GEOENVIRO

SOLUTIONS LIMITED

PHASE I DESKTOP STUDY AND PRELIMINARY RISK ASSESSMENT REPORT

AT

LAND ADJACENT TO NO. 7, TOWN GATE, SCHOLES

FOR

MR D. BLACKBURN

Report Reference: 2371-22 PI

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UPDATE STATUS

Issue	Date	Description	Prepared	Reviewed	Approved

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LIST OF ACRONYMS

Acronym	Meaning
BGS	British Geological Survey
BH	Borehole
CDM	Construction Design and Management
CL:AIRE	Contaminated Land: Applications In Real Environments
CLR	Contaminated Land Report
COSHH	Control Of Substances Hazardous to Health
CSM	Conceptual Site Model
DCP	Dynamic Cone Penetrometer
DEFRA	Department for Environment Foods and Rural Affairs
DoE	Department of Environment
DP	Dynamic Probe
DWS	Drinking Water Standard
EA	Environment Agency
EQS	Environmental Quality Standard
GAC	Generic Acceptance Criteria
HA	Hand Auger
HP	Hand Pit
LPA	Local Planning Authority
LQM	Land Quality Management
mbgl	Metres Below Ground Level
MP	Mackintosh Probe
NGR	National Grid Reference
NPPF	National Planning Policy Framework
OS	Ordnance Survey
SGV	Soil Guideline Value
SPOSH	Significant Possibility of Significant Harm
SPT	Standard Penetration Test
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
SSV	Soil Screening Value
TP	Trial Pit
TT	Trial Trench
WS	Windowless Sample / Window Sample
WSV	Water Screening Value

1. INTRODUCTION

1.1 BACKGROUND AND INSTRUCTION

GeoEnviro Solutions Limited (GES) was instructed by Mr. D. Blackburn (the Client) to produce a Phase I: Desktop Study and Preliminary Risk Assessment Report, including a Coal Mining Risk Assessment, for a site located adjacent to Number 7, "Fieldhead", Town Gate, Scholes, BD19 6ET.

This report is written in accordance with the guidance set out in Land Contamination Risk Management (LCRM), Guiding Principles for Land Contamination (GPLC) 1 – 3, and the National Planning Policy Framework (NPPF).

1.2 PROPOSED DEVELOPMENT

It is currently proposed to construct a new two storey, three-bed residential property at the site, which currently comprises the garden of the adjoining residential property.

It is understood that planning has already been granted for the site by Kirklees Metropolitan District Council (KMDC), under application 2017/60/90589/E.

A proposed development plan, as provided to GES, drawn by Michael Denton Associates Ltd., referenced 16:10:6969:100 Rev. B, dated March 2020 is presented within **Appendix 1**.

This proposed development plan has been utilized in the preparation of this risk assessment, if an alternative development is subsequently proposed this assessment may need revising and should not be relied upon in its present outcome.

1.3 OBJECTIVES

The objectives of this Phase I report are to:

- Gain an understanding of any concerns of the regulatory authorities (Local Authority Planning, Building Control and Environmental Health departments and the Environment Agency) regarding local land filling, flooding, mining, quarrying and other concerns.
- Gain an understanding of any concerns of the regulatory authorities (Local Authority Planning, Building Control and Environmental Health departments and the Environment Agency) regarding potential impacts of historical coal mining.
- Establish the environmental setting, including sensitivity in relation to human health, surface water, groundwater, and ecological receptors.
- Review historical and recent uses to assess the potential for contamination to be present from past and current land-use.
- Assess by qualitative means the potential nature and extent of contamination from those uses and the environmental risk and liabilities which may affect the site redevelopment.
- Identify the prevalent source-pathway-receptor linkages present on site by means of a Tier 1 contamination risk assessment which incorporates the formulation of a Conceptual Site Model.

1.4 INFORMATION SOURCES

During the production of this report the following primary information sources have been utilised:

- Enviro + Geo Insight data obtained from Groundsure (4C Group Ltd).
- Historical Ordnance Survey mapping at scales ranging from 1:1,250 to 1:10,560, obtained from Groundsure.
- BGS Open Geoscience online geological mapping tool.
- OS Open Data online mapping tool.
- Coal Authority Online interactive map.
- Consultants Coal Mining Report.

1.5 PREVIOUS INVESTIGATIONS

Site Specific Report

GES have been provided with a previous Coal Mining Risk Assessment undertaken for the subject site by Michael Denton Associated Ltd, the report is unreferenced and un-dated.

This report states that the site is not in the likely zone of zone of physical influence on the surface from past or present underground coal workings, though the site is in an area where the CA believe coal is at or close to the surface and may have been worked in the past.

The report states the site lies between residential areas with no historical or visual evidence of damage arising due to geological faults or other lines of weakness that have been affected by coal mining

The report recommends that a site investigation comprising window sampling and rotary boreholes to 30m depth, and geotechnical testing, are carried out at the site.

An e-mail from the architect to the client states that the above report “is a generic statement for planning validation. The Geotech consultants should carry out their own desktop study to determine what further intrusive investigation will be necessary”. A copy of this e-mail is included within **Appendix 2**.

Planning Portal Reports

A review of the KMDC planning portal has identified a letter report titled Investigation of Potential for Shallow Coal Workings, prepared by Eastwood & Partners for Barratt David Wilson Homes Yorkshire West, referenced PR/CAT/34169-003, dated 17th October 2011 for the redevelopment of land approximately 330 m southwest of the site, as part of planning reference 2013/44/90529/E.

The report states that the Blocking Bed coal seam was encountered across the site, comprising a sequence of 400 to 800 mm bed of carbonaceous mudstone and 300 to 400 mm bed of coal, separated by a 200 mm thick band of mudstone. No evidence of workings was encountered.

An impersistent thin coal seams were locally recorded above the Blocking Bed coal, with thicknesses of up to 200 mm.

The seam was found at depths from 1.1 mbgl in the east of the site, deepening to the southwest.

A review of the KMDC planning portal has identified a Coal Mining Risk Assessment, prepared by Delta-Simmons for ISG Retail Ltd (Bristol), referenced 19-1572.03, dated June 2021 for the development of land approximately 200 m east of the site, as part of planning reference 2021/62/92603/E.

The report identifies four fault blocks, of which, the stratigraphy of the western fault block is comparable to the stratigraphy on-site.

The report identifies the Churwell Thin Coal seam and the Little Coal seam to be present within the western fault block, with thickness of 0.2 to 0.5 m and 0.0 to 0.2 m respectively. Using the inferred outcrop location and borehole logs from the Chairbarrows Pit, the Churwell Thin Coal seam is anticipated to dip to the south at approximately 0.5^{o} and the Little Coal seam is anticipated to dip to the south by approximately 1.4^{o}. (N.B. The BGS website notes that the Churwell Thin and Little Coal seams locally combine to form a combined coal seam, locally known as the Beeston Coal seam[1] or Whinmoor Coal seam[2]).

The Shertcliffe Coal seam, with a thickness of 0.5 m, is noted to be located approximately 110m to the north of the site and is anticipated to dip to the south at approximately 2.6^{o}.

The report only includes the logs from the most recent round of drilling

[1] https://webapps.bgs.ac.uk/lexicon/lexicon.cfm?pub=CTHN
[2] https://nora.nerc.ac.uk/id/eprint/11109/1/IR05070.pdf

2. SITE LOCATION AND DESCRIPTION

2.1 SITE LOCATION

The site is located adjacent to Number 7, “Fieldhead”, Town Gate, Scholes, at approximate National Grid Reference (NGR): 416865, 425910 (centre of the site).

A site location plan is presented as Drawing No. GES 2371-22/01 in **Appendix 1**.

2.2 SITE DESCRIPTION

A site walkover was carried out on the 7th June 2022; access to the site is via the driveway for No. 7, “Fieldhead”.

The site comprises a residential garden for No. 7, “Fieldhead” and currently comprises mature planting along the northern boundary, along with planting in the centre and east of the site, and mature trees are present along the southern boundary of the site. The remainder of the site is covered by grass.

A small (circa 1.8 m x 1.8 m) garden shed for the is present in the northwest of the site.

The site slopes gently from north to south; the northern site boundary appears to be retaining approximately 0.5 m of the neighbouring garden and the southern boundary appears to be retaining approximately 0.5 to 1.0 m of the site.

An approximate distribution of the surface covering is given below in Table 2.1.

Table 2.1: Site Surface Covering

Type of Surface Cover	Distribution (%)
Soft Ground (grassed and landscaped areas)	100
Hardstanding	
Roadways	
Buildings	
Water (ponds, streams)	

The southern, eastern and northern site boundaries are all defined by dry stone walling, while the western site boundary is not defined on-site.

The site is bounded by a residential property to the west and north, fields to the east and Town Gate / Wellands Lane to the south

A selection of photographs from the site walkover are presented in **Appendix 3**.

Surrounding Area

The surrounding land use generally comprises residential properties, with a plot of undeveloped land to the east.

The surrounding area gently slopes to the southeast.

3. ENVIRONMENTAL AND GEOLOGICAL SETTING

Information on the environmental and geological setting of the site is presented in a Groundsure Enviro + Geo Insight Report prepared for the site; a copy of this report is presented in **Appendix 3**.

3.1 SITE GEOLOGY

The site geology has been assessed by reference to information from British Geological Survey (BGS) mapping summarised in the Groundsure Enviro + Geo Insight data. Information from these sources referenced in this report has been predominantly limited to that identified within 50m of the site (underlying geology) or 250m of the site (structural features, borehole records), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Artificial / Made Ground

There are no records of artificial deposits underlying or within 250 m of the site.

Superficial Ground and Drift Deposits

There are no records of superficial ground or drift deposits underlying or within 250m of the site.

Bedrock Geology

The northern half of the site is recorded to be underlain by an unnamed sandstone unit of the Pennine Lower Coal Measures (PLCM) Formation.

The east and southeast of the site is recorded to be underlain by undifferentiated strata of the PLCM Formation.

The southwest of the site is recorded to be underlain by an unnamed sandstone unit of the Pennine Lower Coal Measures (PLCM) Formation.

Landslips

There are no records within 250 m.

Linear Features

A northwest-southeast trending inferred fault is recorded to pass through the south of the site, separating the sandstone in the southwest of the site from the remainder of the strata recorded to underlie the site. The area of the site to the south of the fault will be termed the southern fault block and the area to the north the northern fault block.

The BGS 1:50,000 scale geological map (Sheet 77, Solid and Drift Geology, published in 2003) indicates that the fault has a downthrow to the southwest.

The Groundsure Report records an inferred coal seam to be located 322m southwest of the site, within the southern fault block. Review of this coal seam on the 1:50,000 scale geological map indicates it to be the Blocking Coal (BK) Seam, with a recorded thickness of between 0.2 and 1.8 m.

Based on the previous investigation (Eastwood & Partners) summarised in section 1.5, the Blocking Coal seam is recorded to dip towards the southwest, away from the site.

The Groundsure Report records two inferred coal seams to be located 235 and 305 m north of the site, within the northern fault block. Review of these coal seams on the 1:50,000 scale geological map indicates them to be the Linfit Lousey Coal (LFT) seam, with a recorded

thickness of between 0.0 and 1.3 m, and the Shertcliffe Coal (SH) seam, with a recorded thickness of between 0.0 and 0.8 m respectively.

Based on the previous investigation (Delta-Simmons), the Linfit Lousey and Shertcliffe Coal seams are recorded to dip towards the south, towards the site.

Natural Ground Subsidence

The following hazard ratings applicable to the site and land within 50 m are presented in the Enviro + Geo Insight Report:

- Shrink / swell clays: Negligible to Very low.
- Running sands: Negligible.
- Compressible deposits: Negligible.
- Collapsible deposits: Very low.
- Landslides: Very low.
- Ground dissolution of soluble rocks: Negligible.

3.2 BOREHOLE RECORDS

There are no BGS boreholes within 250m of the site.

3.3 HYDROGEOLOGY

These records are derived by Groundsure from Environment Agency and British Geological Survey data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report. Information from these sources referenced in this report have been predominantly limited to those identified within 250 m of the site (or 1000 m of the site for abstractions), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

The Environment Agency aquifer designations used within the following sections are summarised in Table 3.1, below.

Table 3.1: Aquifer Designations

Definition	Description
Principal Aquifer	Layers with high intergranular and/or secondary permeability capable of supporting water supplies at strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as Major Aquifers.
Secondary (A) Aquifer	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.
Secondary (B) Aquifer	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water bearing parts of former Non-Aquifers.
Secondary Undifferentiated Aquifer	Layers that cannot be attributed to a category A or B rock type. These layers could have previously been described as a minor or a non-aquifer due to their variable characteristics.
Unproductive strata	Rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Aquifer within Superficial Deposits

No aquifers within Superficial Deposits are recorded within 500m of the site.

Aquifer within Bedrock Geology

As a result of the bedrock geology, the bedrock aquifer is recorded to be a Secondary (A) Aquifer.

Permeability of Bedrock Deposits

The minimum and maximum permeability are both recorded as being low and high respectively, and the flow type is recorded as fracture controlled.

Groundwater Vulnerability

The site is recorded to be located within an area where the EA considers the groundwater to have a medium vulnerability to mobile pollutants, as summarised in Table 3.2 below.

Table 3.2: Groundwater Vulnerability Definitions

Definition	Description
High Vulnerability	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 Vulnerability	Intermediate between high and low vulnerability.
Low Vulnerability	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.

Groundwater Abstraction Licences

There are no licensed ground water abstractions within 500 m of the site.

Potable Water Abstraction Licences

There are no potable abstractions within 500 m of the site.

Source Protection Zones

The is no Source Protection Zone within 500 m of the site.

3.4 HYDROLOGY

These records are derived by Groundsure from Environment Agency and British Geological Survey data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report. Information from these sources referenced in this report have been predominantly limited to that identified within 250 m of the site (aquifers, surface water) or 1000 m of the site (abstractions), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Ordnance Survey Water Network

There are no entries in the Ordnance Survey Water Network register within 250 m of the site.

Surface Water Features

There are no major surface water courses within 250 m of the site.

Water Framework Directive Surface Water Bodies and Catchments

The site is recorded to be located within the Spen Beck from Source to River Calder Catchment, which had a moderate ecological and fail chemical classification in 2019.

Surface Water Abstraction Licences

There are no licensed surface water abstractions within 200 m of site.

3.5 ENVIRONMENTALLY SENSITIVE AREAS

These records are derived by Groundsure from Environment Agency, Natural England, Historic England, English Heritage, Forestry Commission and UK Government data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report.

Information from these sources referenced in this report have been predominantly limited to that identified within 500 m of the site (environmental designations) or 250 m of the site (habitat, visual and cultural designations), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Environmental and Habitat Designations

The site is recorded to be within a green belt area, located within South and West Yorkshire, managed by KMDC.

The site is recorded to be within a Nitrate Vulnerable Zone.

There are no environmental and habitat designations within 250 m of site.

Visual and Cultural Designations

Three listed buildings are recorded within 250 m of the site, the closest of which is located 119 m northwest of the site, relating to a Grade II buildings.

A conservation area is recorded 35 m northwest of the site.

4. PAST LAND USE AND POTENTIAL CONTAMINANT SOURCES

Information on past land use and potential contaminant sources is presented in a Groundsure Enviro + Geo Insight Report prepared for the site; a copy of this report is reproduced in **Appendix 4**.

4.1 LAND USE RECORDS

These records are derived by Groundsure from historical mapping and each record corresponds to a particular map revision date. Thus, several records may refer to the same feature where it is present over time. Groundsure has in some cases grouped such records in the Enviro + Geo Insight report. Differences in distances quoted from the study site may be due to expansion of the feature over time or geolocation errors.

Information from these sources referenced in this report have been predominantly limited to that identified within 250 m of the site, in order to focus on the information directly relevant to the site. Information from outside this radius will be referenced when deemed relevant.

Historical Industrial Land Uses

There are 16 recorded historical industrial land uses within 250 m of the site, which are summarised in Table 4.1 below. Some of the features are listed multiple times, as they appear of a number of historical maps and with slightly varying distances, due to variations in historical mapping and changes in site layout, where this occurs, a distance and or a date range is recorded.

Table 4.1: Historical Industrial Land Uses

Distance (m)	Direction	Land Use	Dates Recorded
149	Southwest	Unspecified Mills	1967 – 1990
189 – 191	Southwest	Unspecified Mills	1892 – 1955
194	Northeast	Tramway Sidings	1905
225	North	Unspecified Disused Pit	1955
228 – 232	West	Unspecified Disused Mill	1938 – 1955
247	Northwest	Nurseries	1967 – 1974

A further 98 potentially contaminative land uses were recorded within 500 m of the site, these comprise unspecified pits, cuttings, a cemetery, refuse heaps, unspecified mills, a brick works, tramway sidings, various shafts, ground workings, a clay pit, a gravel pit, an unspecified quarry, a nursery and a sewage works. There are likely to duplicates of the same entry within these records.

Historical Tanks

There are no tanks recorded within 250 m of the site.

Historical Energy Features

There are two historical energy features recorded within 250 m of the site, both are recorded as Electricity Substation.

The first is located 121 m north of the site from 1956 to 1985, the second is located between 144 and 145 m west of the site, from 1967 to 1996.

Both of these predate the 1981 ban on PCB's. However, given the distances between the features and the site, and the generally impermeable geology beneath the site, the potential for PCB contamination at the site is considered to be very low.

Historical Petrol Stations

There are no records of historical petrol stations within 500 m.

Historical Garages

There one record of a historical garage within 500 m, the garage is recorded between 383 m and 386 m west of the site from 1956 to 1994.

Historical Military Land

There are no records of historical military land within 500 m.

Current or Recent Industrial Land Uses

There are two records of current industrial land uses within 500 m, both relate to Electricity Sub-Stations, recorded 129 m north and 156 m west of the site; these features are considered to be the same as those identified under the "Historical Energy Features" heading above.

Current or Recent Petrol Stations

There are no records of current or recent petrol stations within 500 m.

Electricity Cables

There are no records of high voltage (HV) underground electricity cables within 500 m.

Gas and / or Oil Pipelines

There are no records of medium or high-pressure underground gas supply pipelines within 500 m of the site.

Railway Infrastructure

There are no records of active railway infrastructure within 500 m. Historical tramway sidings are recorded between 192 m and 194 m northeast of the site from 1905 to 1907.

4.2 ENVIRONMENTAL PERMITS, INCIDENTS AND REGISTERS

These records are derived by Groundsure from local authority, Health and Safety Executive and Environment Agency data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report. Information from these sources referenced in this report have been predominantly limited to that identified within 250 m of the site, in order to focus on the information directly relevant to the site. Information from outside this radius will be referenced when deemed relevant.

Sites Determined as Contaminated Land

There are no records of sites determined as contaminated land under Part 2A of the Environmental Protection Act 1990 within 250 m.

Control of Major Accident Hazards (COMAH)

There are no records within 250 m of the site.

Regulated Explosive Sites

There are no records within 250 m of the site.

Planning Hazardous Substances Consents

There are no records within 250 m of the site.

Records of Historic IPC Licensed Activities

There are no records within 250 m of the site.

Records of Part A (1) Licensed Activities

There are no records within 250 m of the site.

Records of Part A (2)/B Licensed Activities and Pollutant Release

There are no records within 250 m of the site.

Records of Radioactive Substance Authorisations

There are no records within 250 m of the site.

Licensed Discharges to Controlled Waters

There are no records within 250 m of the site.

Pollutant release to Surface Waters (Red List)

There are no records within 250 m of the site.

Pollutant Release to Public Sewer

There are no records within 250 m of the site.

List 1 and List 2 Dangerous Substances

There are no records within 250 m of the site.

Substantiated Pollution Incidents

There are no records within 250 m of the site.

Pollution Inventory Substances

There are no records within 250 m of the site.

Pollution Inventory Waste transfers

There are no records within 250 m of the site.

Pollution Inventory Radioactive Waste

There are no records within 250 m of the site.

4.3 WASTE AND LANDFILL

These records are derived by Groundsure from Environment Agency, British Geological Survey, Ordnance Survey (interpreted by Groundsure) and local authority data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report.

Information from these sources referenced in this report have been predominantly limited to that identified within 500 m of the site (landfills) or 250 m of the site (non-landfill waste operations), in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Active or Recent Landfill

There are no records within 500 m of the site.

Historic Landfill

There are three recorded Historical Landfills within 500 m of the site, the closest record is located 280 m to the north of the site, named Top Tip, located off Whitehall Road. The record was first recorded on 31st December 1936, is recorded to have accepted industrial waste and is noted as being of no risk to the aquifer.

Non-Landfill Waste Records

There are also three historical non-landfill records within 500 m of the site, these records all relate to ground workings and refuse heaps, all of which were picked up from historical mapping and are dated 1933. The closest record is located 333 m north of the site, no further information is provided.

Waste exemptions are made available for certain specified activities considered to pose a low risk to the environment and allowable waste types and quantities are limited. There are five waste exemption records within 250 m of site, all relating to Branch Farm, located 138 m north of the site, for the use and disposal of agricultural waste only.

4.4 MINING, GROUND WORKINGS AND NATURAL CAVITIES

These records are derived by from British Geological Survey, Ordnance Survey (interpreted by Groundsure), Coal Authority, Peter Brett Associates, Johnson Poole and Bloomer, Cheshire Brine Subsidence Compensation Board, British Gypsum, Mining Searches UK, Kaolin and Ball Clay Association and local authority data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report.

Information from these sources referenced in this report have been predominantly limited to that identified within 250 m of the site, in order to focus on the information directly relevant to the site. Information from outside these radii will be referenced when deemed relevant.

Natural Cavities

There are no records within 250 m of the site.

Mining Cavities

There are no records within 250 m of the site.

BritPits Data (Surface and Underground Mineral Workings)

There are no records within 250 m of the site.

Historical Mineral Planning Areas

There are no records within 250 m of the site.

Surface Ground Workings

An unspecified disused pit is recorded 225 m to the south of the site on 1955 mapping.

Underground Workings

There are no records within 250 m of the site.

Non-Coal Mining

There are no records within 250 m of the site.

4.5 COAL MINING RISK ASSESSMENT

A Coal Authority Consultants Report (CACR) has been commissioned from the Coal Authority. This report is provided in **Appendix 6** and summarized below.

Underground Coal Mining

The CACR identifies four historically work seams within influencing distance of the site, as reported in Table 4.2, below.

Table 4.2: Historically Worked Seams

Colliery	Seam	Mineral	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	Whinmoor	Coal	51	Northeast	2.9	Southwest	61	1989
unnamed	Better Bed	Coal	123	North	2.4	Southeast	61	1908
unnamed	Black Bed	Coal	142	Beneath Property	2.9	Southwest	87	1878
unnamed	Better Bed	Coal	186	Beneath Property	2.4	Southeast	46	1887

Probable Unrecorded Shallow Workings

The CACR records that probable unrecorded shallow workings are present within influencing distance of the site.

Review of the CA online viewer indicates that this relates to the northern fault block on-site. The southern fault block is not located within an area of probable unrecorded shallow workings.

Development High Risk Area

Review of the CA online view indicates that the northern fault block on-site is located within a development high risk area. The southern fault block is not located within a development high risk area.

Surface Mining

The CACR records that there are no opencast mines recorded within 500 m of the site.

Mine Entries (shafts and adits)

The CACR records that there are no mine entries within 100 m of the site.

Coal Mining Geology

The CA do not record any faults, fissures or breaklines, though the BGS record a fault to be present in the south of the site.

The conjectured depth to the Linfit Lousey and Shertcliffe Coal seams beneath the site is calculated in Table 4.3, overleaf.

Table 4.3: Conjectured Seam Depth Beneath Site

Seam	Distance from Site (m)	Approximate Elevation at Outcrop (mAOD)	Assumed Dip*	Approximate Site Elevation (mAOD)	Conjectured Seam Depth Beneath Site (mbgl)
Linfit Lousey	235	156	2.4°	160	13.9
Shertcliffe	305	148	2.4°	160	24.8

*Based on the shallowest dip, as a worst-case test, listed in Table 4.2.

As the Linfit Lousey Coal seam has a maximum recorded thickness of 1.3 m on the BGS 1:50,000 scale geological map and the Shertcliffe Coal seam has a maximum recorded thickness of 0.8 m, both seams are considered to be beyond the influencing depth of the site, assuming that shallow bedrock (<3.0 mbgl) is present across the site, foundations for the proposed development don't extend beyond 1.5 mbgl and piled foundations are not used.

This is considered reasonable, as the residential properties historically constructed to the north of the site have been constructed over the same seams, located at a shallower depth and there is no record of subsidence within 50 m of the site.

As such, no intrusive investigation of the coal seam is recommended at this time.

Mine Gas Emissions

The CACR recorded that no mine gas is recorded within 500 m of the enquiry boundary.

Coal Mining Subsidence

The CA has not received a damage notice or claim for the subject property of any property within 50 m of the enquiry boundary since 31st October 1994.

Assessment of Site-Specific Coal Mining Risks

Table 4.4 below summarises the potential risks associated with coal mining legacy for the proposed development site, identified from the preceding information, as well as information from Sections 15 and 3.1.

Table 4.4: Coal Mining Risk Assessment

Coal Mining Issue	Present?		Risk Assessment
	Yes	No	
Underground coal mining (recorded at shallow depths)	X		The mining report identifies coal present under the site that has been worked. Given the depth to the recorded seams, sufficient thickness of competent cover is considered to be present, mitigating the risk from collapsed workings. **Low** risk.
Underground coal mining (probable at shallow depths)	X		The northern fault block of the site is recorded to be in an area of probable unrecorded shallow workings and a development high risk zone. Given the conjectured depths to the coal seams, they are considered to be beyond the influencing depth of the site. **Low** risk.
Surface Mining (opencast workings)		X	No opencast workings are recorded within 500 m of the site. **Low** risk.

Coal Mining Issue	Present?		Risk Assessment
	Yes	No	
Mine Entries (shafts and adits)		X	No mine entry records within 100m of the site boundary. **Low** risk.
Coal mining geology	X		Given the conjectured depths to the coal seams, they are considered to be beyond the influencing depth of the site. The fault present on-site may present a gas migration pathway, so ground gas monitoring should be undertaken. **Moderate** risk.
Mine Gas Emissions		X	No record of past mine gas emissions/problems in vicinity of site. **Low** risk.
Recorded coal mining surface hazard		X	No hazard identified on site. **Low** risk.

4.6 RADON

These records are derived by Groundsure from British Geological Survey and Public Health England data. Details of the source and coverage of specific records are provided in the Enviro + Geo Insight Report. Information from these sources referenced in this report have been predominantly limited to that identified on or within 50 m of the site.

The study site is not located within a Radon Affected Area, as less than 1% of properties are above the Radon Action Level. No radon protection measures are required.

4.7 BACKGROUND SOIL CHEMISTRY

Values estimated by BGS for background concentrations of six potentially harmful elements are provided as follows:

- Arsenic: 25-45 mg/kg.
- Lead: 100-200 mg/kg.
- Bioaccessible lead: 60-120 mg/kg.
- Cadmium: 1.8 mg/kg.
- Chromium: 60-90 mg/kg.
- Nickel: 15-30 mg/kg.

The values for arsenic are indicated to be locally elevated with respect to guideline values for a commercial end-use, none of the other elements are elevated with respect to the guideline values.

5. HISTORICAL MAPPING STUDY

5.1 HISTORICAL MAPPING

The object of this search was to report on the evidence of site history and redevelopment of the site and its environs from available County Series and Ordnance Survey Maps at scales ranging from 1:1,250 to 1:10,560 dating from 1854 to the present day, and aerial photography dating from 1999 to the recent past, as provided by Groundsure.

Information in the historical mapping study has been predominantly limited to that identified on the site or within 100m of the site, in order to focus on the information directly relevant to the site. Information from outside this radius will be referenced when deemed relevant.

Each map or photographs only represents a "snap-shot" of the site and its environs at the date of the survey. Changes that had occurred at other times may not have been recorded on the maps and could represent an unidentified hazard to the site.

The information reported might not represent all pertinent information that could be obtained. The interpretation of the maps and/or other data commented on in this report is subjective.

The Historical Ordnance Survey Maps were obtained from Groundsure and are available for review within **Appendix 5** and are summarised in Table 5.1 below.

Table 5.1: Historical Mapping Review

Date	Scale	On-Site	Offsite
1854	1:10,560	The site comprises an undeveloped plot of land.	Fields are present to the immediate north and east of the site, with footpaths passing through. Residential properties are present to the immediate west of the site. A road (Town Gate) is present to the immediate south of the site, with residential properties beyond.
1892	1:10,560	No significant change from 1854 map.	No significant change from 1854 map.
1893	1:2,500	No significant change from 1854 map.	A possible pond is located approximately 90 m north of the site.
1905	1:10,560	No significant change from 1893 map.	No significant change from 1893 map.
1907	1:2,500	No significant change from 1893 map.	No significant change from 1854 map.
1922	1:2,500	No significant change from 1893 map.	The possible pond is no longer shown.
1931-1932	1:10,560	No significant change from 1922 map.	Residential properties have been built to the immediate north of the site and approximately 90 m north of the site.
1933	1:2,500	No significant change from 1931-1932 map.	No significant change from 1931-1932 map.
1938	1:10,560	No significant change from 1931-1932 map.	No significant change from 1931-1932 map.
1948	1:10,560	No significant change from 1931-1932 map.	No significant change from 1931-1932 map.
1951-1955	1:10,560	No significant change from 1931-1932 map.	No significant change from 1931-1932 map.

Date	Scale	On-Site	Offsite
1956	1:1,250	No significant change from 1931-1932 map.	The building to the immediate north of the site has been demolished.
1957	1:2,500	No significant change from 1956 map.	No significant change from 1956 map.
1957-1960	1:1,250	No significant change from 1956 map.	No significant change from 1956 map.
1966-1967	1:10,560	No significant change from 1956 map.	No significant change from 1956 map.
1967	1:1,250	No significant change from 1956 map.	60% coverage. Residential properties have been built approximately 25 m northeast and 55 m southwest of the site. The properties to the immediate south of the site have been demolished. The outline of the house to the immediate west of the site has changed.
1969	1:2,500	No significant change from 1967 map.	No significant change from 1967 map.
1974-1975	1:10,000	No significant change from 1967 map.	No significant change from 1967 map.
1974-1979	1:1,250	No significant change from 1967 map.	A residential property has been built to the immediate north of the south. Residential properties have been built approximately 35 m south of the site.
1983-1985	1:10,000	No significant change from 1974-1979 map.	No significant change from 1974-1979 map.
1985-1900	1:1,250	No significant change from 1974-1979 map.	Residential properties have been built to the immediate south of the site.
1990	1:10,000	No significant change from 1985-1990 map.	No significant change from 1985-1990 map.
1992	1:1,250	No significant change from 1985-1990 map.	Residential properties built approximately 30 m north of the site.
1994	1:1,250	No significant change from 1992 map.	No significant change from 1992 map.
2001	1:10,000	No significant change from 1992 map.	No significant change from 1992 map.
2003	1:1,250	No significant change from 1992 map.	No significant change from 1992 map.
2010	1:10,000	No significant change from 1992 map.	No significant change from 1992 map.
2022	1:10,000	No significant change from 1992 map.	No significant change from 1992 map.

