Jarvale Construction

Jacquet, Tankersley

LCRM Stage 1 Risk Assessment

FINAL

August 2023



Revision Schedule

Jacquet, Tankersley

LCRM: Stage 1 Risk Assessment & CMRA

August 2023

Doc Ref: JCL-1688-01-LCRM-001

Rev	Date	Status	Prepared by	Reviewed by	Approved by
-	22nd August 2023	FINAL	L D Barnes, BSc (Hons), MCIHT	Calum Reford BSc (Hons) MSc	L D Barnes, BSc (Hons), MCIHT

Inspire Design & Development Ltd
Unit 2A
Church View Business Park
Coney Green Road
Chesterfield
Derbyshire
S45 9HA

Tel: 01246 864467

www.inspiredesigngroup.co.uk

This document has been prepared in accordance with the scope of Inspire Design & Development Ltd's appointment ('Inspire') with its client and is subject to the terms of that appointment. It is addressed to and for the sole and confidential use and reliance of Inspire's client. Inspire accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of the Company Secretary of Inspire. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The contents of this document do not provide legal or tax advice or opinion.

© *Inspire Design & Development Ltd 2023*

CONTENTS

SUMMARY & RECOMMENDATIONS

1 INTRODUCTION 7
1.1 Appointment 7
1.2 Report Context and Status 7
1.3 Objectives 8
1.4 Scope of Works 8
1.5 Previous Ground Investigation Reports 8
1.6 Limitations of Study 8

2 SITE SETTING 9
2.1 Details & Description 9
2.2 Anticipated Geological Conditions 9
2.3 Designations 12
2.4 Environmental Records 12
2.5 Site History 14

3 PRELIMINARY ENGINEERING APPRAISAL 15
3.1 Anticipated Ground Conditions 15
3.2 Landslip 15
3.3 Foundations, Floor Construction & Superstructure 15
3.4 Heave Precautions 16
3.5 Retaining Structures 16
3.6 Excavation 16
3.7 Natural Ground Subsidence 17
3.8 Obstructions 17
3.9 Concrete 17
3.10 Stress Relief 17
3.11 Pavement 17
3.12 Surface Water Drainage 17

4 PRELIMINARY ENVIRONMENTAL APPRAISAL 18
4.1 Introduction 18
4.2 Potential Sources of Contamination 18
4.3 Potential Migration Pathways 19
4.4 Potential Receptors 20
4.5 Preliminary Environmental Risk Assessment 20

5 FURTHER WORKS 26
5.1 Introduction 26
5.2 Objectives of Investigation 26
5.3 Proposed Methods of Investigation 27
5.4 Testing 27
5.5 Outline Remediation Requirements 28

6 REGULATORY APPROVAL 30

7 INFORMATION SOURCES 31

8 REPORTING LIMITS 33

TABLES

Table 2.1 - General Site Details 9
Table 2.2 - Published Geology 9
Table 2.3 - Summary of Designations & Other Potential Actions 12
Table 2.4 - Environmental Data 13
Table 2.5 - Summary of Historical Ordnance Survey Features 14
Table 4.1 - Summary of Potential Sources and Contaminants 19
Table 4.2 - Summary of Plausible Pathways 19
Table 4.3 - Summary of Potential Receptors 20
Table 4.4 - Risk Categorisation 21
Table 4.5 - Summary of Environmental Risk (Current Site Condition without Mitigation) 23
Table 5.1 - Phase 2 Investigation Recommendations 27

FIGURES & DRAWINGS

A23026_991100 LOCATION PLAN

A23026_91111 PROPOSED SITE PLAN

APPENDICES

APPENDIX A: ENVIRO+GEO INSIGHT REPORT

APPENDIX B: HISTORICAL ORDNANCE SURVEY PLANS

APPENDIX C: COAL AUTHORITY CONSULTANTS COAL MINING REPORT

SUMMARY & RECOMMENDATIONS

This summary presents the salient points of the report but should not be referred to in isolation of the body text. There will be other information contained within the report which puts into context the findings of the Executive Summary. No reliance should therefore be placed on the Executive Summary until the report has been read in full. The recommendations given are considered reasonable based on available information and the assessment of the Site as carried out by Inspire Design & Development Ltd at this time.

1 ENVIRONMENTAL CONSTRAINTS

Biogenic Ground Gases: Opencast and underground coal mining legacy has the potential to give rise to elevated concentrations of either carbon dioxide and/or methane. A BS8485 Characteristic Situation 2 determination for the Site is therefore postulated and precautions commensurate with this should be allowed for in construction until confirmed otherwise.

Radon: No radon precautions are required in construction.

General Soil Contamination: A general check on contaminant levels should be undertaken within the remit of an intrusive ground investigation.

Asbestos in Soil: An overall very low risk is expected in relation to asbestos containing materials within the on-site soils, although the presence of any asbestos would be confirmed as part of the intrusive ground investigation.

Remediation Requirements: An LCRM Stage 3 Remedial Strategy would need to be issued to the Local Planning Authority if remedial works for soil/ground gas contamination were found to be required.

Controlled Waters Receptors: Risk from the off-site discharge of any leachable contaminants is considered to be very low. No further assessment is considered necessary.

Invasive Plants Species: Risk from invasive plant species is not expected, although this should be independently confirmed as required.

UXO: Further assessment with respect to unexploded ordnance risk is not considered necessary.

Archaeology: The need for archaeological monitoring has not been identified within the remit of this assessment.

2 GEOTECHNICAL & GENERAL DEVELOPMENT CONSTRAINTS

Ground Investigation: A geotechnical assessment will need to be carried out to assess the underlying ground conditions.

