| ID | Location | Details | |
|---|---|---|---|
| B | 98m N | Incident Date: 28/08/2003<br>Incident Identification: 185661<br>Pollutant: Atmospheric Pollutants and Effects<br>Pollutant Description: Dust | Water Impact: Category 4 (No Impact)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 3 (Minor) |
| B | 101m N | Incident Date: 06/10/2003<br>Incident Identification: 194588<br>Pollutant: Oils and Fuel<br>Pollutant Description: Insulating and Cable Oils | Water Impact: Category 4 (No Impact)<br>Land Impact: Category 3 (Minor)<br>Air Impact: Category 4 (No Impact) |

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

## 4.19 Pollution inventory substances

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

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

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

## 4.20 Pollution inventory waste transfers

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

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

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

## 4.21 Pollution inventory radioactive waste

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

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

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

# 5 Hydrogeology - Superficial aquifer

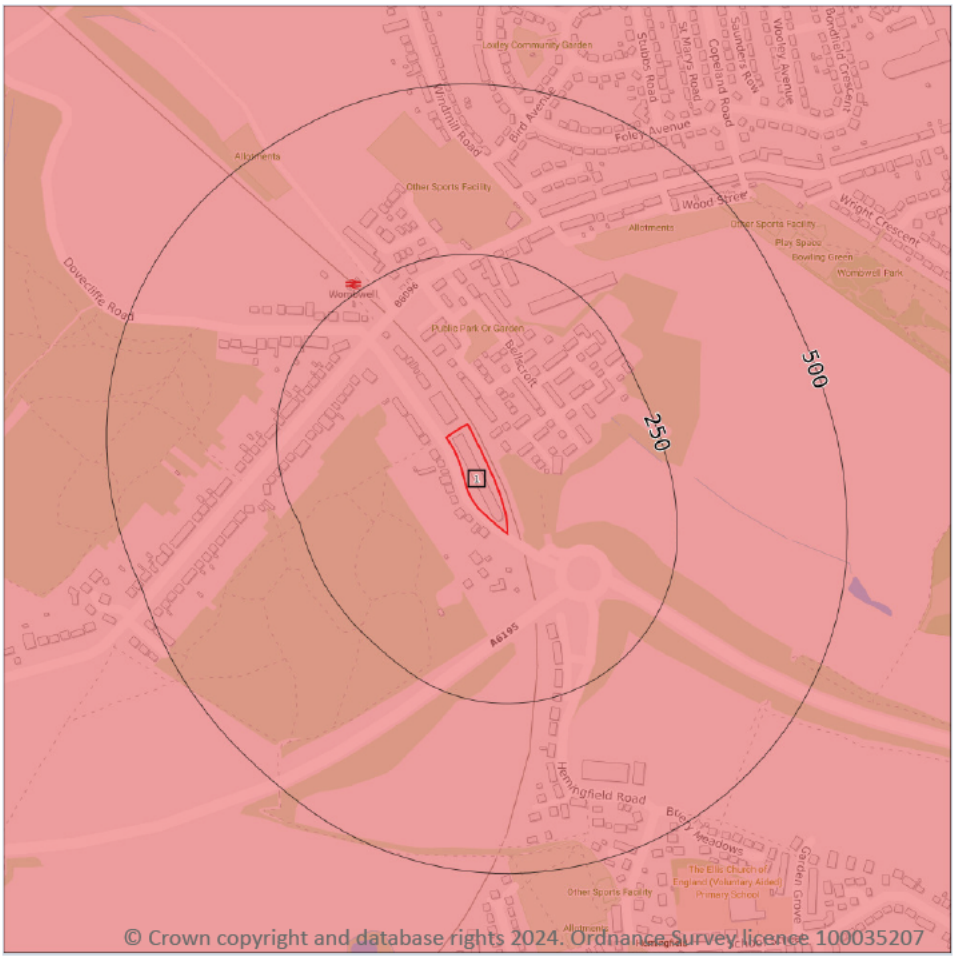
## 5.1 Superficial aquifer

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

Aquifer status of groundwater held within superficial geology.

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

# Bedrock aquifer




Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

## 5.2 Bedrock aquifer

| Records within 500m | 1 |
|---|---|

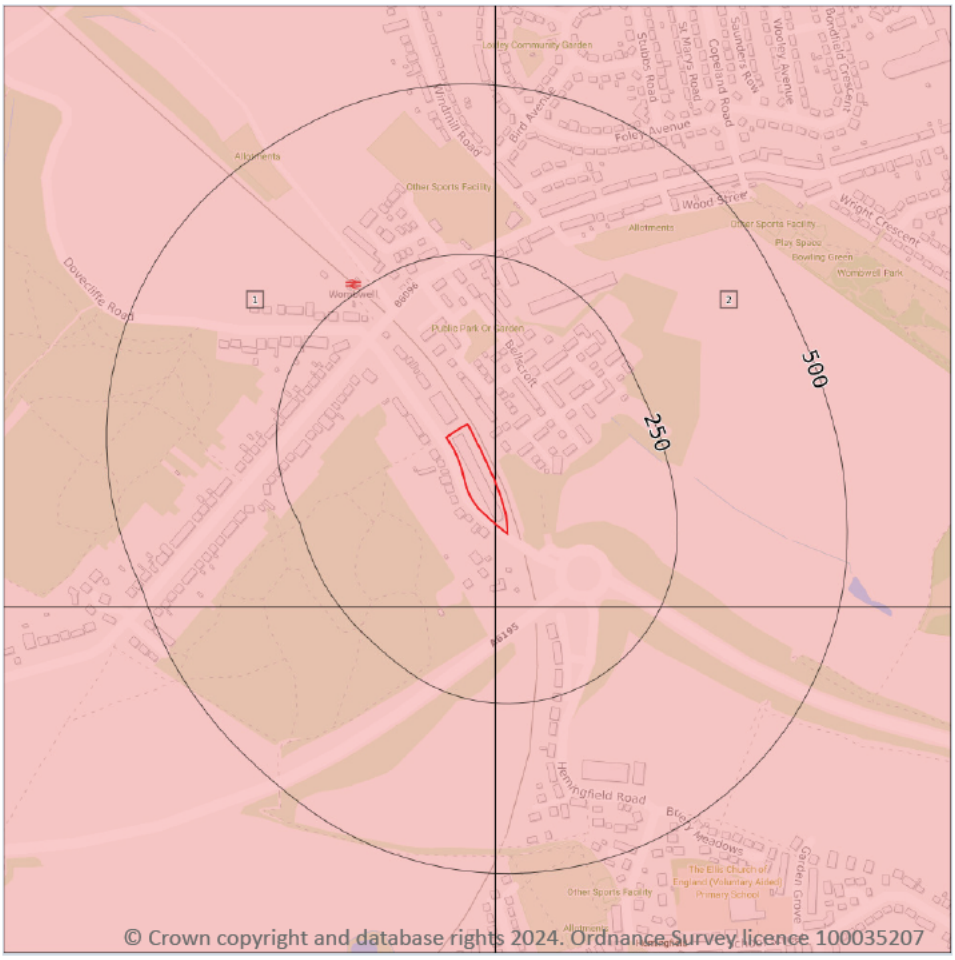
Aquifer status of groundwater held within bedrock geology.

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

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

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

# Groundwater vulnerability




Site Outline

Search buffers in metres (m)

Superficial vulnerability
- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability
- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information
- Unproductive aquifer
- Soluble rock risk
- Local information

## 5.3 Groundwater vulnerability

| Records within 50m | 2 |
|---|---|

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

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

Features are displayed on the Groundwater vulnerability map on page 39 >

| ID | Location | Summary | Soil / surface | Superficial geology | Bedrock geology |
|---|---|---|---|---|---|
| 1 | On site | Summary Classification: Secondary bedrock aquifer - High Vulnerability<br>Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer | Leaching class: High<br>Infiltration value: >70%<br>Dilution value: <300mm/year | Vulnerability: -<br>Aquifer type: -<br>Thickness: <3m<br>Patchiness value: <90%<br>Recharge potential: No Data | Vulnerability: High<br>Aquifer type: Secondary<br>Flow mechanism: Well connected fractures |
| 2 | On site | Summary Classification: Secondary bedrock aquifer - High Vulnerability<br>Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer | Leaching class: Low<br>Infiltration value: <40%<br>Dilution value: <300mm/year | Vulnerability: -<br>Aquifer type: -<br>Thickness: <3m<br>Patchiness value: <90%<br>Recharge potential: No Data | Vulnerability: High<br>Aquifer type: Secondary<br>Flow mechanism: Well connected fractures |

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

## 5.4 Groundwater vulnerability- soluble rock risk

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

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

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

## 5.5 Groundwater vulnerability- local information

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

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

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

# Abstractions and Source Protection Zones




Site Outline

Search buffers in metres (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
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

## 5.6 Groundwater abstractions

| Records within 2000m | 4 |
|---|---|

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 41 >**

| ID | Location | Details | |
|---|---|---|---|
| - | 1249m W | Status: Historical<br>Licence No: 2/27/08/130<br>Details: Dust suppression<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE-COAL MEASURES-WOMBWELL<br>Data Type: Point<br>Name: H J BANKS & COMPANY LIMITED<br>Easting: 437710<br>Northing: 401970 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 28/11/2002<br>Expiry Date: 31/12/2004<br>Issue No: 1<br>Version Start Date: 28/11/2002<br>Version End Date: - |
| - | 1249m W | Status: Historical<br>Licence No: 2/27/08/130<br>Details: Lake & Pond Throughflow<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE-COAL MEASURES-WOMBWELL<br>Data Type: Point<br>Name: H J BANKS & COMPANY LIMITED<br>Easting: 437710<br>Northing: 401970 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 28/11/2002<br>Expiry Date: 31/12/2004<br>Issue No: 1<br>Version Start Date: 28/11/2002<br>Version End Date: - |
| - | 1249m W | Status: Historical<br>Licence No: 2/27/08/136<br>Details: Lake & Pond Throughflow<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE-COAL MEASURES-WOMBWELL<br>Data Type: Point<br>Name: H J BANKS (MINING) LTD<br>Easting: 437710<br>Northing: 401970 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 25/05/2005<br>Expiry Date: 31/10/2005<br>Issue No: 1<br>Version Start Date: 25/05/2005<br>Version End Date: - |
| - | 1249m W | Status: Historical<br>Licence No: 2/27/08/136<br>Details: Dust suppression<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE-COAL MEASURES-WOMBWELL<br>Data Type: Point<br>Name: H J BANKS (MINING) LTD<br>Easting: 437710<br>Northing: 401970 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 25/05/2005<br>Expiry Date: 31/10/2005<br>Issue No: 1<br>Version Start Date: 25/05/2005<br>Version End Date: - |

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

## 5.7 Surface water abstractions

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

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

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

## 5.8 Potable abstractions

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

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

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

## 5.9 Source Protection Zones

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

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

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

## 5.10 Source Protection Zones (confined aquifer)

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

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

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

# 6 Hydrology



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## 6.1 Water Network (OS MasterMap)

| Records within 250m | 4 |
|---|---|

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

Features are displayed on the Hydrology map on page 44 >

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|---|---|---|---|---|---|
| A | 194m NE | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|---|---|---|---|---|---|
| A | 201m E | Lake, loch or reservoir. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| A | 209m E | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| 4 | 241m E | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |

*This data is sourced from the Ordnance Survey.*

## 6.2 Surface water features

| Records within 250m | 2 |
|---|---|

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

Features are displayed on the Hydrology map on page 44 >

*This data is sourced from the Ordnance Survey.*

## 6.3 WFD Surface water body catchments

| Records on site | 2 |
|---|---|

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

Features are displayed on the Hydrology map on page 44 >

| ID | Location | Type | Water body catchment | Water body ID | Operational catchment | Management catchment |
|---|---|---|---|---|---|---|
| **1** | **On site** | **River** | **Knoll Beck from Source to River Dearne** | **GB104027057470** | **Dearne** | **Don and Rother** |
| **2** | **On site** | **River** | **Dove from Source to River Dearne** | **GB104027057510** | **Dearne** | **Don and Rother** |

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

## 6.4 WFD Surface water bodies

| Records identified | 2 |
|---|---|

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

Features are displayed on the Hydrology map on page 44 >

| ID | Location | Type | Name | Water body ID | Overall rating | Chemical rating | Ecological rating | Year |
|---|---|---|---|---|---|---|---|---|
| - | 1087m SE | River | Knoll Beck from Source to River Dearne | GB104027057470 ↗ | Moderate | Fail | Moderate | 2019 |
| - | 1886m NE | River | Dove from Source to River Dearne | GB104027057510 ↗ | Moderate | Fail | Moderate | 2019 |