5.2 AERIAL PHOTOGRAPHY

1999 Aerial Photo

The site appears to comprise a residential garden with trees in the south. Residential properties are present to the north, west and south, and open fields present to the east.

2000 Aerial Photo

No change from 1999 aerial photograph.

2012 Aerial Photo

No change from 1999 aerial photograph.

2018 Aerial Photo

An extension appears to be being built on the property to the immediate west of the site. The site appears to have been stripped and may be being used to store buildings materials.

Recent Aerial Photograph

The residential property to the west has been extended and the site appears to have been reinstated as a residential garden.

The aerial photographs are included in the Groundsure Enviro + Geo Insight Report and are available for review within **Appendix 4**.

6. FRAMEWORK FOR ASSESSMENT OF CONTAMINATION

Environmental risks are assessed within the risk management framework established in Part IIA of the Environmental Protection Act (EPA) 1990 introduced by Section 57 of the Environment Act 1995 which provides a statutory definition of contaminated land. To fall within this definition it is necessary that, as a result of the condition of the land, substances may be present on or under the land such that:

(a) Significant harm is being caused or there is a significant possibility of such harm being caused.

or

(b) *Pollution of controlled water is being, or is likely to be, caused.*

Risk from contamination is assessed by consideration of possible linkages between contaminant sources and potential receptors which could be harmed or polluted.

The key aspect of the framework is the development of a Conceptual Site Model (CSM) which illustrates the spatial interaction between the potential sources and receptors on site.

The information presented in this report was collated and evaluated to develop an initial CSM to assess ground contamination issues at the site.

For a risk of pollution or environmental harm to occur as a result of ground contamination, ***all*** of the following elements must be present:

- A source, i.e., a substance that is capable of causing pollution or harm.
- A receptor, i.e., something which could be adversely affected by the contaminant.
- A pathway, i.e., a route by which the contaminant can reach the receptor.

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

Potential sources, pathways and receptors are identified in the sections below and the risks associated with possible pollutant linkages outlined.

6.1 SOURCES

On-Site Sources

The following possible on-site sources have been identified from the historical study:

- Made Ground associated with the historic demolition of the adjacent residential property, the construction of the new adjacent residential property and its recent extension.
- Underground coal mining.

Offsite Sources

The following off site sources have been identified from the historical study and the Enviro + Geo Insight data:

- Underground coal mining.

There are further entries present, but these are considered far enough from the site to pose no risk.

Contaminants

The following contaminants are potentially associated with the on-site sources:

- Heavy Metals and Metalloids
- Inorganics
- PAH
- TPH
- Asbestos
- Hazardous Ground Gases.

The following contaminants are potentially associated with the offsite sources.

- Hazardous Ground Gases.

6.2 PATHWAYS

For contaminants to reach potential receptors, there must be a viable **pathway** for the contaminant. Potential pathways that may affect the migration of contaminants are listed in Table 6.1, below.

Table 6.1: Pathways

Pathway	Medium	Properties
Direct Contact	Dust, solid and liquid phase	There may be direct contact with potential Made Ground across the site. There is a possibility of dust fumes being produced during earthworks in the construction phase. Dermal contact and ingestion of potentially contaminated soils during construction or operational phase of the site.
Leaching through Made Ground	Unsaturated flow	Potential for leaching and migration of potential contaminants along preferential flow paths in the ground.
Foundations and Underground Infrastructure and Obstructions	Preferential flow	Contaminants will flow the path of least resistance which can be gaps around foundations, services, and floor construction
Migration of Ground Gas and Radon	Gaseous flow	Migration along the inferred fault on-site is possible.

6.3 RECEPTORS

The site-specific **receptors** that could be potentially affected by the contamination hazards identified during this preliminary appraisal are summarised in Table 6.2, overleaf:

Table 6.2: Receptors

Category	Receptor	Properties
Humans	End users (such as residents and visitors)	Potential contact with contaminated soils is likely limited given the commercial end use planned. Potential contact with ground gas within enclosed buildings
	Construction workers	Reworking of contaminant impacted materials in underlying soil during construction works can expose workers to contamination.
Property	Materials and site structures	Foundations and site services may be damaged by potentially aggressive compounds present in soils.
Controlled Waters	Underlying bedrock Aquifer	The site is recorded as having a Secondary (A) Aquifer within the bedrock underlying the site.
Plant (species and uptake) and Wildlife	Various	Attributes will be influenced by factors such as relative quality, scale, rarity and substitutability; however, it is understood that the site is proposed to be hard surfaced.

7. QUALITATIVE RISK ASSESSMENT

Potential pollutant linkages are identified using the source-pathway-receptor framework detailed above. An assessment of the potential significance of each linkage is then made by consideration of the likely magnitude and mobility of the source, the sensitivity of the receptor and nature of the migration/exposure pathways.

This qualitative risk assessment has been undertaken in accordance with Annex 4 of the National House Building Council/Environment Agency/Chartered Institute of Environmental Health R&D publication 66, Guidance for the Safe Development of Housing on Land Affected by Contamination (NHBC/EA/CIEH, 2008) which updates and supersedes CIRIA C552: Contaminated Land Risk Assessment, A Guide to Good Practice (Rudland et al., 2001).

A summary of the risk assessment protocols, and subsequent risk assessment matrix is provided in **Appendix 7**.

An assessment of the likelihood of the risk being realised and the magnitude of potential risk is presented below to give an estimation of the significance of each potential pollutant linkage identified. Where it is considered that there is no credible linkage, this is indicated in the table. In accordance with the R&D66 guidance, if there is no pollution linkage then there is no need to apply tests for probability and consequence.

The assessment is undertaken based on the current proposals for the site, at the time of issuing this report, which would be classed as a generic end land use of 'residential with plant uptake. Any change in the development proposals for the site involving a change in end use class may result in a requirement for this assessment to be revised.

8. PRELIMINARY CONCEPTUAL SITE MODEL

Contaminant Source	Pathways	Receptor	Pollutant Linkage	Classification of Probability	Classification of Consequence	Level of Risk	Justification
On Site: Made Ground soils on site possibly containing elevated metals, other organics such as TPH, PAH or phenols.	Ingestion, dermal contact, inhalation of dusts/vapours	Future end users and site visitors	Considered inactive	-	-	Very Low Risk	Because no pollutant linkage has been identified, the risk is considered to be very low.
		Construction Workers	Considered potentially active	Low Likelihood	Mild	Low Risk	A low-risk rating has been assessed due to the previous construction / demolition works undertaken adjacent to the site and the site likely being used as a site compound. Construction workers are more likely to encountered potentially impacted soils that future users and visitors. The risk to construction workers can be mitigated through the use of appropriate PPE.
	Leaching through soils and migration via groundwater or soil pore moisture	Controlled Waters	Considered potentially active	Low Likelihood	Mild	Low Risk	A low-risk rating has been assessed due to the possible presence of potentially contaminative sources on site, the presence of a Secondary (A) Aquifer within the bedrock underlying the site and an inferred fault being recorded in the southwest of the site.
	Permeation of water pipes	Construction materials, future end users and site visitors	Considered potentially active	Low Likelihood	Mild	Low Risk	Hydrocarbons, especially aromatics are known to permeate plastic pipes. Provision of water supply pipes and connectors formed from proprietary “barrier pipe” materials (e.g. polyethylene-aluminium-polyethylene) may be required by the water supply company.
	Uptake	Plant and Wildlife	Considered inactive	-	-	Very Low Risk	Because no pollutant linkage has been identified, the risk is considered to be very low.

Contaminant Source	Pathways	Receptor	Pollutant Linkage	Classification of Probability	Classification of Consequence	Level of Risk	Justification
On Site: Asbestos at/near ground surface in Made Ground soils.	Inhalation of fibres in airborne dust	Future end users and site visitors	Considered inactive	Unlikely	Medium	Low Risk ●	A low-risk rating has been assessed assuming that any asbestos impacted soils encountered on-site are buried beneath a no-dig layer or removed from site.
		Construction Workers	Considered potentially active	Low Likelihood	Mild	Low Risk ●	A low-risk rating has been assessed due to the previous construction / demolition works undertaken adjacent to the site and the site likely being used as a site compound. Construction workers are more likely to encountered potentially impacted soils that future users and visitors. The risk to construction workers can be mitigated through the use of appropriate PPE.
On-site / Offsite: Ground Gases (CH_4, CO_2, CO, H_2S) from underground coal workings.	Gas migration and build up within buildings (explosion/ asphyxiation risk)	Future end users and building structures.	Considered potentially active	Low Likelihood	Mild	Low Risk ●	The lack of offsite generating sources would consider the risk from ground gas is very low. However, given the presence of recorded coal workings underlying the site and an inferred fault being present on-site, it is possible that ground gas may migrate along this pathway, hence the level of risk deemed to be low.

9. RECOMMENDATIONS

9.1 PROPOSED SITE INVESTIGATION

Based on the information obtained for the formation of this report it is recommended that a suitable combined Phase II environmental and geotechnical ground investigation is carried out at the site to establish the presence of any contamination at the site, to identify the ground conditions and provide details of their engineering properties in order to facilitate foundation design for the proposed development.

The intrusive investigation may reveal on-site sources of contamination that were not established by the Phase I Desk Study, thus requiring modification of the conceptual site model.

The proposed scope of investigation is outlined below.

Scope of Proposed Investigation

A service search should be completed prior to any investigation to determine the service locations.

The ground investigation should initially comprise the excavation of a trial trench to assess the presence of the inferred fault on-site and trial pits to assess the ground conditions on-site.

Additionally, in order to expedite the planning process and to ensure the site is at no risk from historical coal mining, a rotary borehole could be drilled to confirm the strata present and confirm the depth to the anticipated coal seams.

If the fault is not encountered within the trial trench and no significant thickness of made ground is encountered, then ground gas monitoring will not be required.

If ground gas monitoring is required, it is recommended that at least two window sampler boreholes are drilled to depths of between 3.0 and 5.0 mbgl, or refusal, then installed with monitoring standpipe. With six return gas and groundwater monitoring visits to be undertaken over a three month period in accordance with CIRIA C665.

All positions should be logged and samples removed in accordance with current protocol. In addition, groundwater conditions, if encountered, shall be logged and visual/olfactory observations noted.

We would recommend that the test locations be designed to provide a broad coverage of the site.

Testing Regime

The testing regime has been devised in accordance with BS10175:2017 Guidelines for the Code of Practice for Contaminated Land and CLR Report No. 4 Sampling Strategies. The objective at this stage of the report is to attempt to identify the extent of any possible contamination that may exist at the site by using intrusive soil sampling and testing techniques.

Laboratory Analysis

An appropriate and consistent analytical suite of contaminants should be applied to any soil samples retrieved from the site.

Based on the findings contained within this report, we would recommend that a comprehensive range of testing should be undertaken to comprise of heavy metals, metalloids, inorganics, speciated Total Petroleum Hydrocarbons (TPH CWG Aromatic/aliphatic split) and speciated Polycyclic Aromatic Hydrocarbons (PAH) including the more carcinogenic benzo(a)pyrene (BaP) and naphthalene, soil organic matter (SOM) content, pH and sulphates and Asbestos.

In addition, selected samples retrieved from the Made Ground, if encountered, will also be submitted for a screen to determine the presence, or otherwise, of Asbestos.

It should be noted that not all samples retrieved from the proposed investigative works will be laboratory analysed and a UKAS and MCERTS accredited laboratory testing organisation should carry out all analysis.

Guidance

The results from the proposed ground investigation shall be compared against standards, such as the revised LQM/CIEH S4UL criteria[3] where available.

Groundwater analysis, if encountered, would be compared against the Drinking Water Standards (DWS) or Environmental Quality Standards (EQS) for the United Kingdom (UK).

9.2 CONSULTEES

It is highly recommended that this report be forwarded to the relevant Local Authority Environmental Health and Planning Departments to seek their comments and subsequent approval, otherwise further works may be required.

9.3 FLOOD RISK ASSESSMENT

This report does not replace a full hydrogeological survey and specialist studies may need to be undertaken to ascertain the risks posed from flooding. Further details on site flood information can be found within the appendices.

9.4 INVASIVE PLANT SURVEY

The site reconnaissance visit undertaken herein, whilst reference to the possible presence of invasive plants such as Japanese Knotweed has not been made, this report should not be considered an Invasive Plant Survey and any concerns relating to the possible presence of such plants should be undertaken by an appropriately qualified surveyor.

9.5 ASBESTOS SURVEY

The site reconnaissance visit undertaken herein, whilst reference to the possible presence of Asbestos or Asbestos Containing Material (ACM) has not been made, this report should not be considered an Asbestos Survey and any concerns relating to the possible presence of ACM should be undertaken by an appropriately qualified surveyor.

[3] Nathanail et al. (2015) The LQM/CIEH S4ULs for Human Health Risk Assessment. Land Quality Press, 2015. Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3495

10. RELIANCE AND LIMITATIONS

This report has been prepared by GES with all reasonable skill, care and diligence. The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources, together with a site walkover inspection of the site.

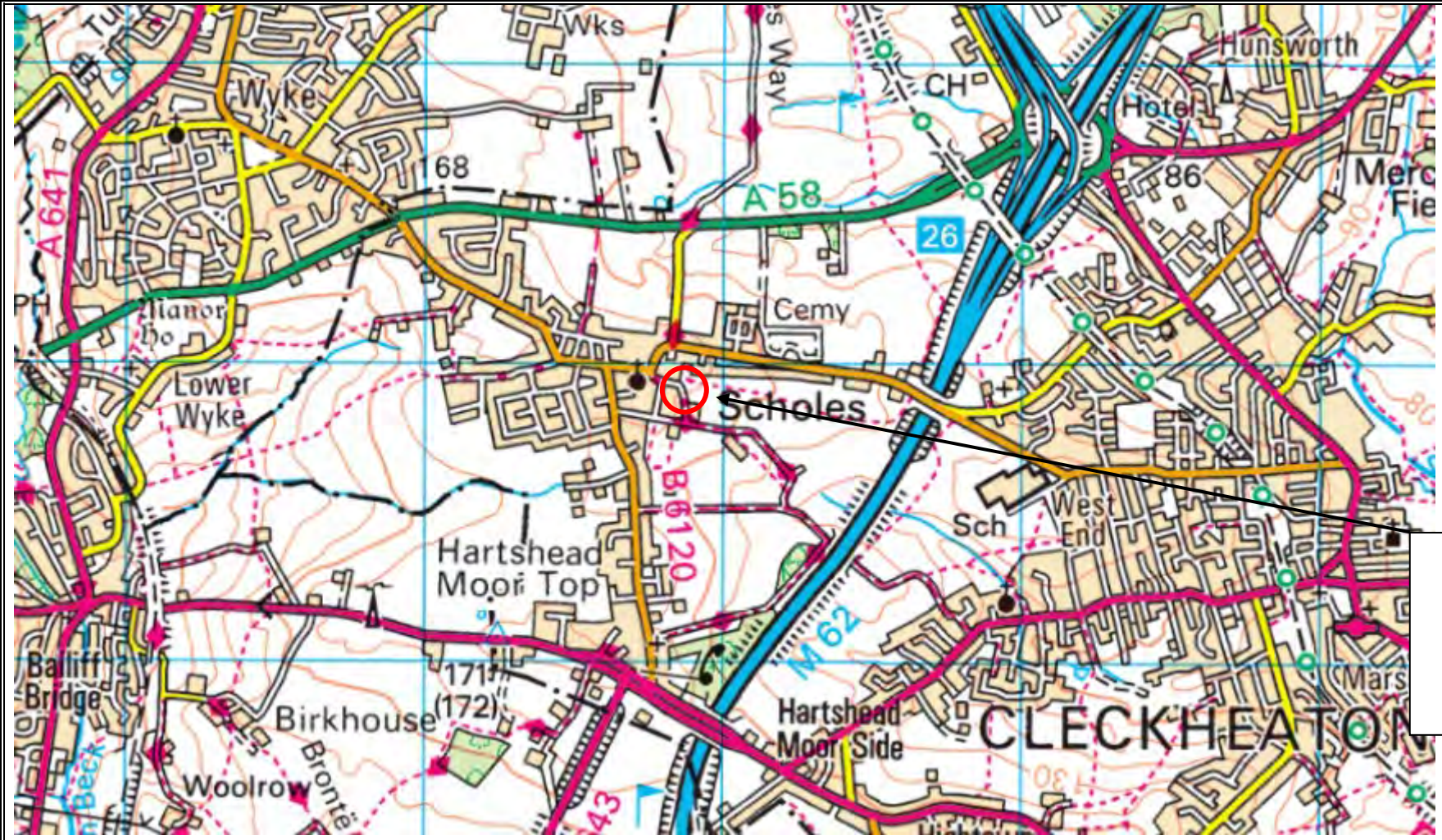
The opinions given in this report have been dictated by the finite data on which are they based and are relevant only to the purpose for which the report was commissioned.

Information reviewed should not be considered exhaustive and accepted in good faith as providing true and representative data with respect to site conditions. Should additional information become available which may influence the opinion expressed in this report, GES reserves the right to review such information and, if warranted, to alter the opinions accordingly.

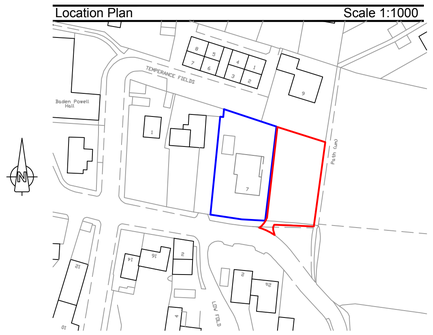
It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site. This is an environmental Phase 1 report and does not consider the geotechnical implications for the site, its redevelopment and proposed future use. Further advice should be sought on geotechnical investigation requirements for the proposed development.

APPENDIX 1

DRAWINGS AND PLANS



GEOENVIRO SOLUTIONS LIMITED	GeoEnviro Solutions Ltd Unit 7 Springvale Works Brighouse West Yorkshire HD6 2RA Tel: 01484 986010 Email: info@geoenvirosolutions.com Web: www.geoenvirosoltions.com N	**PROJECT NAME** Land Adjacent to No. 7, Town Gate, Scholes **PROJECT NUMBER** 2371-22	**DRAWING NO.** 2371-22/01	**SCALE** N.T.S
		TITLE Site Location Plan	**DATE** June 2022	**DRAWN BY** RC



KEY TO PLAN

New Trees Mixed Groups

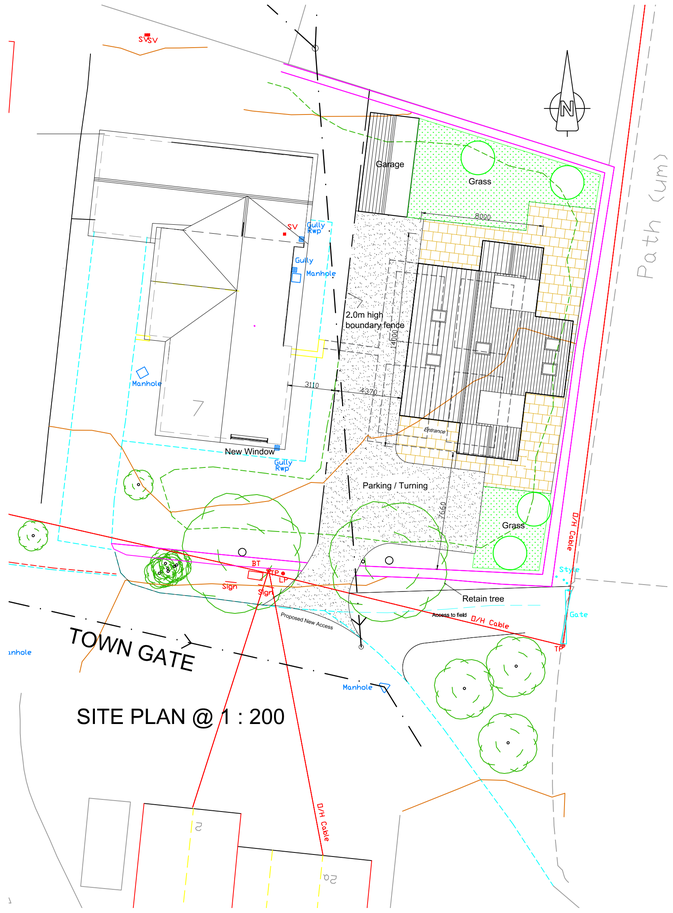
Tree planting to comprise heavy standards as per BS 3936 nursery stock with 120 - 140mm dia girths - To The following species

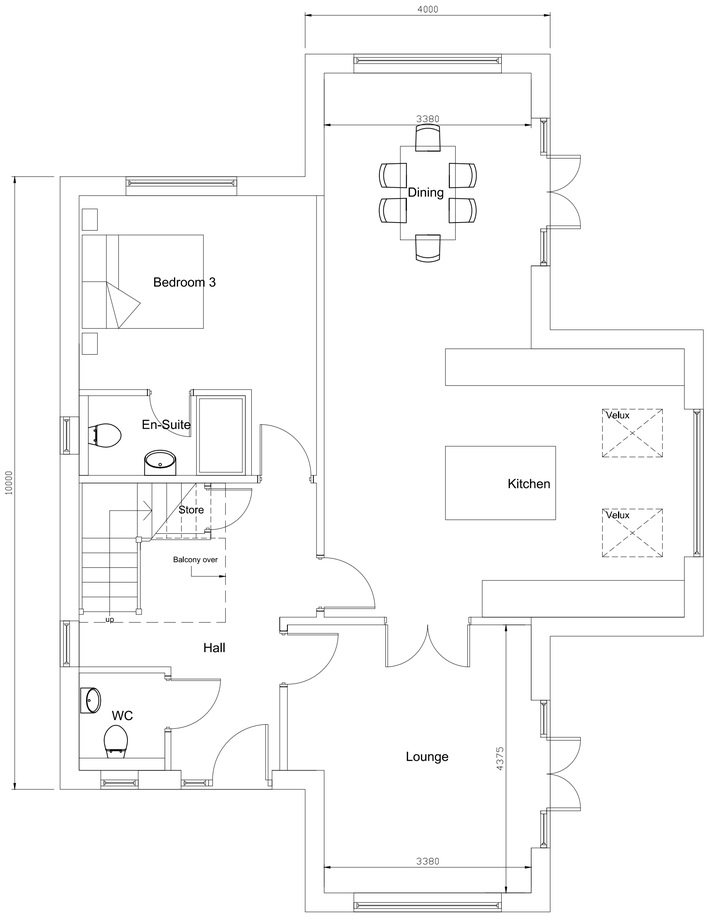
Trees

Grass

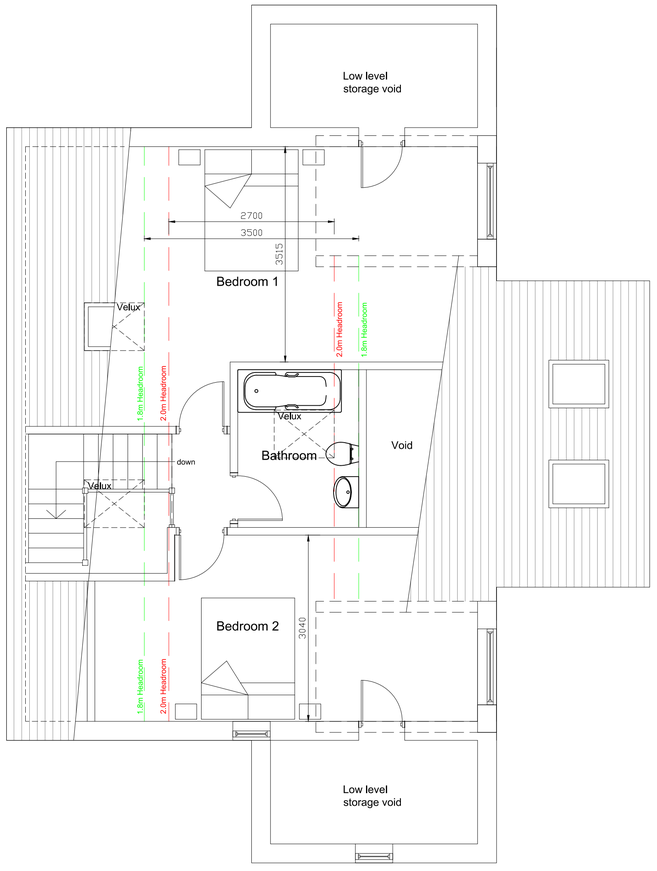
Tarmac

Marshalls Saxon Paving





GROUND FLOOR PLAN



FIRST FLOOR PLAN

B WINDOW ADDED TO FF STORAGE VOID 03/09/20

A PLANNING REVISIONS 29/07/20

Revisions

MICHAEL DENTON ASSOCIATES

Chartered Building Surveyors

Architectural Consultants, Civil & Structural Engineers
Project Managers & Town Planning Consultants

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e-mail: mda@md-associates.co.uk

PROJECT	PROPOSED DETATCHED DWELLING
LOCATION	LAND ADJACENT TO FIELDHEAD 7 TOWN GATE SCHOLES BD19 6ET
CLIENT	Mr D. BLACKBURN
TITLE	SCHEME PROPOSAL - (Reserved Matters) Floor Plans

SCALE	DATE	DRAWN
1 : 50@A1 1 : 100@A3	March 2020	GR

DRAWING No.	Revision
16:10:6969:100	B

APPENDIX 2

CORRESPONDENCE

From: Withinfields Garage
To: Rob@geoenvirosolutions.com
Subject: Re: Garden survey
Date: 25 May 2022 08:49:19

Hi Rob

The architect has sent me this

"Hi Dean

The Risk assessment is a generic statemen for planning validation

The Geotech consultants should carry out their own desk top study

to determine what further intrusive investigation will be necessary"

Cheers, Dean

On Wed, 25 May 2022, 08:31 Withinfields Garage, <withinfields@googlemail.com> wrote:

> Hi Rob.
> I've emailed the architect but not heard back yet, but I've found this file which is included in the original outline application , under 'supporting documents , general'
>
> Is this the correct one?
>
> Cheers,Dean.

APPENDIX 3

SITE PHOTOGRAPHS

Site: Land Adjacent to No. 7, Towngate, Scholes
Client: Mr. D. Blackburn
Job Reference: GES 2371-22, Dated: June 2022

GEOENVIRO
SOLUTIONS LIMITED

A.

B.

C.

D.

A. **Facing north, view of site access.**

B. **Facing northeast, view of central site area.**

C. **Facing south, view of eastern site boundary.**

D. **Facing north, view of southern site boundary from Town Gate.**

APPENDIX 4

GROUNDSURE ENVIRO+GEO INSIGHT REPORT

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo
Insight

7 FIELDHEAD, TOWN GATE, SCHOLES, CLECKHEATON, BD19 6ET

Order Details

Date: 01/06/2022

Your ref: GES_2371-22

Our Ref: GS-8794665

Site Details

Location: 416864 425912

Area: 0.05 ha

Authority: Kirklees Council

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	Historical industrial land uses	0	0	11	69	-
18	1.2	Historical tanks	0	0	0	4	-
18	1.3	Historical energy features	0	0	2	7	-
19	1.4	Historical petrol stations	0	0	0	0	-
19	1.5	Historical garages	0	0	0	3	-
20	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
21	2.1	Historical industrial land uses	0	0	16	98	-
26	2.2	Historical tanks	0	0	0	7	-
26	2.3	Historical energy features	0	0	9	19	-
27	2.4	Historical petrol stations	0	0	0	0	-
28	2.5	Historical garages	0	0	0	4	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
29	3.1	Active or recent landfill	0	0	0	0	-
29	3.2	Historical landfill (BGS records)	0	0	0	1	-
30	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
30	3.4	Historical landfill (EA/NRW records)	0	0	0	2	-
31	3.5	Historical waste sites	0	0	0	3	-
31	3.6	Licensed waste sites	0	0	0	0	-
31	3.7	Waste exemptions	0	0	5	0	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
33	4.1	Recent industrial land uses	0	0	2	-	-
34	4.2	Current or recent petrol stations	0	0	0	0	-
34	4.3	Electricity cables	0	0	0	0	-
34	4.4	Gas pipelines	0	0	0	0	-
34	4.5	Sites determined as Contaminated Land	0	0	0	0	-

34	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
35	4.7	Regulated explosive sites	0	0	0	0	-
35	4.8	Hazardous substance storage/usage	0	0	0	0	-
35	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
35	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
35	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	0	0	2	-
36	4.12	Radioactive Substance Authorisations	0	0	0	0	-
36	**4.13**	**Licensed Discharges to controlled waters**	0	0	0	1	-
36	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
37	4.15	Pollutant release to public sewer	0	0	0	0	-
37	4.16	List 1 Dangerous Substances	0	0	0	0	-
37	4.17	List 2 Dangerous Substances	0	0	0	0	-
37	**4.18**	**Pollution Incidents (EA/NRW)**	0	0	0	2	-
38	4.19	Pollution inventory substances	0	0	0	0	-
38	4.20	Pollution inventory waste transfers	0	0	0	0	-
38	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
39	5.1	Superficial aquifer	None (within 500m)				
40	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
41	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
42	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
42	5.5	Groundwater vulnerability- local information	None (within 0m)				
43	**5.6**	**Groundwater abstractions**	0	0	0	0	8
45	**5.7**	**Surface water abstractions**	0	0	0	0	1
46	5.8	Potable abstractions	0	0	0	0	0
46	5.9	Source Protection Zones	0	0	0	0	-
46	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
47	6.1	Water Network (OS MasterMap)	0	0	0	-	-

47	6.2	Surface water features	0	0	0	-	-
48	**6.3**	**WFD Surface water body catchments**	1	-	-	-	-
48	**6.4**	**WFD Surface water bodies**	0	0	0	-	-
49	**6.5**	**WFD Groundwater bodies**	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
50	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
50	7.2	Historical Flood Events	0	0	0	-	-
50	7.3	Flood Defences	0	0	0	-	-
51	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
51	7.5	Flood Storage Areas	0	0	0	-	-
52	7.6	Flood Zone 2	None (within 50m)				
52	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
53	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding					
54	**9.1**	**Groundwater flooding**	Negligible (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
55	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
56	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
56	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
56	10.4	Special Protection Areas (SPA)	0	0	0	0	0
56	10.5	National Nature Reserves (NNR)	0	0	0	0	0
57	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
57	**10.7**	**Designated Ancient Woodland**	0	0	0	0	2
57	10.8	Biosphere Reserves	0	0	0	0	0
57	10.9	Forest Parks	0	0	0	0	0
58	10.10	Marine Conservation Zones	0	0	0	0	0
58	**10.11**	**Green Belt**	0	1	0	0	3
58	10.12	Proposed Ramsar sites	0	0	0	0	0

