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PHASE 1 ENVIRONMENTAL DESK STUDY & COAL MINING RISK ASSESSMENT REPORT

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Rogers Geotechnical Services Ltd
Offices 1 & 2 Barncliffe Business Park, Near Bank, Shelley, Huddersfield, HD8 8LU
☎ 01484 604354 Company No. 5130864

Contents

		Page
1.	Introduction	1
2.	Review and Summary of Published Data	2
2.1	Historical Land Use	3
2.2	Published Geology and Geological Hazards	3
2.3	Construction Issues	4
2.3.1	Foundation Construction	4
2.3.2	Site Won Materials	5
2.3.3	Disposal of Site Materials	5
2.4	Coal Mining	5
2.5	Waste Management and Gas Monitoring	6
2.6	Hydrogeology, Hydrology	7
2.7	Sensitive Land Use	7
2.8	Industrial Land Use and Potential Sources of Contamination	7
3.	Preliminary Qualitative Risk Assessment	8
3.1	Conceptual Ground Model & Preliminary Qualitative Risk Assessment	9
4.	Coal Mining Risk Assessment	13
4.1	Geological Appraisal	13
4.2	Risk Assessment	13
4.3	Shallow Mine Workings	14
4.4 4.2.4	Coal Workings at Depth	15
4.5 4.2.4	Mine Gas	15
4.6 4.2.5	Mine Shafts	15
5.	Intrusive Investigation	15
5.1	Site Investigation Philosophy	15
5.2	Site Specific Investigation	16
5.2.1	Contamination Assessment	16
5.2.2	Geotechnical Assessment	18
5.2.3	Reporting	18
6.	References	19

Appendices

1.	Site Plans
2.	Groundsure Reports
3.	Historical Maps
4.	Consultants Coal Mining Report



Report on a Phase One Desk Study and Coal Mining Risk Assessment

Location:	The Priory Whitechapel Road, Cleckheaton, West Yorkshire, BD19 6HR	
For:	Highstone Building Services	
Report No.	C4800/24/E/7330	Report date: January 2025

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

Scott Alexander BSc FGS
Senior Geo-environmental Engineer

Rob Palmer MSc FGS ACIEH
Engineering Director

1. Introduction

The site is currently occupied by a pub, named The Priory, with surrounding hardstanding for parking and local soft landscaping. The site is approximately 0.19 hectares in size and its National Grid reference is centred around 417887, 425868.

The development proposals currently comprise the demolition of the existing pub building and replacement with a series of residential apartments with external soft landscaping and car parking. 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 9th December 2024 and the following observations were made:

General site description/current site use

The site comprises a plot of land currently occupied by a pub with external hardstanding for parking and local soft landscaping.

Site boundaries/access

The site is accessed via a private drive off Whitechapel Road from the south of the site. The site is surrounded by a low stone wall and trees.

Topography

The site is of relatively level topography.

Surface cover of site

The site is predominantly covered with hardstanding with soft landscaping in the north-east corner.

Visible evidence of contamination/ contaminative sources

None present.

Presence of vegetation and wildlife

The site is surrounded by very tall mature trees of deciduous nature to the west, south and east. No wildlife was observed during the walkover. A small soft landscaped area of overgrown grass is present in the north-east corner. All vegetation appears to be in good condition.

Services

The status of underground services is unknown. Numerous manhole covers were observed on the site, thought to service the pub. An overhead power cable serving the pub was observed.

Site neighbours

The site is bounded to the north by residential housing under construction, and to the west by residential housing. To the east and south White Chapel Church with graveyard is present with a significant number of mature deciduous trees.

In order to ensure that the site is fully characterised and to comply with the Environment Act 1995¹, a Phase One Desk Study and Coal Mining Risk Assessment has been commissioned by Highstone Building Services. 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 Plans | - Appendix 1 |
| • Groundsure Reports | - Appendix 2 |
| • Historical maps | - Appendix 3 |
| • Consultants Mining Report | - Appendix 4 |

The data obtained from the above-mentioned sources has been summarised below².

¹S57 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 Use³

HISTORICAL MAPPING SUMMARY		
Map Dates	On site	Within 250m
1854-1958	Site Comprises an L-shaped structure labelled as "Brown Cow" Public House. A small Structure is present to the north-west corner of the site and second smaller structures were constructed on the east of the site up to 1956.	Site located in predominantly agricultural land. "White Chapel" Church with Graveyard located directly adjacent to south and east of site. Houses with gardens present 200m west of site. Small residential houses present along Whitechapel Road up to 150m east of site.
1964-1969	No significant changes on site	Residential housing expanded from east to within 25m south of site.
1971-2024	Small buildings to east demolished. Site remains as shown to present day.	M62 motorway constructed 75m north-west of site. School 100m north-east. Surrounding area remains generally as shown to present day.

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
Superficial Geology	None	-	-
Solid Geology	Pennine Lower Coal Measures Formation	-	Interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part.
GEOLOGICAL FEATURES			
Type	Location	Features	Comments
Mining Activity	On site	Coal mining	The study site is located within the specified search distance of an identified mining area. The Groundsure report highlights that a coal seam is shown to outcrop across the southern portion of the site. This is named as the Trub Coal.
Faults	29m S	Fault (inferred)	Not anticipated to affect the proposed development
Landslip Deposits	No data	No data	Not indicated to present on site or within the surrounding area.
BGS BOREHOLE DATA			
Reference ⁶	Location	Strata Description	Depth
SE12NE1048-63	155 to 250m NE	Topsoil	0.30 to 0.40m
		Soft to firm brown grey clay	1.6 to 2.50m
		Grey mudstone	3.05 to 5.49m

³ See Appendix 3

⁴ Sources: British Geological Survey (NERC) Map Sheets 77; Huddersfield; Solid and Drift Edition, and GeoIndex Onshore 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]

⁶ British Geological Survey (NERC) Geoindex Onshore Viewer [online resource from www.bgs.ac.uk]

SE12NE1703	234m W	SAND and SOIL	0.40m
		MADE GROUND (CLAY FILL)	2.00m
		MADE GROUND (CLAY)	4.00m
		SANDSTONE	6.66m
		MUDSTONE	7.97m
		COAL	8.13m (0.16m thickness)
		MUDSTONE	11.50m
SE12NE1720-1721	155-173m W	TOPSOIL	0.20-0.30m
		SILTSTONE	1.10-1.50m
SE12NE426	206m N	Drift - Open Hole	2.43m
		SANDSTONE	4.71m
		SILTSTONE	6.55m
		MUDSTONE with plant rootlets	7.77m
		SILTSTONE	21.52m
		MUDSTONE	22.10m
		COAL	22.40m (0.30m thickness)
		SEATEARTH	22.55m
		SILTSTONE	22.86m
NATURAL GROUND SUBSIDENCE & HAZARDS⁷			
Type		Risk Rating	
Potential for shrinking or swelling clay ground stability		Very Low.	
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		Low.	
Potential for ground dissolution stability		Negligible.	
Radon		The property is in a low probability radon area (Where between 1% and 3% of homes are estimated to be at or above the Action Level). No radon protective measures are necessary.	

2.3 Construction Issues

2.3.1 Foundation Construction

On the basis of the prevailing geology, and assuming areas of significantly filled ground are limited, it is anticipated that a shallow strip/spread foundations may be suitable. It should be appreciated that

⁷ See Groundsure report

an intrusive investigation will be required to validate this opinion. Should significant thicknesses of fill be present, then a deeper foundation solution may be required i.e. piles.

Given the sites use as a pub there may exist cellars beneath the property which have not yet been discovered, which should be accounted for during construction works. If these cellars are backfilled with say demolition material, the material should be classified as suitable and also installed in an engineered manner.

2.3.2 Site Won Materials

It is possible that shallow deposits are likely to comprise of made ground of which some may be suitable for use as bulk fill to roads or pavements subject to suitable screening and testing.

Where natural soils are encountered it is likely this will comprise of residual soils of sandstone and mudstone. This material is likely to be relatively difficult to re-engineer as a construction material. However, 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.

Where sandstone bedrock is encountered this is likely to be difficult to excavate through standard excavation techniques.

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. Coal Mining

The Groundsure Report states that the site is within an area that may be affected by coal mining. A Coal Authority 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	Black Bed Coal Seam, depth 106m worked seam thickness 0.90m. Last worked 1911.
2	Probable Unrecorded Shallow Workings	No	None
3	Spine Roadways at Shallow Depth	No	No spine roadway recorded at shallow depth.
4	Mine Entries	Yes	One Adit located approx. 100m south-west of site.
5	Abandoned mine plans	Yes	Plans of abandoned mine workings below the site are suggested to be available by the Coal Authority.
6	Outcrops	Yes	Trub Coal Seam. On site.

7	Geological Faults	No	No faults, fissures or breaklines recorded.
8	Opencast Mines	No	None recorded within 500 metres of the enquiry boundary.
9	Coal Authority Managed Tips	No	None recorded within 500 metres of the enquiry boundary.
10	Site Investigations	Yes	Records of a historical site investigation are present on land adjacent to the north of the site.
11	Remediated Sites	No	None recorded within 50 metres of the enquiry boundary.
12	Coal Mining Subsidence	No	The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31st October 1994. There is no current Stop Notice delaying the start of remedial works or repairs to the property. The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.
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	For further information please see section 3 of the Consultant's Coal Mining Report (ref 51003466556001).
16	Coal mining licensing	No	
17	Court orders	No	
18	Section 46 notices	No	
19	Withdrawal of support notices	No	
20	Payments to owners of former copyhold land	No	

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	-	None recorded within 250m	-
Historic Landfill	-	None recorded within 250m	-
Historic waste sites	-	None recorded within 250m	-
Licensed waste sites	-	None recorded within 250m	-
Waste Exceptions	-	None recorded within 250m	-
MADE GROUND & INFILLED GROUNDWORKINGS			
Description	Location	Comments	Monitoring Requirement
-	-	None Recorded within 250m	-

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 ¹⁰	-	None recorded within 250m.
Abstraction Licences	-	None recorded within 250m.
Discharge Consents	-	None recorded within 250m.
Records of Part A(2) and Part B Activities and Enforcements	-	None recorded within 250m.
CONTROLLED WATERS ¹⁰		
Description	Location	Details
River Network Entries	-	None recorded within 250m.
Surface Water Features	-	None recorded within 250m.

2.7 Sensitive Land Use

Table 6: Sensitive Land Uses within 250m

REGISTERED SENSITIVE LAND USES ¹¹		
Description	Location	Details
Green Belt	74m S	South and West Yorkshire Green Belt

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.¹² 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.

⁸ See Appendix 2

⁹ See Appendix 2

¹⁰ See Appendix 2

¹³ See Appendix 2

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

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	Associated with former buildings on site. Possible cellars.
CURRENT		
Graveyard	Directly adjacent to south and east	Graveyard. Possible source of ground gases.

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.'**

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.¹³

¹⁷This 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.

3.1 Conceptual Ground Model & Preliminary Qualitative Risk Assessment

It is understood that the development proposals currently comprise the construction of new apartment buildings with external soft landscaping. In view of the sensitivity of the end users it is considered that the soil screening values (SSVs) for a residential without 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. |

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 – there is a potential for made ground to be present on site from current and historical construction. Contact with soil likely.	Moderate	There is a potential for made ground related to the existing pub building on site. Cellars may exist underneath the existing pub building. Further testing required to reach a firm conclusion.
	End User		Moderate	
	Neighbours	Yes – Residential houses to west and north of site. Church to south and east.	Low	
Inhalation of Dust/Vapours	Operative	Yes – there is a potential for made ground to be present on site from current and historical construction. Contact with soil likely. Dust may be generated from construction activity. Vapours may accumulate in enclosed spaces.	Moderate	There is a potential for made ground related to the existing pub building on site. Cellars may exist underneath the existing pub building. Construction activities may create dust on and off site, which, if contaminated, could adversely affect operatives, end users and neighbours. In the event that harmful vapours are present they may accumulate in enclosed spaces, affecting operatives, end users and neighbours Further testing required to reach a firm conclusion.
	End User	Yes – there is a potential for made ground. Contact with soil likely. Dust may be generated from construction activity. Vapours may accumulate in enclosed spaces.	Moderate	
	Neighbours	Yes – neighbouring properties present and possible inhalation of dust during the works.	Low	
Ingestion of fruit/vegetables and/or waters	Operative	No – none identified during the time of the walkover.	N/A	There is a potential for made ground related to the existing pub building on site. Cellars may exist underneath the existing pub building. Any made ground found on site may also be a potential source of contamination
	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	Further testing required to reach a firm conclusion.
Migration of hazardous gases via permeable strata	Operative	Yes – made ground may be present on site. Graveyard adjacent to site may be a source of methane.	Moderate	A programme of monitoring is recommended but is suggested to be limited to four readings over one month in the first instance.
	End User		Moderate	
	Neighbours	Yes – potential source on site, but no adjoining structures. Residential neighbours to north and west, unlikely to be significantly affected.	Low	
Spillage/loss/run off direct to receiving water	Controlled Waters	No – receiving waters are not present within 250m.	N/A	No receiving waters within 250m and a Secondary A aquifer underlies the site. Further testing required to reach a firm conclusion.
Migration via permeable unsaturated strata	Controlled Waters	Yes – there is a Secondary A aquifer beneath the site. Granular made ground may be present on site. No superficial deposits noted, possible direct pathway to underlying aquifer.	Moderate	
Run off via drainage/sewers etc	Controlled Waters	Yes – granular made ground may be present on site. Existing services present on site.	Moderate	
Direct contact with contaminated soils	Plants	Yes – soft landscaping areas are present as part of the proposed development.	Moderate	Further testing required to reach a firm conclusion.
Uptake via root system			Moderate	
Direct contact with contaminated soils	Building Materials	Yes – there is a potential for made ground to be present.	Moderate	Further testing required to reach a firm conclusion.
Direct contact with contaminated groundwater				

Migration of mine gas via permeable strata	Operative	Yes – in an area affected by underground coal mining activity. No direct pathways to surface of site.	Low	A programme of monitoring is recommended but is suggested to be limited to four readings over one month in the first instance. .
	End User			
Exposure to Radon	Operative	No – not in a radon affected area.	N/A	The property is in a low probability radon area (between 1% and 3% of homes are estimated to be at or above the Action Level). BR211 states that no radon protective measures are necessary.
	End User			
Mining Instability	End User	Yes – One coal seam is recorded on the site, shown to be Trub Coal. However, not recorded on Coal Authority information as a viable coal seam for extraction and associated workings.	Low	Please see section 4. for further information.
Unexploded Ordnance (UXO) Risk	Operative	Yes – in a Low UXO risk area.	Low	No further action required.

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.

4. Coal Mining Risk Assessment

4.1 Geological Appraisal

On the basis of the information revealed from the Onshore Geoindex, it is noted that the site is situated upon rocks from the Pennine Lower Coal Measures Formation. The site is located upon an unnamed sandstone unit separated from an undifferentiated mudstone, siltstone and sandstone unit by a thin coal seam, named as the Trub coal. There are no recorded dip arrows in the nearby vicinity however the local geology presents a shallow dip (between 2 degrees and 5 degrees) to the east and south-east, however this may vary locally due to the significant number of faults in the local area.

There is one coal seam that is shown to outcrop within the local area. Information regarding this seam is summarised as follows:

Table 9: Summary of Coal Seams Within the Vicinity of the Site

Seam Name	Seam Thickness	Outcrop Distance from Site	Anticipated Depth
Trub	0.0 – 0.5m	Within south of site.	At or close to surface level.

In this instance the Trub coal is shown to outcrop on the southern portion of the site, and is inferred to dip away from the site to the south and east. This seam is anticipated to have a thickness of between 0.0m and 0.50m and is recorded in one nearby borehole (SE12NE1703) with a thickness of 0.16m.

Stratigraphically, the next seam within the sequence¹⁴ is the Beeston Group of Coals, the shallowest of which is shown to be the Linfit Lousy with a thickness of between 0.0m to 1.30m. This seam is expected approx. 15m beneath the Trub Coal horizon. However, it is noted that the seam is not shown to outcrop locally, due to the presence of faults, therefore it may exist at significant depth beneath the site.

4.2 Risk Assessment

The risk to the stability of the proposed residential development has been evaluated from the data obtained and with reference to the following ratings and definitions:

- Low - The possibility of instability is unlikely therefore no further action is necessary.
- Moderate - The possibility of instability is likely and further investigation or remedial action may be required.
- High - The possibility of instability is highly likely and further investigation or remedial action will be necessary.

¹⁴ In accordance within the Generalised vertical section

Table 10: Development Specific Risk Assessment

Item	Risk attributed to	Coal Seam(s) Considered	Risk Rating
4.3	Shallow coal workings	Trub Coal Linfit Lousy	Low
4.4	Coal workings at depth	One recorded worked seam at a depth of 106m	Low
4.5	Mine gas	Shallow coal workings.	Low
4.6	Mine shafts	One Adit identified by the Consultant Coal Mining Report.	Low

4.3 Risks Posed by Shallow Coal Workings

On the basis of all of the information provided above, the Trub coal is likely to be present at or close to the surface of the site. However, this coal seam is likely to be of a thickness which is not economically viable for working should it be encountered. In addition to this, the Mining Remediation Authority do not indicate any risks from unrecorded workings relating to this coal seam although it is shown to outcrop across the site. The Trub coal seam in borehole records is variably present and absent and instead recorded as a “carbonaceous mudstone” or “mudstone with plant remains” and where it is recorded is generally thin (less than 0.30m thickness). Based on this information it is considered that a low risk will be adopted for the Trub coal seam.

In addition to the Trub seam, the Beeston Group of Coals are thought to be present at a depth of approximately 15m beneath the surface of the site. The shallowest of this coal group is recorded as the Linfit Lousy. One borehole in the vicinity of the site (SE12NE426) has encountered a coal seam at depth recorded at 0.30m thick. Given the coal seams’ depth and location, it is considered that this represents the Linfit Lousy Coal seam. It is of note that no other coal seams are recorded in this borehole, however a horizon of mudstone with plant remains is present at a depth of 7.70m, which is thought to represent that Trub horizon, located beneath an unnamed sandstone member which corroborates with the GVS and the published geological maps.

It may be noted that guidance available from both the NHBC and the CIRIA publication, SP32 - *construction over abandoned mine workings*, suggests that competent overburden thickness above a coal seam should be greater than 10 times the thickness of a seam plus seam thickness in order that the collapse of workings would pose a low risk to surface structures.

On this basis, assuming a maximum thickness of the coal seams, the table below suggests the thickness of competent overburden required above each seam to mitigate instability at the surface.

Table 11: Required Thickness of Competent Overburden

Seam Name	Seam thickness	Anticipated depth below site	Required thickness of competent overburden
Linfit Lousy	0.30m	15 to 20m	3.5m

Due to the projected depth and thickness of the Linfit Lousy seam beneath the site, it is considered that this represents a low risk to construction at the surface of the site.

Based on the information provided above, no further action is required with respect to both of these coal seams.

4.4 Risks Posed by Coal Workings at Depth

In regard to deeper mining which could affect the site, there is one recorded seam which has been worked in the past. This is recorded as the Black Bed seam at a depth of 106m with a thickness of 0.90m. This seam is at a depth which is unlikely to affect the surface of the site if worked.

There may exist further seams underlying the Linfit Lousy beneath the site as part of the Beeston group of coals, however even if these seams have been worked, they are unlikely to pose an issue to the surface of the site and therefore have been attributed a low risk due to their anticipated depth exceeding 30m below the surface of the site.

4.5 Risks Posed by Mine Gas

This assessment does not anticipate that shallow coal mining workings are likely to be present beneath the site, therefore a low risk from mine gases has been attributed to this

4.6 Risks Posed by Mine Shafts

The Consultants Mining Report makes reference to one mine entry within the search distance of the boundary of the site. This is recorded approximately 100m south-east of the site and is shown to dip at an angle of approximately 160 degrees away from the site. Therefore this mine entry has been attributed to pose a low risk to the development.

5. Intrusive Investigation

5.1 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 +A1:2013 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 +A1: 2013 *Investigation of potentially contaminated sites – Code of practice: 7.6*, and BS 5930: 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: +A1: 2013: 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.*

5.2 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.

5.2.1 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 0.19ha, the number of sampling points at the site should be considered with respect to the table below.

Table 12: Summary of Sampling Strategy					
NUMBER OF SAMPLING POINTS					
	Soil	Water	Asbestos	Standpipes	Standpipe Readings
Exploratory Investigation 50m x 50m grid	3	-	3	2	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	Targeted to deeper areas of made ground.				

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

Given the scale of the site investigation should include the installation of a minimum of two ground gas monitoring standpipes for subsequent monitoring. One of the standpipes should be located at or close to the south-east boundary of the site to determine presence of ground gas from the adjacent graveyard. 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. As the existing and historical structures on site comprise the majority of the proposed development area it is anticipated that made ground will be relatively uniform across the site. It should be possible to carry out the above work with a windowless sampling drilling rig.

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 13: 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:

- 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.
- 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.
- 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.
- Historical data can be used as part of the data set.
- Not all sites will require gas monitoring. However this would need to be confirmed with demonstrable evidence.
- 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.

5.2.2 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. 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, trial pits could be excavated and infiltration tests conducted. Alternatively, these tests could be undertaken within boreholes. It should be appreciated however, should significant thicknesses of fill or contamination be revealed, then soakaways may be deemed to be an inappropriate form of surface water drainage.

Geotechnical Testing

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

Coal Mining Risk Assessment

There exists a low risk from shallow coal mining workings beneath the site. Therefore no further action is required.

5.2.3 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.

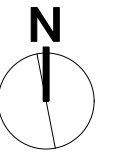
As soon as is practicable, and prior to the above, this Phase 1 report should be forwarded to the relevant authorities, in order to ensure they have sufficient time to review and discuss any issues.

6. References

- British Standards Institution (2015 + A1: 2020), BS 5930: *Code of practice for ground investigations*, B.S.I., London.
- British Standards Institution (2011) +A1:2013, 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



Rev	Date	Note
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WHITECHAPEL - CLECKHEATON

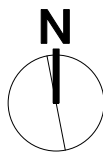
LOCATION PLAN

DWG Ref. H24-WC_003 | Drwn/Chckd By: CH | Scale - 1:1000 | Date: 14/11/24 | Client: NA





- SCHEDULE
- 4 X 1 BED APARTMENTS @ 520 SQFT
 - 4 X 1 BED APARTMENTS @ 690 SQFT



Rev	Date	Note
WHITECHAPEL - CLECKHEATON		
SITE PLAN		
DWG Ref. H24-WC_001 Drwn/Chckd By: CH Scale - 1:500 Date: 04/10/24 Client: NA		
 HIGHSTONE DESIGN		

Appendix 2

Groundsure Reports

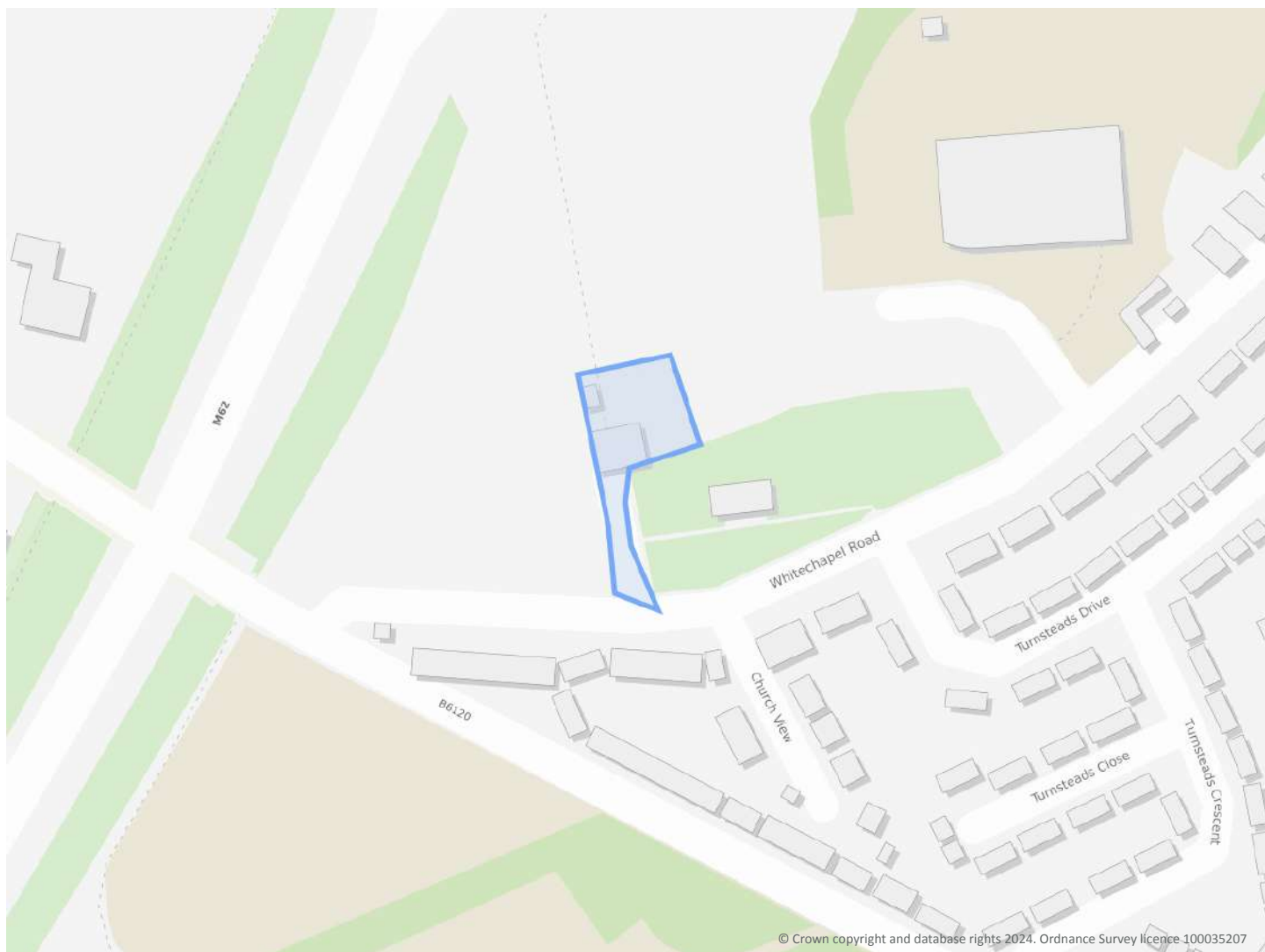
THE PRIORY, WHITECHAPEL ROAD, CLECKHEATON, BD19 6HR

Order Details

Date: 02/12/2024
Your ref: C/4800/24/E/7330 PO-3137
Our Ref: GS-JFR-MEI-V7D-4R1

Site Details

Location: 417887 425868
Area: 0.19 ha
Authority: [Kirklees Council](#) ↗



Summary of findings

[p. 2 >](#) **Aerial image**

[p. 9 >](#)

OS MasterMap site plan

[p.14 >](#) [Insight User Guide](#) ↗

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 >	0	1	14	69	-
19 >	1.2 >	Historical tanks >	0	0	3	58	-
21 >	1.3 >	Historical energy features >	0	0	4	1	-
22	1.4	Historical petrol stations	0	0	0	0	-
22	1.5	Historical garages	0	0	0	0	-
22	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
23 >	2.1 >	Historical industrial land uses >	0	3	22	110	-
28 >	2.2 >	Historical tanks >	0	0	3	87	-
32 >	2.3 >	Historical energy features >	0	0	4	1	-
32	2.4	Historical petrol stations	0	0	0	0	-
33	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
34	3.1	Active or recent landfill	0	0	0	0	-
34	3.2	Historical landfill (BGS records)	0	0	0	0	-
35	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
35	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
35	3.5	Historical waste sites	0	0	0	0	-
35	3.6	Licensed waste sites	0	0	0	0	-
35 >	3.7 >	Waste exemptions >	0	0	0	3	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
37 >	4.1 >	Recent industrial land uses >	0	0	2	-	-
38	4.2	Current or recent petrol stations	0	0	0	0	-
38	4.3	Electricity cables	0	0	0	0	-
38	4.4	Gas pipelines	0	0	0	0	-
38	4.5	Sites determined as Contaminated Land	0	0	0	0	-



38	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
39	4.7	Regulated explosive sites	0	0	0	0	-
39	4.8	Hazardous substance storage/usage	0	0	0	0	-
39	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
39	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
39	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
40	4.12	Radioactive Substance Authorisations	0	0	0	0	-
40	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
40	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
40	4.15	Pollutant release to public sewer	0	0	0	0	-
40	4.16	List 1 Dangerous Substances	0	0	0	0	-
41 >	4.17 >	List 2 Dangerous Substances >	0	0	0	1	-
41 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	0	1	-
41	4.19	Pollution inventory substances	0	0	0	0	-
42	4.20	Pollution inventory waste transfers	0	0	0	0	-
42	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
43	5.1	Superficial aquifer	None (within 500m)				
44 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
45 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
46	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
46	5.5	Groundwater vulnerability- local information	None (within 0m)				
47 >	5.6 >	Groundwater abstractions >	0	0	0	2	8
50	5.7	Surface water abstractions	0	0	0	0	0
50	5.8	Potable abstractions	0	0	0	0	0
50	5.9	Source Protection Zones	0	0	0	0	-
50	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
51	6.1	Water Network (OS MasterMap)	0	0	0	-	-



51	6.2	Surface water features	0	0	0	-	-
52 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
52 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
53 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
54	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
54	7.2	Historical Flood Events	0	0	0	-	-
54	7.3	Flood Defences	0	0	0	-	-
55	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
55	7.5	Flood Storage Areas	0	0	0	-	-
56	7.6	Flood Zone 2	None (within 50m)				
56	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
57	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding >					
58 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
59	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
60	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
60	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
60	10.4	Special Protection Areas (SPA)	0	0	0	0	0
60	10.5	National Nature Reserves (NNR)	0	0	0	0	0
61	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
61 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	4
61	10.8	Biosphere Reserves	0	0	0	0	0
62	10.9	Forest Parks	0	0	0	0	0
62	10.10	Marine Conservation Zones	0	0	0	0	0
62 >	10.11 >	Green Belt >	0	0	1	0	3
62	10.12	Proposed Ramsar sites	0	0	0	0	0



63	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
63	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
63	10.15	Nitrate Sensitive Areas	0	0	0	0	0
63 >	10.16 >	<u>Nitrate Vulnerable Zones ></u>	1	0	1	0	0
65	10.17	SSSI Impact Risk Zones	0	-	-	-	-
65	10.18	SSSI Units	0	0	0	0	0
Page	Section	<u>Visual and cultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
66	11.1	World Heritage Sites	0	0	0	-	-
67	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
67	11.3	National Parks	0	0	0	-	-
67 >	11.4 >	<u>Listed Buildings ></u>	0	1	0	-	-
68	11.5	Conservation Areas	0	0	0	-	-
68	11.6	Scheduled Ancient Monuments	0	0	0	-	-
68	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	<u>Agricultural designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
69 >	12.1 >	<u>Agricultural Land Classification ></u>	Grade 3 (within 250m)				
70	12.2	Open Access Land	0	0	0	-	-
70 >	12.3 >	<u>Tree Felling Licences ></u>	0	0	15	-	-
71	12.4	Environmental Stewardship Schemes	0	0	0	-	-
71	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	<u>Habitat designations ></u>	On site	0-50m	50-250m	250-500m	500-2000m
72 >	13.1 >	<u>Priority Habitat Inventory ></u>	1	2	2	-	-
73	13.2	Habitat Networks	0	0	0	-	-
73	13.3	Open Mosaic Habitat	0	0	0	-	-
73	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	<u>Geology 1:10,000 scale ></u>	On site	0-50m	50-250m	250-500m	500-2000m
74 >	14.1 >	<u>10k Availability ></u>	Identified (within 500m)				
75 >	14.2 >	<u>Artificial and made ground (10k) ></u>	0	0	5	6	-
77	14.3	Superficial geology (10k)	0	0	0	0	-

77	14.4	Landslip (10k)	0	0	0	0	-
78 >	14.5 >	Bedrock geology (10k) >	2	1	2	18	-
80 >	14.6 >	Bedrock faults and other linear features (10k) >	1	1	1	16	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
81 >	15.1 >	50k Availability >	Identified (within 500m)				
82 >	15.2 >	Artificial and made ground (50k) >	0	0	1	2	-
83	15.3	Artificial ground permeability (50k)	0	0	-	-	-
84	15.4	Superficial geology (50k)	0	0	0	0	-
84	15.5	Superficial permeability (50k)	None (within 50m)				
84	15.6	Landslip (50k)	0	0	0	0	-
84	15.7	Landslip permeability (50k)	None (within 50m)				
85 >	15.8 >	Bedrock geology (50k) >	2	1	2	17	-
87 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
87 >	15.10 >	Bedrock faults and other linear features (50k) >	1	1	1	12	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
89 >	16.1 >	BGS Boreholes >	0	0	43	-	-
Page	Section	Natural ground subsidence >					
92 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
93 >	17.2 >	Running sands >	Negligible (within 50m)				
94 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
95 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
96 >	17.5 >	Landslides >	Low (within 50m)				
98 >	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
100	18.1	BritPits	0	0	0	0	-
101 >	18.2 >	Surface ground workings >	0	0	3	-	-
101 >	18.3 >	Underground workings >	0	0	0	6	10
102	18.4	Underground mining extents	0	0	0	0	-
102	18.5	Historical Mineral Planning Areas	0	0	0	0	-



102 >	18.6 >	Non-coal mining >	0	0	0	2	5
104	18.7	JPB mining areas	None (within 0m)				
104	18.8	The Coal Authority non-coal mining	0	0	0	0	-
104	18.9	Researched mining	0	0	0	0	-
104	18.10	Mining record office plans	0	0	0	0	-
105	18.11	BGS mine plans	0	0	0	0	-
105 >	18.12 >	Coal mining >	Identified (within 0m)				
105	18.13	Brine areas	None (within 0m)				
105	18.14	Gypsum areas	None (within 0m)				
105	18.15	Tin mining	None (within 0m)				
106	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
107	19.1	Natural cavities	0	0	0	0	-
107	19.2	Mining cavities	0	0	0	0	0
107	19.3	Reported recent incidents	0	0	0	0	-
107	19.4	Historical incidents	0	0	0	0	-
108	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
109 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
111 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	1	-	-	-
111	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
111	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
112	22.1	Underground railways (London)	0	0	0	-	-
112	22.2	Underground railways (Non-London)	0	0	0	-	-
112	22.3	Railway tunnels	0	0	0	-	-
112	22.4	Historical railway and tunnel features	0	0	0	-	-
112	22.5	Royal Mail tunnels	0	0	0	-	-



113	22.6	Historical railways	0	0	0	-	-
113	22.7	Railways	0	0	0	-	-
113	22.8	Crossrail 2	0	0	0	0	-
113	22.9	HS2	0	0	0	0	-

