PHASE 1 ENVIRONMENTAL ASSESSMENT REPORT
AT

PEAR TREE FARM
CHURCH STREET
BRIERLEY, BARNSLEY S72 9JR

FOR

MR W BENNETT

GDP PROJECT NUMBER 2464

28 OCTOBER 2024

gdp

Brownfield Consulting & Development

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APPENDICES

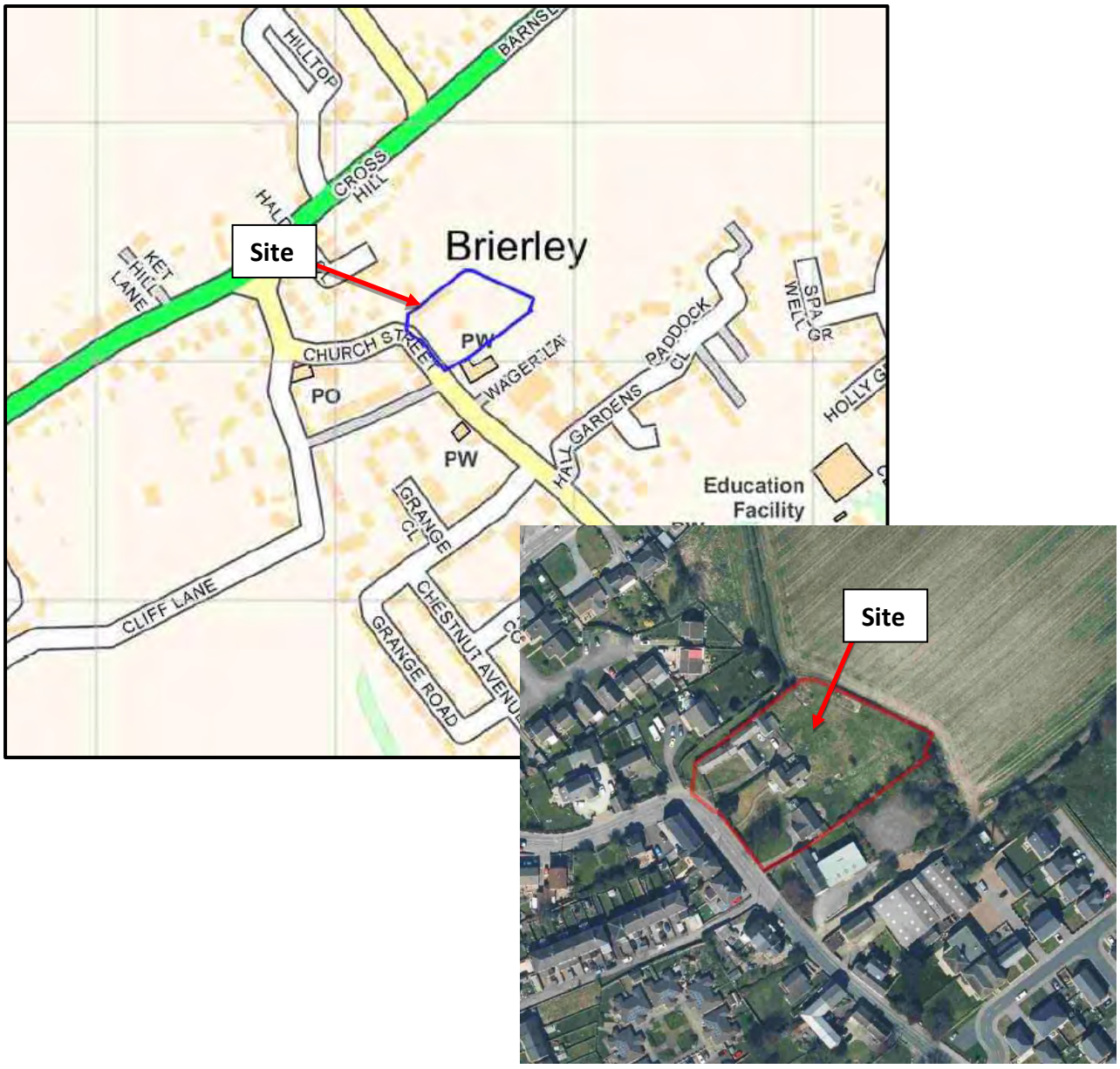
1.0 INTRODUCTION

1.1 Authorisation and Context

GD Pickles Limited (GDP) was instructed by Building Link Design on behalf of Mr Wayne Bennett (the 'Client'), to carry out a Phase 1 Environmental Assessment for a proposed residential development at Pear Tree Farm, Church Lane, Brierley, Barnsley, S72 9JR ('the Site').

It is proposed to demolish existing outbuildings, farmhouse and bungalow on the Site and construct 9 new dwellings, gardens and associated hardstanding. Development plans are presented on BLD drawing number 4038-03 (Appendix 1).

Figure 1 - Site Location Map and Satellite Image



1.2 Purpose

This report has been prepared for submission to the local planning authority in support of the planning application for the Site.

2.0 PRELIMINARY RISK ASSESSMENT

2.1 Objectives of Preliminary Risk Assessment

The objectives of the Preliminary Risk Assessment (PRA) were to:

- Establish the geological and hydrogeological conditions for the Site using existing available information;
- Summarise available information and identify Site specific environmental hazards which may place a constraint upon the proposed development;
- Produce a preliminary Conceptual Site Model (CSM) and preliminary qualitative contamination risk assessment identifying plausible potential linkages between contamination sources, pathways and receptors; and
- Provide objectives and recommendations with regards to an Intrusive Ground Investigation (Phase 2) and other further assessments that may be required.

The assessments in the Report were underpinned by Regulatory requirements at time of writing and comply with the requirements for a Preliminary Risk Assessment as set out in Tier 1 Stage 1 of the Environment Agency's 'Land Contamination Risk Management' guidance, last updated July 2023.

2.2 Environmental Setting

A Groundsure Enviro+Geo Insight database report and historical maps have been procured for the Site, presented at Appendix 2.

2.2.1 Site Description

The Site is located at national grid reference 440909 411237, in the north of the village of Brierley in the metropolitan borough of Barnsley. The Site lies to the north east of Church Street and is approximately 0.49 hectares in area.

GDP performed a site walkover on 17th October 2024. The Site is an irregularly shaped plot comprising a selection of single storey adjoining farm outbuildings in the north west with suspected asbestos cement roofs, a two-storey farmhouse centrally and a bungalow in the south east. The buildings are surrounded with lawns, some mature trees in the south west and north east.

A heap of waste including carboard, construction waste, rubble and evidence of a fire is present in the north of the Site on a concrete slab. A polytunnel frame is present on the northern boundary on a concrete slab. Scarring of the grass to the east of this feature suggests made ground near surface. The plot is overgrown in the north east corner and has a suspected asbestos cement fence separating the northern end of the boundary with the plot to the east.

Access to the Site is from Church Street with weathered tarmac to the farm buildings and farmhouse in the north and a concrete surfaced drive to the bungalow in the south.

Point sources of contamination were not observed from the Site walkover. It is understood the premises are served by mains gas such that heating oil tanks are not present.

Farm Buildings north west - View from access off Church Street

Waste heap - View south from northern tip of Site

View south east along northern boundary

View west from north east corner

Eastern boundary – suspected ACM 'fence'

Topography on Site rises gradually from Church Street to the northern boundary. Over a wider area land falls from the northern boundary of the Site towards the north.

The surrounding area reflects the central village location and is mainly residential with a church located immediately east. Land beyond the north and northeastern boundary is open farmland.

2.2.2 Site History

Historical maps dated between 1854 and 2024 were procured to review the history of the Site and surrounding landuse. The Site is developed from the earliest map edition. Farm buildings are shown in the north west in the configuration broadly as current and the existing farmhouse is also shown. Buildings are also present in the south east of the Site in the location of the current bungalow driveway and gardens. Greenhouses are shown in the north and along the north eastern boundary. An orchard is in the north and east of the Site and a pump is marked in the east and immediately adjacent the west of the Site boundary. By 1962 an additional building is present in the northern tip of the Site on the area of the existing waste heap and two buildings shown along the northern boundary including the north east corner (currently overgrown), replacing the previous greenhouses, and an additional building in the north by 1978. The current bungalow is shown on the 1985-88 map in the south of the Site with an outline suggesting a slab or area of hard standing along the eastern boundary. This remains the layout until the most recent small scale map which no longer shows the buildings on the northern boundary.

The surrounding area is gradually developed out with additional housing over the mapped period. A smithy is noted approximately 100m west on early maps and a colliery circa 300m+ south now marked as a depot. Circular tanks are labelled circa 50m east of the Site from 1978 onwards on a property labelled Hall Farm. With reference to Google Earth imagery these are likely feed silos not fuel tanks. Contaminative land uses with the potential to impact the Site are not identified on historical mapping.

Satellite imagery provided in the Groundsure report provides useful illustration of the nature of the buildings previously present around the north of the Site. The image below from 2009 also shows a yard area in the central north of the Site, now lawn.

Groundsure Image 2009

2.2.3 Published Geology

Reference to the Groundsure report indicates artificial /made ground is not mapped on the Site. The nearest made ground is mapped 198m north. Infilled ground is mapped 244m south west with a total of 5 areas of artificial ground mapped within 500m. Superficial Deposits are not mapped on the Site. Bedrock is Brierley Rock – Sandstone.

The nearest BGS borehole record is for a trial pit 214m south east. This describes a light brown grey very sandy silty CLAY over highly weathered laminated SILTSTONE with sandstone laminations from 1.5m.

2.2.4 Hydrogeology

Bedrock is classified as a Secondary A Aquifer. The Site is not located in a Source Protection Zone (SPZ).

There are no groundwater abstractions in the vicinity of the Site.

2.2.5 Hydrology

There are no surface water features listed in the vicinity of the Site.

2.2.6 Flood Risk

According to the Groundsure report the Site is not at risk of flooding from rivers and seas.

Consideration of flood risk falls outside the scope of this Assessment.

2.2.7 Radon Gas

The Site is located an area where between 1 and 3% of properties are affected by radon. Radon protection measures are not required.

2.2.8 Mining & Mineral Extraction

The Site is located in a coal mining area but not within a Development High Risk Area such that a coal mining risk assessment would not normally be required for planning. Brierley Colliery was located 370m south of the Site, workings were wholly underground.

Risks to the Site from resource extraction or geotechnical matters fall outside of the scope of this commission and are not considered further in this Report.

2.2.9 Environmentally Sensitive Sites

The Site is located in Greenbelt and a Conservation Area.

Environmentally sensitive Sites are not listed in the vicinity.

2.2.10 Groundsure Database Entries

Salient points identified from the database review include:

- There are 23 historical industrial land uses within 500m. These include a historical water pump, smithy, training station, depot and colliery.
- 3 historical tanks have been identified, the closest 40m east (likely feed silos).
- There are no garages or petrol stations listed in the vicinity.
- No active or historic landfill or waste sites are listed in the vicinity.
- There are 6 recent industrial land uses listed. In proximity of the Site these include a mast 4m east, tanks (silos) 44m south east, a distribution and haulage yard 51m west.

2.3 Qualitative Contaminated Land Assessment

2.3.1 Initial Conceptual Site Model

An initial Conceptual Site Model (CSM) has been developed for the Site adopting the Source-Pathway-Receptor approach.

- **Sources (S)** are potential or known contaminant sources e.g. soil contamination resulting from a former land use;
- **Pathways (P)** are environmental systems thorough which a contaminant could migrate e.g. air, groundwater;
- **Receptors (R)** are sensitive environmental receptors that could be adversely affected by a contaminant. e.g. Human End User (longer- term risks) or groundworkers (shorter-term risks), surface or groundwater resources and ecology.

Where a source, relevant pathway and receptor are present, a plausible pollutant linkage is considered to exist whereby environmental harm could occur and a potential environmental liability could be realised.

The site specific potential pollutant linkages have been assessed and used to formulate the initial Conceptual Model for the Site presented in Table 2.3.1.

Table 2.3.1 Initial Conceptual Model

POTENTIAL SOURCES		
CSM ID	**Detailed Description**	**Summary Description for CSM**
S1	Potentially contaminated soils associated with current and known historical site uses.	**S1:** Soil Contamination
S2	Contaminated groundwater resulting from soil contamination.	**S2:** Groundwater Contamination

S3	Potential for contamination originating from off-site sources.	**S3:** Off-site sourced contamination
S4	Asbestos containing materials within buildings and made ground possibly buried.	**S4:** ACMs
S5	Permanent ground gases and vapours from soil contamination.	**S5:** Ground gases
POTENTIAL PATHWAYS		
CSM ID	**Detailed Description**	**Summary description for CSM**
P1	Human uptake pathways; - Ingestion of excavated or exposed soils; - Ingestion of home grown produce; - Inhalation of soil/dust/volatile compounds or hazardous ground gases via migration through permeable strata/conduits; and - Dermal contact with exposed soils or leachates.	**P1:** Human uptake
P2	Vertical migration of contaminants through the unsaturated zone	**P2:** Vertical Migration Unsaturated Zone
P3	Horizontal and vertical migration of contaminants within groundwater	**P3:** Groundwater Migration
P4	Direct contact of soils with construction materials	**P4:** Direct Contact Construction Materials
P5	Migration of permanent ground gases/vapour in soils and into buildings.	**P5:** Ground gas Migration
POTENTIAL RECEPTORS		
CSM ID	**Detailed Description**	**Summary description for CSM**
R1	Construction/maintenance workers.	**R1:** Construction workers
R2	Controlled waters within the Aquifers and nearby surface waters.	**R2:** Controlled waters
R3	End-users.	**R3:** End-users
R4	Construction Materials - Buried concrete and potable water supply pipes.	**R4:** Construction Materials
R5	Off-site property and users.	**R5:** Off-site receptors

2.3.2 Risk Evaluation

For each potential pollutant linkage identified within the Conceptual Model the potential risk has been evaluated for potential receptors using a Preliminary Qualitative Risk Assessment based on the probability of the pollution event and the severity it poses to Site users and the environment. The Methodology is presented in Appendix 3.

The preliminary assessment of risk assumes no specific remediation measures but does take account of obvious pathway disruption due to development such as hard standing, building footprints or necessary excavations.

The risk evaluation assessment is summarised in Table 2.3.2 below. The CSM and Qualitative Risk Assessment is refreshed following review of the ground investigation findings including any geochemical analyses.

Table 2.3.2 Preliminary Qualitative Risk Assessment

Potential Source	Potential Pathway	Potential Receptor	Consequence	Probability	Risk	Comments
S1: Soil Contamination	**P1:** Human Uptake	**R1:** Construction workers	Medium	Likely	Moderate	The Site has been developed with a farm and outbuildings for a considerable period of time. The use of the existing and former outbuildings is unknown. Other transient uses over many years may have caused contamination not currently observable. Made ground is likely present associated with former buildings around the north, east and south east of the Site which may include asbestos. Lead arsenates were often used as pesticides in historical orchards and can persist in soils. A heap of waste material and evidence of a fire is present in the north. The existing weathered tarmac may contain coal tars. Existing soils are likely variable and may not be physically or geochemically suitable for use in residential gardens.
		R3: End-users	Medium	Likely	Moderate	
	P2: Vertical migration unsaturated zone	**R3:** End-users	Minor	Unlikely	Very low	
	P3: Groundwater migration	**R2:** Controlled waters	Medium	Unlikely	Low	Possible sources of soil contamination with the potential to impact groundwater quality are possible but unlikely over a wide area. Perched groundwater may be possible over clayey weathered rock but continuous groundwater is likely at considerable depth.
		R3: End-users	Medium	Unlikely	Low	
		R4: Construction materials	Mild	Unlikely	Low	
	P4: Direct contact construction materials	**R4:** Construction materials	Medium	Low likelihood	Moderate/ low	New potable supplies will likely pass through made ground, the composition of which is unknown. Aggressive ground conditions with the potential to affect concrete performance is unlikely.

S2: Groundwater Contamination	**P1:** Human Uptake	**R1:** Construction workers	Mild	Unlikely	Very low	Significant potential sources of groundwater contamination have not been identified from the desk study.
		R3: End-users	Mild	Unlikely	Very low	
	P3: Groundwater migration	**R2:** Controlled waters	Medium	Unlikely	Low	
	P4: Direct contact construction materials	**R4**: Construction materials	Mild	Unlikely	Very low	
S3: Off-site sourced contamination	**P1:** Human Uptake	**R1:** Construction workers	Minor	Unlikely	Very low	Potential off-site sources of contamination have not been identified in the vicinity of the Site.
		R3: End-users	Minor	Unlikely	Very low	
	P3: Groundwater migration	**R2:** Controlled waters	Mild	Unlikely	Very low	
	P4: Direct contact construction materials	**R4**: Construction materials	Mild	Unlikely	Very low	
S4: ACMs	**P1:** Human Uptake	**R1:** Construction workers	Severe	High likelihood	Very high	Asbestos is very likely present in existing buildings to be demolished and is likely in made ground. Asbestos cement is suspected in use as fencing. Weathering of asbestos cement products in situ and damage often results in asbestos fibres being washed into surrounding soils over many decades. Historically it was not illegal to bury asbestos on farm land.
		R3: End-users	Severe	Likely	High	
S5: Ground Gas including radon	**P5:** Ground gas migration	**R3:** End Users	Medium	Low likelihood	Moderate/ low	No significant off-site sources of ground gas have been identified. Some made ground is

						likely on Site, the thickness and composition of which is unknown. The Site is not located in a radon affected area.

3.0 CONCLUSIONS & RECOMMENDATIONS

The proposed development comprises demolition of existing buildings and redevelopment with new dwellings, gardens and hardstanding.

The Site has been in use as a farm complex, including an orchard, for a considerable period of time. Widespread severe contamination is not anticipated but current and historic uses have the potential to have caused contamination of soils which would make them unsuitable for use in proposed residential gardens. Made ground is also likely in places from demolition of former buildings and may contain contaminants and/or asbestos. Made ground was commonly imported to make up farmyard surfacing which may contain contaminants unsuitable for use in a residential garden setting. The existing tarmac, due it's age, may contain coal tars which are carcinogenic and require assessment for human health and waste disposal purposes. Other transient farm activity over many decades may also have caused contamination not observed during the walkover.

Asbestos in existing buildings is very likely and is likely present in made ground and soils around asbestos roofed buildings as a result of weathering.

Groundwater contamination from typical on and off-Site sources with the potential to impact the development or wider groundwater environment is not anticipated. Weathered bedrock is likely a gravelly and sandy clay and shallow groundwater is not anticipated, although pockets may be present in more granular lenses and as perched groundwater in sump-like excavations and/or on top of any clay.

A ground investigation is recommended to comprise a trial pitting and borehole investigation to allow the observation and sampling of soils at the Site for typical potential contaminants including heavy metals, speciated PAHs and asbestos content. Speciated TPH analysis should be undertaken if indications of hydrocarbons are observed. Monitoring wells should be installed in boreholes to allow a period of ground gas monitoring in accordance with good practice.

Findings of the investigation should be used to inform the construction phase risk assessment. Soils in proposed garden areas should be assessed for suitability from a physical and geochemical perspective. Screening of soils against suitable GAC such as LQM S4ULs residential with homegrown produce land use is required. Areas of proposed permanent cover should be assessed for construction phase risks and possibility for impact on the wider environment using a less onerous GAC.

Leachate testing is unlikely required due to the anticipated absence of significant soil contamination or shallow groundwater.

It is recommended that the intrusive investigation be combined with geotechnical investigation to inform foundation and engineering design for cost efficiency.

A pre-demolition or refurbishment asbestos survey of existing buildings (and external areas including the suspected ACM fence) should be undertaken. Any ACM removal must take account of the risks identified and apply the varied and stringent requirements of CAR 2012 and CDM 2015 regulations.

Waste streams have yet to be identified and a cut and fill exercise has not been undertaken. Any waste must be disposed of by appropriately licensed contractors in accordance with current waste management legislation and Duty of Care regulations. Waste arisings should not be assumed to be inert. WAC testing of materials destined for off-Site disposal to landfill may also be required. The presence of asbestos and coal tar impacted tarmac may require additional consideration.

Potential sources of contamination which could affect water supply pipes may be present. Where new connections are required below ground the Water Company can require onerous analysis of soils in the areas where new supplies are to be installed in accordance with their in-house or UKWIR guidance. Due to costs of the aforementioned additional soils investigation it is often more cost effective to upgrade water supply connections to barrier pipe as a precautionary measure. Early consultation with the Water Company is recommended.

Subject to findings of the ground investigation further risk assessment, remediation method statement and validation reporting may be required and Conditioned through planning accordingly.

4.0 LIMITATIONS

4.1 General

GD Pickles Ltd (GDP) have prepared this report solely for the use of the Client. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from GDP; a charge may be levied against such approval.

GDP accepts no responsibility or liability for the consequences of this document being used for any purpose or project other than for which it was commissioned or the consequences of this document being used by any third party with whom an agreement has not been executed.

The Client should be aware that property development carries risk and that unidentified development abnormals should be anticipated particularly on brownfield sites with regard to in-ground risks such as contamination, asbestos, waste and underground obstructions/made ground. This Report provides an assessment of the potential and actual ground conditions found based upon the available information and in the context of the scope of works performed. It does not provide a geotechnical, flood, drainage, asbestos, ecological, archaeological or legal assessments or provide advice on other technical matters which may be appropriate when considering site ownership and development. The Client should satisfy itself that it has adequate information on which to make its own decision with regards the commercial and legal merit of acquiring and developing the site. All development risk rests with the developer and owner. GDP will employ all reasonable endeavours to assist the Client manage and mitigate those risks, however, no liability is accepted by GDP for any loss, damages, or consequential or third party losses which may be suffered by the Client from the inappropriate use or misinterpretation of the content of this Report. GDP limits all liability to the value of the commission for a period of 1 year.

4.2 Phase I Desk Studies and Preliminary Risk Assessments

The work undertaken in producing this report comprised a study of available in-house and third party documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties. The assessments and opinions given in this report rely on such information and activities and are only relevant to the purpose for which the report was commissioned. Any information reviewed should not be considered exhaustive and has been accepted and used in good faith as providing accurate and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, GDP reserves the right to review and if necessary modify the opinions accordingly. It should be noted that any risks identified in a Phase 1 report are perceived risks based on the information reviewed; actual risks can usually only be quantified following a physical investigation of the site.

Report produced by:

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Report Checked and Approved by:

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APPENDIX 1

DEVELOPMENT PLANS

Brownfield Consulting & Development
GD Pickles Ltd, registered in the UK: 09387115.
Biltons Farm, South Scarle Lane, Swinderby, Lincoln, LN6 9JA

House Type:	House No.	Details	GIA m²
House Type A	1	2 Storey, 4 Double Bed 2 En-suite House, Internal Garage	198.6m²
House Type B	2	2 Storey, 4 Double Bed 3 En-suite House,	189.5m²
House Type B - Mirror	3	2 Storey, 4 Double Bed 3 En-suite House, Internal Garage	189.5m²
House Type B - Mirror	4	2 Storey, 4 Double Bed 3 En-suite House, Internal Garage	189.5m²
House Type A - Mirror	5	2 Storey, 4 Double Bed 3 En-suite House, Internal Garage	198.6m²
House Type D	6	2 Storey, 4 Double Bed 3 En-suite House, Internal Garage	198.6m²
House Type C	7	2 Storey, 1 Attic Room, 3 Double Bed, 1 En-suite	135.6m²
House Type C - Mirror	8	2 Storey, 1 Attic Room, 3 Double Bed, 1 En-suite	135.6m²
House Type C	9	2 Storey, 1 Attic Room, 3 Double Bed, 1 En-suite	135.6m²
House Type D	10	2 Storey, 4 Double Bed 3 En-suite House, Internal Garage	198.6m²

Devlopment Boundary

Ownership Boundary

PLANNING STATUS

A - Planning Issue **/**/24

AMENDMENTS:

client

project

PEAR TREE FARM, MASTER PLAN,
CHURCH STREET,
BRIERLEY, BARNSLEY

drawing

PROPOSED SITE PLAN

date JUNE 24 **drawn** LK **checked** DR

scale 1:500@A1 **drawer no** **dwg no** 4038-03-A

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bld ARCHITECTS

APPENDIX 2

GROUNDSURE REPORT & HISTORICAL MAPPING

Brownfield Consulting & Development
GD Pickles Ltd, registered in the UK: 09387115.
Biltons Farm, South Scarle Lane, Swinderby, Lincoln, LN6 9JA

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Pear Tree Farm, S72 9JR

Order Details

Date: 04/10/2024

Your ref: CMAPS-GDP-1187993-33420-041024

Our Ref: CMAPS-GDP-1187993-33420-041024EDRGEO

Site Details

Location: 440909 411237

Area: 0.49 ha

Authority: Barnsley Metropolitan Borough Council ↗

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

Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	0	7	16	-
16 >	1.2 >	Historical tanks >	0	2	0	1	-
17 >	1.3 >	Historical energy features >	0	0	1	1	-
17	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	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
19 >	2.1 >	Historical industrial land uses >	0	0	10	31	-
21 >	2.2 >	Historical tanks >	0	3	0	1	-
22 >	2.3 >	Historical energy features >	0	0	2	1	-
22	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
24 >	3.7 >	Waste exemptions >	0	4	12	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
27 >	4.1 >	Recent industrial land uses >	0	3	3	-	-
28	4.2	Current or recent petrol stations	0	0	0	0	-
28	4.3	Electricity cables	0	0	0	0	-
28	4.4	Gas pipelines	0	0	0	0	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-

29	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
29	4.7	Regulated explosive sites	0	0	0	0	-
29	4.8	Hazardous substance storage/usage	0	0	0	0	-
29	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
30	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
30	4.12	Radioactive Substance Authorisations	0	0	0	0	-
30	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
30	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
30	4.15	Pollutant release to public sewer	0	0	0	0	-
31	4.16	List 1 Dangerous Substances	0	0	0	0	-
31	4.17	List 2 Dangerous Substances	0	0	0	0	-
31	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
31	4.19	Pollution inventory substances	0	0	0	0	-
31	4.20	Pollution inventory waste transfers	0	0	0	0	-
32	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
33	5.1	Superficial aquifer	None (within 500m)				
34 >	**5.2 >**	**Bedrock aquifer >**	Identified (within 500m)				
35 >	**5.3 >**	**Groundwater vulnerability >**	Identified (within 50m)				
36	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
36	5.5	Groundwater vulnerability- local information	None (within 0m)				
37	5.6	Groundwater abstractions	0	0	0	0	0
37	5.7	Surface water abstractions	0	0	0	0	0
37	5.8	Potable abstractions	0	0	0	0	0
37	5.9	Source Protection Zones	0	0	0	0	-
38	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	**Hydrology >**	On site	0-50m	50-250m	250-500m	500-2000m
39	6.1	Water Network (OS MasterMap)	0	0	0	-	-