58	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
59	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
59	10.15	Nitrate Sensitive Areas	0	0	0	0	0
59	**10.16**	**Nitrate Vulnerable Zones**	1	0	1	0	0
60	10.17	SSSI Impact Risk Zones	0	-	-	-	-
60	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
61	11.1	World Heritage Sites	0	0	0	-	-
62	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
62	11.3	National Parks	0	0	0	-	-
62	**11.4**	**Listed Buildings**	0	0	3	-	-
63	**11.5**	**Conservation Areas**	0	1	0	-	-
63	11.6	Scheduled Ancient Monuments	0	0	0	-	-
63	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
64	**12.1**	**Agricultural Land Classification**	Grade 3b (within 250m)				
65	12.2	Open Access Land	0	0	0	-	-
65	12.3	Tree Felling Licences	0	0	0	-	-
65	12.4	Environmental Stewardship Schemes	0	0	0	-	-
66	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
67	**13.1**	**Priority Habitat Inventory**	0	0	1	-	-
68	13.2	Habitat Networks	0	0	0	-	-
68	13.3	Open Mosaic Habitat	0	0	0	-	-
68	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
69	**14.1**	**10k Availability**	Identified (within 500m)				
70	**14.2**	**Artificial and made ground (10k)**	0	0	0	7	-
72	14.3	Superficial geology (10k)	0	0	0	0	-

72	14.4	Landslip (10k)	0	0	0	0	-
73	14.5	Bedrock geology (10k)	3	0	11	9	-
75	14.6	Bedrock faults and other linear features (10k)	1	0	5	10	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
76	15.1	50k Availability	Identified (within 500m)				
77	15.2	Artificial and made ground (50k)	0	0	0	4	-
78	15.3	Artificial ground permeability (50k)	0	0	-	-	-
79	15.4	Superficial geology (50k)	0	0	0	0	-
79	15.5	Superficial permeability (50k)	None (within 50m)				
79	15.6	Landslip (50k)	0	0	0	0	-
79	15.7	Landslip permeability (50k)	None (within 50m)				
80	15.8	Bedrock geology (50k)	3	0	11	9	-
82	15.9	Bedrock permeability (50k)	Identified (within 50m)				
82	15.10	Bedrock faults and other linear features (50k)	1	0	5	8	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
84	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence					
85	17.1	Shrink swell clays	Very low (within 50m)				
86	17.2	Running sands	Negligible (within 50m)				
87	17.3	Compressible deposits	Negligible (within 50m)				
88	17.4	Collapsible deposits	Very low (within 50m)				
89	17.5	Landslides	Very low (within 50m)				
90	17.6	Ground dissolution of soluble rocks	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
91	18.1	Natural cavities	0	0	0	0	-
92	18.2	BritPits	0	0	0	4	-
93	18.3	Surface ground workings	0	0	1	-	-
93	18.4	Underground workings	0	0	0	14	8
94	18.5	Historical Mineral Planning Areas	0	0	0	0	-

94	**18.6**	**Non-coal mining**	0	0	0	2	1
95	18.7	Mining cavities	0	0	0	0	0
95	18.8	JPB mining areas	None (within 0m)				
95	**18.9**	**Coal mining**	Identified (within 0m)				
96	18.10	Brine areas	None (within 0m)				
96	18.11	Gypsum areas	None (within 0m)				
96	18.12	Tin mining	None (within 0m)				
96	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
97	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
98	**20.1**	**BGS Estimated Background Soil Chemistry**	3	0	-	-	-
98	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
98	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
99	21.1	Underground railways (London)	0	0	0	-	-
99	21.2	Underground railways (Non-London)	0	0	0	-	-
100	21.3	Railway tunnels	0	0	0	-	-
100	**21.4**	**Historical railway and tunnel features**	0	0	2	-	-
100	21.5	Royal Mail tunnels	0	0	0	-	-
100	21.6	Historical railways	0	0	0	-	-
101	21.7	Railways	0	0	0	-	-
101	21.8	Crossrail 1	0	0	0	0	-
101	21.9	Crossrail 2	0	0	0	0	-
101	21.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 30/05/2021

Site Area: 0.05ha

Recent site history - 2018 aerial photograph

Capture Date: 02/07/2018

Site Area: 0.05ha

Recent site history - 2012 aerial photograph

Capture Date: 26/03/2012

Site Area: 0.05ha

Recent site history - 2000 aerial photograph

Capture Date: 05/08/2000

Site Area: 0.05ha

Recent site history - 1999 aerial photograph

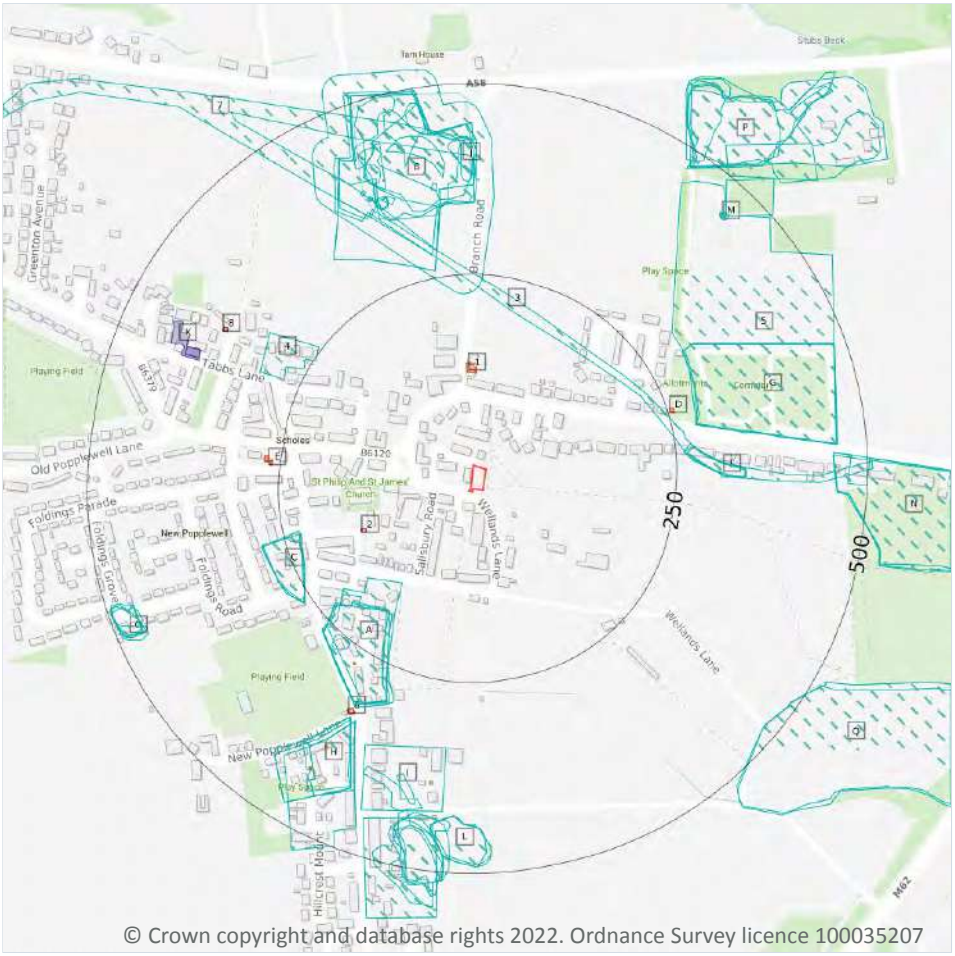
Capture Date: 04/09/1999

Site Area: 0.05ha

OS MasterMap site plan

Site Area: 0.05ha

1 Past land use



1.1 Historical industrial land uses

Records within 500m	80

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

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

ID	Location	Land use	Dates present	Group ID
A	149m SW	Unspecified Mills	1967 - 1990	1498040

ID	Location	Land use	Dates present	Group ID
A	189m SW	Unspecified Mills	1948	1499556
A	189m SW	Unspecified Mills	1892 - 1905	1508163
A	189m SW	Unspecified Mills	1955	1493259
A	190m SW	Unspecified Mills	1938	1515138
3	194m NE	Tramway Sidings	1905	1525798
B	225m N	Unspecified Disused Pit	1955	1512650
C	228m W	Unspecified Disused Mill	1948	1520298
C	229m W	Unspecified Disused Mill	1955	1528029
C	232m W	Unspecified Disused Mill	1938	1549997
4	247m NW	Nurseries	1967 - 1974	1481279
A	253m SW	Unspecified Pit	1892	1451996
B	259m N	Unspecified Disused Pit	1948	1501961
B	259m N	Unspecified Pit	1892 - 1905	1554754
F	261m E	Cuttings	1955	1538748
F	261m E	Cuttings	1938	1488143
F	264m E	Cuttings	1948	1473775
B	280m N	Unspecified Disused Pit	1938	1478582
G	281m E	Cemetery	1955 - 1990	1511592
5	282m E	Cemetery	1905	1507919
G	282m E	Cemetery	1938 - 1948	1552040
B	284m N	Unspecified Disused Pit	1967	1508578
B	331m N	Refuse Heap	1892	1436741
B	333m N	Refuse Heaps	1905	1524036
H	335m SW	Unspecified Mills	1938	1490661
H	336m SW	Unspecified Mills	1948 - 1955	1459287
H	337m SW	Unspecified Mill	1983 - 1990	1508223
H	337m SW	Unspecified Mills	1967	1513703
H	337m SW	Unspecified Mill	1974	1548185

ID	Location	Land use	Dates present	Group ID
I	337m S	Brick Works	1892 - 1905	1539326
H	338m SW	Unspecified Mills	1892 - 1905	1532788
B	339m N	Refuse Heaps	1955	1550162
B	342m N	Unspecified Disused Pit	1974	1513789
7	351m N	Tramway Sidings	1892	1535493
B	355m N	Old Air Shaft	1938	1418358
B	357m N	Unspecified Heap	1955	1415227
B	358m N	Unspecified Disused Shafts	1967	1448136
B	362m N	Unspecified Old Shaft	1955	1417961
B	371m N	Unspecified Old Shafts	1948	1408843
B	371m N	Old Air Shaft	1955	1418357
J	372m N	Unspecified Heap	1905	1540522
B	379m N	Unspecified Heap	1967	1415229
B	380m N	Refuse Heap	1967 - 1974	1534696
I	381m S	Railway Sidings	1905	1409363
B	381m N	Unspecified Old Shafts	1938 - 1948	1518078
J	381m N	Unspecified Heap	1967	1493984
I	385m S	Unspecified Ground Workings	1892 - 1905	1542022
L	425m S	Clay Pit	1905	1436260
L	425m S	Unspecified Pit	1938 - 1948	1461041
L	425m S	Gravel Pit	1948	1418810
L	427m S	Unspecified Heap	1967 - 1974	1539205
L	427m S	Unspecified Pit	1955	1508170
L	430m S	Unspecified Pit	1892	1501740
L	433m S	Refuse Heap	1905	1523799
L	438m S	Refuse Heap	1955	1492235
B	440m N	Unspecified Heap	1948 - 1955	1491655
L	444m S	Refuse Heaps	1892	1419343

ID	Location	Land use	Dates present	Group ID
L	448m S	Refuse Heap	1938	1538112
M	450m NE	Disused Air Shaft	1974 - 1990	1459725
M	452m NE	Old Air Shaft	1938	1468479
M	453m NE	Unspecified Shaft	1905	1425075
M	453m NE	Old Air Shaft	1948 - 1955	1511088
N	455m E	Disused Colliery	1938	1509222
N	456m E	Disused Colliery	1948	1474975
N	456m E	Disused Colliery	1955	1463622
M	458m NE	Small Pox Hospital	1905	1428147
O	458m SW	Unspecified Pit	1905	1529649
O	460m SW	Unspecified Quarry	1892	1426720
O	460m W	Unspecified Pit	1948	1492945
O	464m W	Unspecified Pit	1955	1468728
O	466m W	Unspecified Pit	1938	1554619
P	474m NE	Refuse Heap	1938	1494177
P	478m NE	Nursery	1990	1439967
P	478m NE	Refuse Heaps	1955	1501923
P	479m NE	Refuse Heap	1948	1523985
Q	481m SE	Disused Sewage Works	1955	1420616
Q	481m SE	Sewage Works	1938	1518289
P	484m NE	Refuse Heap	1905	1523091
P	499m NE	Unspecified Heap	1967 - 1974	1536059
P	499m NE	Tramway Sidings	1892	1430818

This data is sourced from Ordnance Survey / Groundsure.

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

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

ID	Location	Land use	Dates present	Group ID
A	270m SW	Unspecified Tank	1893 - 1907	235041
H	382m SW	Unspecified Tank	1893	224164
I	383m S	Unspecified Tank	1893	224163
H	417m SW	Unspecified Tank	1987 - 1996	239883

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	9

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 14**

ID	Location	Land use	Dates present	Group ID
1	121m N	Electricity Substation	1956 - 1985	135059
2	144m W	Electricity Substation	1967 - 1996	144444
D	253m E	Electricity Substation	1990	129291
D	253m E	Electricity Substation	1974	132264
D	253m E	Electricity Substation	1992	132393
E	260m W	Electricity Substation	1967 - 1979	136422
E	266m W	Electricity Substation	1987 - 1996	134873

ID	Location	Land use	Dates present	Group ID
6	323m SW	Electricity Substation	1956 - 1996	140808
8	367m NW	Gas Substation	1956	134831

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	**3**

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

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

ID	Location	Land use	Dates present	Group ID
K	383m W	Garage	1956	42885
K	386m W	Garage	1994	45615
K	386m W	Garage	1956	41951

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

Historical garages

2.1 Historical industrial land uses

Records within 500m	114

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

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

ID	Location	Land Use	Date	Group ID
C	149m SW	Unspecified Mills	1990	1498040
C	149m SW	Unspecified Mills	1983	1498040
C	149m SW	Unspecified Mills	1974	1498040

ID	Location	Land Use	Date	Group ID
C	149m SW	Unspecified Mills	1967	1498040
C	189m SW	Unspecified Mills	1948	1499556
C	189m SW	Unspecified Mills	1905	1508163
C	189m SW	Unspecified Mills	1955	1493259
C	190m SW	Unspecified Mills	1938	1515138
C	191m SW	Unspecified Mills	1892	1508163
1	194m NE	Tramway Sidings	1905	1525798
D	225m N	Unspecified Disused Pit	1955	1512650
E	228m W	Unspecified Disused Mill	1948	1520298
E	229m W	Unspecified Disused Mill	1955	1528029
E	232m W	Unspecified Disused Mill	1938	1549997
F	247m NW	Nurseries	1974	1481279
F	247m NW	Nurseries	1967	1481279
C	253m SW	Unspecified Pit	1892	1451996
D	259m N	Unspecified Disused Pit	1948	1501961
D	259m N	Unspecified Pit	1905	1554754
D	259m N	Unspecified Pit	1892	1554754
I	261m E	Cuttings	1955	1538748
I	261m E	Cuttings	1938	1488143
I	264m E	Cuttings	1948	1473775
D	280m N	Unspecified Disused Pit	1938	1478582
D	280m N	Unspecified Disused Pit	1938	1478582
J	281m E	Cemetery	1955	1511592
J	281m E	Cemetery	1990	1511592
J	281m E	Cemetery	1983	1511592
J	281m E	Cemetery	1974	1511592
J	281m E	Cemetery	1967	1511592
2	282m E	Cemetery	1905	1507919

ID	Location	Land Use	Date	Group ID
J	282m E	Cemetery	1948	1552040
J	283m E	Cemetery	1938	1552040
D	284m N	Unspecified Disused Pit	1967	1508578
D	331m N	Refuse Heap	1892	1436741
D	333m N	Refuse Heaps	1905	1524036
L	335m SW	Unspecified Mills	1938	1490661
L	336m SW	Unspecified Mills	1955	1459287
L	337m SW	Unspecified Mill	1990	1508223
L	337m SW	Unspecified Mill	1983	1508223
L	337m SW	Unspecified Mill	1974	1548185
L	337m SW	Unspecified Mills	1967	1513703
M	337m S	Brick Works	1905	1539326
M	337m S	Brick Works	1892	1539326
L	338m SW	Unspecified Mills	1948	1459287
L	338m SW	Unspecified Mills	1905	1532788
L	338m SW	Unspecified Mills	1892	1532788
D	339m N	Refuse Heaps	1955	1550162
D	342m N	Unspecified Disused Pit	1974	1513789
3	351m N	Tramway Sidings	1892	1535493
D	355m N	Old Air Shaft	1938	1418358
D	357m N	Unspecified Heap	1955	1415227
D	358m N	Unspecified Disused Shafts	1967	1448136
D	362m N	Unspecified Old Shaft	1955	1417961
D	371m N	Old Air Shaft	1955	1418357
D	371m N	Unspecified Old Shafts	1948	1408843
O	372m N	Unspecified Heap	1905	1540522
D	379m N	Unspecified Heap	1967	1415229
D	380m N	Refuse Heap	1974	1534696

ID	Location	Land Use	Date	Group ID
D	380m N	Refuse Heap	1967	1534696
M	381m S	Railway Sidings	1905	1409363
D	381m N	Unspecified Old Shafts	1938	1518078
D	381m N	Unspecified Old Shafts	1938	1518078
O	381m N	Unspecified Heap	1967	1493984
D	382m N	Unspecified Old Shafts	1948	1518078
M	385m S	Unspecified Ground Workings	1905	1542022
M	385m S	Unspecified Ground Workings	1892	1542022
Q	425m S	Clay Pit	1905	1436260
Q	425m S	Unspecified Pit	1948	1461041
Q	425m S	Gravel Pit	1948	1418810
Q	427m S	Unspecified Heap	1974	1539205
Q	427m S	Unspecified Heap	1967	1539205
Q	427m S	Unspecified Pit	1955	1508170
Q	429m S	Unspecified Pit	1938	1461041
Q	429m S	Unspecified Pit	1938	1461041
Q	430m S	Unspecified Pit	1892	1501740
Q	432m S	Unspecified Pit	1892	1501740
Q	433m S	Refuse Heap	1905	1523799
Q	438m S	Refuse Heap	1955	1492235
D	440m N	Unspecified Heap	1948	1491655
D	443m N	Unspecified Heap	1955	1491655
Q	444m S	Refuse Heaps	1892	1419343
Q	448m S	Refuse Heap	1938	1538112
Q	448m S	Refuse Heap	1938	1538112
R	450m NE	Disused Air Shaft	1990	1459725
R	450m NE	Disused Air Shaft	1983	1459725
R	450m NE	Disused Air Shaft	1974	1459725

ID	Location	Land Use	Date	Group ID
R	452m NE	Old Air Shaft	1938	1468479
R	453m NE	Old Air Shaft	1948	1511088
R	453m NE	Unspecified Shaft	1905	1425075
R	453m NE	Old Air Shaft	1955	1511088
S	455m E	Disused Colliery	1938	1509222
S	455m E	Disused Colliery	1938	1509222
S	456m E	Disused Colliery	1948	1474975
S	456m E	Disused Colliery	1955	1463622
R	458m NE	Small Pox Hospital	1905	1428147
T	458m SW	Unspecified Pit	1905	1529649
T	460m SW	Unspecified Quarry	1892	1426720
T	460m W	Unspecified Pit	1948	1492945
T	464m W	Unspecified Pit	1955	1468728
T	466m W	Unspecified Pit	1938	1554619
T	466m W	Unspecified Pit	1938	1554619
U	474m NE	Refuse Heap	1938	1494177
U	474m NE	Refuse Heap	1938	1494177
U	478m NE	Nursery	1990	1439967
U	478m NE	Refuse Heaps	1955	1501923
U	479m NE	Refuse Heap	1948	1523985
V	481m SE	Disused Sewage Works	1955	1420616
V	481m SE	Sewage Works	1938	1518289
V	481m SE	Sewage Works	1938	1518289
U	484m NE	Refuse Heap	1905	1523091
U	499m NE	Unspecified Heap	1974	1536059
U	499m NE	Unspecified Heap	1967	1536059
U	499m NE	Tramway Sidings	1892	1430818

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	7

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

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

ID	Location	Land Use	Date	Group ID
C	270m SW	Unspecified Tank	1893	235041
C	270m SW	Unspecified Tank	1907	235041
L	382m SW	Unspecified Tank	1893	224164
M	383m S	Unspecified Tank	1893	224163
L	417m SW	Unspecified Tank	1996	239883
L	417m SW	Unspecified Tank	1994	239883
L	418m SW	Unspecified Tank	1987	239883

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	28

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

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

ID	Location	Land Use	Date	Group ID
A	121m N	Electricity Substation	1956	135059
A	121m N	Electricity Substation	1956	135059
A	121m N	Electricity Substation	1985	135059
B	144m W	Electricity Substation	1967	144444
B	144m W	Electricity Substation	1996	144444
B	144m W	Electricity Substation	1994	144444
B	144m W	Electricity Substation	1967	144444

ID	Location	Land Use	Date	Group ID
B	145m W	Electricity Substation	1979	144444
B	145m W	Electricity Substation	1987	144444
G	253m E	Electricity Substation	1990	129291
G	253m E	Electricity Substation	1974	132264
G	253m E	Electricity Substation	1992	132393
H	260m W	Electricity Substation	1967	136422
H	260m W	Electricity Substation	1979	136422
H	260m W	Electricity Substation	1967	136422
H	266m W	Electricity Substation	1996	134873
H	266m W	Electricity Substation	1994	134873
H	266m W	Electricity Substation	1987	134873
K	323m SW	Electricity Substation	1956	140808
K	323m SW	Electricity Substation	1967	140808
K	323m SW	Electricity Substation	1956	140808
K	323m SW	Electricity Substation	1967	140808
K	324m SW	Electricity Substation	1996	140808
K	324m SW	Electricity Substation	1994	140808
K	324m SW	Electricity Substation	1979	140808
K	324m SW	Electricity Substation	1987	140808
N	367m NW	Gas Substation	1956	134831
N	367m NW	Gas Substation	1956	134831

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	**4**

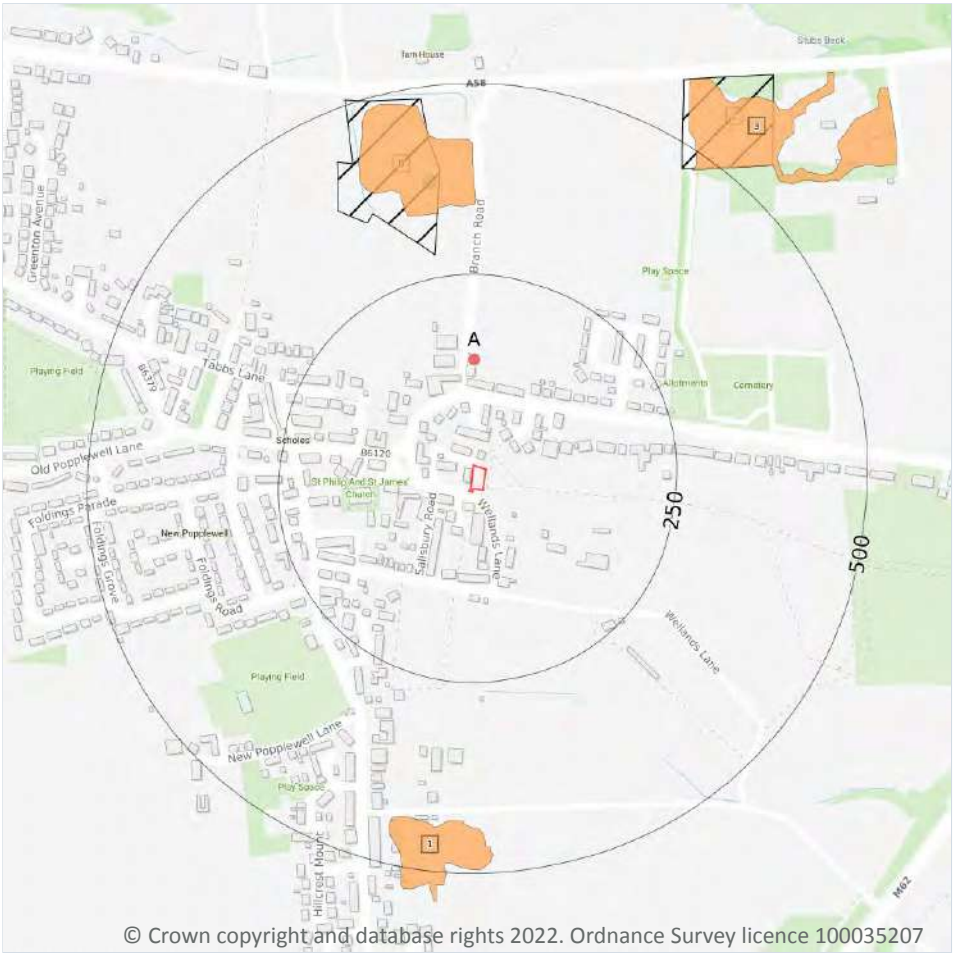
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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

ID	Location	Land Use	Date	Group ID
P	383m W	Garage	1956	42885
P	386m W	Garage	1994	45615
P	386m W	Garage	1994	45615
P	386m W	Garage	1956	41951

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Historical landfill (BGS)

Historical waste sites

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	1

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.

Features are displayed on the Waste and landfill map on **page 29**

ID	Location	Address	BGS Number	Risk	Waste Type
B	375m N	Top Tip, Whitehall Rd, Wyke nr Bradford	1099	No risk to aquifer	N/A

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	**2**

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

Features are displayed on the Waste and landfill map on **page 29**

ID	Location	Details		
B	280m N	Site Address: Top Tip, Whitehall Road, Wyke, Near Bradford, West Yorkshire Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Midland Yorkshire Tar Distillers Limited Licence Holder: - First Recorded 31/12/1936 Last Recorded: -
2	470m NE	Site Address: Low Tip, Whitehall Road, Wyke, Near Bradford, West Yorkshire Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: Industrial, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Midland Yorkshire Tar Distillers Limited Licence Holder: - First Recorded 31/12/1927 Last Recorded: -

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

3.5 Historical waste sites

Records within 500m	3

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

Features are displayed on the Waste and landfill map on **page 29**

ID	Location	Address	Further Details	Date
B	333m N	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1933
1	431m S	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1933
3	476m NE	Site Address: N/A	Type of Site: Ground Workings and Refuse Heap Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1933

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	5

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 29**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	138m N	Branch Farm bd19 6jb	EPR/HH0812YN/A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
A	138m N	Branch Farm bd19 6jb	EPR/HH0812YN/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
A	138m N	Branch Farm bd19 6jb	EPR/HH0812YN/A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
A	138m N	Branch Farm bd19 6jb	EPR/HH0812YN/A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit
A	138m N	Branch Farm bd19 6jb	EPR/HH0812YN/A001	Using waste exemption	Agricultural Waste Only	Use of waste for a specified purpose

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

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

Licensed Discharges to controlled waters

Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	2

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 33**

ID	Location	Company	Address	Activity	Category
1	129m N	Electricity Sub Station	West Yorkshire, BD19	Electrical Features	Infrastructure and Facilities
2	156m W	Electricity Sub Station	West Yorkshire, BD19	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

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

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

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

Records within 500m	2

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

Features are displayed on the Current industrial land use map on **page 33**

ID	Location	Address	Details	
A	469m SW	R S Services, Unit 10 Excelsior Works, Bradford Rd, Birtstall, WF17 9JZ	Process: Waste Oil Burner 0.4 MW Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
A	469m SW	Range Storage & Materials, Albert Mills, Scholes, Cleckheaton, BD19 6NN	Process: Coating Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	**0**

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	**1**

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

Features are displayed on the Current industrial land use map on **page 33**

ID	Location	Address	Details	
3	261m S	SCHOLES LANE - SCHOLES, CLECKHEATON, KIRKLEES, WEST YORKSHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: YWUCD2/23 Permit Version: 1 Receiving Water: TRIB OF BLACUP BECK	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 12/11/1997 Effective Date: 12/11/1997 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	**0**

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

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

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

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

4.17 List 2 Dangerous Substances

Records within 500m	0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	2

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

Features are displayed on the Current industrial land use map on **page 33**

ID	Location	Details	
4	364m S	Incident Date: 19/04/2002 Incident Identification: 72978 Pollutant: Oils and Fuel Pollutant Description: Cutting Oils	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5	448m N	Incident Date: 19/07/2003 Incident Identification: 175080 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer

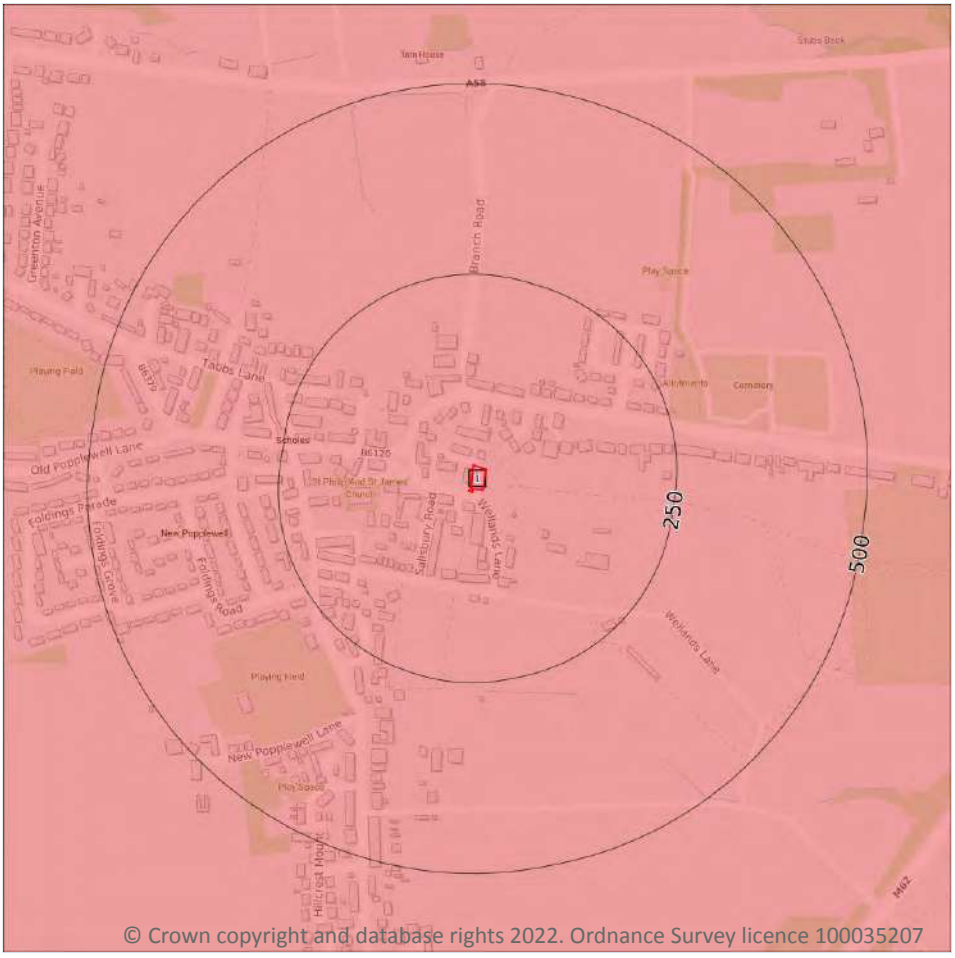
5.1 Superficial aquifer

Records within 500m	0

Aquifer status of groundwater held within superficial geology.