Recent aerial photograph



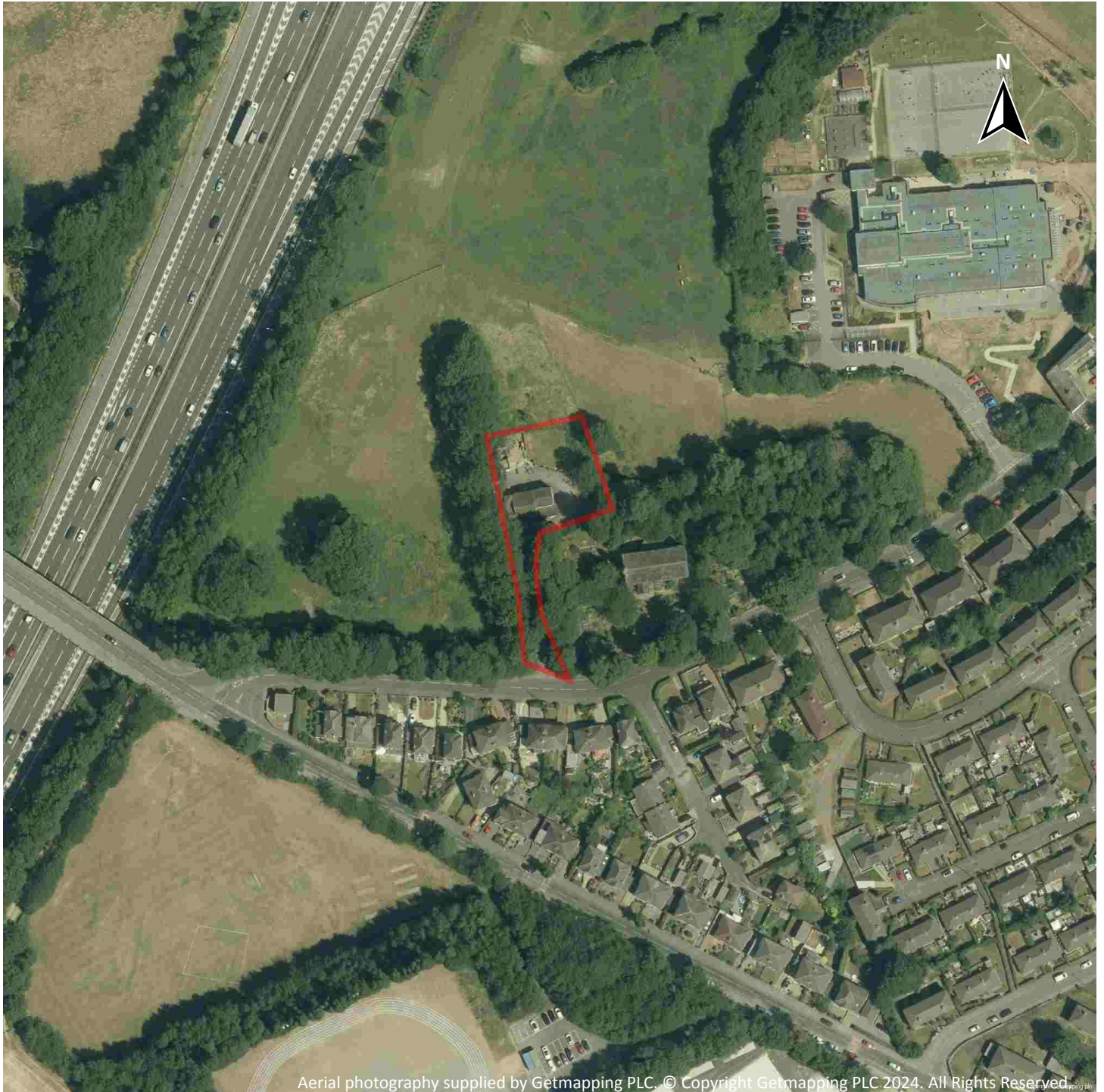
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved

Capture Date: 30/05/2021

Site Area: 0.19ha



Recent site history - 2018 aerial photograph

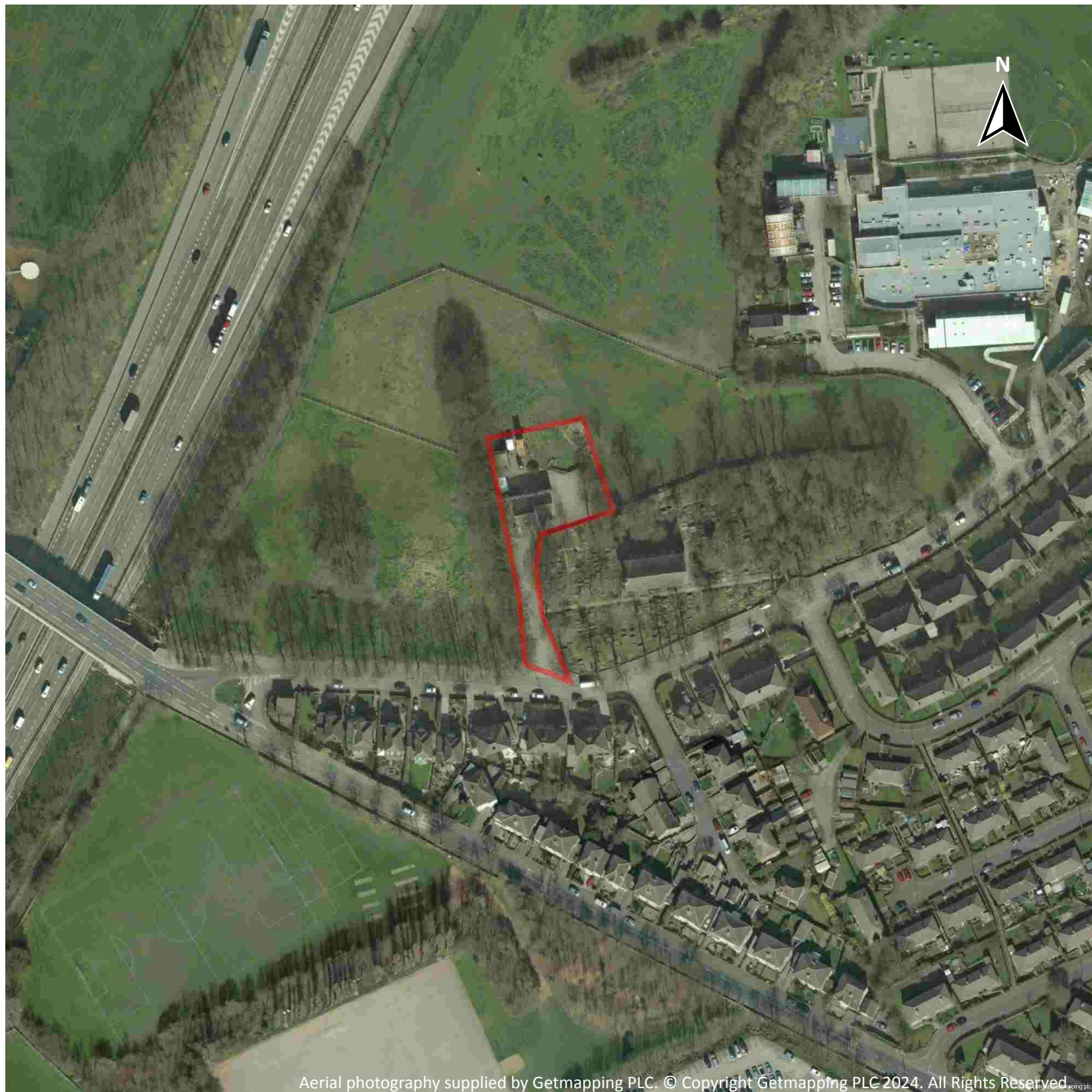


Capture Date: 02/07/2018

Site Area: 0.19ha



Recent site history - 2012 aerial photograph



Capture Date: 26/03/2012

Site Area: 0.19ha



Recent site history - 2000 aerial photograph



Capture Date: 05/08/2000

Site Area: 0.19ha



Recent site history - 1999 aerial photograph



Capture Date: 04/09/1999

Site Area: 0.19ha



OS MasterMap site plan



Site Area: 0.19ha



[illegible]

- 15

ID	Location	Land use	Dates present	Group ID
A	52m W	Unspecified Tank	1967	1551916
1	68m NW	Cuttings	1974	1553878
2	71m NW	Cuttings	1983 - 1990	1510452
B	77m NW	Unspecified Tank	1967	1473542
A	88m W	Unspecified Tank	1974 - 1990	1543796
B	88m W	Unspecified Tank	1967	1473543
A	91m W	Unspecified Tank	1967	1536309
B	117m NW	Unspecified Tank	1967	1473544
B	159m NW	Unspecified Tank	1967	1473541
B	164m NW	Unspecified Commercial/Industrial	1974 - 1990	1563598
B	191m NW	Unspecified Tank	1974 - 1983	1499920
B	195m NW	Unspecified Tank	1967	1556004
B	235m NW	Unspecified Tank	1974 - 1990	1515797
B	240m NW	Unspecified Tank	1967	1569801
B	260m NW	Unspecified Tank	1974 - 1990	1544807
B	263m NW	Unspecified Tank	1967	1550009
3	281m N	Cuttings	1983 - 1990	1510836
C	289m W	Disused Colliery	1955	1527275
C	290m W	Disused Colliery	1938	1573920
C	294m W	Refuse Heap	1938	1576132
C	297m W	Refuse Heaps	1948	1432584
C	297m W	Disused Colliery	1948	1527833
4	298m NE	Chemical Works	1892 - 1905	1567025
C	299m W	Refuse Heap	1955	1519035
C	318m W	Unspecified Heap	1974	1523327
C	323m W	Unspecified Heap	1983 - 1990	1580133
C	325m W	Unspecified Heap	1967	1511553
5	332m SE	Unspecified Works	1967 - 1990	1561463



ID	Location	Land use	Dates present	Group ID
C	345m W	Colliery	1905	1469133
D	349m NE	Railway Sidings	1938	1489415
D	349m NE	Railway Sidings	1948	1541691
D	349m NE	Railway Sidings	1967	1576904
D	351m NE	Railway Sidings	1955	1569471
D	351m NE	Chemical Works	1955	1576391
E	368m SE	Malthouse	1892	1463123
D	369m NE	Cuttings	1892 - 1905	1558856
F	370m NE	Railway Sidings	1955	1479842
F	370m NE	Unspecified Commercial/Industrial	1955	1488372
F	373m NE	Unspecified Commercial/Industrial	1938 - 1948	1482819
D	376m NE	Unspecified Works	1990	1566537
F	377m NE	Gas Holder Station	1983 - 1990	1532644
D	380m NE	Chemical Works	1892 - 1905	1568490
C	381m W	Unspecified Old Shafts	1948	1469884
D	381m NE	Unspecified Works	1967 - 1983	1502488
D	383m NE	Unspecified Tanks	1990	1443848
D	386m NE	Chemicals Works	1948	1436366
D	392m NE	Unspecified Tanks	1948 - 1955	1500182
D	393m NE	Railway Building	1938 - 1948	1567836
D	395m NE	Railway Building	1938 - 1948	1532028
E	395m SE	Unspecified Works	1967	1460623
F	395m NE	Chemical Works	1892	1459823
D	396m NE	Railway Building	1938 - 1948	1498338
F	396m NE	Engine and Boiler Works	1905	1455413
G	397m N	Cuttings	1892 - 1905	1536323
G	397m N	Cuttings	1938 - 1967	1575560
C	398m W	Refuse Heap	1938	1502879



ID	Location	Land use	Dates present	Group ID
C	399m W	Unspecified Old Shafts	1948	1513179
D	403m NE	Railway Building	1948	1476438
7	404m N	Cuttings	1974 - 1990	1513973
D	406m NE	Unspecified Tank	1948 - 1955	1552491
H	408m SW	Refuse Heap	1955	1481644
F	408m NE	Unspecified Works	1967	1519981
F	408m NE	Unspecified Mill	1974	1551650
D	408m NE	Unspecified Tank	1938	1568695
H	410m SW	Gravel Pit	1948	1474412
I	410m SW	Disused Sewage Works	1955	1479534
C	411m W	Unspecified Old Shafts	1955	1514893
8	411m W	Unspecified Heap	1974 - 1990	1550778
I	412m SW	Sewage Works	1948	1551980
C	413m W	Unspecified Old Shafts	1938	1499313
I	414m SW	Sewage Works	1938	1549811
H	414m SW	Refuse Heap	1938	1577272
D	421m NE	Unspecified Tank	1974 - 1983	1496188
D	429m NE	Unspecified Tank	1948	1473537
C	432m W	Refuse Heap	1938	1527950
D	436m NE	Unspecified Tank	1955	1473534
C	439m W	Unspecified Old Shafts	1938	1570141
D	453m NE	Unspecified Tank	1967 - 1983	1537458
D	469m NE	Unspecified Tank	1938 - 1948	1542502
D	474m NE	Unspecified Works	1967 - 1983	1490956
D	476m NE	Unspecified Tank	1955	1544349
9	487m W	Tramway Sidings	1905	1505808
F	500m E	Unspecified Tank	1967	1473536

This data is sourced from Ordnance Survey / Groundsure.



1.2 Historical tanks

Records within 500m

61

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

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
A	52m W	Unspecified Tank	1992	241814
A	93m W	Unspecified Tank	1992	241815
B	237m NW	Unspecified Tank	1992	241816
6	358m W	Unspecified Tank	1964 - 1969	252903
D	381m NE	Tanks	1988	235569
D	381m NE	Unspecified Tank	1988	241809
D	384m NE	Tanks	1988	235567
D	390m NE	Tanks	1933 - 1938	258678
D	390m NE	Tanks	1933 - 1938	262371
D	391m NE	Tanks	1922	256697
D	395m NE	Tanks	1938	249127
D	395m NE	Tanks	1988	235568
D	395m NE	Tanks	1956 - 1958	252613
D	397m NE	Tanks	1933	244689
D	397m NE	Tanks	1922	257865
D	398m NE	Tanks	1907	251100
D	402m NE	Tanks	1988	235570
D	403m NE	Unspecified Tank	1922 - 1938	254774
D	407m NE	Unspecified Tank	1956 - 1958	253247
D	410m NE	Tanks	1956 - 1958	261305
D	411m NE	Unspecified Tank	1956	241810



ID	Location	Land use	Dates present	Group ID
D	413m NE	Tanks	1956 - 1958	252218
D	414m NE	Unspecified Tank	1988	241808
D	415m NE	Tanks	1933 - 1938	252328
D	417m NE	Unspecified Tank	1956	251277
D	418m NE	Unspecified Tank	1958	253626
D	419m NE	Unspecified Tank	1956 - 1958	258199
D	420m NE	Tanks	1956 - 1958	253976
D	424m NE	Tanks	1956 - 1958	252409
D	424m NE	Tanks	1956 - 1958	246799
D	426m NE	Unspecified Tank	1933	258119
D	426m NE	Unspecified Tank	1938	252630
D	427m NE	Unspecified Tank	1938	261209
D	428m NE	Tanks	1956	251727
D	428m NE	Tanks	1958	248783
D	431m NE	Tanks	1922	234347
D	431m NE	Unspecified Tank	1956 - 1958	253385
D	434m NE	Unspecified Tank	1956	241811
D	434m NE	Tanks	1956	245451
D	434m NE	Tanks	1956 - 1958	245784
D	439m NE	Tanks	1907 - 1938	248483
D	439m NE	Tanks	1938	234348
D	441m NE	Tanks	1988	234346
D	443m NE	Unspecified Tank	1956	246050
D	443m NE	Unspecified Tank	1958	251679
D	444m NE	Tanks	1956 - 1958	248641
D	448m NE	Unspecified Tank	1956	249032
D	449m NE	Unspecified Tank	1958	252858
D	454m NE	Unspecified Tank	1956 - 1958	256786



ID	Location	Land use	Dates present	Group ID
D	456m NE	Tanks	1956 - 1958	250183
F	458m E	Gas Works	1922	256117
D	465m NE	Tanks	1956 - 1958	250004
D	467m NE	Unspecified Tank	1933 - 1956	253696
D	472m NE	Unspecified Tank	1958	245597
F	495m E	Unspecified Tank	1969	249845
F	495m E	Unspecified Tank	1957 - 1958	251794
F	497m E	Unspecified Tank	1957 - 1969	255072
F	498m E	Unspecified Tank	1958	248343
F	498m E	Unspecified Tank	1969	256475
F	498m E	Unspecified Tank	1957	251353
F	498m E	Unspecified Tank	1964	254545

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	5
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
A	83m SW	Electricity Substation	1992	157181
A	83m SW	Electricity Substation	1975	160130
A	84m SW	Electricity Substation	1957	147324
A	85m SW	Electricity Substation	1956	159888
F	458m E	Gas Works	1922	150743

This data is sourced from Ordnance Survey / Groundsure.



1.4 Historical petrol stations

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

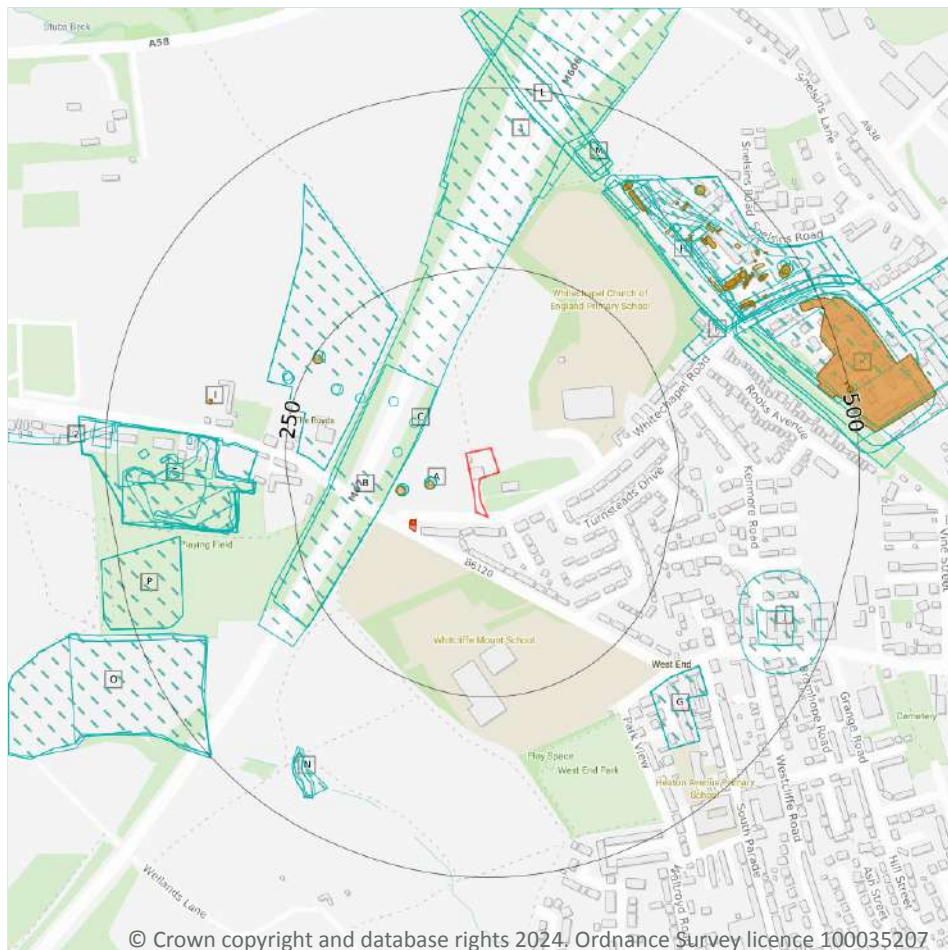
Records within 500m**0**

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



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

2.1 Historical industrial land uses

Records within 500m

135

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 23](#) >

ID	Location	Land Use	Date	Group ID
A	48m W	Unspecified Tank	1990	1516790
A	48m W	Unspecified Tank	1983	1516790
A	48m W	Unspecified Tank	1974	1516790



ID	Location	Land Use	Date	Group ID
A	52m W	Unspecified Tank	1967	1551916
1	68m NW	Cuttings	1974	1553878
B	71m NW	Cuttings	1990	1510452
B	71m NW	Cuttings	1983	1510452
C	77m NW	Unspecified Tank	1967	1473542
A	88m W	Unspecified Tank	1990	1543796
A	88m W	Unspecified Tank	1983	1543796
A	88m W	Unspecified Tank	1974	1543796
C	88m W	Unspecified Tank	1967	1473543
A	91m W	Unspecified Tank	1967	1536309
C	117m NW	Unspecified Tank	1967	1473544
C	159m NW	Unspecified Tank	1967	1473541
C	164m NW	Unspecified Commercial/Industrial	1990	1563598
C	164m NW	Unspecified Commercial/Industrial	1983	1563598
C	164m NW	Unspecified Commercial/Industrial	1974	1563598
C	191m NW	Unspecified Tank	1983	1499920
C	191m NW	Unspecified Tank	1974	1499920
C	195m NW	Unspecified Tank	1967	1556004
C	235m NW	Unspecified Tank	1990	1515797
C	235m NW	Unspecified Tank	1983	1515797
C	235m NW	Unspecified Tank	1974	1515797
C	240m NW	Unspecified Tank	1967	1569801
C	260m NW	Unspecified Tank	1990	1544807
C	260m NW	Unspecified Tank	1983	1544807
C	260m NW	Unspecified Tank	1974	1544807
C	263m NW	Unspecified Tank	1967	1550009
D	281m N	Cuttings	1990	1510836
D	281m N	Cuttings	1983	1510836



ID	Location	Land Use	Date	Group ID
E	289m W	Disused Colliery	1955	1527275
E	290m W	Disused Colliery	1938	1573920
E	290m W	Disused Colliery	1938	1573920
E	294m W	Refuse Heap	1938	1576132
E	294m W	Refuse Heap	1938	1576132
E	297m W	Disused Colliery	1948	1527833
E	297m W	Refuse Heaps	1948	1432584
F	298m NE	Chemical Works	1892	1567025
F	298m NE	Chemical Works	1905	1567025
E	299m W	Refuse Heap	1955	1519035
E	318m W	Unspecified Heap	1974	1523327
E	323m W	Unspecified Heap	1990	1580133
E	323m W	Unspecified Heap	1983	1580133
E	325m W	Unspecified Heap	1967	1511553
G	332m SE	Unspecified Works	1990	1561463
G	332m SE	Unspecified Works	1983	1561463
G	332m SE	Unspecified Works	1974	1561463
G	332m SE	Unspecified Works	1967	1561463
E	345m W	Colliery	1905	1469133
H	349m NE	Railway Sidings	1948	1541691
H	349m NE	Railway Sidings	1938	1489415
H	349m NE	Railway Sidings	1967	1576904
H	351m NE	Chemical Works	1955	1576391
H	351m NE	Railway Sidings	1955	1569471
J	368m SE	Malthouse	1892	1463123
H	369m NE	Cuttings	1892	1558856
H	369m NE	Cuttings	1905	1558856
K	370m NE	Unspecified Commercial/Industrial	1955	1488372



ID	Location	Land Use	Date	Group ID
K	370m NE	Railway Sidings	1955	1479842
K	373m NE	Unspecified Commercial/Industrial	1948	1482819
K	373m NE	Unspecified Commercial/Industrial	1938	1482819
H	376m NE	Unspecified Works	1990	1566537
K	377m NE	Gas Holder Station	1990	1532644
K	377m NE	Gas Holder Station	1983	1532644
H	380m NE	Chemical Works	1905	1568490
E	381m W	Unspecified Old Shafts	1948	1469884
H	381m NE	Unspecified Works	1983	1502488
H	381m NE	Unspecified Works	1974	1502488
H	381m NE	Unspecified Works	1967	1502488
H	383m NE	Unspecified Tanks	1990	1443848
H	385m NE	Chemical Works	1892	1568490
H	386m NE	Chemicals Works	1948	1436366
H	392m NE	Unspecified Tanks	1948	1500182
H	393m NE	Railway Building	1948	1567836
H	393m NE	Railway Building	1938	1567836
H	395m NE	Railway Building	1948	1532028
H	395m NE	Railway Building	1938	1532028
J	395m SE	Unspecified Works	1967	1460623
K	395m NE	Chemical Works	1892	1459823
H	396m NE	Railway Building	1948	1498338
H	396m NE	Railway Building	1938	1498338
K	396m NE	Engine and Boiler Works	1905	1455413
L	397m N	Cuttings	1892	1536323
L	397m N	Cuttings	1948	1575560
L	397m N	Cuttings	1938	1575560
L	397m N	Cuttings	1905	1536323



ID	Location	Land Use	Date	Group ID
H	398m NE	Unspecified Tanks	1955	1500182
E	398m W	Refuse Heap	1938	1502879
E	398m W	Refuse Heap	1938	1502879
E	399m W	Unspecified Old Shafts	1948	1513179
H	403m NE	Railway Building	1948	1476438
M	404m N	Cuttings	1990	1513973
M	404m N	Cuttings	1983	1513973
M	404m N	Cuttings	1974	1513973
H	406m NE	Unspecified Tank	1948	1552491
L	408m N	Cuttings	1955	1575560
L	408m N	Cuttings	1967	1575560
N	408m SW	Refuse Heap	1955	1481644
K	408m NE	Unspecified Mill	1974	1551650
K	408m NE	Unspecified Works	1967	1519981
H	408m NE	Unspecified Tank	1938	1568695
N	410m SW	Gravel Pit	1948	1474412
O	410m SW	Disused Sewage Works	1955	1479534
E	411m W	Unspecified Old Shafts	1955	1514893
P	411m W	Unspecified Heap	1990	1550778
P	411m W	Unspecified Heap	1983	1550778
P	411m W	Unspecified Heap	1974	1550778
O	412m SW	Sewage Works	1948	1551980
E	413m W	Unspecified Old Shafts	1938	1499313
E	413m W	Unspecified Old Shafts	1938	1499313
H	413m NE	Unspecified Tank	1955	1552491
O	414m SW	Sewage Works	1938	1549811
O	414m SW	Sewage Works	1938	1549811
N	414m SW	Refuse Heap	1938	1577272



ID	Location	Land Use	Date	Group ID
N	414m SW	Refuse Heap	1938	1577272
H	421m NE	Unspecified Tank	1983	1496188
H	421m NE	Unspecified Tank	1974	1496188
H	429m NE	Unspecified Tank	1948	1473537
E	432m W	Refuse Heap	1938	1527950
E	432m W	Refuse Heap	1938	1527950
H	436m NE	Unspecified Tank	1955	1473534
E	439m W	Unspecified Old Shafts	1938	1570141
E	439m W	Unspecified Old Shafts	1938	1570141
H	453m NE	Unspecified Tank	1983	1537458
H	453m NE	Unspecified Tank	1974	1537458
H	453m NE	Unspecified Tank	1967	1537458
H	469m NE	Unspecified Tank	1948	1542502
H	469m NE	Unspecified Tank	1938	1542502
H	474m NE	Unspecified Works	1983	1490956
H	474m NE	Unspecified Works	1974	1490956
H	474m NE	Unspecified Works	1967	1490956
H	476m NE	Unspecified Tank	1955	1544349
2	487m W	Tramway Sidings	1905	1505808
K	500m E	Unspecified Tank	1967	1473536

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

90

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 23 >](#)



ID	Location	Land Use	Date	Group ID
A	52m W	Unspecified Tank	1992	241814
A	93m W	Unspecified Tank	1992	241815
C	237m NW	Unspecified Tank	1992	241816
I	358m W	Unspecified Tank	1969	252903
I	359m W	Unspecified Tank	1964	252903
H	381m NE	Tanks	1988	235569
H	381m NE	Unspecified Tank	1988	241809
H	384m NE	Tanks	1988	235567
H	390m NE	Tanks	1933	258678
H	390m NE	Tanks	1938	258678
H	390m NE	Tanks	1933	262371
H	390m NE	Tanks	1938	262371
H	391m NE	Tanks	1922	256697
H	395m NE	Tanks	1938	249127
H	395m NE	Tanks	1988	235568
H	395m NE	Tanks	1956	252613
H	396m NE	Tanks	1958	252613
H	397m NE	Tanks	1933	244689
H	397m NE	Tanks	1922	257865
H	398m NE	Tanks	1907	251100
H	402m NE	Tanks	1988	235570
H	403m NE	Unspecified Tank	1922	254774
H	403m NE	Unspecified Tank	1933	254774
H	403m NE	Unspecified Tank	1938	254774
H	407m NE	Unspecified Tank	1956	253247
H	408m NE	Unspecified Tank	1958	253247
H	410m NE	Tanks	1956	261305
H	410m NE	Tanks	1958	261305



ID	Location	Land Use	Date	Group ID
H	411m NE	Unspecified Tank	1956	241810
H	413m NE	Tanks	1956	252218
H	414m NE	Tanks	1958	252218
H	414m NE	Unspecified Tank	1988	241808
H	415m NE	Tanks	1938	252328
H	415m NE	Tanks	1933	252328
H	417m NE	Unspecified Tank	1956	251277
H	418m NE	Unspecified Tank	1958	253626
H	419m NE	Unspecified Tank	1956	258199
H	420m NE	Unspecified Tank	1958	258199
H	420m NE	Tanks	1956	253976
H	420m NE	Tanks	1958	253976
H	424m NE	Tanks	1956	252409
H	424m NE	Tanks	1958	252409
H	424m NE	Tanks	1956	246799
H	425m NE	Tanks	1958	246799
H	426m NE	Unspecified Tank	1933	258119
H	426m NE	Unspecified Tank	1938	252630
H	427m NE	Unspecified Tank	1938	261209
H	428m NE	Tanks	1956	251727
H	428m NE	Tanks	1958	248783
H	431m NE	Tanks	1922	234347
H	431m NE	Unspecified Tank	1956	253385
H	432m NE	Unspecified Tank	1958	253385
H	434m NE	Unspecified Tank	1956	241811
H	434m NE	Tanks	1956	245451
H	434m NE	Tanks	1956	245784
H	434m NE	Tanks	1958	245784



ID	Location	Land Use	Date	Group ID
H	439m NE	Tanks	1907	248483
H	439m NE	Tanks	1922	248483
H	439m NE	Tanks	1933	248483
H	439m NE	Tanks	1938	248483
H	439m NE	Tanks	1938	234348
H	441m NE	Tanks	1988	234346
H	443m NE	Unspecified Tank	1956	246050
H	443m NE	Unspecified Tank	1958	251679
H	444m NE	Tanks	1956	248641
H	445m NE	Tanks	1958	248641
H	448m NE	Unspecified Tank	1956	249032
H	449m NE	Unspecified Tank	1958	252858
H	454m NE	Unspecified Tank	1956	256786
H	455m NE	Unspecified Tank	1958	256786
H	456m NE	Tanks	1956	250183
H	456m NE	Tanks	1958	250183
K	458m E	Gas Works	1922	256117
H	465m NE	Tanks	1956	250004
H	466m NE	Tanks	1958	250004
H	467m NE	Unspecified Tank	1933	253696
H	467m NE	Unspecified Tank	1938	253696
H	471m NE	Unspecified Tank	1956	253696
H	472m NE	Unspecified Tank	1958	245597
K	495m E	Unspecified Tank	1969	249845
K	495m E	Unspecified Tank	1958	251794
K	495m E	Unspecified Tank	1957	251794
K	497m E	Unspecified Tank	1969	255072
K	497m E	Unspecified Tank	1958	255072



ID	Location	Land Use	Date	Group ID
K	497m E	Unspecified Tank	1964	255072
K	497m E	Unspecified Tank	1957	255072
K	498m E	Unspecified Tank	1969	256475
K	498m E	Unspecified Tank	1958	248343
K	498m E	Unspecified Tank	1964	254545
K	498m E	Unspecified Tank	1957	251353

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	5
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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 23 >](#)

ID	Location	Land Use	Date	Group ID
A	83m SW	Electricity Substation	1992	157181
A	83m SW	Electricity Substation	1975	160130
A	84m SW	Electricity Substation	1957	147324
A	85m SW	Electricity Substation	1956	159888
K	458m E	Gas Works	1922	150743

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
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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

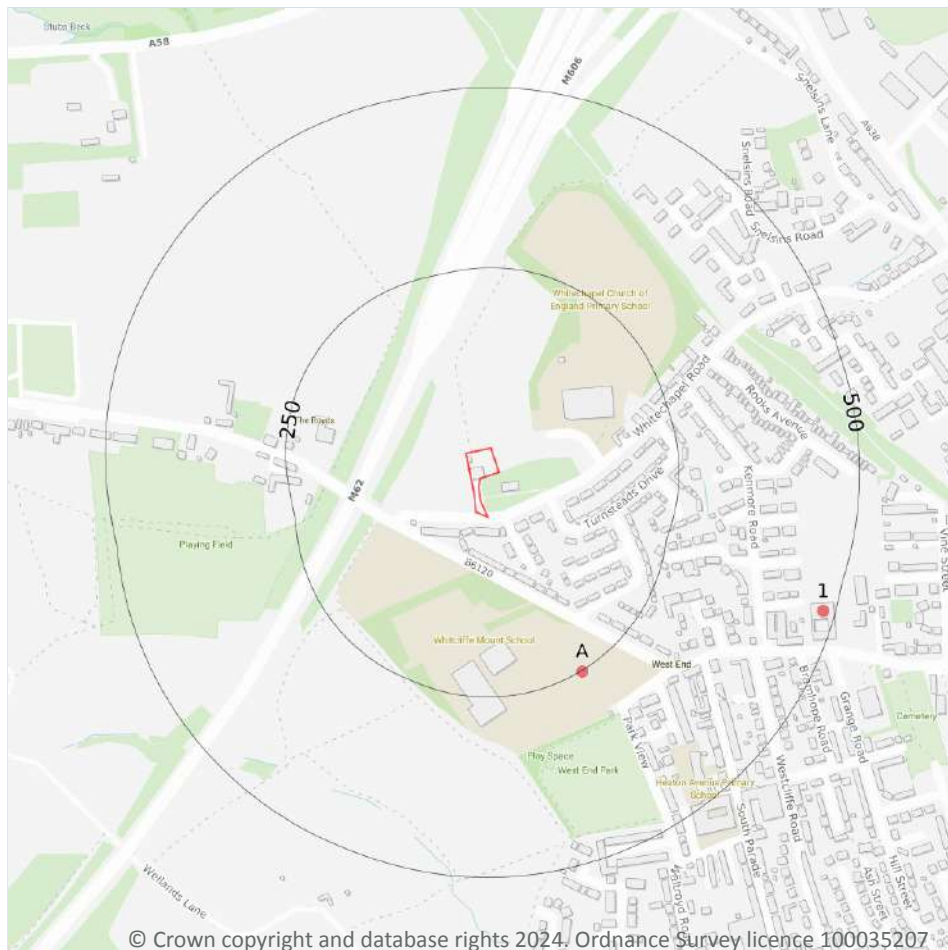
0

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'.