Buried Concrete: Protection to buried concrete products will be required where foundations come into contact with soils that exhibit levels of sulphate above DS1. Testing should be undertaken to confirm.

Foundations & Floor Construction: Foundation design and floor construction to be provided lies outside the scope of this assessment and should be discussed further with the Designing Engineer once the condition of the underlying fill soils has been confirmed.

General Ground Stability: The instability of loose and/or weathered soil should be expected during the works, particularly during prolonged periods of wet weather and/or where excavations are left open for protracted periods of time. Excavations into the underlying fill soils will need to be undertaken with care as it would be expected for these to fracture and deteriorate. Such disturbance will also affect the stiffness and strength of the soils, which in turn will affect earth pressures.

Slopes: Global slope stability problems would not be expected, although consideration to potential problems of adjacent areas impacting on the Site should always be made.

Heave Precautions: To mitigate against heave, foundations will need to be constructed in accordance with current guidelines where they are found to lie within influencing distance of removed, existing, or proposed planting when in cohesive soils.

Excavation Obstructions: No significant obstructions are expected, although some oversized material could be present within the fill soils.

Potable Water Supplies: A very low risk is anticipated on the basis of available information. No specific precautions in construction are considered likely to be required, although the utility provider should be contacted to determine whether there are any specific requirements they may have.

Retaining Structures:

Surface Water Drainage: Due to the expected cohesive nature of the underlying soils, the anticipated depth and extent of fill soils, and the potential for softening and foundation settlement via the infiltration of water, soakaways in accordance with BRE365 are considered to be unsuitable for the disposal of surface water.

Pavement: The minimum permitted design CBR is 2.5%. It is recommended at this stage that this conservative value for subgrade be used; in situ CBR testing should be completed as required. Frost susceptibility should be expected.

3 MINING LEGACY CONSTRAINTS

Recorded Underground Coal Mine Workings: Risk associated with shallow recorded coal mine workings is not expected.

Probable Unrecorded Underground Coal Mine Workings: Risk associated with potential unrecorded shallow-depth coal mine workings is not expected on the basis of information obtained from the Coal Authority at this time. There is no particular evidence to support the likelihood of there being such working beneath the Site.

Surface Ground Workings: The Site lies within the footprint of and adjacent to former coal opencast workings. Appropriate investigation works to confirm the condition of the underlying soils will be needed.

Mine Entries: Three mine entries are indicated by the Coal Authority. These are positioned around the Site, but not within it. If any mine entries were present on-Site, it would be expected for these to have been removed during the coal opencasting works.

Ground Treatment: None anticipated to be required.

Further Assessment: Not expected unless information contrary to that reviewed within the context of this assessment comes to light and further assessment is considered necessary.

1 INTRODUCTION

1.1 Appointment

Inspire Design & Development Ltd ('Inspire') were appointed by Southgate & Sarabia Architects on behalf of the Client to provide professional services in relation to the preliminary geotechnical and geo-environmental assessment of land located at their property at Rockingham House, Tankersley, Barnsley (herein referred to as the 'Site').

Inspire have prepared this report for the sole use of the Client that commissioned it in accordance with the agreement under which our services are performed. No other warranty, expressed or implied, is made as to the professional advice included in this report. Any unauthorised third parties using the information presented in this report do so entirely at their own risk and are duly excluded from any warranty, duty of care or skill.

No part of this report shall be reproduced or redistributed without the prior written consent of Inspire. However, the report may be issued by the Client or their Agent to the Local Planning Authority to support the discharge of any pre-commencement or other such pre-occupancy planning condition as may be imposed in relation to the Site's assessment under the Town and Country Planning Act 1990.

1.2 Report Context and Status

The aim of this report is to provide a baseline assessment of the anticipated geotechnical, mining legacy and land contamination status of the Site given the proposal to erect a new storage and manufacturing warehouse with associated operations yard. The assessment given herein applies to the Site area as a whole, as defined in red on the appended location plan (Ref. A23026_991100/Rev.A, dated 16th June 2023), but it should be noted that the area of development lies within the Client's existing land ownership, which is to remain. The proposed layout of the new unit is indicated on the appended site plan (Ref. A23026_91111/Rev.B, dated 16th June 2023).

The assessment follows a technical review of currently available published geological, hydrogeological, geo-environmental and Coal Authority records. Additional salient information has also been obtained from review of a third party survey report prepared in 1997 [1]. All works presented herein have been completed in accordance with the general requirements of BS10175 [2], BS5930 [3], and Land Contamination Risk Management ('LCRM') [4] (which replaced CLR11 in October 2020).

Notwithstanding the provision of discourse on any geotechnical, coal mining related matters, or general construction issues that could apply, the assessment also includes for potential sources of historic ground contamination, its anticipated impact on sensitive receptors, and identifies where any intrusive works or further risk assessment are required to facilitate development within the framework of a generic commercial exposure scenario as defined by the Environment Agency [5].

Interpretation and recommendations given in this report should not be assumed valid for adjacent areas of land, or for alternate land use. Should the proposed Site usage change, the recommendations and conclusions presented in this report will need to be re-assessed in accordance with current guidance.

1.3 Objectives

The objectives of this assessment are to:

- Obtain current information from published sources with respect to any environmental designations, SSSI, visual and cultural designations, and agricultural and/or habitat designations as may exist on Site or within the immediate area of development.
- Obtain current information from published sources about the likely soil and groundwater conditions within the area of development.
- Identify and assess the potential for any ground related geotechnical hazards, including the potential for ground instability arising from coal mining legacy.
- Identify and assess the potential for any ground related environmental hazards, including the potential for any ground gas regime to affect the proposed development.
- Define a preliminary Conceptual Site Model ('CSM') of plausible source-pathway-receptor linkages and undertake a qualitative assessment to evaluate the level of risk associated with each linkage in accordance with the proposed development end use scenario.
- Outline preliminary development recommendations, and
- Provide advice on any additional stages of LCRM assessment that may need to be completed to satisfy the concerns of the regulatory authorities, this including Stage 1 generic or detailed quantitative risk assessment with ground investigation, Stage 2 options appraisal [6], and/or Stage 3 remedial actions [7].