39	6.2	Surface water features	0	0	0	-	-
40 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
40 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
41 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
42	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
42	7.2	Historical Flood Events	0	0	0	-	-
42	7.3	Flood Defences	0	0	0	-	-
43	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
43	7.5	Flood Storage Areas	0	0	0	-	-
44	7.6	Flood Zone 2	None (within 50m)				
44	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
45	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding >					
46 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
47	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
48	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
48	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
48	10.4	Special Protection Areas (SPA)	0	0	0	0	0
48	10.5	National Nature Reserves (NNR)	0	0	0	0	0
49	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
49	10.7	Designated Ancient Woodland	0	0	0	0	0
49	10.8	Biosphere Reserves	0	0	0	0	0
49	10.9	Forest Parks	0	0	0	0	0
50	10.10	Marine Conservation Zones	0	0	0	0	0
50 >	10.11 >	Green Belt >	1	0	0	0	2
50	10.12	Proposed Ramsar sites	0	0	0	0	0

50	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
51	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
51	10.15	Nitrate Sensitive Areas	0	0	0	0	0
51 >	**10.16 >**	**Nitrate Vulnerable Zones >**	1	0	0	1	1
52 >	**10.17 >**	**SSSI Impact Risk Zones >**	1	-	-	-	-
53	10.18	SSSI Units	0	0	0	0	0
Page	Section	**Visual and cultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
54	11.1	World Heritage Sites	0	0	0	-	-
55	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
55	11.3	National Parks	0	0	0	-	-
55 >	**11.4 >**	**Listed Buildings >**	0	0	3	-	-
56 >	**11.5 >**	**Conservation Areas >**	1	0	0	-	-
56	11.6	Scheduled Ancient Monuments	0	0	0	-	-
56	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
57 >	**12.1 >**	**Agricultural Land Classification >**	Grade 3 (within 250m)				
58	12.2	Open Access Land	0	0	0	-	-
58	12.3	Tree Felling Licences	0	0	0	-	-
58	12.4	Environmental Stewardship Schemes	0	0	0	-	-
58	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
59	13.1	Priority Habitat Inventory	0	0	0	-	-
59	13.2	Habitat Networks	0	0	0	-	-
59	13.3	Open Mosaic Habitat	0	0	0	-	-
59	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	**Geology 1:10,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
60 >	**14.1 >**	**10k Availability >**	Identified (within 500m)				
61 >	**14.2 >**	**Artificial and made ground (10k) >**	0	0	2	3	-
63	14.3	Superficial geology (10k)	0	0	0	0	-

63	14.4	Landslip (10k)	0	0	0	0	-
64 >	14.5 >	Bedrock geology (10k) >	1	0	2	2	-
65 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	1	4	-
Page	Section	**Geology 1:50,000 scale** >	On site	0-50m	50-250m	250-500m	500-2000m
66 >	15.1 >	50k Availability >	Identified (within 500m)				
67 >	15.2 >	Artificial and made ground (50k) >	0	0	1	2	-
68	15.3	Artificial ground permeability (50k)	0	0	-	-	-
69	15.4	Superficial geology (50k)	0	0	0	0	-
69	15.5	Superficial permeability (50k)	None (within 50m)				
69	15.6	Landslip (50k)	0	0	0	0	-
69	15.7	Landslip permeability (50k)	None (within 50m)				
70 >	15.8 >	Bedrock geology (50k) >	1	0	2	3	-
71 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
71 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	2	7	-
Page	Section	**Boreholes** >	On site	0-50m	50-250m	250-500m	500-2000m
73 >	16.1 >	BGS Boreholes >	0	0	1	-	-
Page	Section	**Natural ground subsidence** >					
74 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
75 >	17.2 >	Running sands >	Negligible (within 50m)				
76 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
77 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
78 >	17.5 >	Landslides >	Very low (within 50m)				
79 >	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
81 >	18.1 >	BritPits >	0	0	0	1	-
82	18.2	Surface ground workings	0	0	0	-	-
82 >	18.3 >	Underground workings >	0	0	0	2	13
83	18.4	Underground mining extents	0	0	0	0	-
83	18.5	Historical Mineral Planning Areas	0	0	0	0	-

83	18.6	Non-coal mining	0	0	0	0	0
84	18.7	JPB mining areas	None (within 0m)				
84	18.8	The Coal Authority non-coal mining	0	0	0	0	-
84	18.9	Researched mining	0	0	0	0	-
84	18.10	Mining record office plans	0	0	0	0	-
85	18.11	BGS mine plans	0	0	0	0	-
85 >	**18.12 >**	**Coal mining >**	Identified (within 0m)				
85	18.13	Brine areas	None (within 0m)				
85	18.14	Gypsum areas	None (within 0m)				
85	18.15	Tin mining	None (within 0m)				
86	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
87	19.1	Natural cavities	0	0	0	0	-
87	19.2	Mining cavities	0	0	0	0	0
87	19.3	Reported recent incidents	0	0	0	0	-
87	19.4	Historical incidents	0	0	0	0	-
88	19.5	National karst database	0	0	0	0	-
Page	Section	**Radon >**					
89 >	**20.1 >**	**Radon >**	Between 1% and 3% (within 0m)				
Page	Section	**Soil chemistry >**	On site	0-50m	50-250m	250-500m	500-2000m
91 >	**21.1 >**	**BGS Estimated Background Soil Chemistry >**	1	2	-	-	-
91	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
91	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
92	22.1	Underground railways (London)	0	0	0	-	-
92	22.2	Underground railways (Non-London)	0	0	0	-	-
92	22.3	Railway tunnels	0	0	0	-	-
92	22.4	Historical railway and tunnel features	0	0	0	-	-
92	22.5	Royal Mail tunnels	0	0	0	-	-

93	22.6	Historical railways	0	0	0	-	-
93	22.7	Railways	0	0	0	-	-
93	22.8	Crossrail 1	0	0	0	0	-
93	22.9	Crossrail 2	0	0	0	0	-
93	22.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 19/04/2021

Site Area: 0.49ha

Recent site history - 2018 aerial photograph

Capture Date: 01/07/2018

Site Area: 0.49ha

Recent site history - 2012 aerial photograph

Capture Date: 26/03/2012

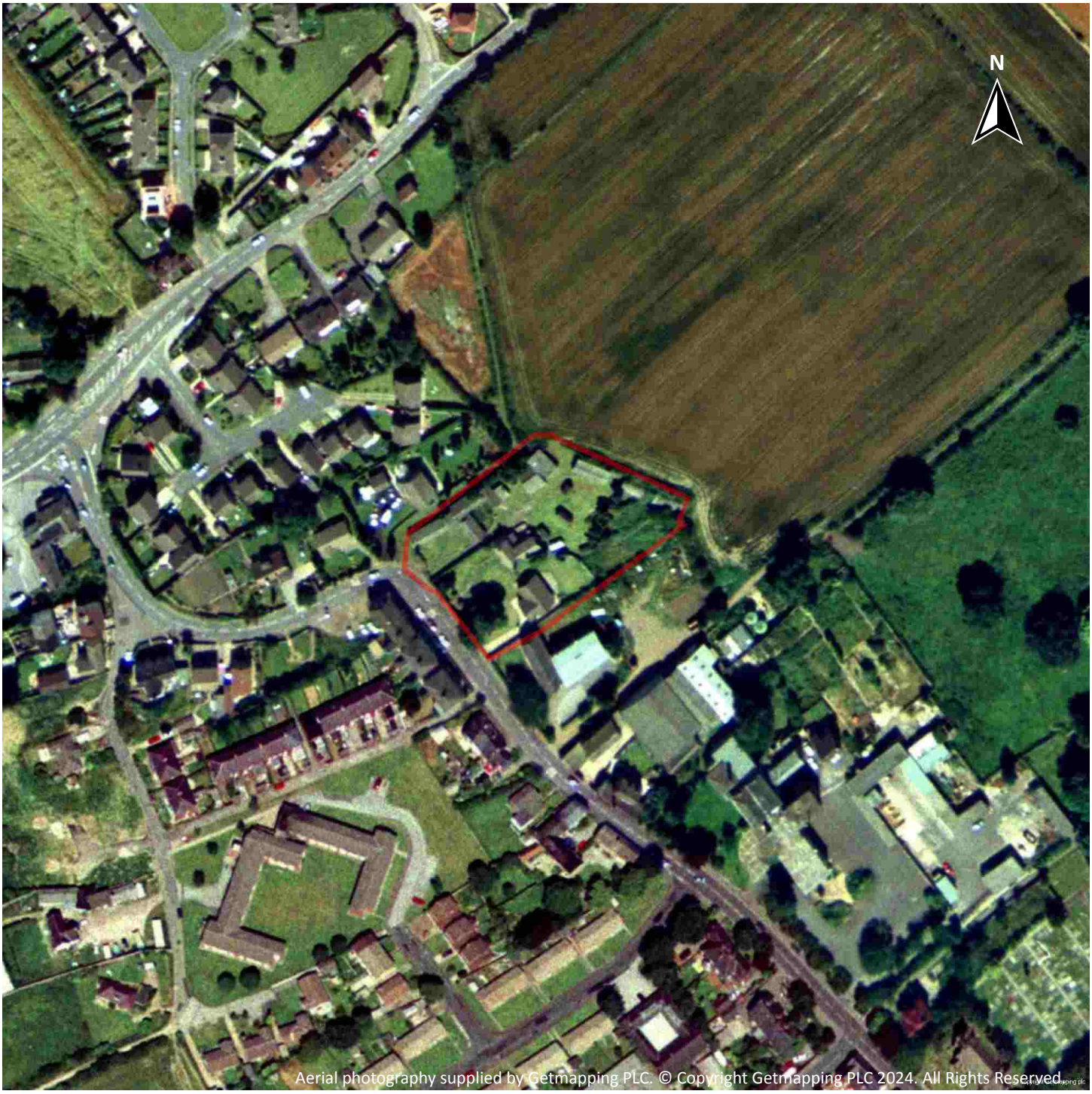
Site Area: 0.49ha

Recent site history - 2009 aerial photograph

Capture Date: 02/07/2009

Site Area: 0.49ha

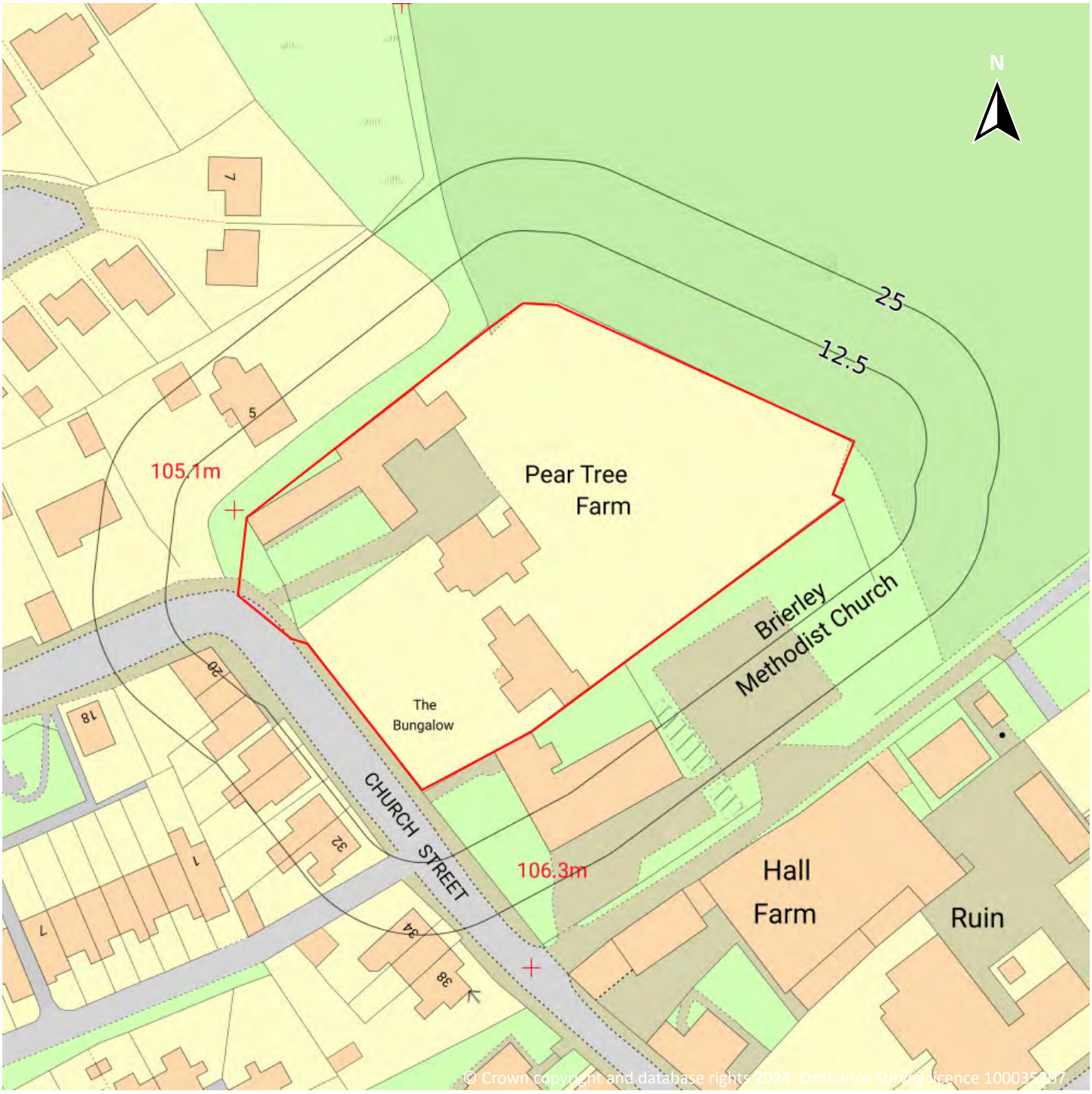
Recent site history - 1999 aerial photograph



Capture Date: 10/07/1999

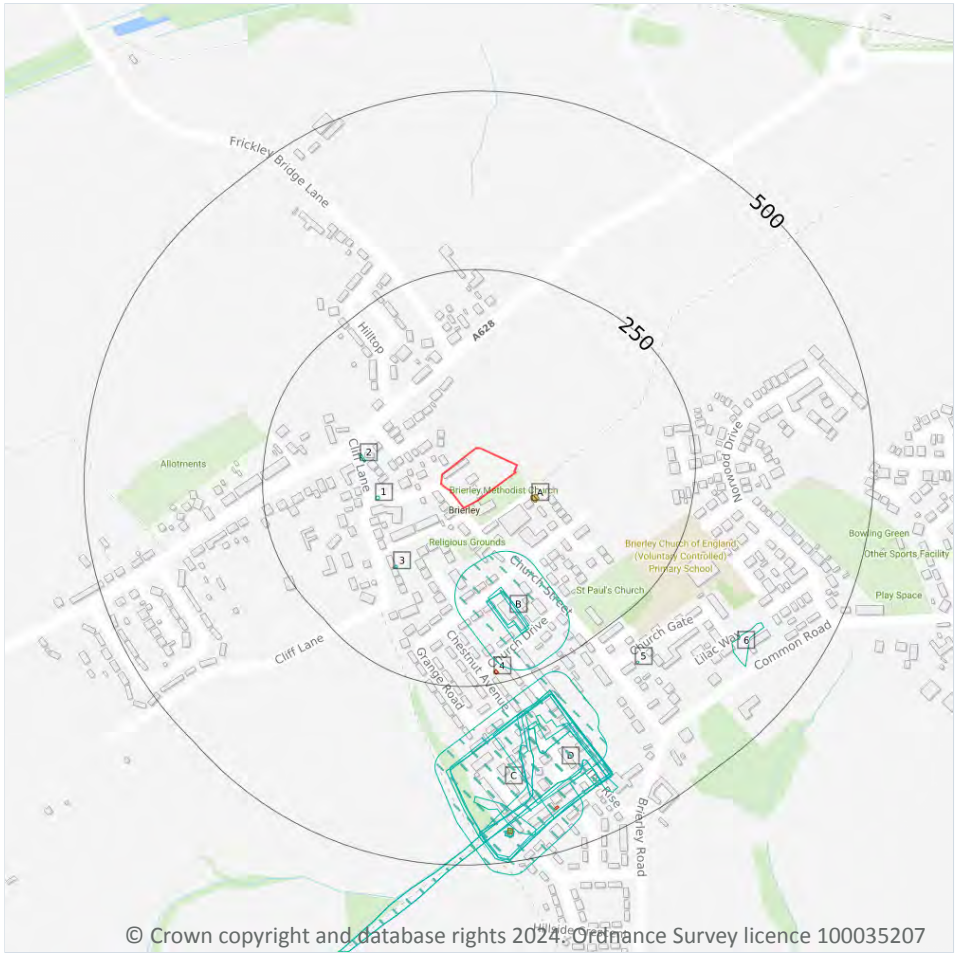
Site Area: 0.49ha

OS MasterMap site plan



Site Area: 0.49ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	23

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

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

ID	Location	Land use	Dates present	Group ID
B	75m S	Rescue Training Station	1967	1514108

ID	Location	Land use	Dates present	Group ID
1	88m W	Unspecified Pump	1854	1527544
2	109m W	Smithy	1854	1502774
B	122m S	Rescue Training Station	1951	1522918
3	123m SW	Unspecified Pump	1854	1576504
B	129m S	Unspecified Station	1948	1445671
B	129m S	Rescue Training Station	1938	1513152
C	260m S	Unspecified Disused Mine	1967	1442863
C	282m S	Disused Colliery	1951	1447213
C	282m S	Unspecified Depot	1982 - 1988	1563530
C	286m S	Colliery	1938	1520621
C	287m S	Colliery	1930	1576909
C	288m S	Colliery	1948	1507361
C	296m S	Railway Sidings	1951	1479927
5	314m SE	Unspecified Pump	1854	1484658
C	315m S	Tramway Sidings	1938 - 1948	1482328
D	323m S	Tramway Sidings	1930	1502154
D	323m S	Tramway Sidings	1938 - 1948	1579629
6	386m SE	Unspecified Quarry	1938	1465252
D	404m S	Unspecified Heap	1967 - 1988	1539436
D	452m S	Unspecified Tank	1951	1513536
D	455m S	Unspecified Tank	1930	1569634
D	456m S	Unspecified Tank	1938 - 1948	1577514

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**3**

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

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

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

ID	Location	Land use	Dates present	Group ID
A	40m E	Tanks	1988	252765
A	41m E	Tanks	1978	248430
D	452m S	Unspecified Tank	1913	239117

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**2**

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

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

ID	Location	Land use	Dates present	Group ID
4	231m S	Electricity Substation	1983 - 1985	150965
C	437m S	Electricity Substation	1983	142699

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	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 un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

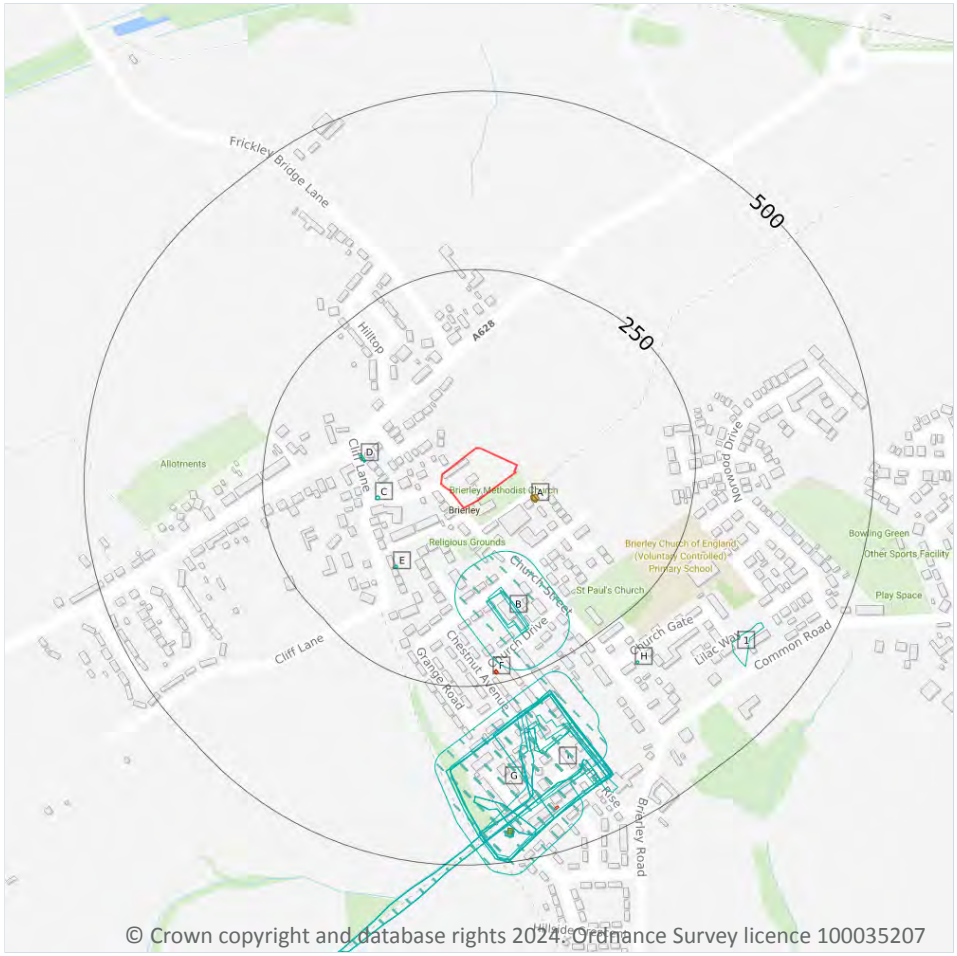
1.6 Historical military land

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	41

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 19 >**

ID	Location	Land Use	Date	Group ID
B	75m S	Rescue Training Station	1967	1514108
C	88m W	Unspecified Pump	1854	1527544
C	88m W	Unspecified Pump	1854	1527544

ID	Location	Land Use	Date	Group ID
D	109m W	Smithy	1854	1502774
D	109m W	Smithy	1854	1502774
B	122m S	Rescue Training Station	1951	1522918
E	123m SW	Unspecified Pump	1854	1576504
E	123m SW	Unspecified Pump	1854	1576504
B	129m S	Unspecified Station	1948	1445671
B	129m S	Rescue Training Station	1938	1513152
G	260m S	Unspecified Disused Mine	1967	1442863
G	282m S	Unspecified Depot	1982	1563530
G	282m S	Disused Colliery	1951	1447213
G	282m S	Unspecified Depot	1988	1563530
G	286m S	Colliery	1938	1520621
G	286m S	Colliery	1938	1520621
G	287m S	Colliery	1930	1576909
G	287m S	Colliery	1930	1576909
G	287m S	Colliery	1930	1576909
G	287m S	Colliery	1930	1576909
G	288m S	Colliery	1948	1507361
G	296m S	Railway Sidings	1951	1479927
H	314m SE	Unspecified Pump	1854	1484658
H	314m SE	Unspecified Pump	1854	1484658
G	315m S	Tramway Sidings	1948	1482328
I	323m S	Tramway Sidings	1930	1502154
I	323m S	Tramway Sidings	1930	1502154
I	323m S	Tramway Sidings	1930	1502154
I	323m S	Tramway Sidings	1930	1502154
G	326m S	Tramway Sidings	1938	1482328
1	386m SE	Unspecified Quarry	1938	1465252

ID	Location	Land Use	Date	Group ID
I	404m S	Unspecified Heap	1982	1539436
I	404m S	Unspecified Heap	1967	1539436
I	404m S	Unspecified Heap	1988	1539436
I	452m S	Unspecified Tank	1951	1513536
I	455m S	Unspecified Tank	1930	1569634
I	455m S	Unspecified Tank	1930	1569634
I	455m S	Unspecified Tank	1930	1569634
I	455m S	Unspecified Tank	1930	1569634
I	456m S	Unspecified Tank	1948	1577514
I	456m S	Unspecified Tank	1938	1577514

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**4**

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 19 >**

ID	Location	Land Use	Date	Group ID
A	40m E	Tanks	1988	252765
A	40m E	Tanks	1988	252765
A	41m E	Tanks	1978	248430
I	452m S	Unspecified Tank	1913	239117

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	3

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. 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 19 >**

ID	Location	Land Use	Date	Group ID
F	231m S	Electricity Substation	1983	150965
F	232m S	Electricity Substation	1985	150965
G	437m S	Electricity Substation	1983	142699