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



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

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

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

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

3.5 Historical waste sites

Records within 500m**0**

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

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

3.6 Licensed waste sites

Records within 500m**0**

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

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

3.7 Waste exemptions

Records within 500m**3**

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

Features are displayed on the Waste and landfill map on [page 34 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
A	252m SE	Turnsteads Avenue Cleckheaton Bd19 3aq	WEX012563	Using waste exemption	Not on a farm	Use of waste in construction

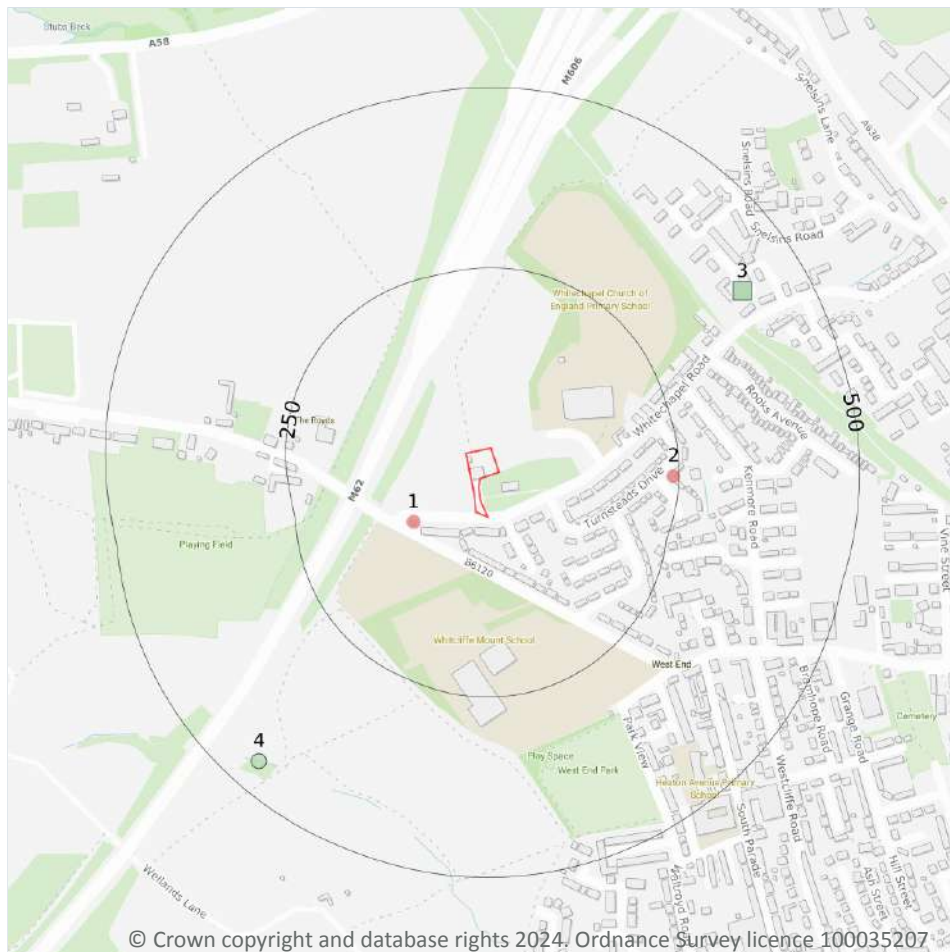


ID	Location	Site	Reference	Category	Sub-Category	Description
A	252m SE	Turnsteads Avenue Cleckheaton Bd19 3aq	WEX016205	Using waste exemption	Not on a farm	Use of waste in construction
1	483m E	-	WEX395578	Using waste exemption	Not on a farm	Use of waste in construction

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- List 2 Dangerous Substances
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 37 >](#)

ID	Location	Company	Address	Activity	Category
1	88m SW	Electricity Sub Station	West Yorkshire, BD19	Electrical Features	Infrastructure and Facilities
2	243m E	Electricity Sub Station	West Yorkshire, BD19	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**0**

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

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m**0**

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m**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

1

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.

Features are displayed on the Current industrial land use map on [page 37 >](#)

ID	Location	Name	Status	Receiving Water	Authorised Substances
3	411m NE	Metrotect	Not Active	-	Copper

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

1

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 37 >](#)

ID	Location	Details	
4	457m SW	Incident Date: 29/11/2002 Incident Identification: 123840 Pollutant: Oils and Fuel Pollutant Description: Mixed/Waste Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m

0

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

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



4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m

0

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

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



5 Hydrogeology - Superficial aquifer

5.1 Superficial aquifer

Records within 500m

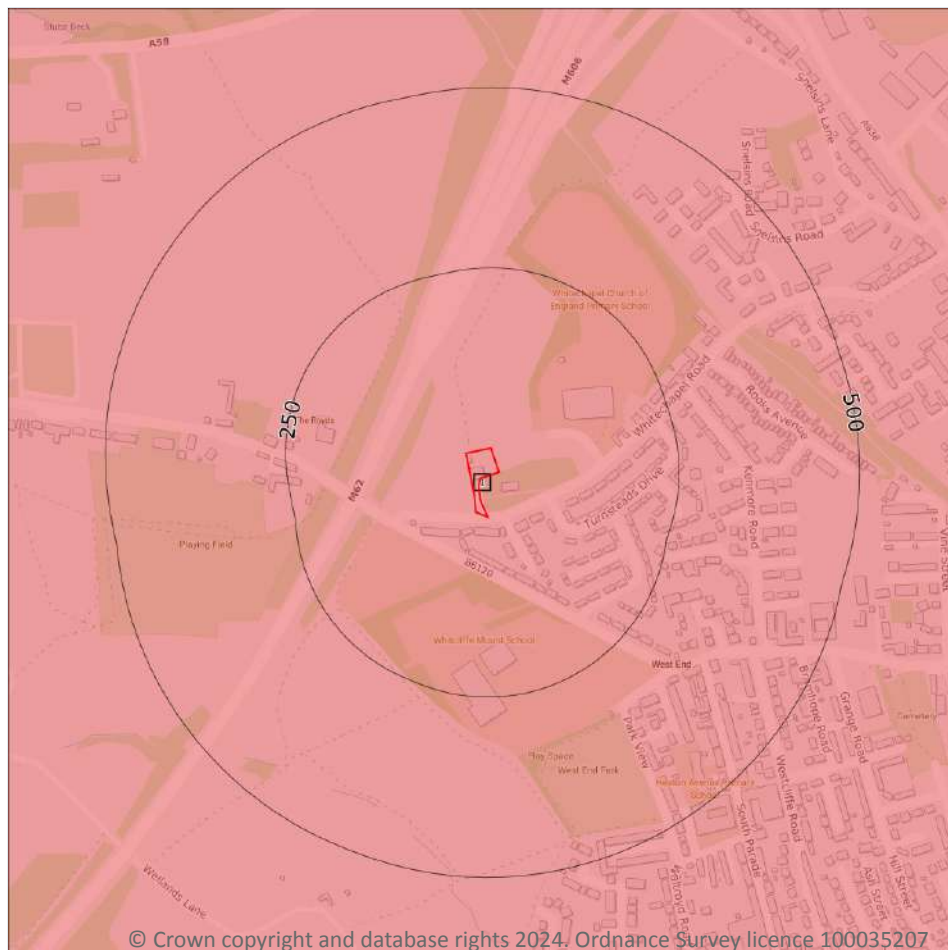
0

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.

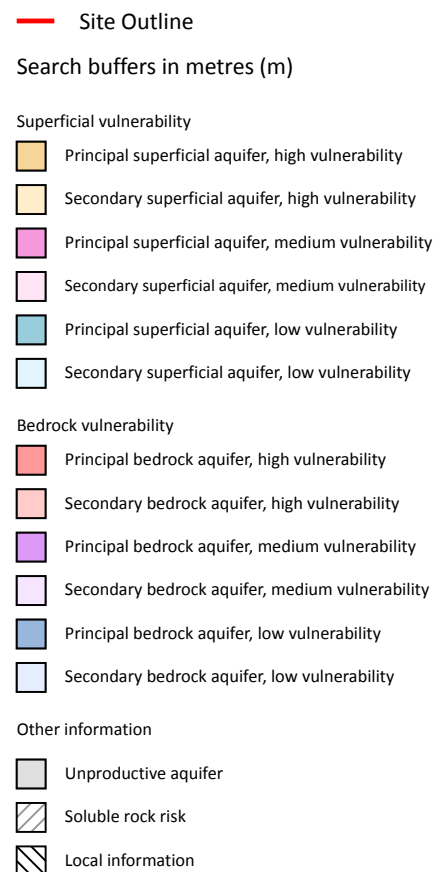
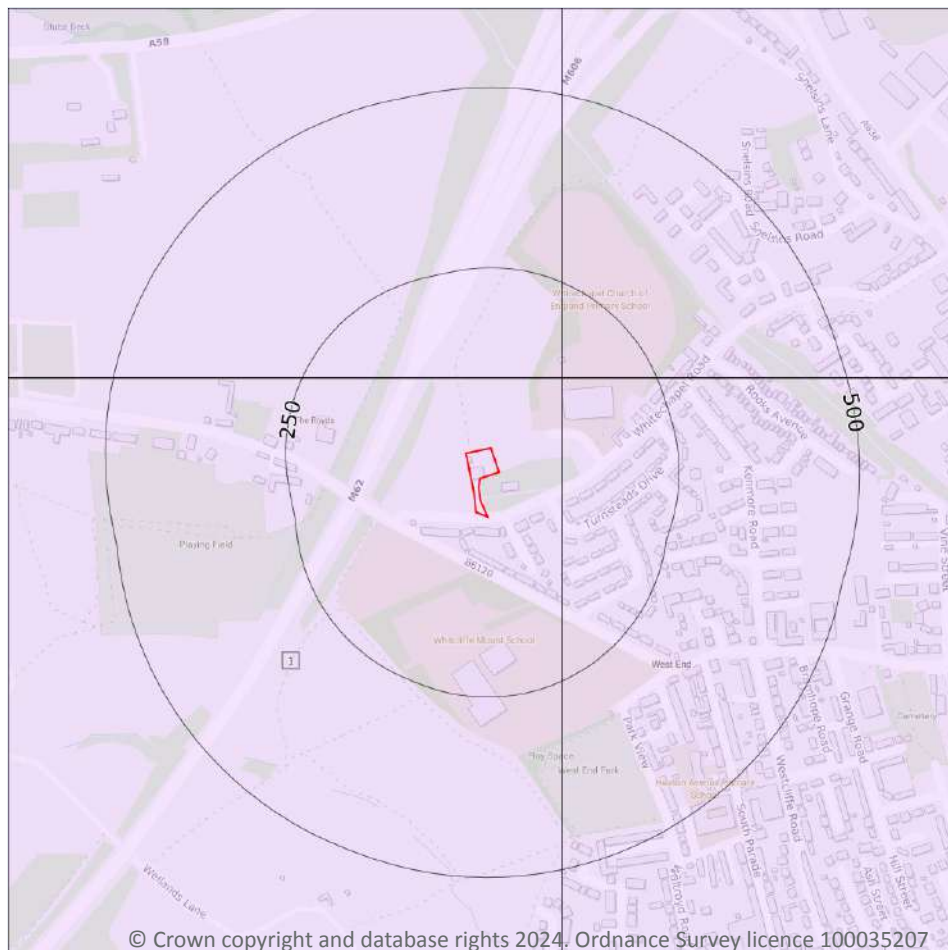
Features are displayed on the Bedrock aquifer map on [page 44](#) >

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



5.3 Groundwater vulnerability

Records within 50m

1

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

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

Features are displayed on the Groundwater vulnerability map on [page 45](#) >



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

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

5.4 Groundwater vulnerability- soluble rock risk

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

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

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

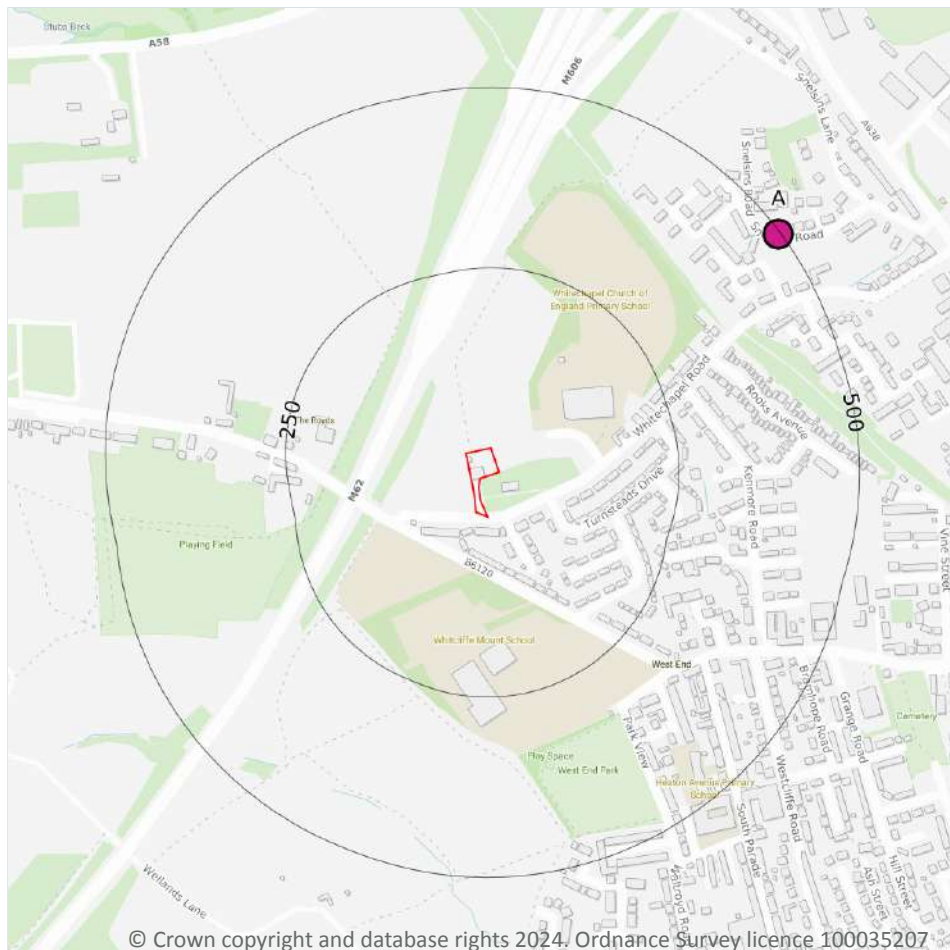
5.5 Groundwater vulnerability- local information

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

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

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

Abstractions and Source Protection Zones



- 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
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

10

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 47](#) >

ID	Location	Details	
A	497m NE	Status: Historical Licence No: 2/27/13/022 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: METROTECT LIMITED Easting: 418300 Northing: 426200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 21/10/1996 Version End Date: -
A	497m NE	Status: Historical Licence No: 2/27/13/022 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: METROTECT LTD Easting: 418300 Northing: 426200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 21/10/1996 Version End Date: -
-	796m N	Status: Active Licence No: 2/27/13/221/R01 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417901 Northing: 426699	Annual Volume (m ³): 6750 Max Daily Volume (m ³): 168 Original Application No: NPS/WR/016684 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -
-	796m N	Status: Historical Licence No: 2/27/13/221 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417901 Northing: 426699	Annual Volume (m ³): 6750 Max Daily Volume (m ³): 168 Original Application No: - Original Start Date: 01/01/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/01/2007 Version End Date: -
-	797m N	Status: Historical Licence No: 2/27/13/187 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417900 Northing: 426700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/03/1997 Expiry Date: 31/12/2006 Issue No: 100 Version Start Date: 10/03/1997 Version End Date: -



ID	Location	Details	
-	797m N	Status: Historical Licence No: 2/27/13/187 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417900 Northing: 426700	Annual Volume (m ³): 13500 Max Daily Volume (m ³): 168 Original Application No: - Original Start Date: 10/03/1997 Expiry Date: 31/12/2006 Issue No: 100 Version Start Date: 10/03/1997 Version End Date: -
-	797m N	Status: Historical Licence No: 2/27/13/221 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417900 Northing: 426700	Annual Volume (m ³): 6750 Max Daily Volume (m ³): 168 Original Application No: - Original Start Date: 01/01/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/01/2007 Version End Date: -
-	1757m S	Status: Historical Licence No: 2/27/13/198 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - LIVERSEDGE Data Type: Point Name: HARRISON GARDNER & CO LTD Easting: 418310 Northing: 424100	Annual Volume (m ³): 112464 Max Daily Volume (m ³): 340.8 Original Application No: - Original Start Date: 09/10/1998 Expiry Date: 31/12/2007 Issue No: 101 Version Start Date: 06/06/2000 Version End Date: -
-	1798m S	Status: Historical Licence No: 2/27/13/198 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - LIVERSEDGE Data Type: Point Name: HARRISON GARDNER & CO LTD Easting: 418230 Northing: 424040	Annual Volume (m ³): 112464 Max Daily Volume (m ³): 340.8 Original Application No: - Original Start Date: 09/10/1998 Expiry Date: 31/12/2007 Issue No: 101 Version Start Date: 06/06/2000 Version End Date: -
-	1920m SW	Status: Historical Licence No: 2/27/13/197 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLIFTON BRIGHOUSE Data Type: Point Name: NEWSMITH STAINLESS LIMITED Easting: 416700 Northing: 424300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/09/1995 Expiry Date: 31/10/2002 Issue No: 100 Version Start Date: 27/05/1998 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.



This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

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

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

Features are displayed on the Hydrology map on [page 51](#) >

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Spenn Beck from Source to River Calder	GB104027062710	Calder Lower	Aire and Calder

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

6.4 WFD Surface water bodies

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

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

Features are displayed on the Hydrology map on [page 51](#) >

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	851m N	River	Spenn Beck from Source to River Calder	GB104027062710 ↗	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 51](#) >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Aire & Calder Carb Limestone / Millstone Grit / Coal Measures.	GB40402G700400 ↗	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

8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

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.

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

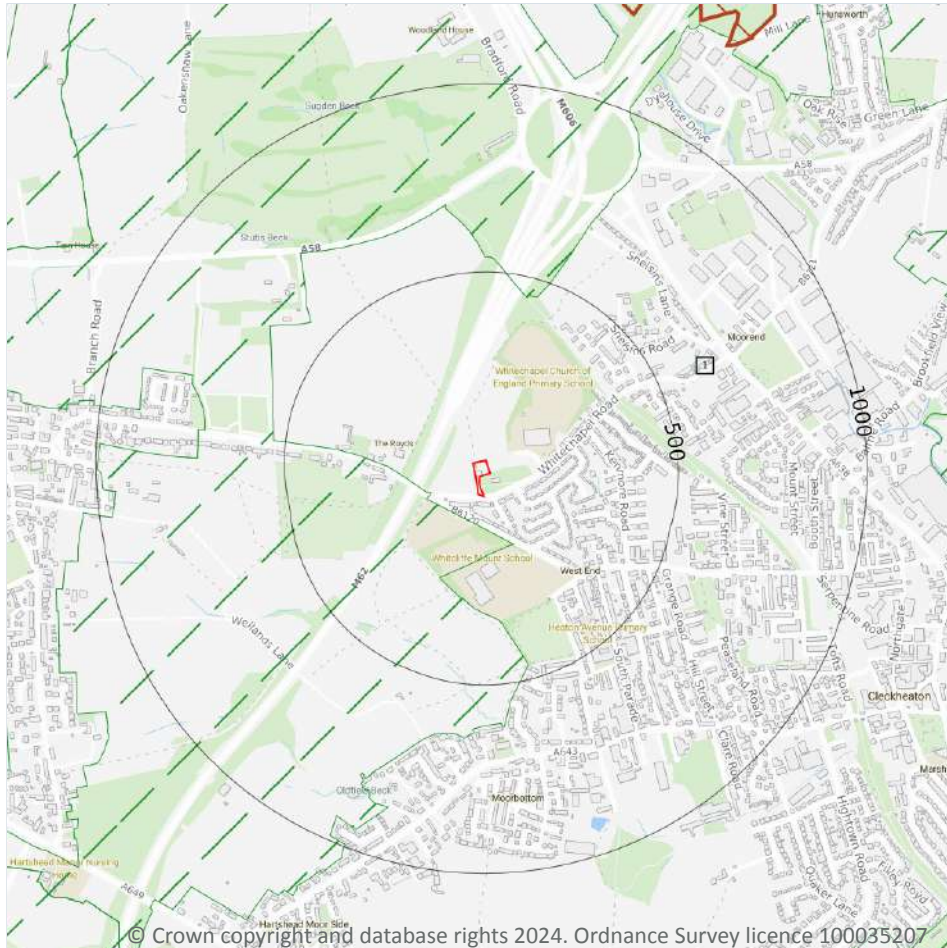
Negligible

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 58](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



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

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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



10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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



10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

4

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 59 >](#)

ID	Location	Name	Woodland Type
3	1246m N	Unknown	Ancient & Semi-Natural Woodland
4	1275m NE	Great And Little Hunsworth Woods	Ancient & Semi-Natural Woodland
-	1707m E	Fusden Wood	Ancient Replanted Woodland
-	1972m N	Chatts 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**4**

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

Features are displayed on the Environmental designations map on [page 59 >](#)

ID	Location	Name	Local Authority name
1	74m S	South and West Yorkshire Green Belt	Kirklees
2	1169m NW	South and West Yorkshire Green Belt	Bradford
5	1464m SW	South and West Yorkshire Green Belt	Calderdale
-	1978m N	South and West Yorkshire Green Belt	Bradford

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

2

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	Spenn Beck from Source to River Calder NVZ	Surface Water	271	Existing



Location	Name	Type	NVZ ID	Status
79m N	Spen Beck from Source to River Calder NVZ	Surface Water	271	Existing

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



SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0
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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.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0
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Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

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



11.2 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

1

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.

Features are displayed on the Visual and cultural designations map on [page 66 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
1	25m SE	Whitechapel Church, Cleckheaton	II	1184647	13/01/1984

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

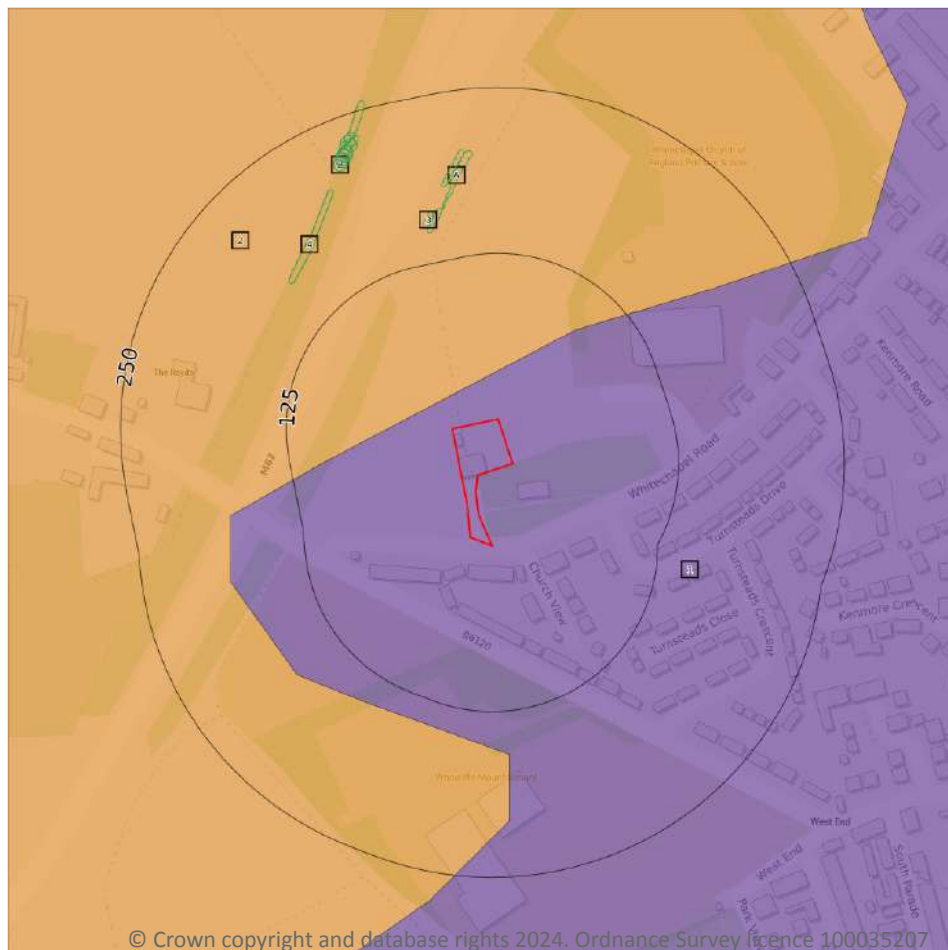
Records within 250m**0**

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 69](#) >

ID	Location	Classification	Description
1	On site	Urban	Non-agricultural/no quality assigned
2	23m NW	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.

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	15
----------------------------	-----------

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.

Features are displayed on the Agricultural designations map on [page 69 >](#)

ID	Location	Description	Reference	Application date
A	148m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-
3	152m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-
4	162m NW	Selective Fell/Thin (Unconditional)	018/366/15-16	-
A	180m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-
B	211m NW	Single Tree	018/366/15-16	-
B	213m NW	Single Tree	018/366/15-16	-
B	215m NW	Single Tree	018/366/15-16	-
B	216m NW	Single Tree	018/366/15-16	-
B	217m NW	Single Tree	018/366/15-16	-
B	218m NW	Single Tree	018/366/15-16	-
B	222m NW	Single Tree	018/366/15-16	-
B	222m N	Single Tree	018/366/15-16	-
B	225m N	Single Tree	018/366/15-16	-
B	226m N	Single Tree	018/366/15-16	-

ID	Location	Description	Reference	Application date
B	234m N	Selective Fell/Thin (Unconditional)	018/366/15-16	-

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

5

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 72 >](#)

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	1m S	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
A	29m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	183m W	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
3	203m W	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	0
----------------------------	----------

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

This data is sourced from Natural England.

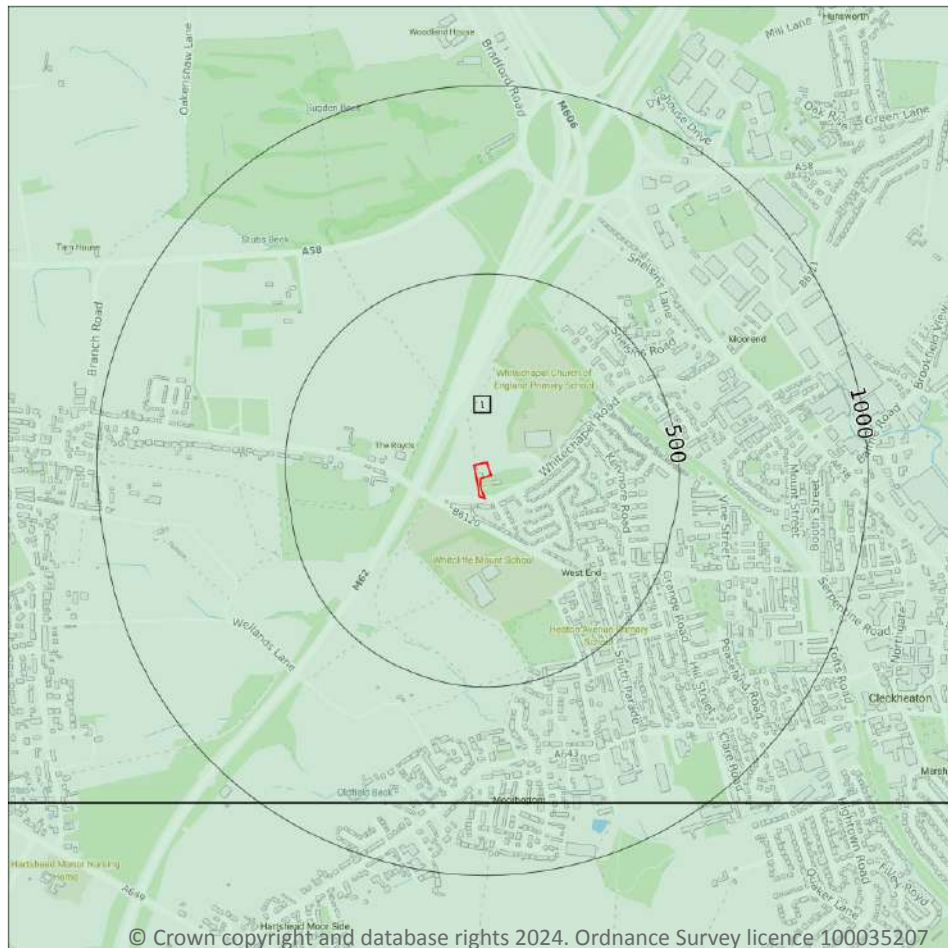
13.4 Limestone Pavement Orders

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

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



- Site Outline**
- Search buffers in metres (m)
- Full coverage
 - Partial coverage
 - No coverage

14.1 10k Availability

Records within 500m

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.

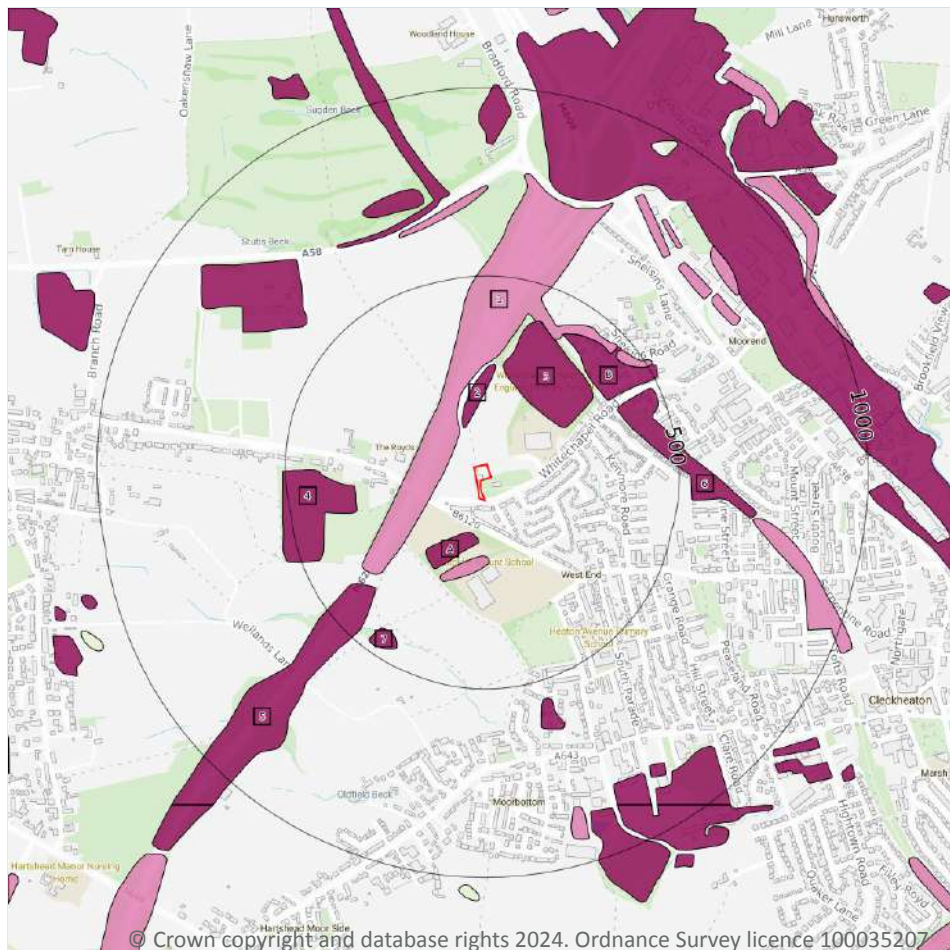
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 74](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SE12NE

This data is sourced from the British Geological Survey.



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



- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
 - Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

11

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 75](#) >

ID	Location	LEX Code	Description	Rock description
1	67m NW	WGR-VOID	Worked Ground (Undivided)	Void
A	94m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	108m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	148m S	WGR-VOID	Worked Ground (Undivided)	Void



ID	Location	LEX Code	Description	Rock description
3	198m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	320m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	355m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
5	363m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	376m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	426m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	445m NE	WGR-VOID	Worked Ground (Undivided)	Void

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

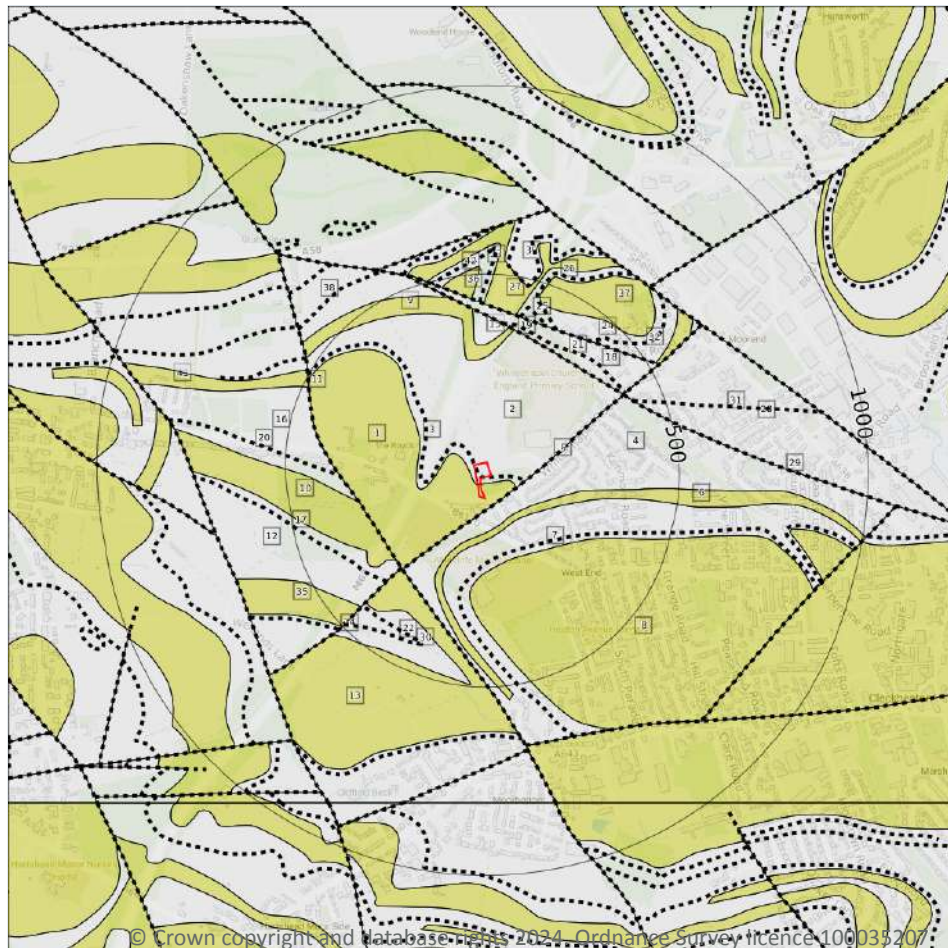
0

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

23

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 78 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
2	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
4	27m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age



ID	Location	LEX Code	Description	Rock age
6	78m SE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
8	176m S	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
9	273m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
10	276m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
12	278m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
13	281m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
15	311m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
16	317m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
18	342m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
22	362m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
24	393m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
27	398m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
28	405m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
33	422m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
35	429m SW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
36	436m N	FHR-SDST	Falhouse Rock - Sandstone	Langsettian Sub-age
37	444m N	FHR-SDST	Falhouse Rock - Sandstone	Langsettian Sub-age
38	446m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
39	480m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
41	485m NW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

19

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.