1.4 Scope of Works

Notwithstanding the references cited above, assessment undertaken within the context of this study comprised a review of the following information sources:

- British Geological Survey ('BGS') 1:50,000 scale series (solid & drift edition) geological mapsheet [8]
- BGS Onshore GeoIndex records and boreholes database [9]
- Emapsite - Enviro+GeoInsight Data Report (Appendix A) [10]
- Emapsite - Historical Ordnance Survey ('OS') Plans (Appendix B) [11]
- Coal Authority interactive (planning) database [12]
- Coal Authority Consultants Coal Mining Report (Appendix C) [13]

1.5 Previous Ground Investigation Reports

Other than for the BSCP report, Inspire are not aware of any historically issued ground investigation data or other such assessment that relates to the proposed development Site or the immediate area surrounding it.

1.6 Limitations of Study

This appraisal has been undertaken subject to the limitations detailed in Section 8 and any other limitations stated specifically in the report text. Where further works are identified, these shall be completed within the framework of LCRM and any other current regulatory requirements.

No intrusive ground investigation works have been completed at this time.

2 SITE SETTING

2.1 Details & Description

A general summary of the Site's setting is given in Table 2.1, below.

Table 2.1 - General Site Details

National Grid Reference	The National Grid Reference for the centre of the Site is indicated to be 434045mE 399573mN.
Current Land Use	The majority of the Site is vacant undeveloped ground whilst the southern part encroaches into the existing car park.
Ground Covering to Assessment Area	Much of the Site is unsurfaced. Self-seeded trees and rough grasses cover much of it.
General Boundary Development	The existing manufacturing facility lies to the immediate west. To the east and south the boundaries are open to the remaining landholding of the Client, whilst to the north the land is wooded.
Ground Elevations	Topographic data indicates that the Site lies at approximately 155m AOD with this increasing towards the east.
Invasive Species	Invasive plant species were not observed during the Site walkover. This should be confirmed independently by a specialist, as required.

2.2 Anticipated Geological Conditions

A summary of salient geological and hydrogeological data is given in Table 2.2, below and overleaf.

Table 2.2 - Published Geology

Infilled Ground	Groundsure data indicates that the Site lies within an area of infilled ground. Information contained within the BSCP report confirms that the Site was previously part of an area of former coal opencast working, with the ground being infilled and engineered by Henry Boot Developments Ltd. Trial excavations completed in March 1976 recorded the presence of clayey fill to a depth of at least 3.66m bgl (the base appears not to have been proven) with this comprising a mixture of soft to firm gravelly clay over shales, clay and cobbles. The level of compaction noted in the trial records was given as loose to medium, although no compaction data is provided. Information contained within the BSCP report suggests that an allowable bearing capacity of 75kPa could be achieved on the fill, with this being confirmed through supplementary ground investigation. It would be prudent to do this. The report also indicates the presence of 'soil mounds' within the area of proposed development, with these being associated with those materials excavated to facilitate construction of the adjacent manufacturing facility. The overall thickness of fill and non-engineered made ground to be encountered should therefore be expected to be greater than historically indicated.

Table Contd./

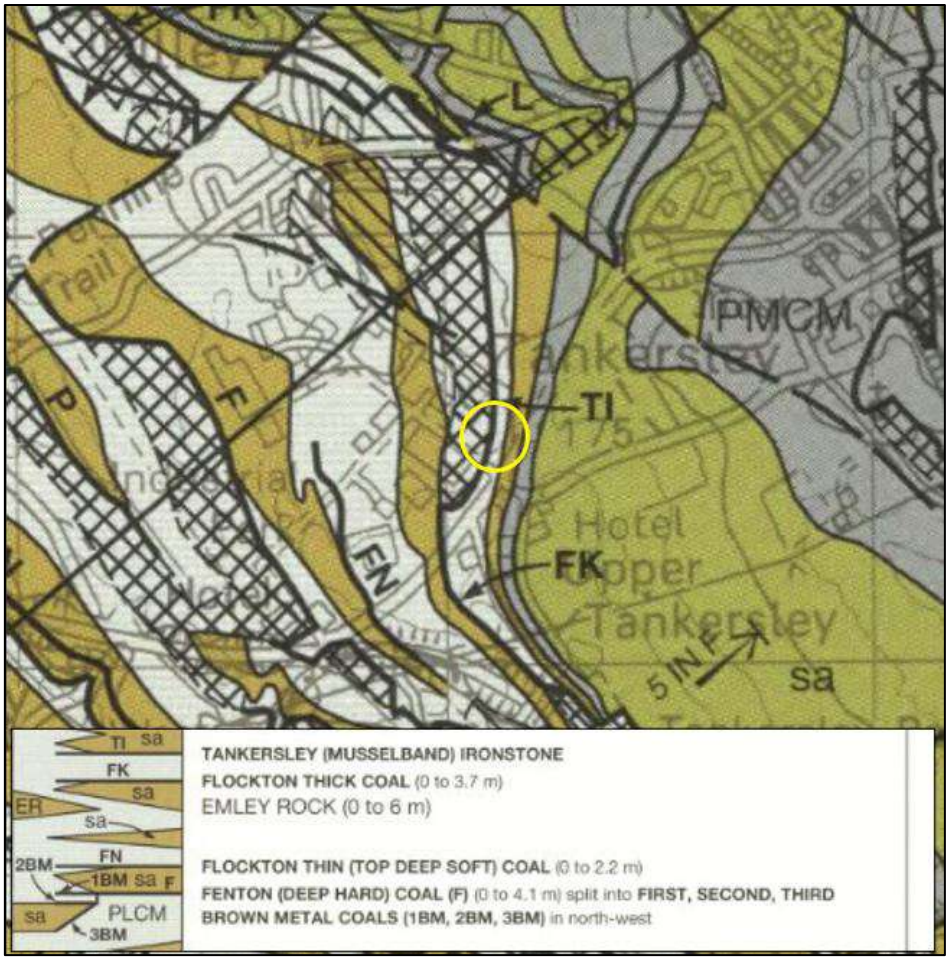
BGS Borehole Records	There are no BGS borehole records that may be referred to within the remit of this assessment.
Superficial Geology	No undisturbed superficial deposits would be expected to be present on Site.
Solid Geology	Beneath the fill, the solid geology underlying the Site would be expected to comprise Pennine Lower Coal Measures deposits. These generally consist of a cyclic sequence of deposition of interbedded and undifferentiated horizons of mudstone and siltstone with various sandstone bands, coal seams and their seatearths.  Source: BGS Mapsheet 87 (Barnsley) 1:50,000 (2008)
Coal	Coal Authority reporting indicates that recorded underground workings in the Fenton (or Deep Hard) seam are present from a depth of 60m bgl, with the thickness of extraction being 1.4m. No workings in the overlying Flockton Thin are indicated, although this seam would be expected to be present within only a few metres of the Fenton, if present (as it appears to be laterally discontinuous), being separated by sandstone. It should be present at a considerable depth, therefore. The report states that probable unrecorded shallow workings at a depth <30m bgl could be present. There are no recorded coal seams between the Flockton Thin and the Flockton Thick, which itself was extensively worked beneath the Site and surrounding land from opencast. Risk from unrecorded workings is therefore considered to be low.