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

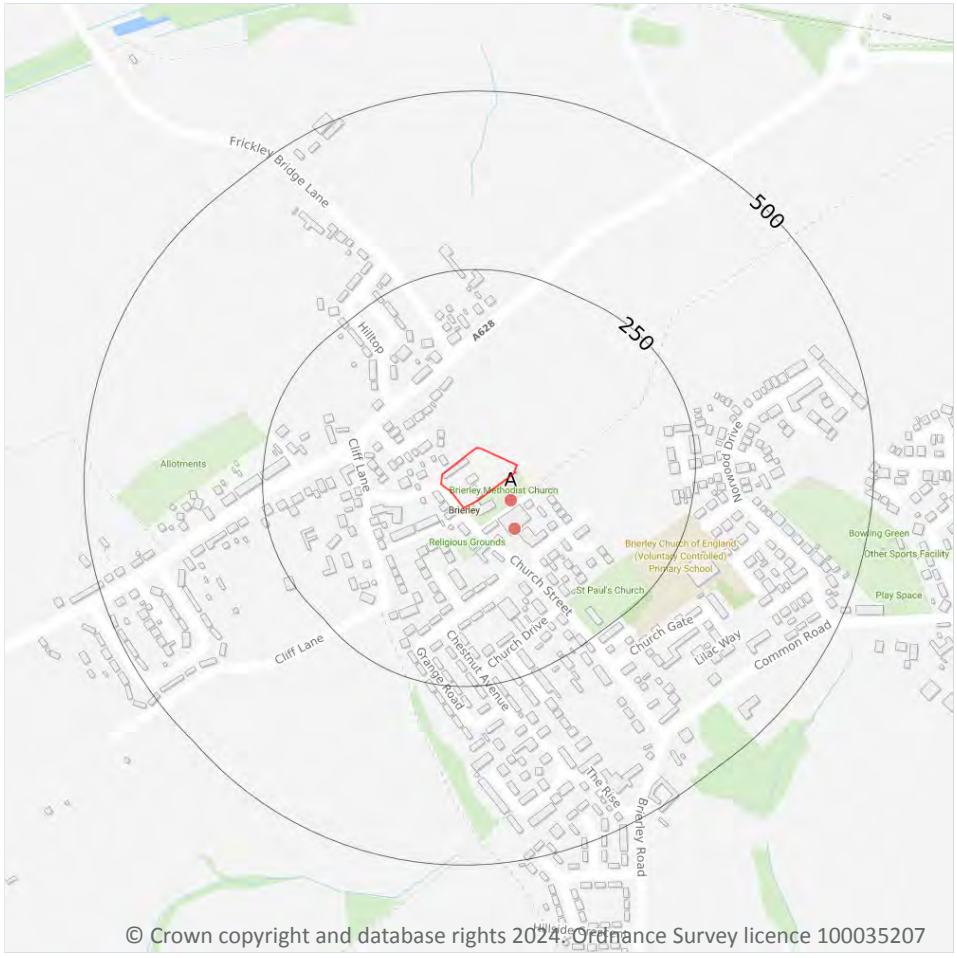
2.5 Historical garages

Records within 500m	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	16

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 23 >**

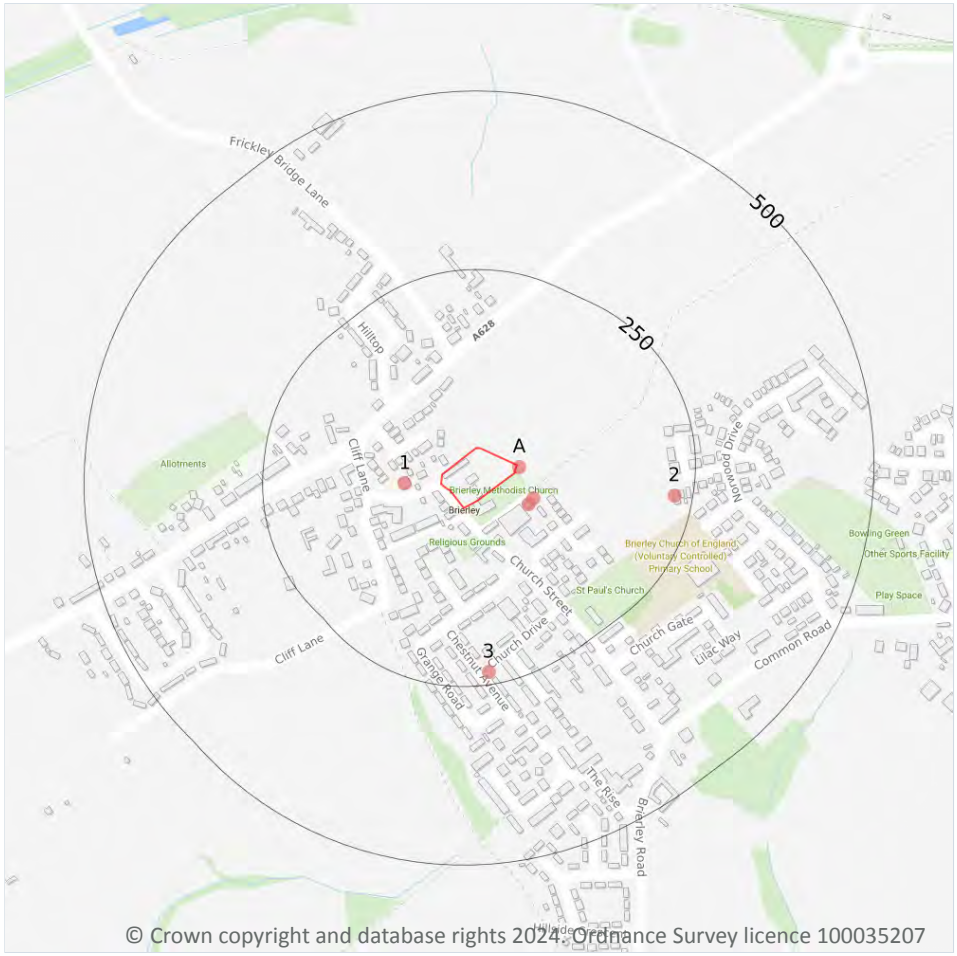
ID	Location	Site	Reference	Category	Sub-Category	Description
A	27m SE	Hall Farm Church Street Barnsley South Yorkshire S72 9ht	EPR/TH0275FG/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Cleaning, washing, spraying or coating relevant waste

ID	Location	Site	Reference	Category	Sub-Category	Description
A	27m SE	Hall Farm Church Street Barnsley South Yorkshire S72 9ht	EPR/TH0275FG/A001	Treating waste exemption	Both agricultural and non-agricultural waste	Aerobic composting and associated prior treatment
A	27m SE	Hall Farm Church Street Barnsley South Yorkshire S72 9ht	EPR/TH0275FG/A001	Disposing of waste exemption	Both agricultural and non-agricultural waste	Burning waste in the open
A	27m SE	Hall Farm Church Street Barnsley South Yorkshire S72 9ht	EPR/TH0275FG/A001	Using waste exemption	Both agricultural and non-agricultural waste	Spreading waste on agricultural land to confer benefit
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX312724	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX312724	Disposing of waste exemption	On a farm	Burning waste in the open
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX312724	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX183571	Treating waste exemption	On a farm	Cleaning, washing, spraying or coating relevant waste
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX183571	Disposing of waste exemption	On a farm	Burning waste in the open
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX183571	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX024469	Disposing of waste exemption	On a farm	Burning waste in the open
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX024469	Using waste exemption	On a farm	Spreading waste on agricultural land to confer benefit
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX024469	Using waste exemption	On a farm	Use of mulch
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX024469	Using waste exemption	On a farm	Spreading of plant matter to confer benefit
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX024469	Using waste exemption	On a farm	Incorporation of ash into soil

ID	Location	Site	Reference	Category	Sub-Category	Description
A	63m SE	Hall Farm, Church Street, Brierley, Barnsley, S72 9ht	WEX024469	Using waste exemption	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

4.1 Recent industrial land uses

Records within 250m	6

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 27 >**

ID	Location	Company	Address	Activity	Category
A	4m E	Mast (Telecommunication)	South Yorkshire, S72	Telecommunications Features	Infrastructure and Facilities
A	44m E	Tank	South Yorkshire, S72	Tanks (Generic)	Industrial Features
A	46m SE	Tank	South Yorkshire, S72	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
1	51m W	A D Y Shorthouse Transport Ltd	Tarn Hows 1, Church Street, Brierley, Barnsley, South Yorkshire, S72 9JR	Distribution and Haulage	Transport, Storage and Delivery
2	224m E	C R Travel	9, Spa Well Grove, Brierley, Barnsley, South Yorkshire, S72 9LS	Vehicle Hire and Rental	Hire Services
3	232m S	Electricity Sub Station	South Yorkshire, S72	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	0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

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

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

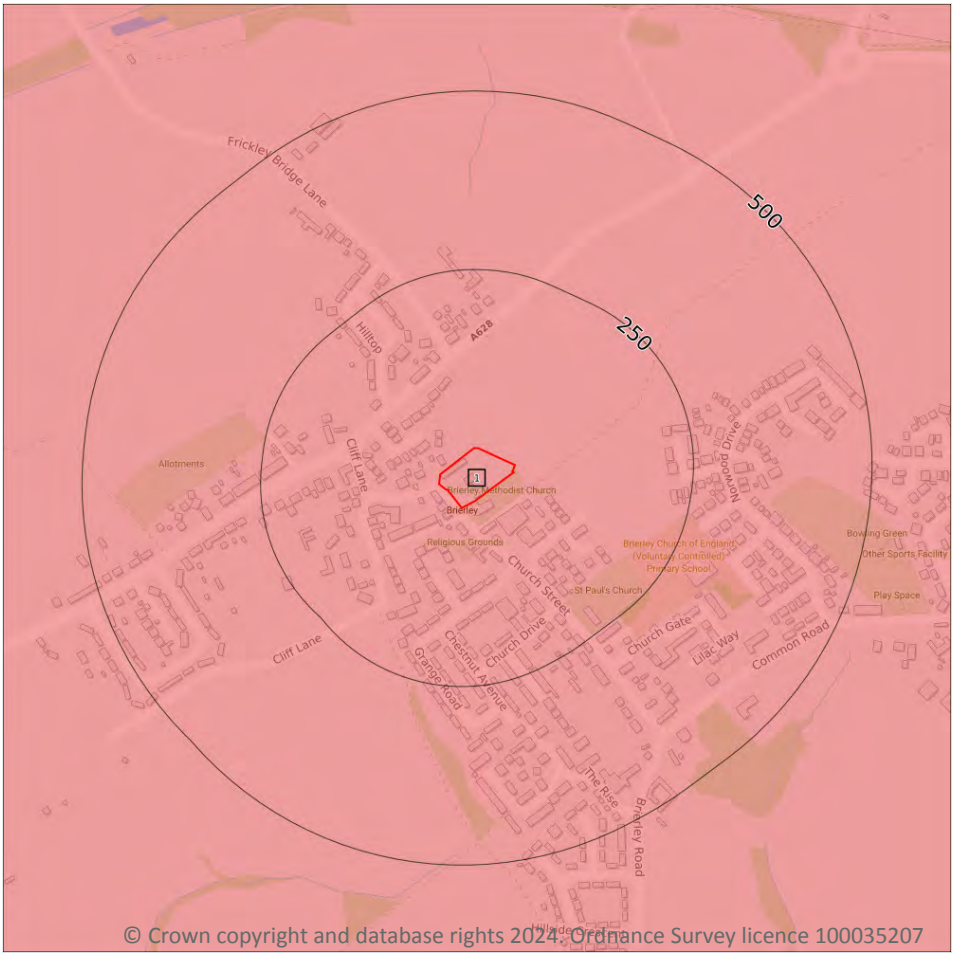
5.1 Superficial aquifer

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

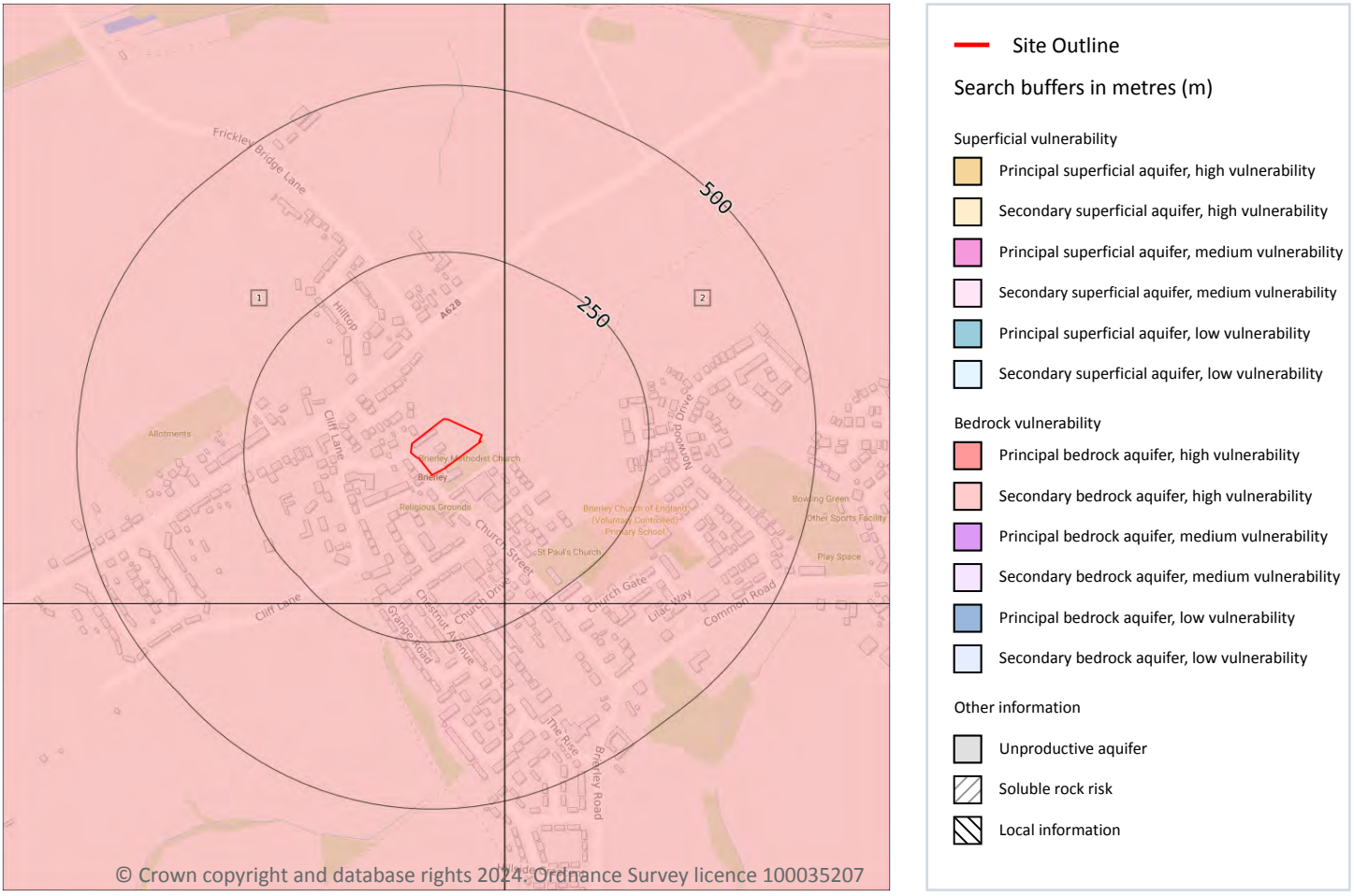
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 34 >**

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	2

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

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

Features are displayed on the Groundwater vulnerability map on **page 35 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: <300mm/year**	**Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**
2	34m E	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: <300mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**0**

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

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

5.5 Groundwater vulnerability- local information

Records on site	**0**

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

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

Abstractions and Source Protection Zones

5.6 Groundwater abstractions

Records within 2000m	0

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

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

5.7 Surface water abstractions

Records within 2000m	0

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

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

5.8 Potable abstractions

Records within 2000m	0

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

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

5.9 Source Protection Zones

Records within 500m	0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

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

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

6 Hydrology

Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	0

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

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

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

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

Features are displayed on the Hydrology map on **page 39 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**River**	**Cudworth Dyke from Source to River Dearne**	**GB104027063230**	**Dearne**	**Don and Rother**

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 39 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1112m W	River	Cudworth Dyke from Source to River Dearne	GB104027063230 ↗	Poor	Fail	Poor	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 39 >**

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

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

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

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding

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

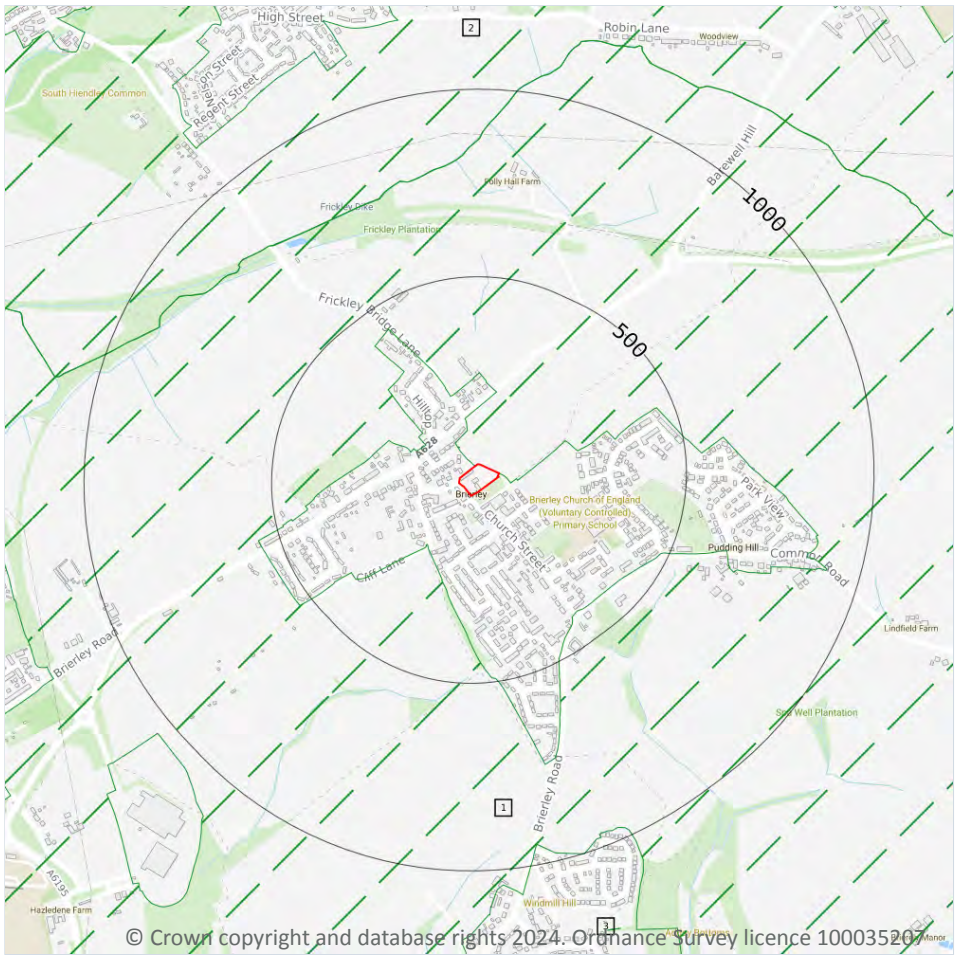
Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

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 46 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	0

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

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	3

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

Features are displayed on the Environmental designations map on **page 47 >**

ID	Location	Name	Local Authority name
1	**On site**	**South and West Yorkshire**	**Barnsley**
2	755m N	South and West Yorkshire	Wakefield
3	1189m S	South and West Yorkshire	Barnsley

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

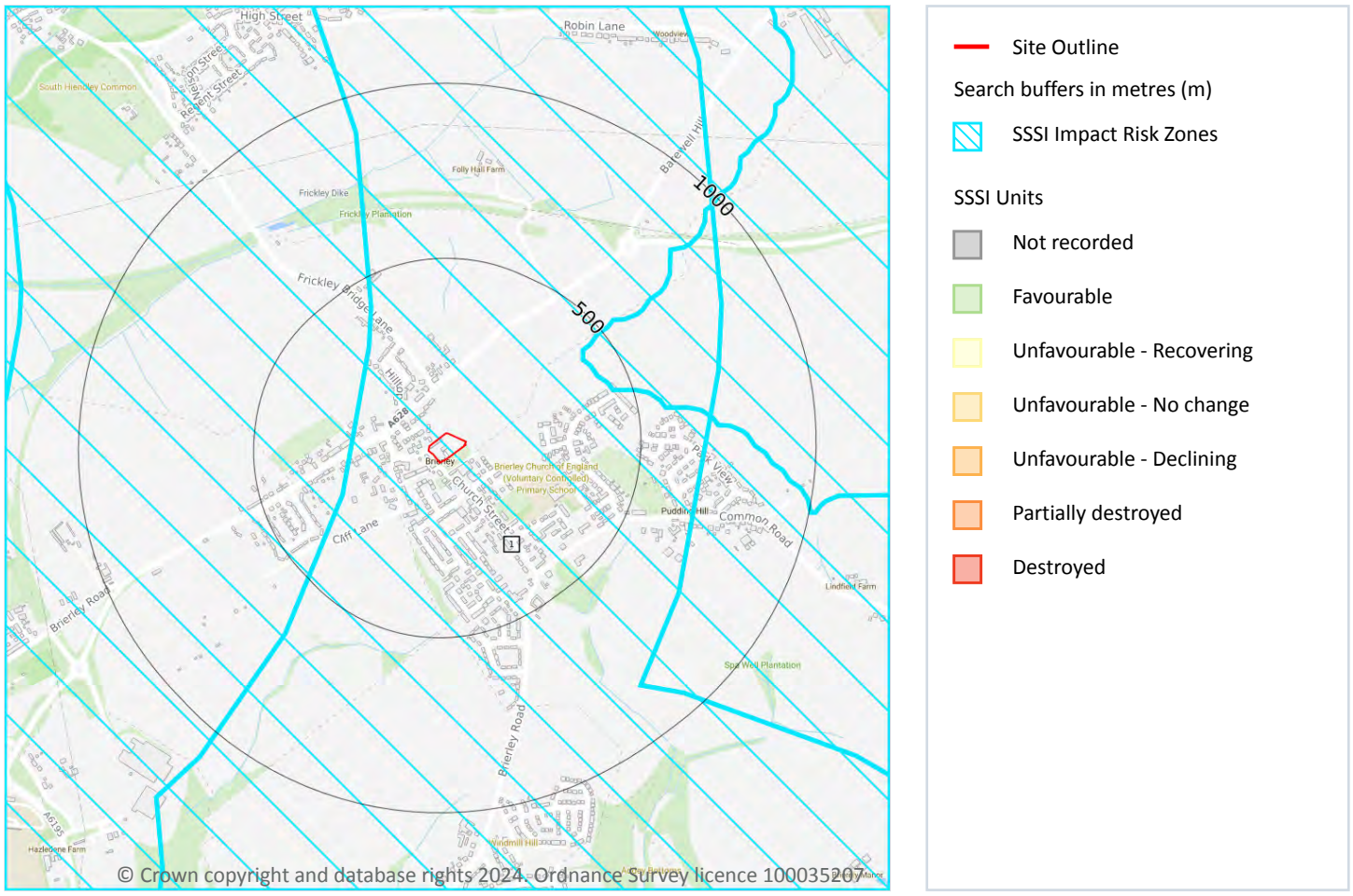
Records within 2000m	3

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

Location	Name	Type	NVZ ID	Status
On site	**River Dearne NVZ**	**Surface Water**	**278**	**Existing**
288m E	Ea Beck from the Skell to Goosepool Drain NVZ	Surface Water	277	Existing
1204m N	Went from Blowell Drain to the River Don NVZ	Surface Water	299	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	1

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

Features are displayed on the SSSI Impact Zones and Units map on **page 52 >**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals.** **Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.** **Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.** **Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.**

This data is sourced from Natural England.

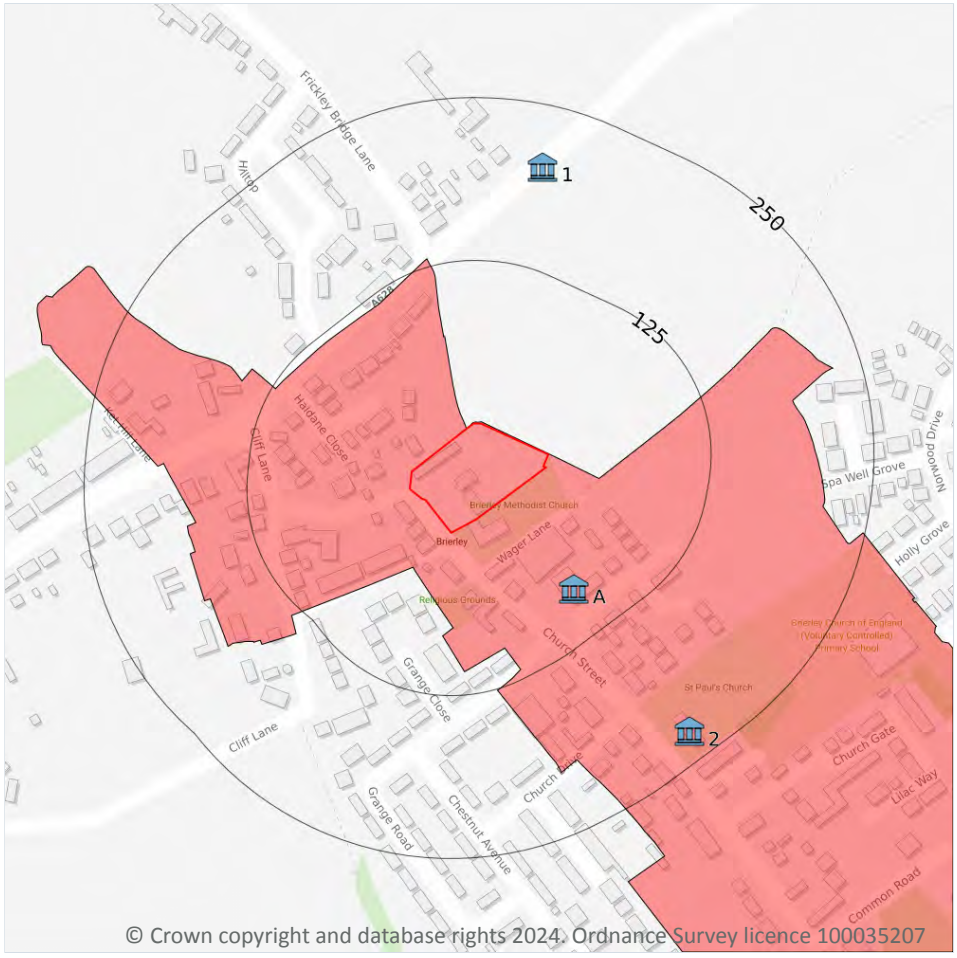
10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations



11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	3

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 54 >**

ID	Location	Name	Grade	Reference Number	Listed date
A	87m SE	Brierley Hall	II	1191201	18/04/1985
1	203m N	Milepost Approximately 100 Metres East Of Junction With Frickley Bridge Lane	II	1314993	18/04/1985
2	228m SE	Church Of St Paul	II	1314994	18/04/1985

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

11.5 Conservation Areas

Records within 250m	1

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.

Features are displayed on the Visual and cultural designations map on **page 54 >**

ID	Location	Name	District	Date of designation
A	**On site**	**Brierley**	**Barnsley**	**05/1993**

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.