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

## 6.5 WFD Groundwater bodies

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

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

Features are displayed on the Hydrology map on page 44 >

| ID | Location | Name | Water body ID | Overall rating | Chemical rating | Quantitative | Year |
|---|---|---|---|---|---|---|---|
| **3** | **On site** | **Don & Rother Millstone grit & Coal Measures** | GB40402G992300 ↗ | **Poor** | **Poor** | **Good** | **2019** |

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

# 7 River and coastal flooding

## 7.1 Risk of flooding from rivers and the sea

| Records within 50m | 0 |
|---|---|

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

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

## 7.2 Historical Flood Events

| Records within 250m | 0 |
|---|---|

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

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

## 7.3 Flood Defences

| Records within 250m | 0 |
|---|---|

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

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

## 7.4 Areas Benefiting from Flood Defences

| Records within 250m | 0 |
|---|---|

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

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

## 7.5 Flood Storage Areas

| Records within 250m | 0 |
|---|---|

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

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

# River and coastal flooding - Flood Zones

## 7.6 Flood Zone 2

| Records within 50m | 0 |
|---|---|

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

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

## 7.7 Flood Zone 3

| Records within 50m | 0 |
|---|---|

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

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

# 8 Surface water flooding




Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

## 8.1 Surface water flooding

| | |
|---|---|
| **Highest risk on site** | **Negligible** |
| **Highest risk within 50m** | **1 in 30 year, 0.3m - 1.0m** |

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

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

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

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

| Return period | Maximum modelled depth |
|---|---|
| 1 in 1000 year | Negligible |
| 1 in 250 year | Negligible |
| 1 in 100 year | Negligible |
| 1 in 30 year | Negligible |

*This data is sourced from Ambiental Risk Analytics.*

# 9 Groundwater flooding




Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

## 9.1 Groundwater flooding

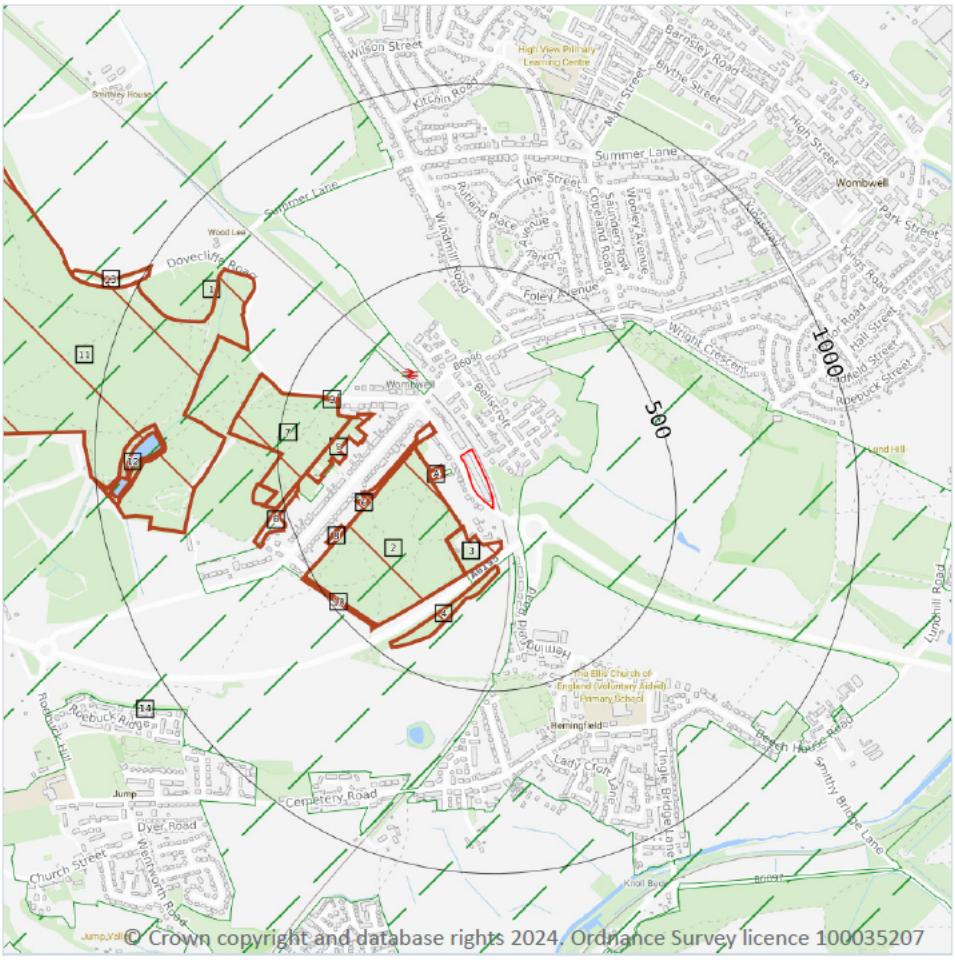
| | |
|---|---|
| **Highest risk on site** | **Negligible** |
| **Highest risk within 50m** | **Negligible** |

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

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

*This data is sourced from Ambiental Risk Analytics.*

# 10 Environmental designations




Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Designated Ancient Woodland

Green Belt

## 10.1 Sites of Special Scientific Interest (SSSI)

| Records within 2000m | 2 |
|---|---|

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

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

| ID | Location | Name | Data source |
|---|---|---|---|
| - | 1425m NW | Dearne Valley Wetlands | Natural England |

| ID | Location | Name | Data source |
|---|---|---|---|
| - | 1677m NE | Dearne Valley Wetlands | Natural England |

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

## 10.2 Conserved wetland sites (Ramsar sites)

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

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

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

## 10.3 Special Areas of Conservation (SAC)

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

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

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

## 10.4 Special Protection Areas (SPA)

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

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

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

## 10.5 National Nature Reserves (NNR)

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

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

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

## 10.6 Local Nature Reserves (LNR)

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

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

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

## 10.7 Designated Ancient Woodland

| Records within 2000m | 19 |
|---|---|

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

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

| ID | Location | Name | Woodland Type |
|---|---|---|---|
| A | 60m W | Wombwell Wood South | Ancient & Semi-Natural Woodland |
| 2 | 84m SW | Wombwell Wood South | Ancient Replanted Woodland |
| 3 | 90m S | Wombwell Wood South | Ancient & Semi-Natural Woodland |
| A | 96m NW | Wombwell Wood South | Ancient & Semi-Natural Woodland |
| 4 | 159m S | Wombwell Wood South | Ancient & Semi-Natural Woodland |
| 5 | 266m W | Wombwell Wood | Ancient & Semi-Natural Woodland |
| 6 | 281m W | Wombwell Wood South | Ancient & Semi-Natural Woodland |
| 7 | 316m NW | Wombwell Wood | Ancient Replanted Woodland |
| 8 | 345m W | Wombwell Wood South | Ancient & Semi-Natural Woodland |
| 9 | 369m NW | Wombwell Wood | Ancient & Semi-Natural Woodland |
| 10 | 448m SW | Wombwell Wood South | Ancient & Semi-Natural Woodland |
| B | 452m W | Wombwell Wood | Ancient & Semi-Natural Woodland |
| B | 513m W | Wombwell Wood | Ancient & Semi-Natural Woodland |
| 11 | 647m W | Wombwell Wood | Ancient Replanted Woodland |
| 12 | 809m W | Wombwell Wood | Ancient & Semi-Natural Woodland |
| 13 | 987m NW | Wombwell Wood | Ancient & Semi-Natural Woodland |

| ID | Location | Name | Woodland Type |
|---|---|---|---|
| - | 1569m W | Wombwell Wood | Ancient Replanted Woodland |
| - | 1933m W | Unknown | Ancient Replanted Woodland |
| - | 1997m NW | Wombwell Wood | Ancient & Semi-Natural Woodland |

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

## 10.8 Biosphere Reserves

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

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

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

## 10.9 Forest Parks

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

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

*This data is sourced from the Forestry Commission.*

## 10.10 Marine Conservation Zones

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

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

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

## 10.11 Green Belt

| Records within 2000m | 3 |
|---|---|

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

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

| ID | Location | Name | Local Authority name |
|---|---|---|---|
| 1 | 42m W | South and West Yorkshire | Barnsley |
| 14 | 1058m SW | South and West Yorkshire | Barnsley |
| 15 | 1159m SE | South and West Yorkshire | Rotherham |

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

## 10.12 Proposed Ramsar sites

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

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

*This data is sourced from Natural England.*

## 10.13 Possible Special Areas of Conservation (pSAC)

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

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

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

## 10.14 Potential Special Protection Areas (pSPA)

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

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

*This data is sourced from Natural England.*

## 10.15 Nitrate Sensitive Areas

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

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

*This data is sourced from Natural England.*

## 10.16 Nitrate Vulnerable Zones

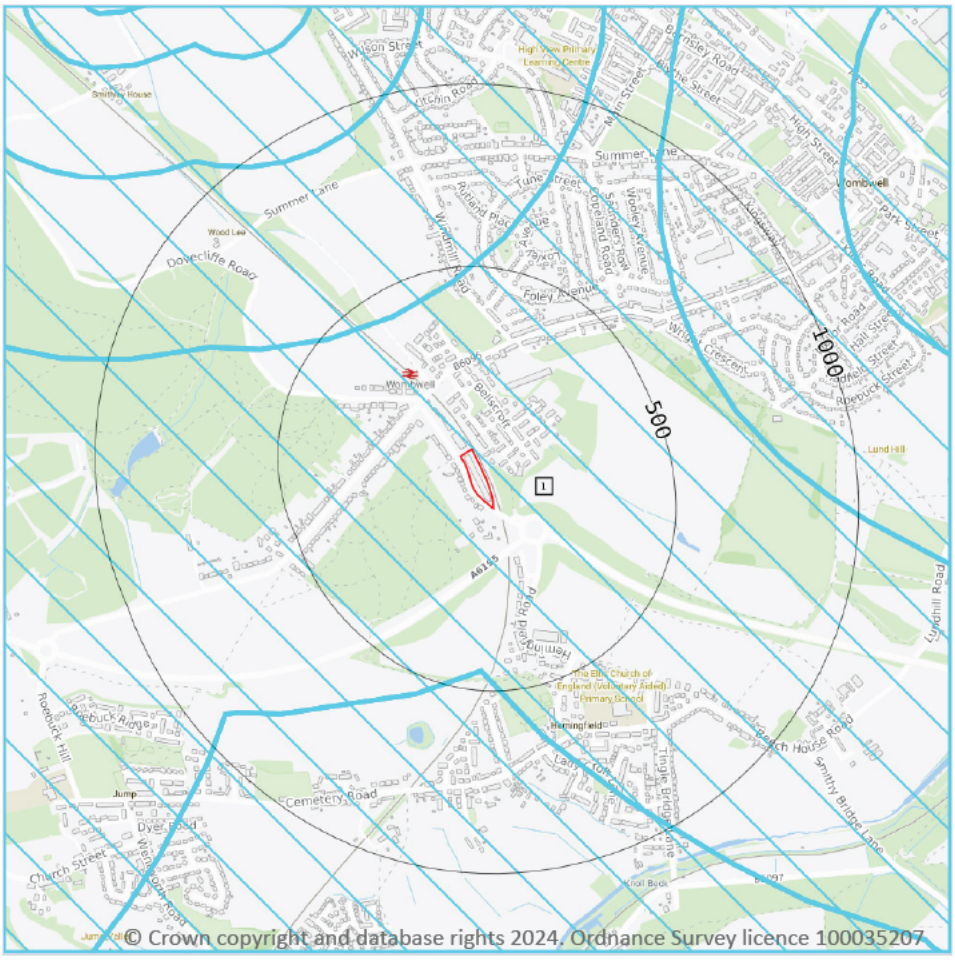
| Records within 2000m | 1 |
|---|---|

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

| Location | Name | Type | NVZ ID | Status |
|---|---|---|---|---|
| **On site** | **River Dearne NVZ** | **Surface Water** | **278** | **Existing** |

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

# SSSI Impact Zones and Units




Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

## 10.17 SSSI Impact Risk Zones

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

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

Features are displayed on the SSSI Impact Zones and Units map on page 59 >

| ID | Location | Type of developments requiring consultation |
|---|---|---|
| 1 | On site | **Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.<br>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.<br>Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha.<br>Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas.<br>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t).<br>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.<br>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.<br>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.<br>Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.<br>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.** |