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	1

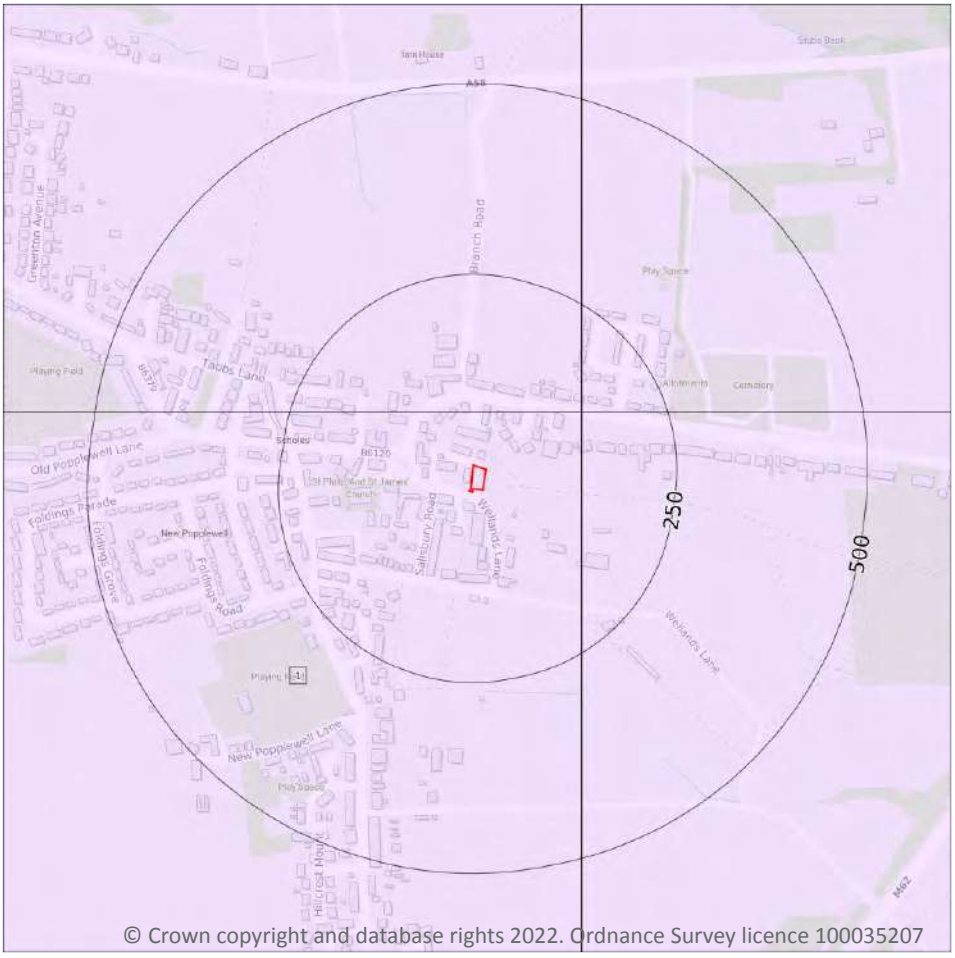
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 40**

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

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	1

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

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

Features are displayed on the Groundwater vulnerability map on **page 41**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year**	**Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures**

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**0**

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

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

5.5 Groundwater vulnerability- local information

Records on site	**0**

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

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

Abstractions and Source Protection Zones

Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	8

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 43**

ID	Location	Details	
-	1285m NE	Status: Historical Licence No: 2/27/13/187 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417900 Northing: 426700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 10/03/1997 Expiry Date: 31/12/2006 Issue No: 100 Version Start Date: 10/03/1997 Version End Date: -
-	1285m NE	Status: Historical Licence No: 2/27/13/187 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417900 Northing: 426700	Annual Volume (m^3): 13500 Max Daily Volume (m^3): 168 Original Application No: - Original Start Date: 10/03/1997 Expiry Date: 31/12/2006 Issue No: 100 Version Start Date: 10/03/1997 Version End Date: -
-	1285m NE	Status: Historical Licence No: 2/27/13/221 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417900 Northing: 426700	Annual Volume (m^3): 6750 Max Daily Volume (m^3): 168 Original Application No: - Original Start Date: 01/01/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/01/2007 Version End Date: -
-	1285m NE	Status: Historical Licence No: 2/27/13/221 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417901 Northing: 426699	Annual Volume (m^3): 6750 Max Daily Volume (m^3): 168 Original Application No: - Original Start Date: 01/01/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/01/2007 Version End Date: -
-	1285m NE	Status: Active Licence No: 2/27/13/221/R01 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: CLECKHEATON & DISTRICT GOLF CLUB Easting: 417901 Northing: 426699	Annual Volume (m^3): 6,750 Max Daily Volume (m^3): 168 Original Application No: NPS/WR/016684 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2015 Version End Date: -

ID	Location	Details	
-	1451m E	Status: Historical Licence No: 2/27/13/022 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: METROTECT LIMITED Easting: 418300 Northing: 426200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 21/10/1996 Version End Date: -
-	1451m E	Status: Historical Licence No: 2/27/13/022 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLECKHEATON Data Type: Point Name: METROTECT LTD Easting: 418300 Northing: 426200	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 21/10/1996 Version End Date: -
-	1602m S	Status: Historical Licence No: 2/27/13/197 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - CLIFTON BRIGHOUSE Data Type: Point Name: NEWSMITH STAINLESS LIMITED Easting: 416700 Northing: 424300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/09/1995 Expiry Date: 31/10/2002 Issue No: 100 Version Start Date: 27/05/1998 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	**1**

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 43**

ID	Location	Details	
-	1946m W	Status: Historical Licence No: 2/27/12/073 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: CLIFTON BECK AND UNNAMED TRIBUTARY Data Type: Point Name: INTERFACE EUROPE LTD Easting: 415000 Northing: 425300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 03/01/1999 Version End Date: -

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 47**

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

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

6.4 WFD Surface water bodies

Records identified	1

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

Features are displayed on the Hydrology map on **page 47**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	947m N	River	Spen Beck from Source to River Calder	GB104027062710	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site	1

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

Features are displayed on the Hydrology map on **page 47**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Aire & Calder Carb Limestone / Millstone Grit / Coal Measures.**	**GB40402G700400**	**Poor**	**Poor**	**Good**	**2019**

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

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

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding

8.1 Surface water flooding

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

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

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding

Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

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

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

Features are displayed on the Groundwater flooding map on **page 54**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

Site Outline

Search buffers in metres (m)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	2

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

Features are displayed on the Environmental designations map on **page 55**

ID	Location	Name	Woodland Type
-	1828m NE	Unknown	Ancient & Semi-Natural Woodland
-	1966m NE	Great And Little Hunsworth Woods	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	4

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

Features are displayed on the Environmental designations map on **page 55**

ID	Location	Name	Local Authority name
1	0m E	South and West Yorkshire	Kirklees
2	542m N	South and West Yorkshire	Bradford
3	625m SW	South and West Yorkshire	Calderdale
4	1111m W	South and West Yorkshire	Bradford

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	2

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

Location	Name	Type	NVZ ID	Status
On site	**Spen Beck from Source to River Calder NVZ**	**Surface Water**	**271**	**Existing**
52m N	Spen Beck from Source to River Calder NVZ	Surface Water	271	Existing

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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 61**

ID	Location	Name	Grade	Reference Number	Listed date
A	119m NW	414 and 414a, Whitechapel Road, Cleckheaton, Kirklees, BD19	II	1300029	13/01/1984
A	121m N	Nos. 406, 408 and Barn Cottage, Whitechapel Road, Cleckheaton, Kirklees, BD19	II	1313304	13/01/1984
2	206m NW	Barn Adjacent To, and To West of The Old Vicarage, Cleckheaton, Kirklees, BD19	II	1313303	13/01/1984

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 61**

ID	Location	Name	District	Date of designation
1	35m NW	Scholes	Kirklees	31/03/1981

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.

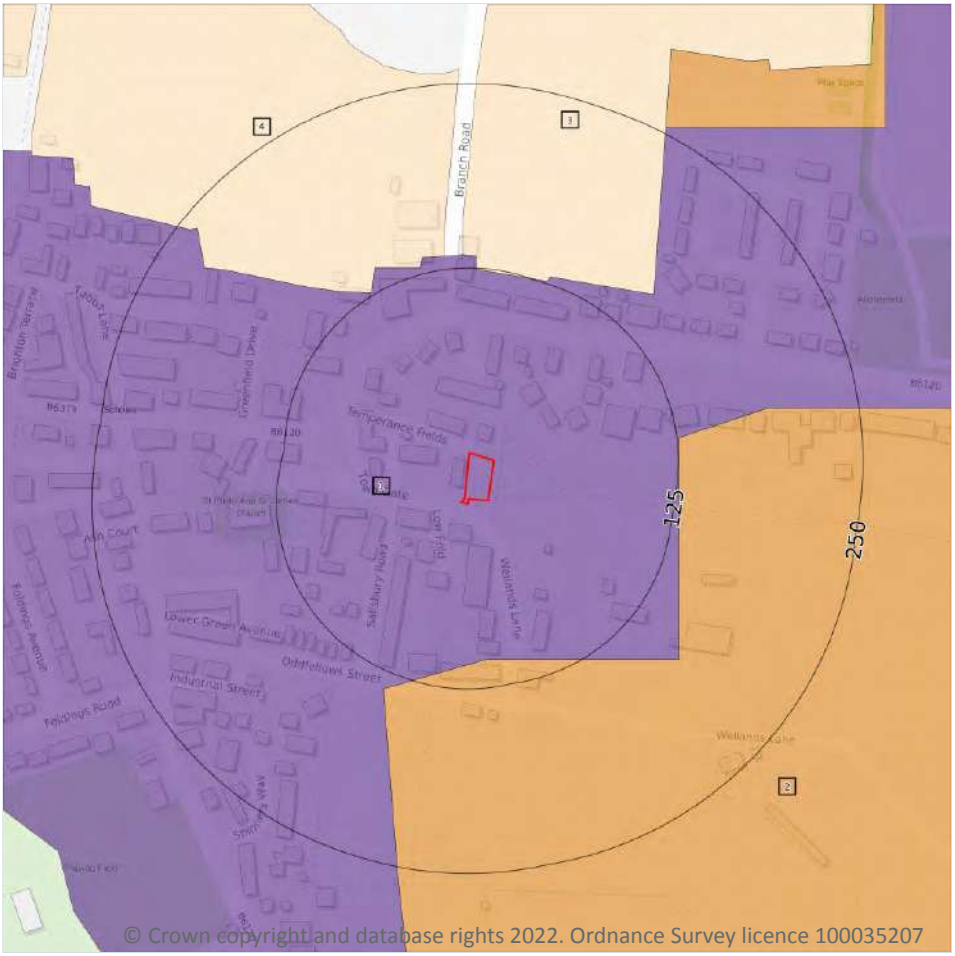
11.7 Registered Parks and Gardens

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	4

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

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

ID	Location	Classification	Description
1	**On site**	**Urban**	**-**
2	106m S	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.

ID	Location	Classification	Description
3	123m N	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.
4	127m NW	Grade 3b	Moderate quality agricultural land. Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks

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

13.1 Priority Habitat Inventory

Records within 250m	1

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

Features are displayed on the Habitat designations map on **page 67**

ID	Location	Main Habitat	Other habitats
1	244m NW	No main habitat but additional habitats present	Additional: TORCH (INV 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

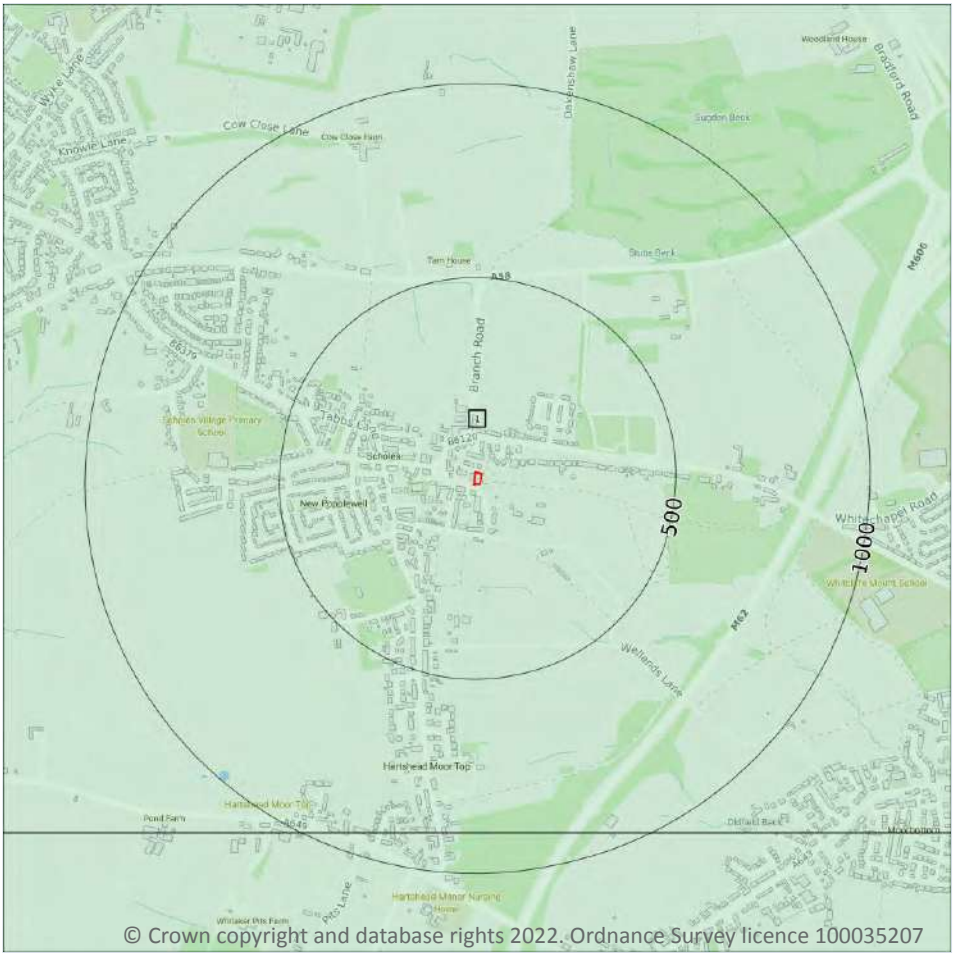
13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	1

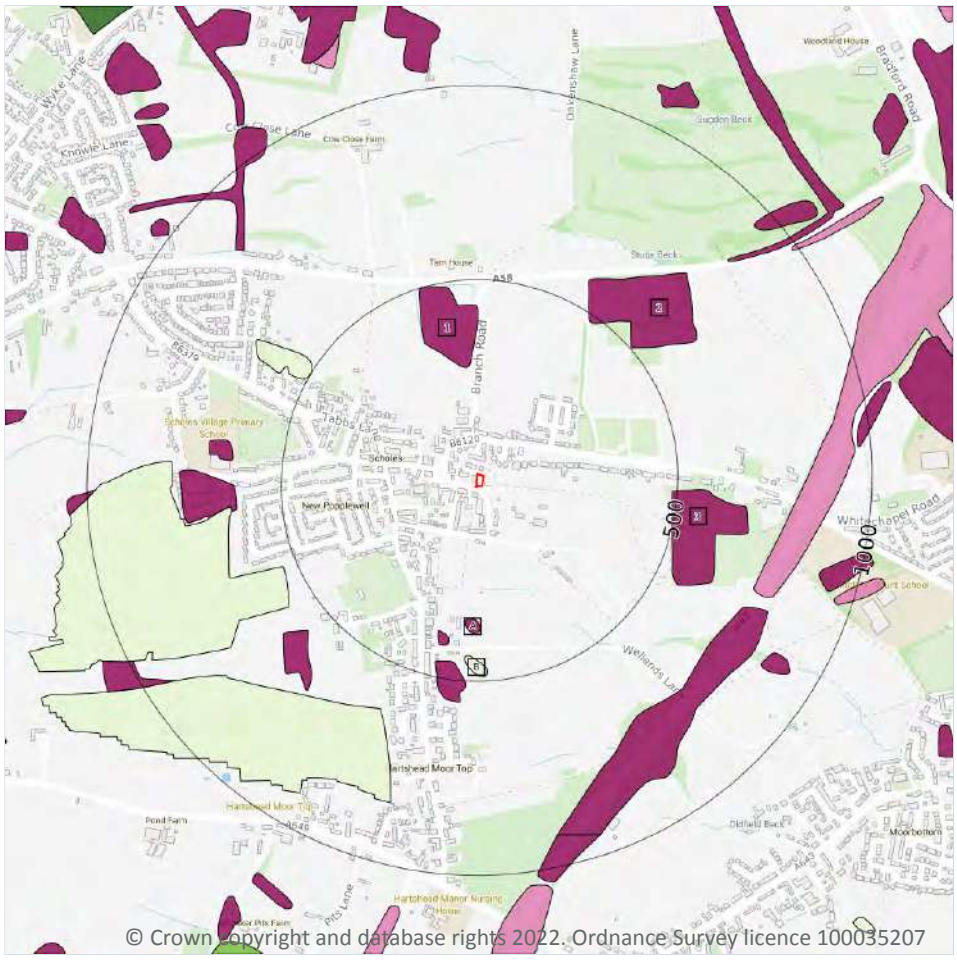
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

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

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

This data is sourced from the British Geological Survey.

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



Site Outline

Search buffers in metres (m)

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

14.2 Artificial and made ground (10k)

Records within 500m	7

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

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

ID	Location	LEX Code	Description	Rock description
1	275m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	338m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	382m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	434m S	WMGR-ARTDP	Infilled Ground	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
B	453m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	482m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	487m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock

Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	23

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

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

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

ID	Location	LEX Code	Description	Rock age
5	66m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
6	109m SE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
7	116m NE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
9	155m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	198m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
13	209m E	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
14	213m NE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
15	226m NW	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
18	243m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
19	248m E	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
20	249m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
25	328m N	CLRK-SDST	Clifton Rock - Sandstone	Langsettian Sub-age
29	400m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
30	404m N	CLRK-SDST	Clifton Rock - Sandstone	Langsettian Sub-age
32	438m W	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
34	467m S	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
35	470m W	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
37	474m S	FHR-SDST	Falhouse Rock - Sandstone	Langsettian Sub-age
38	475m SE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
39	479m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**16**

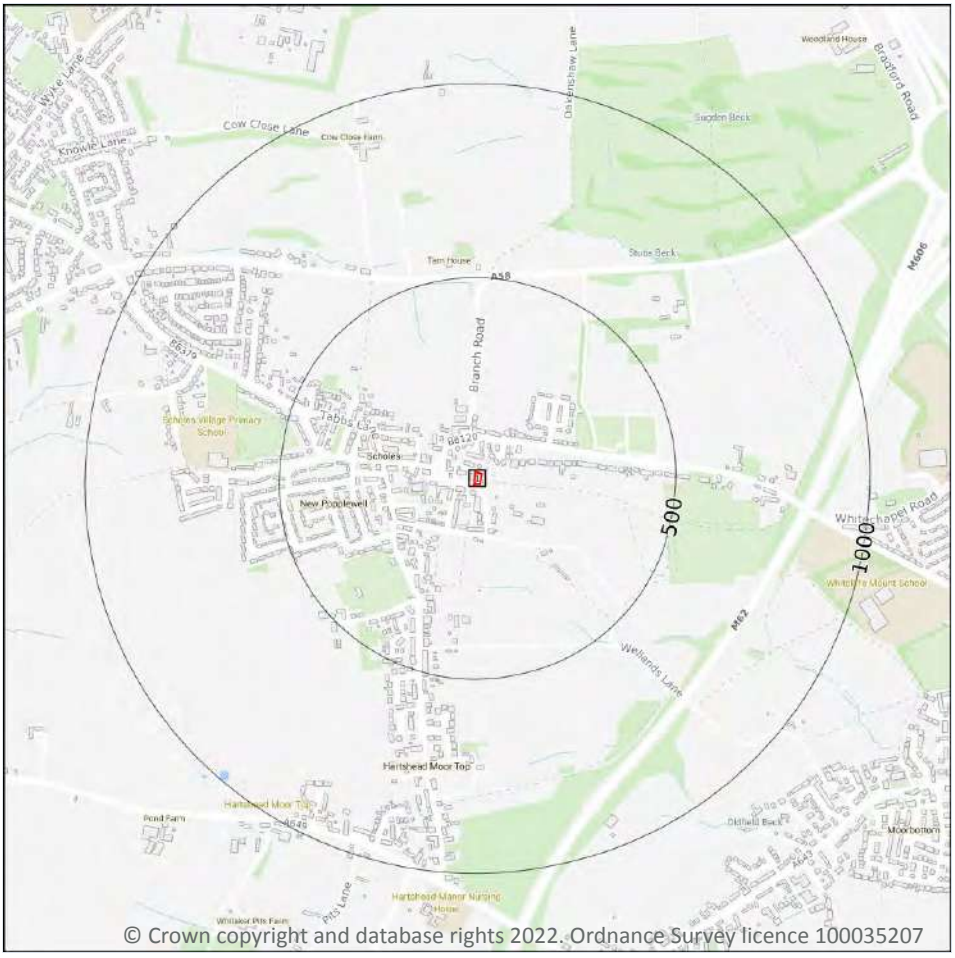
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

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

ID	Location	Category	Description
3	**On site**	**FAULT**	**Normal fault, inferred**
8	120m SE	ROCK	Coal seam, inferred
10	198m NE	FAULT	Normal fault, inferred
12	203m NE	ROCK	Coal seam, inferred
16	226m NW	FAULT	Normal fault, inferred
17	235m N	ROCK	Coal seam, inferred
21	255m E	ROCK	Coal seam, inferred
22	274m N	ROCK	Coal seam, inferred
23	305m N	ROCK	Coal seam, inferred
24	322m SW	ROCK	Coal seam, inferred
26	344m N	ROCK	Coal seam, inferred
27	369m NE	ROCK	Coal seam, inferred
28	390m S	FAULT	Normal fault, inferred
31	434m S	ROCK	Coal seam, inferred
33	438m W	FAULT	Normal fault, inferred
36	470m W	FAULT	Normal fault, 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

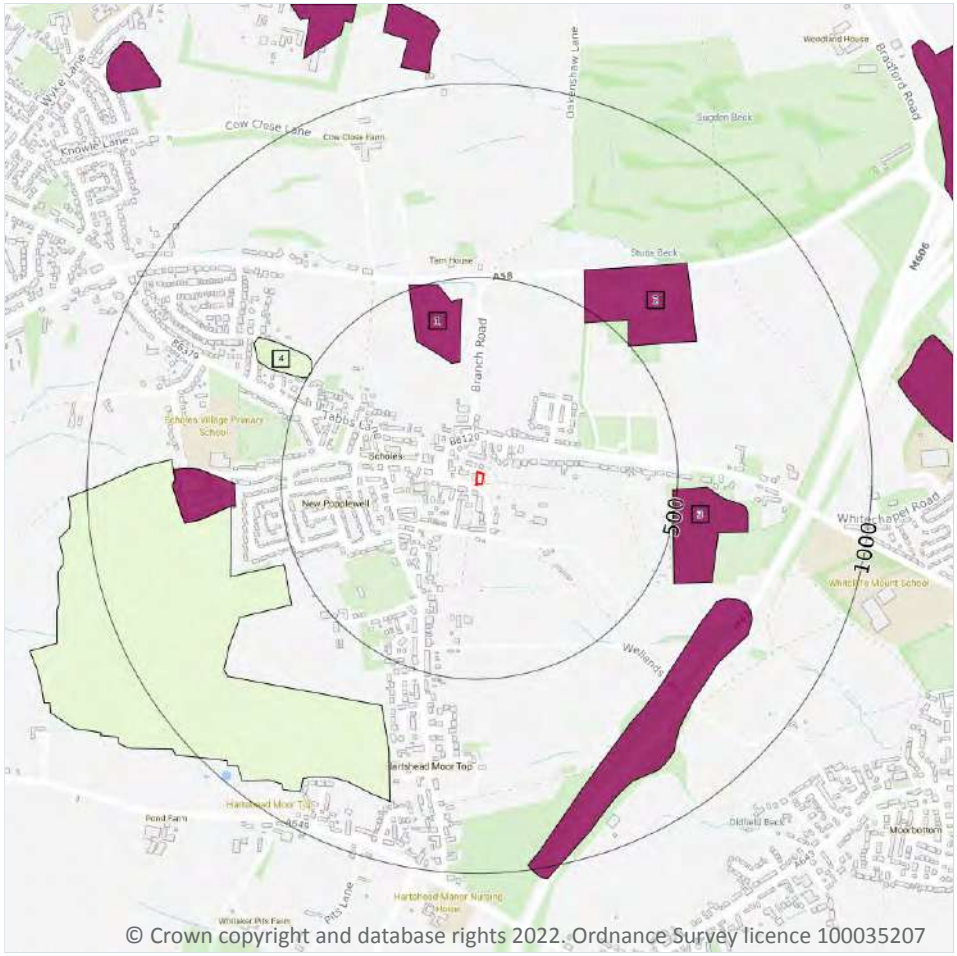
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 76**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW077_huddersfield_v4**

This data is sourced from the British Geological Survey.

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



15.2 Artificial and made ground (50k)

Records within 500m **4**

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 77**

ID	Location	LEX Code	Description	Rock description
1	286m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	468m NE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	489m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	499m NW	WMGR-ARTDP	INFILLED GROUND	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.

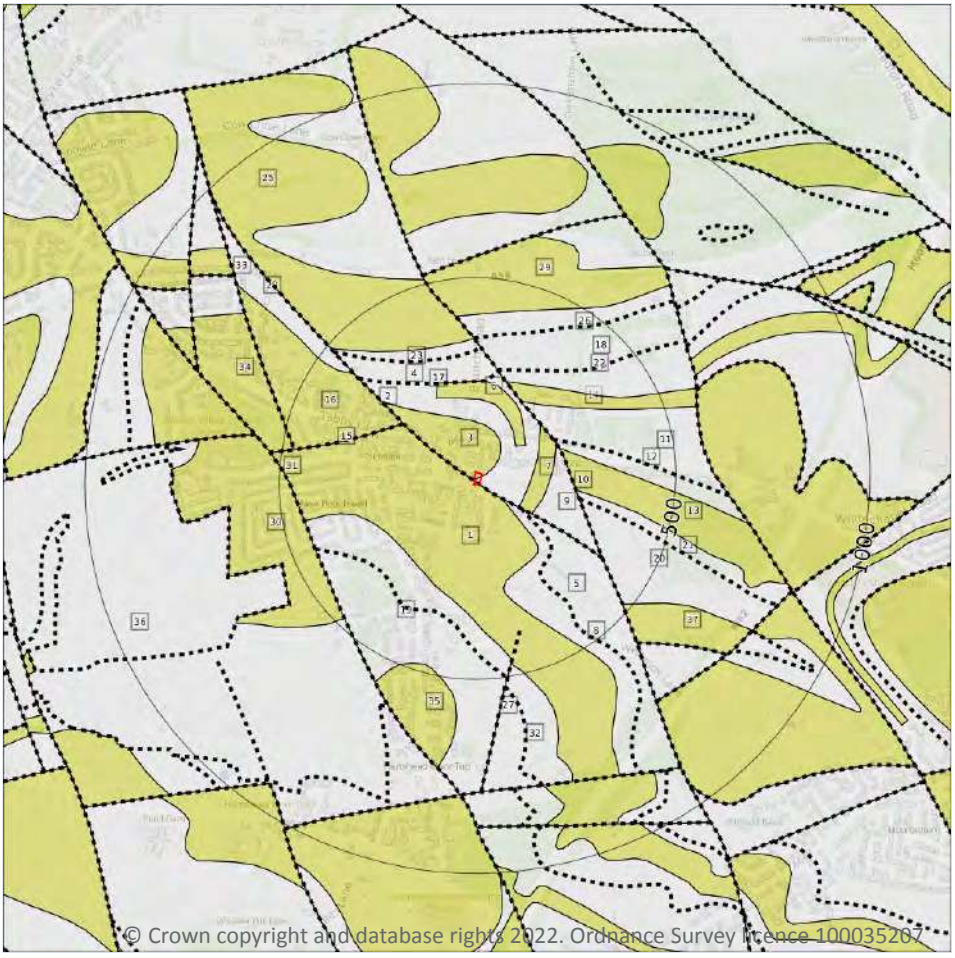
15.7 Landslip permeability (50k)

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	23

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 80**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**PLCM-SDST**	**PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE**	**WESTPHALIAN**
3	**On site**	**PLCM-SDST**	**PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE**	**WESTPHALIAN**

ID	Location	LEX Code	Description	Rock age
4	**On site**	**PLCM-MDSS**	**PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE**	**WESTPHALIAN**
5	67m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	113m NE	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
7	115m SE	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
9	154m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
11	199m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
13	210m E	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
14	212m NE	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
16	224m NW	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
18	245m N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
19	245m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
20	246m E	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
25	334m N	CLRK-SDST	CLIFTON ROCK - SANDSTONE	WESTPHALIAN
28	401m NW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
29	403m N	CLRK-SDST	CLIFTON ROCK - SANDSTONE	WESTPHALIAN
30	439m W	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
32	469m S	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
34	469m W	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
35	478m S	FHR-SDST	FALHOUSE ROCK - SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
36	478m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
37	480m SE	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m **2**

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m **14**

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 80**

ID	Location	Category	Description
2	**On site**	**FAULT**	**Fault, inferred**
8	123m SE	ROCK	Coal seam, inferred
10	199m NE	FAULT	Fault, inferred
12	205m NE	ROCK	Coal seam, inferred
15	224m NW	FAULT	Fault, inferred
17	232m N	ROCK	Coal seam, inferred
21	258m E	ROCK	Coal seam, inferred

ID	Location	Category	Description
22	269m N	ROCK	Coal seam, inferred
23	301m N	ROCK	Coal seam, inferred
24	326m SW	ROCK	Coal seam, inferred
26	343m N	ROCK	Coal seam, inferred
27	390m S	FAULT	Fault, inferred
31	439m W	FAULT	Fault, inferred
33	469m W	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes

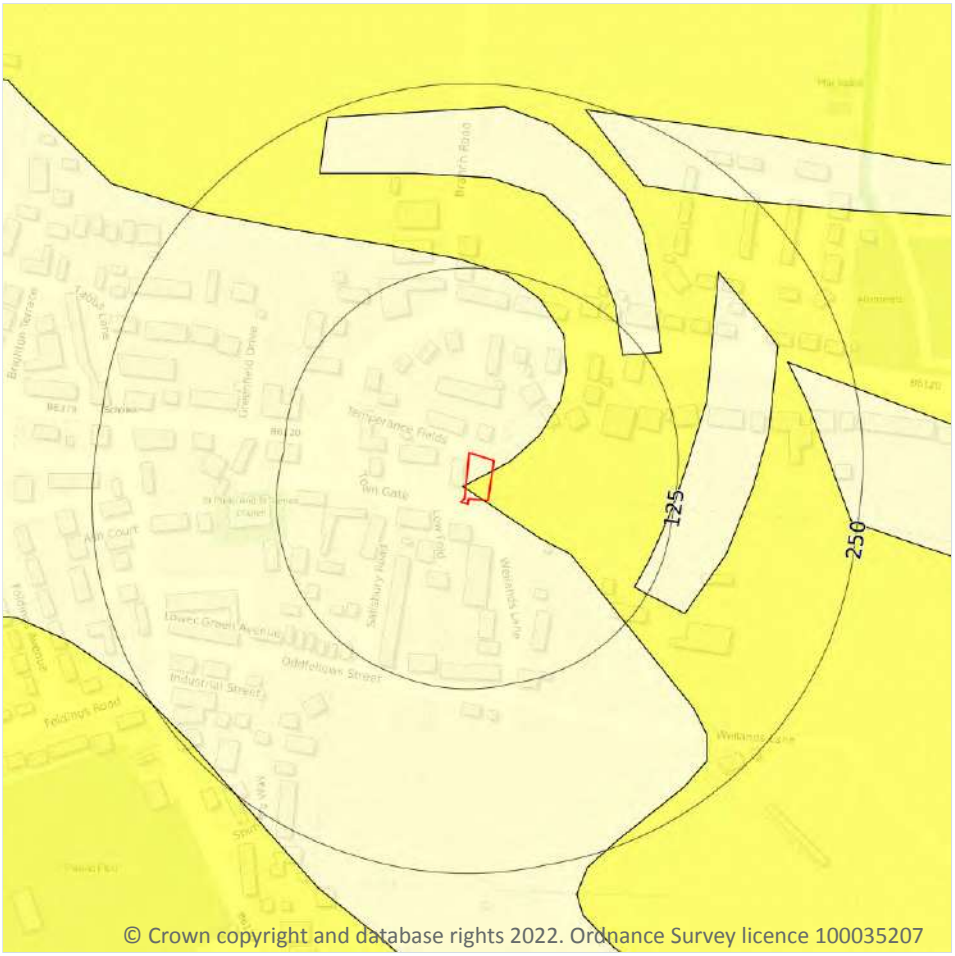
16.1 BGS Boreholes

Records within 250m	0

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

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	2

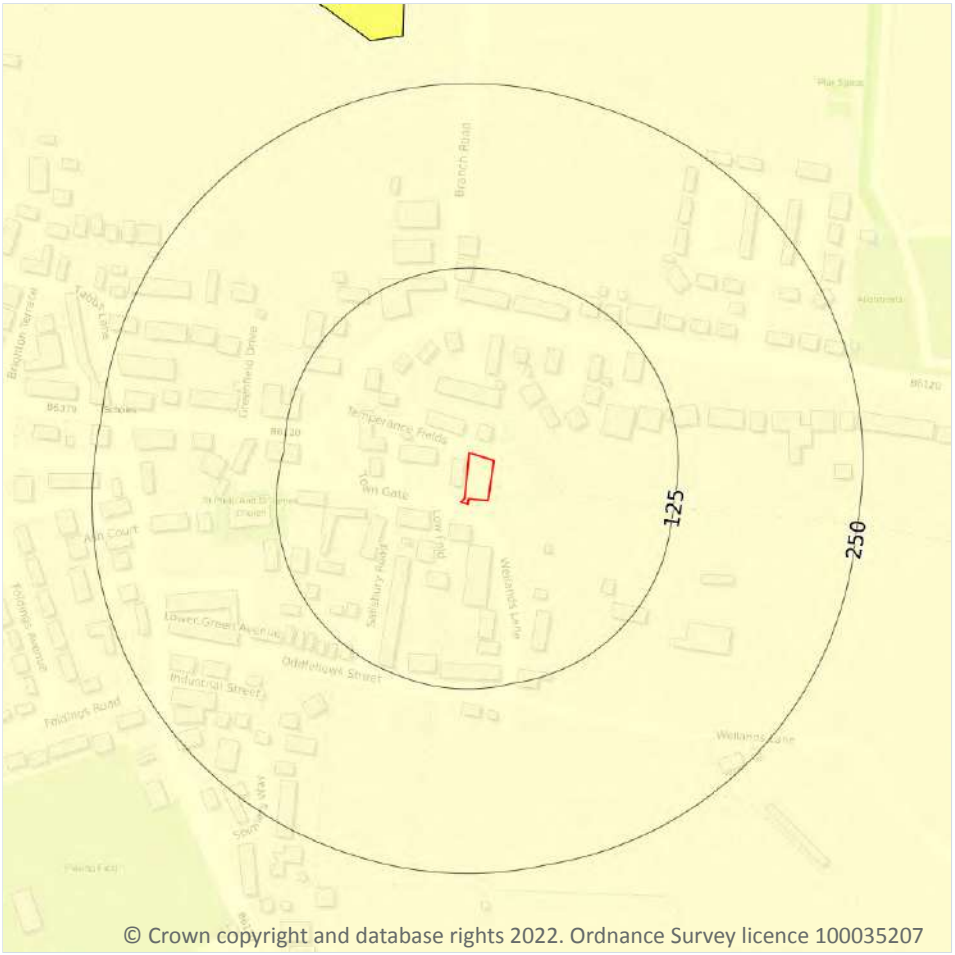
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 85**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

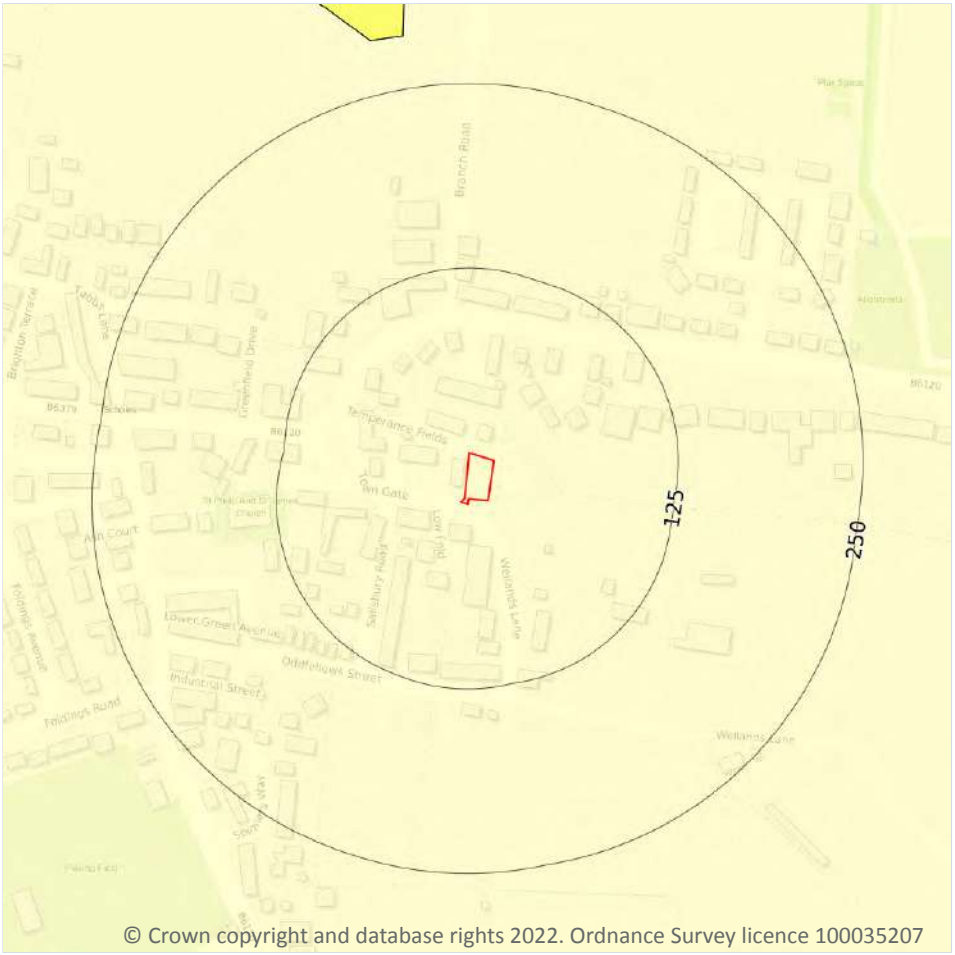
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 86**

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

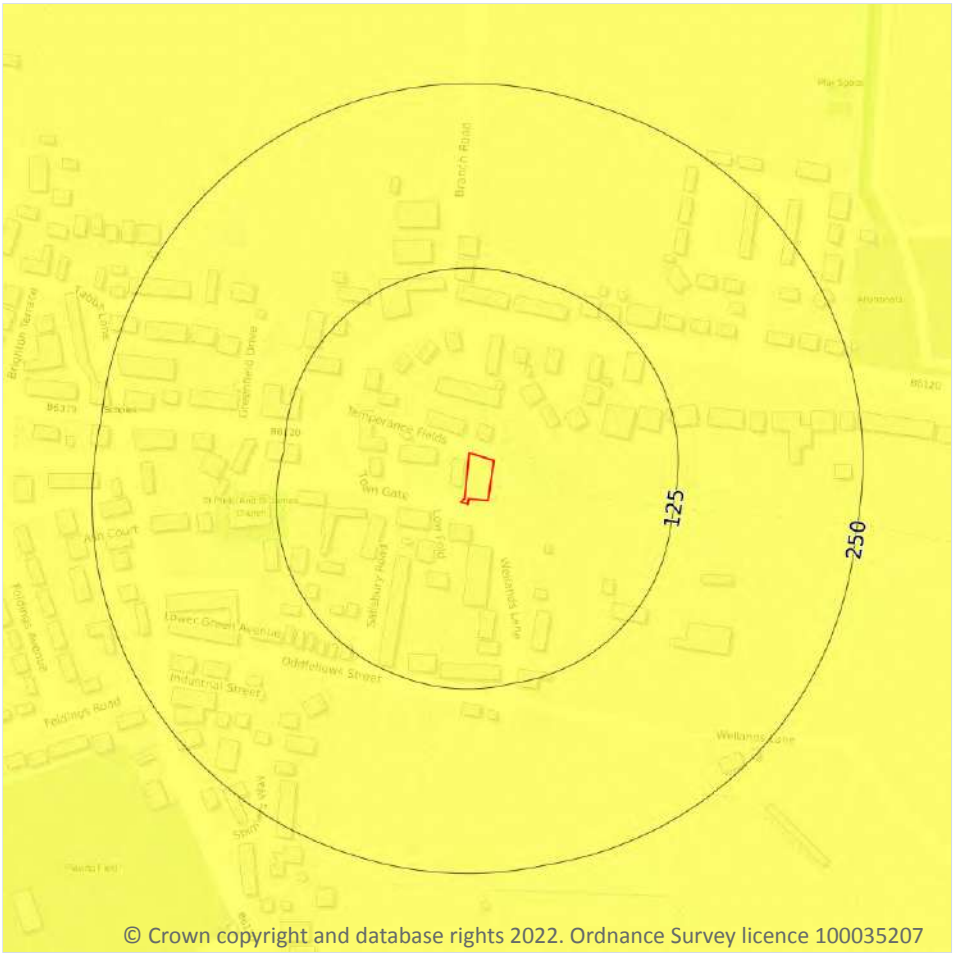
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 87**

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

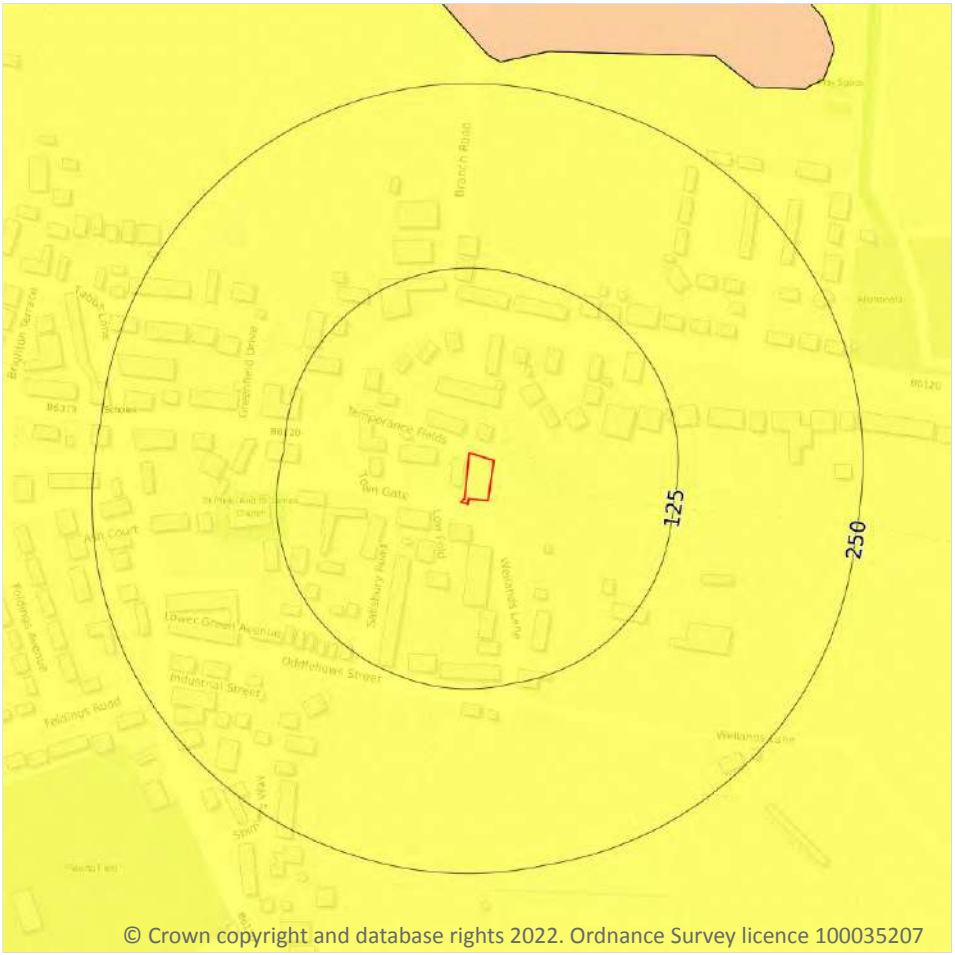
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

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

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks

Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

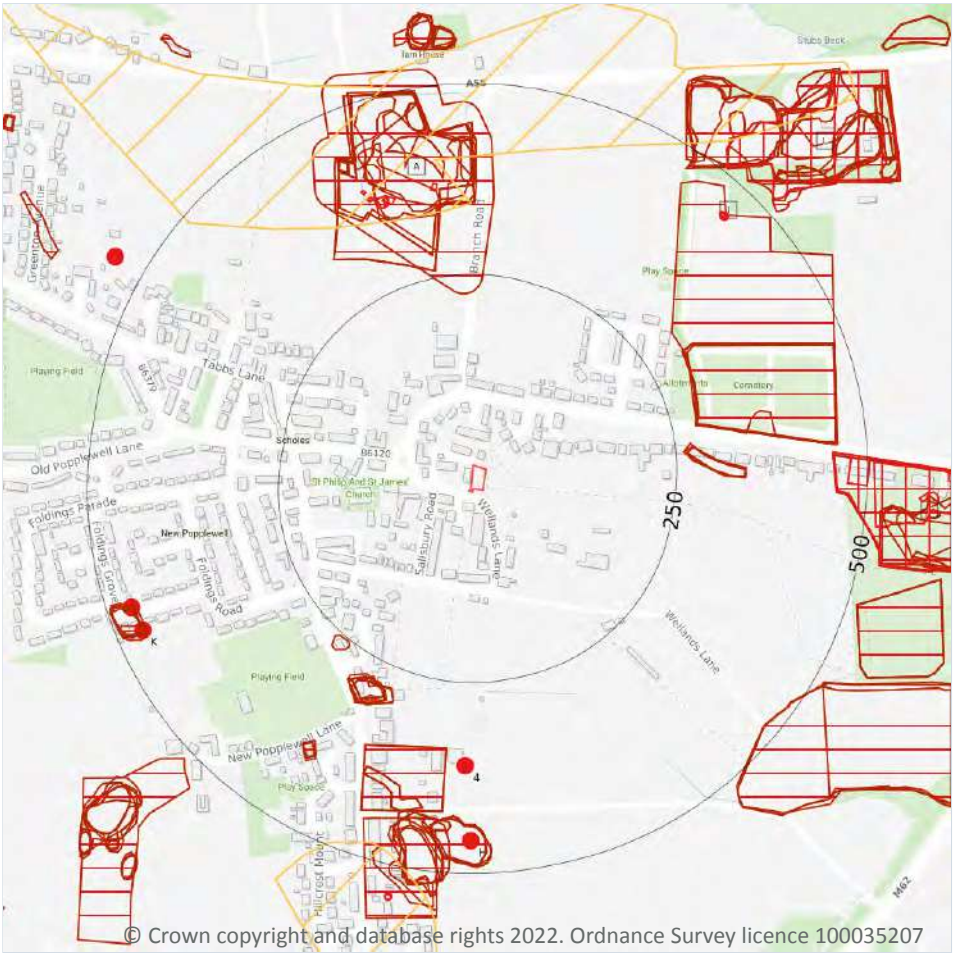
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

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

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities

Non Coal Mining

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

18.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	4

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 91**

ID	Location	Details	Description
4	359m S	Name: Scholes Chapel Address: Scholes, LEEDS, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
H	457m S	Name: Primrose Hill Address: Cleckheaton, BRADFORD, West Yorkshire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
K	465m SW	Name: Popplewell Address: Scholes, LEEDS, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
K	468m W	Name: Popplewell Address: Scholes, LEEDS, West Yorkshire Commodity: Coal, Deep Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	1

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 91**

ID	Location	Land Use	Year of mapping	Mapping scale
A	225m N	Unspecified Disused Pit	1955	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	22

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 91**

ID	Location	Land Use	Year of mapping	Mapping scale
A	357m N	Air Shaft	1948	1:10560
A	358m N	Unspecified Disused Shafts	1967	1:10560
A	362m N	Unspecified Old Shaft	1951	1:10560
A	371m N	Unspecified Old Shafts	1948	1:10560
A	371m N	Old Air Shaft	1951	1:10560
A	382m N	Unspecified Old Shafts	1948	1:10560
I	450m NE	Disused Air Shaft	1990	1:10000
I	450m NE	Disused Air Shaft	1983	1:10000
I	450m NE	Disused Air Shaft	1974	1:10000
I	453m NE	Unspecified Shaft	1905	1:10560
I	453m NE	Old Air Shaft	1948	1:10560
I	453m NE	Old Air Shaft	1951	1:10560
J	456m E	Disused Colliery	1948	1:10560
J	456m E	Disused Colliery	1951	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
L	507m NE	Colliery	1905	1:10560
J	509m E	Colliery	1905	1:10560
H	537m S	Unspecified Old Shaft	1948	1:10560
H	539m S	Unspecified Old Shaft	1951	1:10560
J	570m E	Unspecified Old Shafts	1951	1:10560
J	579m E	Unspecified Old Shafts	1948	1:10560
J	606m E	Unspecified Old Shafts	1948	1:10560
-	894m W	Old Coal Pit	1905	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	**0**

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	**3**

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 91**

ID	Location	Name	Commodity	Class	Likelihood
3	334m N	Leeds/Bradford area	Iron Ore (Bedded)	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
H	478m S	Leeds/Bradford area	Iron Ore (Bedded)	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

ID	Location	Name	Commodity	Class	Likelihood
-	800m NW	Leeds/Bradford area	Iron Ore (Bedded)	B	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	**0**

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

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site	**0**

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	**1**

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

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

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

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

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

Records on site	0

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

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

19 Radon

Site Outline

Search buffers in metres (m)

Greater than 30%

Between 10% and 30%

Between 5% and 10%

Between 3% and 5%

Between 1% and 3%

Less than 1%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 97**

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

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	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	**25 - 35 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**25 - 35 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**35 - 45 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

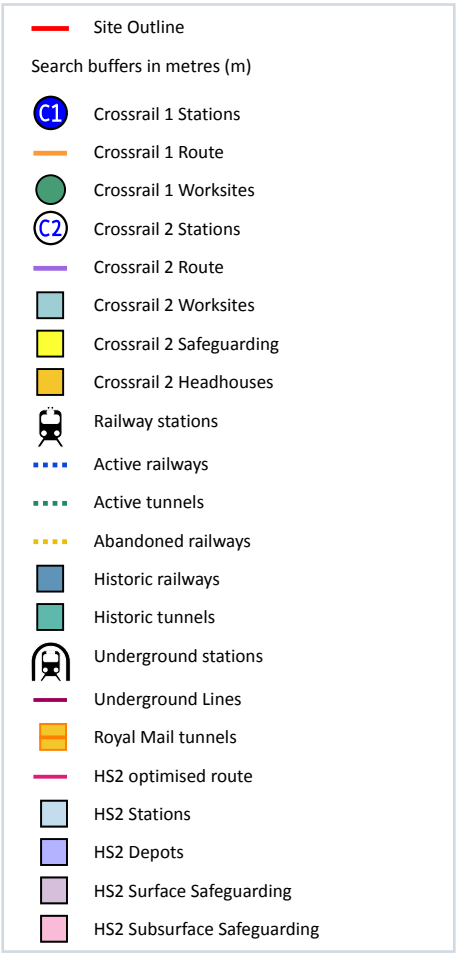
20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	2

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

Features are displayed on the Railway infrastructure and projects map on **page 99**

Location	Land Use	Year of mapping	Mapping scale
192m NE	Tramway Sidings	1907	2500
194m NE	Tramway Sidings	1905	10560

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

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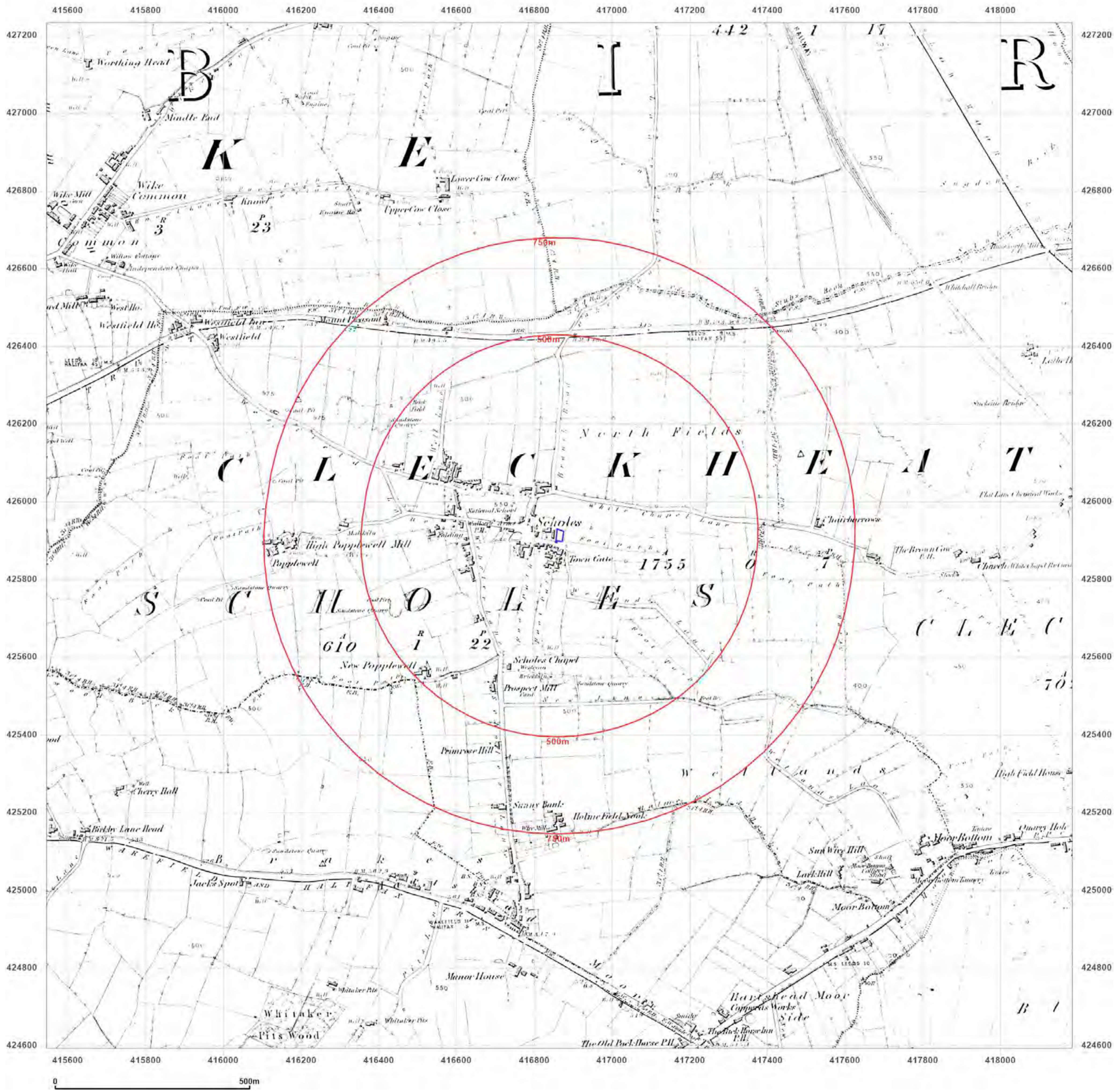
APPENDIX 5

HISTORICAL ORDNANCE SURVEY MAPS



Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: **1854**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1849
Revised N/A
Edition 1854
Copyright N/A
Levelled N/A

Surveyed 1847
Revised N/A
Edition 1854
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Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: **1892**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1892
Revised 1892
Edition N/A
Copyright N/A
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Surveyed 1892
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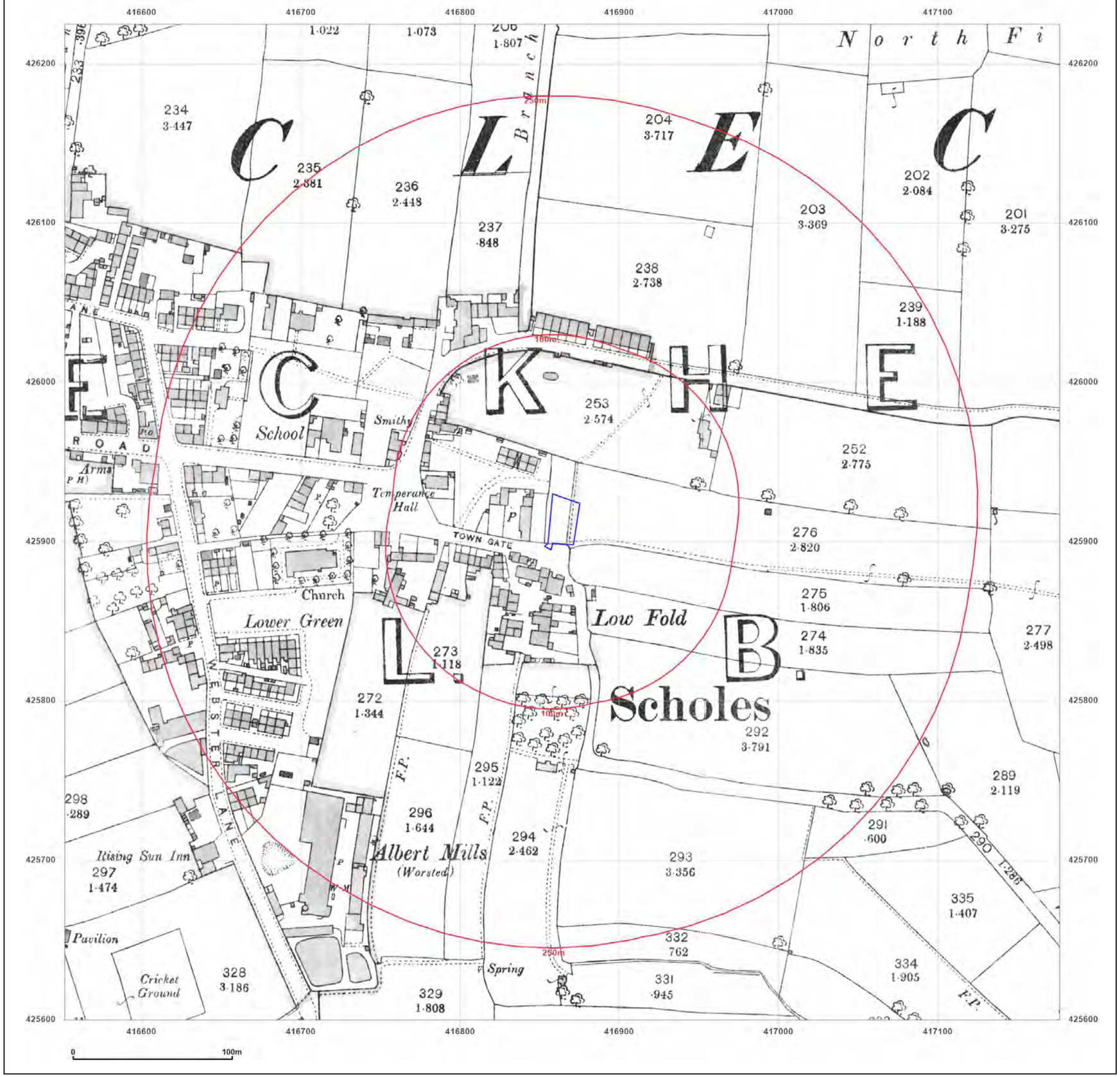

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1893
Revised 1893
Edition N/A
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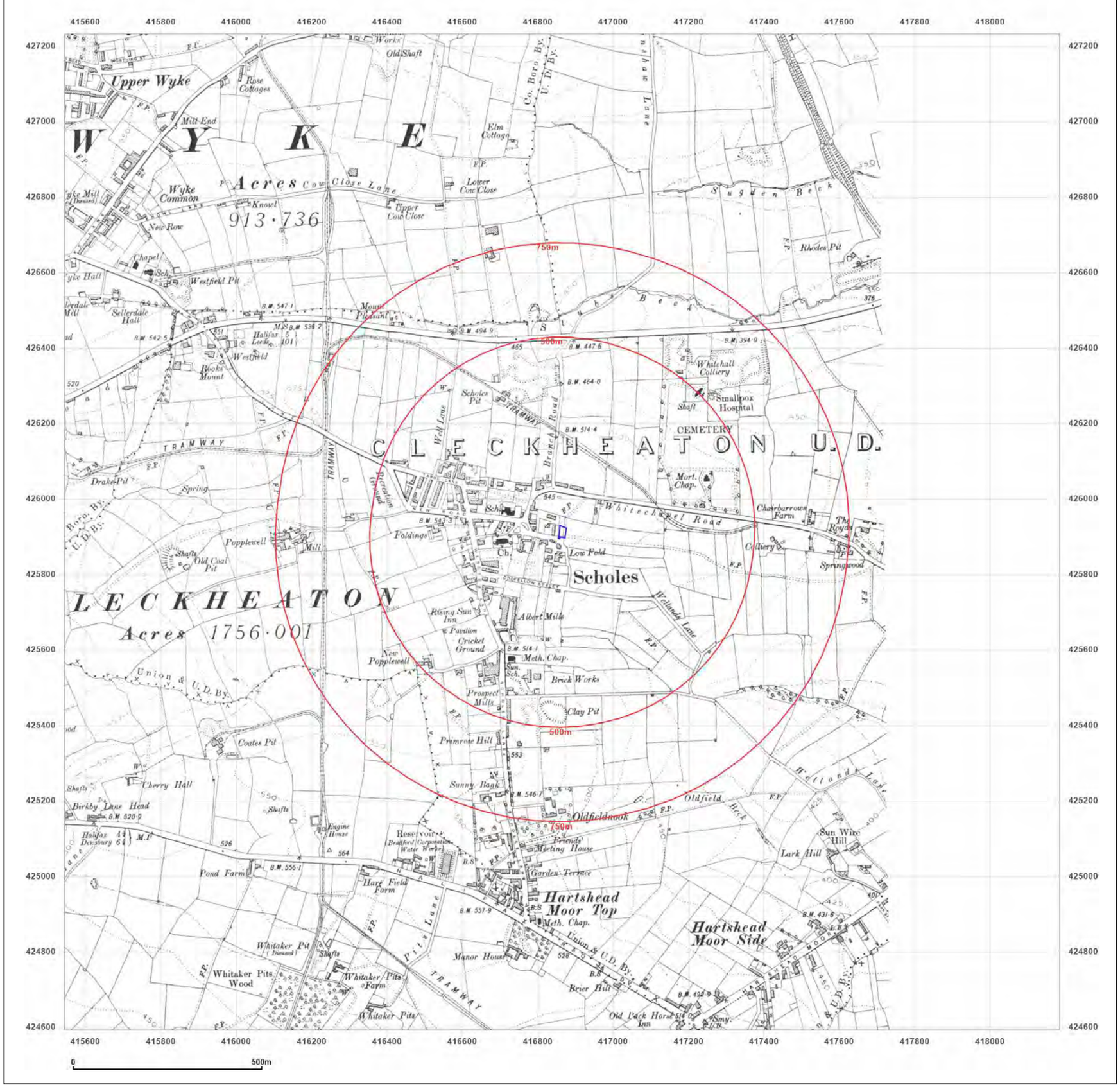