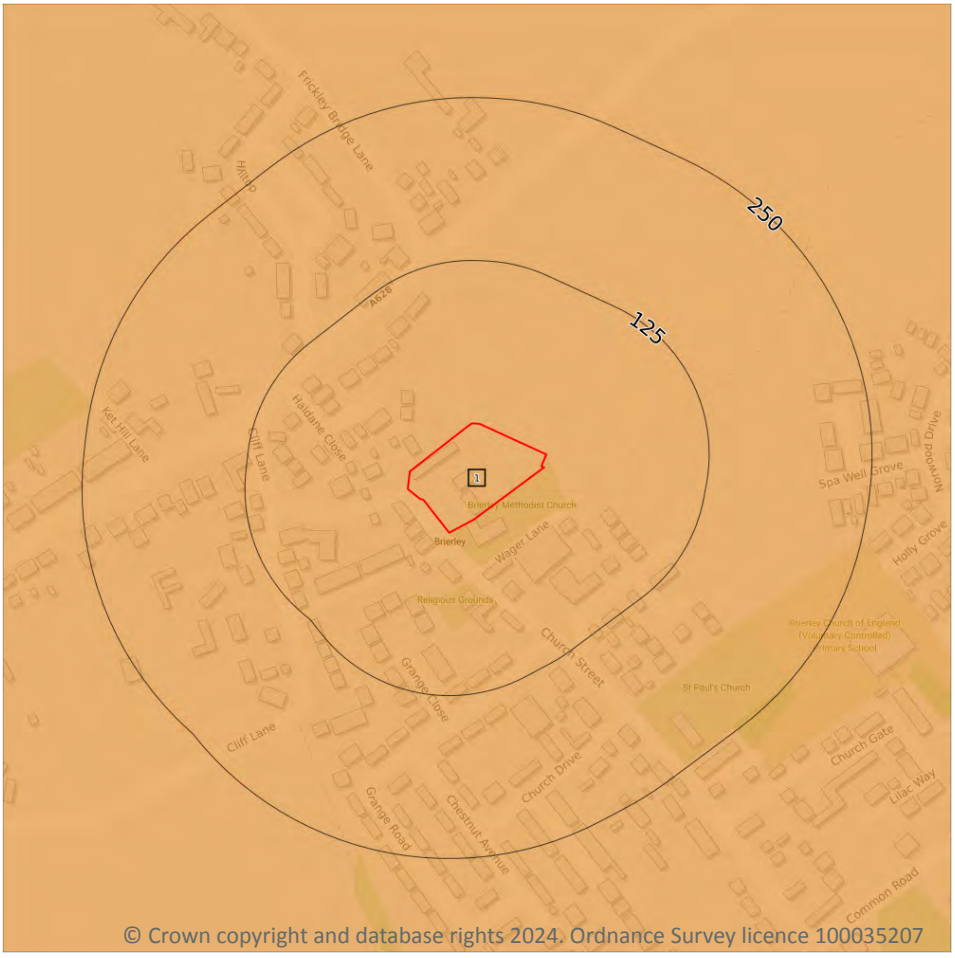
11.7 Registered Parks and Gardens

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	1

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

Features are displayed on the Agricultural designations map on **page 57 >**

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

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability

Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	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 60 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SE41SW**

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	5

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 61 >**

ID	Location	LEX Code	Description	Rock description
1	198m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	244m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	303m W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	324m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
5	396m SE	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.

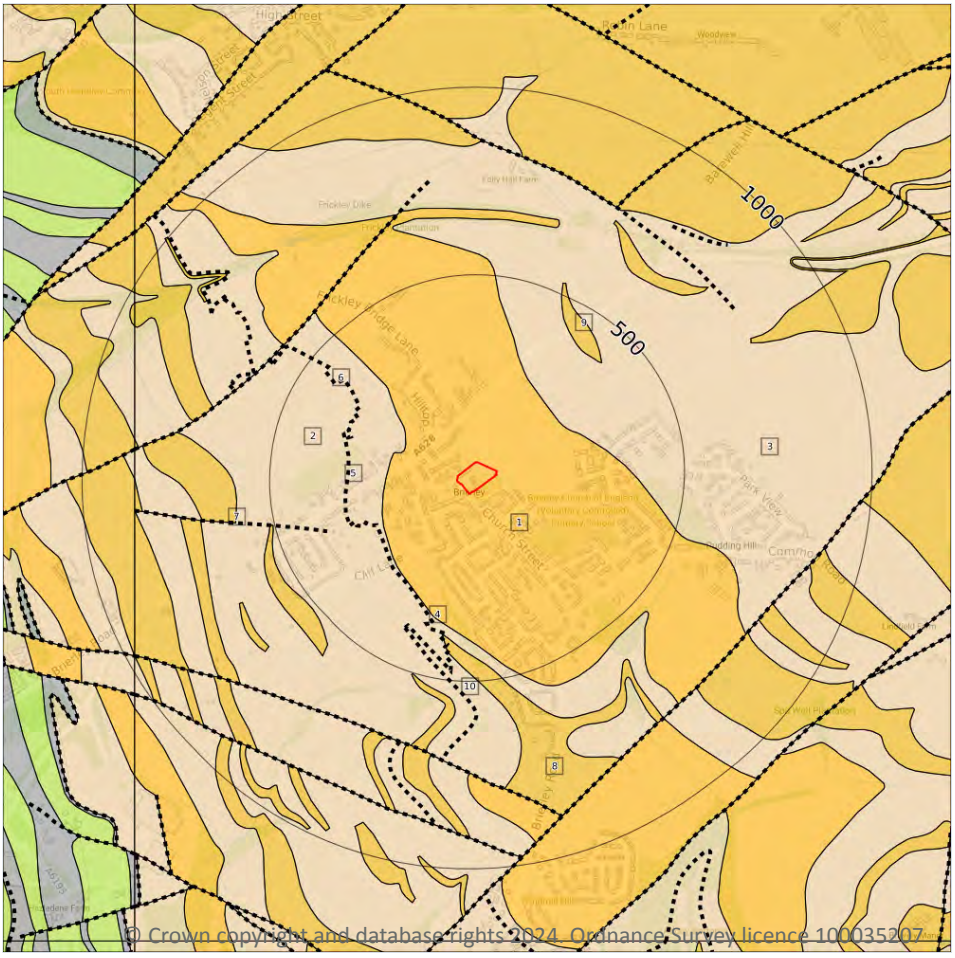
14.4 Landslip (10k)

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 **5**

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 64 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BYR-SDST**	**Brierley Rock - Sandstone**	**Bolsovian Sub-age**
2	159m W	PUCM-MDSS	Pennine Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
3	212m NE	PUCM-MDSS	Pennine Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovian Sub-age

ID	Location	LEX Code	Description	Rock age
8	381m S	PUCM-SDST	Pennine Upper Coal Measures Formation - Sandstone	Westphalian D Sub-age - Bolsovian Sub-age
9	393m NE	PUCM-SDST	Pennine Upper Coal Measures Formation - Sandstone	Westphalian D Sub-age - Bolsovian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**5**

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 64 >**

ID	Location	Category	Description
4	244m SW	ROCK	Coal seam, observed
5	291m W	ROCK	Coal seam, inferred
6	303m W	ROCK	Coal seam, observed
7	371m W	FAULT	Normal fault, inferred
10	396m SW	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 66 >**

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

This data is sourced from the British Geological Survey.

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

Site Outline

Search buffers in metres (m)

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

15.2 Artificial and made ground (50k)

Records within 500m	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 67 >**

ID	Location	LEX Code	Description	Rock description
1	231m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
2	309m W	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
3	328m S	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.

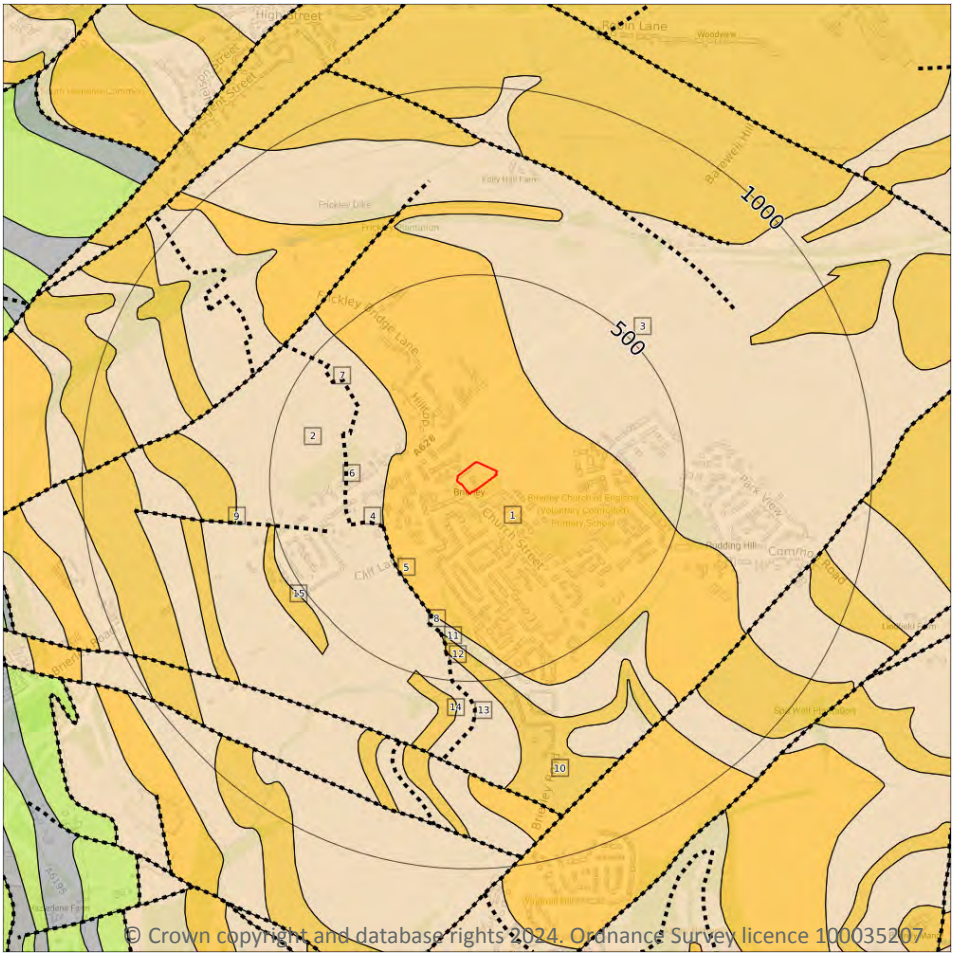
15.7 Landslip permeability (50k)

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 **6**

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 70 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BYR-SDST**	**BRIERLEY ROCK - SANDSTONE**	**WESTPHALIAN**
2	157m W	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
3	213m NE	PUCM-MDSS	PENNINE UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
10	377m S	PUCM-SDST	PENNINE UPPER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
14	492m S	PUCM-SDST	PENNINE UPPER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
15	500m W	PUCM-SDST	PENNINE UPPER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	**1**

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

Location	Flow type	Maximum permeability	Minimum permeability
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	**9**

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 70 >**

ID	Location	Category	Description
4	231m SW	ROCK	Coal seam, inferred
5	231m SW	ROCK	Coal seam, inferred
6	296m W	ROCK	Coal seam, inferred
7	309m W	ROCK	Coal seam, inferred
8	336m S	ROCK	Coal seam, inferred
9	372m W	FAULT	Fault, inferred
11	377m S	ROCK	Coal seam, inferred

ID	Location	Category	Description
12	425m S	ROCK	Coal seam, inferred
13	471m S	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	1

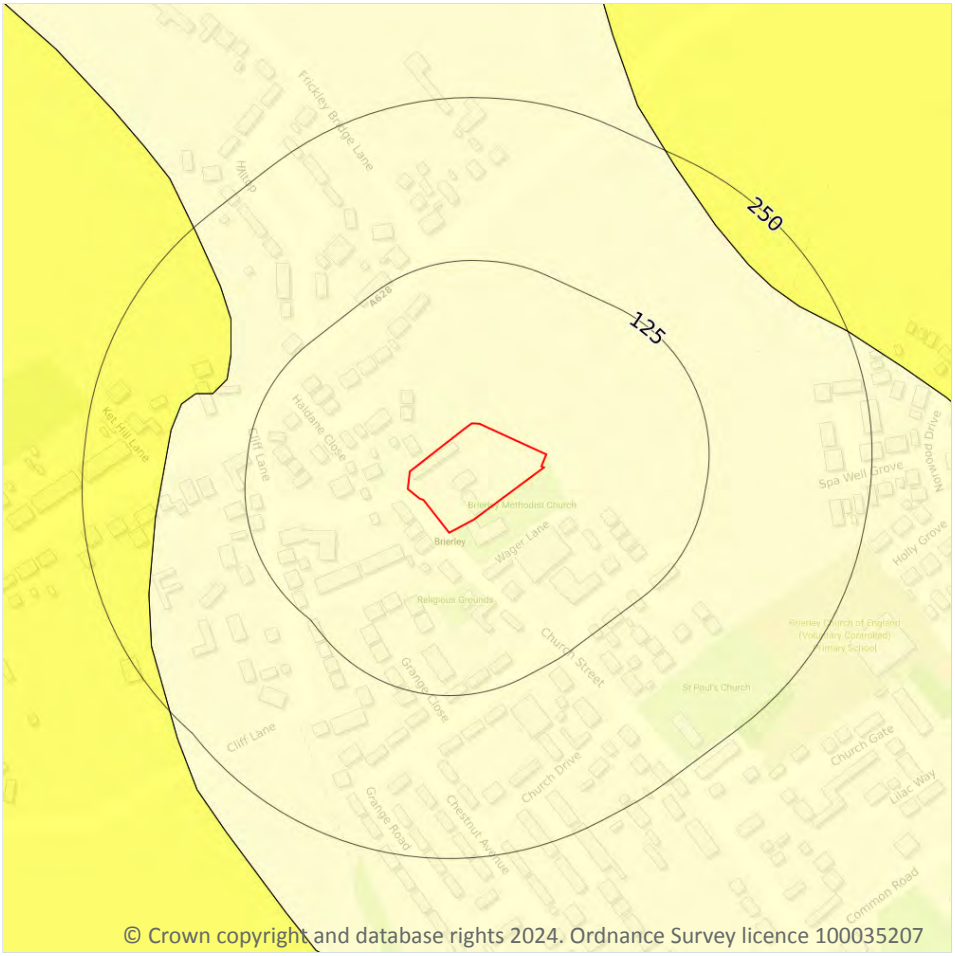
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several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

Features are displayed on the Boreholes map on **page 73 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	214m SE	441142 411124	BRIERLEY C OF E SCH 1	3.0	N	107491 ↗

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	1

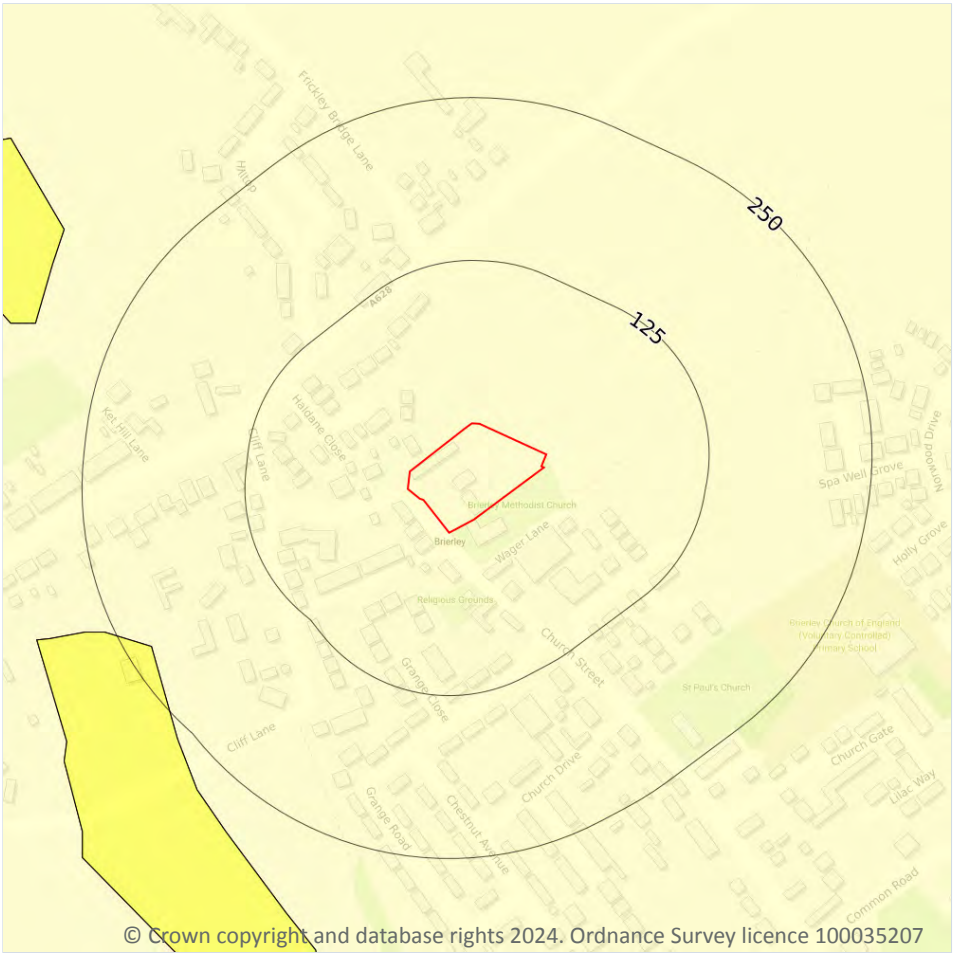
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 74 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m	1

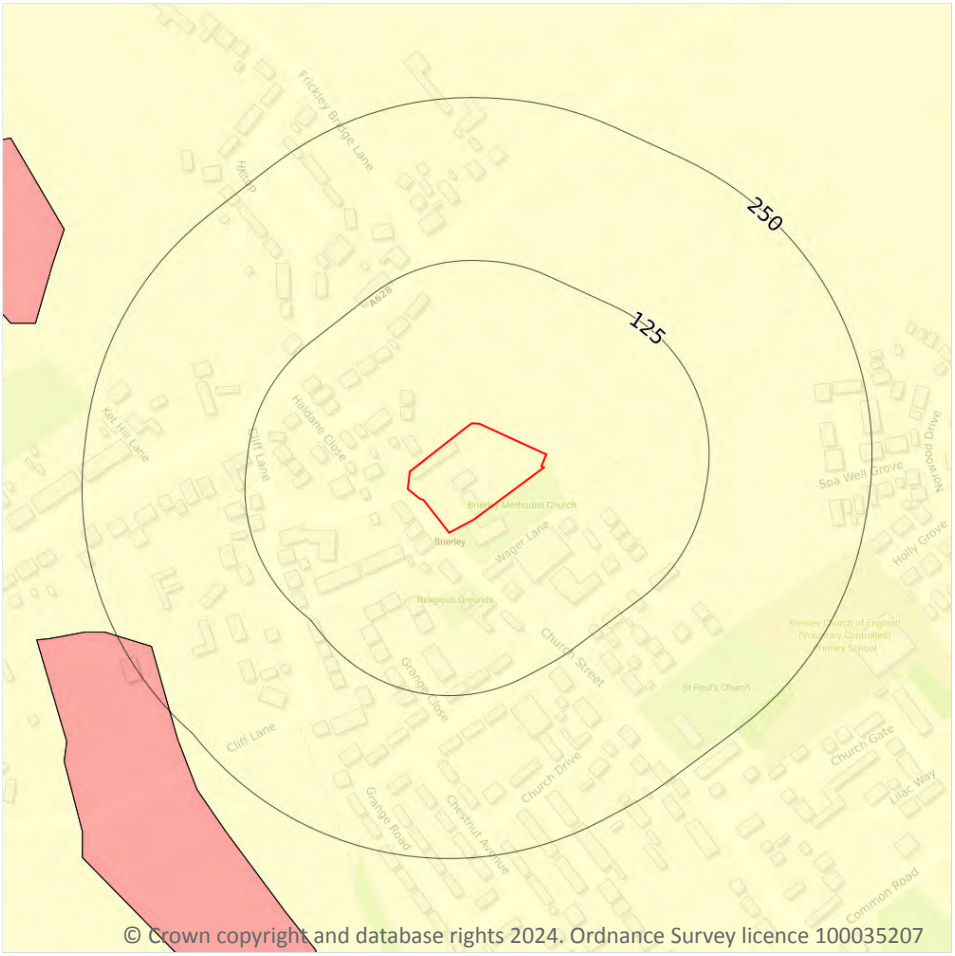
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 75 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

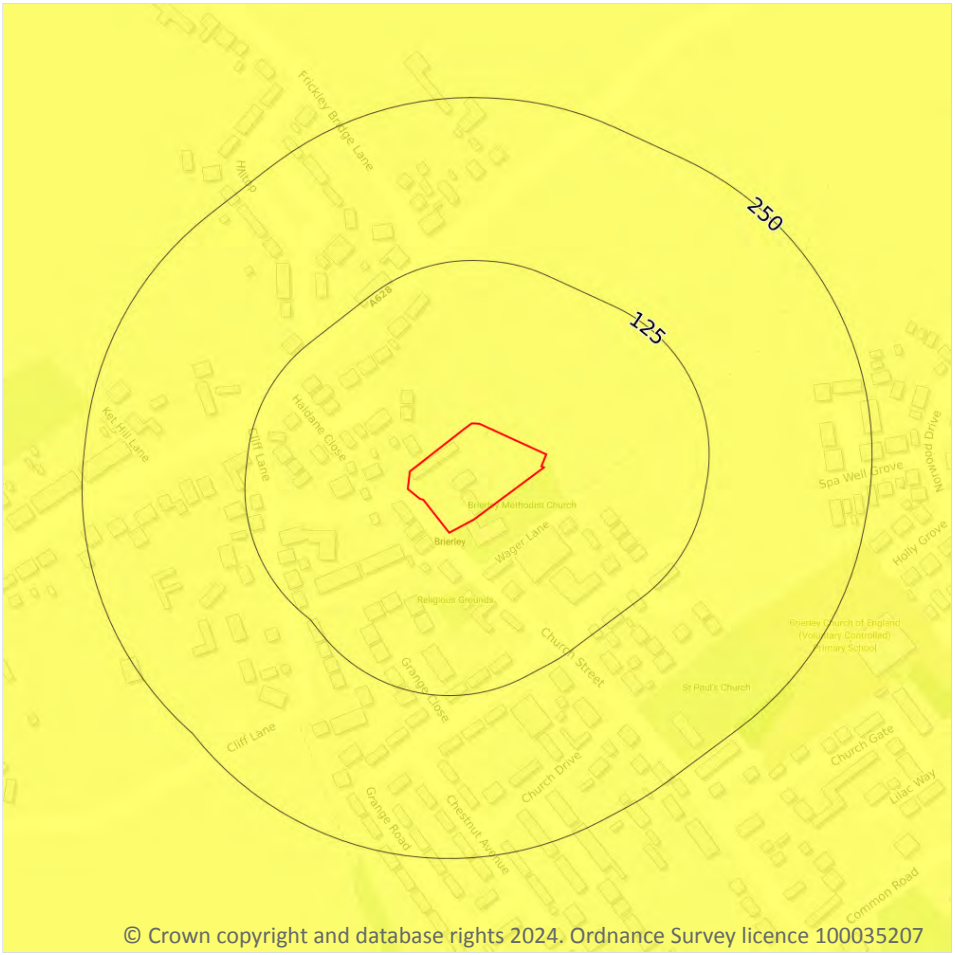
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 76 >**

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

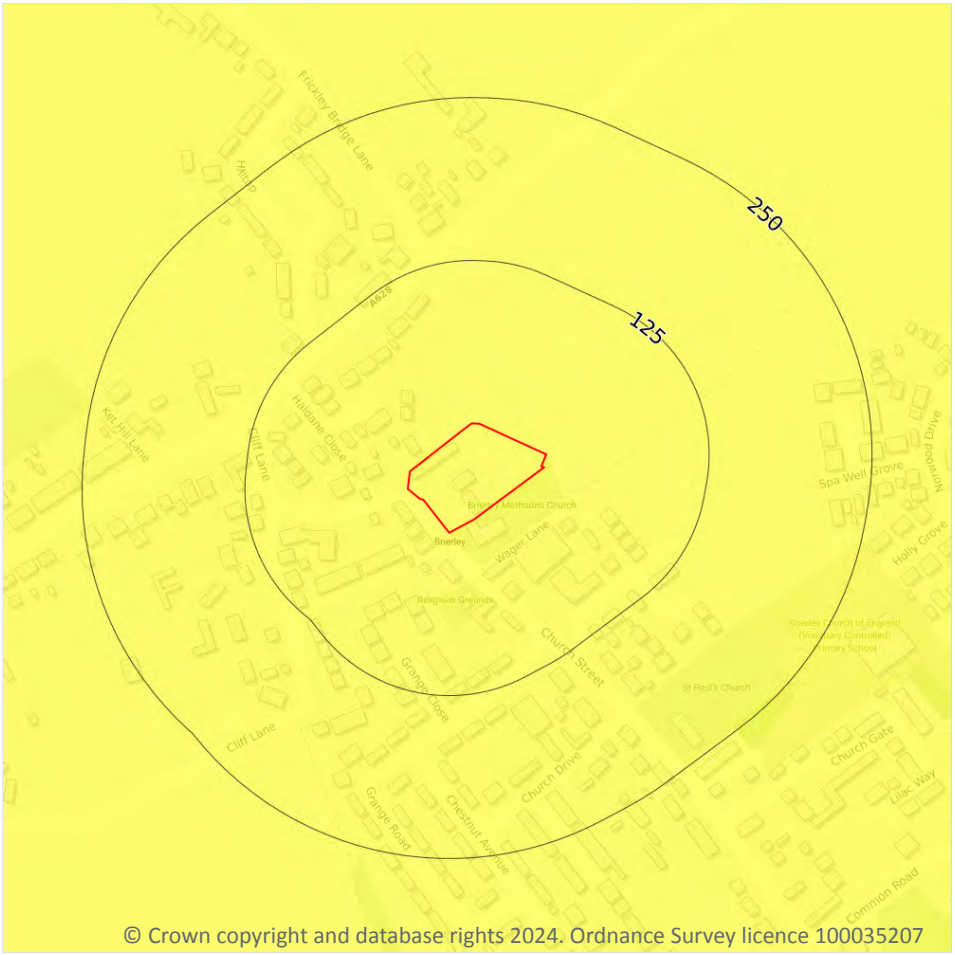
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 77 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m	1