Table Contd./

	As indicated above, the Site lies within an area of former coal opencast. This is indicated on the accompanying Coal Authority large plot in Appendix C.
Mine Entries	Three mine entries are indicated by the Coal Authority. These are positioned around the Site, but not within it. If any mine entries were present on-Site, it would be expected for these to have been removed during the coal opencasting works.
Mining Cavities	There are no recorded mining cavities within 1km.
Natural Cavities	There are no recorded natural cavities within 500m.
Non-coal Mining	The potential for difficult ground conditions associated with any former ironstone mining are unlikely and at a level where they need not be considered further.
Bedrock Faults & Other Linear Features	There are no recorded fault lines within at least 91m of the Site. The inferred position of coal and ironstone is indicated, although this all should have been removed during opencast workings.
Radon	Between 1% and 3% of properties are estimated to exceed the Radon Action Level. No radon protective measures are indicated to be required in construction on this basis.
Hydrogeology	Aquifer within Superficial Deposits on Site: Not applicable. Aquifer within Bedrock on Site: Secondary A. Source Protection Zones: There are no source protection zones within 500m. Source Protection Zones within Confined Aquifers: There are no source protection zones within confined aquifers within 500m. Groundwater Vulnerability Zones: The highest recorded soil/surface leaching potential is indicated to be high (>70% infiltration and 300-550mm/year dilution), whilst the vulnerability of the bedrock geology is also indicated to be high. Groundwater flow through the bedrock would be via secondary porosity (crack and fissures). Groundwater Vulnerability – Soluble Rock Risk: No soluble rocks are identified as being present beneath the Site.
Hydrology	There is one recorded surface water feature indicated to be present on-Site. The Site is indicated to lie within a Water Framework Directive Surface water Body Catchment, this being associated with: • Rockley Dike from Source to River Dove (Ref. GB104027057480). Furthermore, the Site is indicated to lie within a Water Framework Directive Groundwater Body Catchment. Data provided by the Environment Agency [14] indicates that the groundwater body associated with the 'Don & Rother Millstone Grit & Coal Measures' achieved an overall classification of 'Good' in 2019.

2.3 Designations

The Enviro+GeoInsight report provides details on property-specific environmental designations in addition to other potential actions associated with non-environmental search returns such as planning constraints.

The following salient information is presented in Table 2.3, below.

Table 2.3 - Summary of Designations & Other Potential Actions

SSSI	There are no statutory protection sites within 500m.
Ramsar	There are no records relating to conserved wetland areas under the Convention of Wetlands of International Importance within 2km.
SAC	There are no records of Special Areas of Conservation having been designated under the EC Habitats Directive within 2km.
SPA	There are no records of sites having been classified by the UK Government under the EC Birds Directive within 2km.
NNR	There are no records relating to important natural or semi-natural terrestrial ecosystems within 2km.
Designated Woodland	There are no areas of designated woodland within 500m.
Green Belt	The Site is indicated to lie within the South and West Yorkshire area of green belt.
Nitrate Sensitivity	There are no nitrate sensitive areas within 2km.
Nitrate Vulnerability	The Site is indicated to lie within a nitrate vulnerable zone (NVZ 278).
Visual & Cultural Designations	There are no world heritage sites, areas of outstanding natural beauty, scheduled ancient monuments, or national parks within at least 250m.
Habitat Designations	There are no habitat networks, open mosaic habitats, or limestone pavement orders within 250m.
Conservation Areas	There are no conservation areas within at least 250m.
Archaeology	The need for below-ground archaeology has not been identified.

2.4 Environmental Records

A summary of salient published environmental data is presented in Table 2.4, overleaf.