*This data is sourced from Natural England.*

## 10.18 SSSI Units

| Records within 2000m | 2 |
|---|---|

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

Features are displayed on the SSSI Impact Zones and Units map on page 59 >

ID: -
Location: 1425m NW
SSSI name: Dearne Valley Wetlands
Unit name: Railway Woodland
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

| Feature name | Feature condition | Date of assessment |
|---|---|---|
| Aggregations of breeding birds - Willow Tit, Poecile montanus | Favourable | 01/03/2021 |

| Feature name | Feature condition | Date of assessment |
|---|---|---|
| Assemblages of breeding birds - Scrub | Favourable | 01/03/2021 |

ID: -
Location: 1677m NE
SSSI name: Dearne Valley Wetlands
Unit name: Parkhill
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

| Feature name | Feature condition | Date of assessment |
|---|---|---|
| Aggregations of breeding birds - Willow Tit, Poecile montanus | Favourable | 01/03/2021 |
| Assemblages of breeding birds - Mixed | Favourable | 01/03/2021 |
| Assemblages of breeding birds - Scrub | Favourable | 01/03/2021 |

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

# 11 Visual and cultural designations

## 11.1 World Heritage Sites

| Records within 250m | 0 |
|---|---|

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

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

## 11.2 Area of Outstanding Natural Beauty

| Records within 250m | 0 |
|---|---|

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

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

## 11.3 National Parks

| Records within 250m | 0 |
|---|---|

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

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

## 11.4 Listed Buildings

| Records within 250m | 0 |
|---|---|

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

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

## 11.5 Conservation Areas

| Records within 250m | 0 |
|---|---|

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

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

## 11.6 Scheduled Ancient Monuments

| Records within 250m | 0 |
|---|---|

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

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

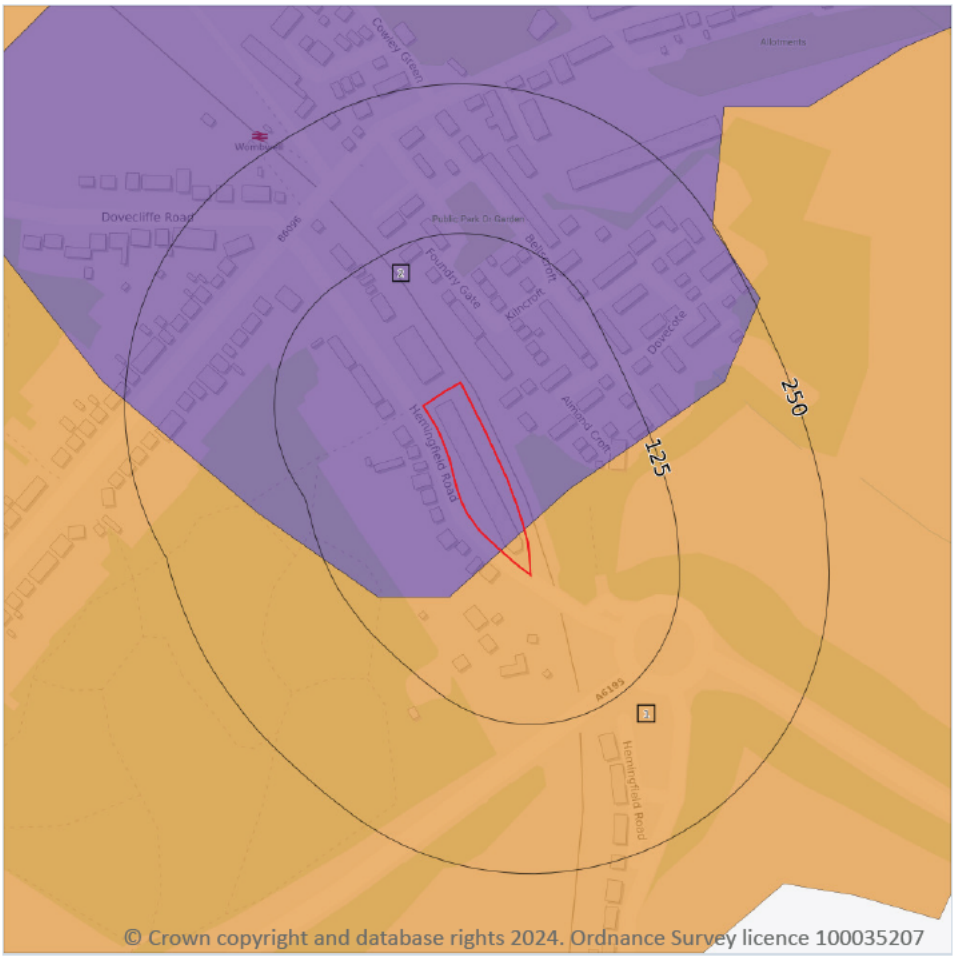
## 11.7 Registered Parks and Gardens

| Records within 250m | 0 |
|---|---|

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

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

# 12 Agricultural designations




Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

## 12.1 Agricultural Land Classification

| Records within 250m | 2 |
|---|---|

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

Features are displayed on the Agricultural designations map on page 64 >

| ID | Location | Classification | Description |
|---|---|---|---|
| 1 | On site | Grade 3 | **Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.** |
| 2 | On site | Urban | - |

*This data is sourced from Natural England.*

## 12.2 Open Access Land

| Records within 250m | 0 |
|---|---|

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

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

## 12.3 Tree Felling Licences

| Records within 250m | 0 |
|---|---|

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

*This data is sourced from the Forestry Commission.*

## 12.4 Environmental Stewardship Schemes

| Records within 250m | 0 |
|---|---|

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

*This data is sourced from Natural England.*

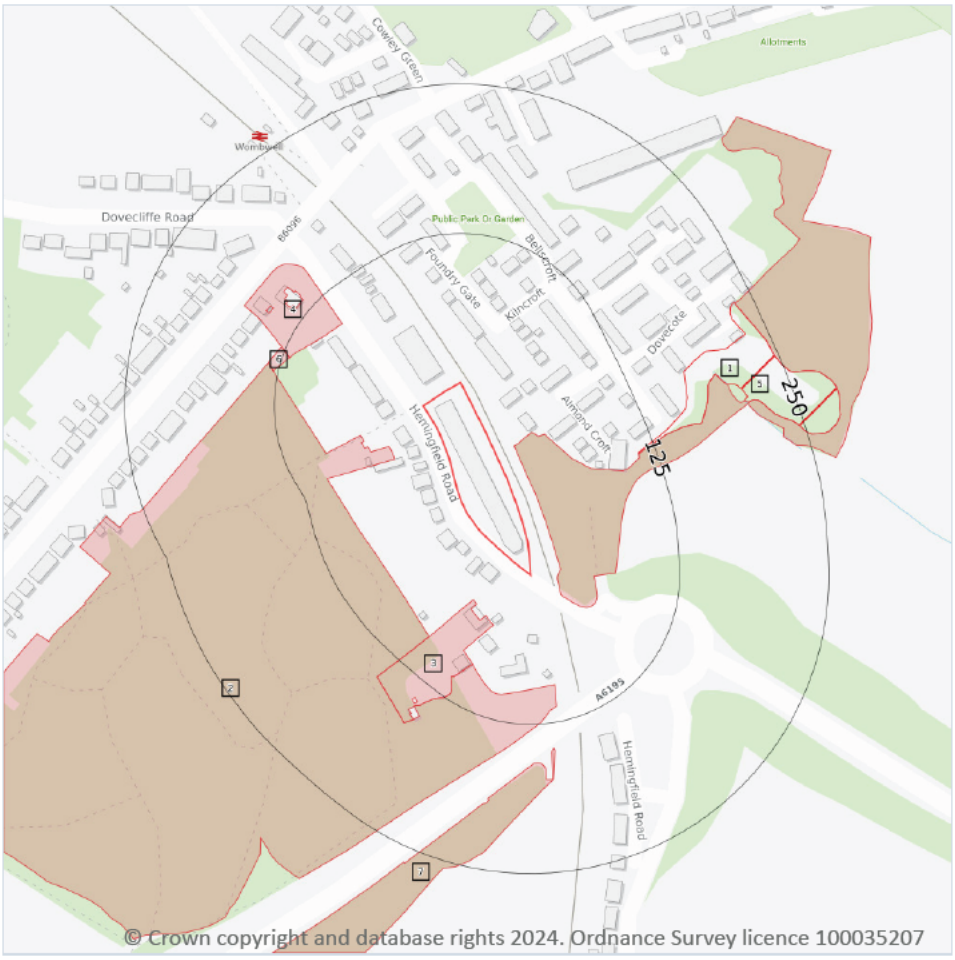
## 12.5 Countryside Stewardship Schemes

| Records within 250m | 0 |
|---|---|

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

*This data is sourced from Natural England.*

# 13 Habitat designations




Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks
Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

## 13.1 Priority Habitat Inventory

| Records within 250m | 6 |
|---|---|

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

Features are displayed on the Habitat designations map on page 66 >

| ID | Location | Main Habitat | Other habitats |
|---|---|---|---|
| 1 | 17m E | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 2 | 42m W | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 3 | 46m S | No main habitat but additional habitats present | Main habitat: DWOOD (INV > 50%) |
| 4 | 97m NW | No main habitat but additional habitats present | Main habitat: DWOOD (INV > 50%) |

| ID | Location | Main Habitat | Other habitats |
|---|---|---|---|
| 6 | 119m NW | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 7 | 147m S | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |

*This data is sourced from Natural England.*

## 13.2 Habitat Networks

| Records within 250m | 0 |
|---|---|

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

*This data is sourced from Natural England.*

## 13.3 Open Mosaic Habitat

| Records within 250m | 1 |
|---|---|

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

Features are displayed on the Habitat designations map on page 66 >

| ID | Location | Site reference | Identification confidence | Primary source | Secondary source | Tertiary source |
|---|---|---|---|---|---|---|
| 5 | 111m E | HLD_refs: EAHLD33060 | Low | Environment Agency Historic Landfill Sites | UK Perspectives Aerial Photography | - |

*This data is sourced from Natural England.*

## 13.4 Limestone Pavement Orders

| Records within 250m | 0 |
|---|---|

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

## Biodiversity Action Plan priority habitat in England.

*This data is sourced from Natural England.*

# 14 Geology 1:10,000 scale - Availability




Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

## 14.1 10k Availability

| Records within 500m | 1 |
|---|---|

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

Features are displayed on the Geology 1:10,000 scale - Availability map on page 69 >

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|---|---|---|---|---|---|---|
| 1 | On site | Full | Full | Full | Full | SE30SE |

*This data is sourced from the British Geological Survey.*

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




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Site Outline

Search buffers in metres (m)

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

## 14.2 Artificial and made ground (10k)

| Records within 500m | 4 |
|---|---|

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on page 70 >

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| **1** | **On site** | **WGR-VOID** | **Worked Ground (Undivided)** | **Void** |
| 2 | 20m N | MGR-ARTDP | Made Ground (Undivided) | Artificial Deposit |
| 3 | 177m N | MGR-ARTDP | Made Ground (Undivided) | Artificial Deposit |
| 4 | 495m S | WMGR-ARTDP | Infilled Ground | Artificial Deposit |