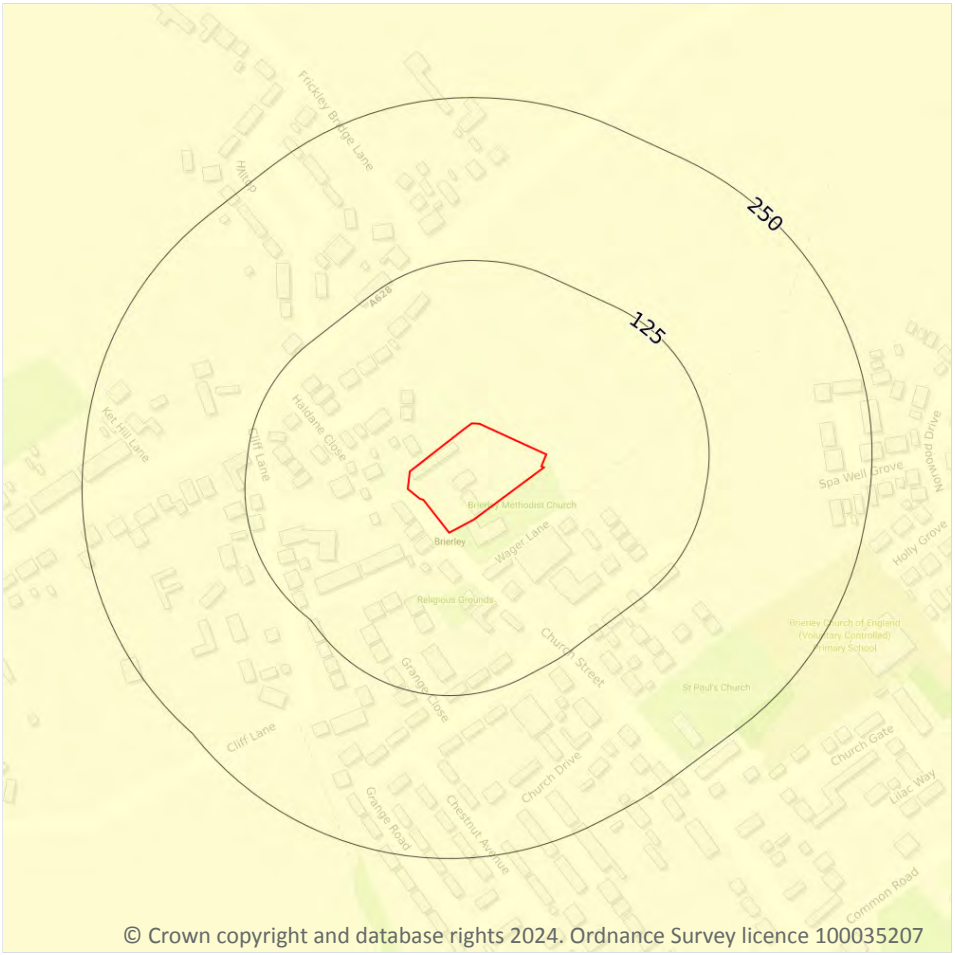
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 78 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

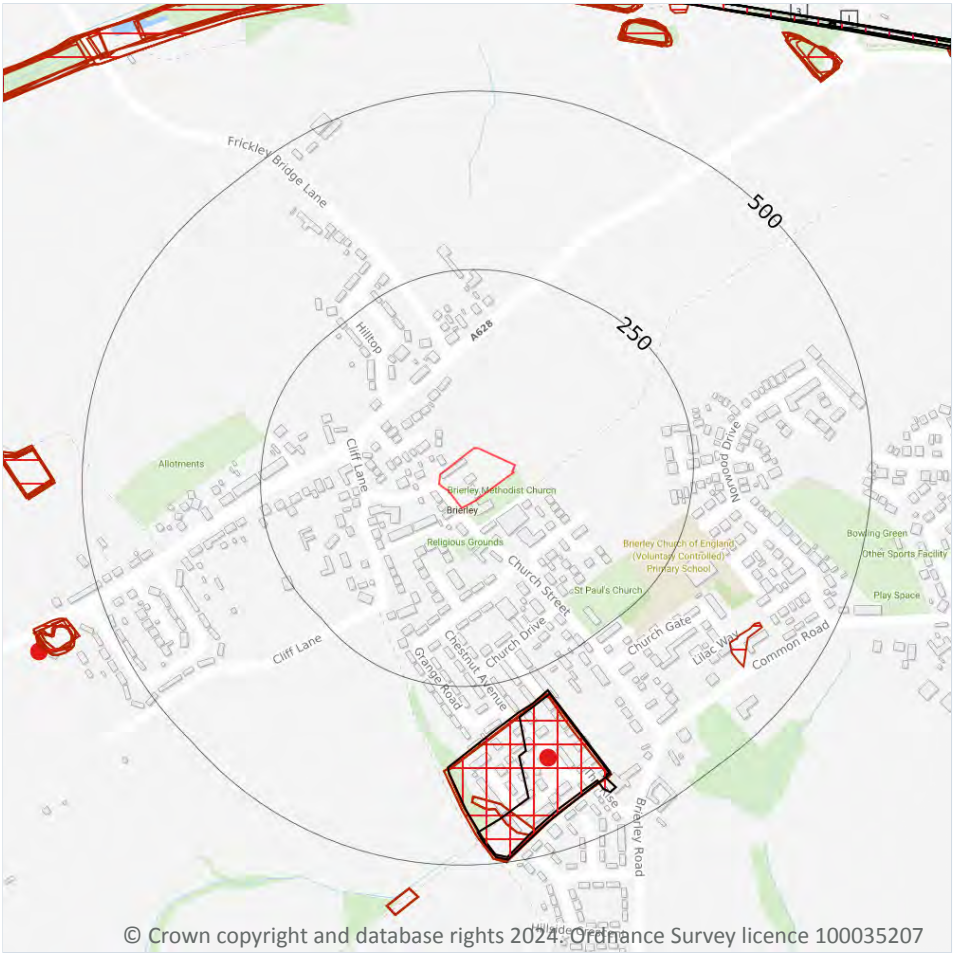
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 79 >**

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

This data is sourced from the British Geological Survey.

18 Mining and ground workings



Site Outline

Search buffers in metres (m)

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

Non Coal Mining

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

18.1 BritPits

Records within 500m	1

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

Features are displayed on the Mining and ground workings map on **page 81 >**

ID	Location	Details	Description
A	370m S	Name: Brierley Colliery Address: Brierley, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	**0**

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.

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	**15**

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 81 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	282m S	Disused Colliery	1951	1:10560
A	288m S	Colliery	1948	1:10560
3	671m N	Tunnel	1951	1:10560
I	672m N	Tunnel	1948	1:10560
I	672m N	Tunnel	1904	1:10560
I	672m N	Tunnel	1891	1:10560
I	674m N	Disused Tunnel	1982	1:10000
I	674m N	Tunnel	1967	1:10560
I	674m N	Disused Tunnel	1988	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
I	755m NE	Air Shaft	1982	1:10000
I	755m NE	Air Shaft	1967	1:10560
I	755m NE	Air Shaft	1951	1:10560
I	755m NE	Air Shaft	1988	1:10000
I	758m NE	Air Shaft	1948	1:10560
I	758m NE	Ventilating Shaft	1904	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

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).

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	1

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

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

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

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

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

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

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

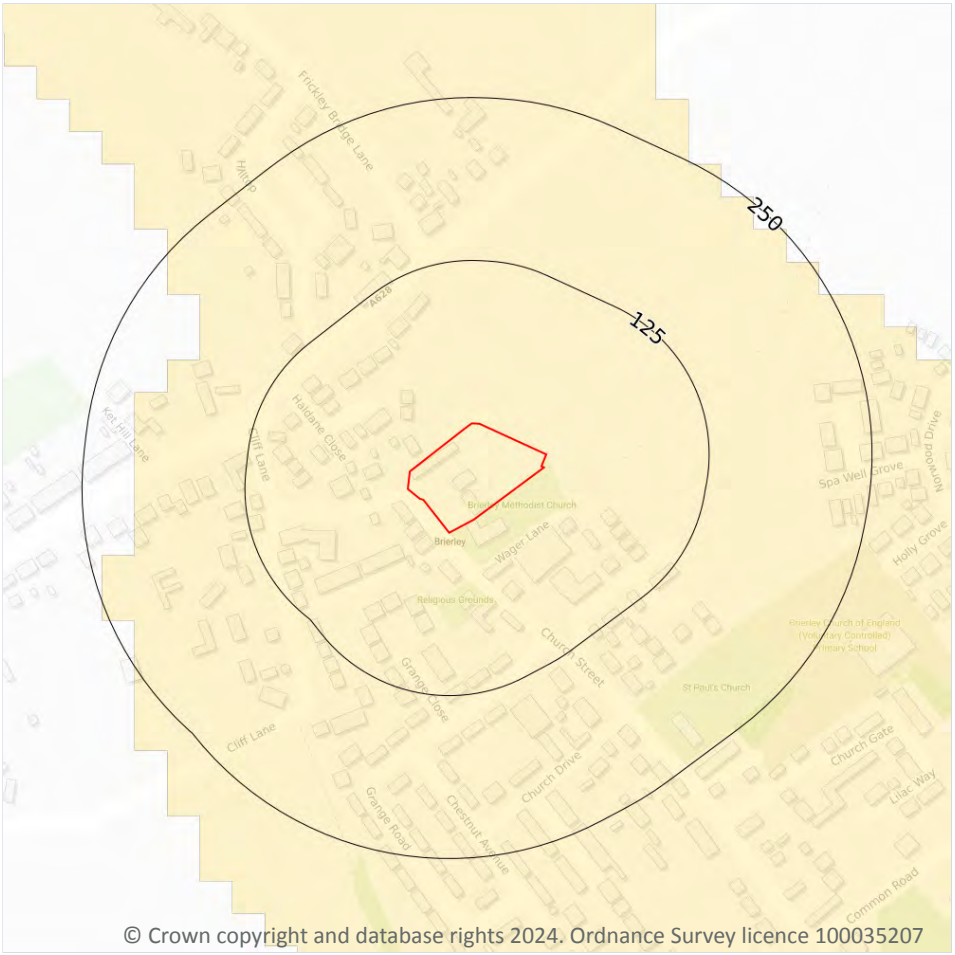
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

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

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

This data is sourced from the British Geological Survey.

20 Radon



20.1 Radon

Records on site	1

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

Features are displayed on the Radon map on **page 89 >**

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

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

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	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 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
34m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
34m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects

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 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

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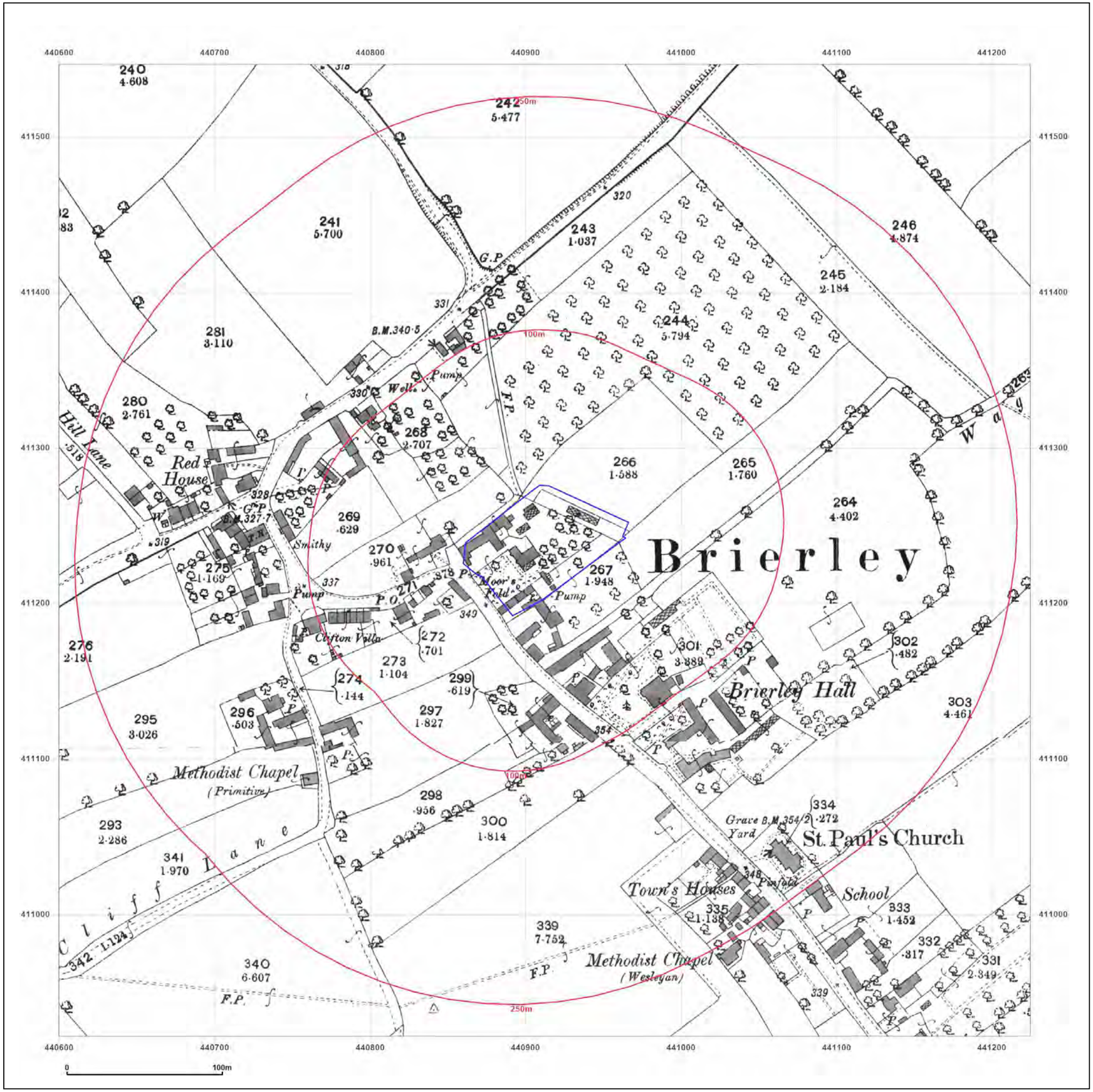

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Site Details:

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Client Ref: CMAPS-GDP-1187993-33420-041024
Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

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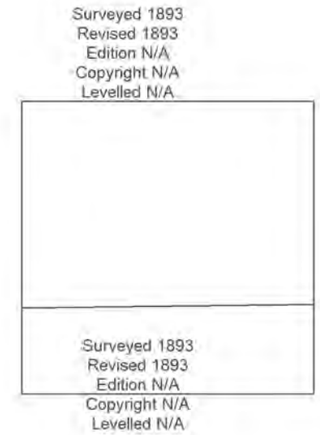

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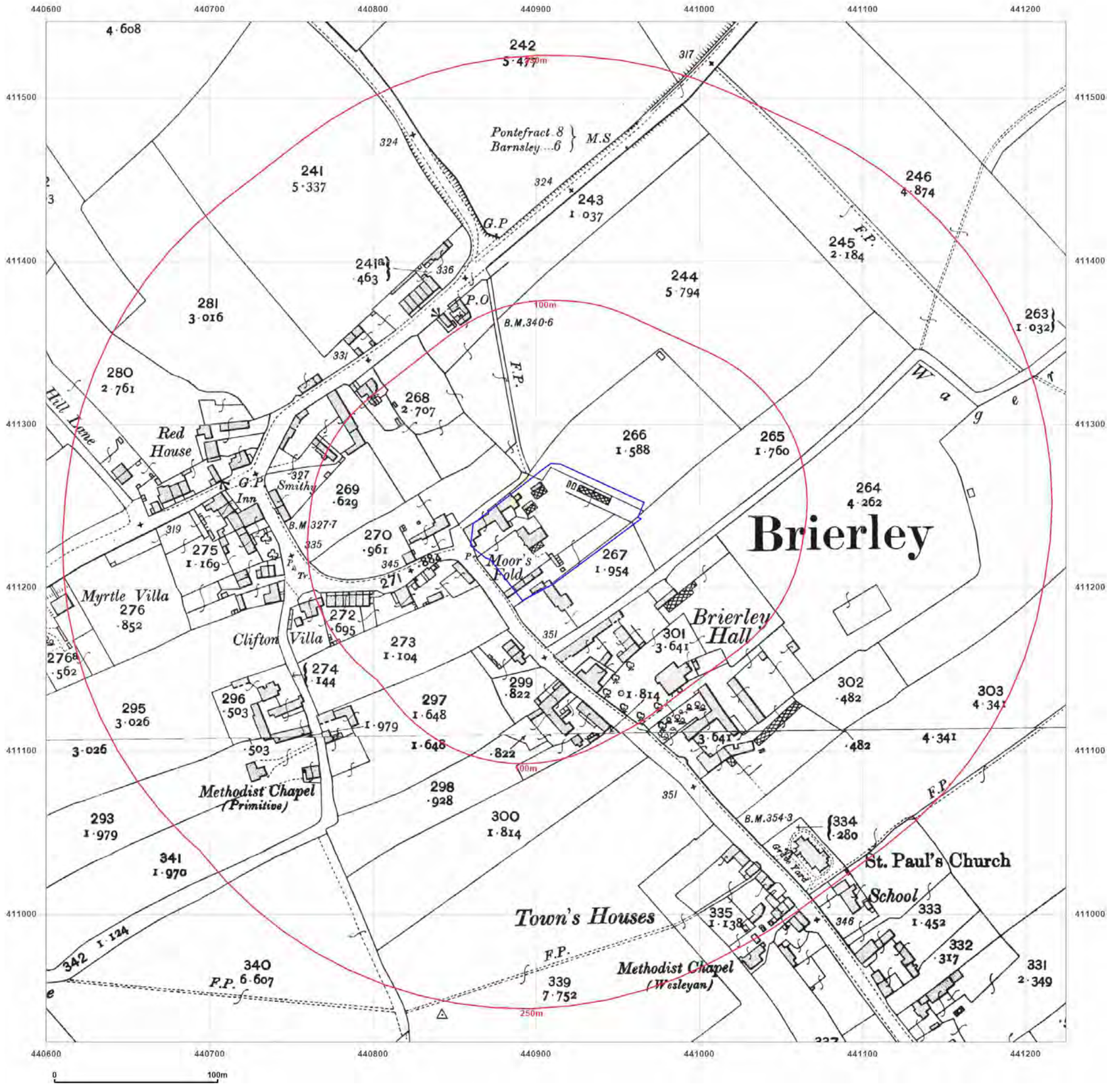

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Client Ref: CMAPS-GDP-1187993-33420-041024
Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: County Series

Map date: **1906**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1906
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Copyright N/A
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Edition N/A
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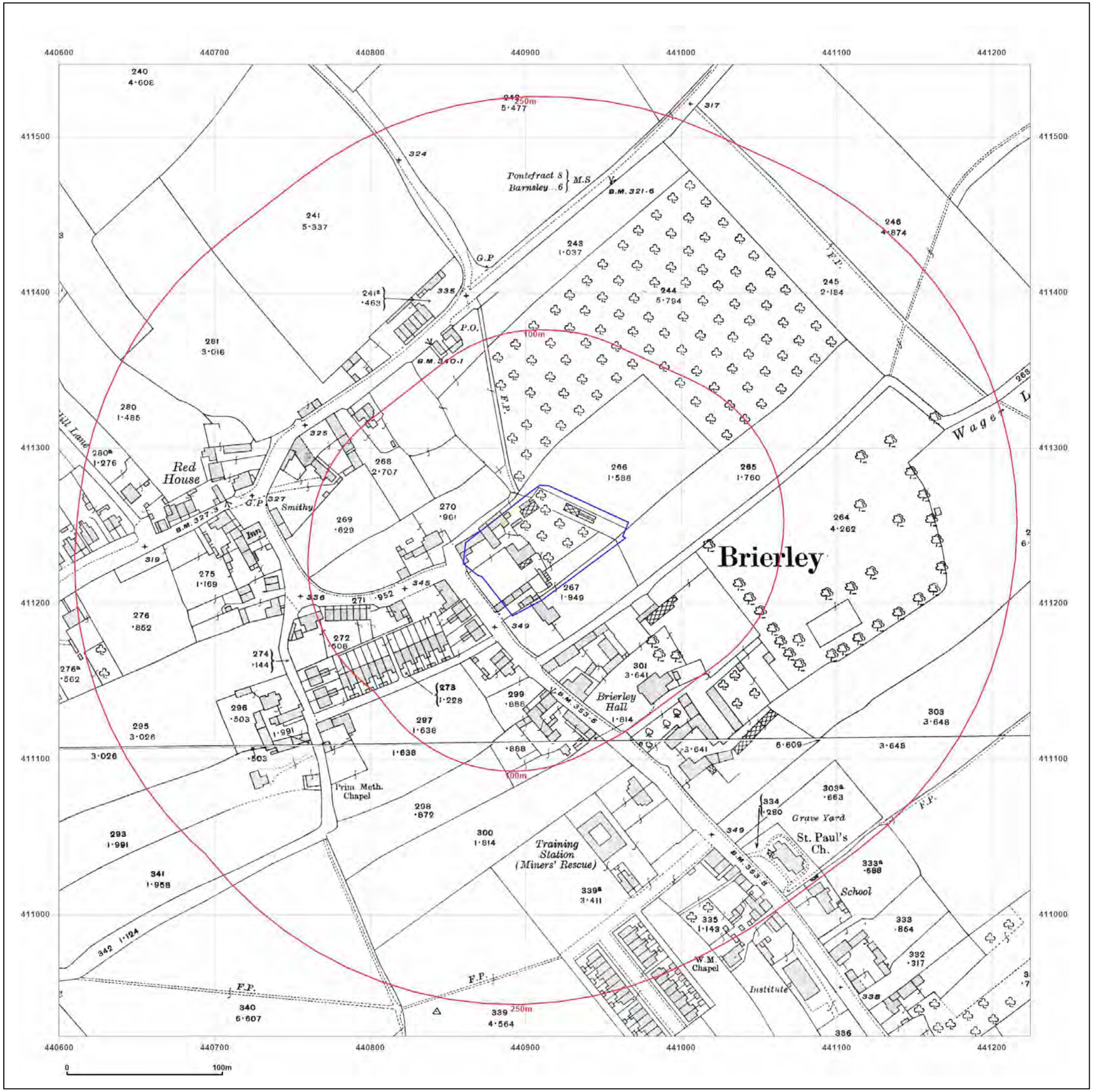

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Grid Ref: 440912, 411234

Map Name: County Series

Map date: **1913**

Scale: 1:2,500

Printed at: 1:2,500

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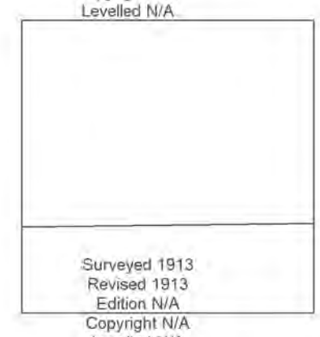
Surveyed 1913
Revised 1913
Edition N/A
Copyright N/A
Levelled N/A



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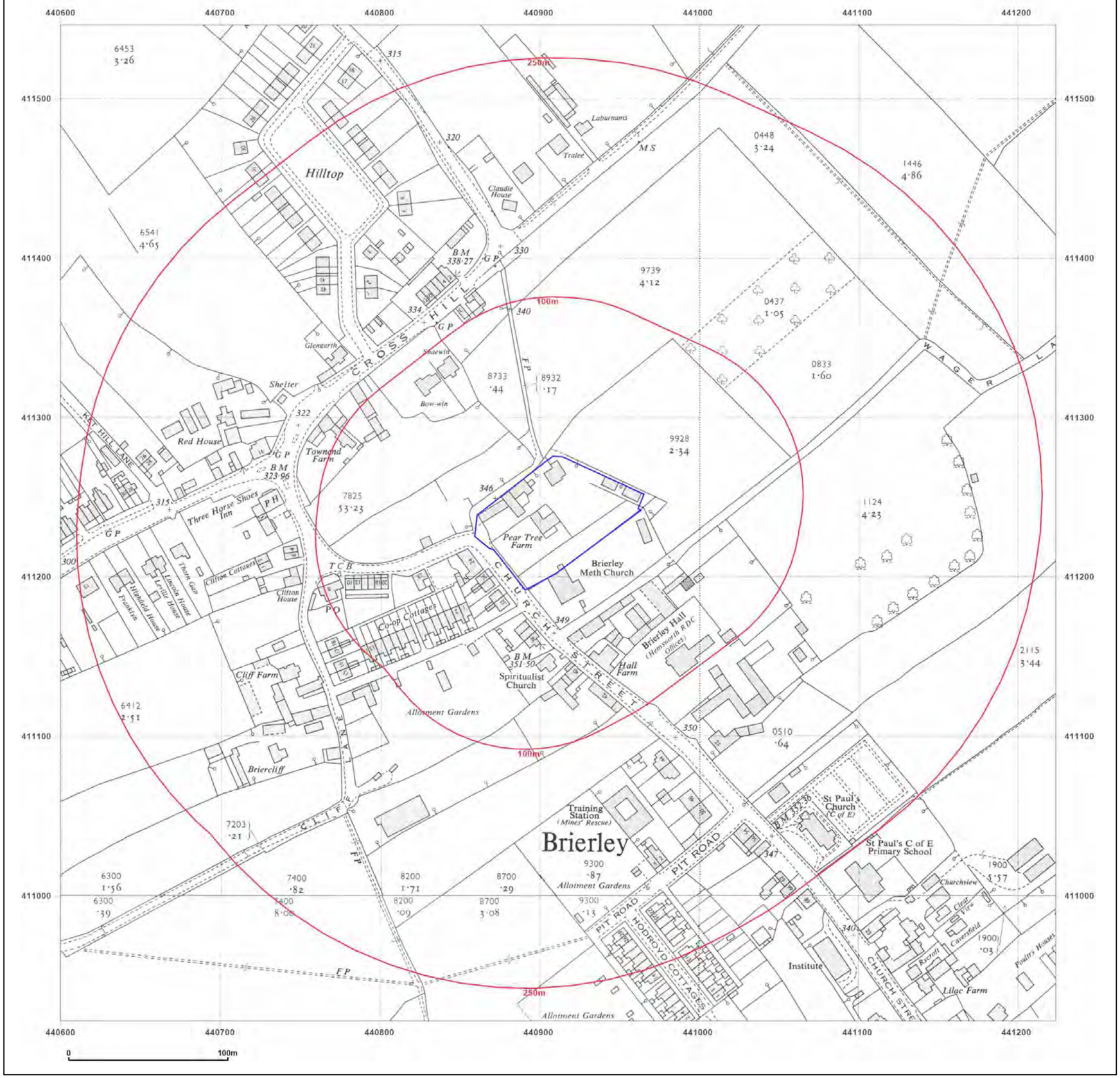

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1962**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1961
Revised 1961
Edition N/A
Copyright 1962
Levelled 1959