Groundsure INSIGHTS

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SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: **1905**

Scale: 1:10,560

Printed at: 1:10,560

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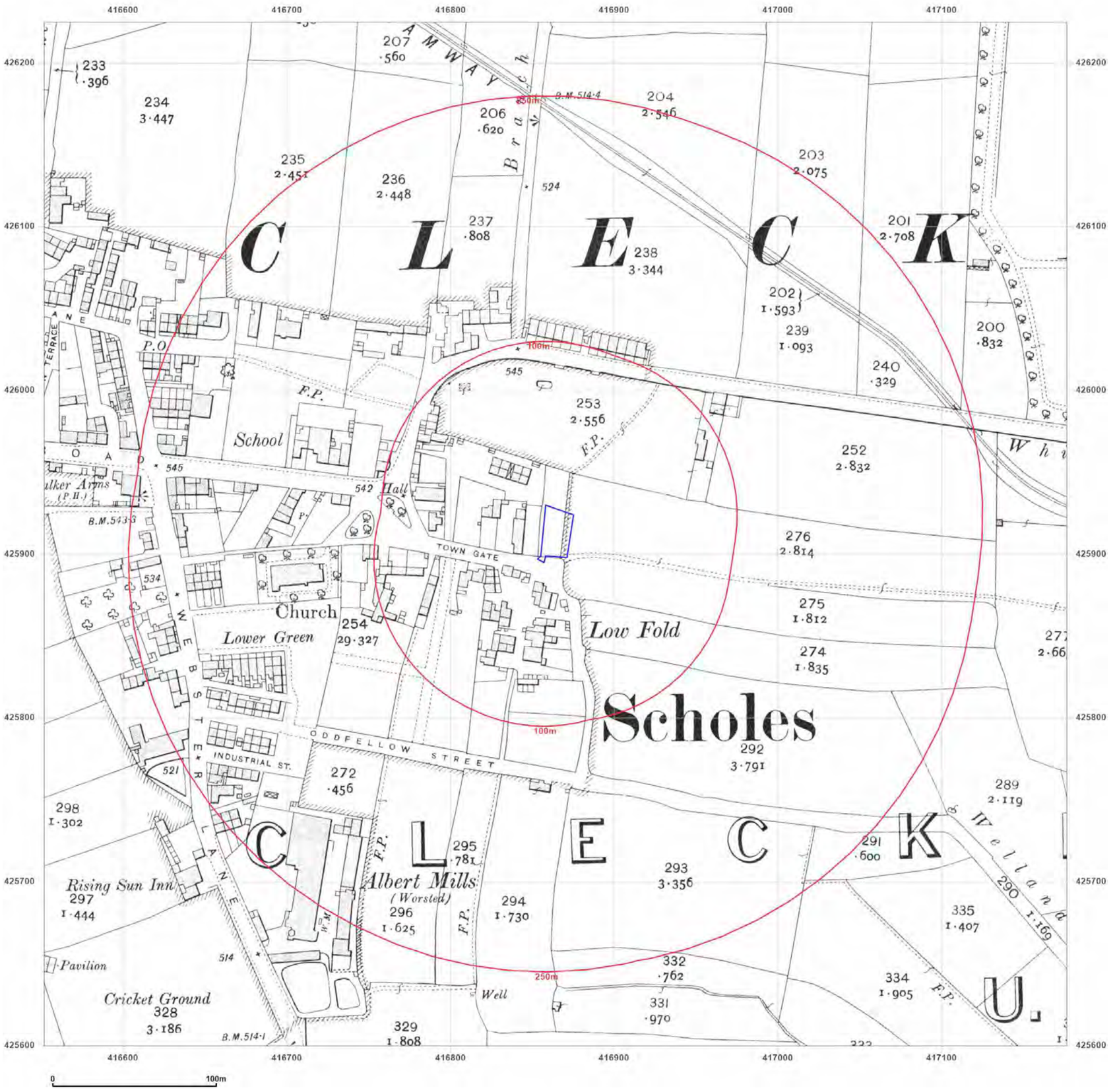

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BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: **1907**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1907
Revised 1907
Edition N/A
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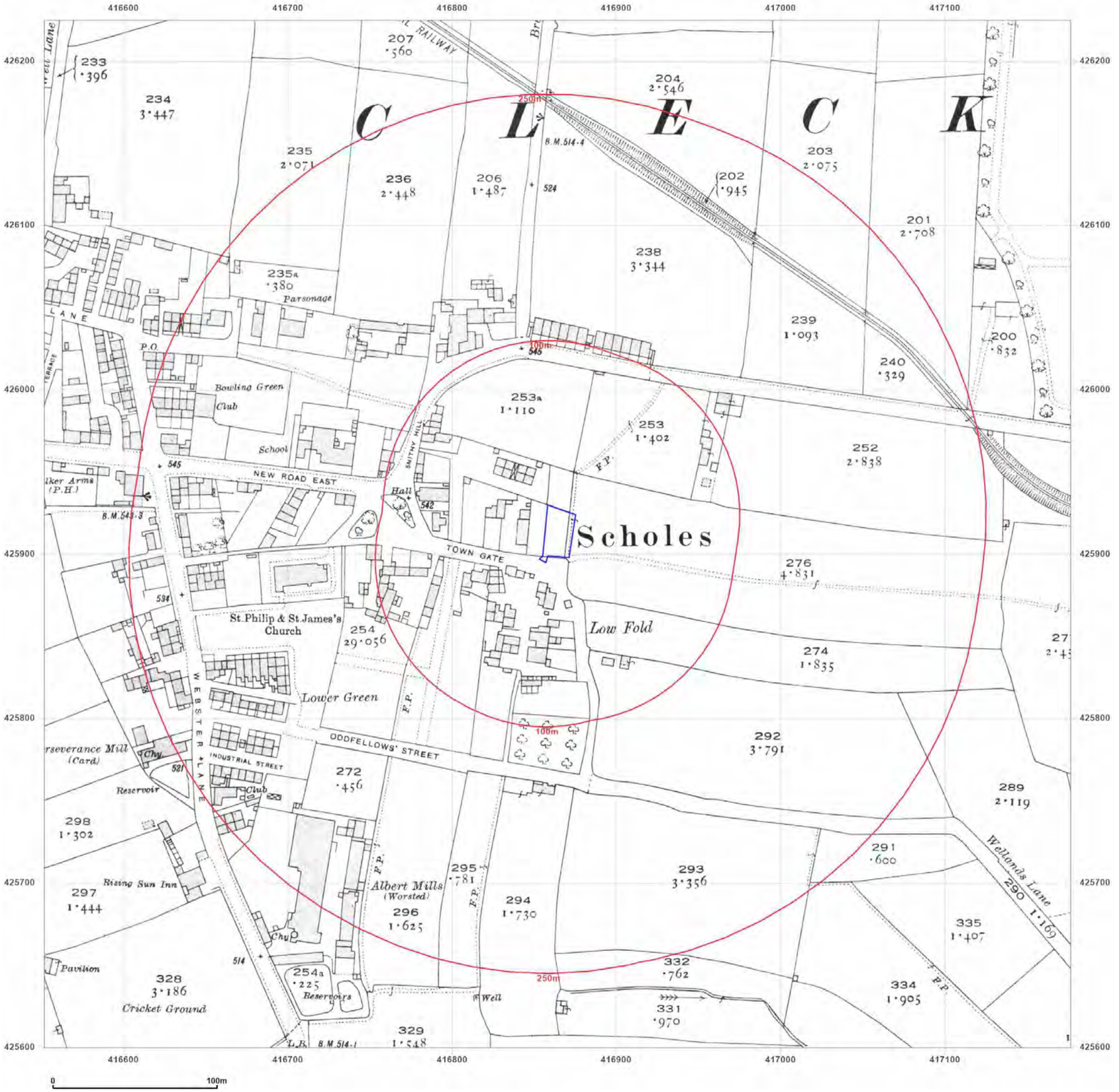

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BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1922
Edition N/A
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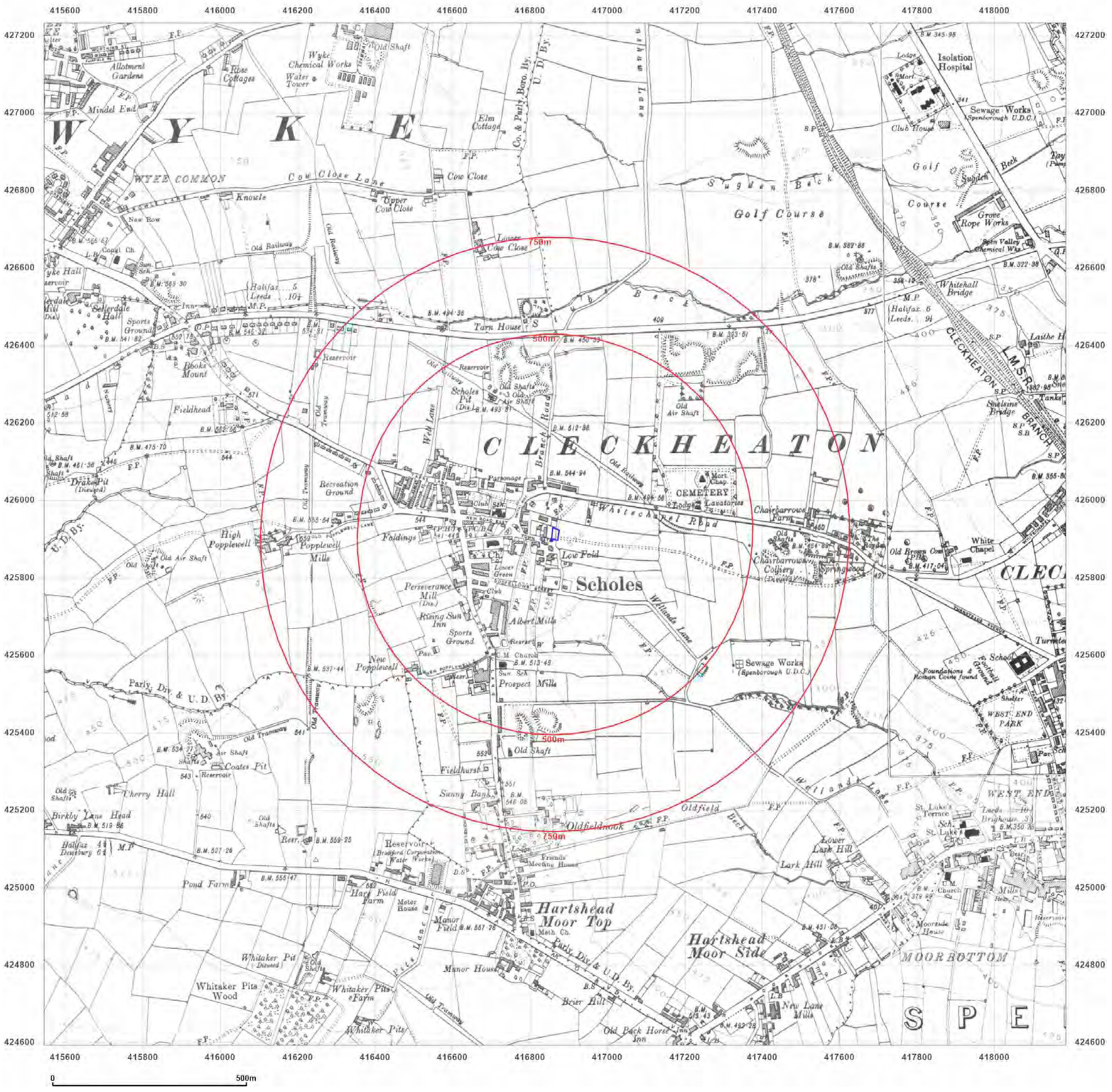

Groundsure INSIGHTS

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SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: **1931-1932**

Scale: 1:10,560

Printed at: 1:10,560

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

Surveyed 1850
Revised 1932
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Levelled N/A

Surveyed 1849
Revised 1931
Edition N/A
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Surveyed 1851
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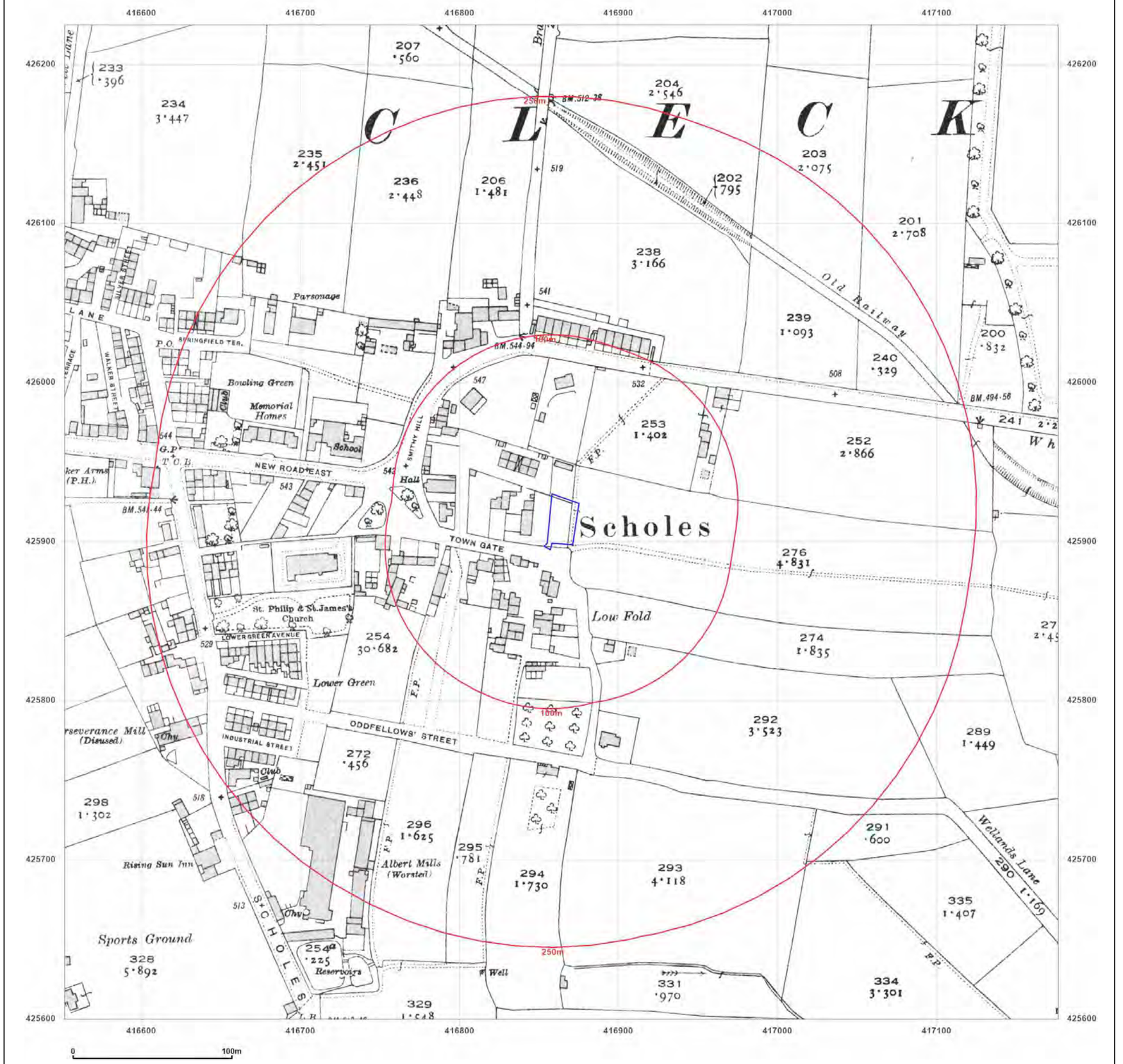

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Site Details:

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Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: **1933**

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1933
Edition N/A
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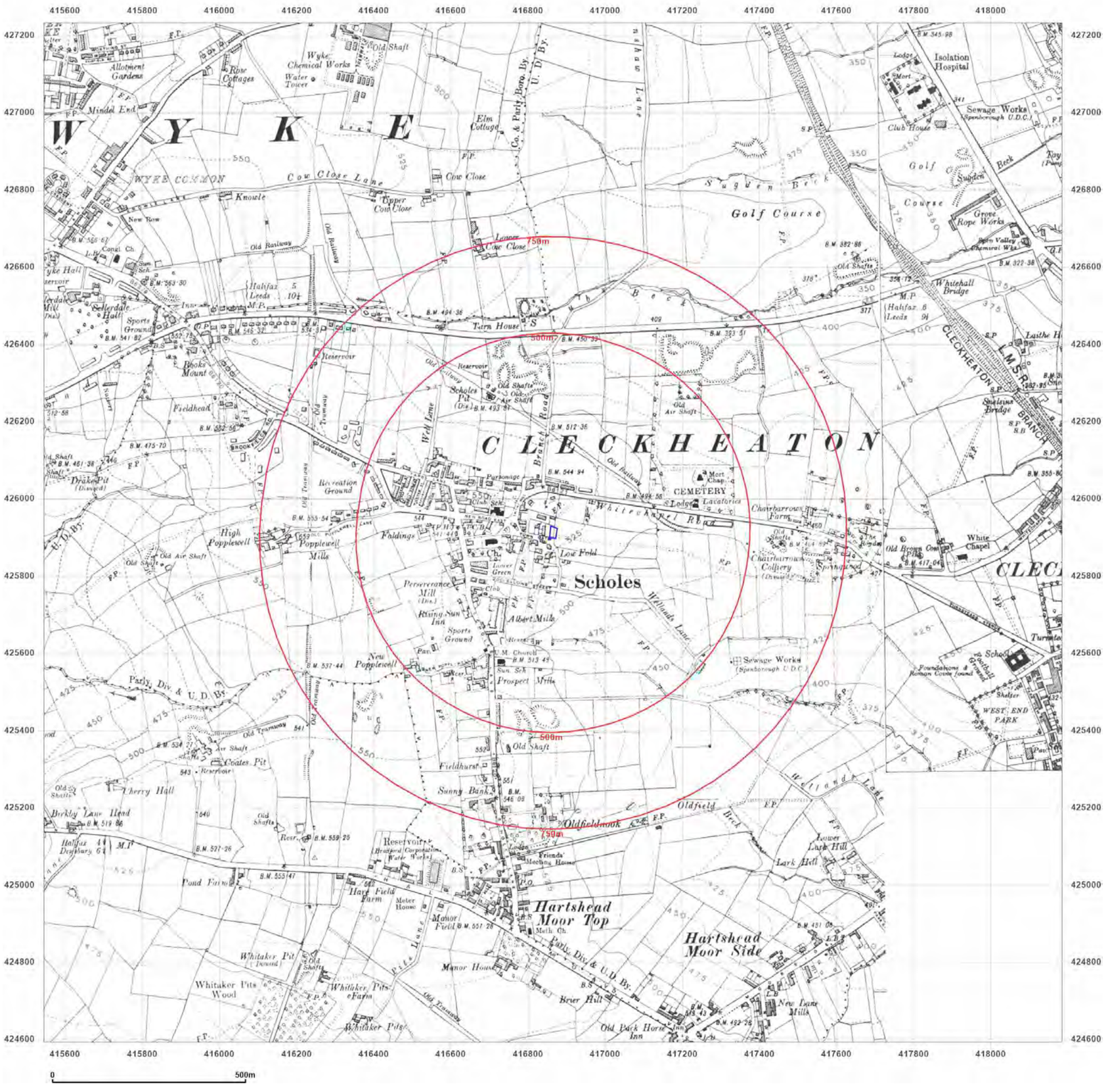

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

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

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

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

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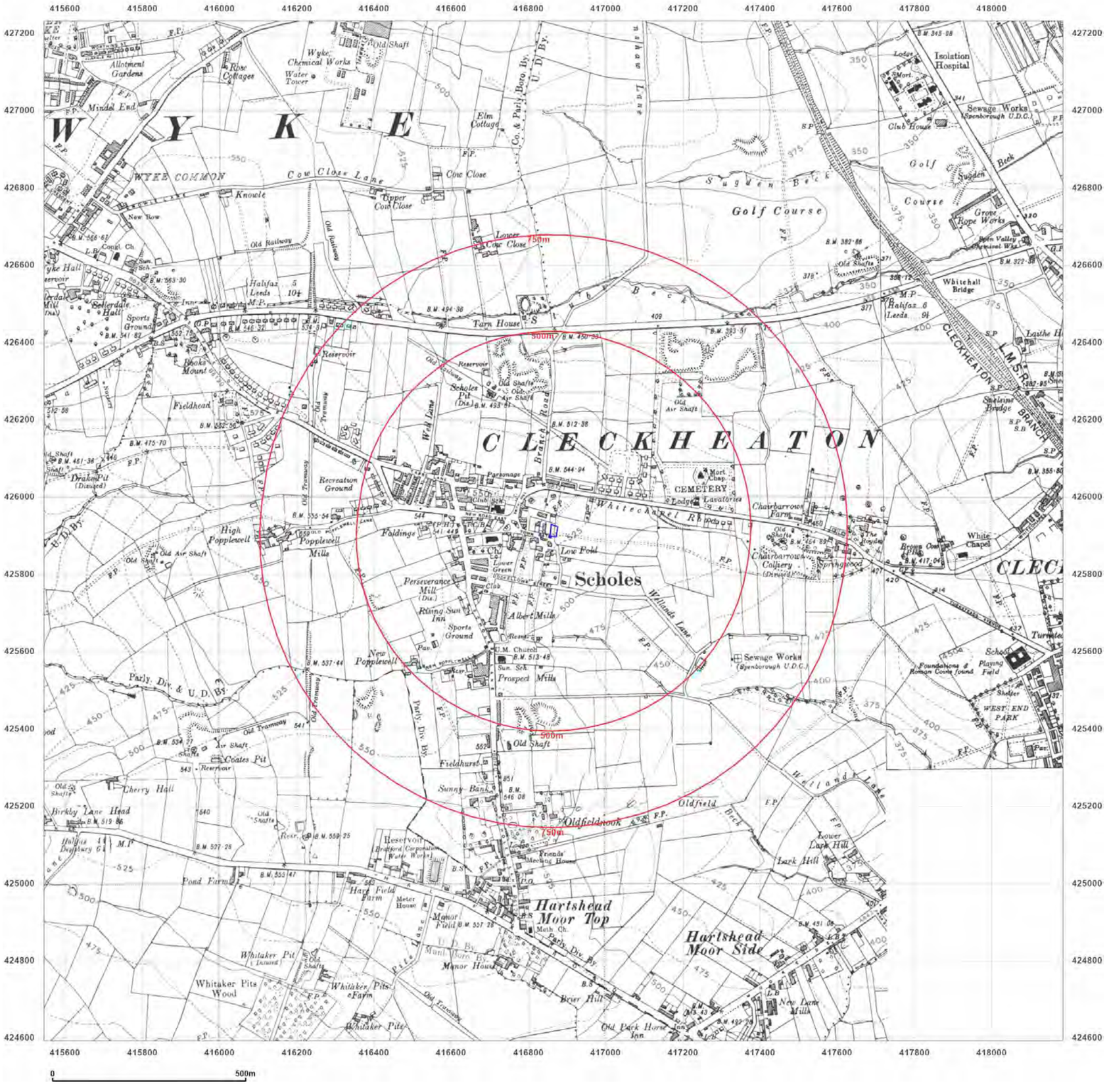

Groundsure INSIGHTS

Site Details:

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BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

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

Surveyed 1850
Revised 1948
Edition N/A
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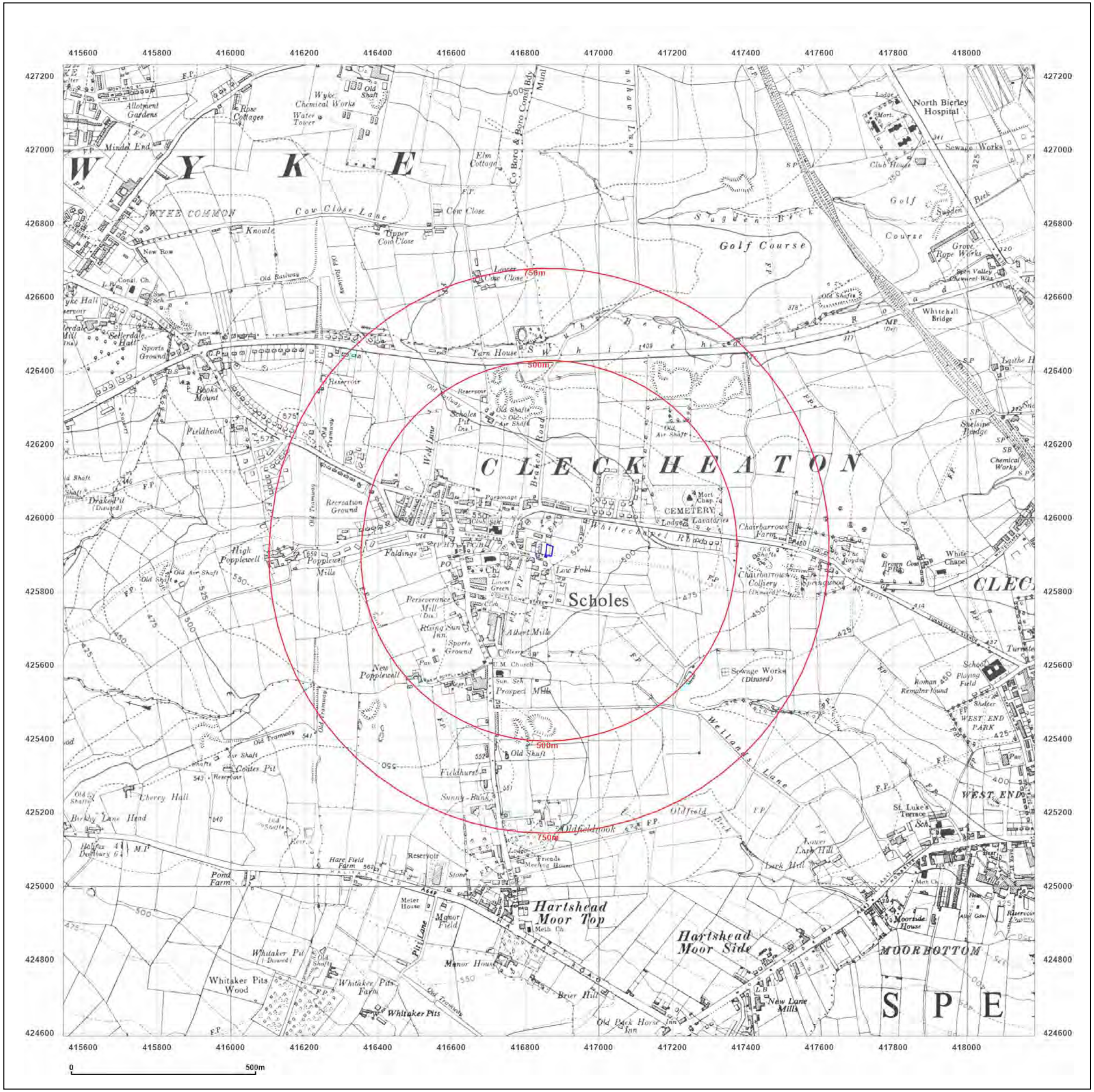

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SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: Provisional

Map date: **1951-1955**

Scale: 1:10,560

Printed at: 1:10,560

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

Surveyed 1951
Revised 1951
Edition N/A
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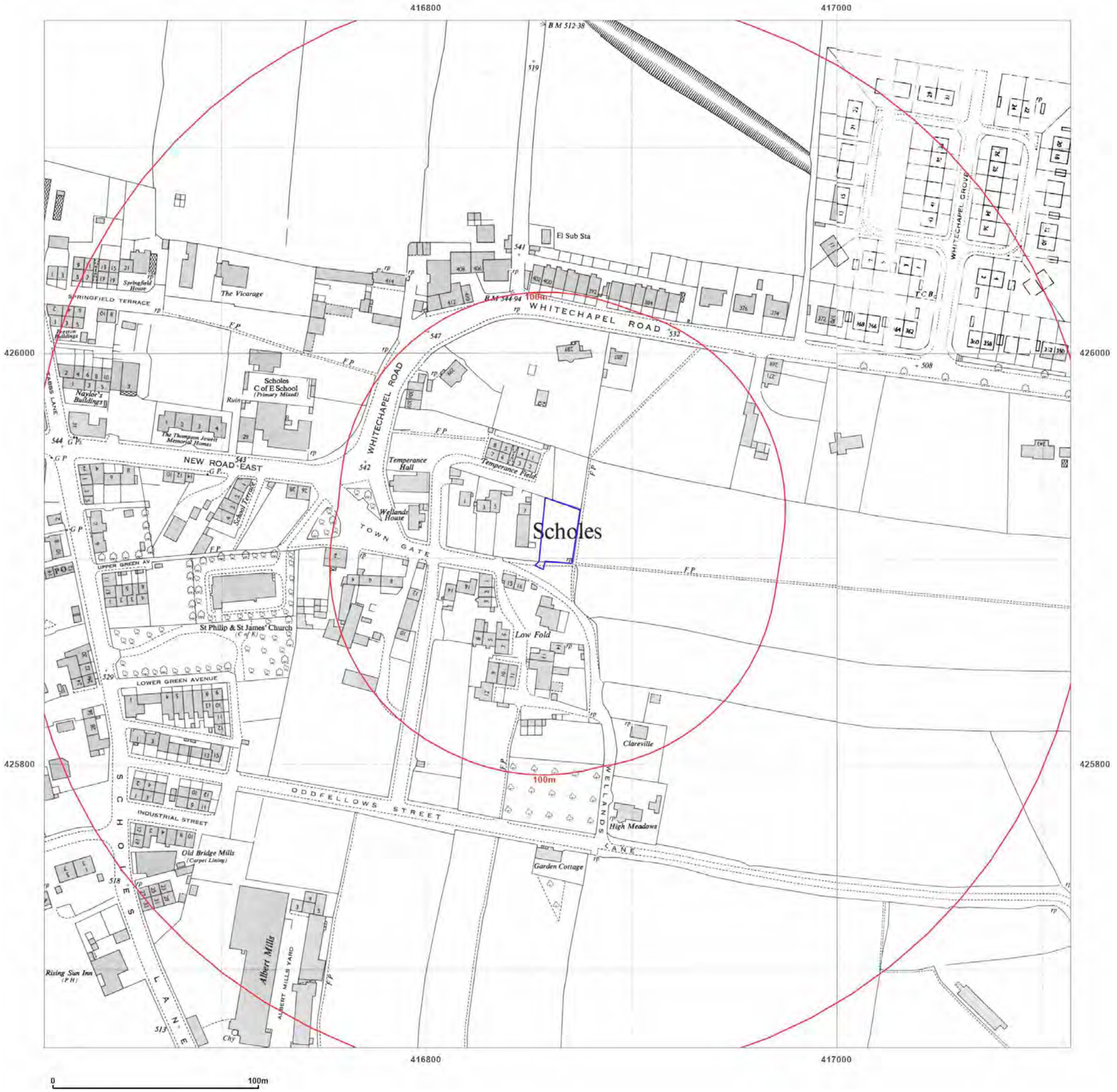