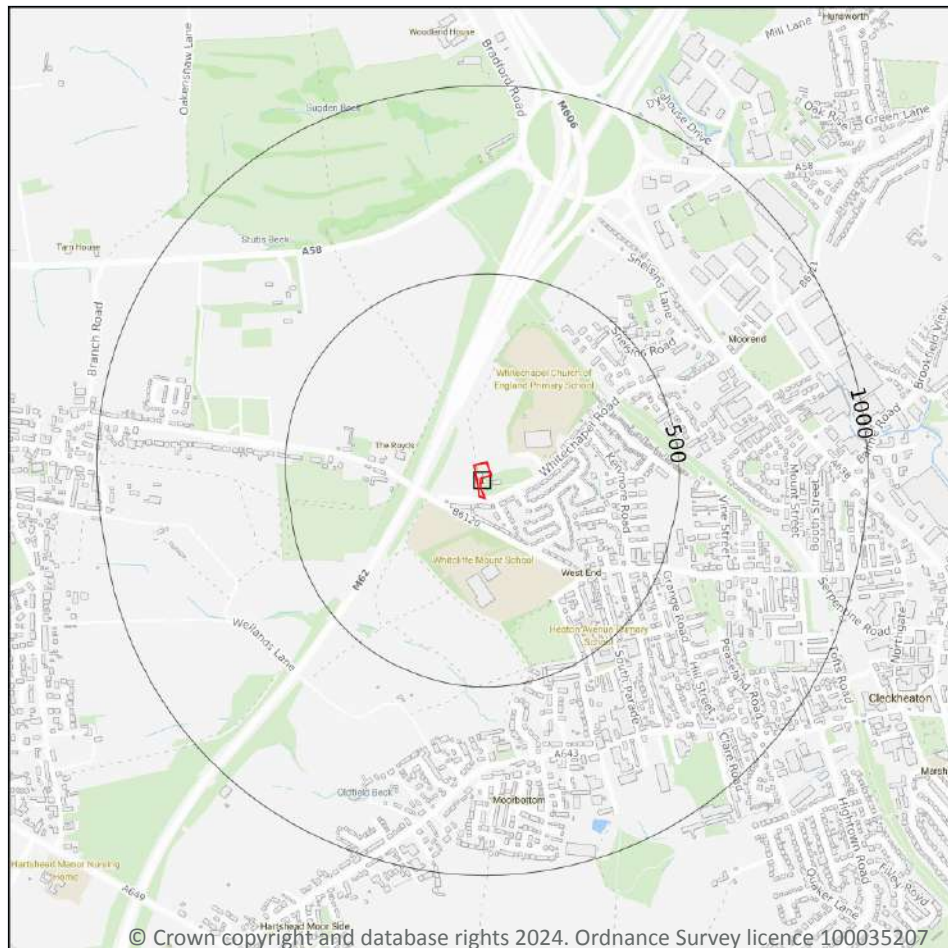
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 78 >](#)

ID	Location	Category	Description
3	On site	ROCK	Coal seam, inferred
5	27m S	FAULT	Normal fault, inferred
7	155m S	ROCK	Coal seam, inferred
11	276m SW	FAULT	Normal fault, inferred
14	281m SW	FAULT	Normal fault, inferred
17	334m SW	ROCK	Coal seam, inferred
19	342m NE	FAULT	Normal fault, inferred
20	356m W	ROCK	Coal seam, inferred
21	358m NE	ROCK	Coal seam, inferred
23	393m N	FAULT	Normal fault, inferred
25	394m NE	ROCK	Coal seam, inferred
26	397m NE	ROCK	Coal seam, inferred
29	405m NE	FAULT	Normal fault, inferred
30	413m SW	ROCK	Coal seam, inferred
31	421m NE	ROCK	Coal seam, inferred
32	421m NE	ROCK	Coal seam, inferred
34	427m N	ROCK	Coal seam, observed
40	480m N	ROCK	Coal seam, observed
42	493m N	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



- Site Outline
- Search buffers in metres (m)
- Geological map tile

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.

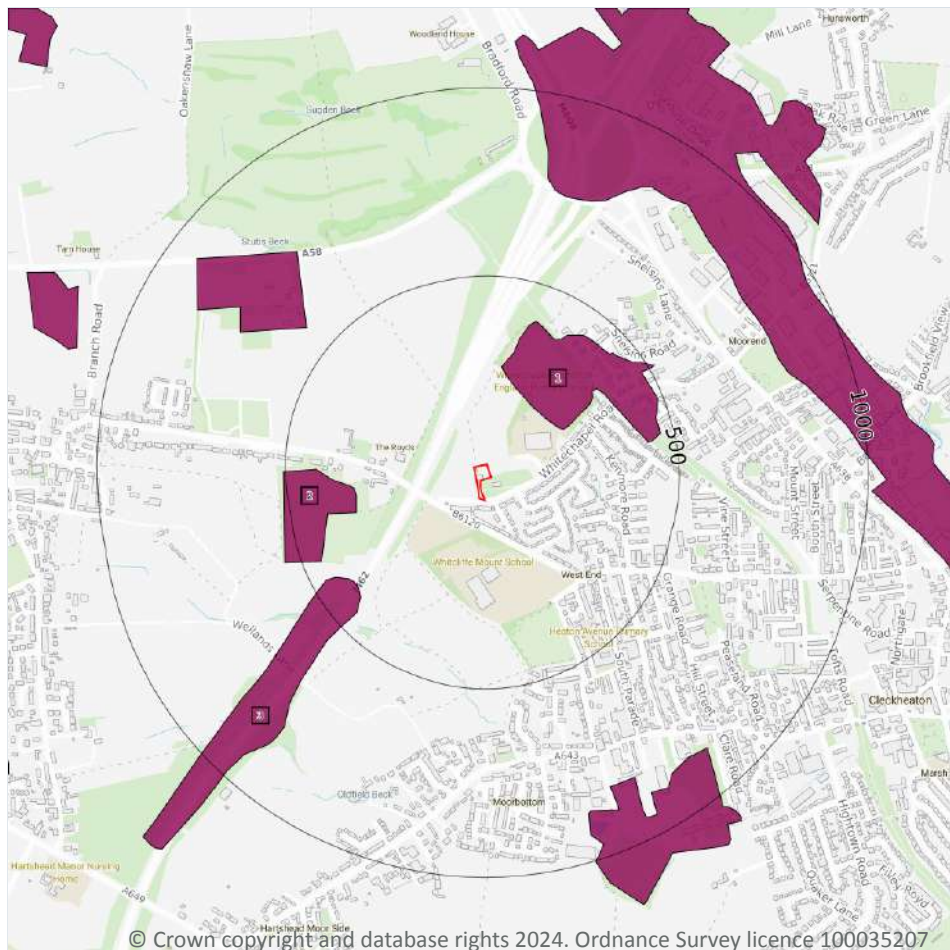
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 81](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW077_huddersfield_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

3

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 82](#) >

ID	Location	LEX Code	Description	Rock description
1	195m NE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	320m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	398m SW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial

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

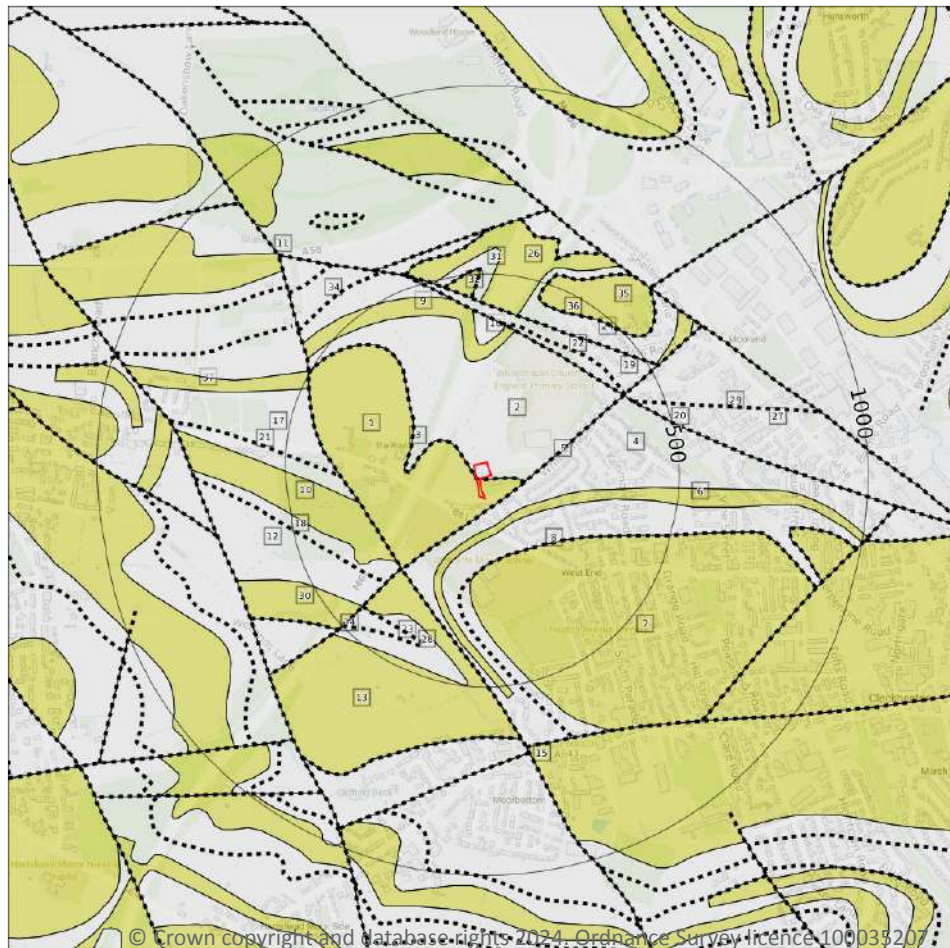
0

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



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

22

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 85](#) >

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

ID	Location	LEX Code	Description	Rock age
4	29m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	74m SE	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
7	163m S	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
9	270m N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
10	276m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
12	278m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	282m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
16	313m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
17	317m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
19	343m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
23	369m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
24	394m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
26	398m N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
27	404m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
30	425m SW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
31	426m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
32	438m N	FHR-SDST	FALHOUSE ROCK - SANDSTONE	WESTPHALIAN
34	443m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
35	445m N	FHR-SDST	FALHOUSE ROCK - SANDSTONE	WESTPHALIAN



ID	Location	LEX Code	Description	Rock age
37	483m NW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2
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A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	15
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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 85 >](#)

ID	Location	Category	Description
3	On site	ROCK	Coal seam, inferred
5	29m S	FAULT	Fault, inferred
8	163m S	ROCK	Coal seam, inferred
11	276m SW	FAULT	Fault, inferred
14	282m SW	FAULT	Fault, inferred
15	282m SW	FAULT	Fault, inferred
18	332m SW	ROCK	Coal seam, inferred
20	343m NE	FAULT	Fault, inferred
21	356m W	ROCK	Coal seam, inferred

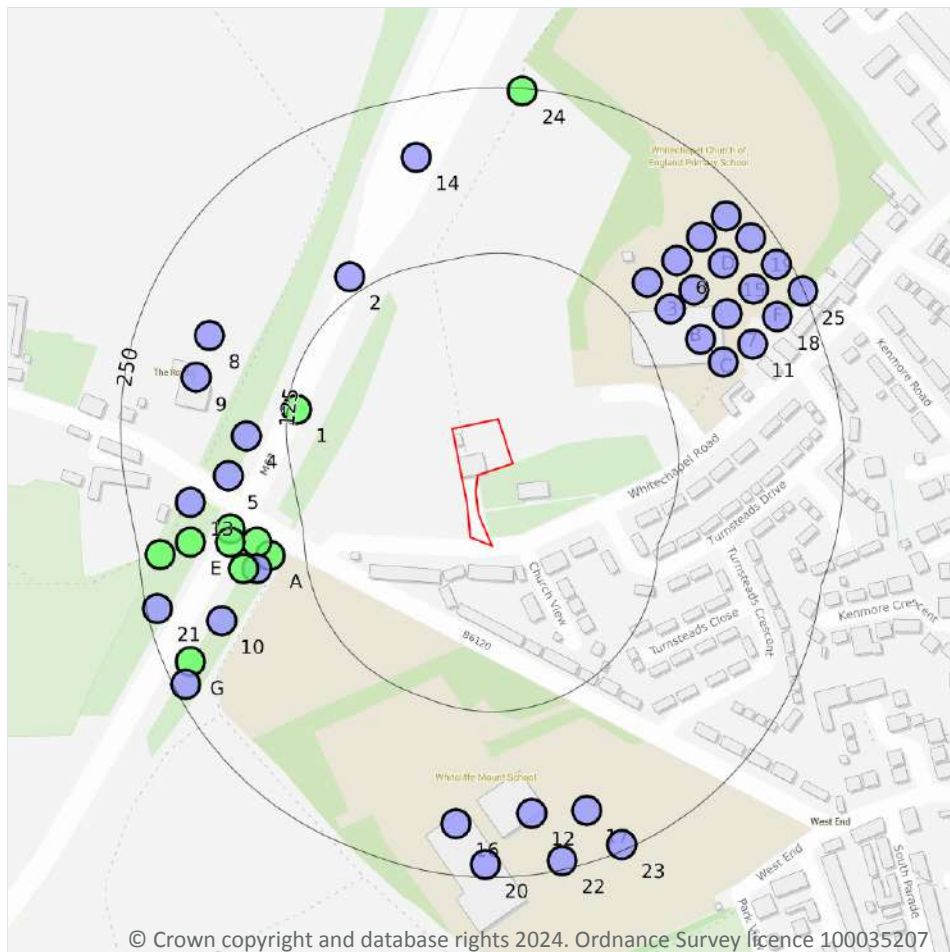


ID	Location	Category	Description
22	361m NE	ROCK	Coal seam, inferred
25	394m N	FAULT	Fault, inferred, displacement unknown
28	410m SW	ROCK	Coal seam, inferred
29	420m NE	ROCK	Coal seam, inferred
33	438m N	ROCK	Coal seam, inferred
36	445m N	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

43

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

Features are displayed on the Boreholes map on [page 89](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	118m W	417750 425910	M62 MOTORWAY F33	12.19	N	41986 ↗
2	138m NW	417790 426010	M62 MOTORWAY F34	6.1	N	41987 ↗
A	151m SW	417730 425800	M62 MOTORWAY F32	15.24	N	42027 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
3	153m NE	418014 426006	SPENBOROUGH/CLECKHEATON 13	4.57	N	42655 ↗
B	154m NE	418031 425986	SPENBOROUGH/CLECKHEATON 14	3.05	N	42656 ↗
4	155m W	417712 425890	WIDENING SCHEME M62 JUNCTION 25-26 2007/TP51	1.5	N	18949987 ↗
A	160m W	417720 425810	M62 MOTORWAY F30	12.19	N	42025 ↗
A	162m SW	417720 425790	M62 MOTORWAY F31	7.62	N	42026 ↗
C	164m NE	418054 425963	SPENBOROUGH/CLECKHEATON 15	3.05	N	42657 ↗
A	172m SW	417710 425790	M62 MOTORWAY F29	22.86	N	42024 ↗
5	173m W	417698 425860	WIDENING SCHEME M62 JUNCTION 25-26 2007/TP50	1.1	N	18949985 ↗
C	175m NE	418071 425946	SPENBOROUGH/CLECKHEATON 16	4.57	N	42658 ↗
B	177m NE	418049 426000	SPENBOROUGH/CLECKHEATON 10	3.05	N	42652 ↗
A	179m W	417700 425820	M62 MOTORWAY F28	22.86	N	42023 ↗
6	180m NE	418036 426022	SPENBOROUGH/CLECKHEATON 9	3.05	N	42651 ↗
A	180m W	417700 425810	M62 MOTORWAY F27	12.19	N	42022 ↗
7	190m NE	418074 425982	SPENBOROUGH/CLECKHEATON 11	3.05	N	42653 ↗
8	196m NW	417684 425966	THE ROYDS, CLECKHEATON 2	8.0	N	17979949 ↗
9	197m W	417674 425934	THE ROYDS, CLECKHEATON 1	5.0	N	17979948 ↗
10	198m SW	417693 425751	WIDENING SCHEME M62 JUNCTION 25-26 2007/TP49	1.0	N	18949984 ↗
11	200m NE	418093 425959	SPENBOROUGH/CLECKHEATON 12	3.05	N	42654 ↗
12	204m S	417927 425606	WHITCLIFFE MOUNT GRM SCH 5	2.44	N	42662 ↗
13	204m W	417670 425840	M62 MOTORWAY F23	7.62	N	42020 ↗
14	206m N	417840 426100	M62 MOTORWAY F35	6.1	N	41988 ↗
D	206m NE	418055 426040	SPENBOROUGH/CLECKHEATON 5	3.05	N	42647 ↗
15	206m NE	418071 426020	SPENBOROUGH/CLECKHEATON 6	3.05	N	42648 ↗
E	210m W	417670 425810	M62 MOTORWAY F25	22.86	N	42021 ↗
16	211m S	417870 425598	WHITCLIFFE MOUNT GRM SCH 8	3.05	N	42665 ↗
17	212m S	417968 425608	WHITCLIFFE MOUNT GRM SCH 1	2.44	N	42659 ↗

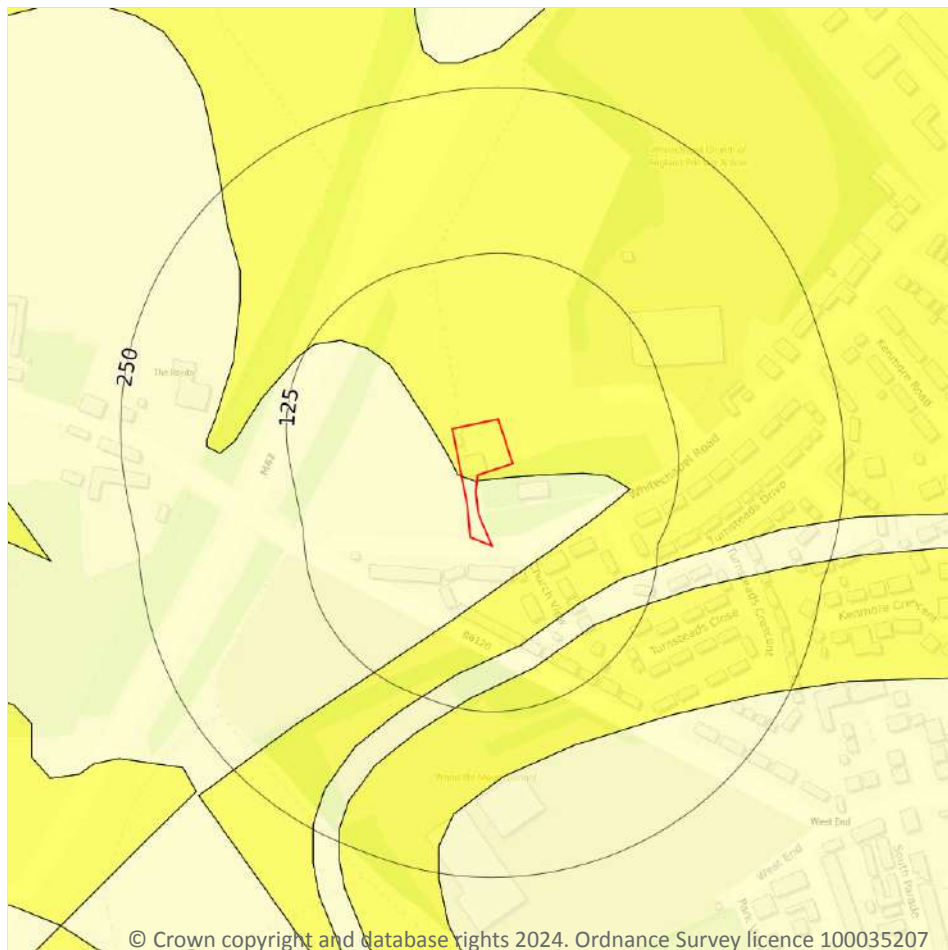


ID	Location	Grid reference	Name	Length	Confidential	Web link
F	216m NE	418094 426001	SPENBOROUGH/CLECKHEATON 7	3.05	N	42649 ↗
18	224m NE	418112 425980	SPENBOROUGH/CLECKHEATON 8	3.05	N	42650 ↗
D	230m NE	418073 426056	SPENBOROUGH/CLECKHEATON 1	5.49	N	42643 ↗
G	230m SW	417670 425720	M62 MOTORWAY F22	10.67	N	41985 ↗
E	234m W	417647 425801	WIDENING SCHEME M62 JUNCTION 25-26 2007/BH14	11.5	N	18949964 ↗
19	234m NE	418092 426039	SPENBOROUGH/CLECKHEATON 2	3.05	N	42644 ↗
F	240m NE	418111 426019	SPENBOROUGH/CLECKHEATON 3	3.96	N	42645 ↗
20	240m S	417892 425567	WHITCLIFFE MOUNT GRM SCH 9	2.13	N	42666 ↗
G	241m SW	417666 425703	WIDENING SCHEME M62 JUNCTION 25-26 2007/TP48	1.2	N	18949983 ↗
21	242m SW	417645 425760	WIDENING SCHEME M62 JUNCTION 25-26 2007/TP47	1.3	N	18949981 ↗
22	243m S	417950 425570	WHITCLIFFE MOUNT GRM SCH 6	2.13	N	42663 ↗
23	246m S	417995 425582	WHITCLIFFE MOUNT GRM SCH 2	2.44	N	42660 ↗
24	248m N	417920 426150	M62 MOTORWAY F39	18.29	N	42030 ↗
25	249m NE	418131 425999	SPENBOROUGH/CLECKHEATON 4	5.18	N	42646 ↗

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.1 Shrink swell clays

Records within 50m

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).

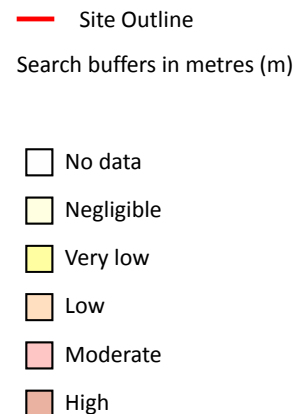
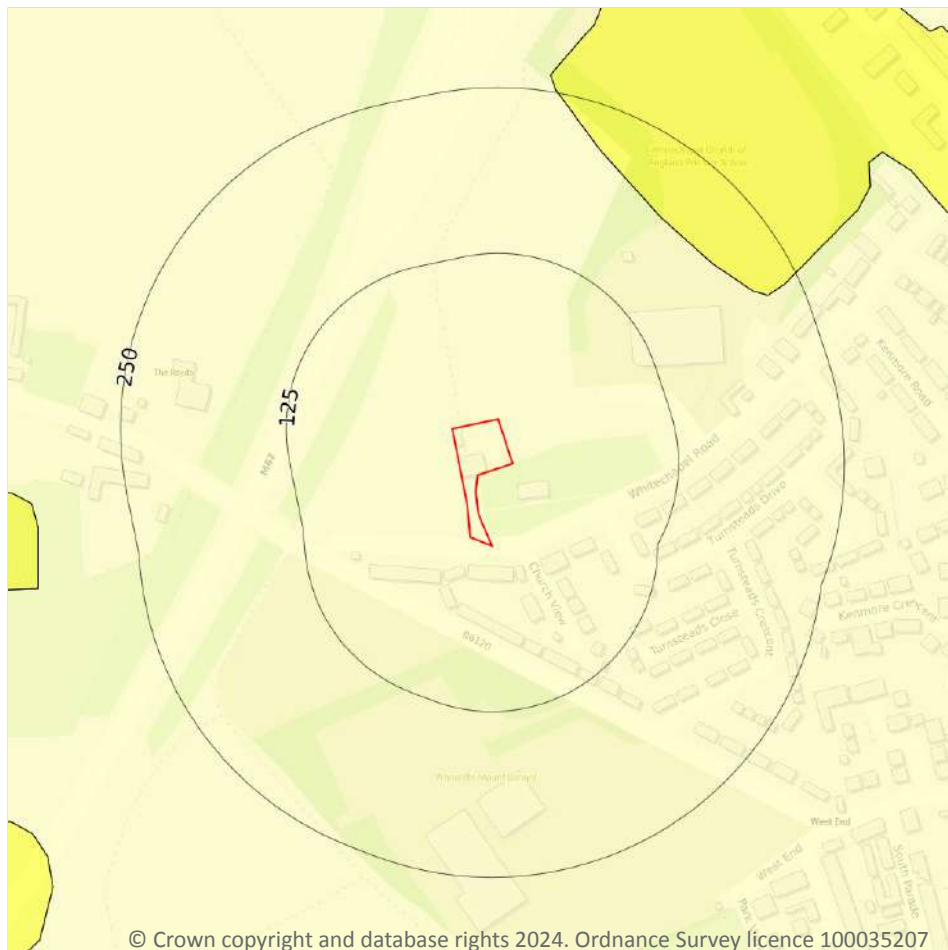
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 92 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

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

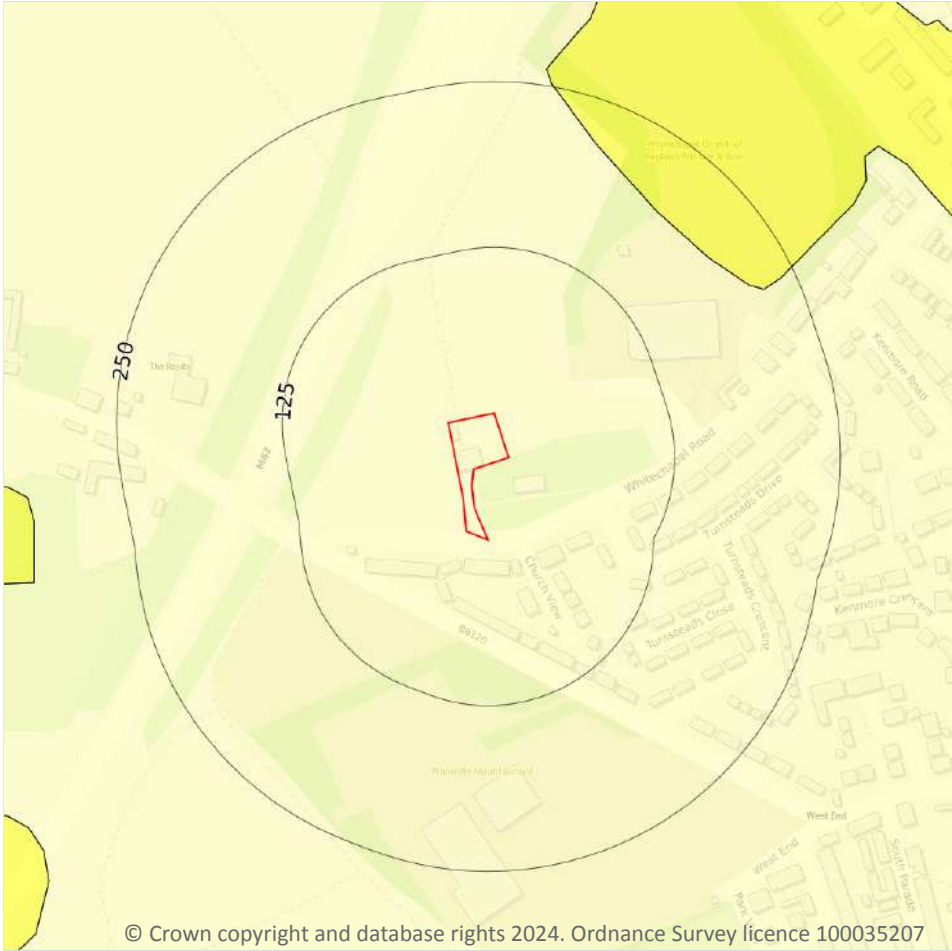
Features are displayed on the Natural ground subsidence - Running sands map on [page 93](#) >

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

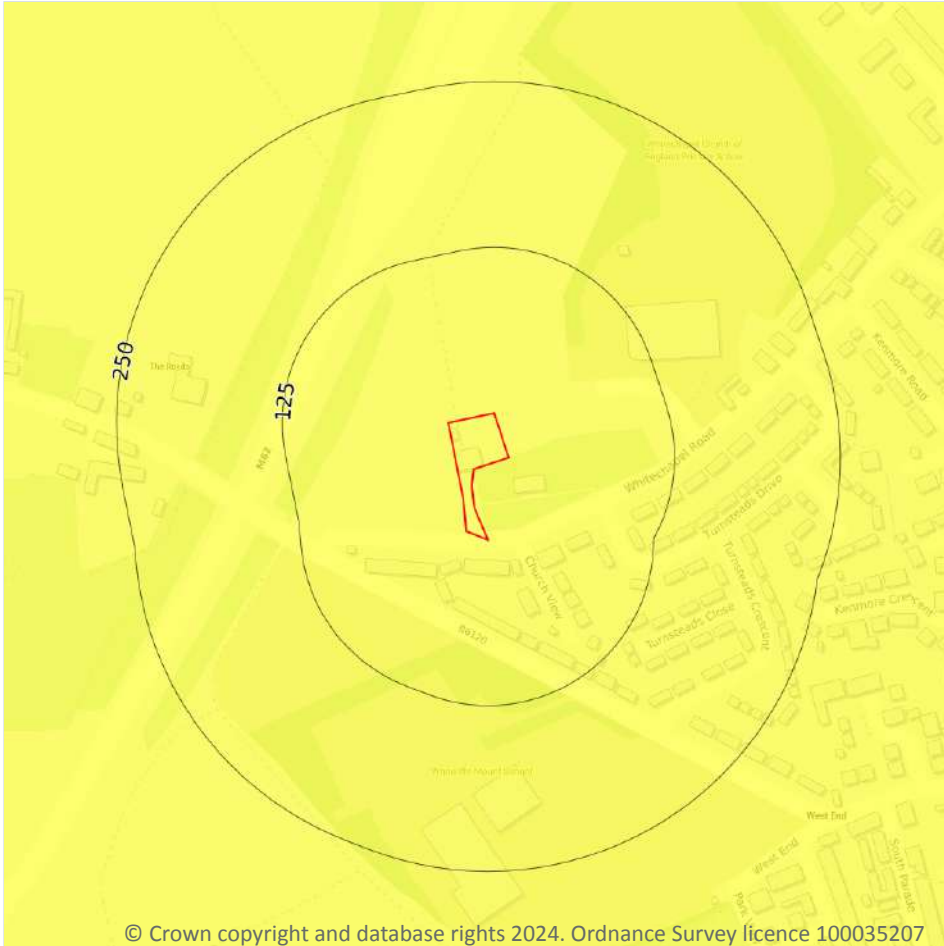
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 94](#) >

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



- 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.

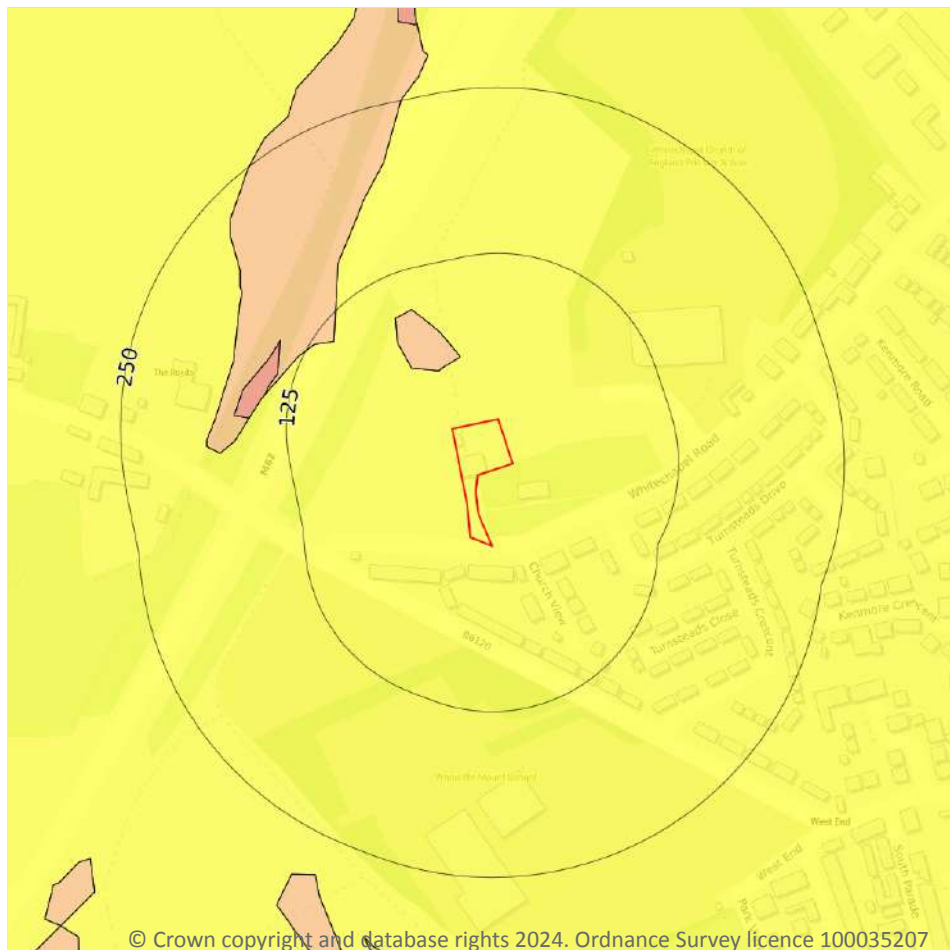
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 95 >](#)

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

2

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

Features are displayed on the Natural ground subsidence - Landslides map on [page 96](#) >

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

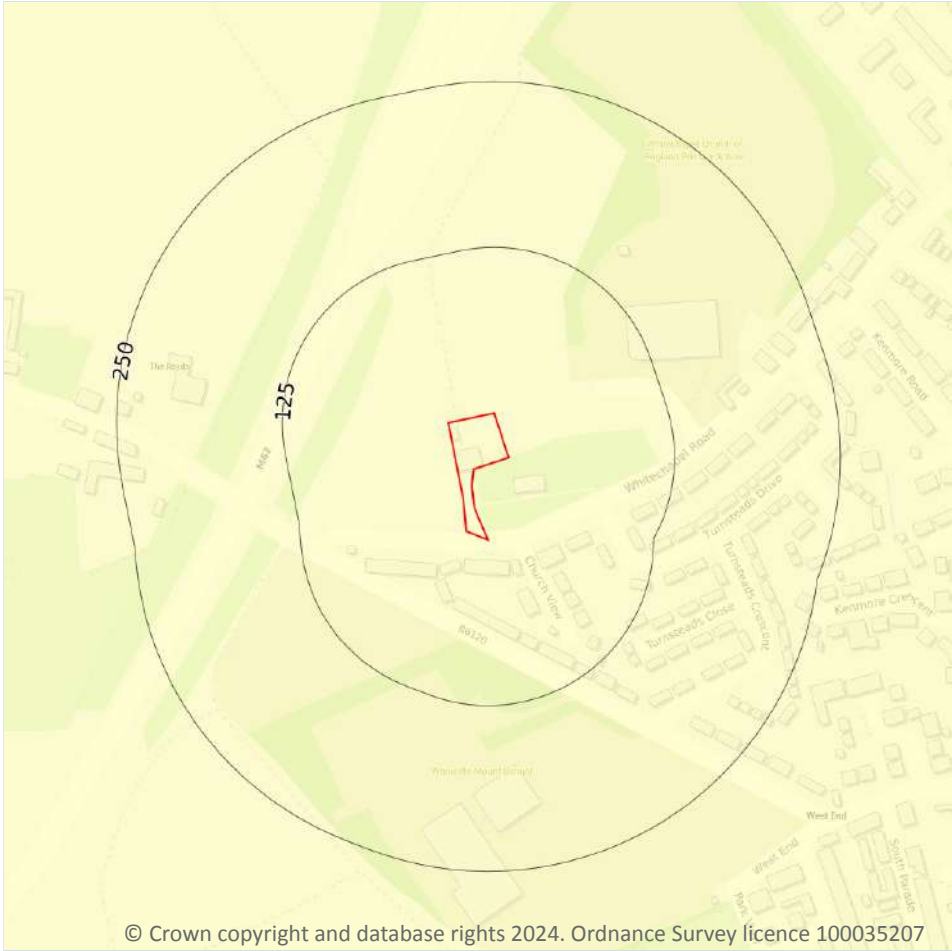


Location	Hazard rating	Details
45m NW	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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.