Surveyed 1961
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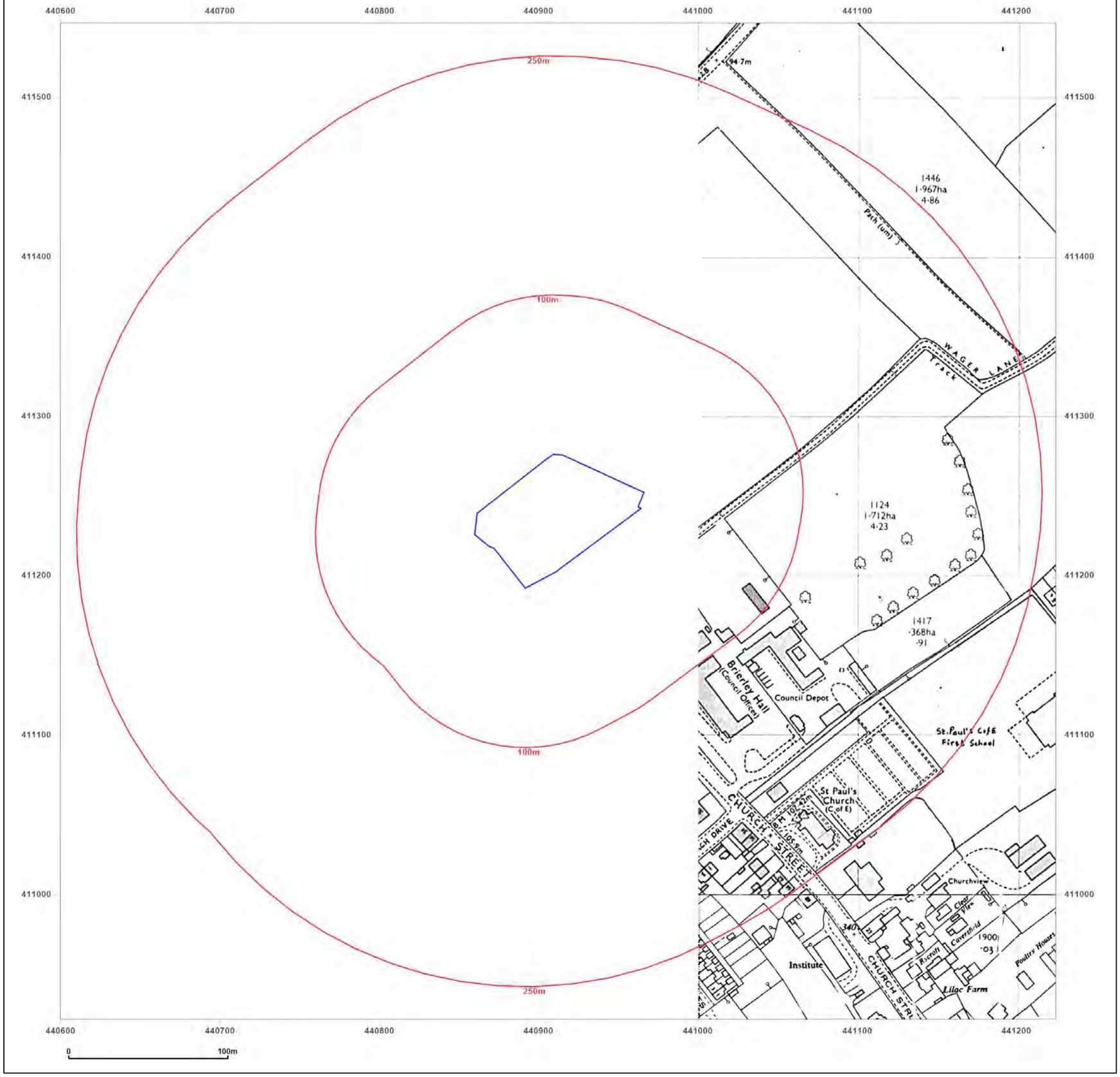

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1962-1964**

Scale: 1:2,500

Printed at: 1:2,500

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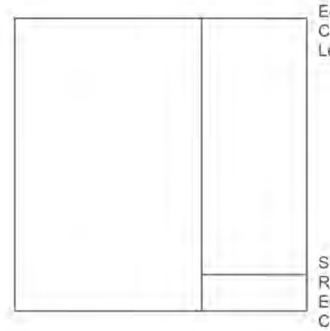

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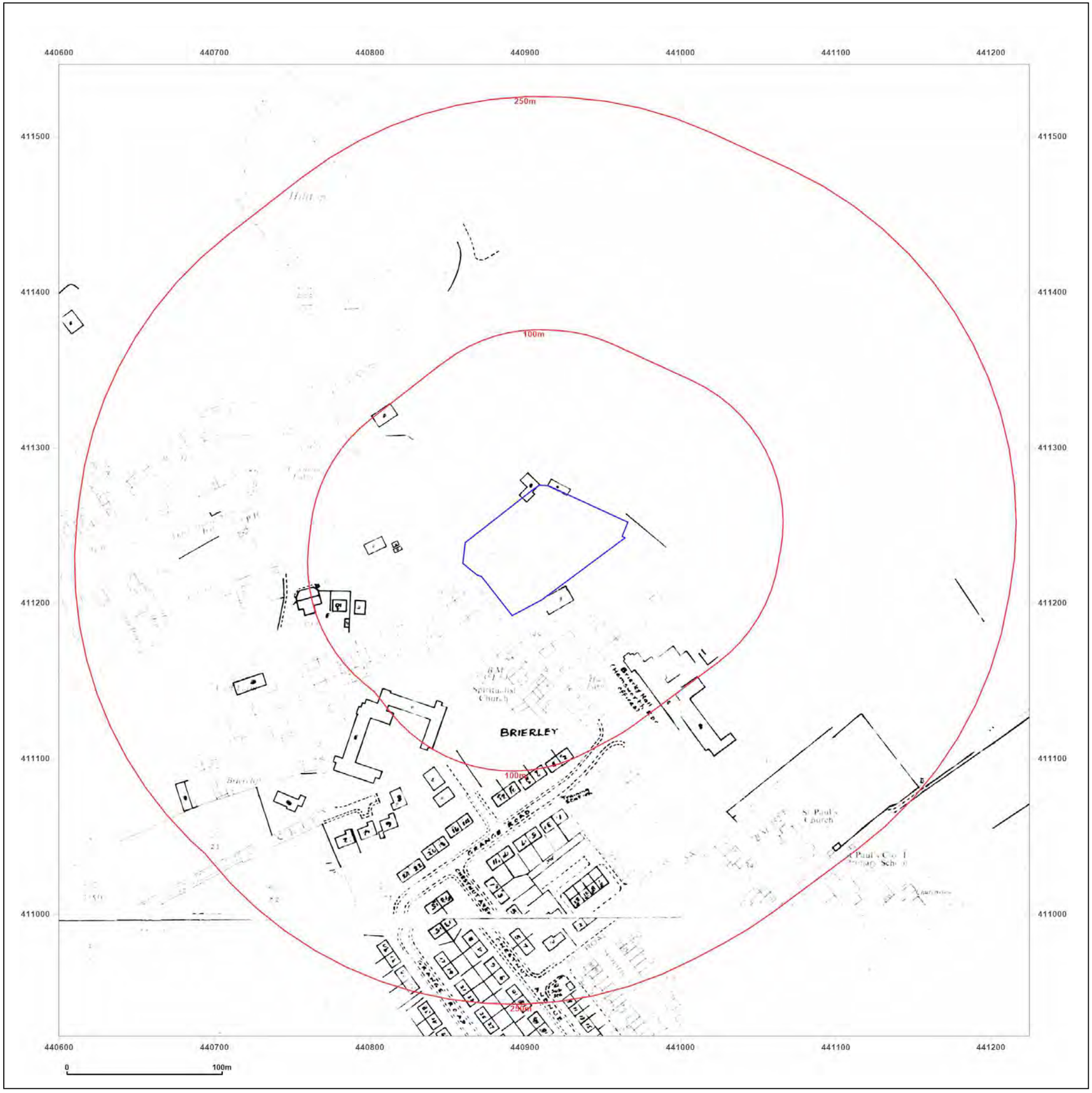

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid
Map date: **1976**
Scale: 1:2,500
Printed at: 1:2,500

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

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1978**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1977
Revised 1977
Edition N/A
Copyright 1978
Levelled 1964

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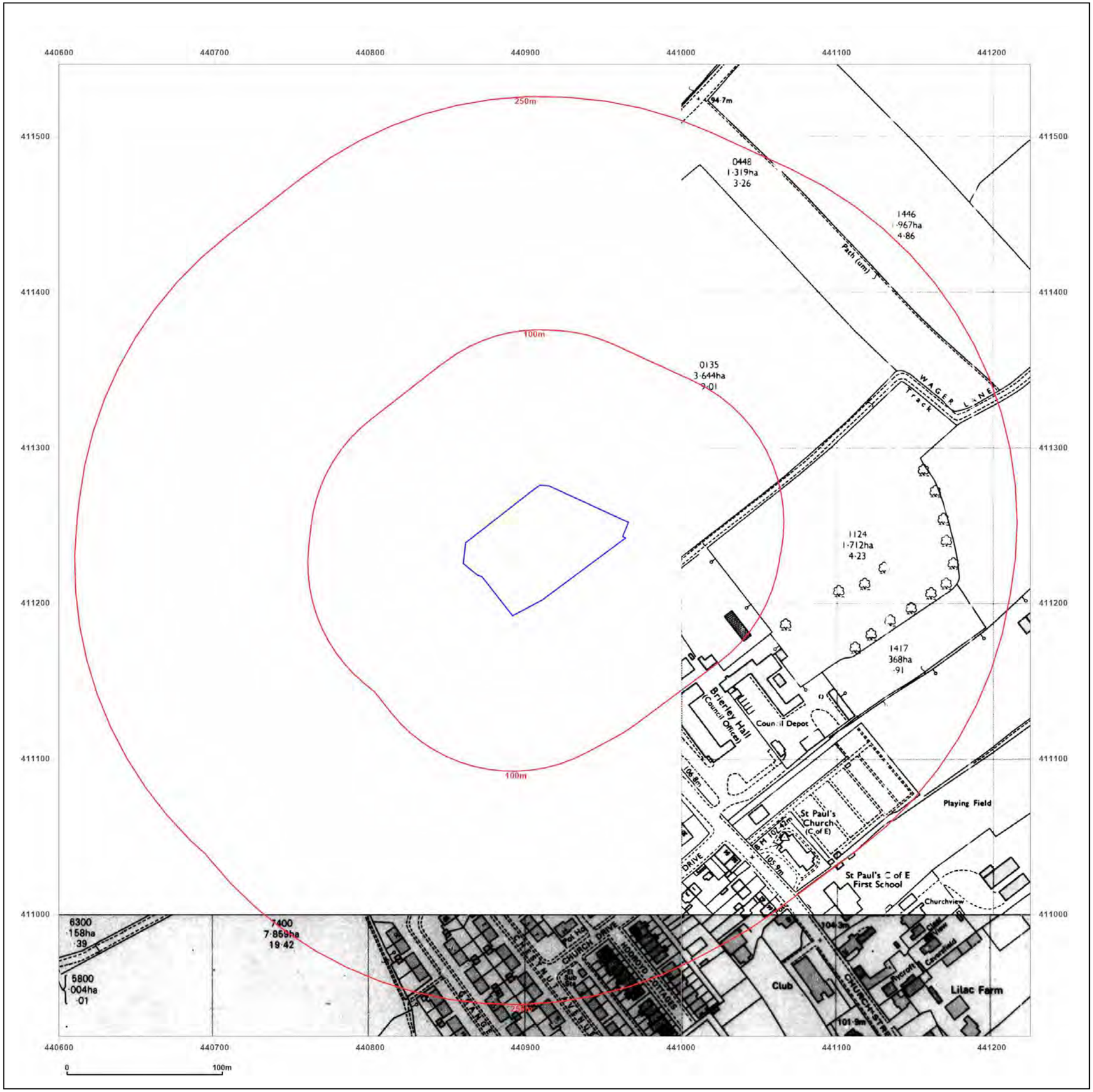

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Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1978-1983**

Scale: 1:2,500

Printed at: 1:2,500

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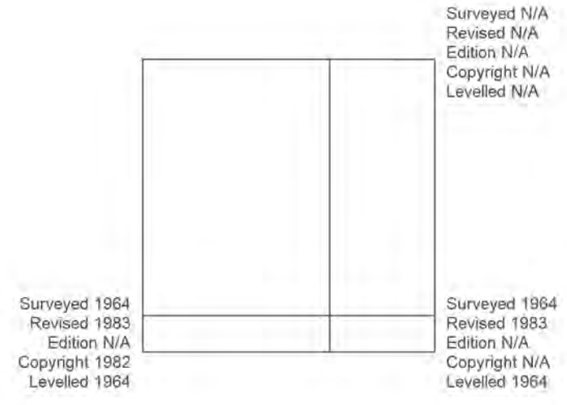

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Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1985-1988**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1964
Revised 1986
Edition N/A
Copyright 1988
Levelled 1964

Surveyed 1964
Revised 1987
Edition N/A
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Surveyed 1983
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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1988-1993**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1964 Revised 1986 Edition N/A Copyright 1988 Levelled 1964	Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A
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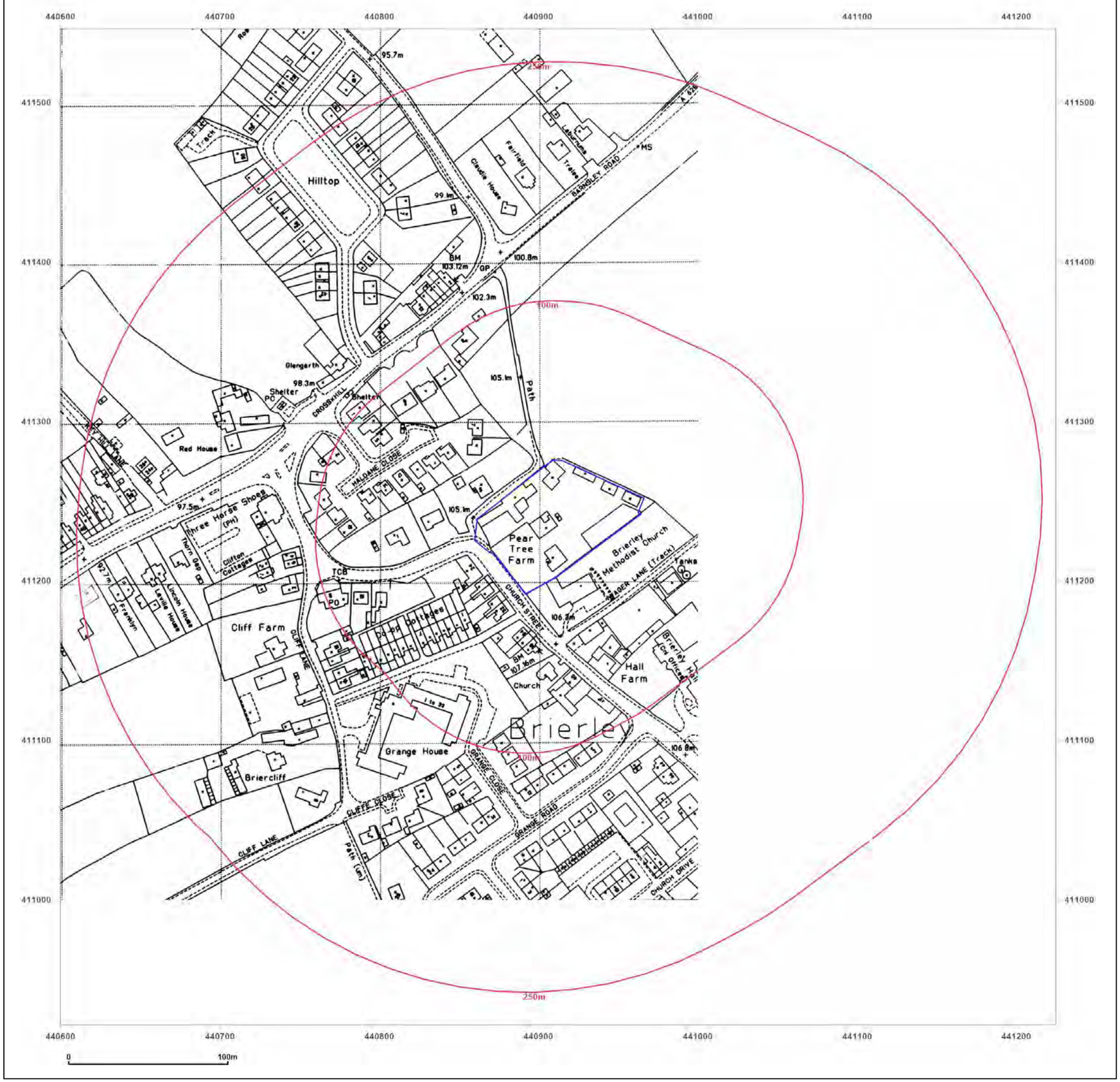

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

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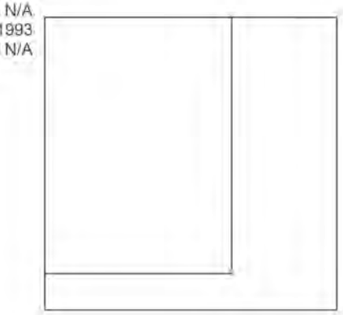
Levelled N/A



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Client Ref: CMAPS-GDP-1187993-33420-041024
Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

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

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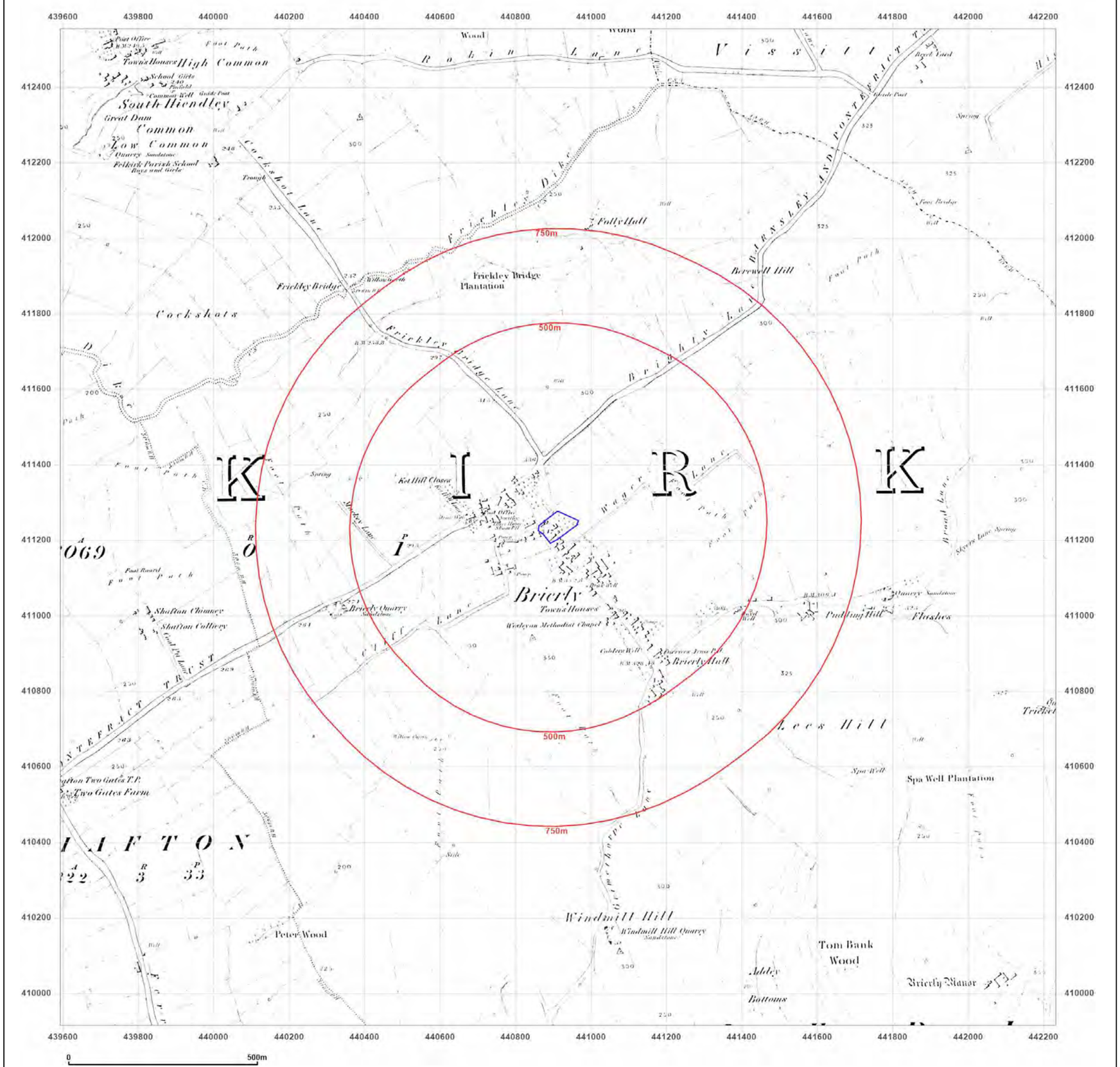

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Site Details:

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Client Ref: CMAPS-GDP-1187993-33420-041024
Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: County Series

Map date: **1854**

Scale: 1:10,560

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Edition 1854
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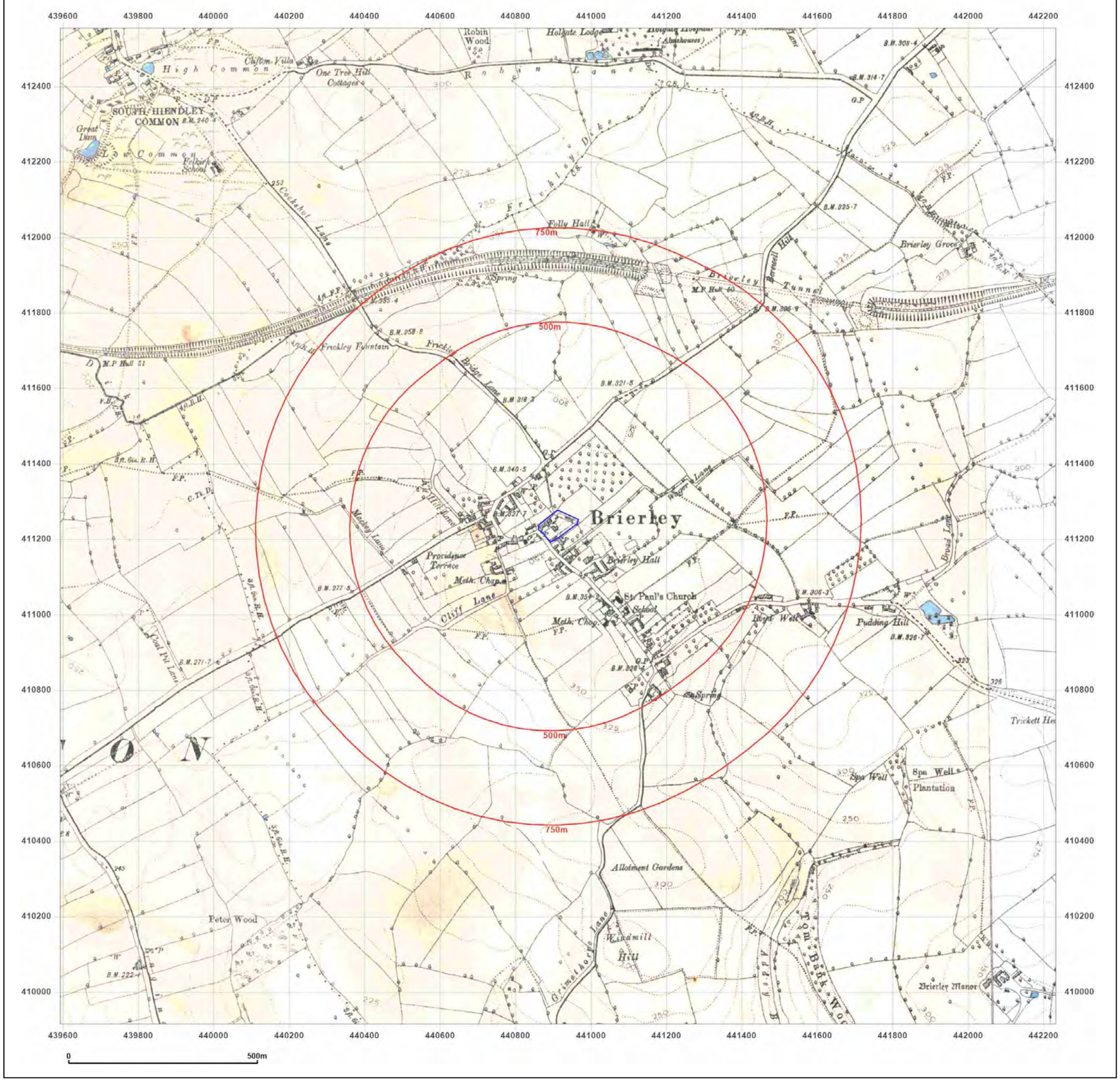

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Site Details:

Pear Tree Farm, S72 9JR

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

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Map date: **1891**

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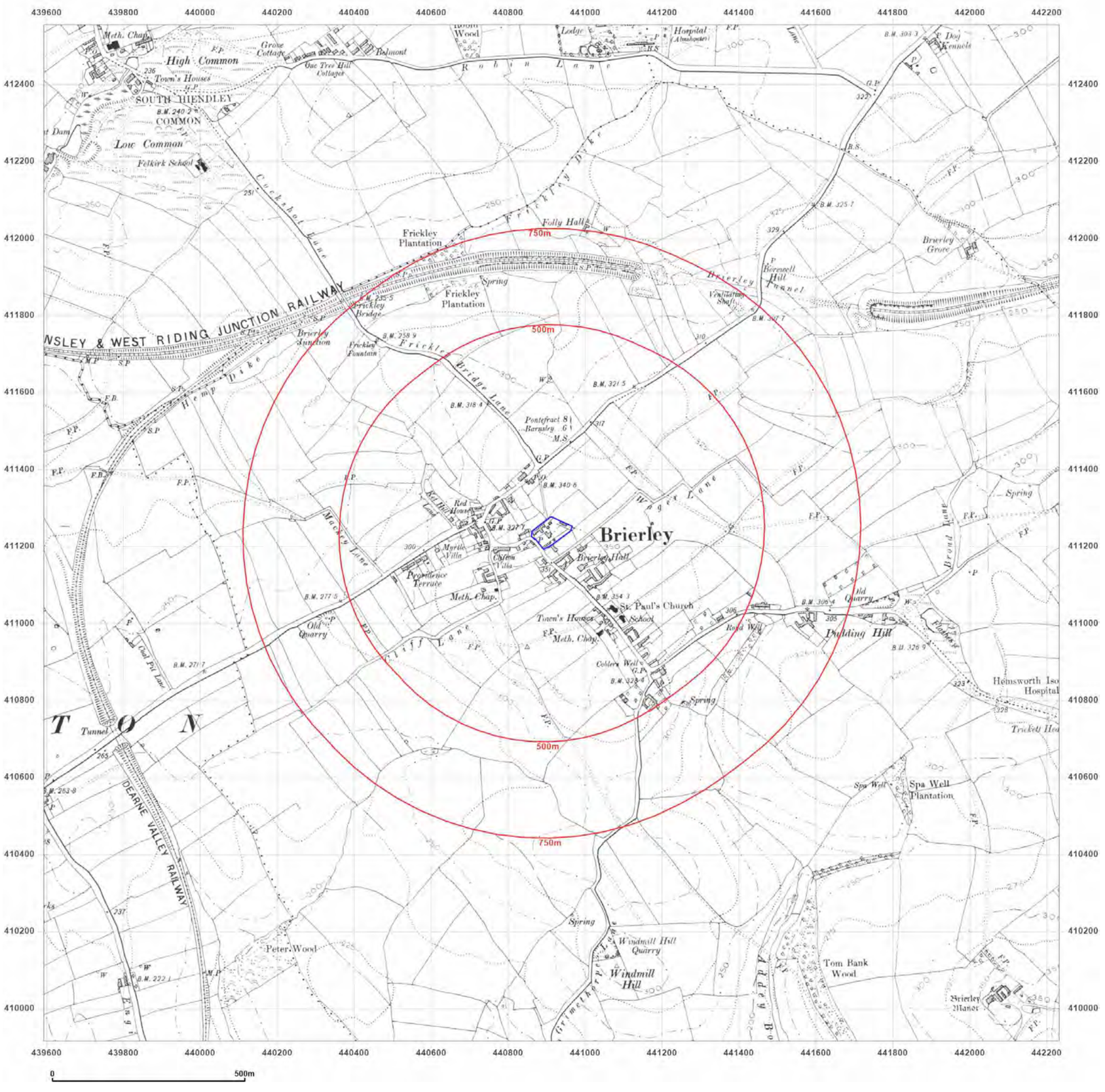