Table 2.4 - Environmental Data

Landfill	Available data indicates that there are no records relating to active, recent, or historical landfill sites within at least 500m. There is, however a recorded historical waste site located 301m to the west with this being former infilled ground workings dated 1956.
Historical Industrial Land Use	Historical industrial land use within a radius of 250m of the Site appears to have been largely associated with former coal mining legacy and its associated railway infrastructure.
Abstractions	There are no groundwater, potable water, or surface water abstractions within at least 500m.
Source Protection Zones	Source Protection Zones: No source protection zones have been identified within 500m. Source Protection Zones within Confined Aquifers: No source protection zones within confined aquifers have been identified within 500m.
Groundwater Vulnerability	The highest recorded soil/surface leaching potential is classed as being high (>70% infiltration and 300-550mm/year dilution), whilst the vulnerability of the bedrock geology is also indicated to be high. Groundwater flow through the bedrock is indicated to be via secondary porosity.
Soluble Rocks	Risk associated with soluble rocks would not be expected.
Public Register of Contaminated Land	There are no recorded sites within 500m having been designated as Contaminated Land under Part 2A of the Environmental Protection Act (1990).
Radioactive Substances	There are no live radioactive substance authorisations within 500m.
Dangerous or Hazardous Sites	There is one record relating to COMAH to the west of the Site, with this being at Mercedes Benz. No specific details are available, although it is considered that this is unlikely to have affected the area of proposed development.
Historical Fuel Sites	There are no recorded historical or current petrol or fuel sites within 500m.
Historical Garages	There are no recorded historical garage sites within 500m.
Flooding	Assessment of specific risk against flooding events is not within the remit of this study, so specialist advice should be sought as required. It is noted, however, that there are no records in relation to Environment Agency defined Zone 2 and Zone 3 floodplains within 50m. The highest risk from surface water and groundwater flooding on Site and within 50m is indicated to be negligible.
National Grid	There are no records relating to National Grid high voltage underground electricity transmission cables or high pressure gas transmission pipelines within 500m.

Table Contd./

Mine Gases	Coal Authority data indicates two mine gas incidents have occurred within 500m. These are located at a distance of about 350m north-west and 470m south-west.
UXO	Preliminary information obtained from Zetica (https://zeticauox.com) suggests that the Site lies within a low risk zone from Unexploded Ordnance (UXO). No further assessment is considered likely to be required.
Fracking	It is unknown if the subject Site lies within an area where the future hydraulic fracturing of shales for gasification is proposed. Any such further consultations should, however, be made with the relevant organisations, as required.

2.5 Site History

It is not the intention of this report to reproduce or describe in detail all of the changes that may have occurred on, or within a radius of 250m to the Site, although a general review of available historical Ordnance Survey ('OS') maps has been undertaken to identify any potentially contaminative former land-uses that may significantly impact upon the proposed development. It should be noted that OS map editions may not be complete, however. It is possible, therefore, that additional land uses to those presented in the plans have occurred. A summary of the historical land use at the Site and within its surrounding area is presented in Table 2.5, below.

Table 2.5 - Summary of Historical Ordnance Survey Features

Year	Principal On-Site Features	Principal Off-Site Features
1855-1894	The first edition OS plans indicate the Site to be open undeveloped fields.	Surrounding land on the first edition OS plans show it to largely be open undeveloped farm land, with the exception of the Potter Holes Plantation to the east. North-west of the fields, and a separate area of plantation called Long Spring, is the Wharncliffe Silkstone Colliery. This is serviced by the Barnsley & Sheffield Branchline. South of the Site is the small settlement of Upper Tankersley.
1903-1938	No significant changes are noted.	
1948-1970	No significant change to the Site is shown up until at least the 1966-70 OS plans, after which time it is likely to have been worked for coal.	
1980-2001	The 1980 OS plan indicates the Site to lie within a reclaimed area, with the plans from 1989 onwards showing the existing manufacturing facility. No further significant changes are noted.	The 1980 OS plan shows the colliery site to be disused and for extensive tips to have encroached onto former farmland to the north and north-west of the Site. Infrastructure associated with the Wentworth Park Industrial Estate is also mapped from this time, with internal roads and some units. Continued expansion of the estate occurs, as mapped on the 1992 and subsequent OS plans.
2003-2023		

3 PRELIMINARY ENGINEERING APPRAISAL

3.1 Anticipated Ground Conditions

Engineered Fill / Made Ground

As indicated above, the Site lies within an area of reclaimed land. On this basis, the underlying soils are anticipated to comprise clays, shales, and reworked mudstone/sandstone overburden as removed during coaling operations.

The thickness of the fill soils and their integrity is unknown at this time, although it is noted that an historic bearing capacity of 75kPa has been documented. Information with respect to any high walls as may exist is also unknown.

It is advised that detailed ground investigation works should be undertaken across the area of build so that Site-specific data may be obtained to inform future decision making.

Natural Strata

Based on available geological data for the Site, undifferentiated mudstone deposits of the Pennine Lower Coal Measures formation are anticipated to be present at depth.

Anticipated Groundwater Conditions

The depth to any groundwater that may be present beneath the Site is unknown at this time.

3.2 Landslip

In providing a preliminary assessment of risk associated with potential landslip, consultation was made with the data presented by GroundSure at the 1:10,000 and 1:50,000 scales. Information presented in the report indicates that there are no records of mass movement deposits within 500m, whilst the hazard rating for slope instability (landslide potential) on-Site is very low (within 50m the highest risk level is indicated to be moderate). Global slope stability problems would not be expected, although consideration to potential problems of adjacent areas impacting on the Site should always be made.

Further to the above, the GroundSure data indicates that there are no records of landslip permeability (i.e. the estimated rate of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposit) within 50m.

3.3 Foundations, Floor Construction & Superstructure

Foundation design and floor construction to be provided lies outside the scope of this assessment and should be discussed further with the Designing Engineer once the condition of the underlying fill soils has been confirmed.