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1956**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1956 Revised 1956 Edition N/A Copyright N/A Levelled 1931	Surveyed 1956 Revised 1956 Edition N/A Copyright N/A Levelled 1931

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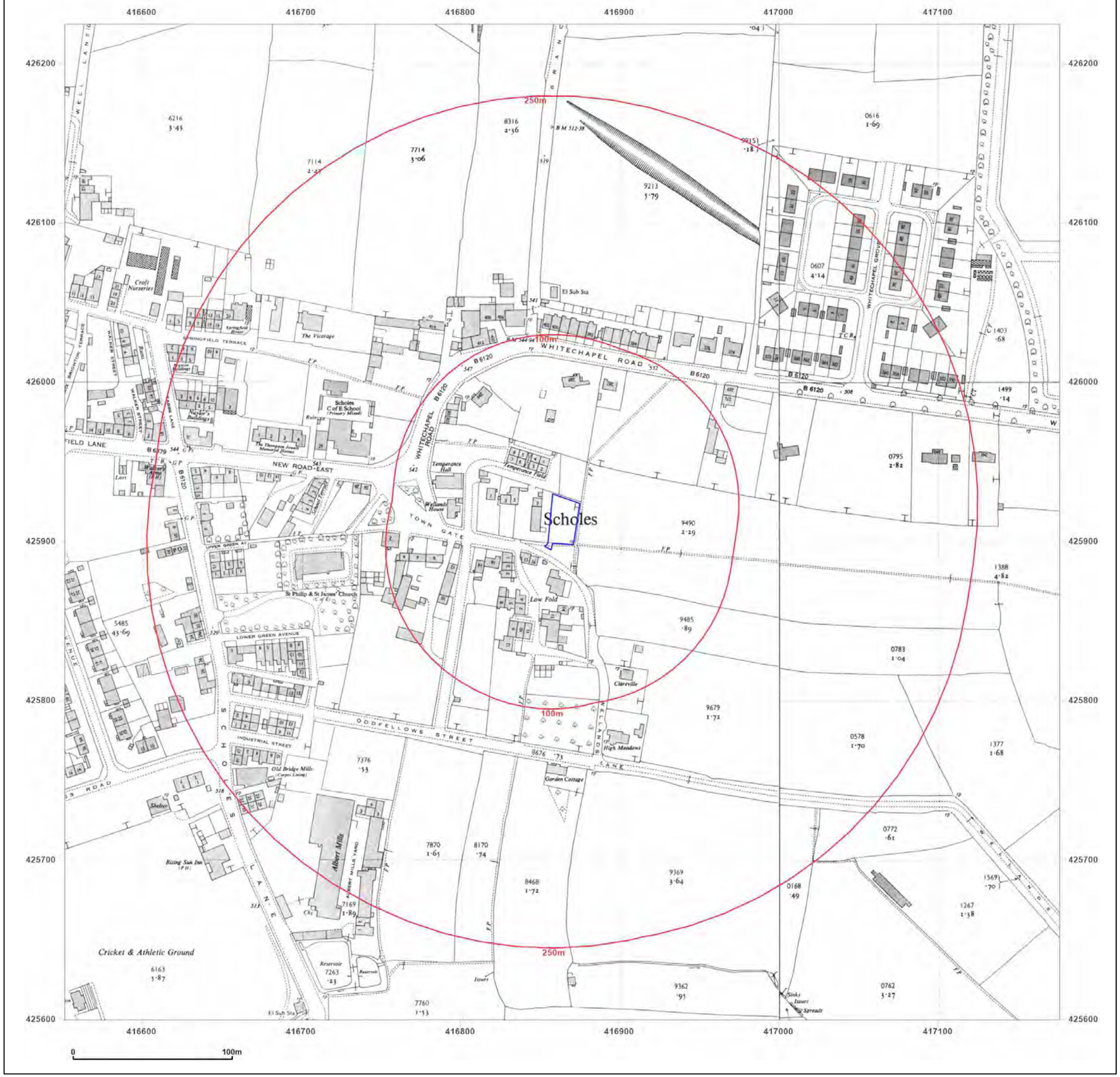

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1957**

Scale: 1:2,500

Printed at: 1:2,500

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Edition 1957
Copyright N/A
Levelled 1931

Surveyed 1956
Revised 1956
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Surveyed 1956
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Revised 1956
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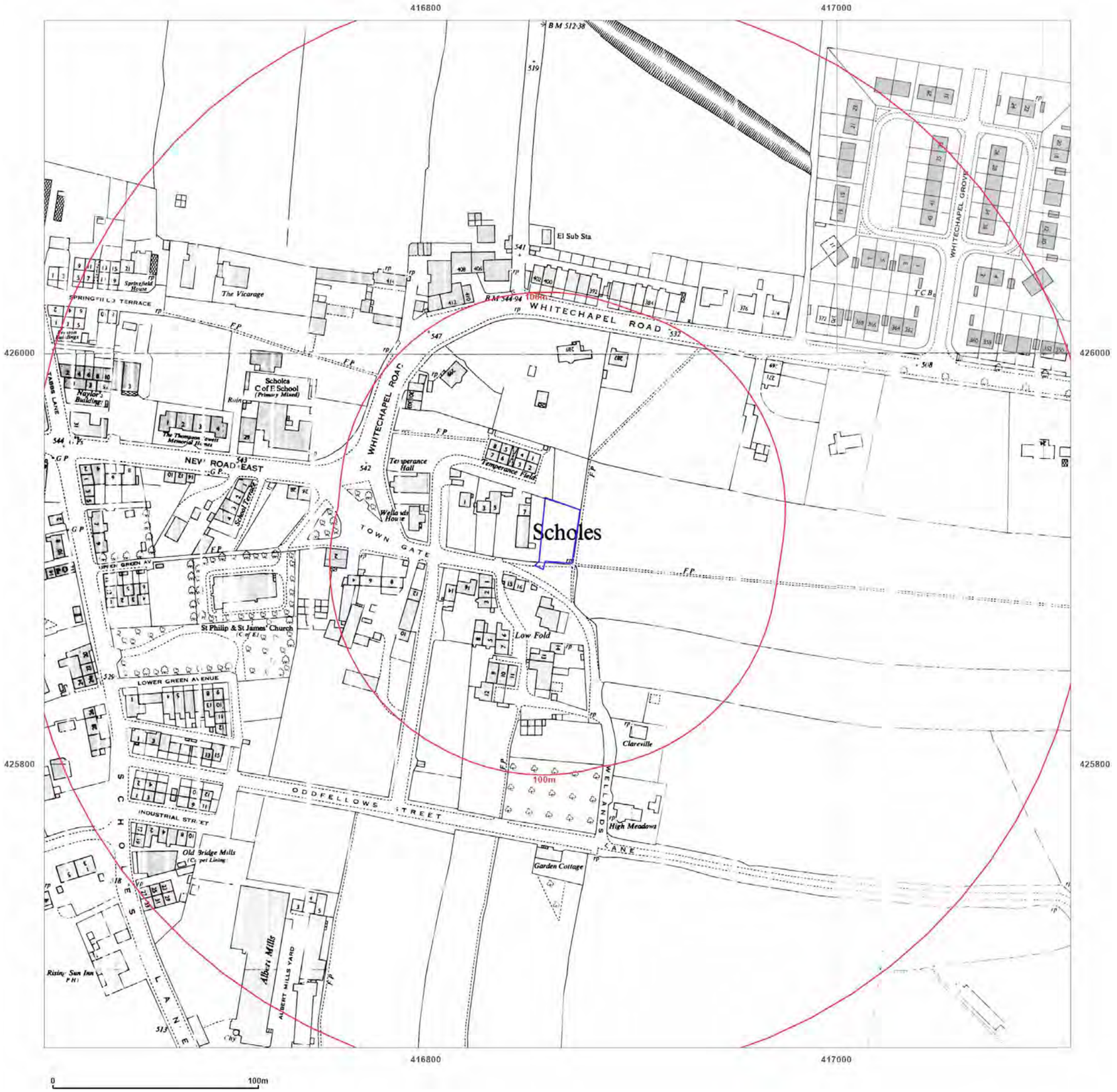

Groundsure INSIGHTS

Site Details:

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SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1957-1960**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1956
Revised 1956
Edition N/A
Copyright 1960
Levelled 1931

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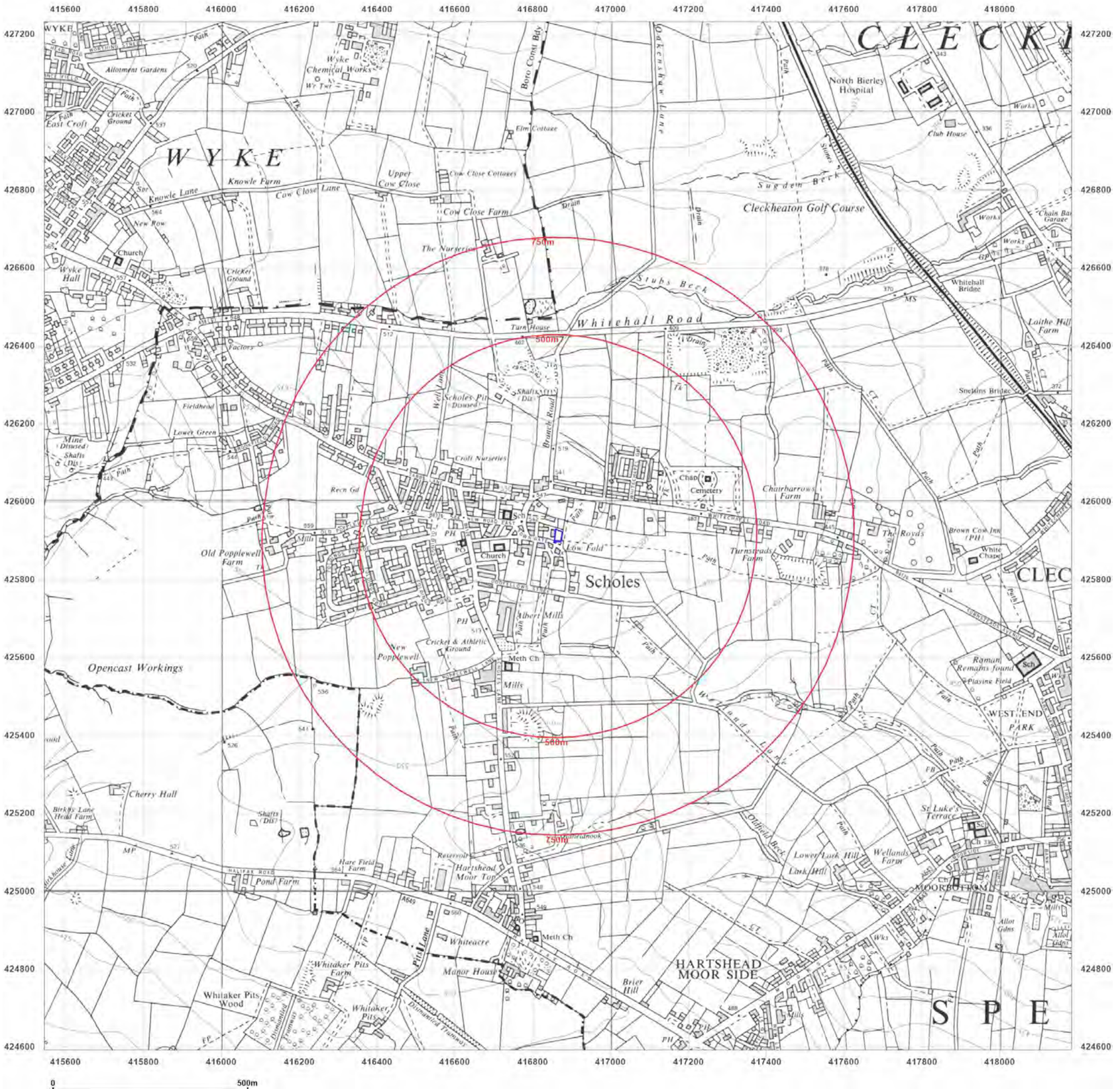

Groundsure INSIGHTS

Site Details:

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SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: Provisional

Map date: **1966-1967**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1967
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Levelled N/A

Surveyed 1966
Revised 1966
Edition N/A
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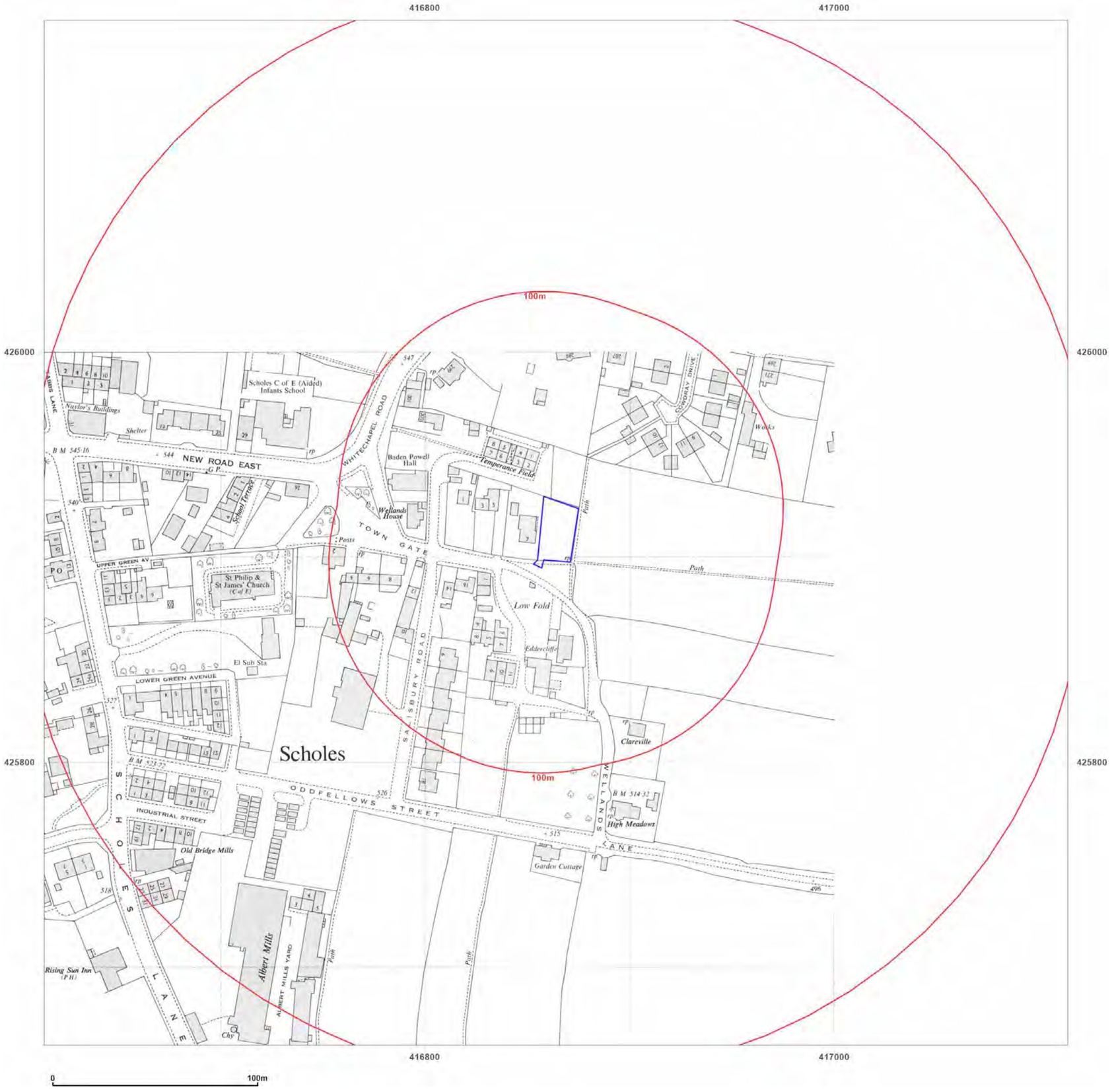

Groundsure INSIGHTS

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SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1967**

Scale: 1:1,250

Printed at: 1:2,000

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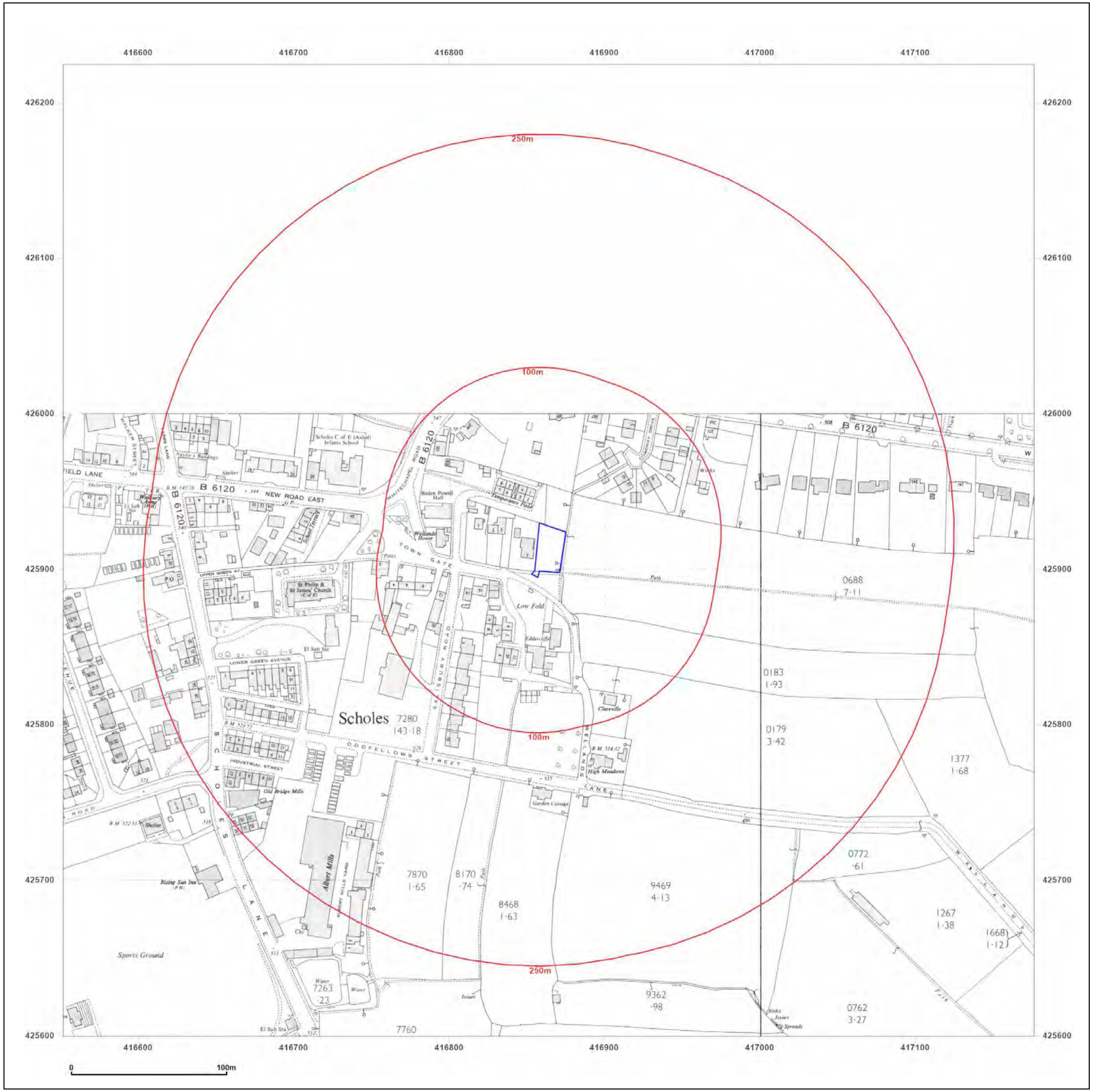

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1969**

Scale: 1:2,500

Printed at: 1:2,500

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

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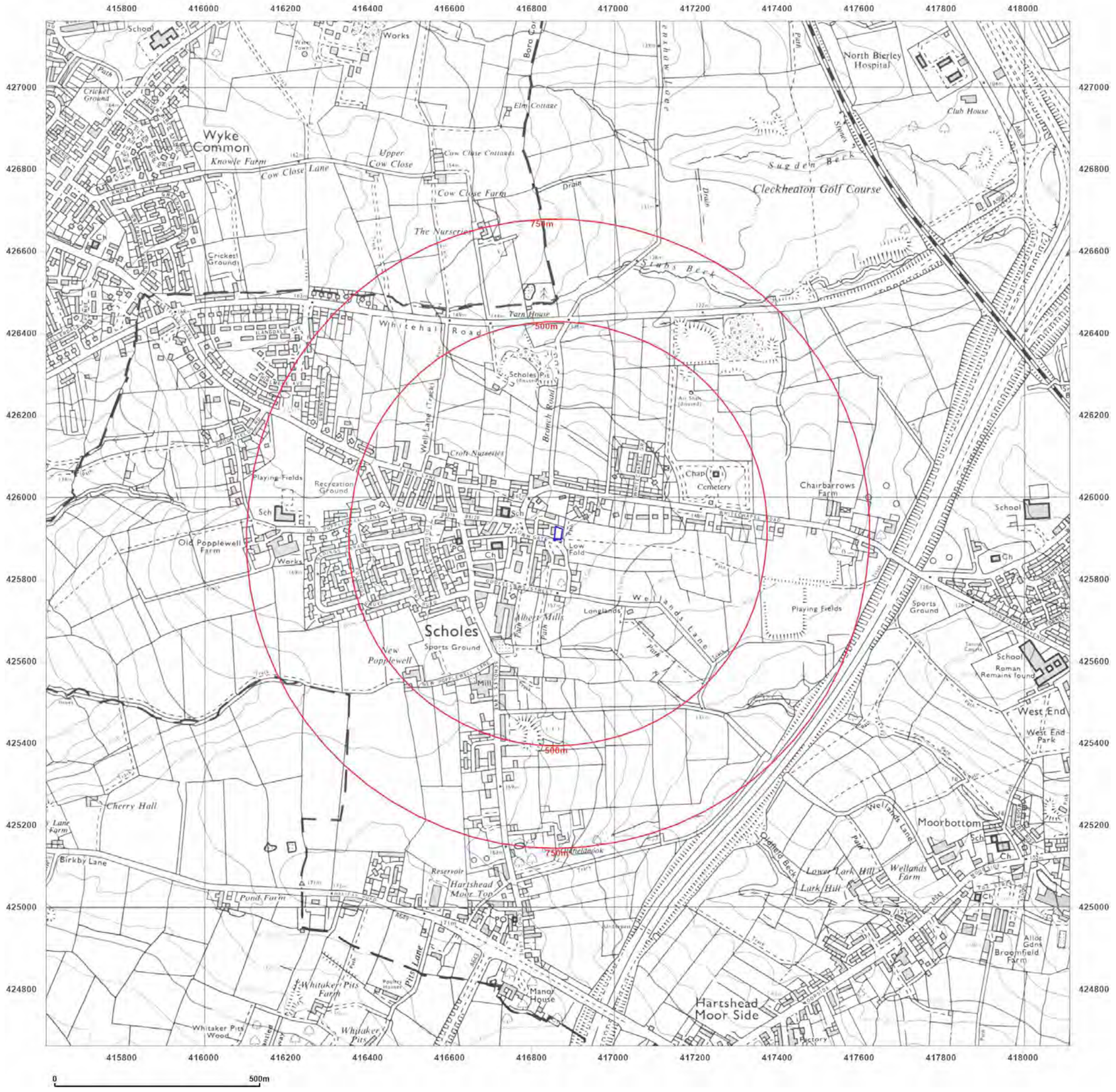

Groundsure INSIGHTS

Site Details:

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Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1974-1975**

Scale: 1:10,000

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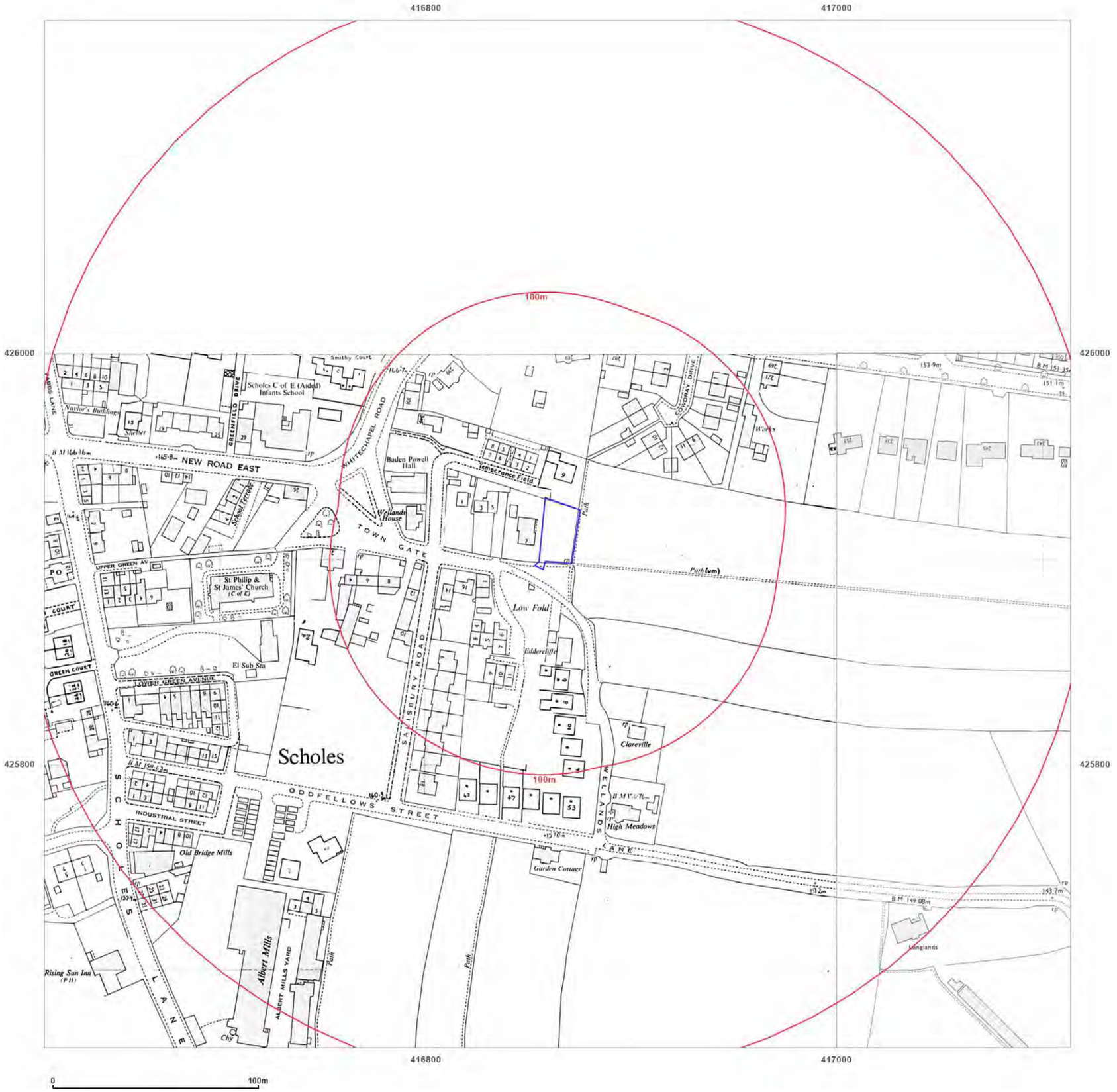

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1974-1979**

Scale: 1:1,250

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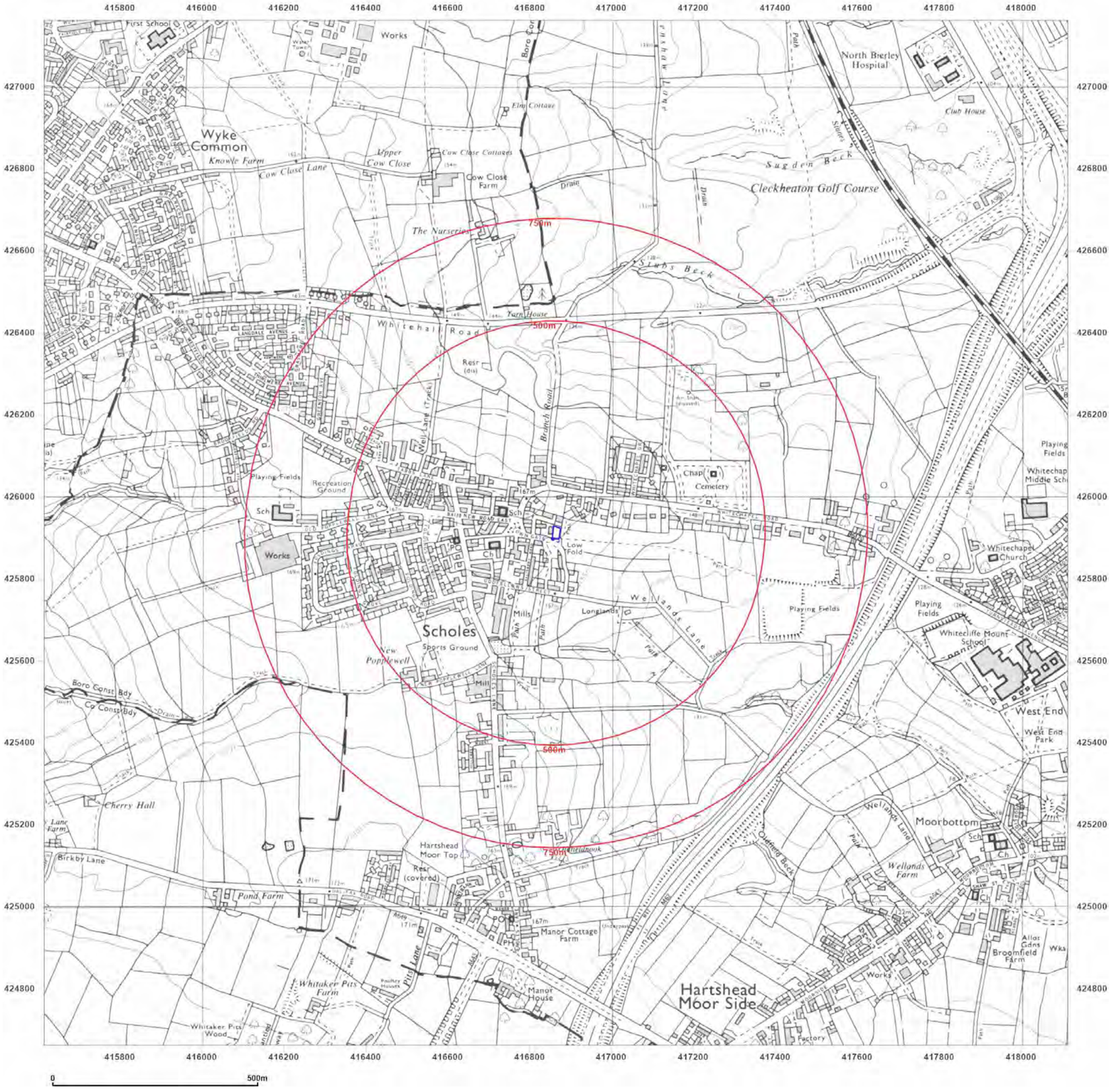