*This data is sourced from the British Geological Survey.*

# Geology 1:10,000 scale - Superficial

## 14.3 Superficial geology (10k)

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

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

*This data is sourced from the British Geological Survey.*

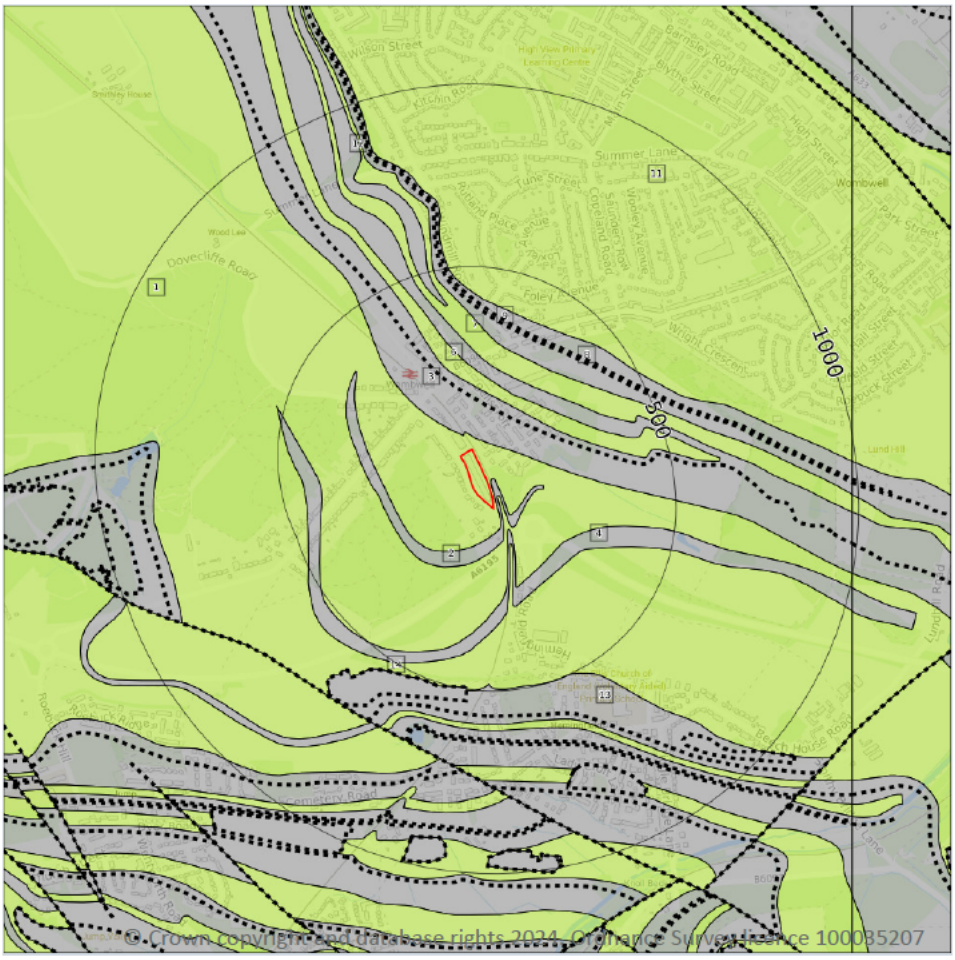
## 14.4 Landslip (10k)

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

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

*This data is sourced from the British Geological Survey.*

# Geology 1:10,000 scale - Bedrock




Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

## 14.5 Bedrock geology (10k)

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

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on page 73 >

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| **1** | **On site** | **WE-SDST** | **Woolley Edge Rock - Sandstone** | **Duckmantian Sub-age** |
| 2 | 6m SE | PMCM-MDSS | Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone | Bolsovian Sub-age - Duckmantian Sub-age |
| 3 | 32m N | PMCM-MDSS | Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone | Bolsovian Sub-age - Duckmantian Sub-age |

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| 4 | 72m SE | PMCM-MDSS | Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone | Bolsovian Sub-age - Duckmantian Sub-age |
| 6 | 156m N | PMCM-SDST | Pennine Middle Coal Measures Formation - Sandstone | Bolsovian Sub-age - Duckmantian Sub-age |
| 7 | 227m N | PMCM-SDST | Pennine Middle Coal Measures Formation - Sandstone | Bolsovian Sub-age - Duckmantian Sub-age |
| 8 | 288m N | PMCM-MDSS | Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone | Bolsovian Sub-age - Duckmantian Sub-age |
| 11 | 387m N | OR-SDST | Oaks Rock - Sandstone | Duckmantian Sub-age |
| 12 | 400m N | PMCM-MDSS | Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone | Bolsovian Sub-age - Duckmantian Sub-age |
| 13 | 482m S | PMCM-MDSS | Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone | Bolsovian Sub-age - Duckmantian Sub-age |

*This data is sourced from the British Geological Survey.*

## 14.6 Bedrock faults and other linear features (10k)

**Records within 500m** **4**

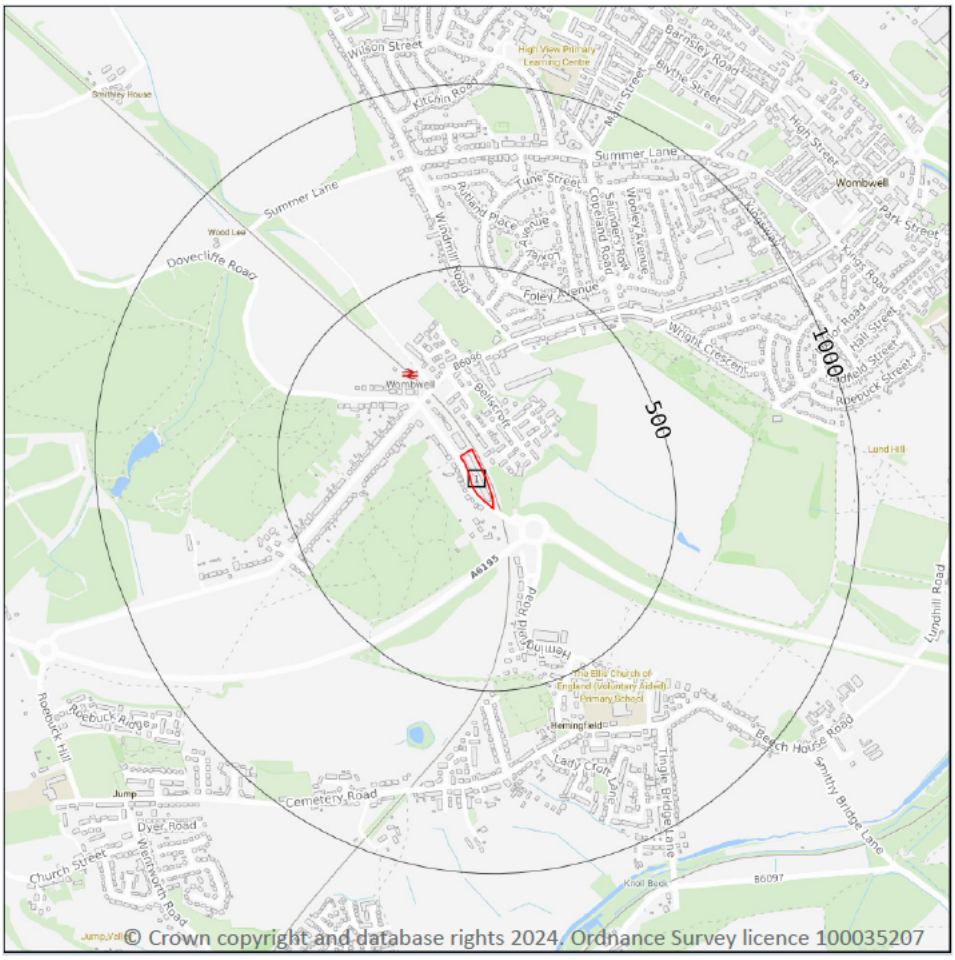
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on page 73 >

| ID | Location | Category | Description |
|---|---|---|---|
| 5 | 125m N | ROCK | Coal seam, inferred |
| 9 | 344m N | ROCK | Coal seam, inferred |
| 10 | 353m N | FOSSIL_HORIZON | Fossil horizon, marine band |
| 14 | 495m S | ROCK | Coal seam, observed coincident with both bedrock geology boundary and Artificial geology boundary |

*This data is sourced from the British Geological Survey.*

# 15 Geology 1:50,000 scale - Availability




Site Outline

Search buffers in metres (m)

Geological map tile

## 15.1 50k Availability

| Records within 500m | 1 |
|---|---|

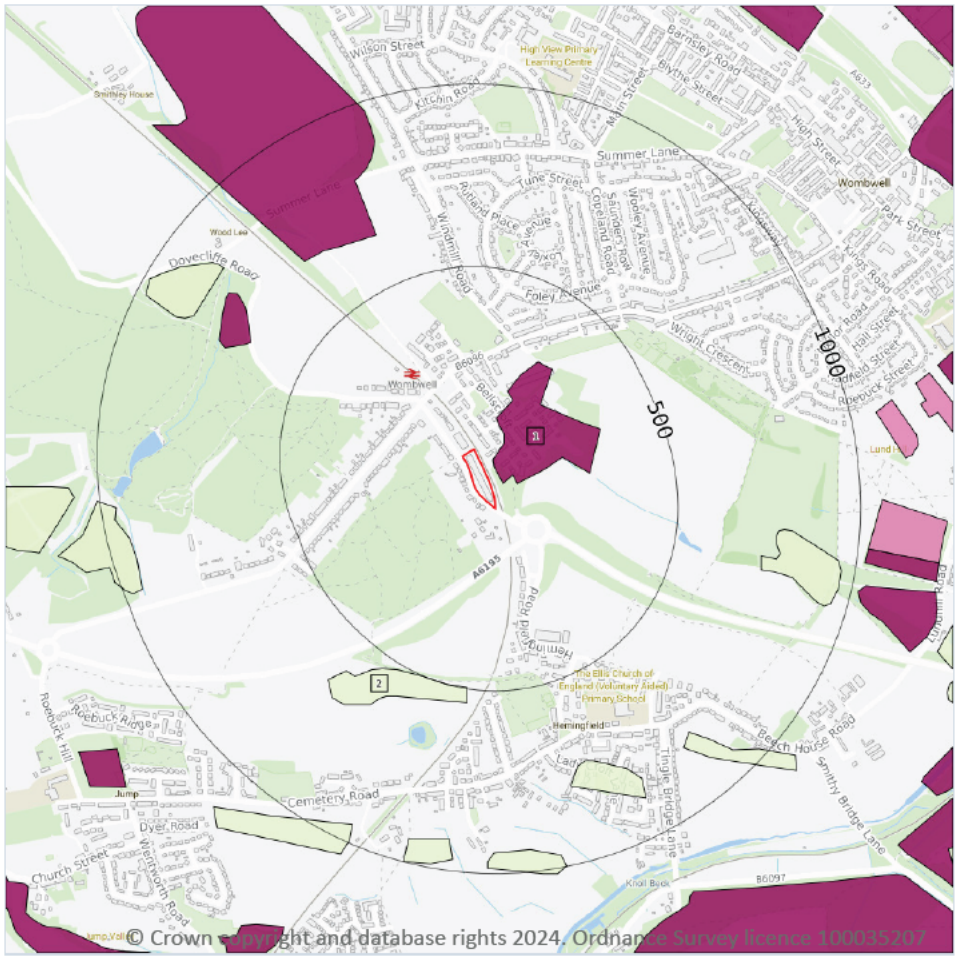
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on page 75 >

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|---|---|---|---|---|---|---|
| 1 | On site | No coverage | Full | Full | Full | EW087_barnsley_v4 |

*This data is sourced from the British Geological Survey.*

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




Site Outline

Search buffers in metres (m)

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

## 15.2 Artificial and made ground (50k)

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

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on page 76 >

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 1 | 29m NE | MGR-ARTDP | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |
| 2 | 496m S | WMGR-ARTDP | INFILLED GROUND | ARTIFICIAL DEPOSIT |

*This data is sourced from the British Geological Survey.*

## 15.3 Artificial ground permeability (50k)

| Records within 50m | 1 |
|---|---|

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

| Location | Flow type | Maximum permeability | Minimum permeability |
|---|---|---|---|
| 29m NE | Mixed | Very High | Low |