It should be noted, however, that potential movement associated with building on backfill material can occur and may be differential in character and damaging to the proposed structure, particularly where ground conditions are poor, variable, or development has to occur across opencast highwall.

Although the on-site soils could well be relatively uniform in nature, careful consideration of an appropriate foundation solution would be required as there will still be an element of settlement occurring. Whilst the proposed structure is likely to have a degree of flexibility, foundations will need to be suitably sufficient so that they are not damaged if the building deforms in proportion to the ground displacement profile. Where any form of movement is expected, and can be tolerated, it will be necessary to design foundations, the floor slab and superstructure to accommodate this.

As indicated herein, the compaction specification and any monitoring data to validate the works is not available for review, although Henry Boot correspondence indicates that an allowable bearing capacity of 75kPa could be achieved. On similar sites, reinstatement has been undertaken to achieve a minimum of 1 tonne/ft^2 (which equates to a little over 100kPa), although in this instance it appears that such a value may not be achievable? It is reiterated that it will be necessary to confirm the strength of the underlying fill, particularly as variation in ground conditions could occur with spatial extent across the development area and with depth. It should also be noted that it is possible (as has been proven on other former opencast sites in the Chesterfield area) that the near surface zone has weathered and does not offer the same load-carrying capacity as deeper soils (particularly also if other materials have been placed ad-hoc).

3.4 Heave Precautions

Risk associated with the effects of volume change and any resultant ground movement lies outside the scope of this assessment and should be discussed further with the Designing Engineer as required. Any assessment would need to be in accordance with current guidance [15].

3.5 Retaining Structures

The development proposals indicate the construction of retaining walls to the east and north of the new unit. Retaining walls should be designed in the permanent case for long term drained conditions using c' and phi'. The use of c_u values for temporary works should only be undertaken if the undrained case is applicable, which is dependent on the duration any excavation remains open.

The instability of loose and/or weathered soil should be expected during the works, particularly during prolonged periods of wet weather and/or where excavations are left open for protracted periods. Excavations will need to be undertaken with care as it would be expected for the underlying fill soils to fracture and deteriorate, potentially resulting in stability problems. Such disturbance will also affect the stiffness and strength of the soils, which in turn will affect earth pressures. Earth pressures should be determined by the Designing Engineer to suit the expected and allowable movement of the walls.

3.6 Excavation

Significant excavation problems are not expected at this time, although there is always the potential for oversized material to be present within the fill and made ground soils. Allowance should be made for this.

All excavation works shall be carried out in accordance with current HSE guidance, 'Structural Stability During Excavation' [16].

3.7 Natural Ground Subsidence

With respect to natural ground subsidence, the Site has been classified as follows:

- 'Negligible' risk rating for the ground dissolution of soluble rocks hazards.
- 'Very Low' risk rating for shrink swell clay soils hazards, running sands and collapsible deposits.

3.8 Obstructions

Significant excavation obstructions are not expected at this time.

3.9 Concrete

Protection would be required in accordance with current guidance [17] where buried concrete products are to be in contact with soils that exhibit elevated concentrations of sulphate.

Specialist advice should be sought to confirm the ACEC and Design Chemical class of concrete to be adopted at the design stage to the build. All necessary laboratory analytical work should be completed as required. The designing engineer should refer to all current guidance as necessary (e.g. BS8500-1 [18]).

3.10 Stress Relief

Risk associated with stress relief is not expected.

3.11 Pavement

It is considered that the localised excavation and replacement of any unsuitable material with suitably compacted engineered fill will be needed for proposed parking areas. Since the minimum permitted design CBR is 2.5%, it is recommended at this stage that this conservative value for subgrade be used; in situ CBR testing should be completed as required. Frost susceptibility should be expected.

3.12 Surface Water Drainage

Due to the expected cohesive nature of the underlying soils, the anticipated depth and extent of fill soils, and the potential for softening and foundation settlement via the infiltration of water, soakaways in accordance with BRE365 [19] are considered to be unsuitable for the disposal of surface water. Surface water should therefore be taken to an existing drainage system, subject to obtaining approvals from regulatory authorities.

It would be prudent to ensure that all drainage at the Site is leak proof to prevent softening of the formation and to reduce the potential for settlement.

4 PRELIMINARY ENVIRONMENTAL APPRAISAL

4.1 Introduction

Current UK legislation on contaminated land is set out in Part 2A of the Environmental Protection Act 1990 [20], which was retrospectively inserted by Section 57 of the Environment Act 1995 [21]. The Contaminated Land Regulations 2000 [22] were amended in 2005. The Environmental Protection Act 1990: Part 2A Contaminated Land, Statutory Guidance, Edition 2 (2006) promulgates the revised statutory guidance with respect to the operation of the Contaminated Land Regime following the implementation of the Contaminated Land Regulations, 2005. The definition of contaminated land is central to the operation of Part 2A.

Legislation adopts the principle of a 'suitable for use' approach for the assessment of contaminated land, the rationale reflected in the site-specific risk assessment and determination of remedial strategy. Action is only required if unacceptable risks are posed to human health or to the environment, considering the current land use and geo-environmental setting.

The legislation places a responsibility on the Local Planning Authority to determine whether the land under its jurisdiction is contaminated by consideration of whether:

- The presence of substances (potential contaminants) are present at concentrations that are causing significant harm or have the significant possibility of causing significant harm.
- There are receptors which may be harmed (e.g. the water environment, human health, buildings, fauna and flora).
- There is in existence a pathway between the identified sources and receptors.

To qualitatively assess the level of risk at the Site, the above rationale has been applied. This approach is consistent with the preliminary risk assessment procedure defined in LCRM.