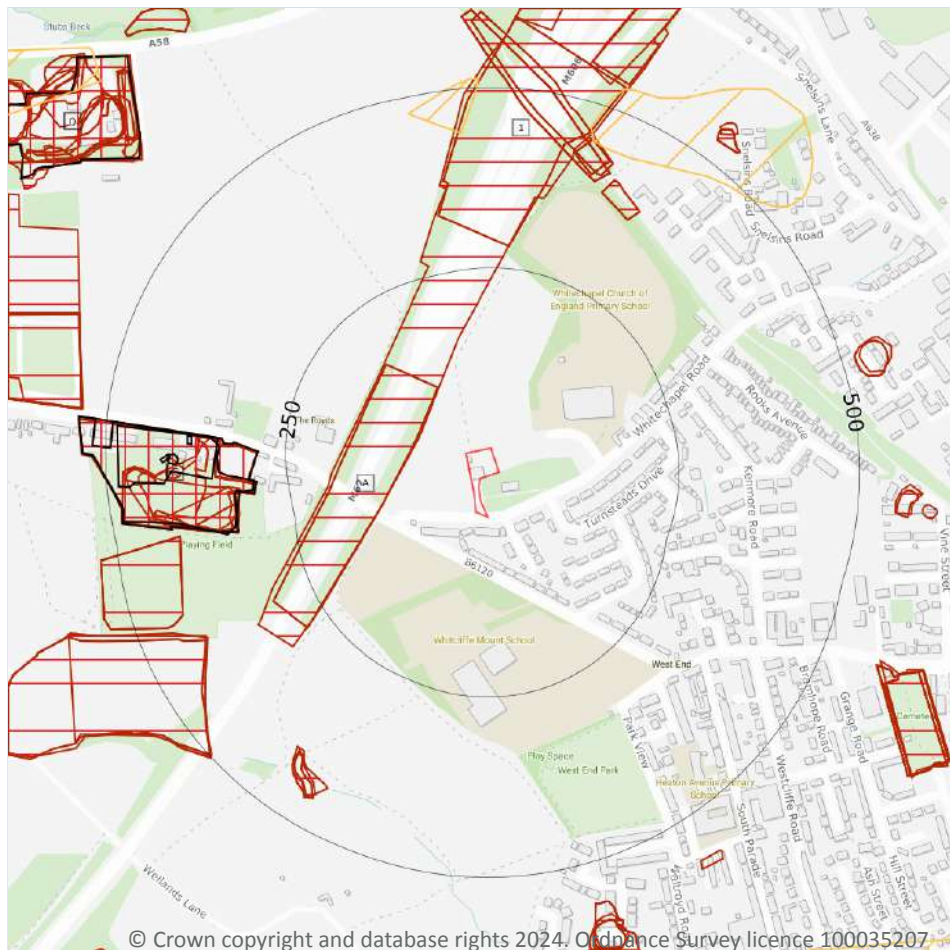
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 98](#)

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

0

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.

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m

3

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 100 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
1	68m NW	Cuttings	1974	1:10000
A	71m NW	Cuttings	1990	1:10000
A	71m NW	Cuttings	1983	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

16

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 100 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
C	289m W	Disused Colliery	1955	1:10560
C	297m W	Disused Colliery	1948	1:10560
C	345m W	Colliery	1905	1:10560
C	381m W	Unspecified Old Shafts	1948	1:10560
C	399m W	Unspecified Old Shafts	1948	1:10560
C	411m W	Unspecified Old Shafts	1955	1:10560
Q	610m NW	Colliery	1905	1:10560
-	758m N	Unspecified Old Shaft	1948	1:10560
-	765m NW	Disused Air Shaft	1990	1:10000
-	765m NW	Disused Air Shaft	1983	1:10000
-	765m NW	Disused Air Shaft	1974	1:10000
-	768m NW	Unspecified Shaft	1905	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
-	768m NW	Old Air Shaft	1948	1:10560
-	771m NW	Old Air Shaft	1955	1:10560
-	775m N	Unspecified Old Shaft	1948	1:10560
-	775m N	Unspecified Old Shafts	1955	1:10560

This 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 **7**

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 100 >](#)

ID	Location	Name	Commodity	Class	Likelihood
2	438m N	Leeds/Bradford area	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.
J	445m N	Leeds/Bradford area	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.
6	668m S	Leeds/Bradford area	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.
7	723m NW	Leeds/Bradford area	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.
-	829m S	Leeds/Bradford area	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.
-	909m S	Leeds/Bradford area	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.
-	932m N	Leeds/Bradford area	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
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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.

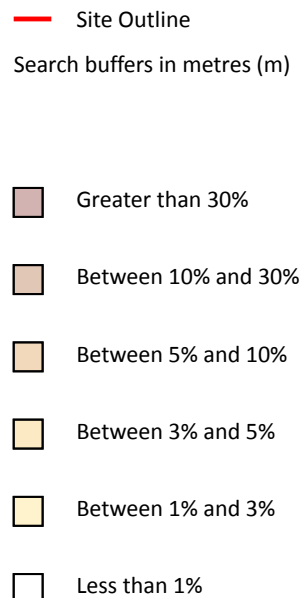
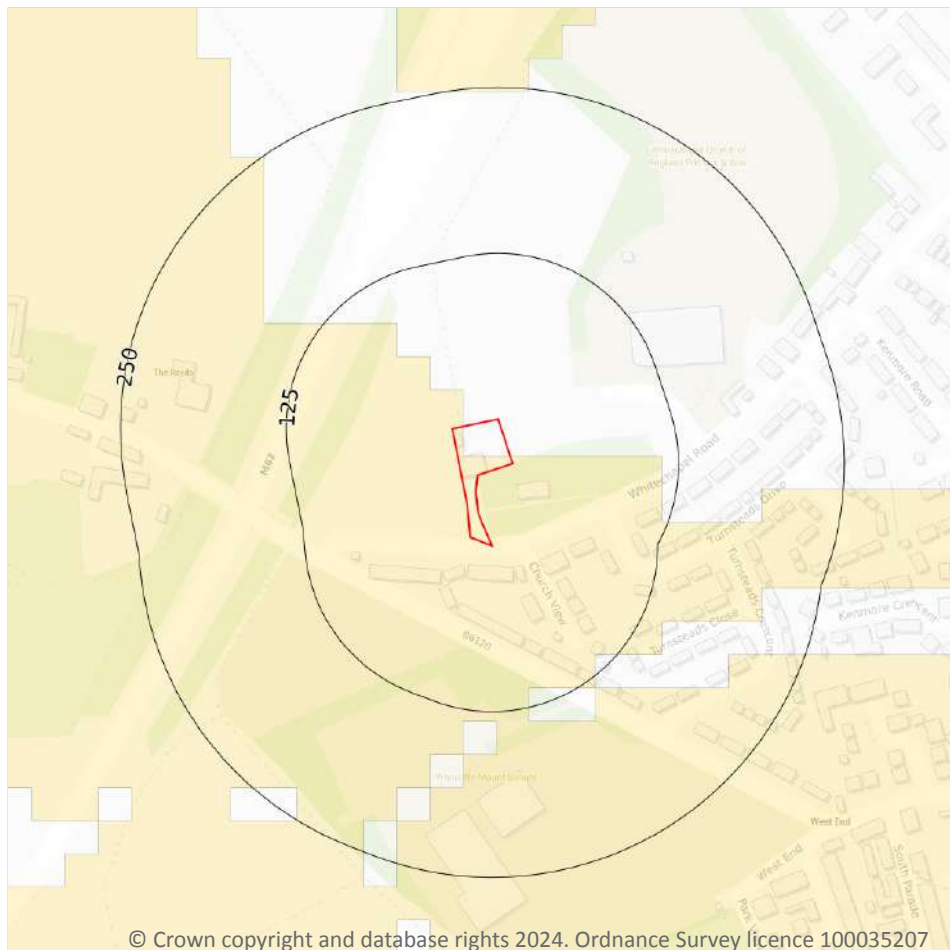
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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



20.1 Radon

Records on site

2

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 109](#) >

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



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

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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

3

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	35 - 45 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	35 - 45 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
29m S	35 - 45 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 km²).

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 km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

22.1 Underground railways (London)

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

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

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

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

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

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

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

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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

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

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

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

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

This data is sourced from OpenStreetMap.

22.7 Railways

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

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 2

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

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

This data is sourced from publicly available information by Groundsure.

22.9 HS2

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

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

This data is sourced from HS2 Ltd.

Data providers

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

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Appendix 3

Historical Maps

Site Details:

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ROAD, CLECKHEATON, BD19
6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1893-1894

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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Surveyed 1894
Revised 1894
Edition N/A
Copyright N/A
Levelled N/A

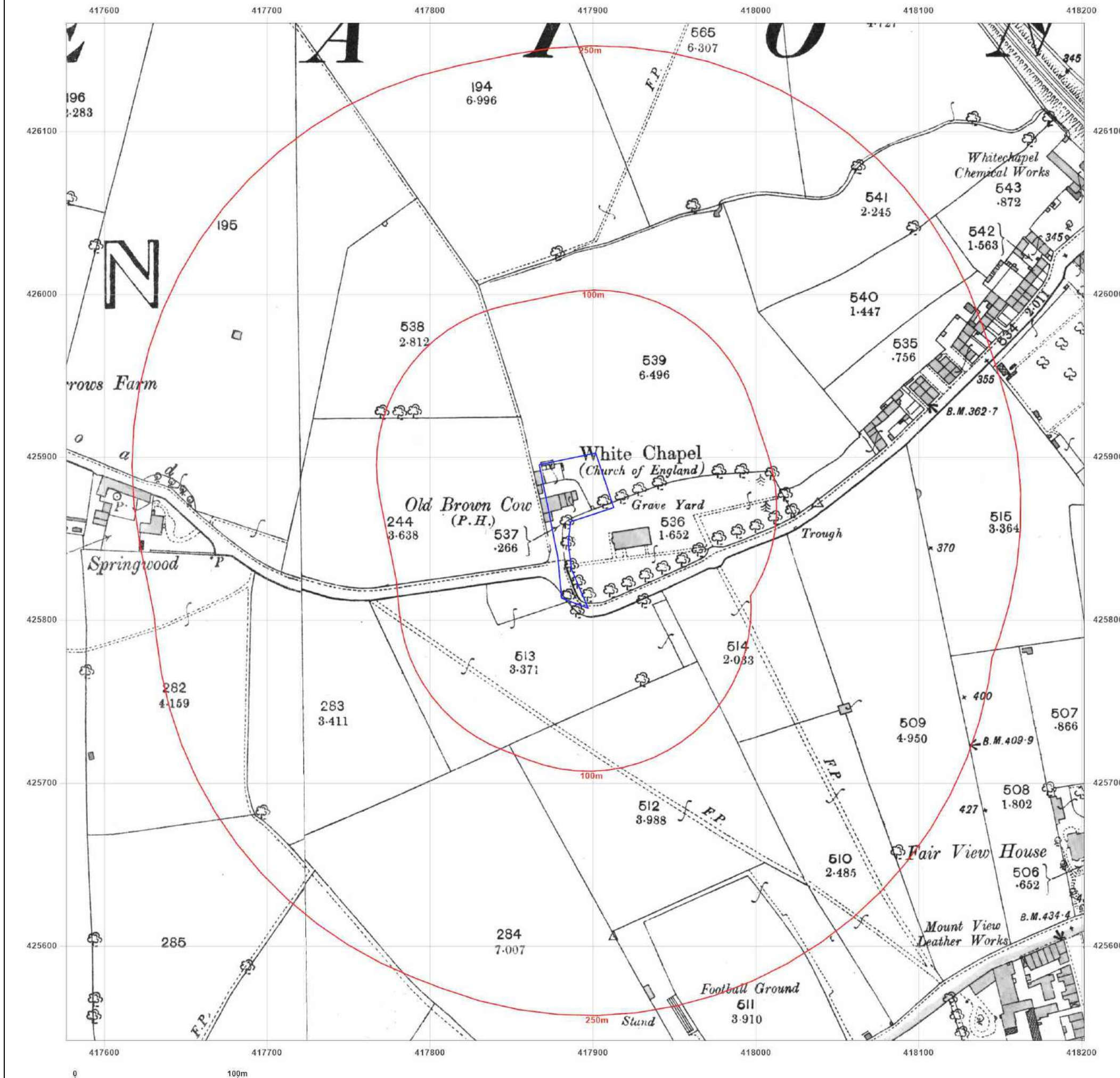


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ROAD, CLECKHEATON, BD19
6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1907

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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Revised 1907
Edition N/A
Copyright N/A
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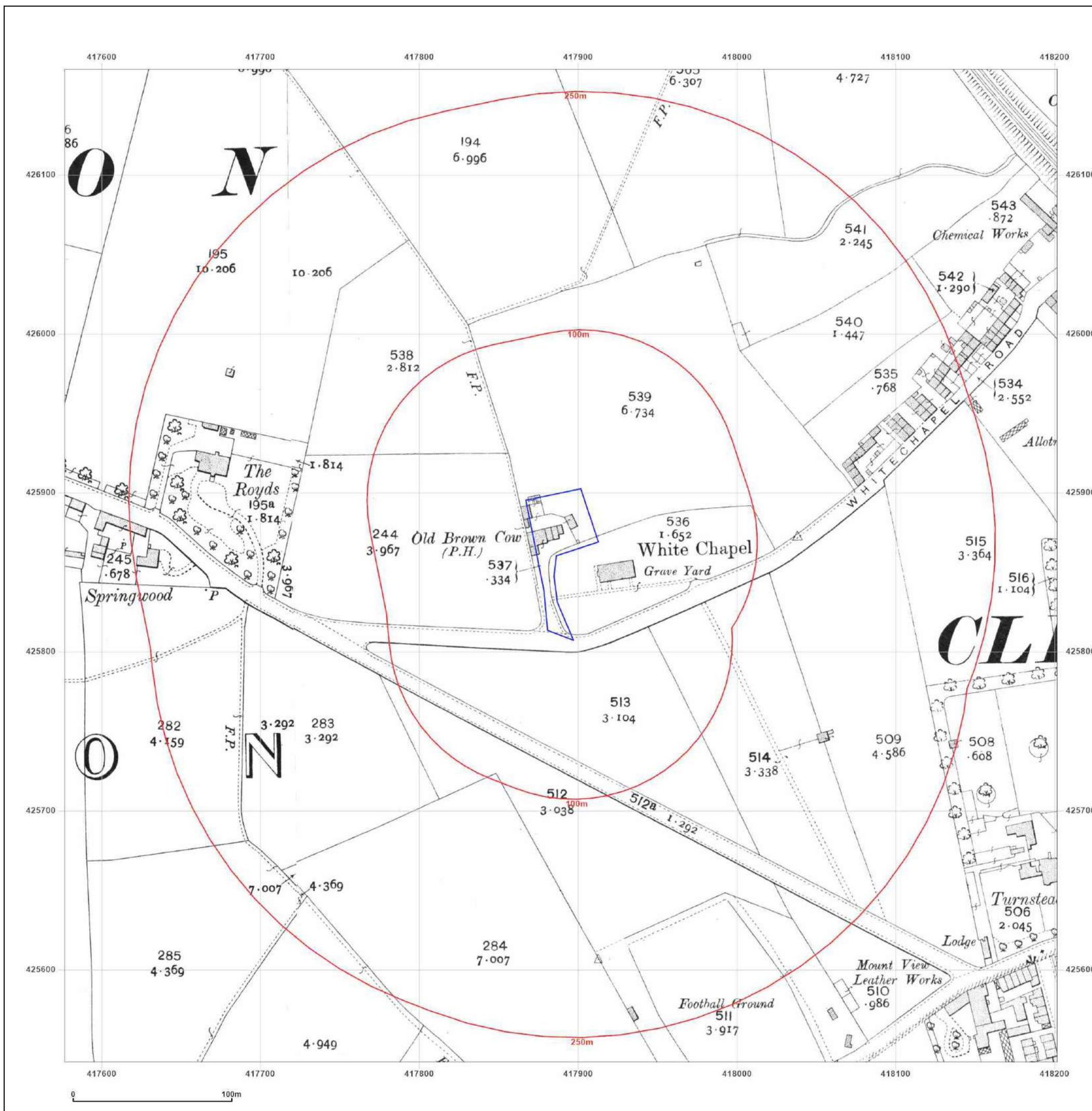


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6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500



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Revised 1922
Edition N/A
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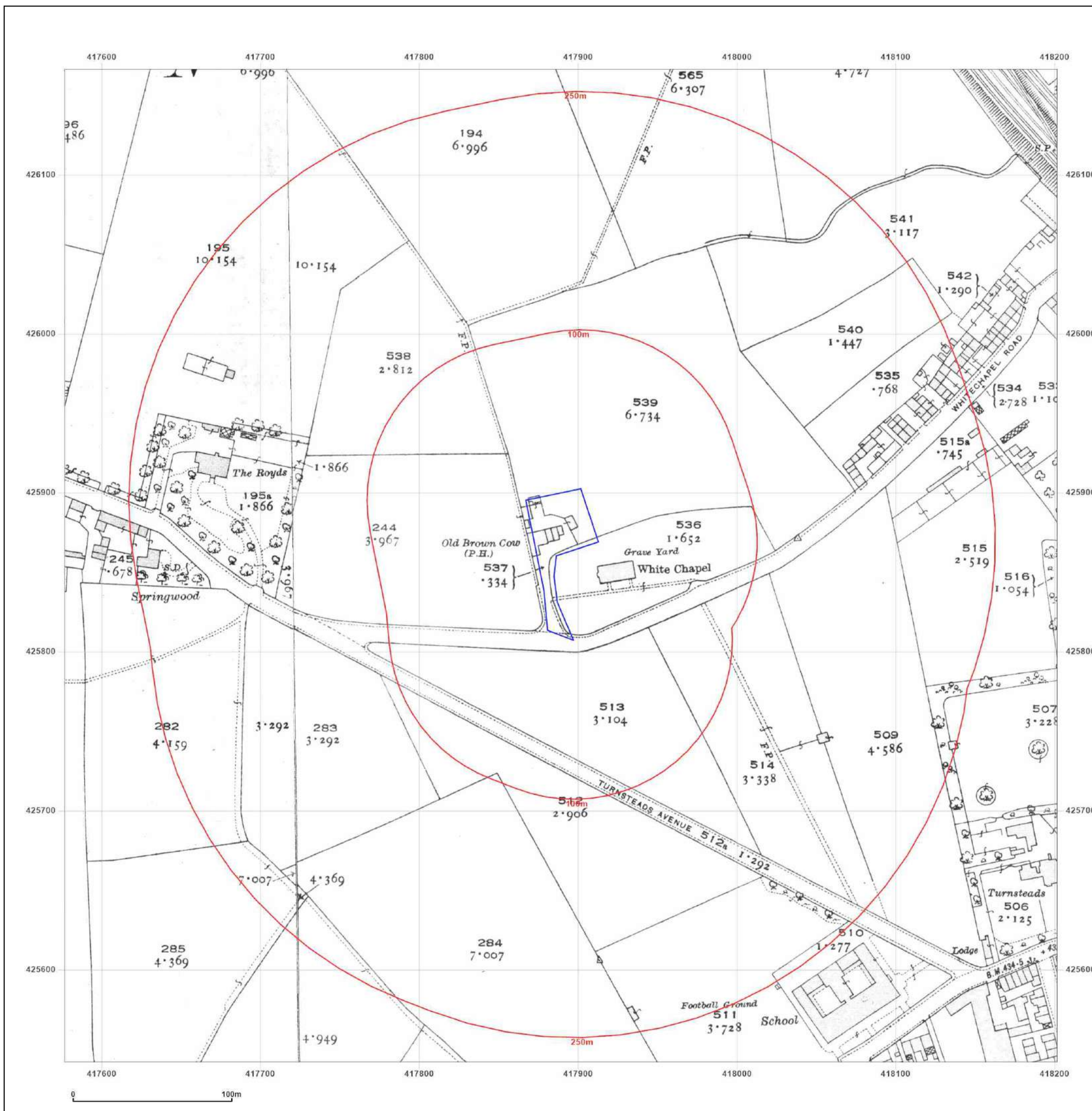


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1933

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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Surveyed 1933
Revised 1933
Edition N/A
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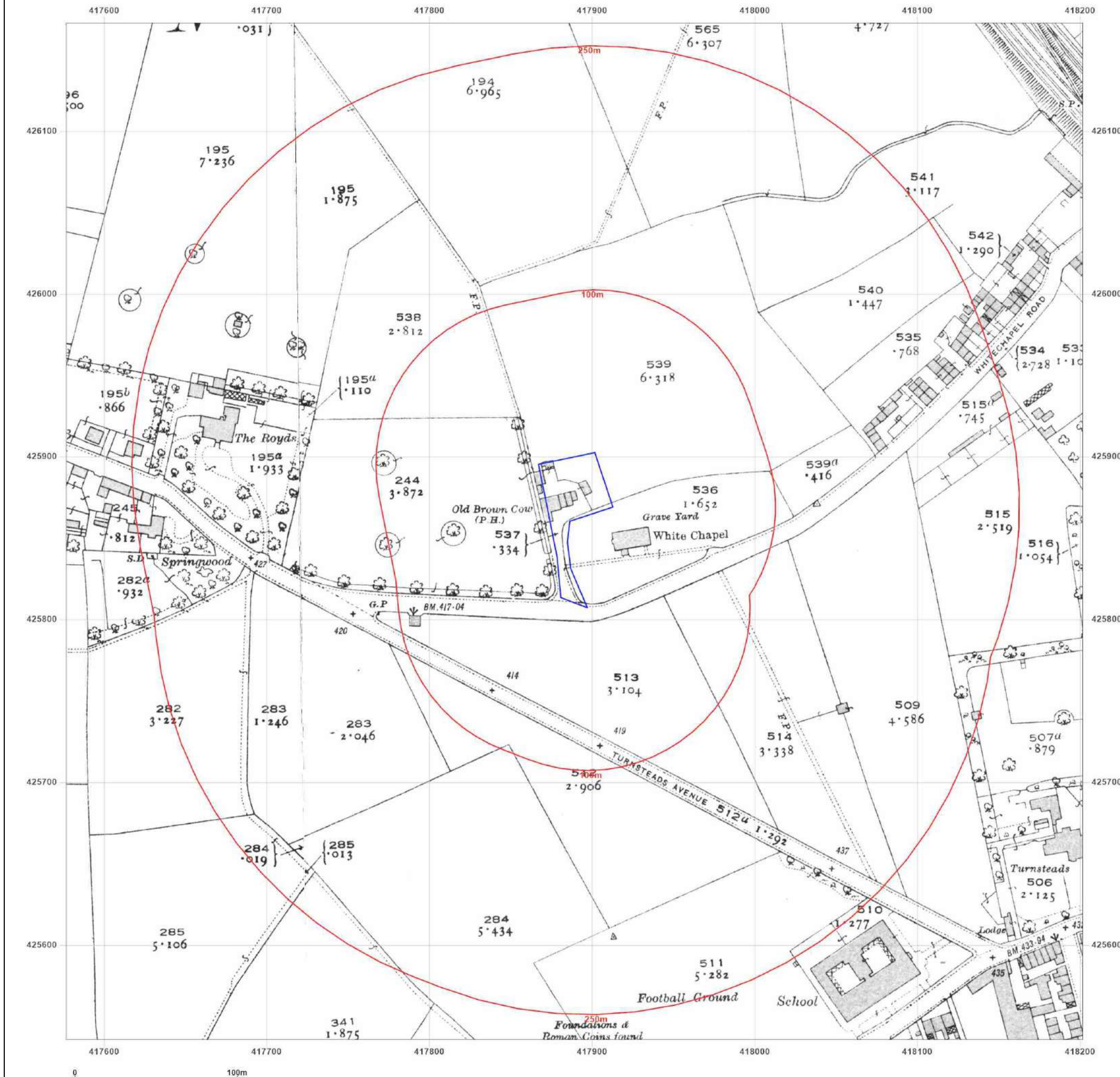


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1938

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1938
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Edition N/A
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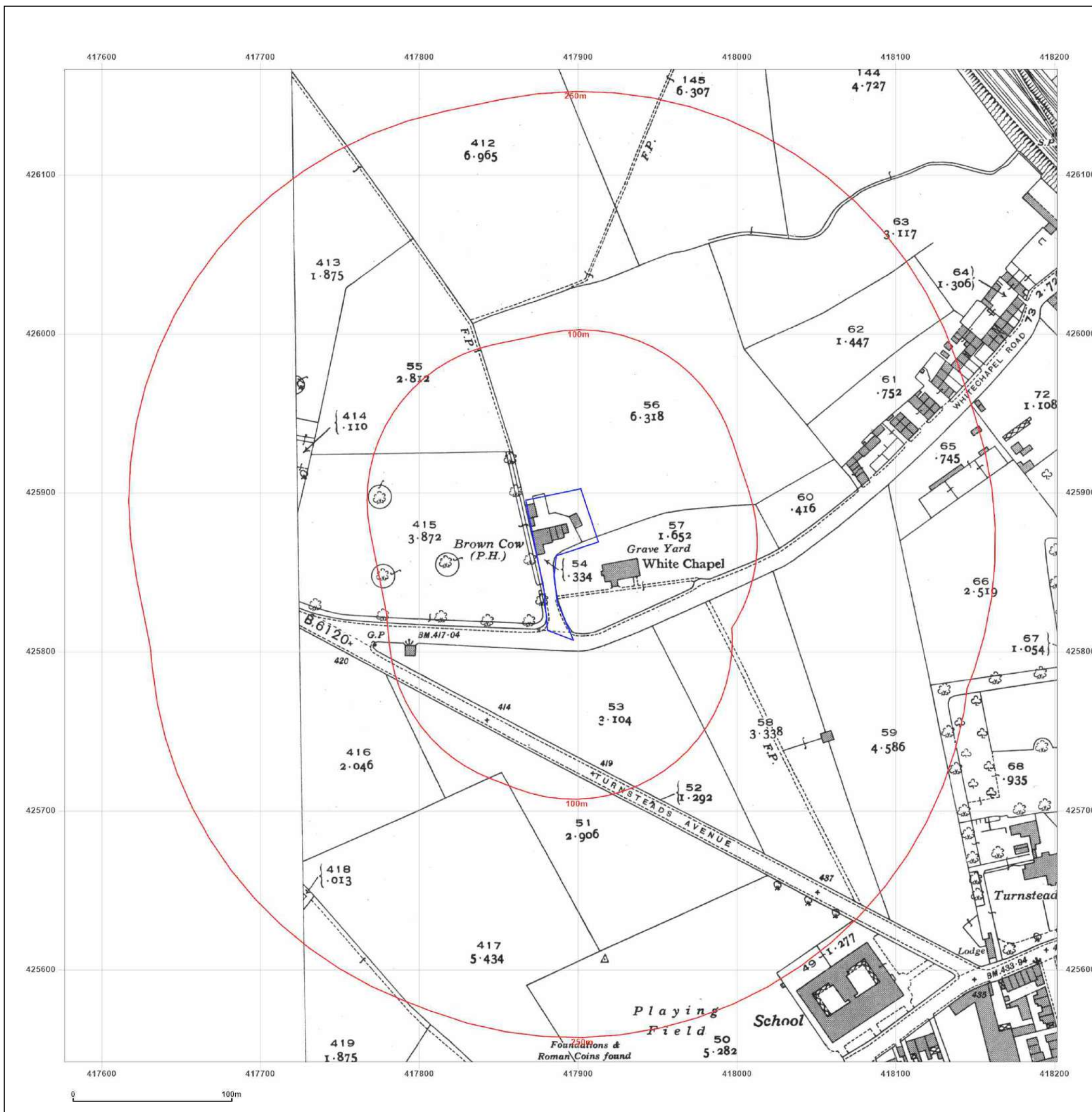


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1956-1957

Scale: 1:1,250

Printed at: 1:2,000



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Edition N/A
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Surveyed 1957
Revised 1957
Edition N/A
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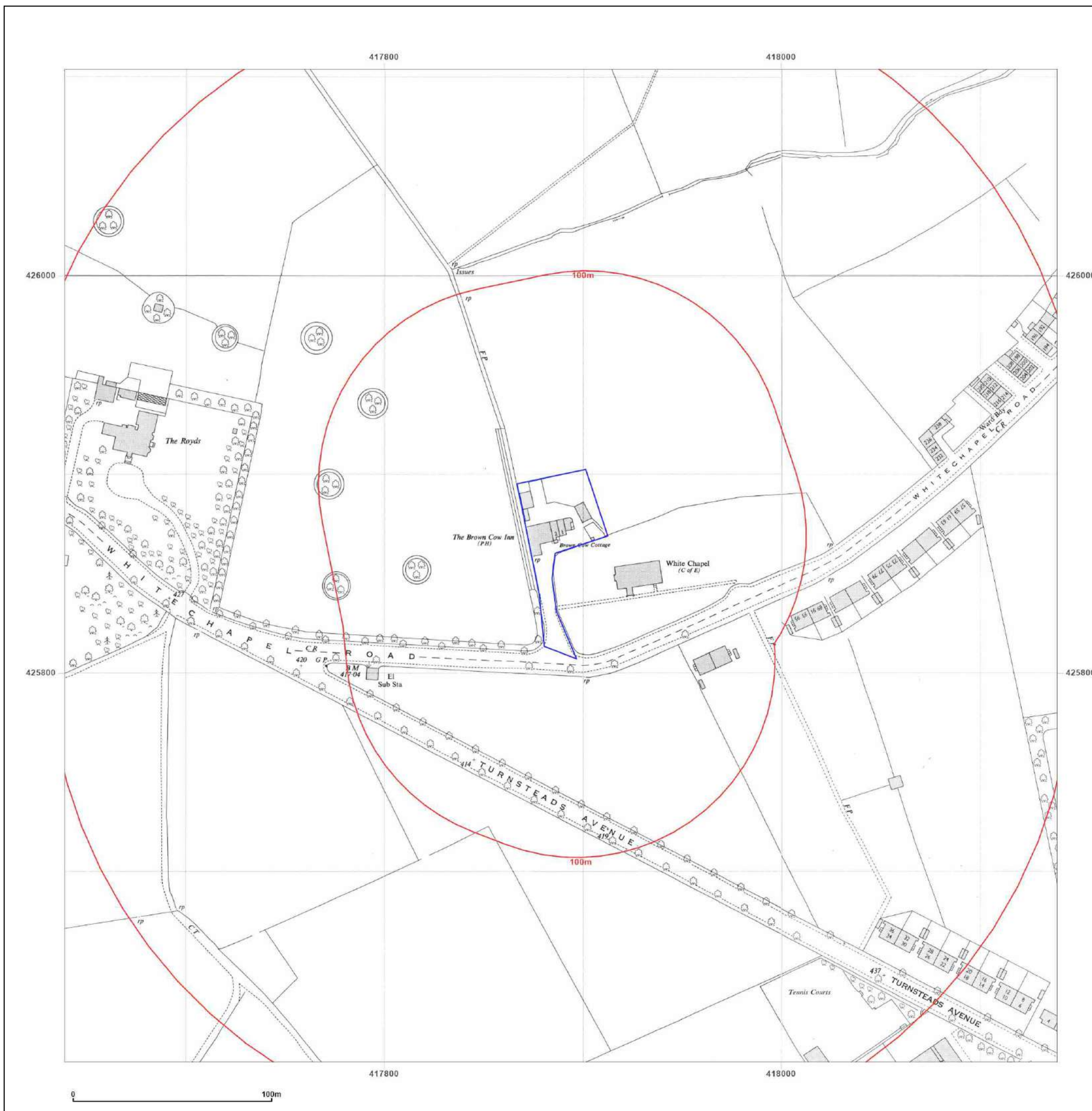