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Site Details:

Pear Tree Farm, S72 9JR

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: County Series

Map date: **1904**

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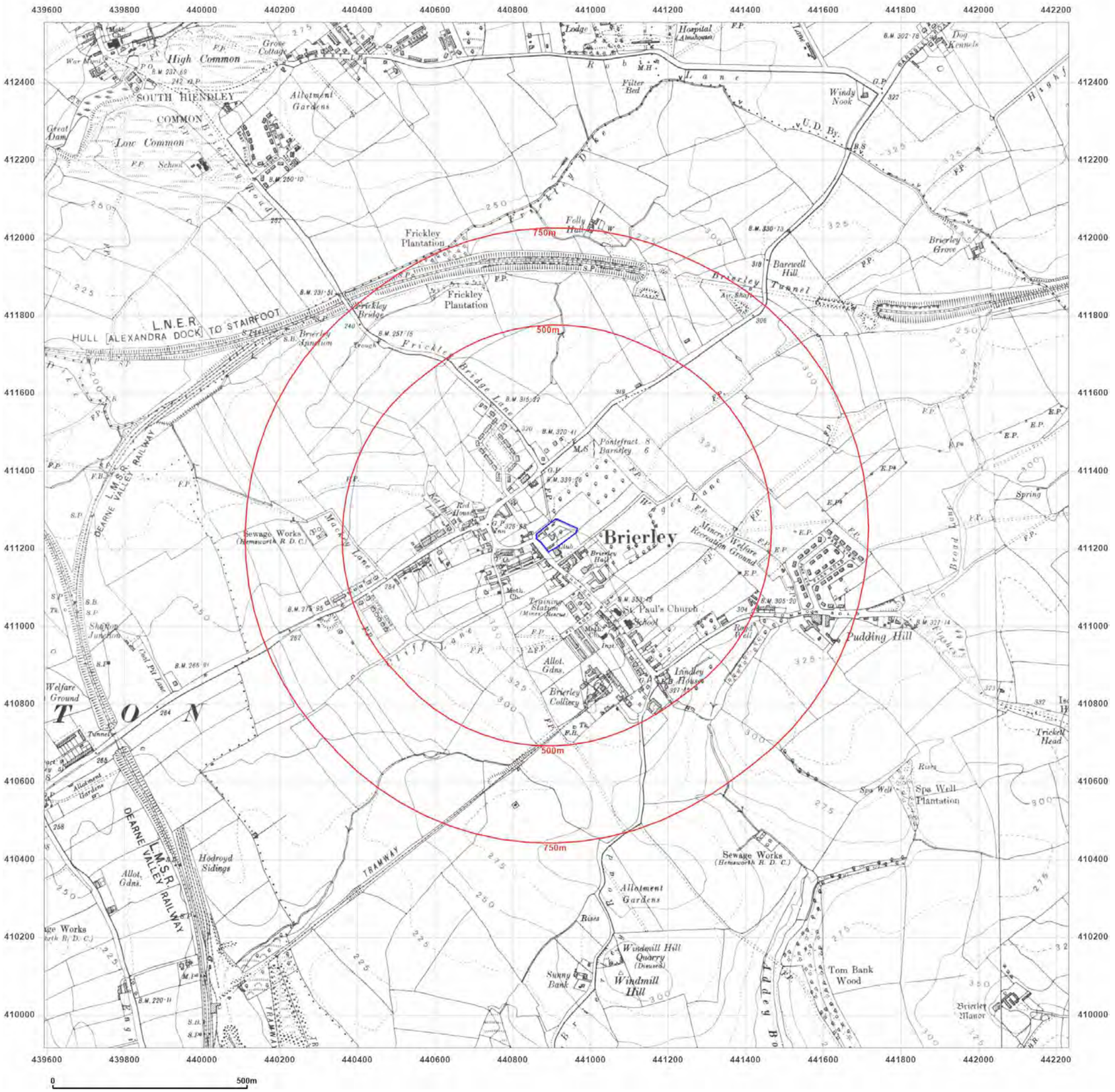

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Site Details:

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: County Series

Map date: **1930**

Scale: 1:10,560

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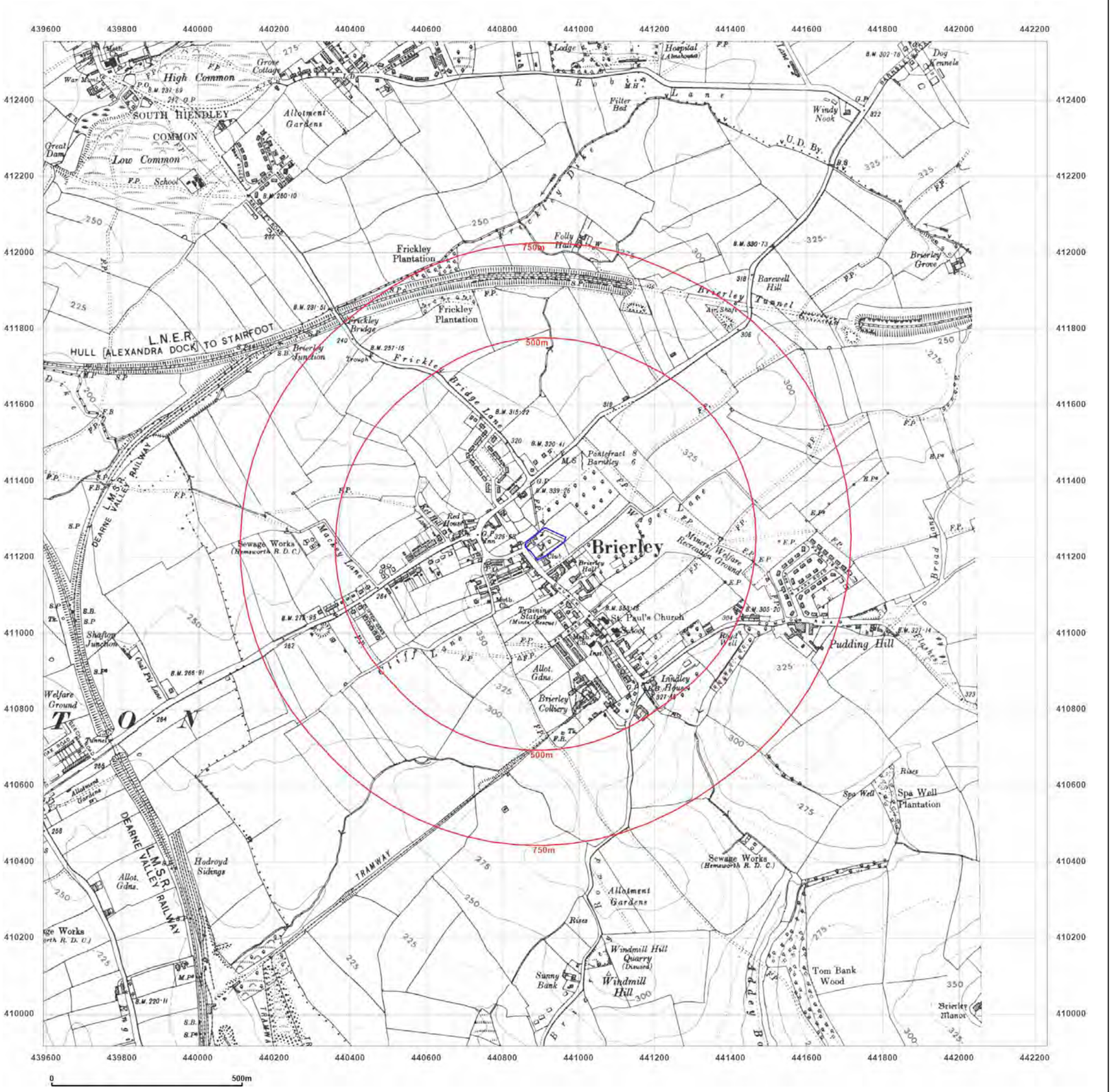

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Site Details:

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Map Name: County Series

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Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

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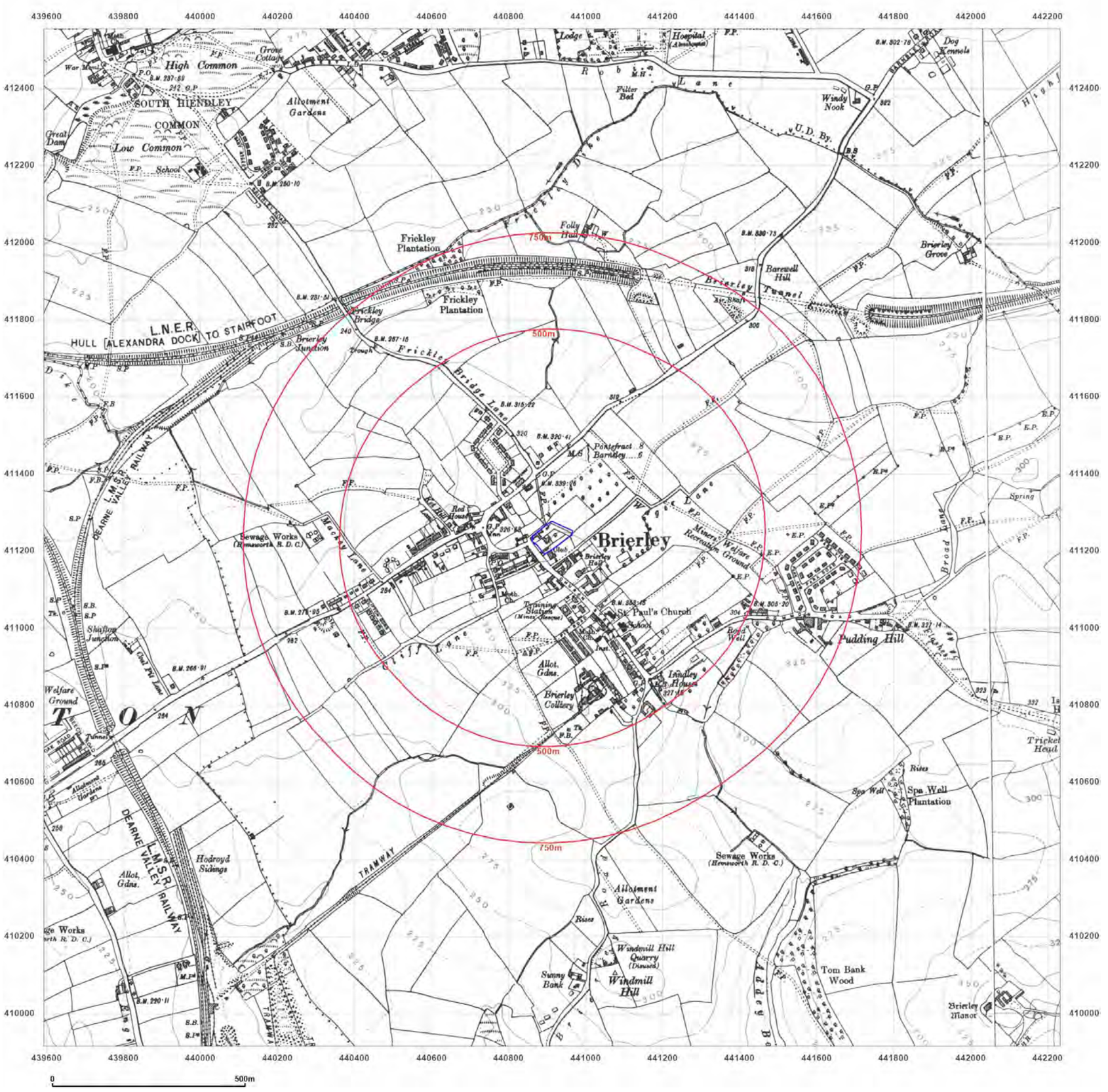

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Site Details:

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Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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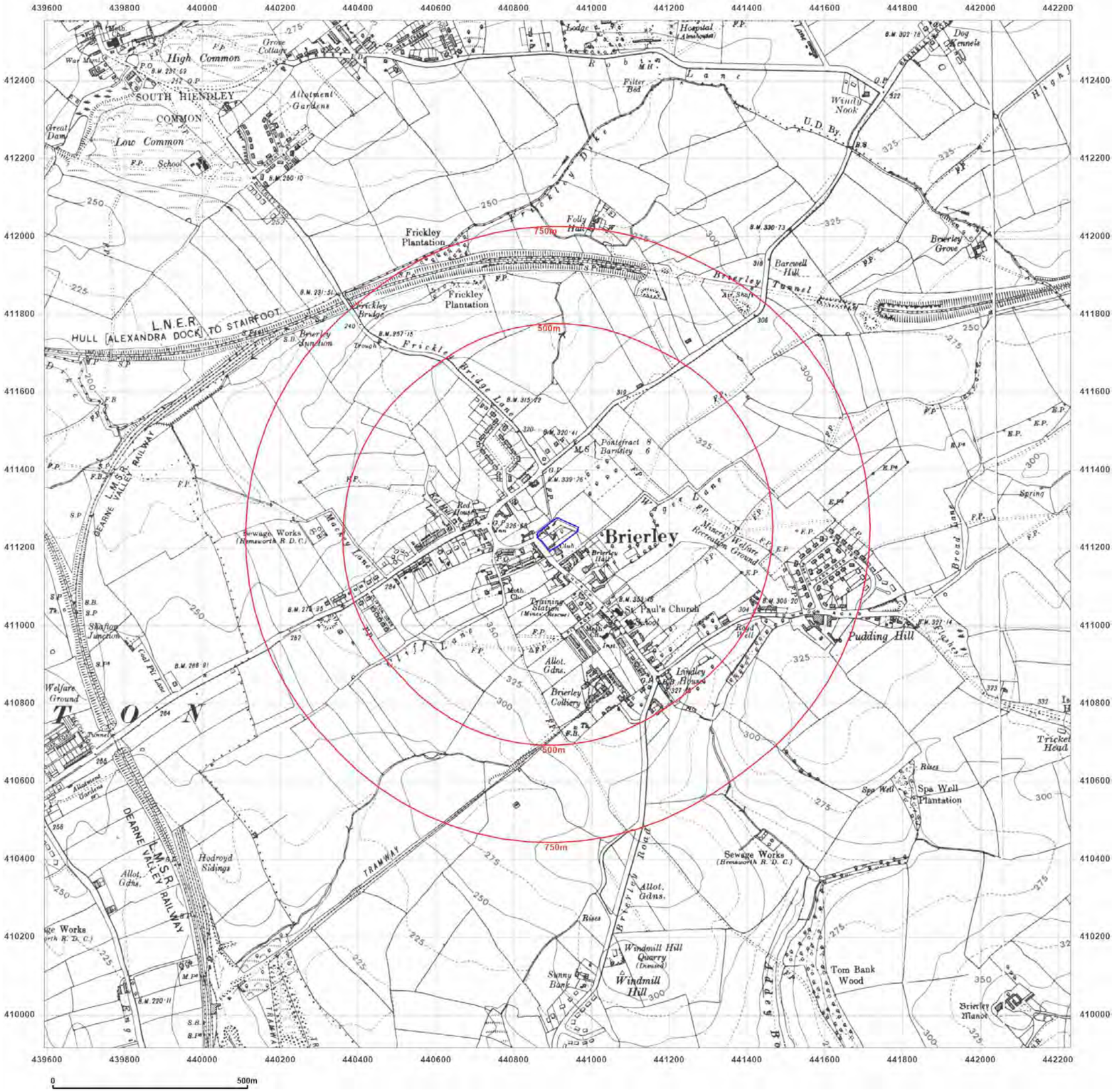

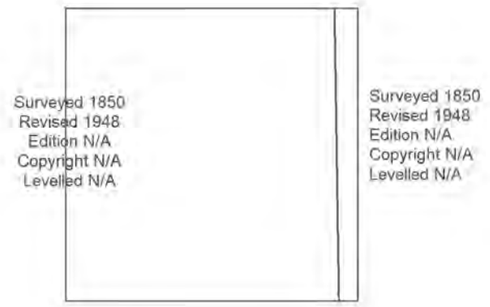

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Site Details:

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

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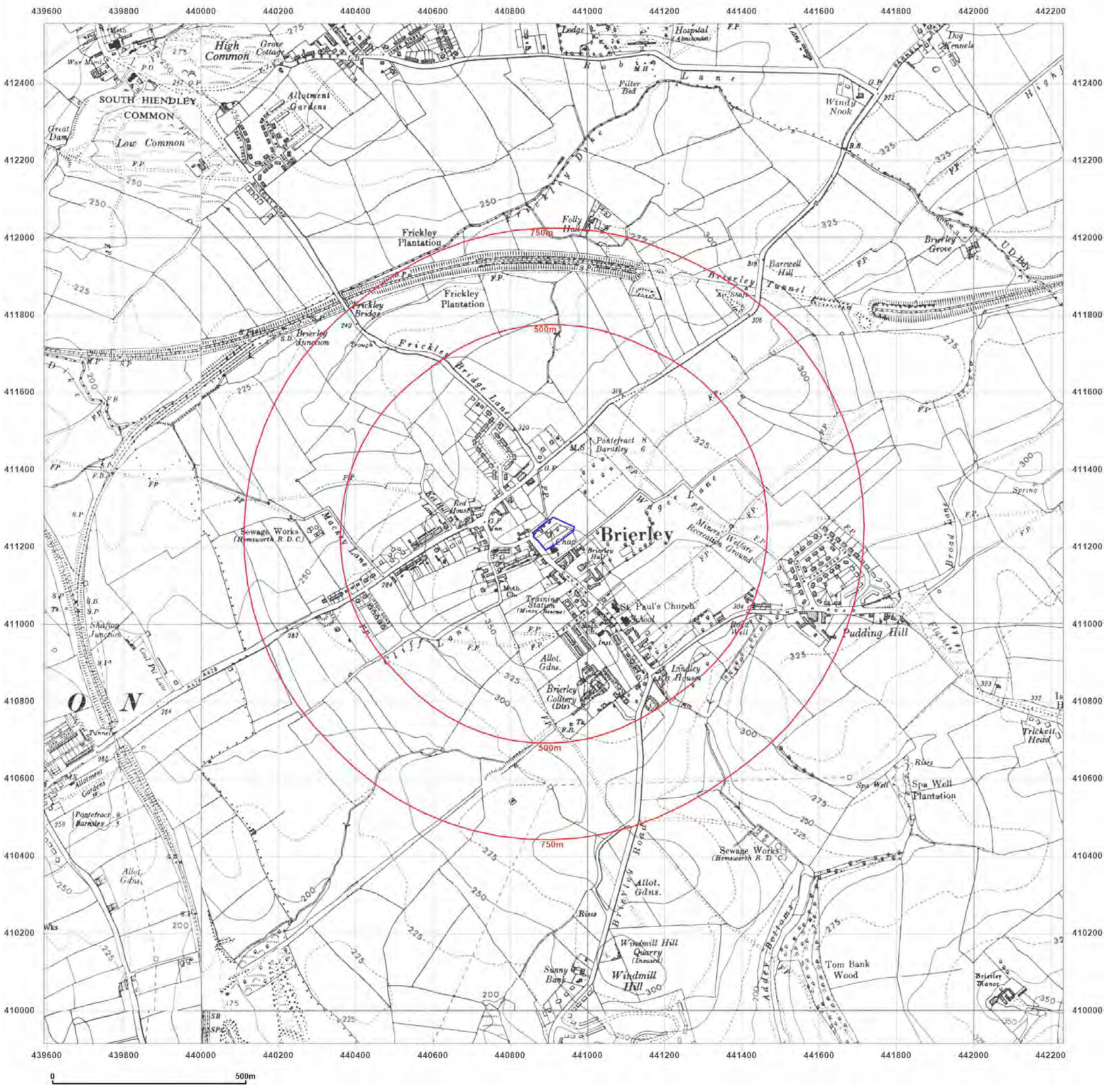

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Site Details:

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
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Map Name: Provisional

Map date: **1951-1955**

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Printed at: 1:10,560

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

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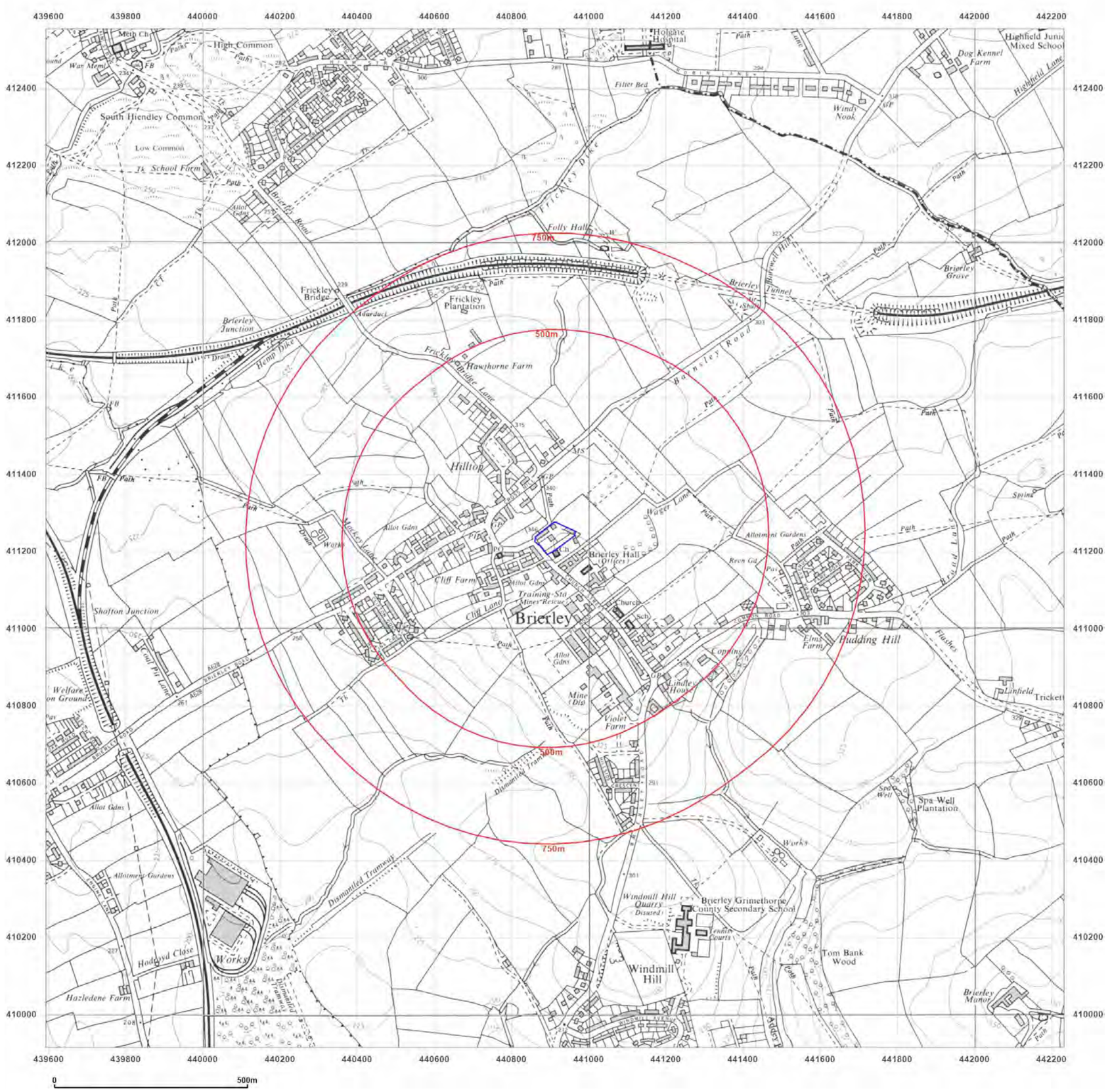

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Site Details:

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: Provisional

Map date: **1966-1967**

Scale: 1:10,560

Printed at: 1:10,560

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

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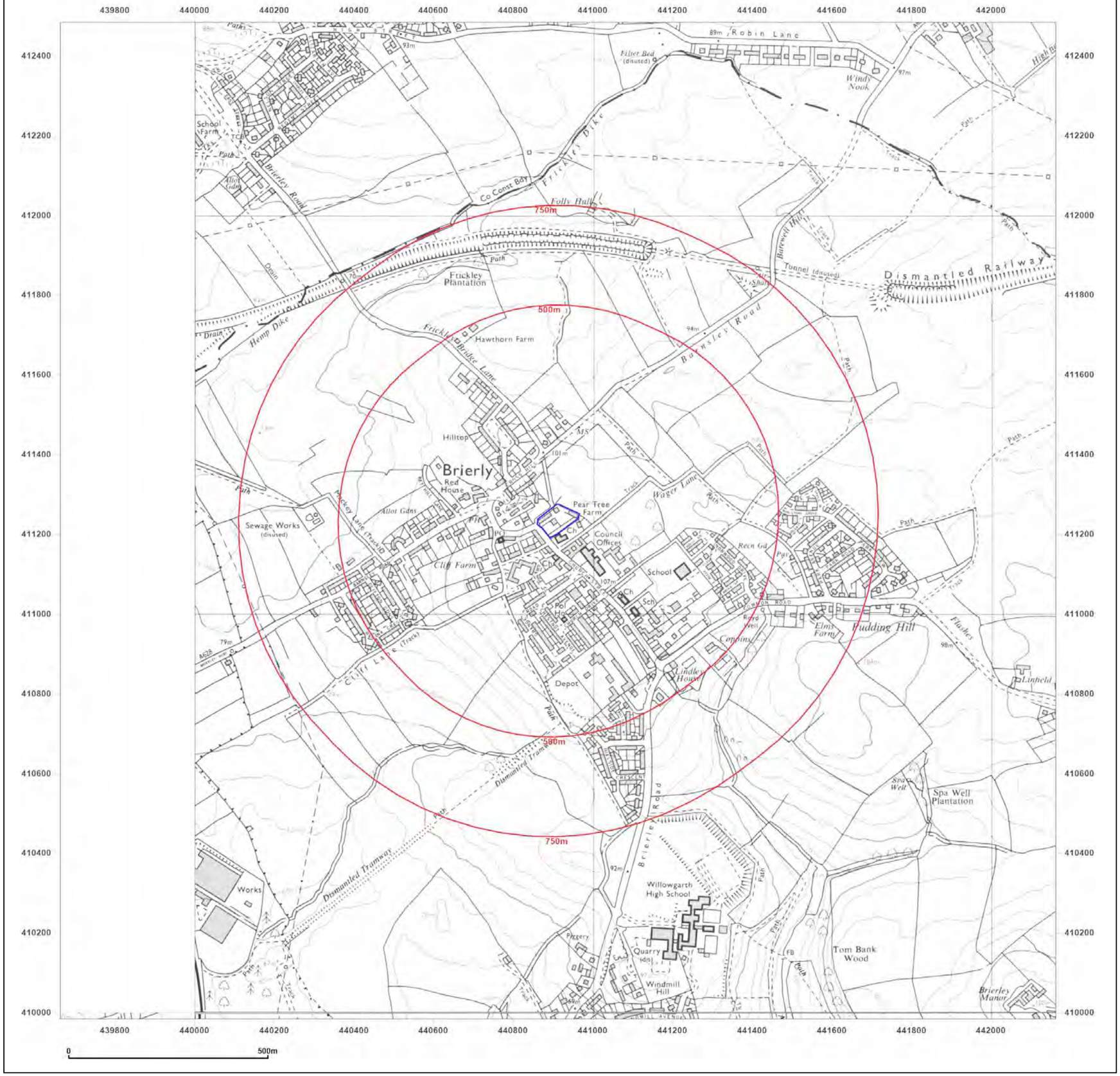

gdp

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Site Details:

Pear Tree Farm, S72 9JR

Client Ref: CMAPS-GDP-1187993-33420-041024
Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1981-1982**

Scale: 1:10,000

Printed at: 1:10,000

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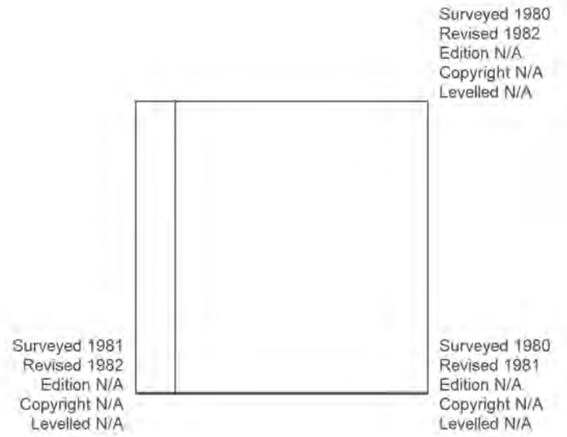

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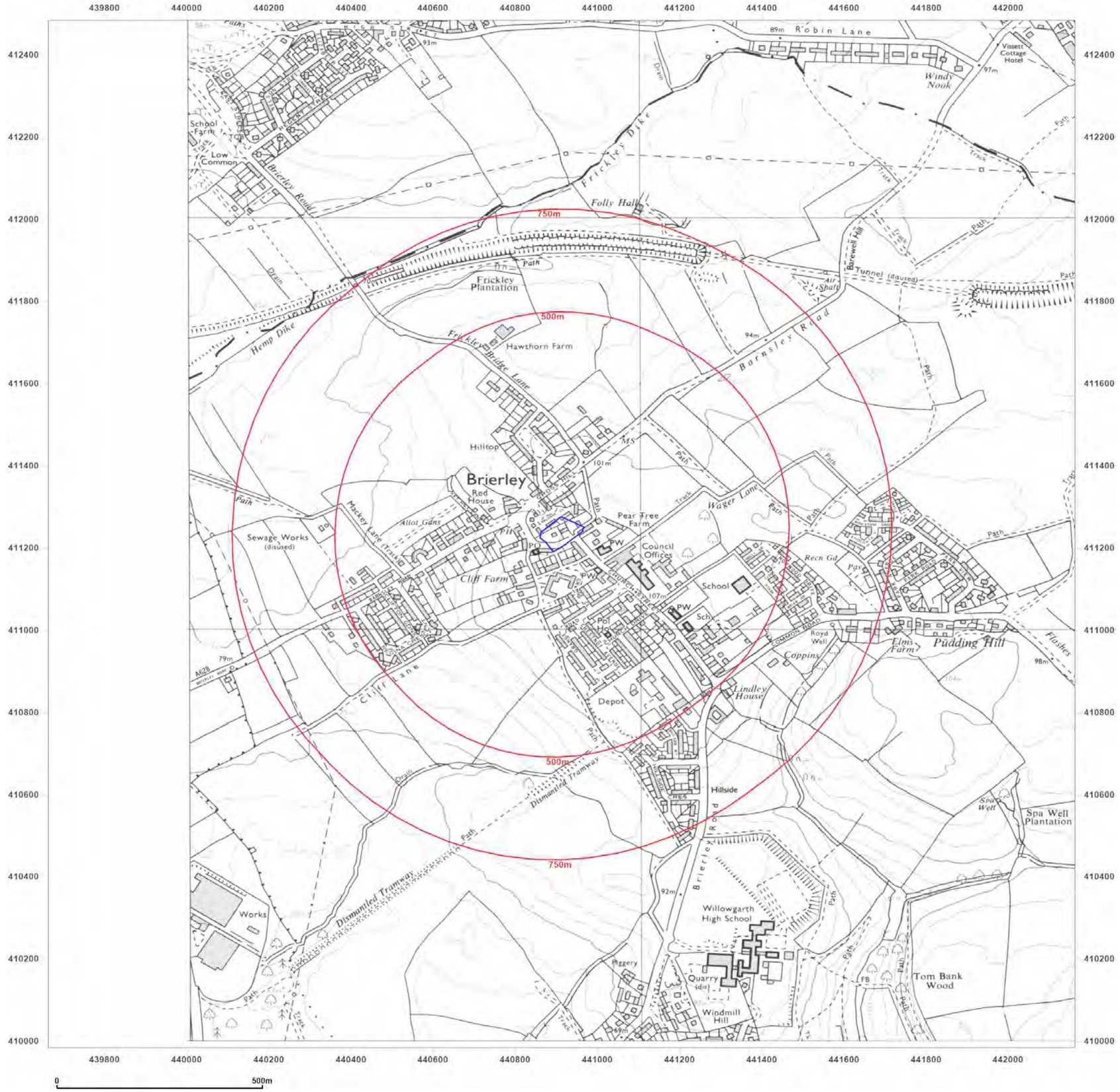

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Site Details:

Pear Tree Farm, S72 9JR

Client Ref: CMAPS-GDP-1187993-33420-041024
Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1988**

Scale: 1:10,000

Printed at: 1:10,000

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Revised 1988
Edition N/A
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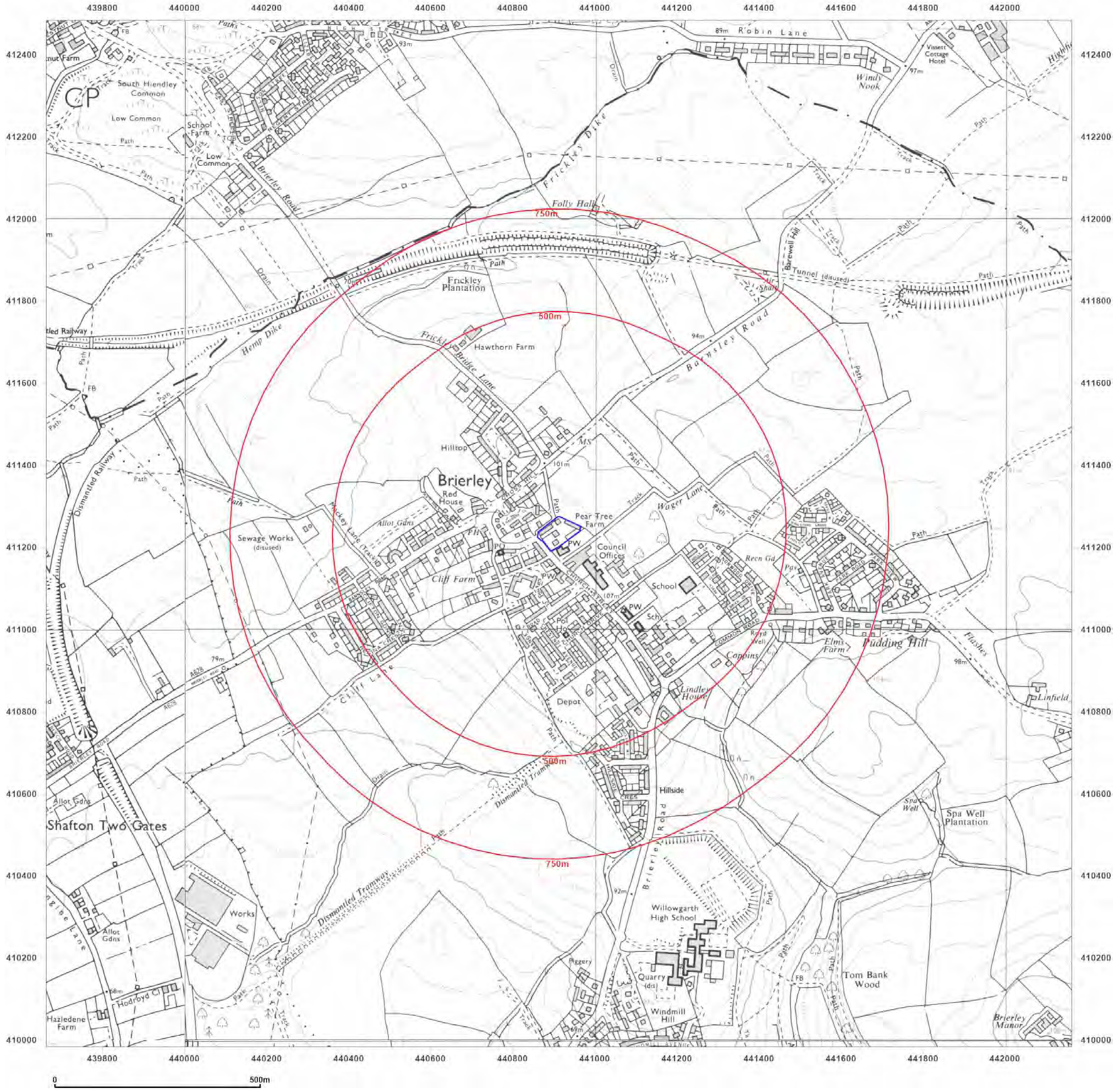

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Site Details:

Pear Tree Farm, S72 9JR

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **1988-1992**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1984
Revised 1989
Edition N/A
Copyright N/A
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Surveyed 1985
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1981
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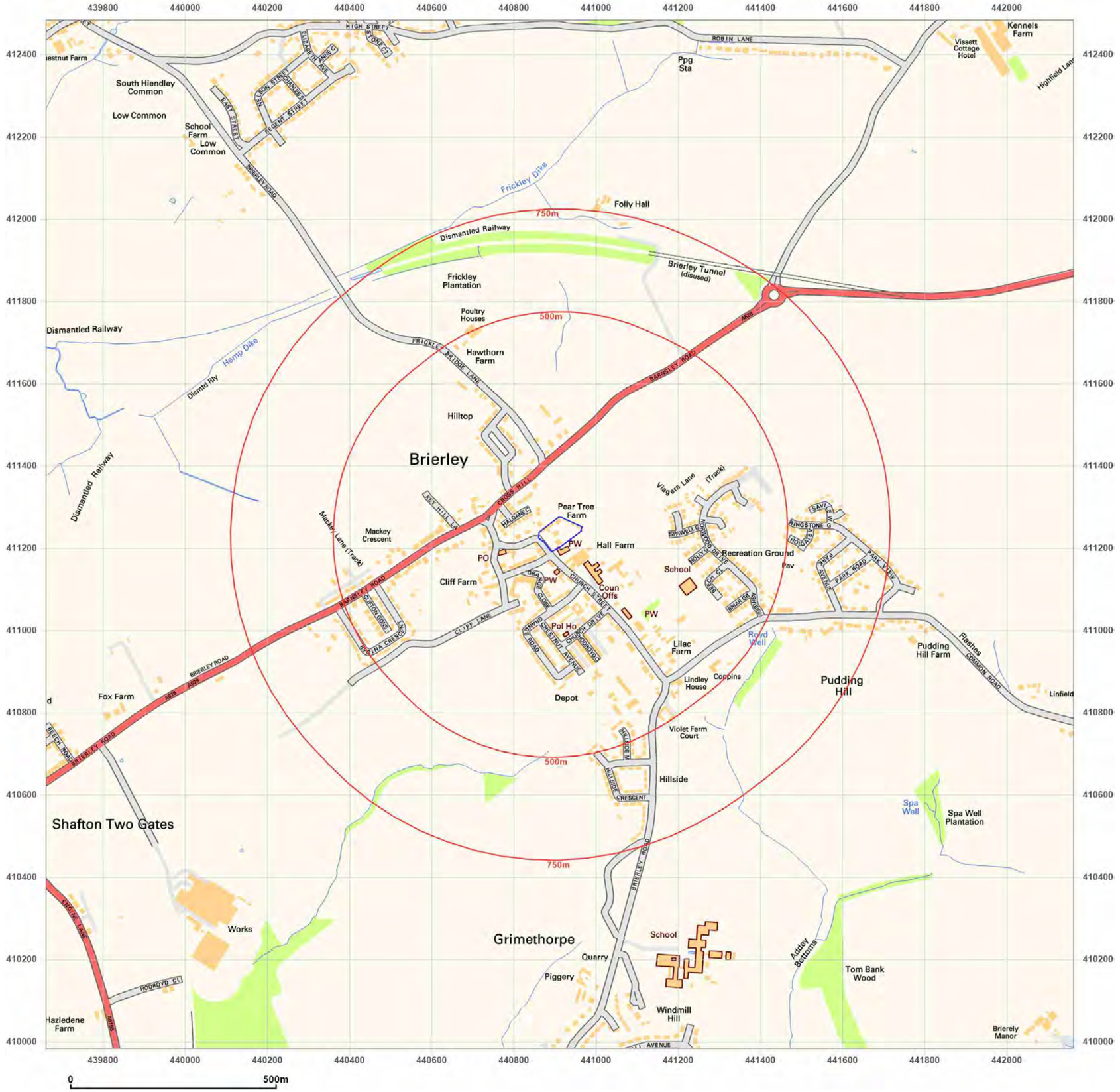

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Site Details:

Pear Tree Farm, S72 9JR

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Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

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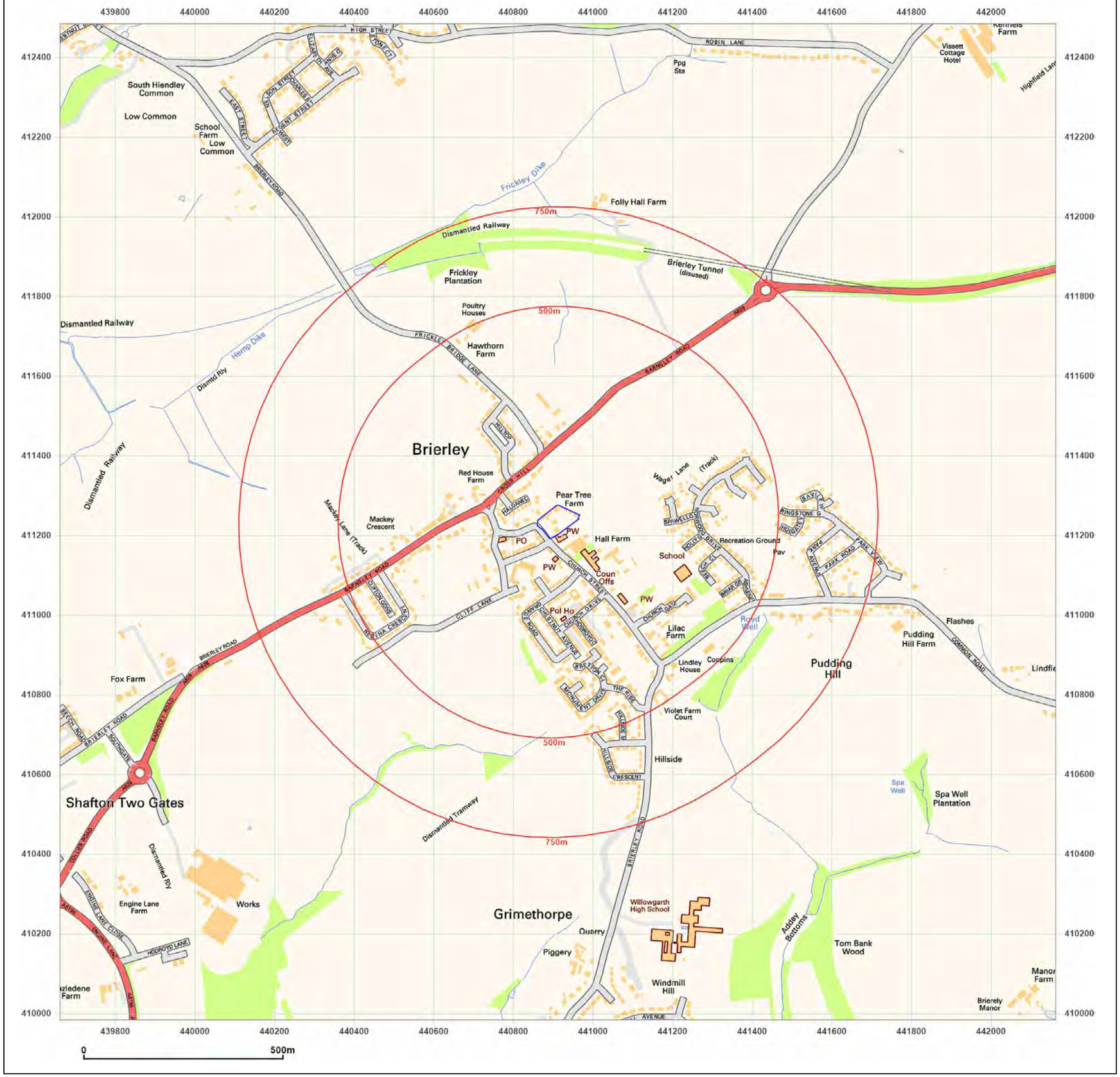

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Site Details:

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Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

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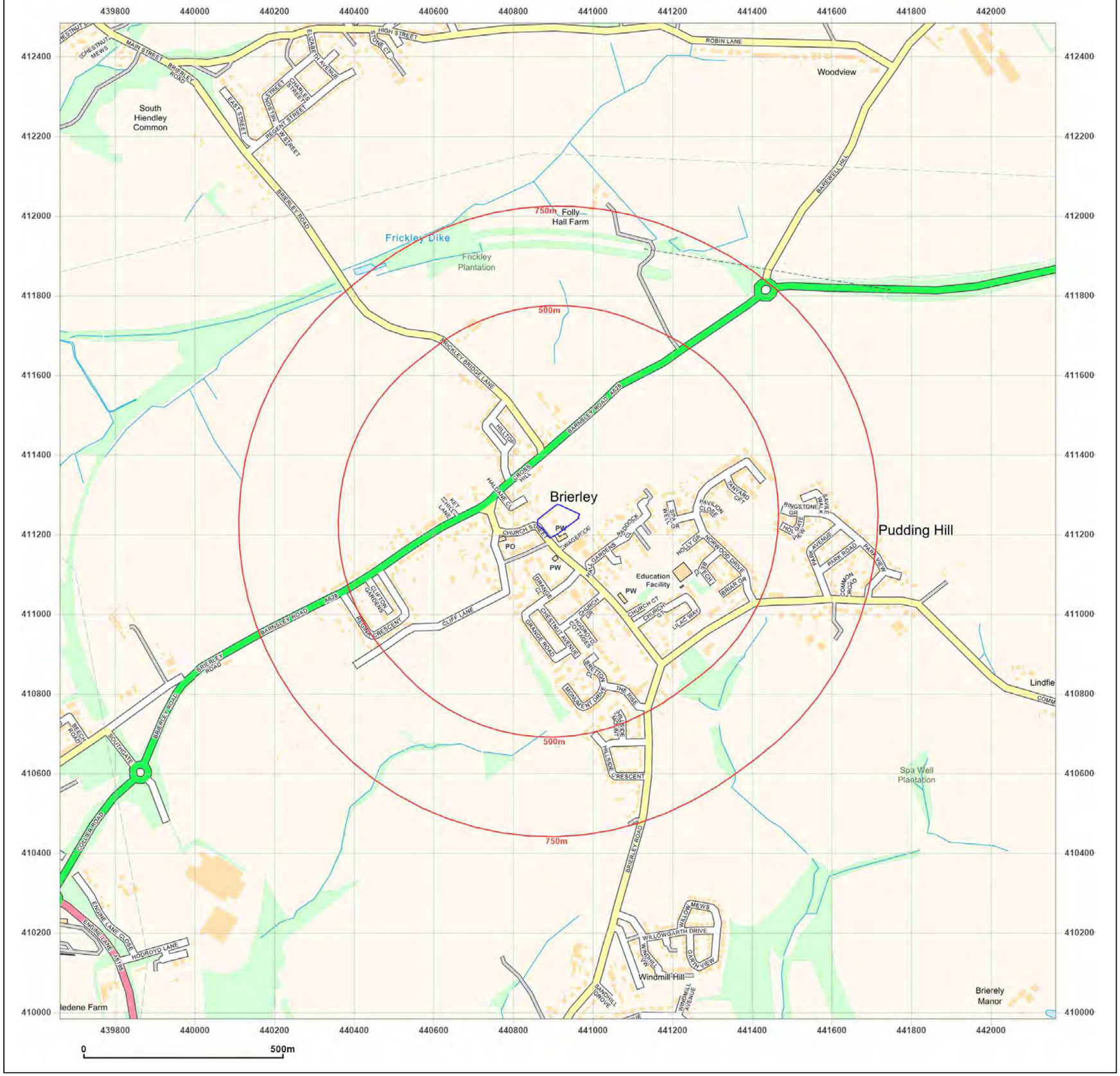

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Site Details:

Pear Tree Farm, S72 9JR

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Report Ref: CMAPS-GDP-1187993-33420-041024HIS
Grid Ref: 440912, 411234

Map Name: National Grid

Map date: **2024**

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APPENDIX 3

RISK ASSESSMENT METHODOLOGY

Brownfield Consulting & Development
GD Pickles Ltd, registered in the UK: 09387115.
Biltons Farm, South Scarle Lane, Swinderby, Lincoln, LN6 9JA

Contaminated Land Risk Assessment Methodology

The following classification was published by the NHBC, EA, and CIEH (2008). This was developed from *DOE Guide to Risk Assessment and Risk Management for Environmental Protection and the Statutory Guidance on Contaminated Land* (Defra September 2006).

The methodology differs from that presented in *Contaminated Land Risk Assessment, A Guide to Good Practice* (CIRIA C552, 2001), particularly in terms of the definitions of classification of consequence, which includes consideration of immediacy of hazards. The risk assessment methodology is now better aligned with health and safety and geotechnical risk assessment processes.

The designation of risk is based upon the consideration of both:

- **the magnitude of the potential consequence (i.e. severity).**
  [takes into account both the potential severity of the hazard and the sensitivity of the receptor]
- **the magnitude of probability (i.e. likelihood).**
  [takes into account both the presence of the hazard and receptor and the integrity of the pathway]

The potential consequences of contamination risks occurring at this Site are classified in accordance with Table 1 below:

Table 1: Classification of Consequence (Source: R&D 66:2008)

Classification	Definition of Consequence
Severe	Highly elevated concentrations **likely** to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to **EA Category 1** pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.
Medium	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to **EA Category 2** pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.
Mild	Exposure to human health unlikely to lead to "significant harm". Equivalent to **EA Category 3** pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long- term maintenance of the population. Minor damage to crops, buildings or property.
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.

The probability of contamination risks occurring at this Site is classified in accordance with Table 2 below. Note: A pollution linkage must first be established before probability is classified. If there is no pollution linkage then there is no potential risk. If there is no pollution linkage then it follows that there is no need to apply tests for probability and consequence.

Table 2: Classification of Probability

Classification	Definition of Probability
High Likelihood	There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.
Likely	There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.
Low Likelihood	There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.
Unlikely	There is a pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.

For each possible pollutant linkage (source-pathway-receptor) identified, the potential risk can be evaluated based upon the following probability x consequence matrix shown in Table 3 below.

Table 3: Overall Contamination Risk Matrix

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High likelihood**	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Moderate / Low risk	Low risk
	Low likelihood	Moderate risk	Moderate / Low risk	Low risk	Very low risk
	Unlikely	Moderate / Low risk	Low risk	Very low risk	Very low risk

R&D 66:2008 presents definitions of the risk categories, together with the investigatory and remedial actions that are likely to be necessary for each outcome. These definitions are reproduced in Table 4. These risk categories apply to each pollutant linkage, i.e. not only to each hazard or receptor.

[Continued next page]

Table 4: Definition of Risk Categories and Likely Actions Required

Risk Category	Definition and likely actions required
Very high	There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the Site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be Site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.
High	Harm is likely to arise to a designated receptor from an identified hazard at the Site without remediation action. Realisation of the risk is likely to present a substantial liability to the Site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to Site owner/occupier. Some remediation works may be required in the longer term.
Low	It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the Site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.
Very low	It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.
No potential risk	There is no potential risk if no pollution linkage has been established.