*This data is sourced from the British Geological Survey.*

# Geology 1:50,000 scale - Superficial

## 15.4 Superficial geology (50k)

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

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

*This data is sourced from the British Geological Survey.*

## 15.5 Superficial permeability (50k)

| Records within 50m | 0 |
|---|---|

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

*This data is sourced from the British Geological Survey.*

## 15.6 Landslip (50k)

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

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

*This data is sourced from the British Geological Survey.*

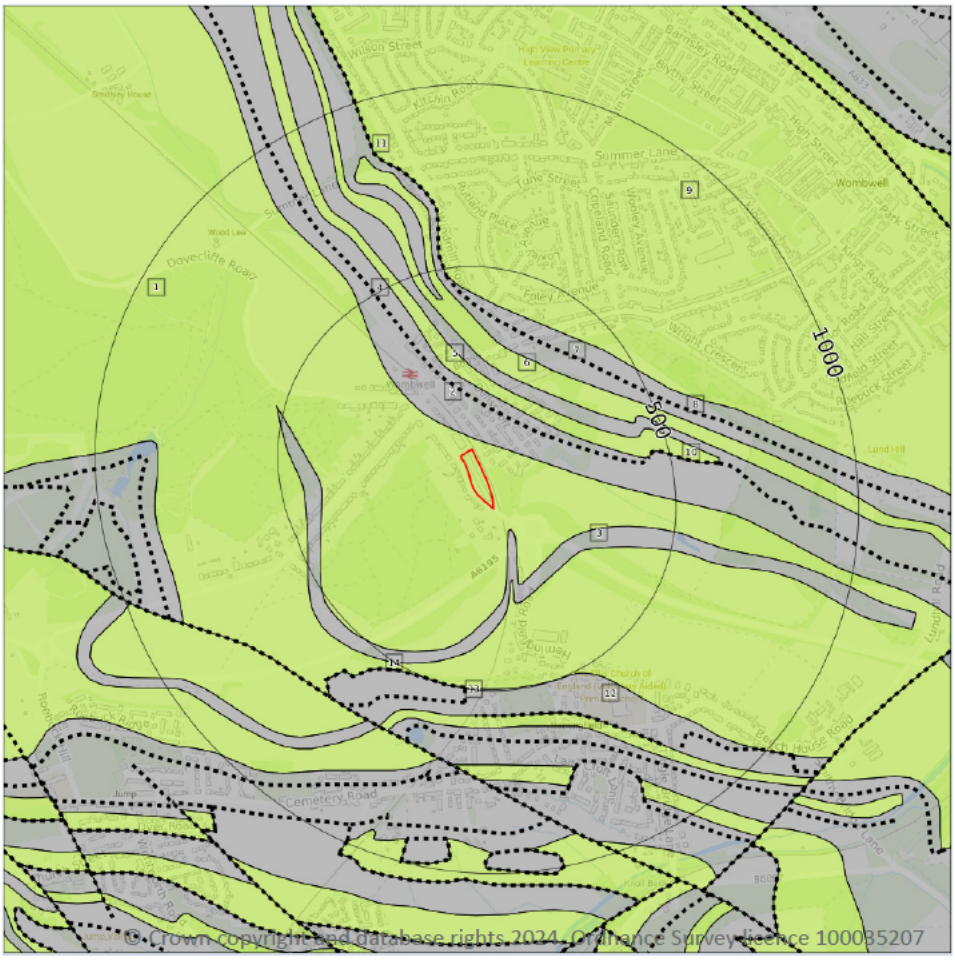
## 15.7 Landslip permeability (50k)

| Records within 50m | 0 |
|---|---|

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

*This data is sourced from the British Geological Survey.*

# Geology 1:50,000 scale - Bedrock




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Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

## 15.8 Bedrock geology (50k)

| Records within 500m | 8 |
|---|---|

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on page 79 >

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| **1** | **On site** | **WE-SDST** | **WOOLLEY EDGE ROCK - SANDSTONE** | **WESTPHALIAN** |
| 2 | 30m N | PMCM-MDSS | PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE | WESTPHALIAN |
| 3 | 74m SE | PMCM-MDSS | PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE | WESTPHALIAN |

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| 5 | 157m N | PMCM-SDST | PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE | WESTPHALIAN |
| 6 | 225m N | PMCM-SDST | PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE | WESTPHALIAN |
| 7 | 290m N | PMCM-MDSS | PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE | WESTPHALIAN |
| 9 | 390m N | OR-SDST | OAKS ROCK - SANDSTONE | WESTPHALIAN |
| 12 | 495m S | PMCM-MDSS | PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE | WESTPHALIAN |

*This data is sourced from the British Geological Survey.*

## 15.9 Bedrock permeability (50k)

| Records within 50m | 2 |
|---|---|

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

| Location | Flow type | Maximum permeability | Minimum permeability |
|---|---|---|---|
| **On site** | **Fracture** | **High** | **Moderate** |
| 30m N | Fracture | Moderate | Low |

*This data is sourced from the British Geological Survey.*

## 15.10 Bedrock faults and other linear features (50k)

| Records within 500m | 6 |
|---|---|

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on page 79 >

| ID | Location | Category | Description |
|---|---|---|---|
| 4 | 123m N | ROCK | Coal seam, inferred |
| 8 | 345m N | ROCK | Coal seam, inferred |
| 10 | 443m E | ROCK | Coal seam, inferred |

| ID | Location | Category | Description |
|---|---|---|---|
| 11 | 481m N | ROCK | Coal seam, inferred |
| 13 | 496m S | ROCK | Coal seam, inferred |
| 14 | 496m S | ROCK | Coal seam, inferred |

*This data is sourced from the British Geological Survey.*

# 16 Boreholes

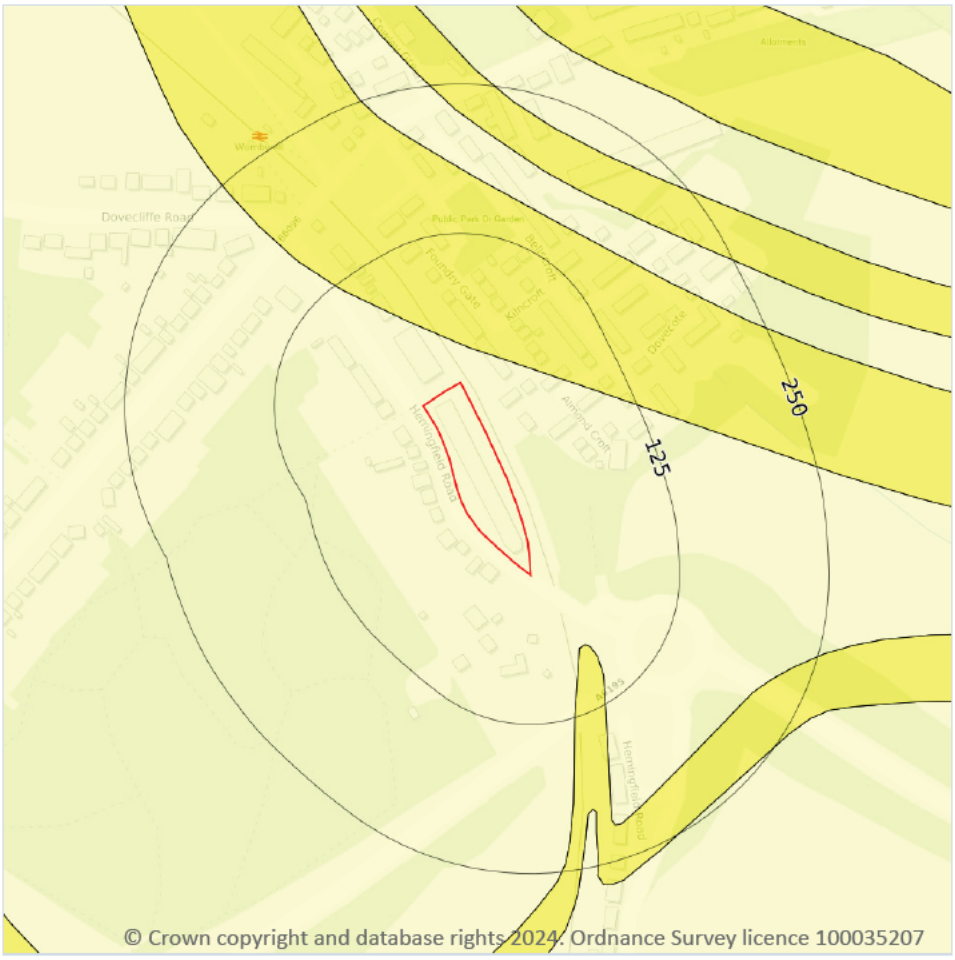
## 16.1 BGS Boreholes

| Records within 250m | 0 |
|---|---|

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

*This data is sourced from the British Geological Survey.*

# 17 Natural ground subsidence - Shrink swell clays




## 17.1 Shrink swell clays

| Records within 50m | 2 |
|---|---|

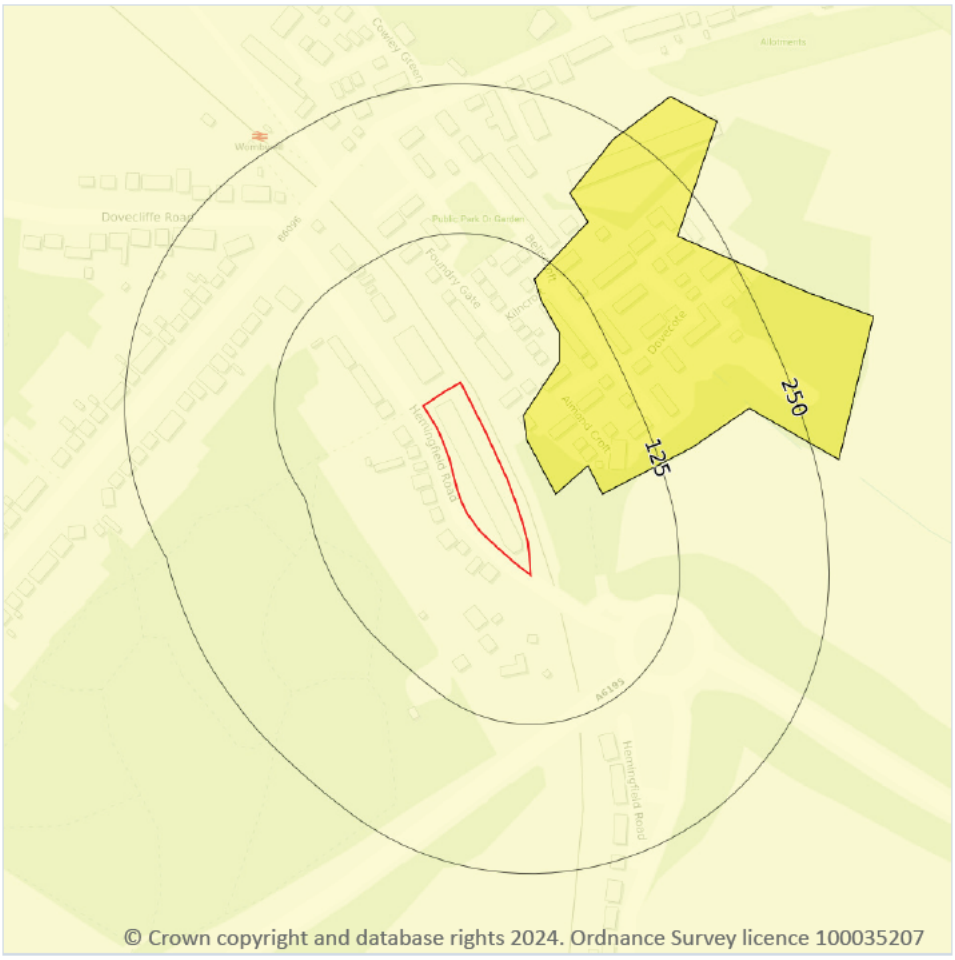
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on page 83 >

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Negligible** | **Ground conditions predominantly non-plastic.** |
| 30m N | Very low | Ground conditions predominantly low plasticity. |

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Running sands




Site Outline

Search buffers in metres (m)