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1957-1958

Scale: 1:1,250

Printed at: 1:2,000



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Edition N/A
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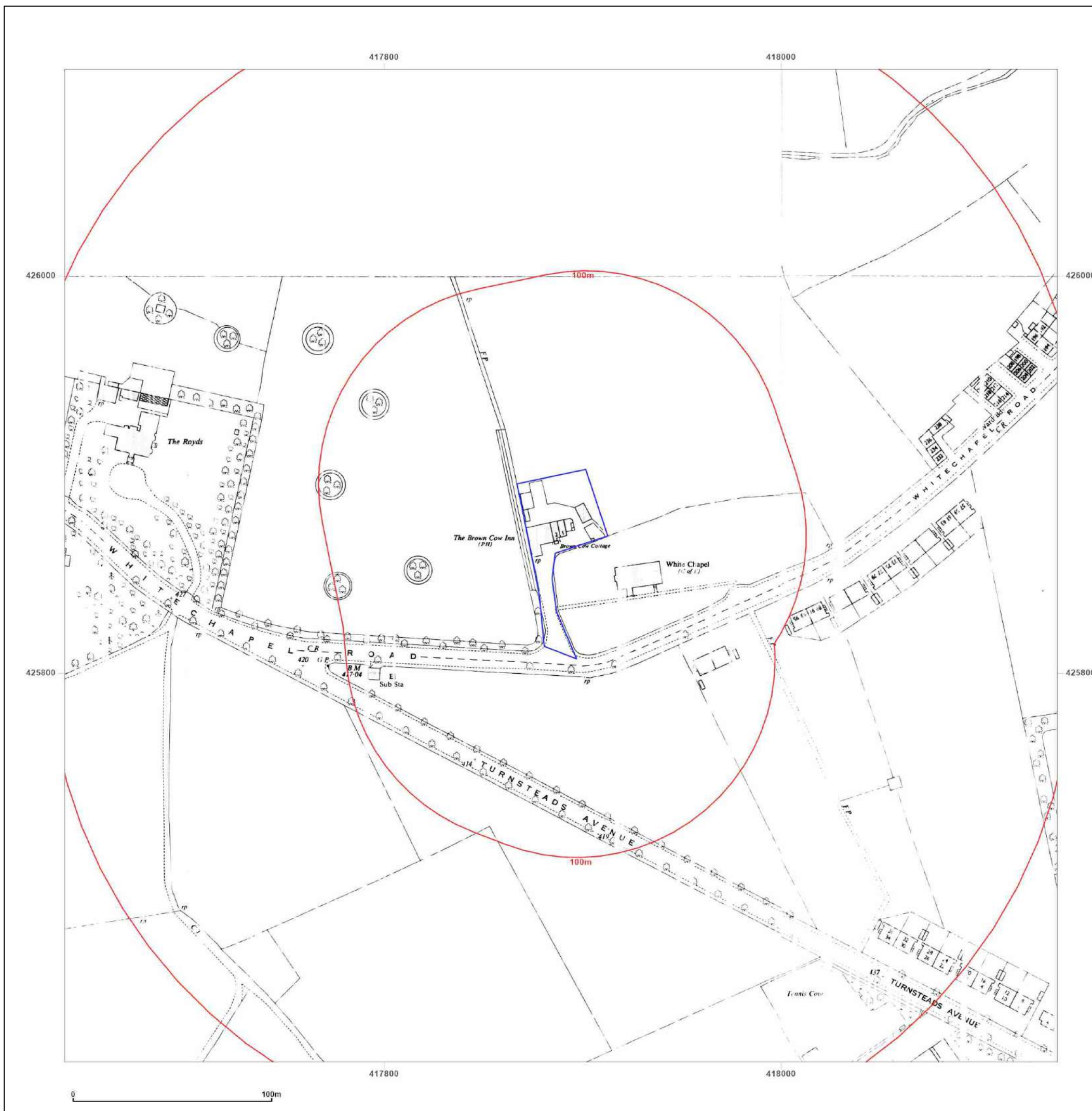


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Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1957-1958

Scale: 1:2,500

Printed at: 1:2,500



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Levelled 1931

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Revised 1956
Edition 1957
Copyright N/A
Levelled 1931

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Revised 1957
Edition 1958
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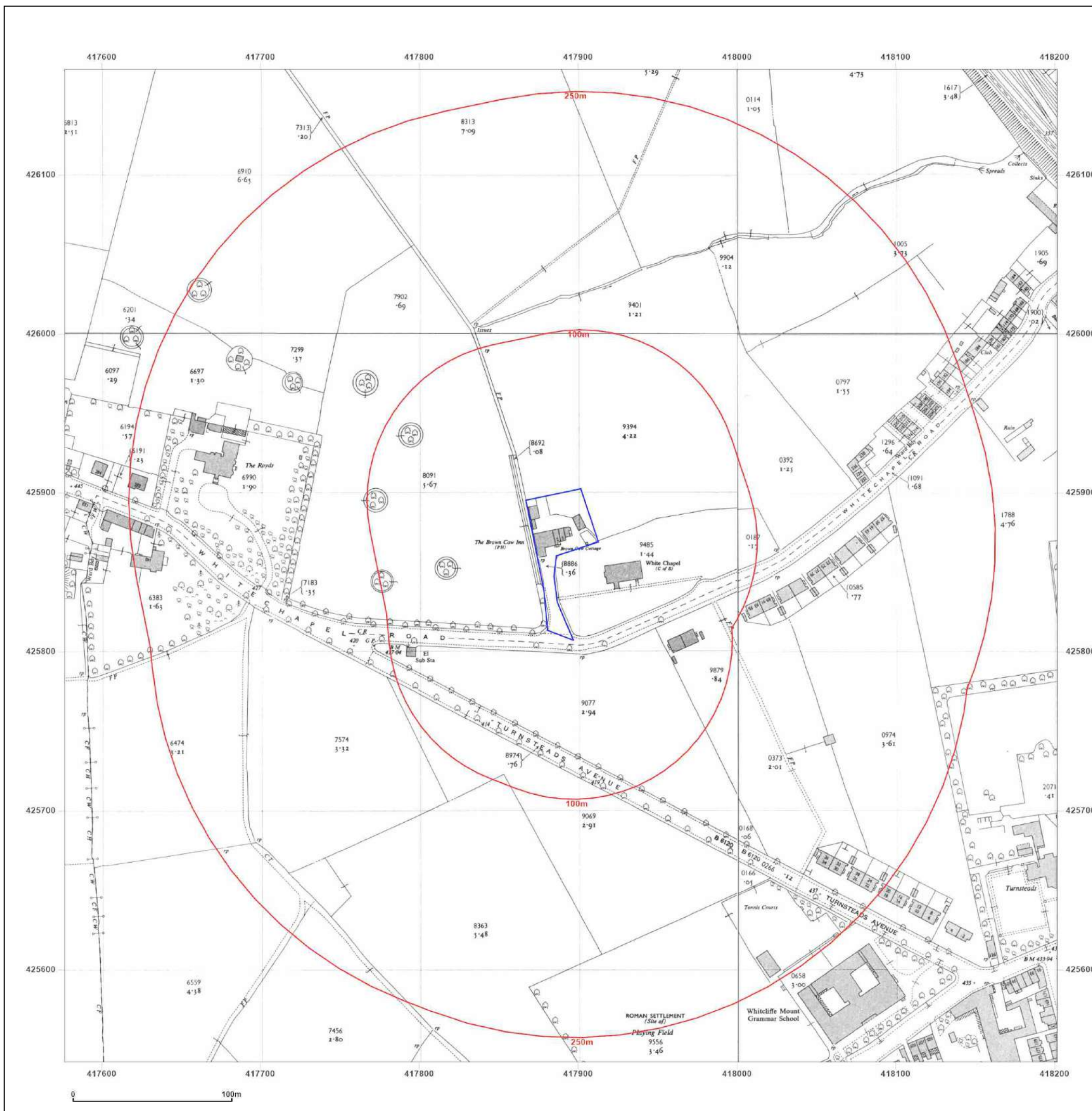


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Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1964

Scale: 1:1,250

Printed at: 1:2,000



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Copyright 1964
Levelled 1962

Surveyed 1963
Revised 1963
Edition N/A
Copyright 1964
Levelled 1962

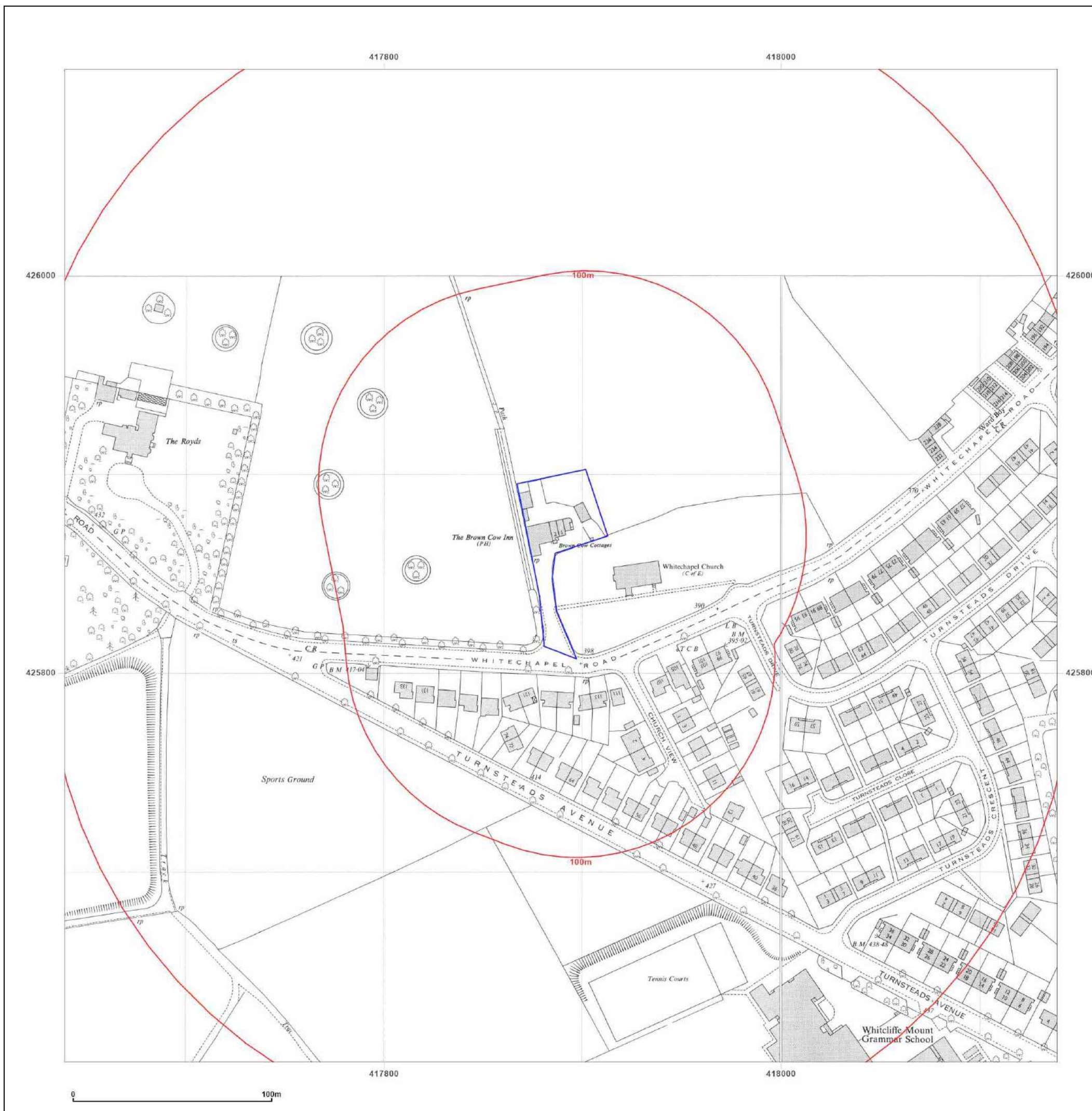


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1969

Scale: 1:2,500

Printed at: 1:2,500



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Revised 1967
Edition N/A
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Surveyed 1968
Revised 1968
Edition N/A
Copyright 1969
Levelled 1962

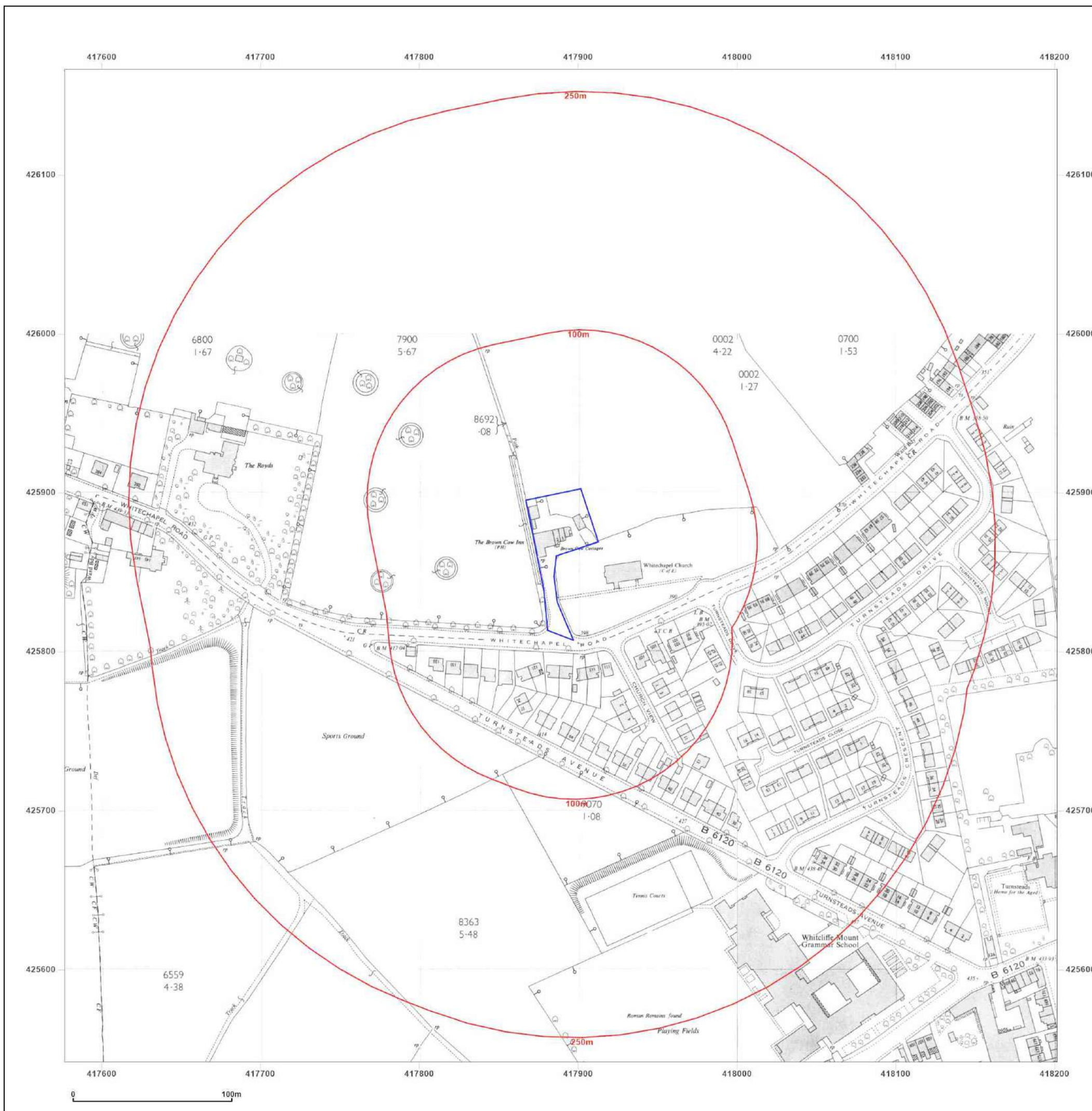


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1971-1975

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1956
Revised 1973
Edition N/A
Copyright 1974
Levelled 1962

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

Surveyed 1956
Revised 1975
Edition N/A
Copyright 1975
Levelled 1962

Surveyed N/A
Revised N/A
Edition N/A
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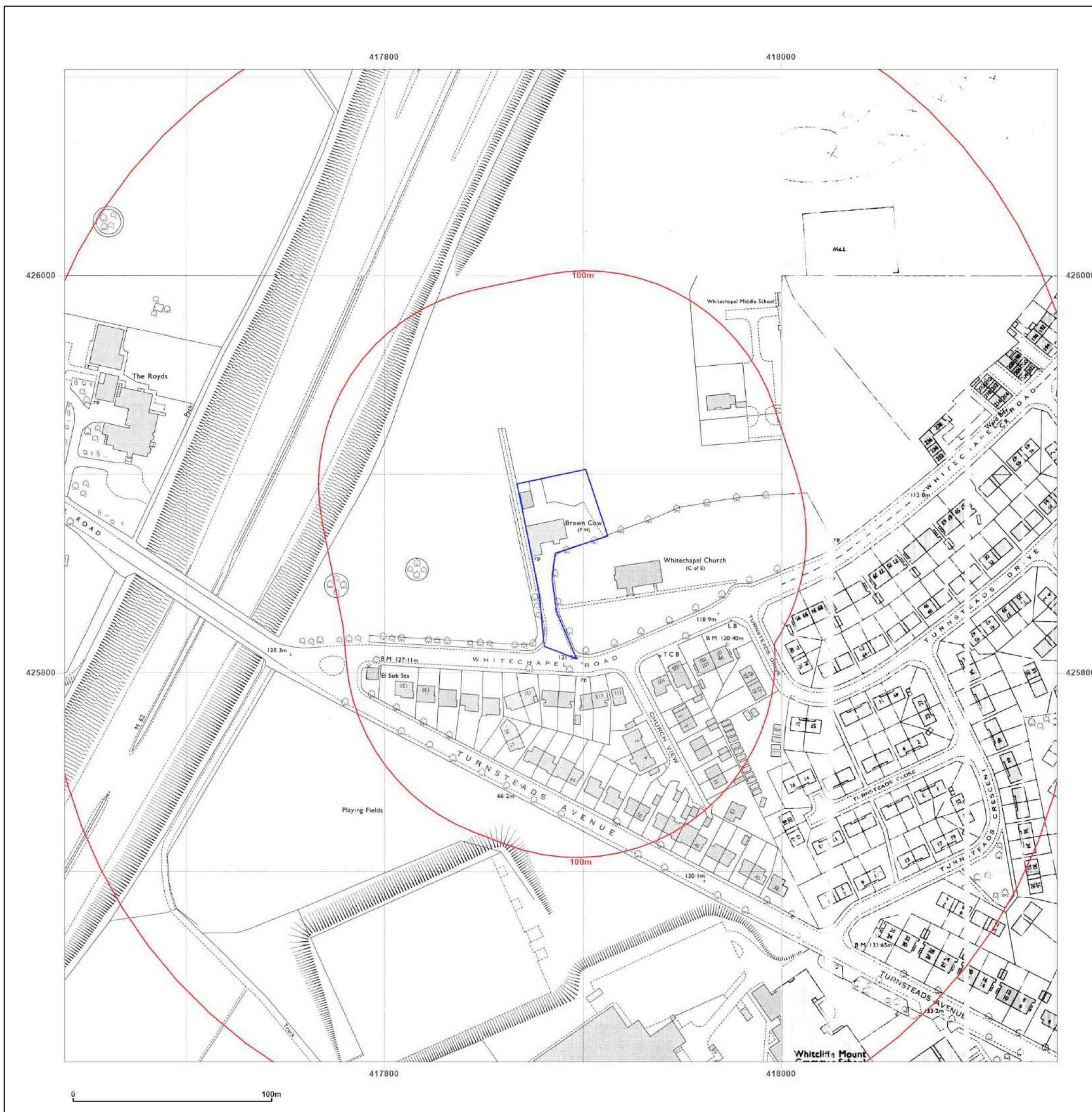


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Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1974-1978

Scale: 1:1,250

Printed at: 1:2,000



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Revised N/A
Edition N/A
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Edition N/A
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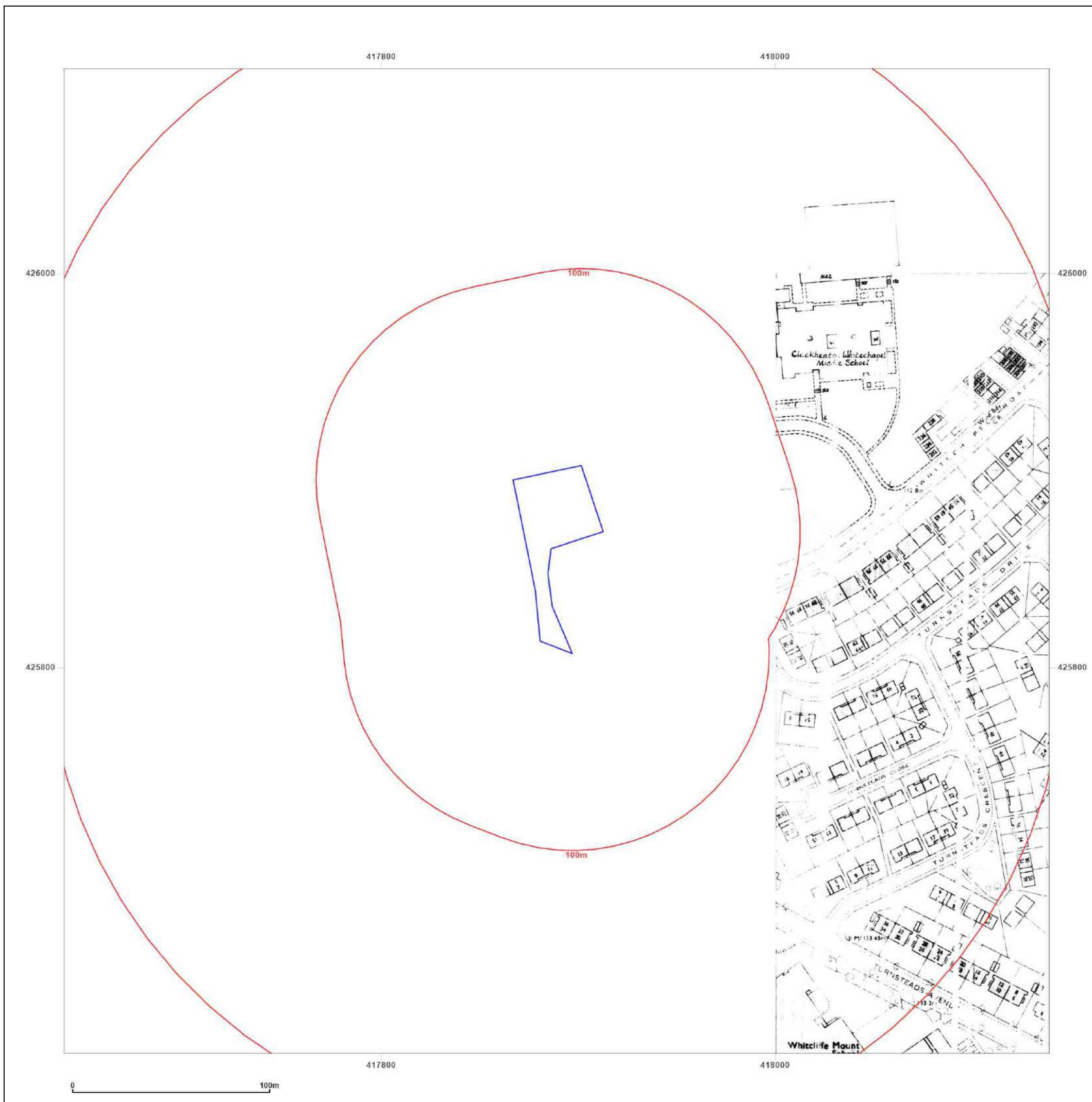


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1988-1992

Scale: 1:1,250

Printed at: 1:2,000



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Edition N/A
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Edition N/A
Copyright 1988
Levelled 1962

Surveyed 1992
Revised 1992
Edition N/A
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Surveyed N/A
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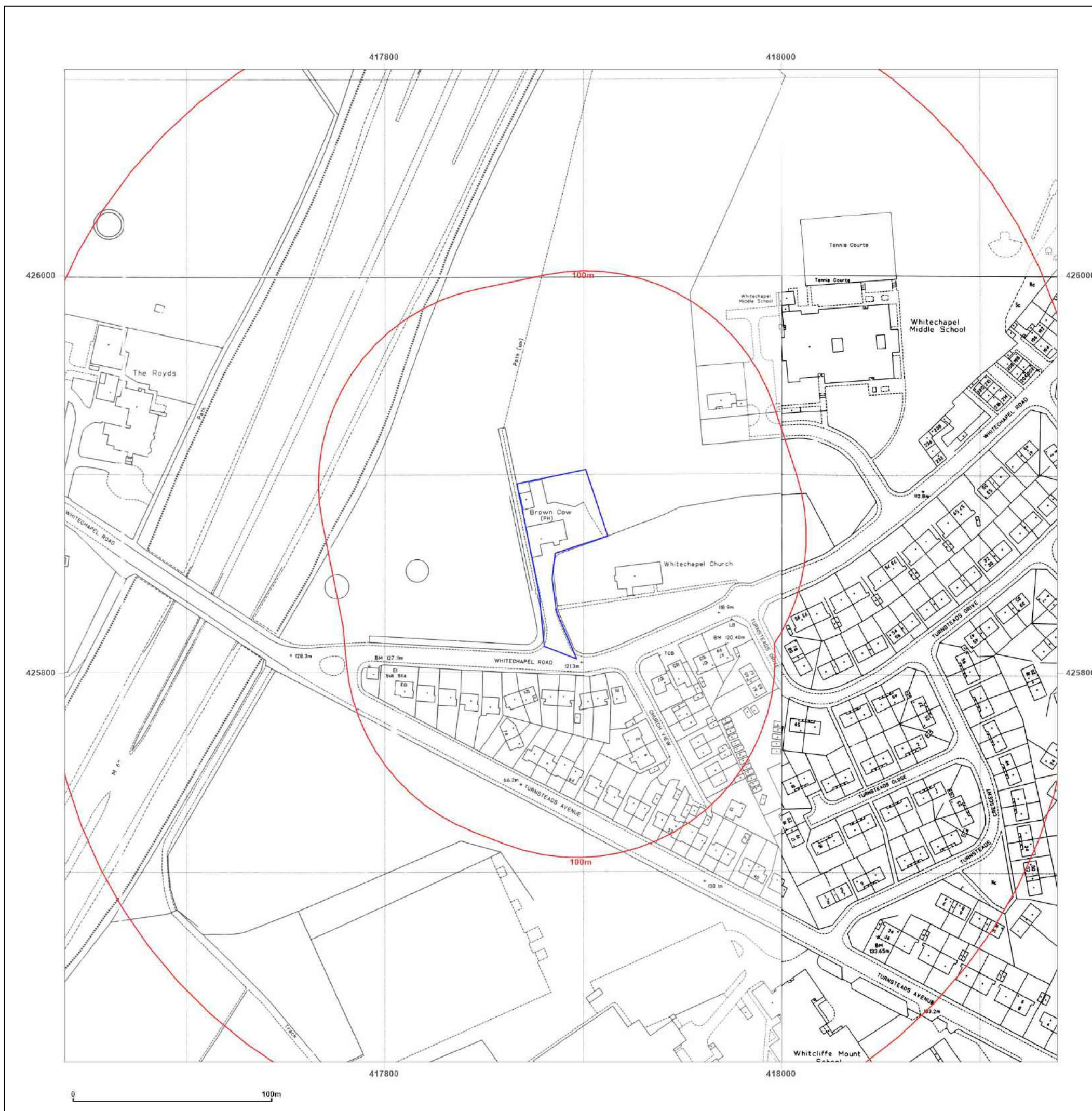


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



2003



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6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1854

Scale: 1:10,560

Printed at: 1:10,560



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Edition 1854
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Edition 1854
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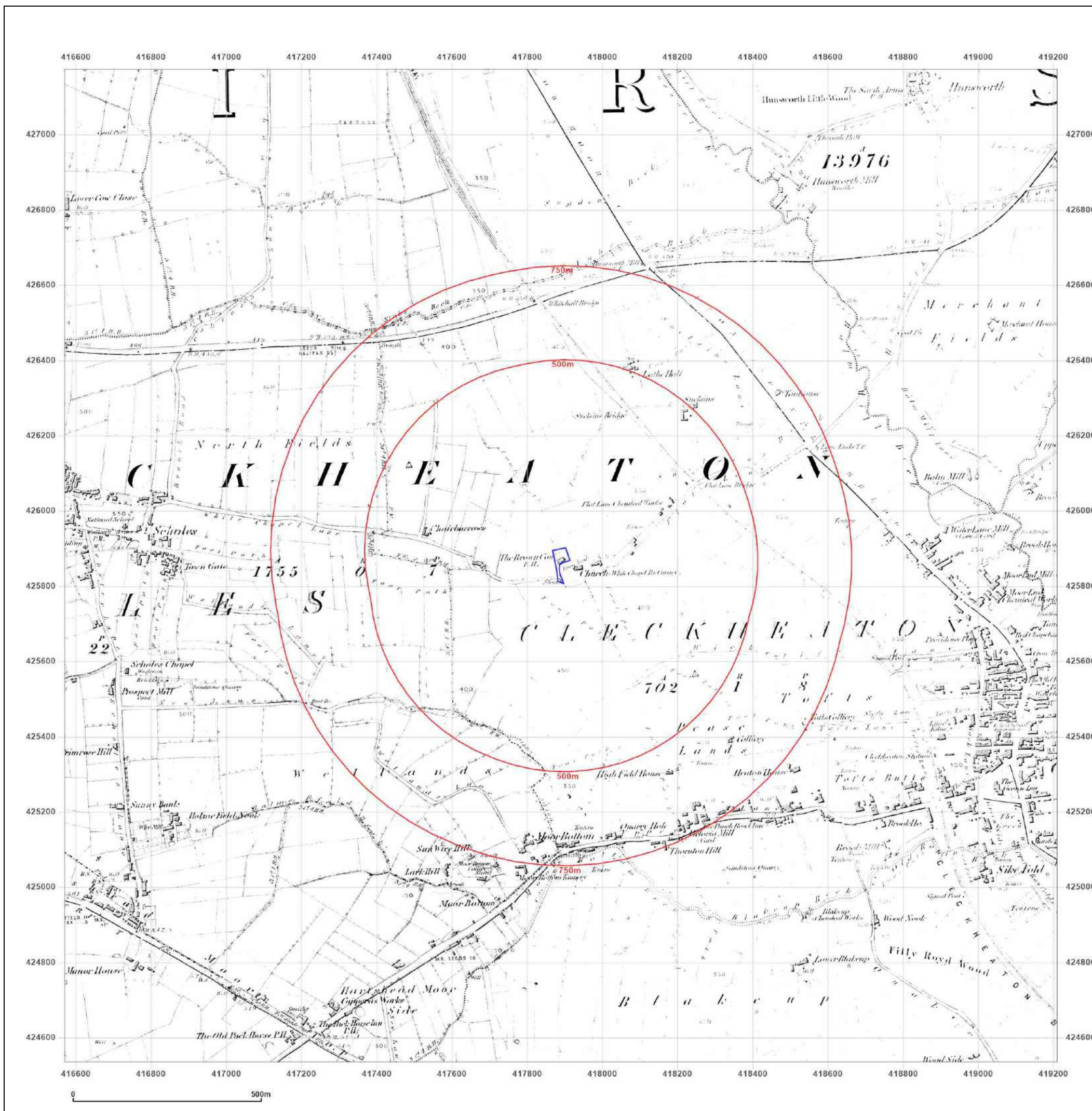


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1892

Scale: 1:10,560

Printed at: 1:10,560



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6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1905

Scale: 1:10,560

Printed at: 1:10,560



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Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

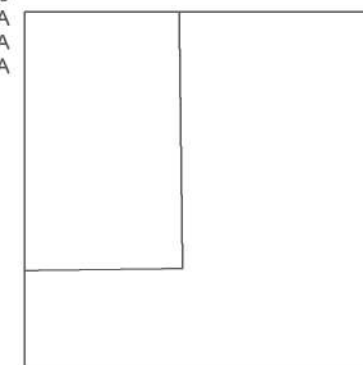
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Scale: 1:10,560

Printed at: 1:10,560



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Revised 1905
Edition N/A
Copyright N/A
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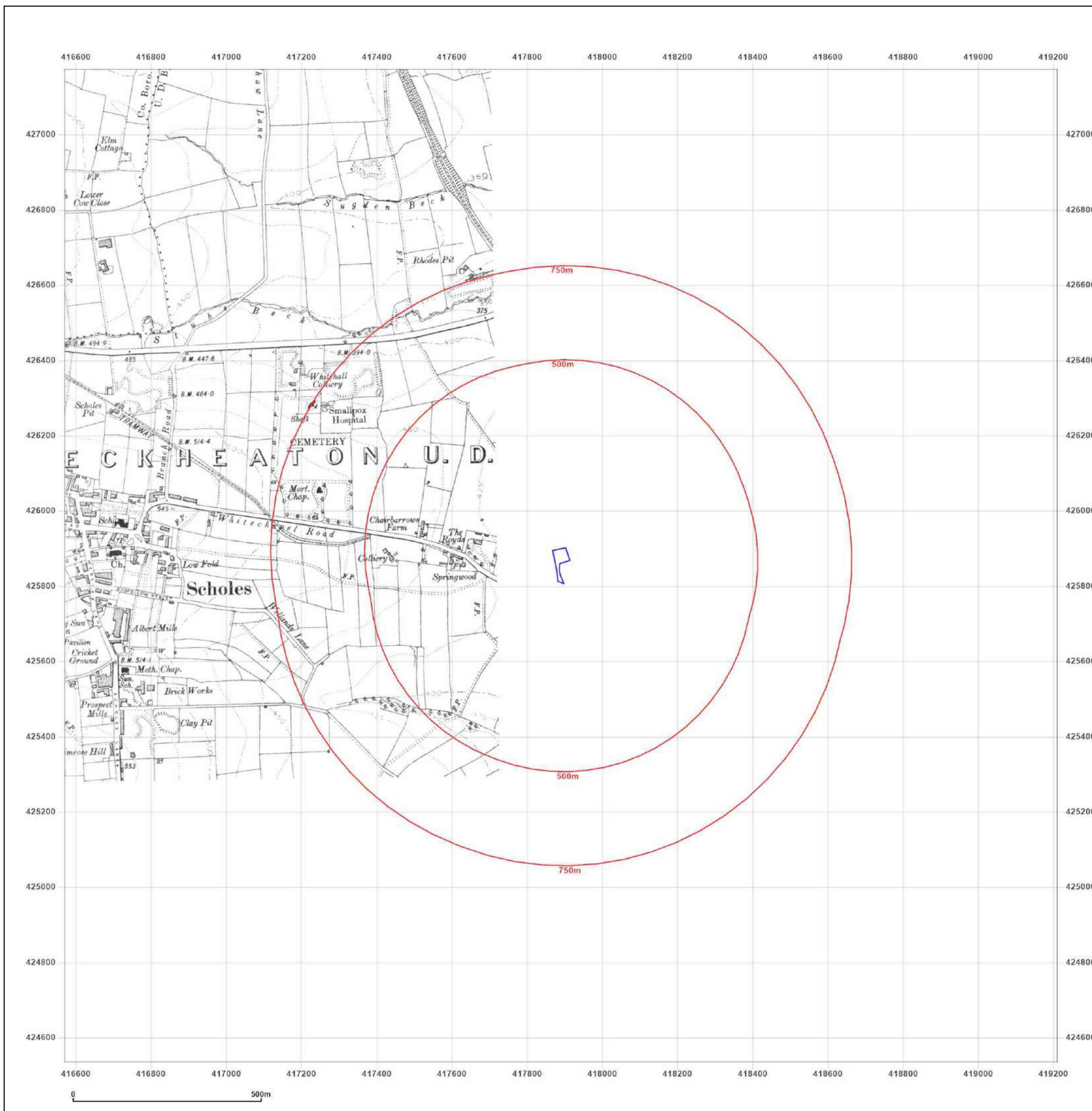