The following section summarises the preliminary CSM which has been produced following the review of available pertinent desk study and third party information. The CSM summarises Inspire's current understanding of surface and sub-surface features, the potential sources of contamination, transport pathways and receptors in order to support the identification and assessment of plausible potential contaminant linkages.

4.2 Potential Sources of Contamination

A potential source is defined as 'a contaminant which is in, or under the land and has the potential to cause harm to human health or to cause contamination of controlled waters'.

In reviewing the Site's history, it is evident that development has been very limited. The Site was farmland prior to be opencasted, and, was subsequently reinstated for use in a commercial capacity. Although no formal soils testing has been undertaken as part of this assessment, risk to development and Site end users is considered likely to be very low. Notwithstanding the above, the following potential source-pathway-receptor linkages that may be associated with the Site have been considered. These are summarised in Table 4.1, overleaf.

Table 4.1 - Summary of Potential Sources and Contaminants

Potential Sources	Associated Potential Contaminants (not limited to)
Any potentially unforeseen contaminated made ground and fill	Metals, metalloids, inorganic contaminants, phytotoxic contaminants, sulphate, PAH (e.g. Benzo(a)pyrene)
Sources of ground gas (e.g. deep fill associated with on- and/or off-Site former opencast workings, and/or underlying coal mine workings)	CO_2 and CH_4

4.3 Potential Migration Pathways

Migration pathways are routes by which contaminant sources may come into contact with receptors. Potential pathways for different types of contaminants vary depending on the properties of the contaminant, the mechanism of its release and the nature of the receptor.

The principal potential contaminant pathways by which receptors might become exposed to potential contamination at the Site are summarised as follows in Table 4.2, below.

Table 4.2 - Summary of Plausible Pathways

Potential Sources	Pathways
Any potentially unforeseen contaminated made ground and fill	Direct ingestion, dermal contact, dust and/or vapour inhalation
	Direct ingestion and/or dermal contact with liquid contaminants
	Leaching and direct contact with foundations and potable water supply pipes
	Leachable contaminants via surface run-off, vertical and lateral migration via any permeable strata with the potential to impact controlled water receptors
	Plant uptake via root systems in soft landscaped areas
Sources of ground gas (e.g. deep fill associated with on- and/or off-Site former opencast workings, and/or underlying coal mine workings)	Migration of gases and/or accumulation in void spaces via transport through service conduit, any permeable made ground and/or any permeable underlying natural strata

4.4 Potential Receptors

A receptor is the potential target of the source contaminant, to which either significant harm or deterioration in quality may be caused. The potential sensitive receptors with respect to the potential contamination hazards identified above are considered in Table 4.3, below.

Table 4.3 - Summary of Potential Receptors

Potential Receptor	**Comment**
Human Health	Site end-users in the commercial end use scenario Site operatives (during construction phase only) Future maintenance workers involved with any in-ground works
Construction	Potable water supply pipes Foundations and service conduit Soft landscaped areas
Controlled Waters	'Secondary A' aquifer soils

4.5 Preliminary Environmental Risk Assessment

Risk assessment and the procedure of identifying sources, pathways and receptors is recognised as an approach to determine the extent and significance of contamination either within the context of Part 2A (when assessing current site status or when considering the acquisition of an existing development) or the planning process (for the redevelopment of an existing site, or when considering the acquisition of a site for redevelopment purposes). Either way, the 'suitable for use' approach is adopted when assessing risk and the source-pathway-receptor assessment defines the conceptual model for the site.

The statutory guidance describes a risk assessment methodology in terms of 'significant contaminants' and 'contaminant linkages', using the 'source-pathway-receptor' scenarios for the site. Contaminant linkages are formed when there is a linkage between a contaminant source and a receptor by means of a pathway. The existence of a contaminant linkage is dependent on-site use, as well as environmental conditions. If no contaminant linkages can be proven, then the risks may be discounted. However, it is not to say that remediation is required if contamination is proven.

The identified potential contaminants and receptors have been considered in relation to the pathways that may link them. The risk classification has been estimated in accordance with those methods prescribed in CIRIA C552 [23]. Risk is regarded as a combination of the likelihood of an 'event' occurring and its severity: both elements must be considered when assessing risk. The method for risk assessment, or evaluation, is purely qualitative.

As defined in CIRIA C552, the magnitude of the potential 'severity' of risk occurring may be assessed against:

- **Severe (acute)**: short term risk to human health likely to result in significant harm as

defined under Environmental Protection Act 1990, Part 2A. Short term risk of pollution to sensitive water receptor (may result in death).

- **Medium (chronic)**: long term risk and significant harm to human health, contamination of sensitive water resource or significant change to an ecosystem or specific organism (may result in death).
- **Mild (chronic, but applicable to less sensitive receptors)**: contamination of non-sensitive water resource but significant damage to crops, buildings, structures and services or the environment.
- **Minor (not significant)**: harm, which may result in financial loss, or expenditure to resolve. Non-permanent effects to human health. Easily repairable effects of damage to buildings, structures and services.

Similarly, the classification of the magnitude of the 'probability' of the risk occurring may be assessed against:

- **High Likelihood**: a contaminant linkage exists and an event appears very likely in the short term, or almost inevitable in the long term, or contamination is causing harm at the receptor. Urgent action is required.
- **Likely**: a contaminant linkage exists and it is probable that an event will occur. An event may not occur, but it is possible in the short term and likely over the long term.
- **Low Likelihood**: a contaminant linkage exists and it is possible that an event will occur. It is not certain that an event will occur over time, but it is less likely in the short term.
- **Unlikely**: a contaminant linkage exists but it is not possible to say if an event will occur even over a very long time.