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

## 17.2 Running sands

| Records within 50m | 2 |
|---|---|

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

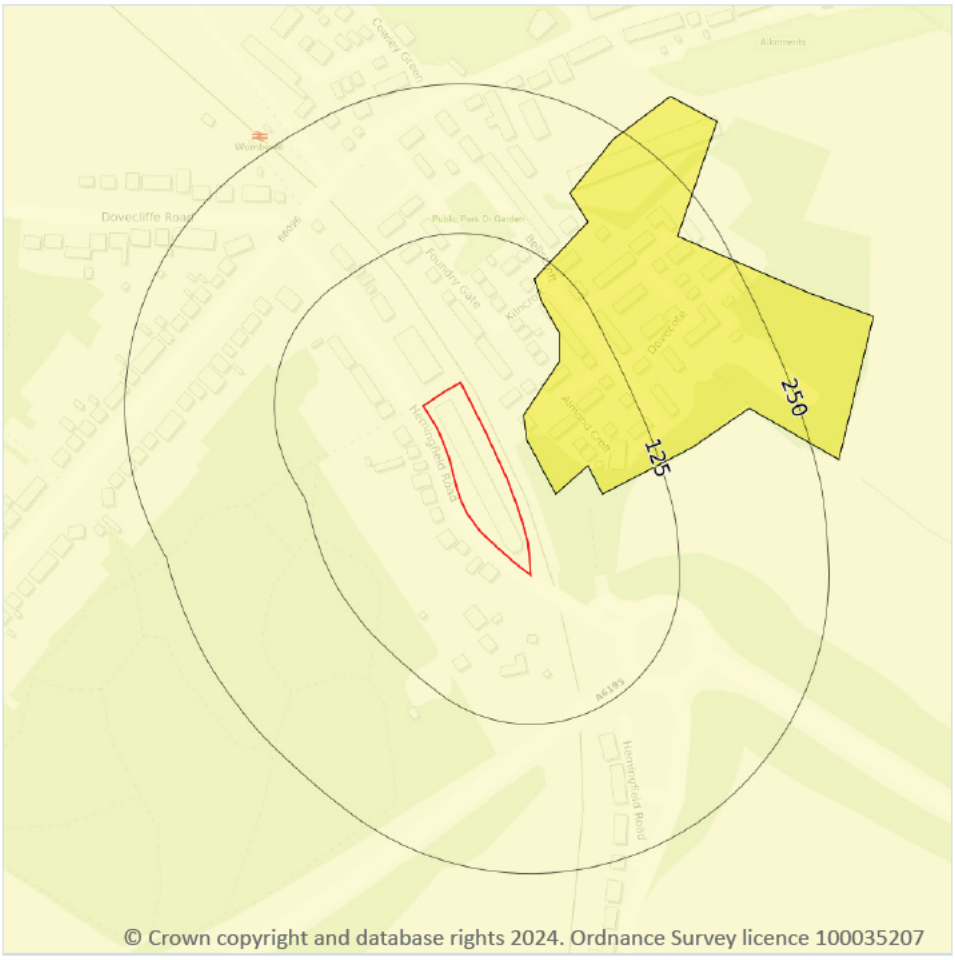
Features are displayed on the Natural ground subsidence - Running sands map on page 84 >

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

| Location | Hazard rating | Details |
|---|---|---|
| 29m NE | Very low | Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly. |

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Compressible deposits




Site Outline

Search buffers in metres (m)

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

## 17.3 Compressible deposits

| Records within 50m | 2 |
|---|---|

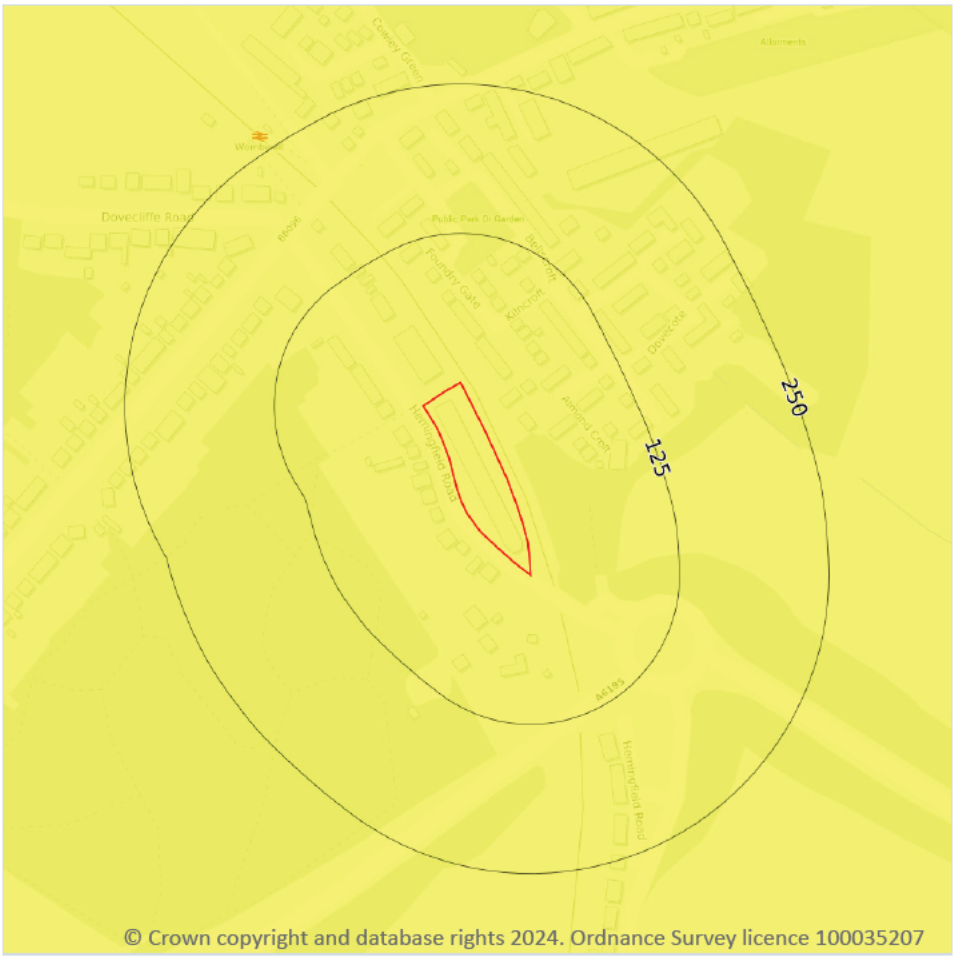
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on page 86 >

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Negligible** | **Compressible strata are not thought to occur.** |
| 29m NE | Very low | Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses. |

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Collapsible deposits




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Site Outline

Search buffers in metres (m)

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

## 17.4 Collapsible deposits

| Records within 50m | 1 |
|---|---|

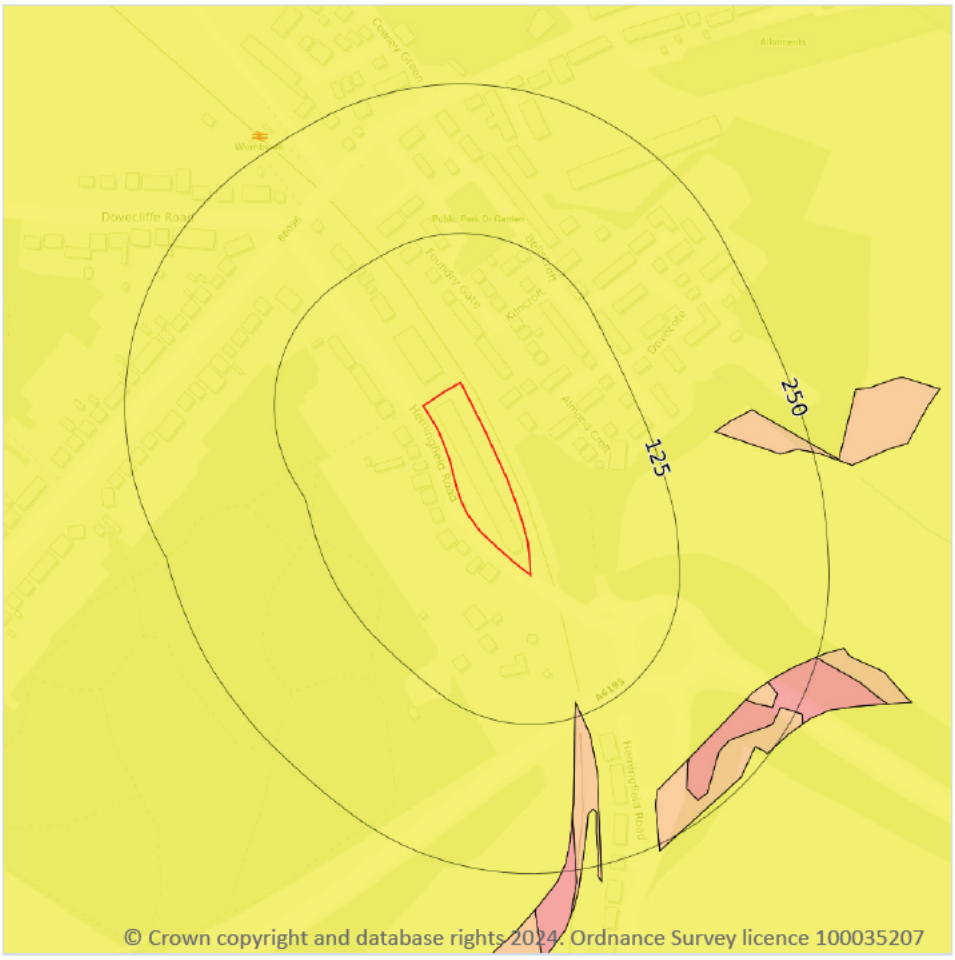
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on page 88 >

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

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Landslides




Site Outline

Search buffers in metres (m)

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

## 17.5 Landslides

| Records within 50m | 1 |
|---|---|

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

Features are displayed on the Natural ground subsidence - Landslides map on page 89 >

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

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Ground dissolution of soluble rocks




Site Outline

Search buffers in metres (m)

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

## 17.6 Ground dissolution of soluble rocks

| Records within 50m | 1 |
|---|---|

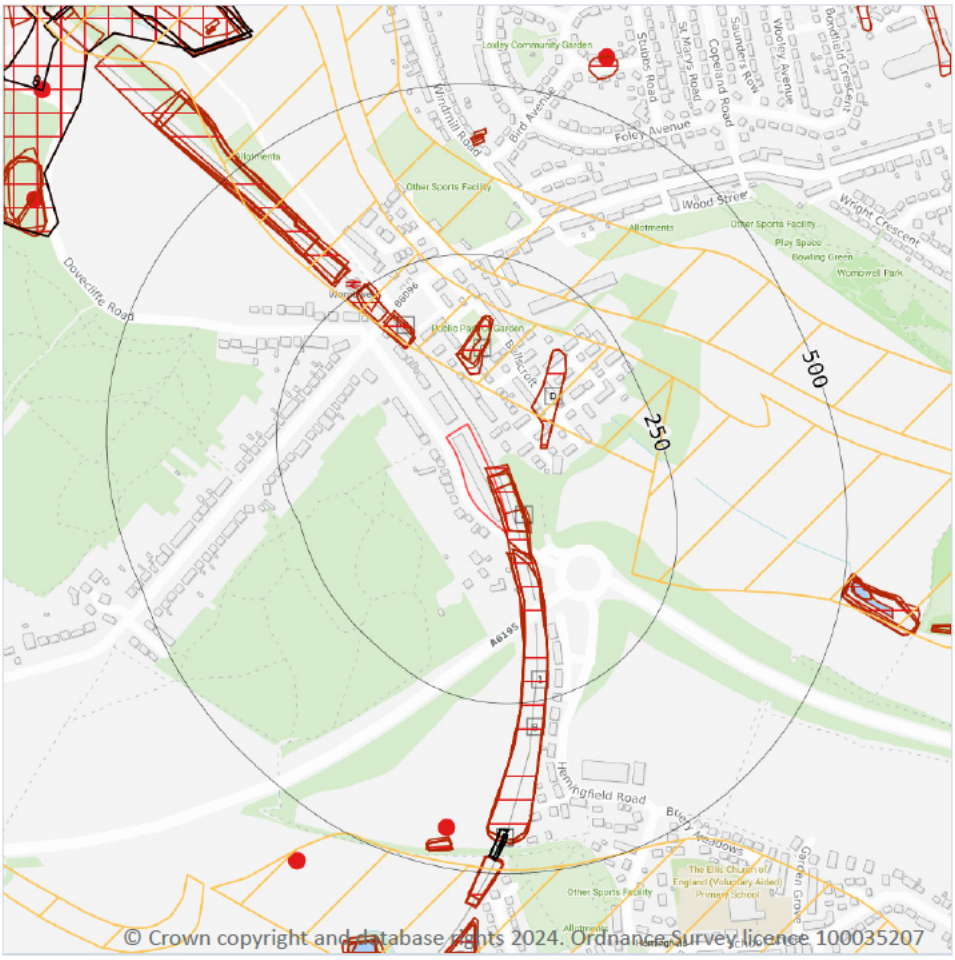
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on page 90 >

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

*This data is sourced from the British Geological Survey.*

# 18 Mining and ground workings




Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

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

## 18.1 BritPits

| Records within 500m | 1 |
|---|---|

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

Features are displayed on the Mining and ground workings map on page 92 >

| ID | Location | Details | Description |
|---|---|---|---|
| I | 441m S | Name: Hemingfield<br>Address: Hemingfield, Hoyland, BARNSLEY, South Yorkshire<br>Commodity: Sandstone<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site<br>Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |

*This data is sourced from the British Geological Survey.*

## 18.2 Surface ground workings

**Records within 250m** **27**

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

Features are displayed on the Mining and ground workings map on page 92 >

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| **1** | **On site** | **Cuttings** | **1938** | **1:10560** |
| **A** | **On site** | **Cuttings** | **1966** | **1:10560** |
| **A** | **On site** | **Cuttings** | **1977** | **1:10000** |
| **A** | **On site** | **Cuttings** | **1987** | **1:10000** |
| **A** | **On site** | **Cuttings** | **1948** | **1:10560** |
| **A** | **On site** | **Cuttings** | **1901** | **1:10560** |
| **A** | **On site** | **Cuttings** | **1951** | **1:10560** |
| B | 25m SE | Cuttings | 1966 | 1:10560 |
| B | 25m SE | Cuttings | 1977 | 1:10000 |
| B | 25m SE | Cuttings | 1987 | 1:10000 |
| B | 25m SE | Cuttings | 1951 | 1:10560 |
| B | 29m S | Cuttings | 1948 | 1:10560 |
| B | 29m S | Cuttings | 1901 | 1:10560 |
| C | 73m N | Refuse Heap | 1938 | 1:10560 |
| C | 73m N | Refuse Heap | 1938 | 1:10560 |
| D | 82m NE | Unspecified Ground Workings | 1966 | 1:10560 |

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| D | 82m NE | Unspecified Ground Workings | 1977 | 1:10000 |
| D | 82m NE | Unspecified Ground Workings | 1987 | 1:10000 |
| C | 82m N | Refuse Heap | 1948 | 1:10560 |
| C | 88m N | Refuse Heap | 1951 | 1:10560 |
| E | 142m NW | Cuttings | 1948 | 1:10560 |
| E | 142m NW | Cuttings | 1901 | 1:10560 |
| E | 142m NW | Cuttings | 1938 | 1:10560 |
| E | 145m NW | Cuttings | 1951 | 1:10560 |
| E | 197m NW | Cuttings | 1948 | 1:10560 |
| E | 197m NW | Cuttings | 1901 | 1:10560 |
| E | 216m NW | Cuttings | 1951 | 1:10560 |

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.3 Underground workings

| Records within 1000m | 13 |
|---|---|

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

Features are displayed on the Mining and ground workings map on page 92 >

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| H | 435m S | Tunnel | 1966 | 1:10560 |
| H | 435m S | Tunnel | 1977 | 1:10000 |
| H | 435m S | Tunnel | 1987 | 1:10000 |
| H | 435m S | Tunnel | 1951 | 1:10560 |
| H | 443m S | Tunnel | 1948 | 1:10560 |
| H | 443m S | Tunnel | 1901 | 1:10560 |
| 7 | 653m NW | Colliery | 1951 | 1:10560 |
| Q | 653m NW | Colliery | 1901 | 1:10560 |
| Q | 660m NW | Colliery | 1948 | 1:10560 |

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| - | 718m E | Old Coal Pit | 1901 | 1:10560 |
| O | 794m NW | Unspecified Old Shaft | 1948 | 1:10560 |
| O | 796m NW | Unspecified Old Shaft | 1951 | 1:10560 |
| 14 | 809m N | Unspecified Mine | 1966 | 1:10560 |

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.4 Underground mining extents

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

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

*This data is sourced from Groundsure.*

## 18.5 Historical Mineral Planning Areas

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

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

*This data is sourced from the British Geological Survey.*

## 18.6 Non-coal mining

| Records within 1000m | 10 |
|---|---|

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

Features are displayed on the Mining and ground workings map on page 92 >

| ID | Location | Name | Commodity | Class | Likelihood |
|---|---|---|---|---|---|
| 2 | 59m N | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 3 | 192m SE | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 5 | 491m S | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 9 | 681m SW | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 701m S | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 770m S | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 777m W | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 965m S | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 982m E | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |

| ID | Location | Name | Commodity | Class | Likelihood |
|---|---|---|---|---|---|
| - | 983m E | Not available | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |

*This data is sourced from the British Geological Survey.*

## 18.7 JPB mining areas

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

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

*This data is sourced from Johnson Poole and Bloomer.*

## 18.8 The Coal Authority non-coal mining

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

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

*This data is sourced from The Coal Authority.*

## 18.9 Researched mining

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

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

*This data is sourced from Groundsure.*

## 18.10 Mining record office plans

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

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

*This data is sourced from Groundsure.*

## 18.11 BGS mine plans

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

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

*This data is sourced from Groundsure.*

## 18.12 Coal mining

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

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

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

*This data is sourced from the Coal Authority.*

## 18.13 Brine areas

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

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

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

## 18.14 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

## 18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

## 18.16 Clay mining

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

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

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

# 19 Ground cavities and sinkholes

## 19.1 Natural cavities

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

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

*This data is sourced from Stantec UK Ltd.*

## 19.2 Mining cavities

| Records within 1000m | 0 |
|---|---|

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

*This data is sourced from Stantec UK Ltd.*

## 19.3 Reported recent incidents

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

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

*This data is sourced from Groundsure.*

## 19.4 Historical incidents

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

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

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

*This data is sourced from Groundsure.*

## 19.5 National karst database

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

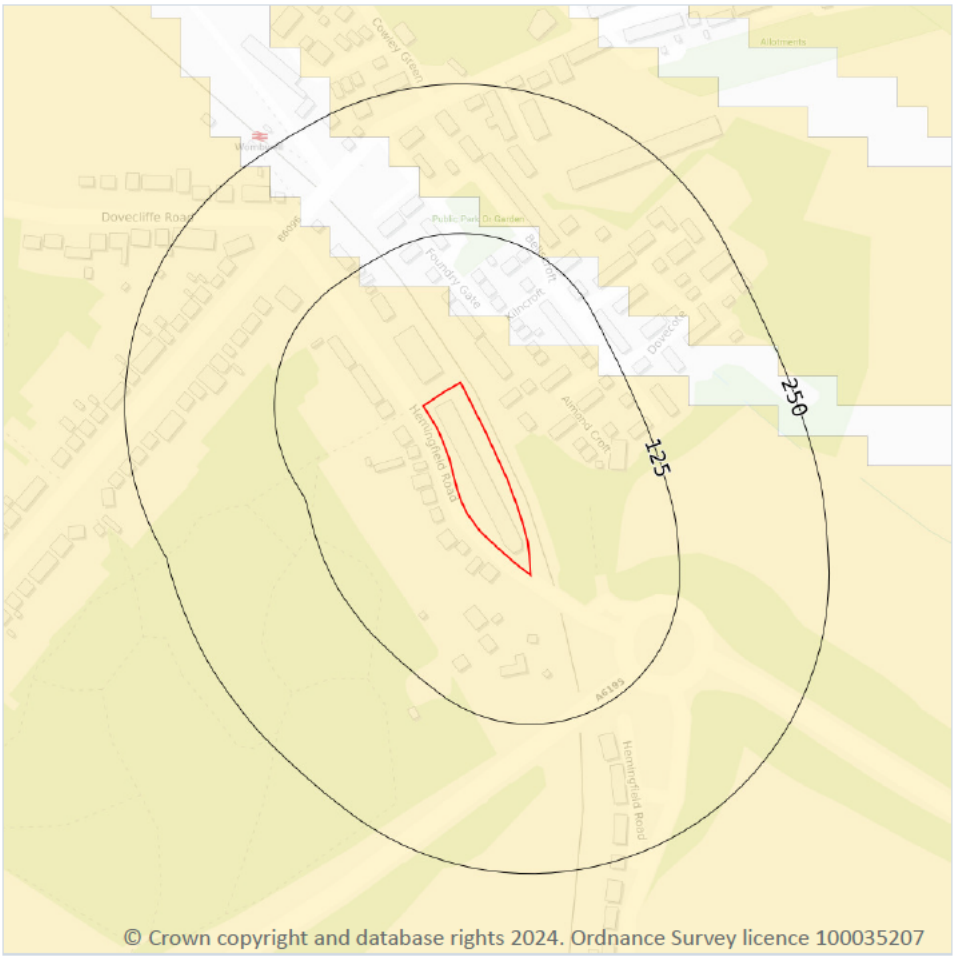
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

*This data is sourced from the British Geological Survey.*

# 20 Radon




Site Outline

Search buffers in metres (m)

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

## 20.1 Radon

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

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

Features are displayed on the Radon map on page 102 >

| Location | Estimated properties affected | Radon Protection Measures required |
|---|---|---|
| **On site** | **Between 1% and 3%** | **None** |

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

# 21 Soil chemistry

## 21.1 BGS Estimated Background Soil Chemistry

| Records within 50m | 2 |
|---|---|

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

| Location | Arsenic | Bioaccessible Arsenic | Lead | Bioaccessible Lead | Cadmium | Chromium | Nickel |
|---|---|---|---|---|---|---|---|
| On site | 15 - 25 mg/kg | No data | 100 mg/kg | 60 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 15 - 30 mg/kg |
| On site | 15 - 25 mg/kg | No data | 100 mg/kg | 60 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 15 - 30 mg/kg |

*This data is sourced from the British Geological Survey.*

## 21.2 BGS Estimated Urban Soil Chemistry

| Records within 50m | 0 |
|---|---|

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

*This data is sourced from the British Geological Survey.*

## 21.3 BGS Measured Urban Soil Chemistry

| Records within 50m | 0 |
|---|---|

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

*This data is sourced from the British Geological Survey.*

# 22 Railway infrastructure and projects




Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

## 22.1 Underground railways (London)

| Records within 250m | 0 |
|---|---|

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

*This data is sourced from publicly available information by Groundsure.*

## 22.2 Underground railways (Non-London)

| Records within 250m | 0 |
|---|---|

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

*This data is sourced from publicly available information by Groundsure.*

## 22.3 Railway tunnels

| Records within 250m | 0 |
|---|---|

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

## 22.4 Historical railway and tunnel features

| Records within 250m | 7 |
|---|---|

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

Features are displayed on the Railway infrastructure and projects map on page 105 >

| Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|
| **On site** | **Railway Sidings** | **1948** | **10560** |
| **On site** | **Railway Sidings** | **1901** | **10560** |
| **On site** | **Railway Sidings** | **1966** | **10560** |
| **On site** | **Railway Sidings** | **1951** | **10560** |
| **On site** | **Railway Sidings** | **1938** | **10560** |
| 9m N | Railway Sidings | 1961 | 2500 |
| 9m N | Railway Sidings | 1961 | 2500 |

*This data is sourced from Ordnance Survey/Groundsure.*

## 22.5 Royal Mail tunnels

| Records within 250m | 0 |
|---|---|

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

*This data is sourced from Groundsure/the Postal Museum.*

## 22.6 Historical railways

| Records within 250m | 0 |
|---|---|

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

*This data is sourced from OpenStreetMap.*

## 22.7 Railways

| Records within 250m | 12 |
|---|---|

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

Features are displayed on the Railway infrastructure and projects map on page 105 >

| Location | Name | Type |
|---|---|---|
| 4m N | Hallam Line | rail |
| 6m N | Not given | Multi Track |
| 7m N | Not given | Multi Track |
| 8m N | Hallam Line | rail |
| 41m SE | Not given | Multi Track |
| 99m N | Not given | Multi Track |
| 101m N | Not given | Multi Track |
| 105m NW | Not given | Multi Track |
| 133m NW | Not given | Multi Track |
| 138m S | Not given | Multi Track |
| 201m S | Not given | Multi Track |
| 203m NW | Not given | Multi Track |

*This data is sourced from Ordnance Survey and OpenStreetMap.*

## 22.8 Crossrail 1

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

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

*This data is sourced from publicly available information by Groundsure.*

## 22.9 Crossrail 2

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

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

*This data is sourced from publicly available information by Groundsure.*

## 22.10 HS2

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

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

*This data is sourced from HS2 ltd.*

## Data providers

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

## Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.

# Appendix 4

## Photographs



Photo 1: Image shows front area of the site.



Photo 2: Image shows another area to the front of the site.

RGS Environmental Geotechnical Specialists

Site Name:

**Wembley Works**

Job No:

**C3922**

t. 0843 50 666 87
www.rogersgeotech.co.uk



Photo 3: Image shows overgrown rear area of the site.



Photo 4: Image shows abandoned oil drums to rear of site.