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6HR

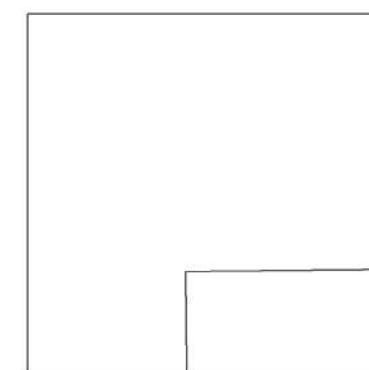
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Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1931

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1851
Revised 1931
Edition N/A
Copyright N/A
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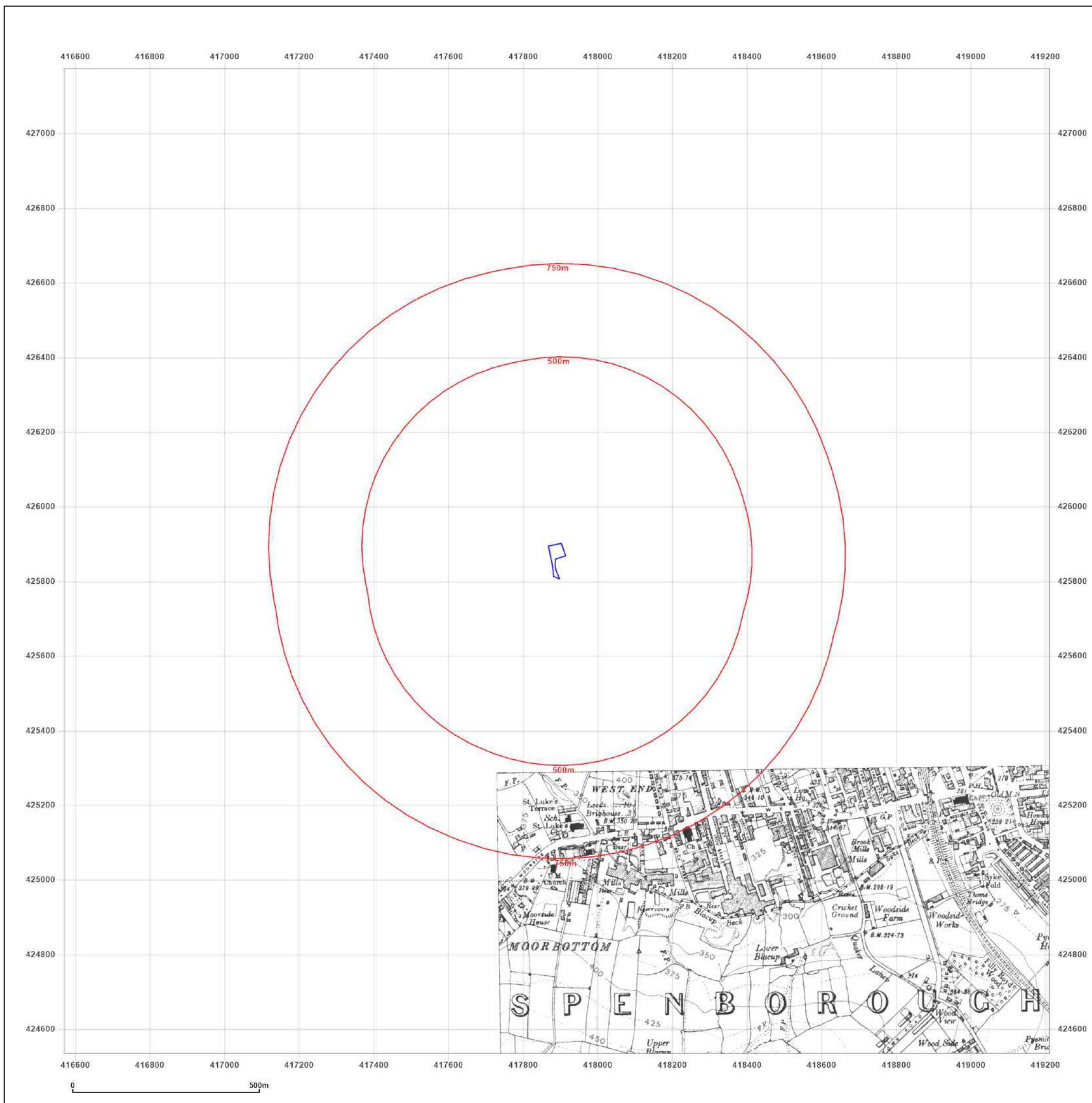


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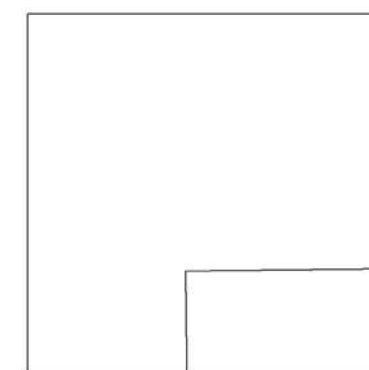
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Map Name: County Series

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Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1851
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

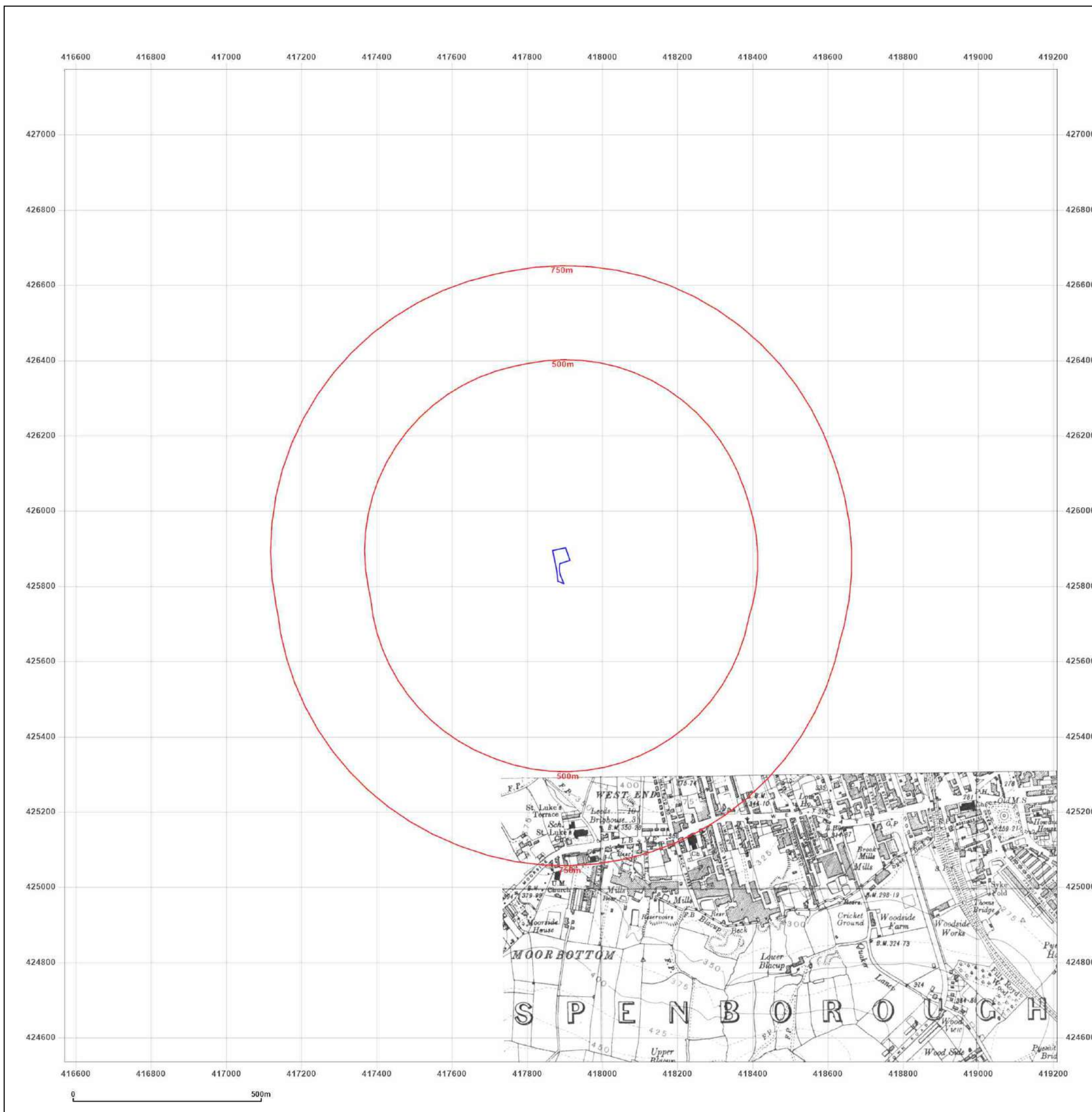


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Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1931-1932

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1850
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1850
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1849
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1931
Edition N/A
Copyright N/A
Levelled N/A

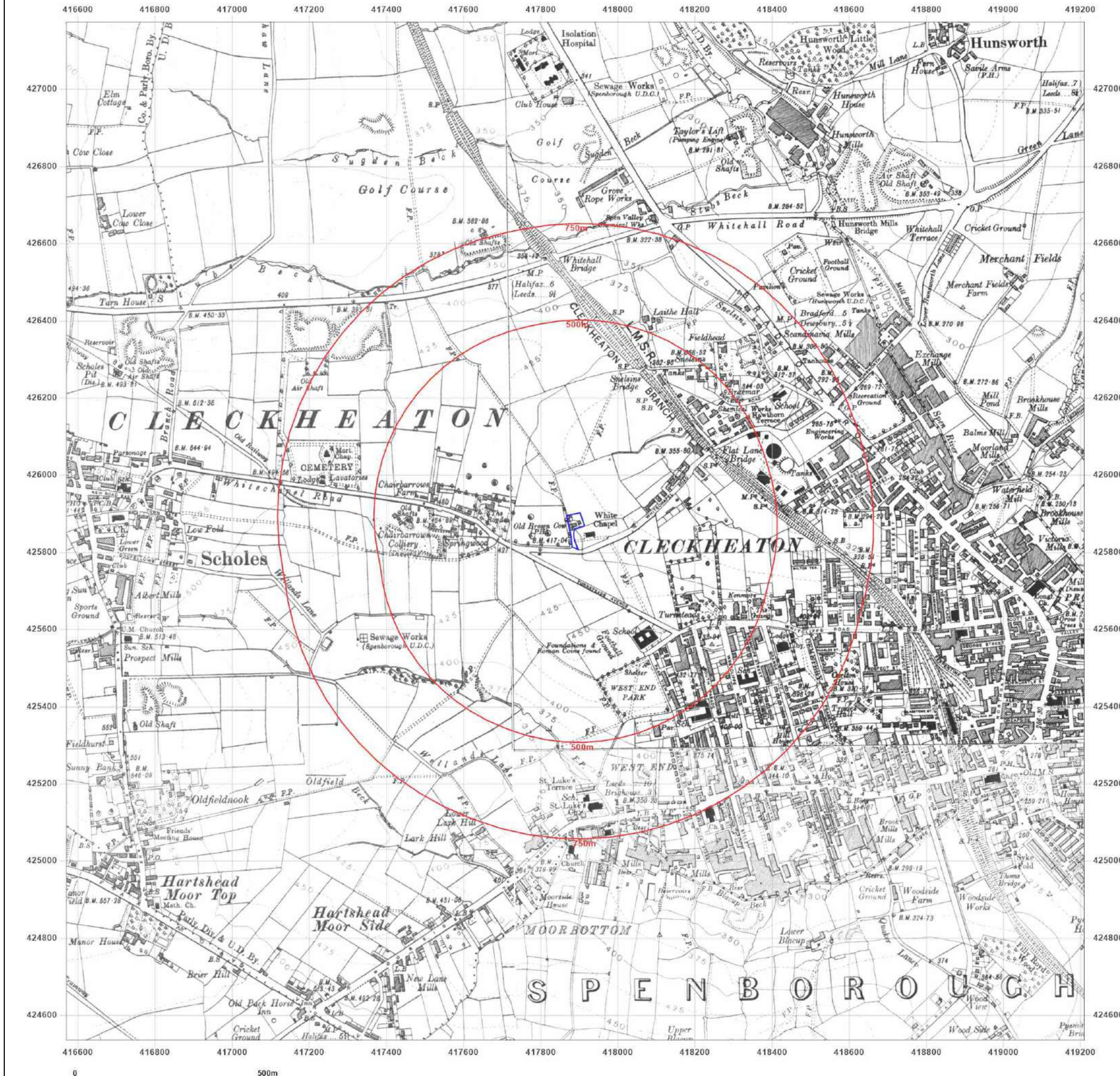


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Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1851
Revised 1938
Edition N/A
Copyright N/A
Levelled 1931

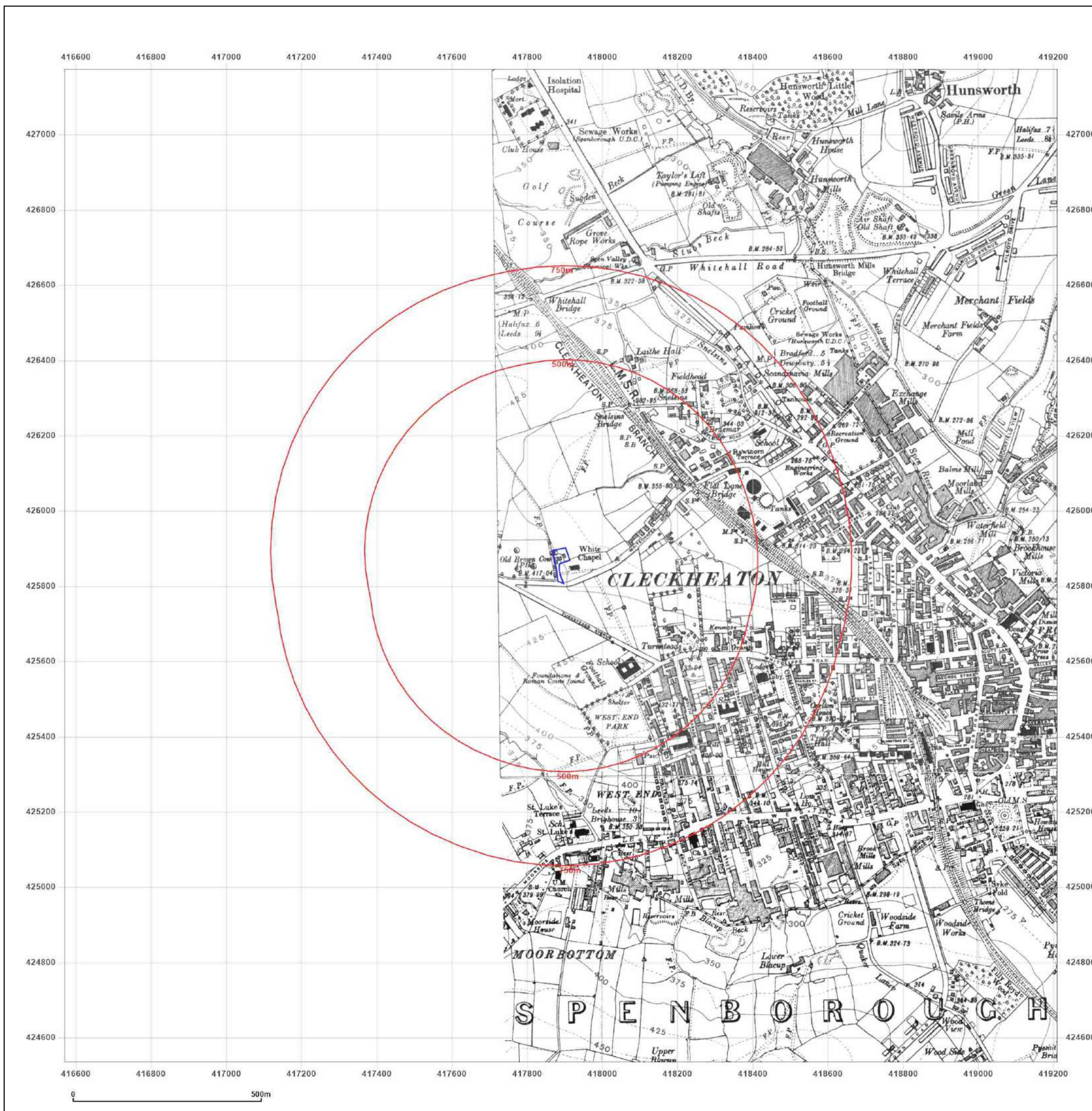


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1849
Revised 1938
Edition N/A
Copyright N/A
Levelled 1931

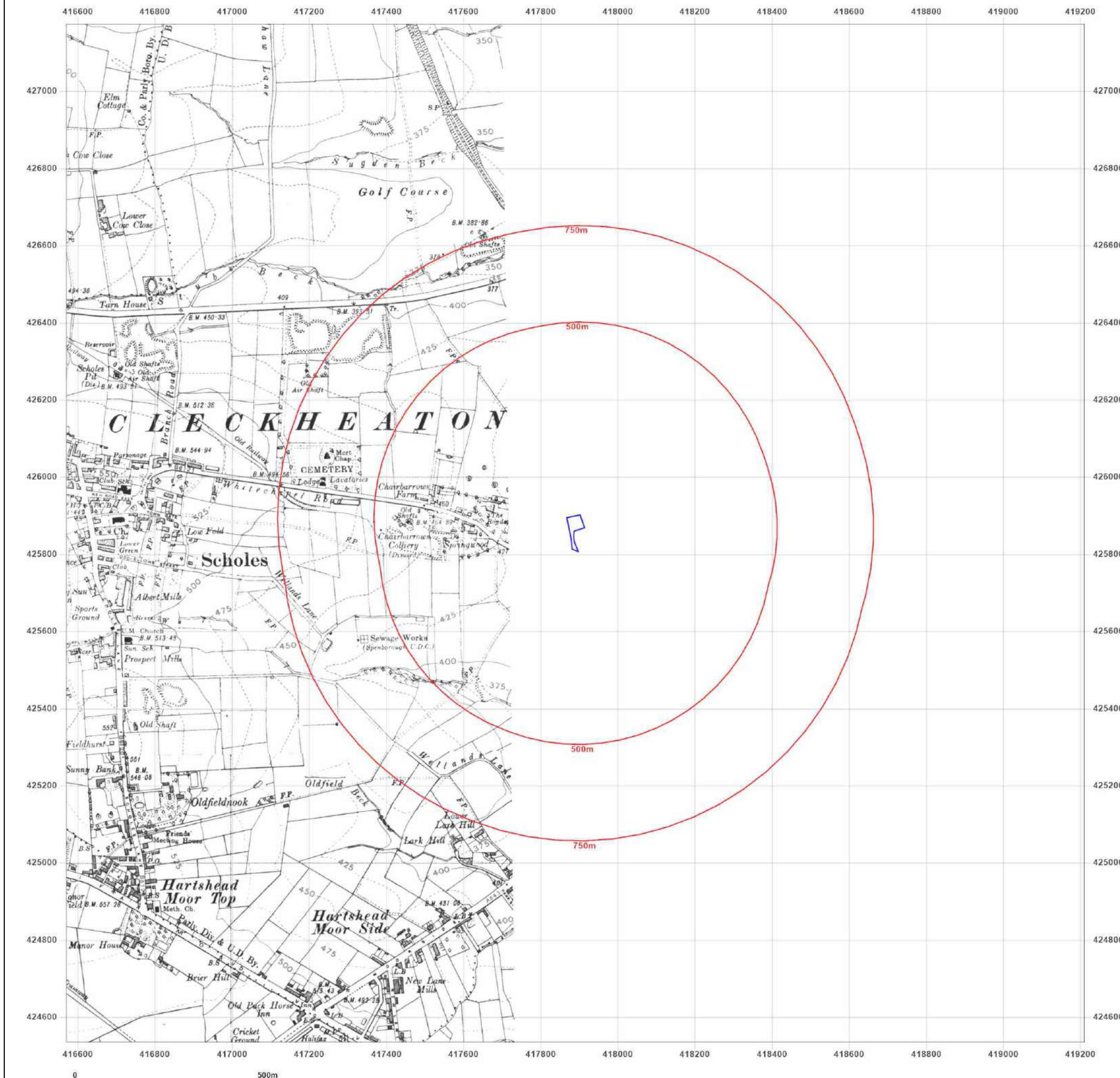


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1849
Revised 1938
Edition N/A
Copyright N/A
Levelled 1931

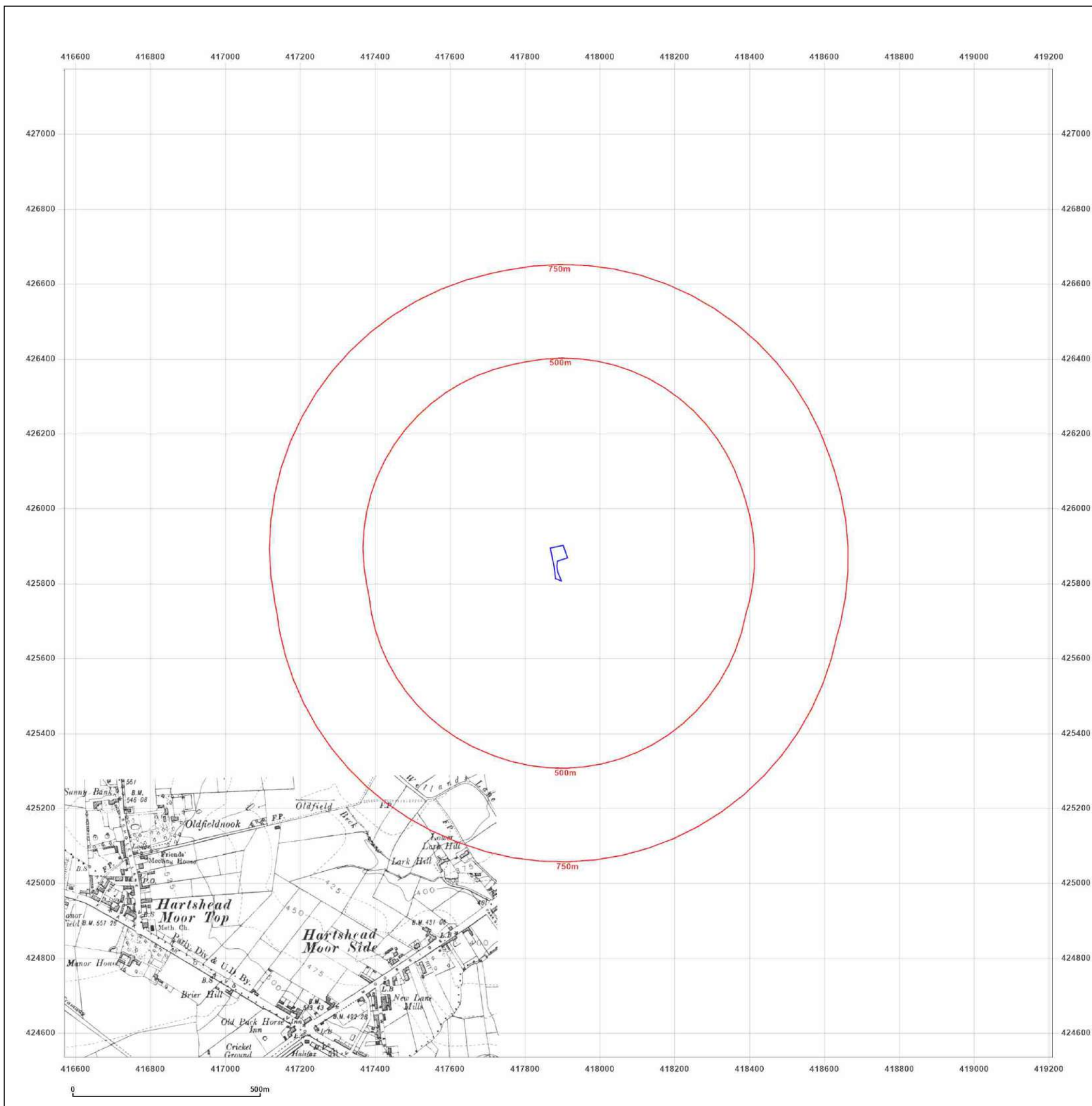


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6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1850
Revised 1948
Edition N/A
Copyright N/A
Levelled 1931

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

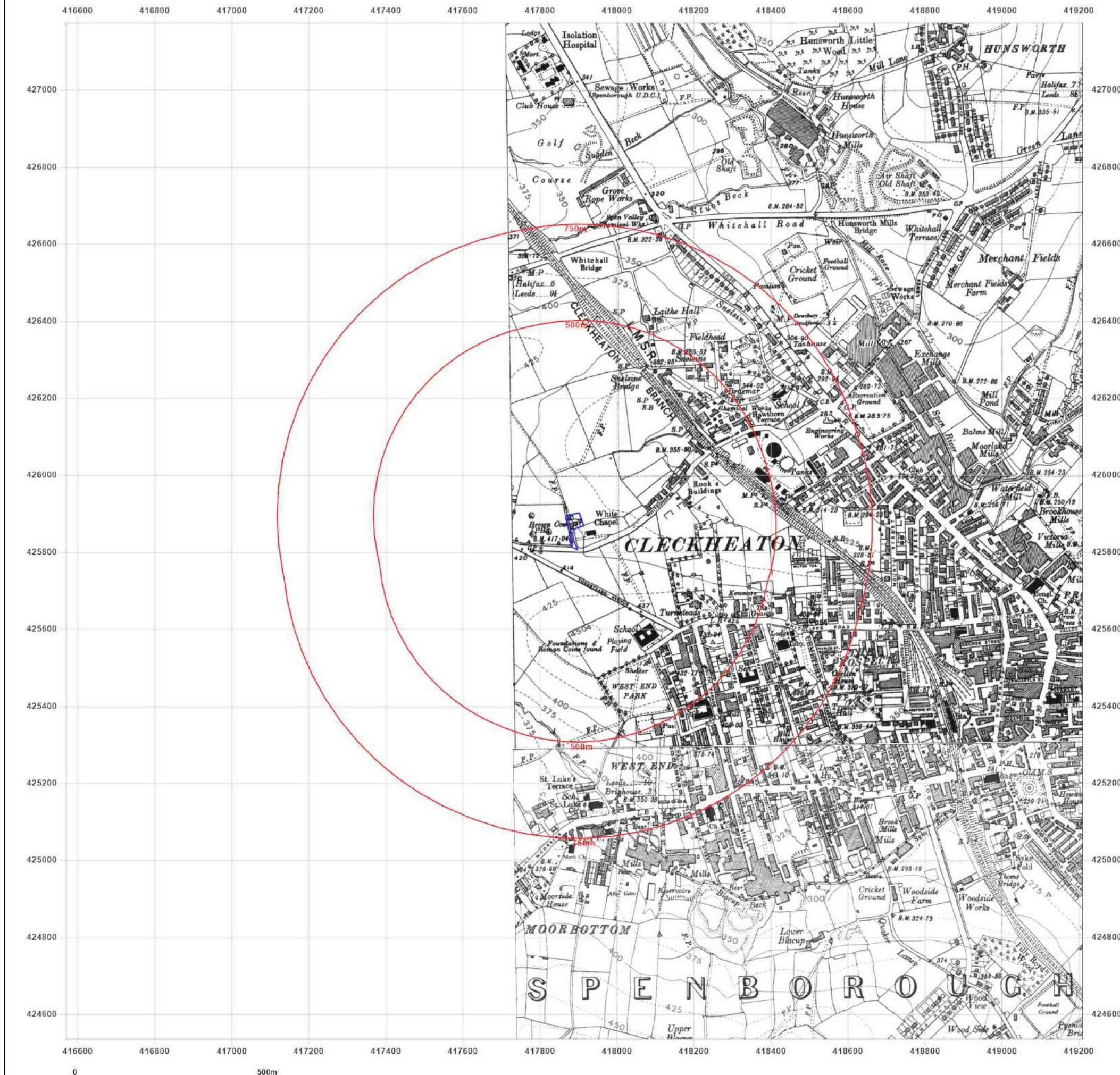


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1850
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Levelled N/A

Surveyed 1849
Revised 1948
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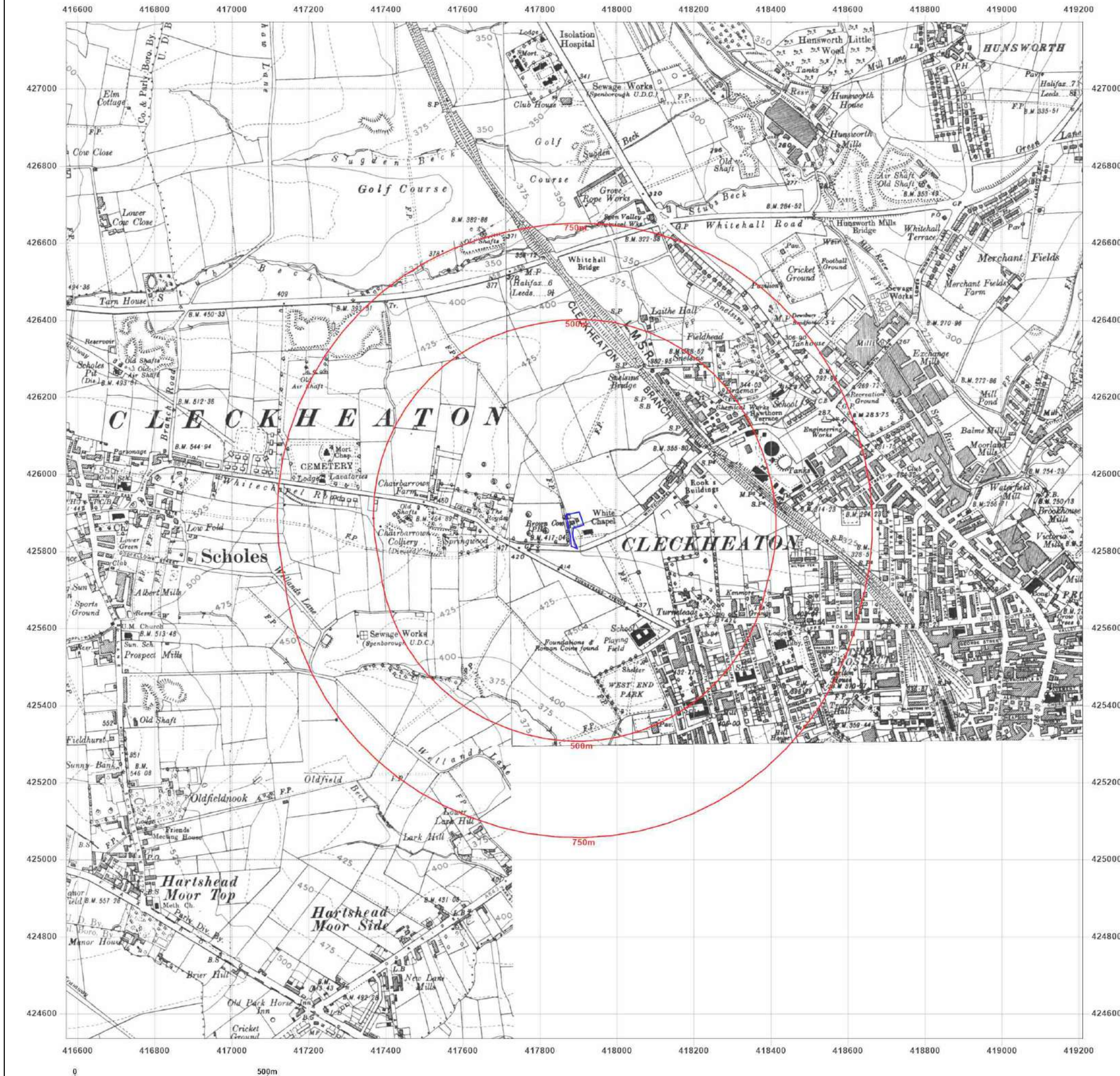


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6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1849
Revised 1948
Edition 1948
Copyright N/A
Levelled N/A

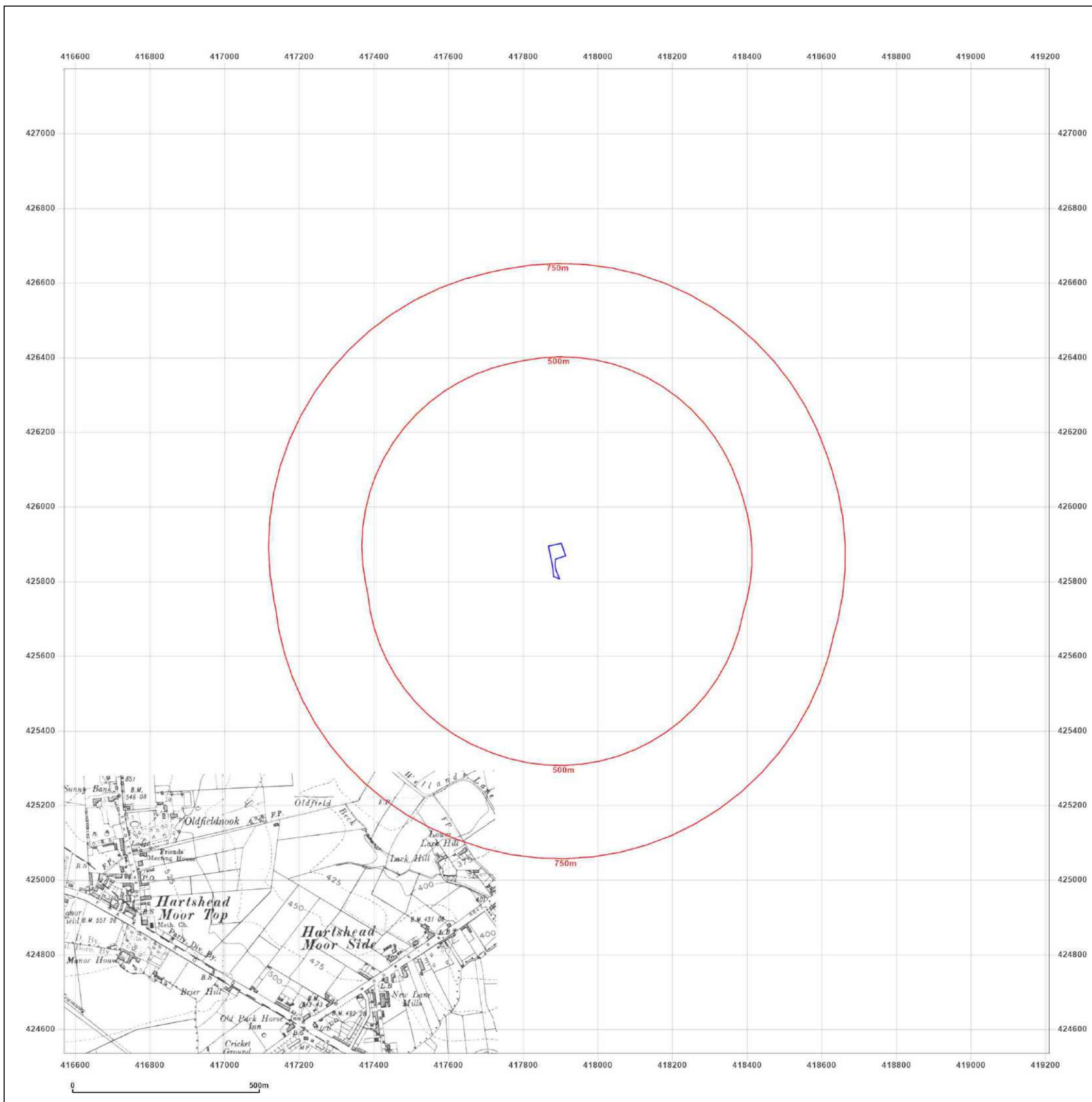


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6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: Provisional