Groundsure INSIGHTS

Site Details:

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Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1983-1985**

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Printed at: 1:10,000

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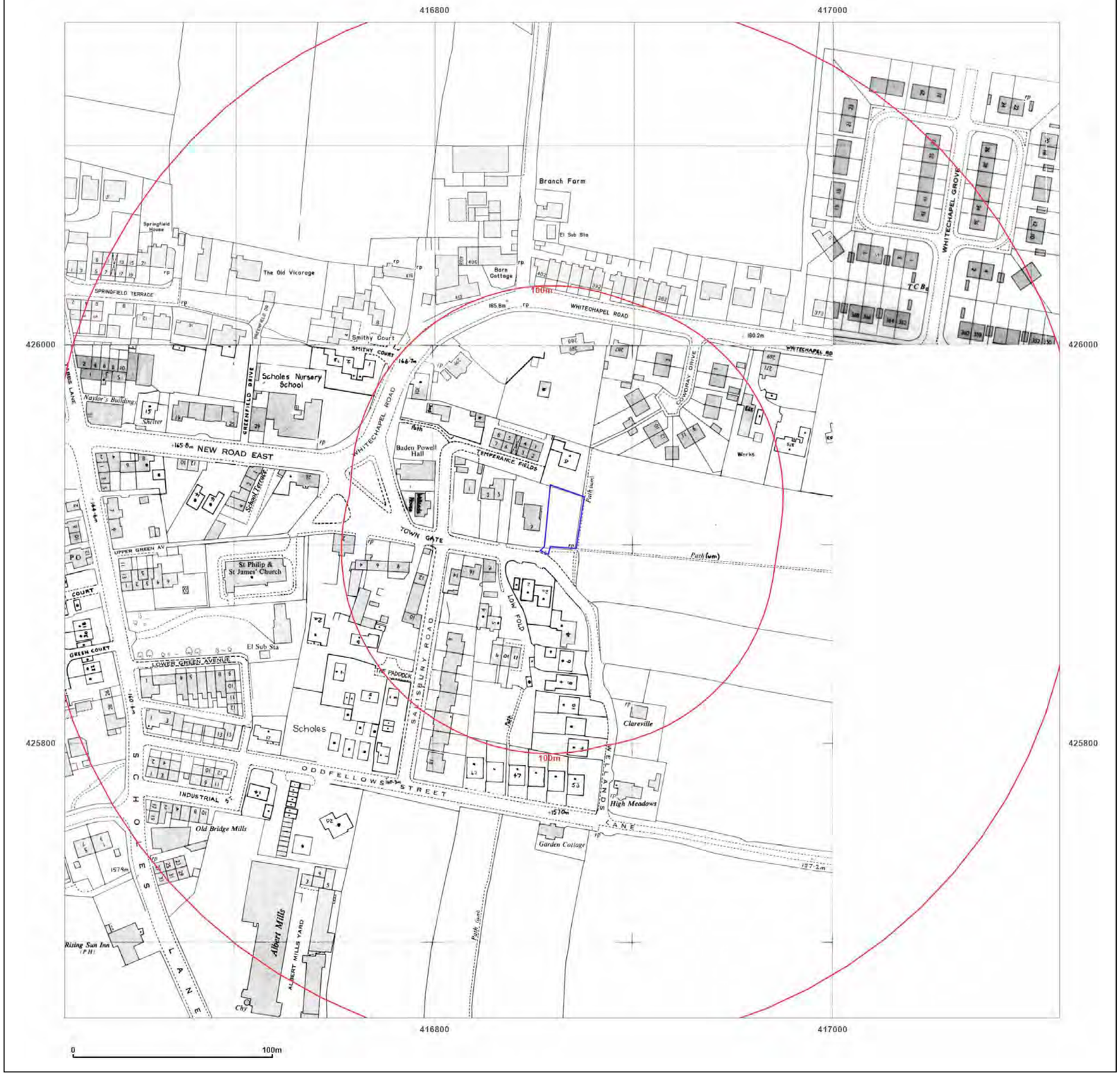

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1985-1990**

Scale: 1:1,250

Printed at: 1:2,000

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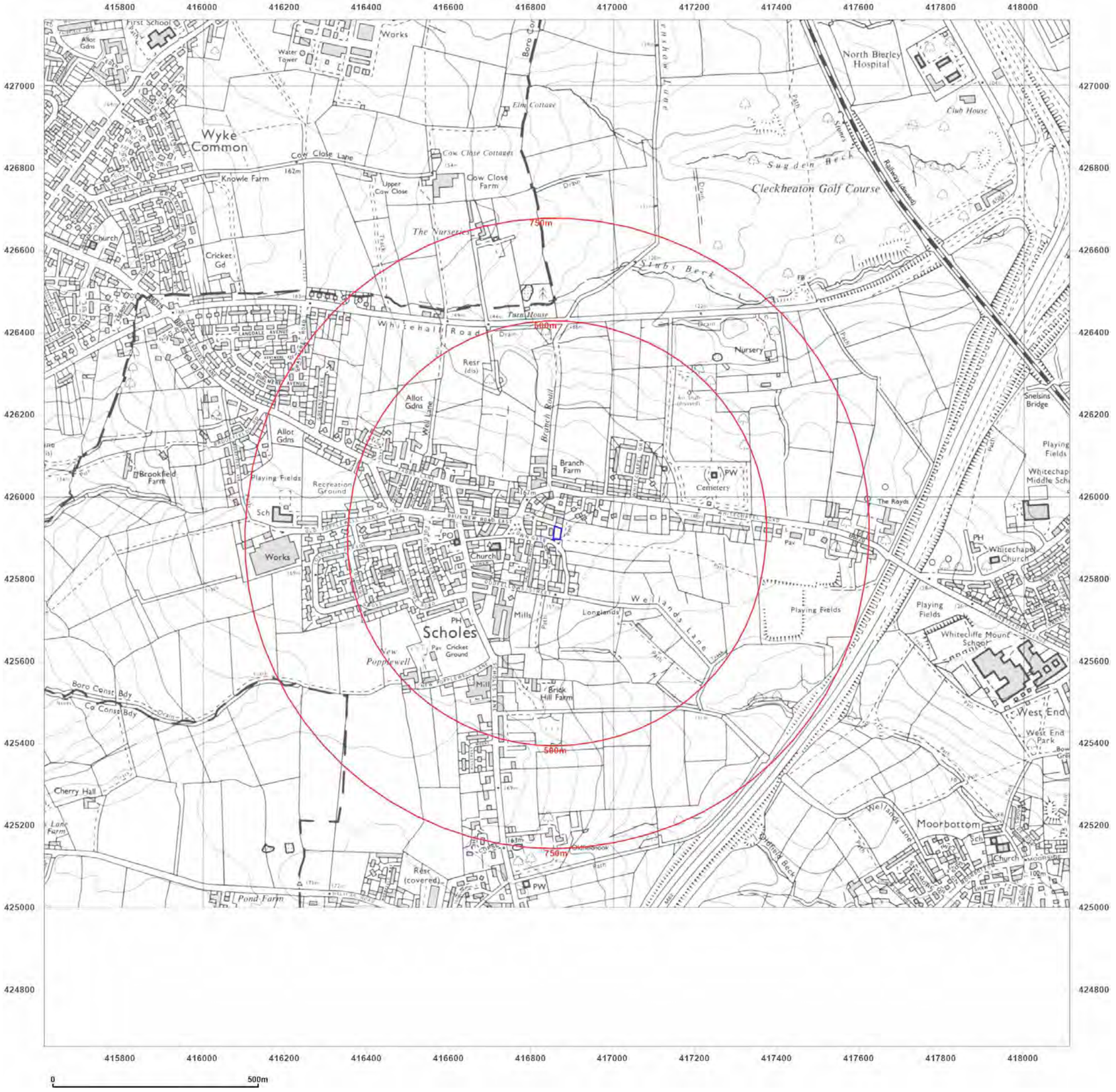

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
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BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1990**

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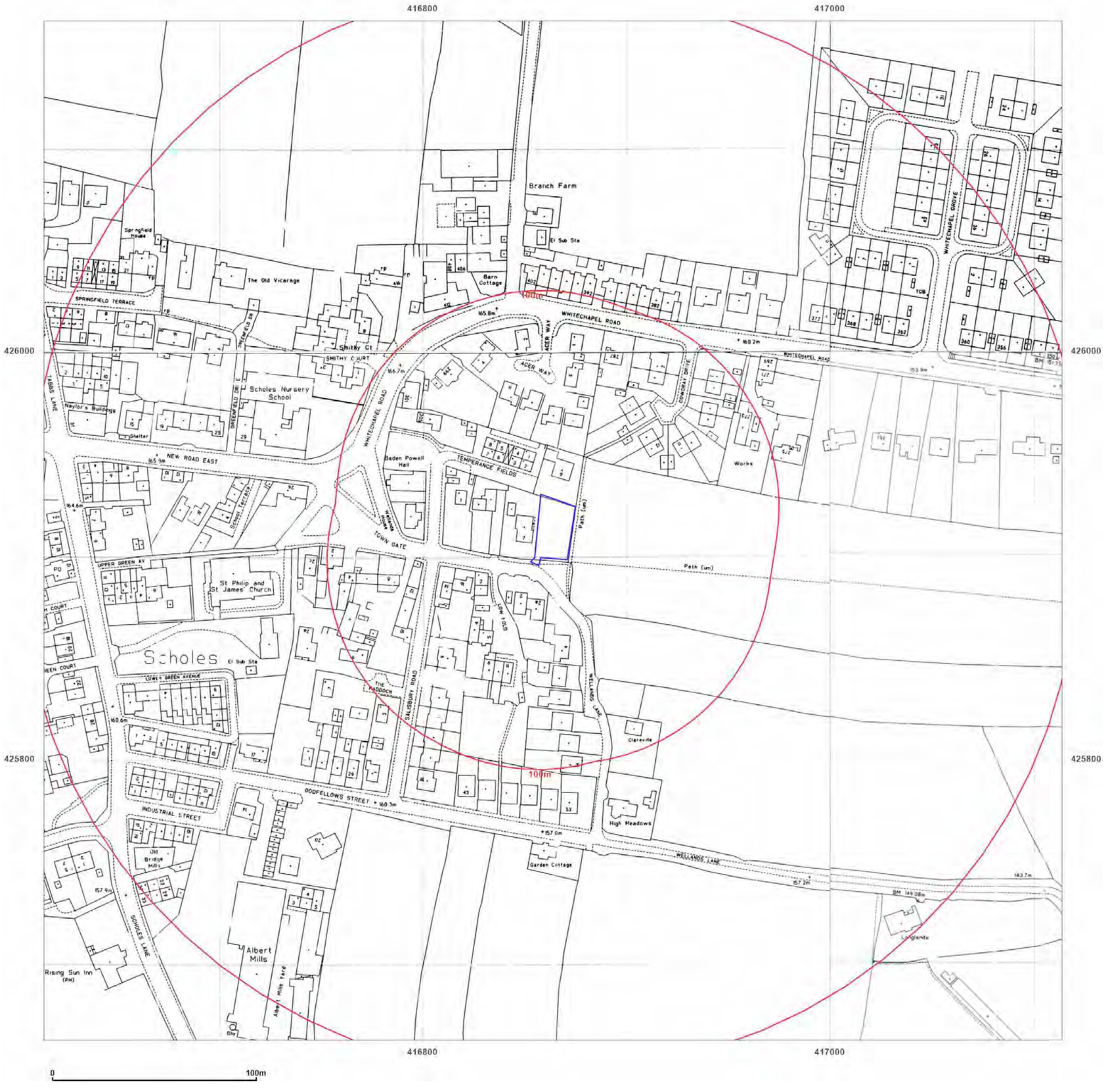

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

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Groundsure INSIGHTS

Site Details:

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Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid
Map date: **1994**
Scale: 1:1,250
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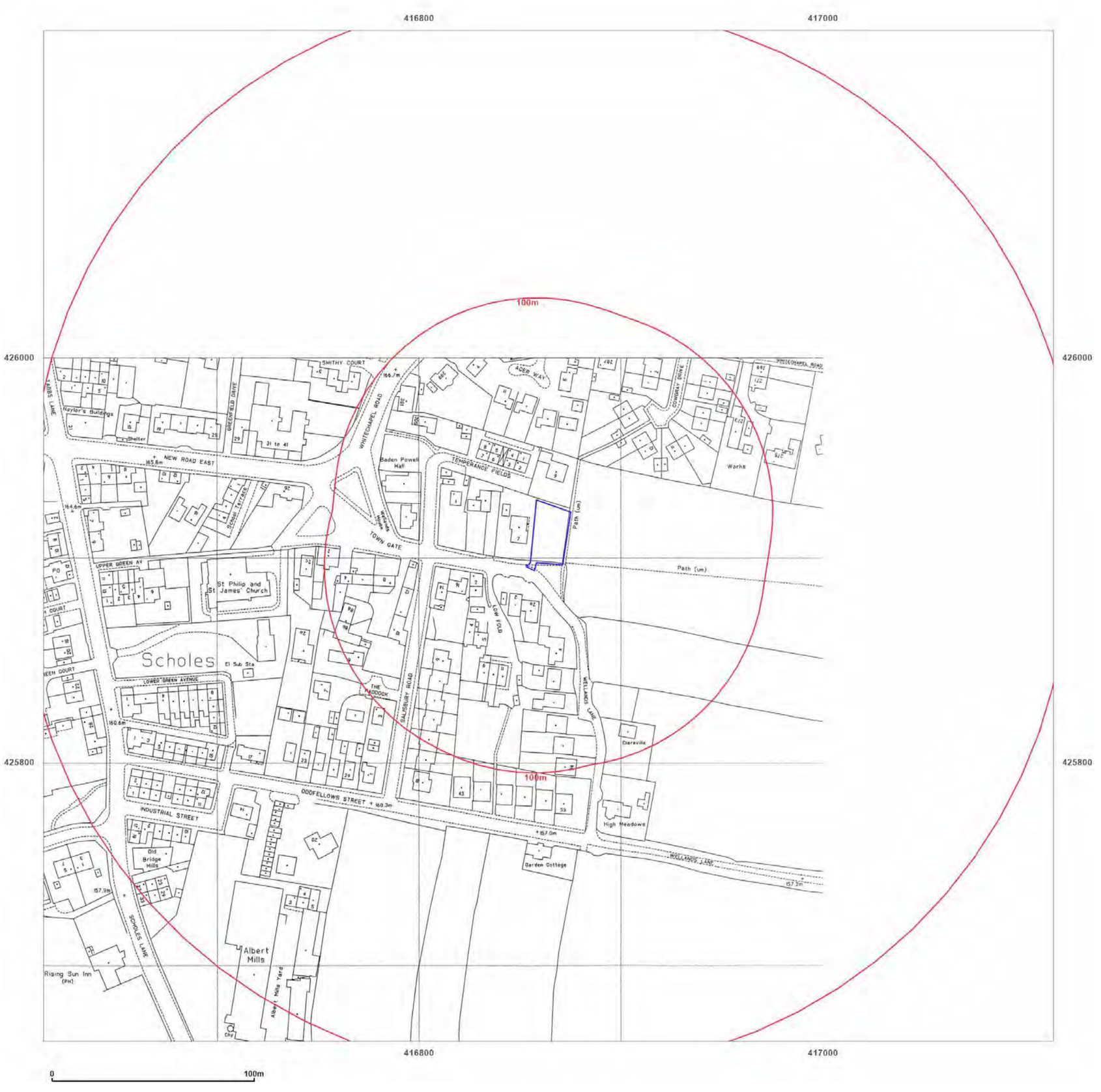

Groundsure INSIGHTS

Site Details:

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BD19 6ET

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Report Ref: GS-8794663
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Edition N/A
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Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

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Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

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

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Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

Client Ref: GES_2371-22
Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

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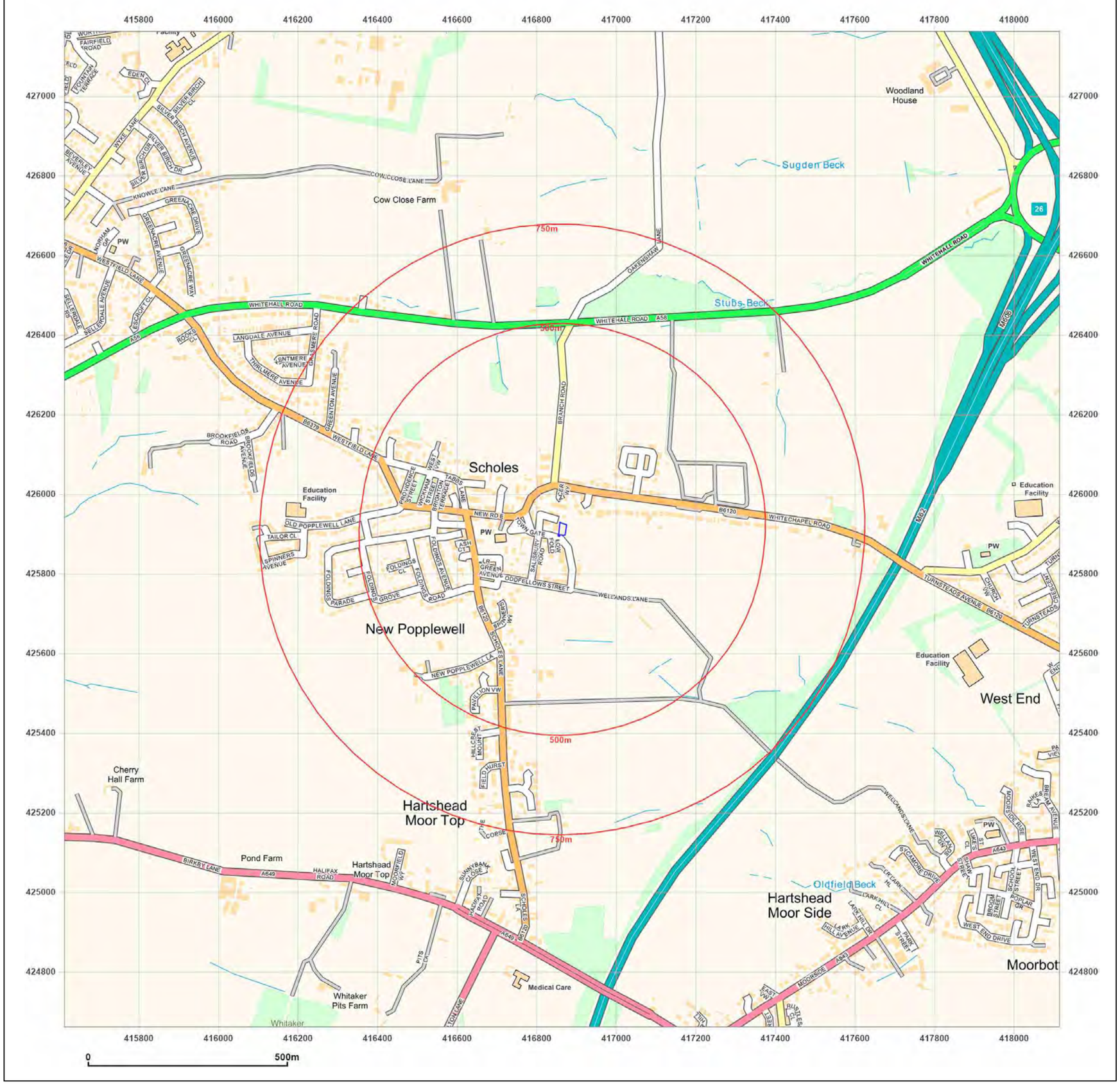

Groundsure INSIGHTS

Site Details:

7 FIELDHEAD, TOWN GATE,
SCHOLES, CLECKHEATON,
BD19 6ET

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Report Ref: GS-8794663
Grid Ref: 416864, 425912

Map Name: National Grid

Map date: **2022**

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W: www.groundsure.com

Production date: 01 June 2022

Map legend available at:
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APPENDIX 6

CONSULTANTS COAL MINING REPORT

The Coal Authority

Summary of findings

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

Key

Approximate position of the enquiry boundary shown

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

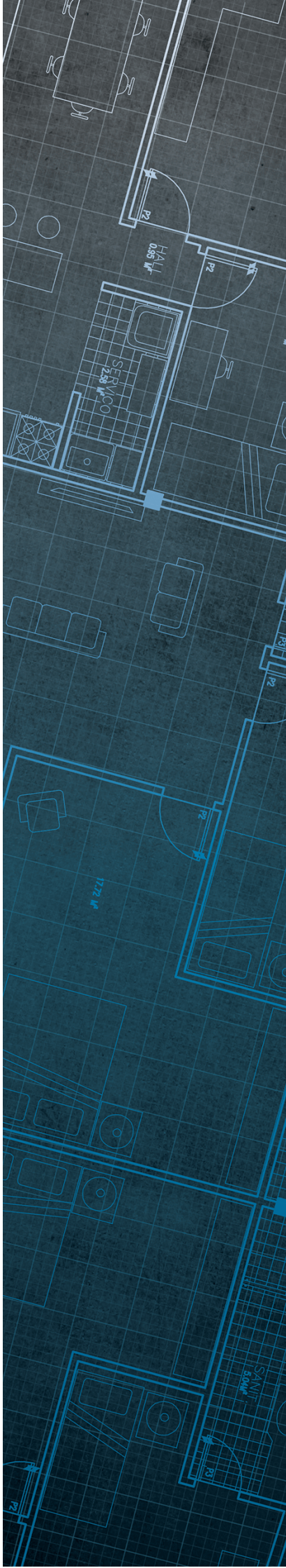
The Coal Authority

Consultants

Coal Mining Report

7 Fieldhead, Town Gate, Scholes,
Cleckheaton, Bd19 6et
West Yorkshire

Date of enquiry:	**1 June 2022**
Date enquiry received:	**1 June 2022**
Issue date:	**1 June 2022**
Our reference:	**51003136704001**
Your reference:	**GS-8794664**



Consultants

Coal Mining Report

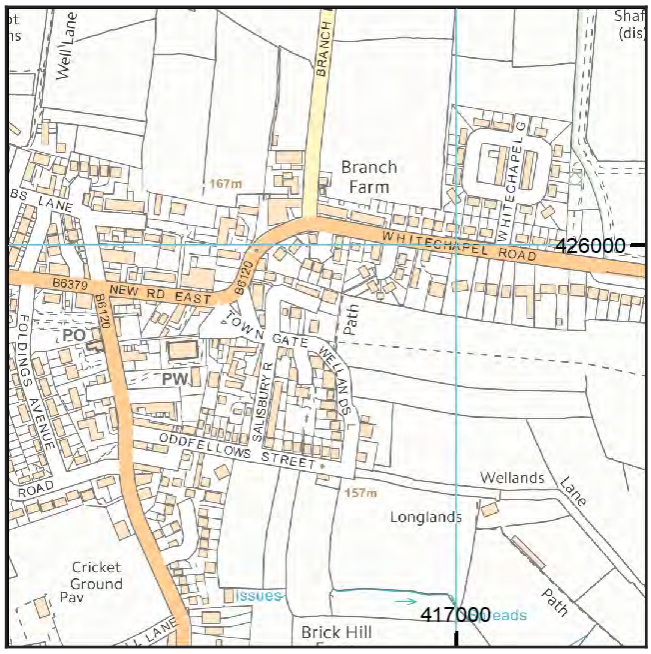
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

GROUNDSURE LIMITED

Enquiry address

7 Fieldhead, Town Gate, Scholes, Cleckheaton, Bd19 6et
West Yorkshire



Approximate position of property

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

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

Section 1 – Mining activity and geology

Past underground mining

Colliery	Seam	Mineral	Coal Authority reference	Depth (m)	Direction to working	Dipping rate of seam worked (degrees)	Dipped direction of seam worked	Extraction thickness (cm)	Year last mined
unnamed	WHINMOOR	Coal	5U5Z	51	North-East	2.9	South-West	61	1898
unnamed	BETTER BED	Coal	6NMO	123	North	2.4	South-East	61	1908
unnamed	BLACK BED	Coal	5U8Z	142	Beneath Property	2.9	South-West	87	1878
unnamed	BETTER BED	Coal	6NHO	186	Beneath Property	2.4	South-East	46	1887

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

None recorded within 100 metres of the enquiry boundary.

Abandoned mine plan catalogue numbers

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

M344	M145	6394
M148	M31	LM64
3820	LM4	M49

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

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

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

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

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

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

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

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

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

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

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

Section 3 – Licensing and future mining activity

Future underground mining
None recorded.

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

Court orders
None recorded.

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

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

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

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

Section 4 – Further information

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

Development advice

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

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

Section 5 – Data definitions

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

Past underground coal mining

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

Probable unrecorded shallow workings

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

Spine roadways at shallow depth

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

Mine entries

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

Abandoned mine plan catalogue numbers

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

Outcrops

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

Geological faults, fissures and breaklines

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX 7

RISK ASSESSMENT MATRIX

Preliminary Risk Assessment Methodology (After NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008))

NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008) sets out a methodology for the estimation of risk.

At Phase I the risk estimation will take the form of a qualitative risk assessment, which will be entirely based on the conceptual model for each potential end-use of the site. Comments on level of uncertainty will also need to be included for each source-pathway-target linkage to allow the confidence in the assessed risks to be understood. The results of the qualitative risk assessment will allow the risk evaluation to be concisely described in the following chapters.

The methodology for risk evaluation is a qualitative method for interpreting the output for the risk estimation stage of the assessment. It involves the classification of the:

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 magnitude of the potential consequence (i.e. severity).
[takes into account both the potential severity of the hazard and the sensitivity of the receptor]

Classification of Probability

Classification	Definition	Examples
High likelihood (Hi)	There is a pollutant linkage and an event that either appears very likely in the short term and almost inevitable in the long term, or there is evidence at the receptor of harm or pollution.	*A) Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden.* *B) Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50 years*
Likely (Li)	There is a 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.	*A) Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space.* *B) Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.*
Low likelihood (Lw)	There is a pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the short term.	*A) Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space.* *B) Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.*
Unlikely (Ul)	There is a pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long term.	*A) Elevated concentrations of toxic contaminants are present below hardstanding.* *B) Light industrial unit <10 yrs old containing a double skinned UST with annual integrity testing results available.*

Preliminary Risk Assessment Methodology (After NHBC Guidance for the Safe Development of Housing on Land Affected by Contamination (2008))

Classification of Consequence

	Definition	Examples
Severe (Sv)	Highly elevated concentrations likely to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. A Category 1: Human Health risk is present. 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.	*Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions.* *Major fish kill in surface water from large spillage of contaminants from site.* *Highly elevated concentrations of List I and substances present in groundwater close to small potable abstraction (high sensitivity).* *Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).*
Medium (Md)	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. A Category 2: Human Health risk is present. 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.	*Significant harm to humans is defined in circular 01/2006 as death, disease* serious injury, genetic mutation, birth defects or the impairment of reproductive functions.* *Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability.* *Ingress of contaminants through plastic potable water pipes.*
Mild (Ml)	Exposure to human health unlikely to lead to "significant harm". A Category 3 Human Health risk is present. 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.	*Exposure could lead to slight short - term effects (e.g. mild skin rash).* *Surface spalling of concrete.*
Minor (Mr)	No measurable effect on humans.A Category 4: Human Health risk is present. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.	*The presence of contaminants at such concentrations that protective equipment is required during site works.* *The loss of plants in a landscaping scheme.* *Discoloration of concrete.*

* For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.

The classification of consequence does not take into account the probability of the consequence being realized. Therefore, there may be more than one consequence for a particular pollutant linkage. Both a severe and medium classification can result in death. Severe relates to short term (acute) risk while medium relates to long

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term (chronic) risk. Mild relates to significant harm but to less sensitive receptors. Minor classification relates to harm which is not significant but could have a financial cost.

The classification gives a guide as to the severity and consequence of identified risk when compared with other risk presented on the site. It should be noted that if a risk is identified it cannot be classified as "no risk" but as "very low risk". Differing stakeholders may have a different view on the acceptability of a risk.

Risk Evaluation Matrix

		Consequence			
		Severe (Sv)	Medium (Md)	Mild (Mi)	Minor (Mr)
Probability	High likelihood (Hi)	Very high risk (VH)	High Risk (H)	Moderate Risk (M)	Mod/low risk (M/L)
	Likely (Li)	High risk (H)	Moderate risk (M)	Mod/low risk (M/L)	Low risk (L)
	Low likelihood (Lw)	Moderate risk (M)	Mod/low risk (M/L)	Low risk (L)	Very low risk (VL)
	Unlikely (Ul)	Mod/low risk (M/L)	Low risk (L)	Very low risk (VL)	Very low risk (VL)

Risk Categorizations

Very high risk (VH)	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realized, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High risk (H)	Harm is likely to arise to a designated receptor from an identified hazard. Realization of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short-term and are likely over the longer-term.
Moderate risk (M)	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, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer-term.
Low risk (L)	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realized, would at worst normally be mild.
Very low risk (VL)	There is a low possibility that harm could arise to a receptor. In the event of such harm being realized it is not likely to be severe.

Reference

Rudland, D J, Lancefield, R M, Mayell, P N; 2001; Contaminated land Risk Assessment. A guide to Good Practice; CIRIA Report C552.

The NHBC (National House-Building Council) the Environment Agency and the Chartered Institute of Environmental Health, 2008, Guidance for the Safe Development of Housing on Land Affected by Contamination R&D66.