# Appendix 5

## Coal Authority Report

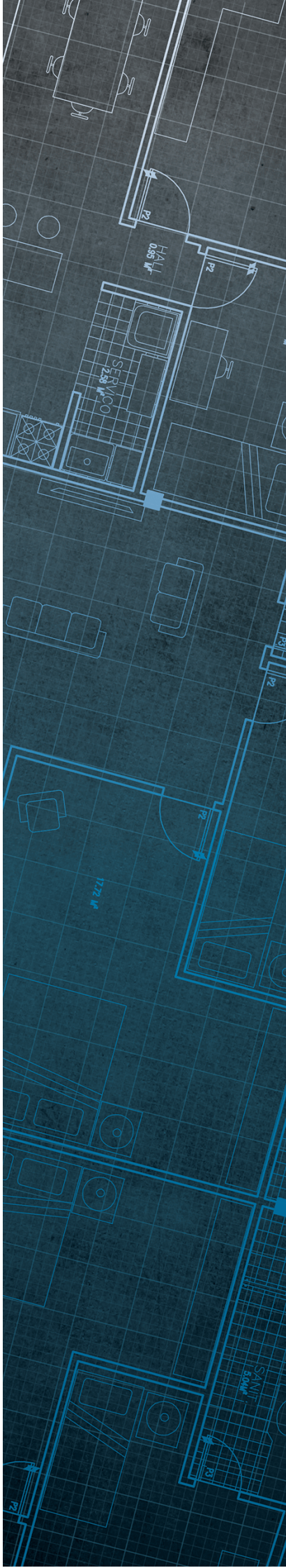
The Coal Authority

# Consultants

## Coal Mining Report

Wembley Works
Hemingfield Road
Hemingfield
Barnsley
Barnsley
S73 0LY

| | |
|---|---|
| Date of enquiry: | **13 March 2024** |
| Date enquiry received: | **13 March 2024** |
| Issue date: | **13 March 2024** |
| Our reference: | **51003411375001** |
| Your reference: | **C/3922/23/E/5949** |



# Consultants
# Coal Mining Report

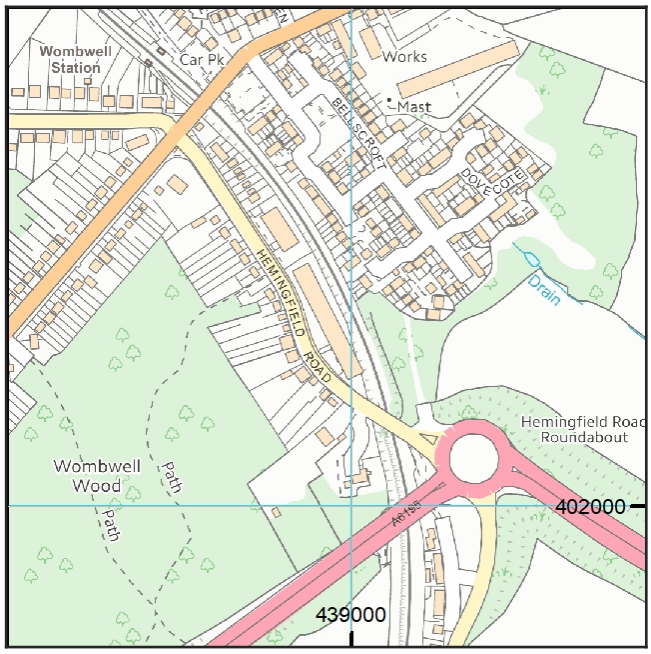
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

**Client name**

ROGERS GEOTECHNICAL SERVICES LTD

**Enquiry address**

Wembley Works
Hemingfield Road
Hemingfield
Barnsley
Barnsley
S73 0LY




Approximate position of property

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# Section 1 – Mining activity and geology

## Past underground mining

| Colliery | Seam | Mineral | Coal Authority reference | Depth (m) | Direction to working | Dipping rate of seam worked (degrees) | Dipped direction of seam worked | Extraction thickness (cm) | Year last mined |
|---|---|---|---|---|---|---|---|---|---|
| WOMBWELL | BEAMSHAW LOW | Coal | 5NRX | 90 | Beneath Property | 4.7 | North-East | 89 | 1931 |
| WOMBWELL MAIN | TOP HARD BARNSLEY | Coal | 4P5V | 182 | South | 4.4 | North-East | 249 | 1871 |
| unnamed | TOP HARD BARNSLEY | Coal | 5NRT | 188 | Beneath Property | 4.7 | North-East | 249 | 1888 |
| CORTONWOOD | SWALLOW WOOD | Coal | 4P5X | 239 | South | 4.3 | North-East | 95 | 1979 |
| CORTONWOOD | SWALLOW WOOD | Coal | 5QL6 | 245 | Beneath Property | 4.1 | North-East | 92 | 1979 |
| unnamed | LIDGETT | Coal | 5NRZ | 287 | South-West | 4.6 | North-East | 130 | 1960 |
| WOMBWELL MAIN | LIDGETT | Coal | 4P60 | 288 | South | 4.4 | North-East | 124 | 1961 |
| WOMBWELL MAIN | FENTON | Coal | 4P61 | 402 | South | 5.0 | North-East | 120 | 1932 |
| unnamed | TOP FENTON | Coal | 5NS2 | 412 | Beneath Property | 4.6 | North-East | 109 | 1953 |
| ELSECAR | PARKGATE | Coal | 4PB4 | 422 | South | 4.6 | North-East | 127 | 1906 |
| unnamed | PARKGATE | Coal | 5NS1 | 434 | Beneath Property | 4.8 | North-East | 117 | 1915 |
| WOMBWELL MAIN | THORNCLIFFE | Coal | 4P63 | 445 | South | 4.8 | North-East | 72 | 1952 |
| unnamed | THORNCLIFFE | Coal | 5NS3 | 458 | Beneath Property | 4.7 | North-East | 85 | 1952 |
| CORTENWOOD | SILKSTONE | Coal | 4PAP | 517 | South | 4.5 | North-East | 117 | 1964 |
| CORTONWOOD | SILKSTONE | Coal | X30 | 519 | Beneath Property | 4.9 | North-East | 90 | 1980 |
| CORTONWOOD | SILKSTONE | Coal | 5QE7 | 522 | South-East | 4.9 | North-East | 90 | 1964 |
| CORTONWOOD | SILKSTONE | Coal | 5QD7 | 523 | Beneath Property | 4.7 | North-East | 95 | 1979 |

## Probable unrecorded shallow workings

None.

## Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

## Mine entries

None recorded within 100 metres of the enquiry boundary.

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### Abandoned mine plan catalogue numbers

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

| | | |
|---|---|---|
| NE279 | NE554 | 5133 |
| FGB865 | NE934 | NE965 |
| NE841 | PO0 | 3211 |

Our records show we have more plans than those shown above which could affect the enquiry boundary.

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

### Outcrops

No outcrops recorded.

### Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

### Opencast mines

Please refer to the “Summary of findings” map (on separate sheet) for details of any opencast areas within 500 metres of the enquiry boundary.

### Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

# Section 2 – Investigative or remedial activity

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

### Site investigations
None recorded within 50 metres of the enquiry boundary.

### Remediated sites
None recorded within 50 metres of the enquiry boundary.

### Coal mining subsidence
There are 1 claim(s) within 50 metres of the property boundary that do not match the property address.  These are shown on the enquiry boundary plot.

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.

If further subsidence damage claims information is required, please visit www.groundstability.com.

See Section 4 for further information.

### Mine gas
None recorded within 500 metres of the enquiry boundary.

### Mine water treatment schemes
None recorded within 500 metres of the enquiry boundary.

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# Section 3 – Licensing and future mining activity

### Future underground mining
None recorded.

### Coal mining licensing
None recorded within 200 metres of the enquiry boundary.

### Court orders
None recorded.

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

### Withdrawal of support notices
The property is in an area where a notice to withdraw support was given in 1983.

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

### Payments to owners of former copyhold land
The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

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# Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

### Future development

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 specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

**MINE GAS:** Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

### Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

### Coal mining subsidence

The site is within an area of previous interest. It is close to where the Coal Authority or licensed mine operator has investigated and where necessary remediated issues relating to coal mining subsidence.

The site requires further investigation and may influence your risk assessment. We recommend that you order the appropriate **Coal Authority Subsidence Claims Report**, which will include more information about the hazard.

**For further information on specific site or ground investigations in relation to any issues raised in Section 4, please call us on 0345 762 6848 or email us at groundstability@coal.gov.uk.**

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# Section 5 – Data definitions

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

### Past underground coal mining

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

### Probable unrecorded shallow workings

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

### Spine roadways at shallow depth

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

### Mine entries

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

### Abandoned mine plan catalogue numbers

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

### Outcrops

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

### Geological faults, fissures and breaklines

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

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

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

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

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

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

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

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

### Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

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

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

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

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

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

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

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

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

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

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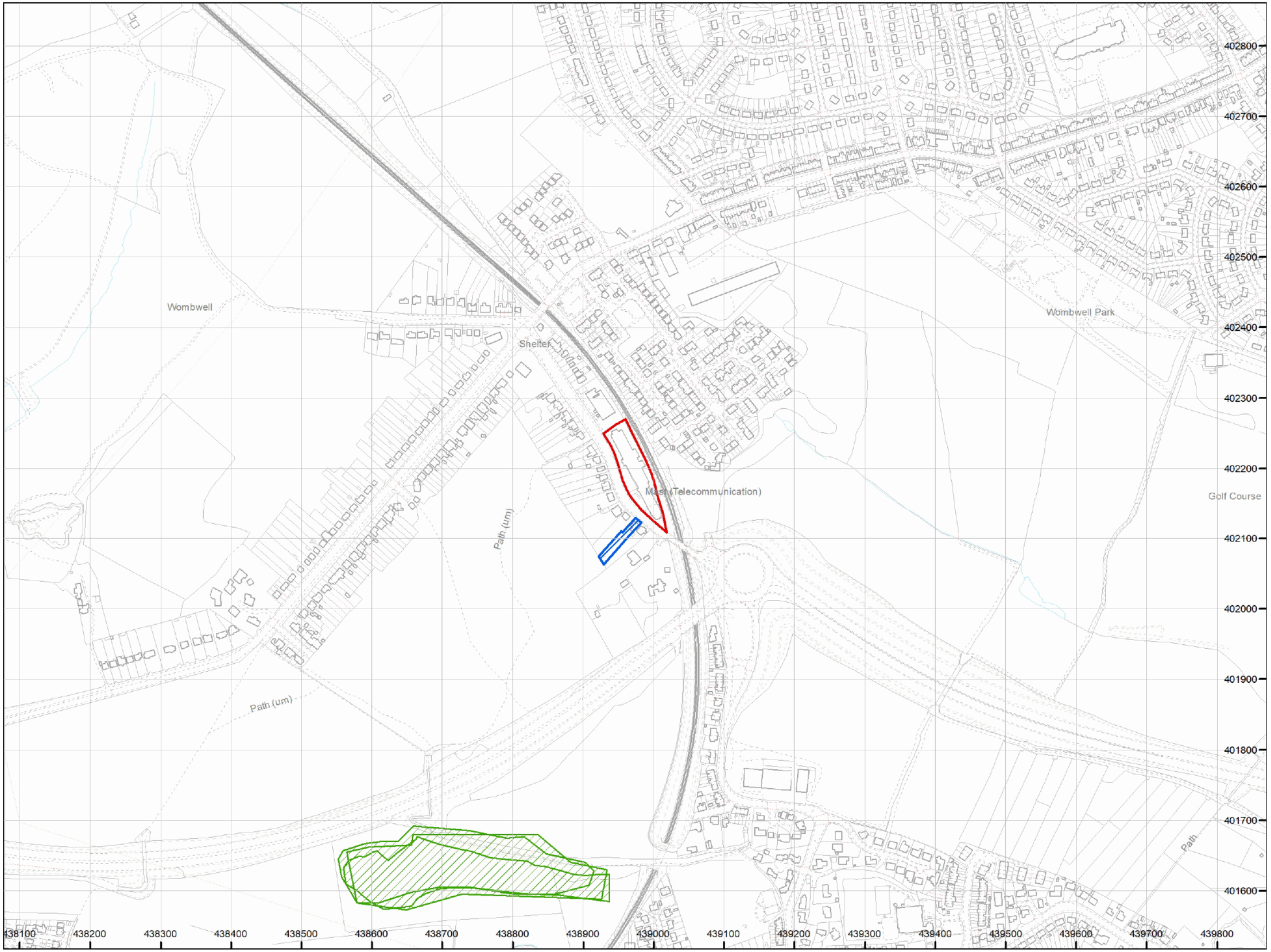
# Summary of findings

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

## Key

- Approximate position of the enquiry boundary shown
- Unlicensed opencast site
- Coal claim




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