Map date: 1951-1955

Scale: 1:10,560

Printed at: 1:10,560



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

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

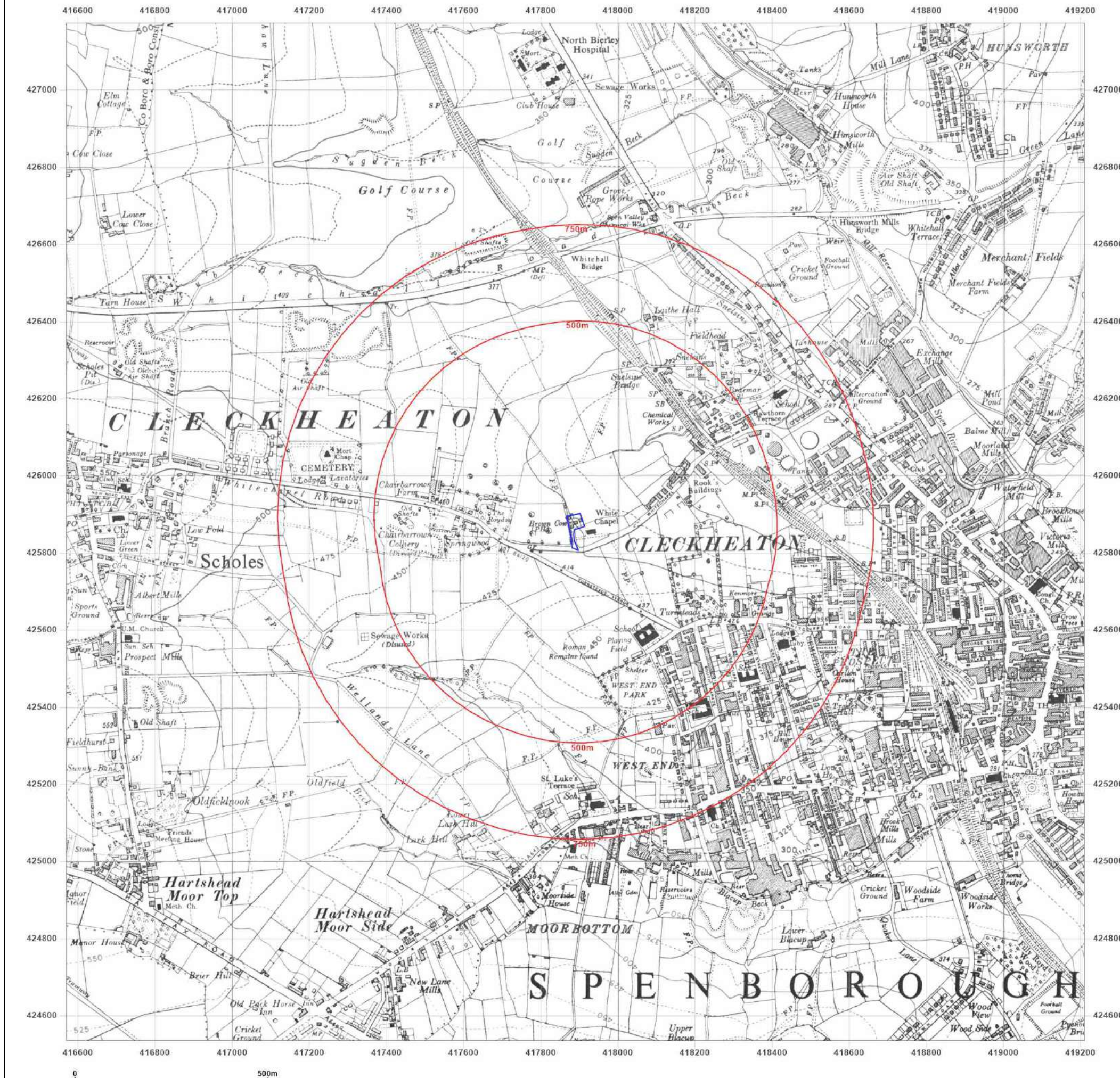


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Site Details:

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6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: Provisional

Map date: 1966-1967

Scale: 1:10,560

Printed at: 1:10,560



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

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

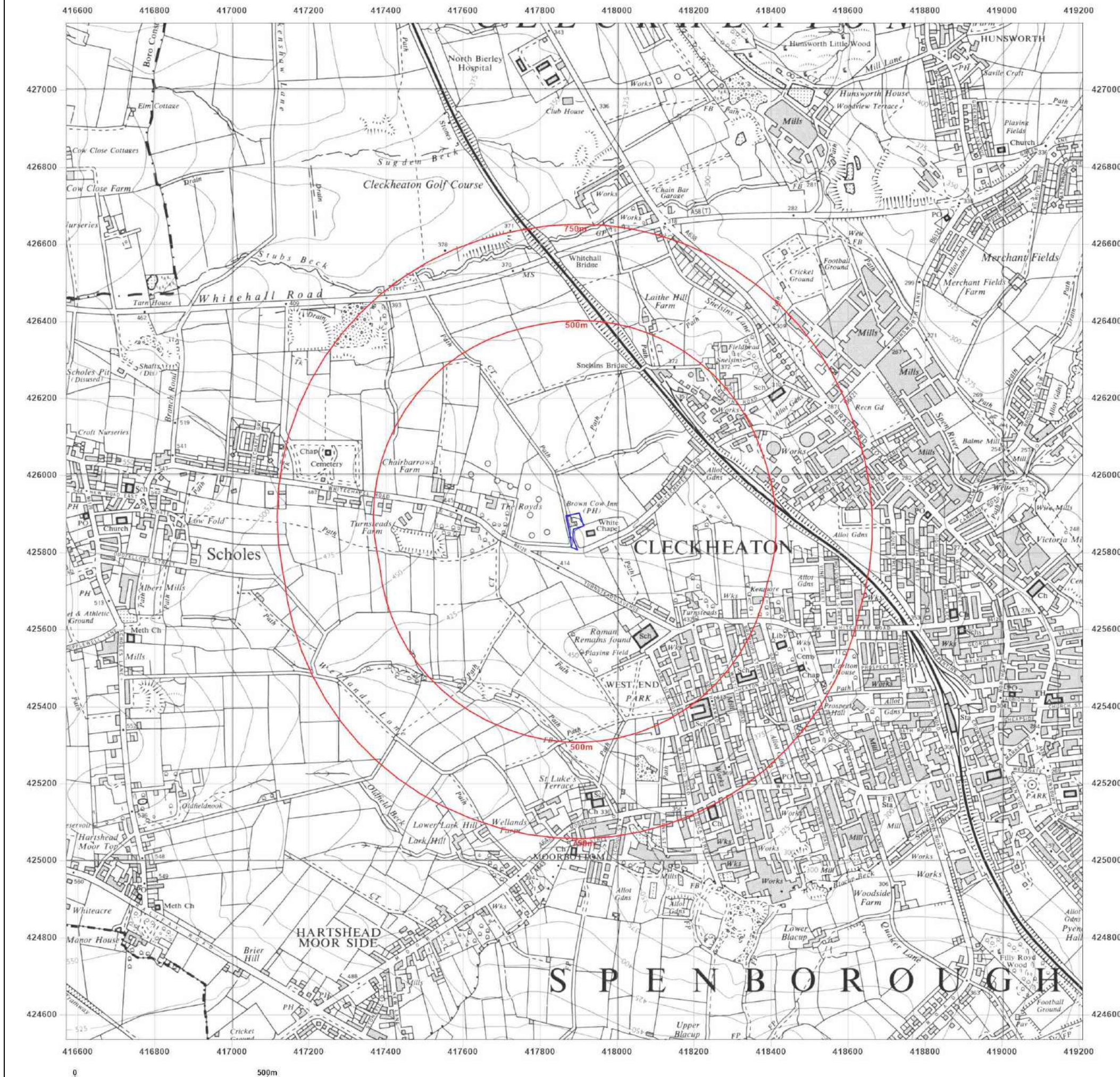


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1974-1975

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1973
Revised 1974
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1974
Revised 1975
Edition N/A
Copyright N/A
Levelled N/A

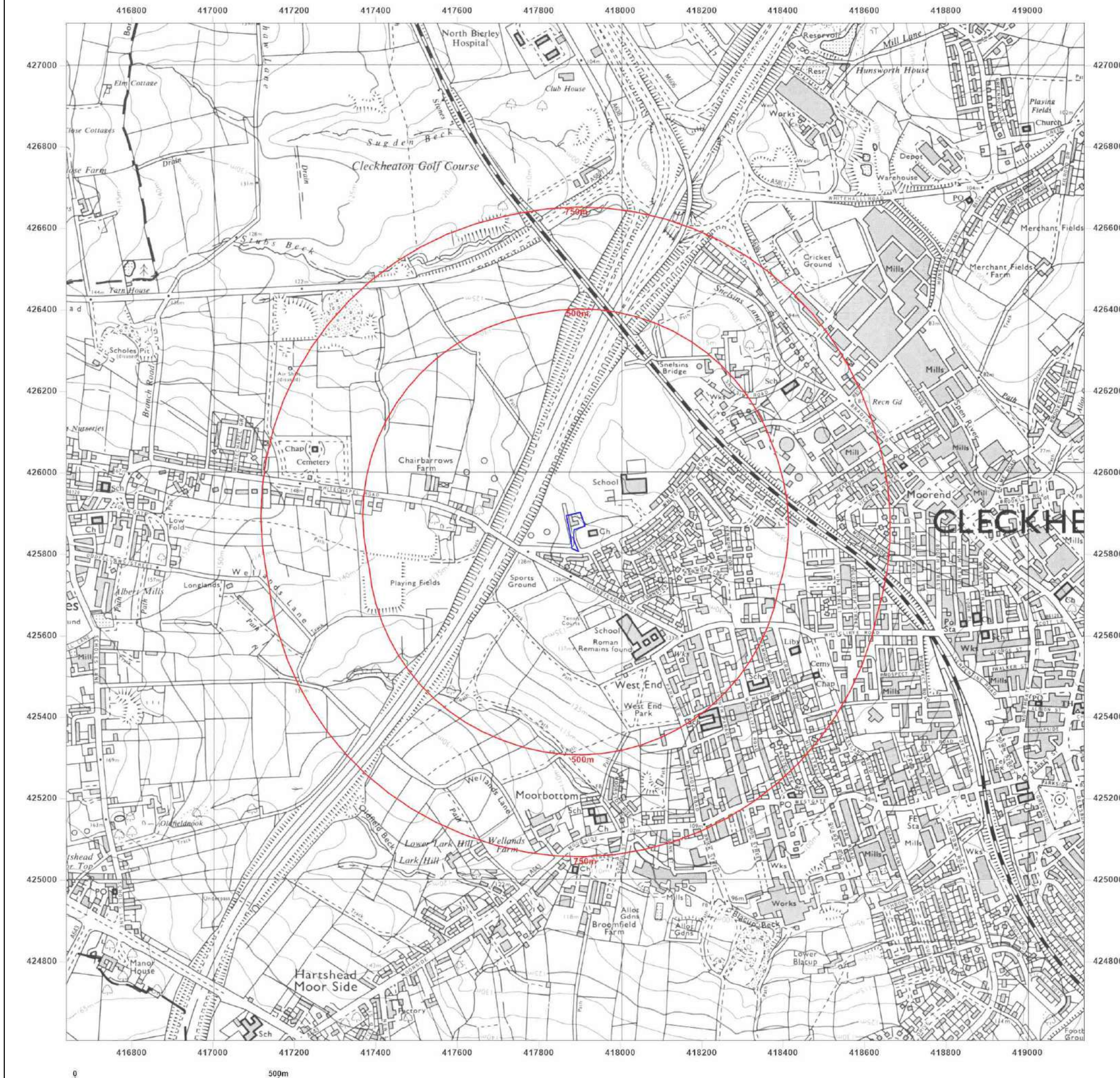


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6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1983-1985

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1982
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Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
Revised 1985
Edition N/A
Copyright N/A
Levelled N/A

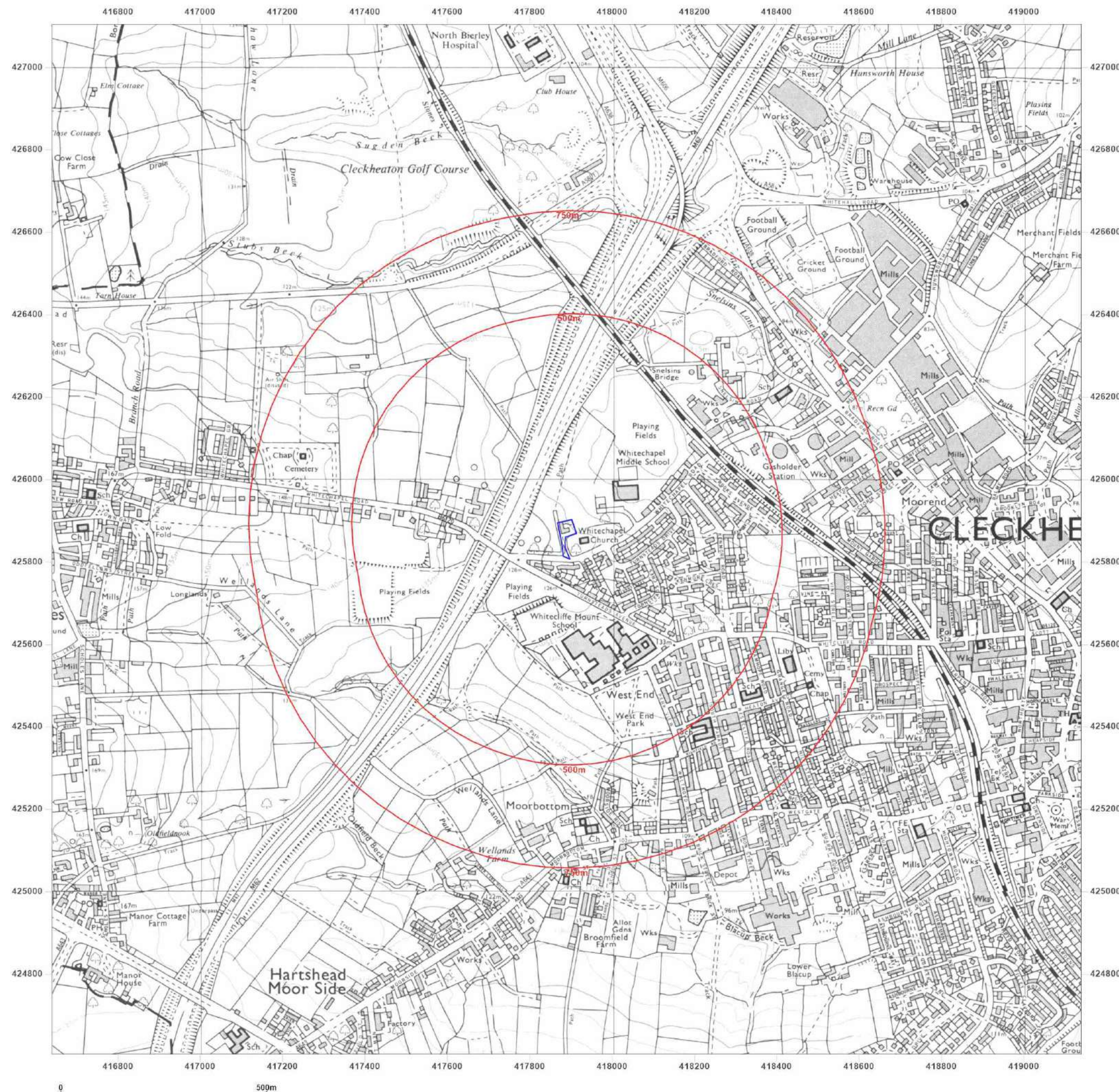


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Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 1990

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1987
Revised 1990
Edition N/A
Copyright N/A
Levelled N/A

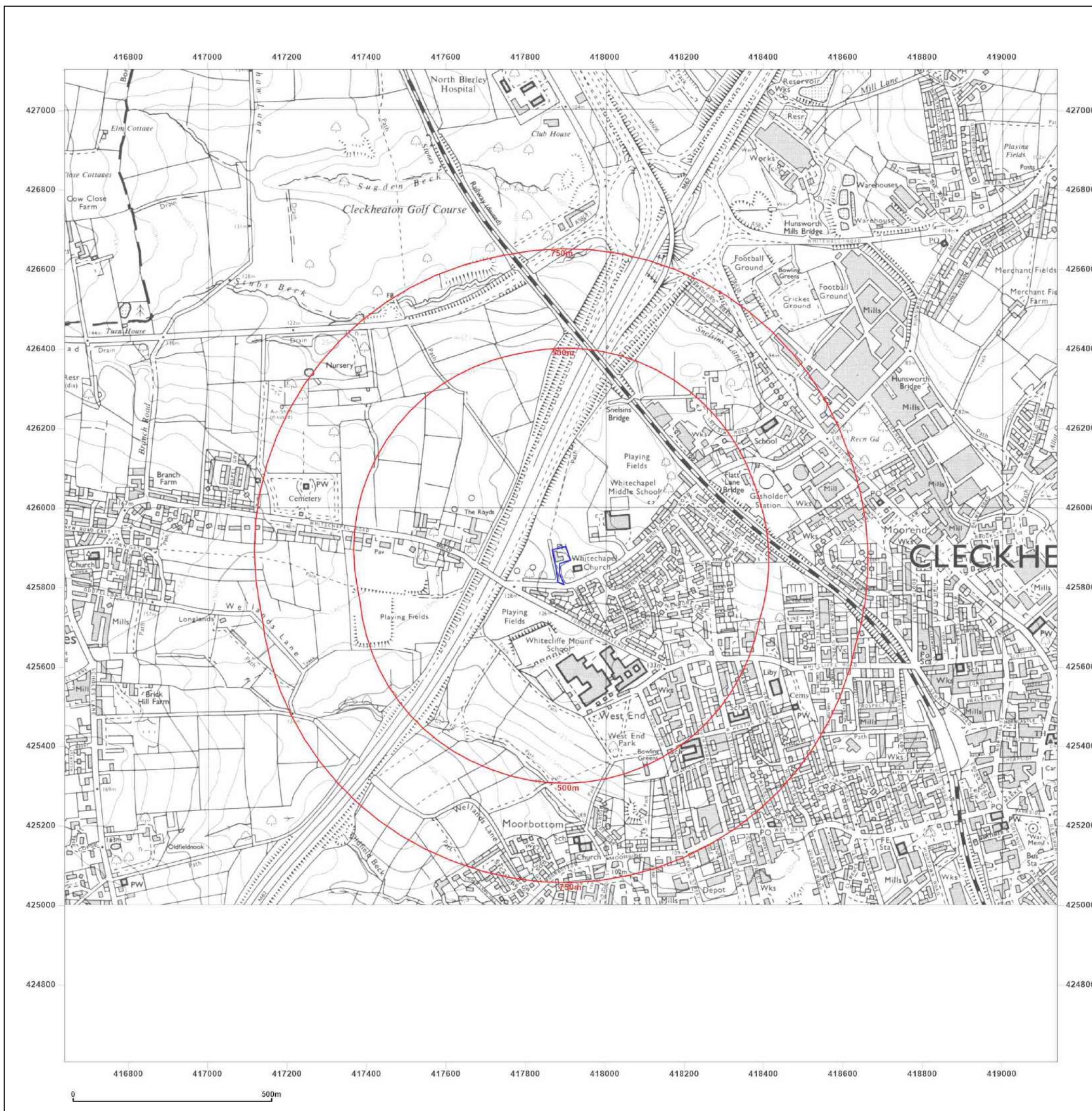


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Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



2001

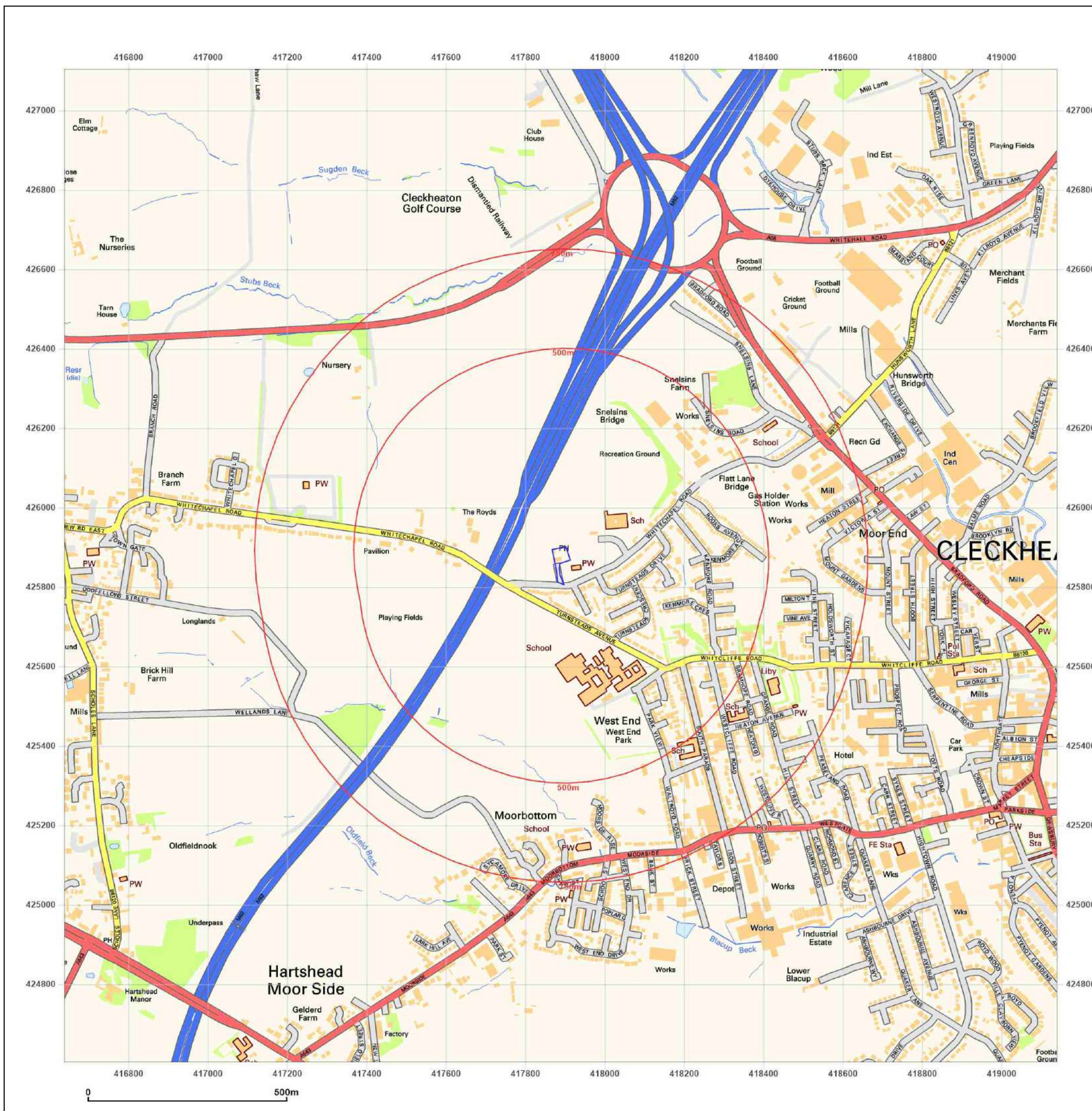


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6HR

Client Ref: C/4800/24/E/7330 PO-3137
Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

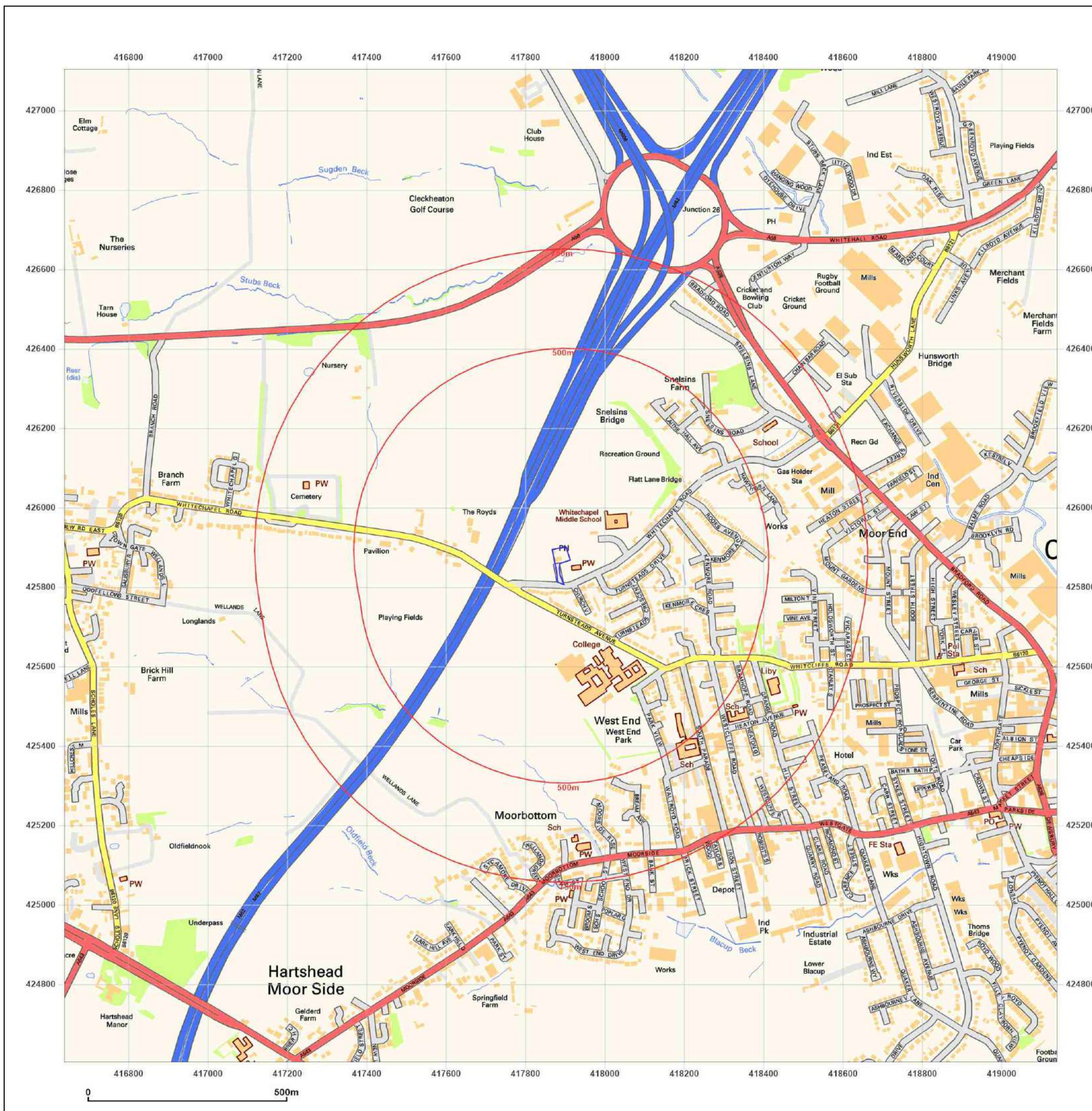


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6HR

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Report Ref: GS-XEQ-79H-8J5-E72
Grid Ref: 417889, 425854

Map Name: National Grid

Map date: 2024

Scale: 1:10,000

Printed at: 1:10,000



2024

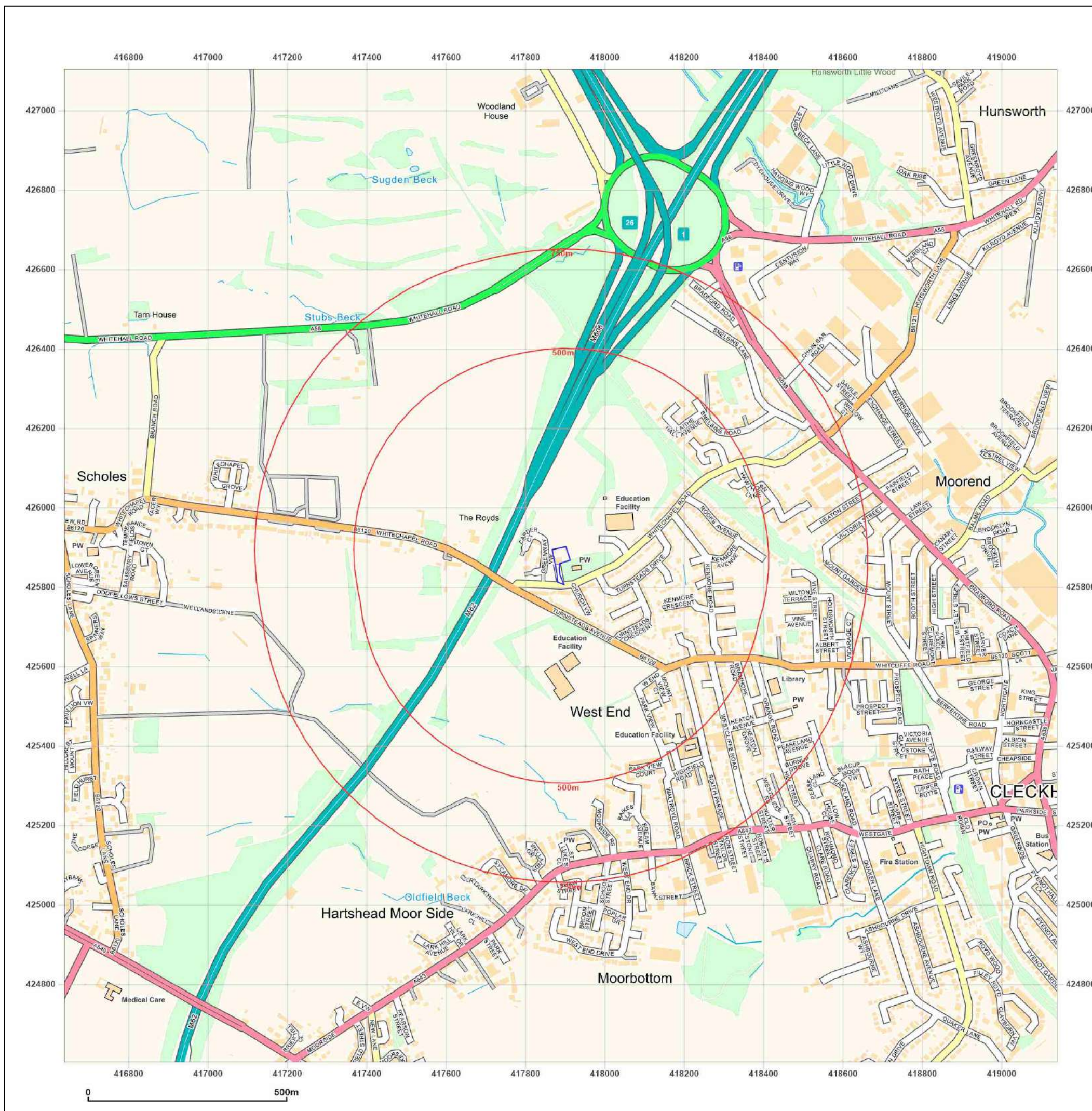


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Appendix 4

Consultants Coal Mining Report



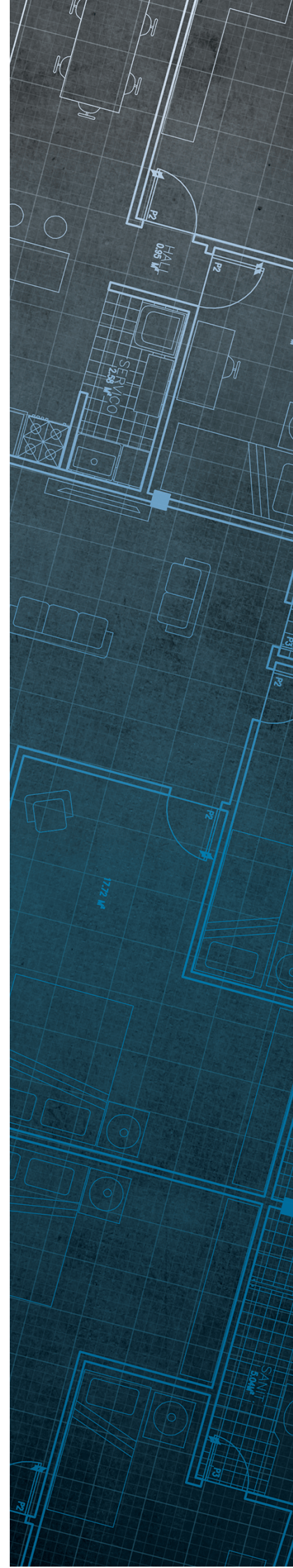
The Coal
Authority

Consultants Coal Mining Report

The Priors
Whitechapel Road
Cleckheaton
West Yorkshire
BD19 6HR

Date of enquiry:	2 December 2024
Date enquiry received:	2 December 2024
Issue date:	2 December 2024

Our reference:	51003466556001
Your reference:	C/4800/24/E/7330



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

The Priory
Whitechapel Road
Cleckheaton
West Yorkshire
BD19 6HR

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 @coalauthority

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 /thecoalauthority



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
unnamed	BLACK BED	Coal	5UAZ	106	Beneath Property	3.8	South-East	90	1911

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Adit	417425-004	417981 425776		Coal	

Abandoned mine plan catalogue numbers

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

M8	BE9	M49
PO0	M148	9781
GCR49	M31	

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

Outcrops

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
TRUB	Coal	Yes	Within	N/A	105

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

Distance to site investigation (m)	Direction
Within	N/A

See Section 4 for further information.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

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.

Site investigations

The site is within an area of previous interest. It is close to where the Coal Authority has received information relating to past site investigations.

The site requires further investigation and may influence how you approach your risk assessment.

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.

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

Opencast mines

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

Coal Authority managed tips

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

Site investigations

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

Remediated sites

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

Coal mining subsidence

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

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

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

Mine gas

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

Mine water treatment schemes

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

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

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

Future underground mining

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

Coal mining licensing

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

Court orders

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

Section 46 notices

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

Withdrawal of support notices

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

Payment to owners of former copyhold land

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

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