Following completion of the severity and probability assessment, classifications can be compared to indicate the actual risk each contaminant linkage presents: this can only be undertaken where there is a possibility of there being an active linkage. The risk categories which can be assigned are presented in Table 4.4, below, and range between 'very high' to 'very low' (NB - it is not possible to classify an identified risk as 'no-risk').

Table 4.4 - Risk Categorisation

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**Highly Likely**	Very High	High	Moderate	Moderate / Low
	Likely	High	Moderate	Moderate / Low	Low
	Low Likelihood	Moderate	Moderate / Low	Low	Very Low
	Unlikely	Moderate / Low	Low	Very Low	Very Low

- **Very High** – there is a high probability that severe harm could arise or that severe harm is occurring. Urgent investigation and remediation are likely to be required.
- **High** – harm is likely to occur, and that urgent investigation and remediation may be needed in the short term, but are likely over the longer term.

- **Moderate** – harm could occur. It is unlikely to be severe, most probably relatively mild. Investigation is normally required to clarify the risk with some remedial works being required in the longer term.
- **Low** – it is possible that harm could occur, but if it did, at worst it would be mild.
- **Very Low** – low possibility of harm arising, and that if it does it is not likely to be severe.

The identified potential contaminants and receptors have been considered in relation to the potential pathways that may link them. The resulting contaminant linkages are presented in Table 4.5, overleaf.

Table 4.5 - Summary of Environmental Risk (Current Site Condition without Mitigation)

Potential Sources	Potential Receptors	Plausible Pathways	Probability	Severity	Risk Rating	Comment
Any potentially unforeseen contaminated made ground and fill	Human Health Site end-users, inc. maintenance and Site workers (short term risk during construction)	Direct ingestion or dermal contact with soil, dust and/or vapour inhalation (Site end user)	Unlikely	Mild	Very Low	A very low risk is anticipated with respect to contamination within the underlying soils for Site end users and construction workers. Overburden materials used to reinstate opencast workings are typically reworked clays, mudstones and sandstones. It would be prudent, however, for a general check on contaminant levels to be made as part of the investigation works that are required for the Site. For asbestos, the level of risk is based to some extent on the severity rating of the contaminant and the risk profile that can be assigned at this stage. Given the Site's history, however, actual risk is expected to be very low.
		Direct ingestion or dermal contact with soil, dust and/or vapour inhalation (In-ground worker)	Unlikely	Mild	Very Low	
		Direct ingestion and/or dermal contact with liquid contaminants	Unlikely	Mild	Very Low	
		Inhalation of any in-ground asbestos fibres	Unlikely	Severe	Moderate / Low	
	Construction (Vegetation)	Uptake via root system in soft landscaping	Unlikely	Mild	Very Low	
	Construction (Potable Water Supply Pipes)	Direct contact/leaching (tainting)	Unlikely	Mild	Very Low	Protective measures are unlikely to be required. It is expected for standard PE pipework to be acceptable, although this should be confirmed with the water provider as required.
	Construction (Foundations)	Direct contact/leaching	Low Likelihood	Mild	Low	The need for sulphate precautions for in-ground concrete products is to be confirmed.
	Controlled Waters	Vertical and/or lateral migration	Unlikely	Mild	Very Low	No particular risk anticipated.
Ground gas sources	Human Health	Inhalation (via ingress and accumulation into buildings)	Low Likelihood	Medium	Moderate / Low	Allow for BS8485 [24] Characteristic Situation 2 precautions for ground gas until confirmed otherwise.

Soils

It is anticipated, on the basis of available information and the preliminary risk assessment presented herein, that the on-Site soils will present an overall very low risk in relation to the potential for elevated concentrations of inorganic and organic contaminants of concern to be present at levels above commercial GAC threshold values, these being DEFRA's Category 4 Screening Levels [25], the LQM/CIEH Human Health Values [26] and/or other in-house derived GAC's calculated by Inspire for organic contaminants [27]. However, it is considered that a general check on contaminant levels should be made within the remit of an intrusive ground investigation to quantify the level to which any contamination may be present to in excess of the GAC values.

Asbestos Containing Materials (ACM)

Qualitative risk modelling prescribes a perceived moderate to low risk in relation to the potential inhalation of fibres associated with asbestos contaminated materials, although the level of risk presented is mostly driven by the severity of the material type, rather than its likelihood of presence. Again, the history of the Site suggests that asbestos within the on-Site soils should not be a problem, so the overall risk level to Site end users at this stage is considered to be very low. Standard suite soils testing includes for the screen/identification of asbestos fibres, so data would be made available following completion of the ground investigation.

Ground Gases

Given the Site's location on and its proximity to wider former coal opencast workings (and notwithstanding the deeper recorded coal workings), which have the potential to generate elevated concentrations of ground gas (although flow is often negligible), Inspire suggest that BS8485 compliant Characteristic Situation 2 gas protection measures should be provided within the ground floor construction until confirmed otherwise.

Construction Workers & Public Safety

For workers involved with development, current contaminated land guidance cannot be used as the basis to assess the acute (short term exposure) risk that they or other such personnel in close contact with potentially contaminated soils may experience during construction activities.

Whilst the above risk profile indicates a very low rating for contamination it is not practicable to generate allowable threshold limits for any currently unforeseen metal, metalloid and/or organic contaminants of concern. It would be expected that the protection of workers involved with in-ground works would be controlled via normal safe working practices, including the wearing of PPE and usual hygiene precautions (e.g. washing hands before easting).

Unforeseen Soil Contamination

As with any development site, there is the potential for contamination to be present that has not been identified at this stage. This is unavoidable, and allowance should be made for this.

Controlled Waters Receptors

A very low risk is anticipated in relation to the potential for any mobile contaminants of concern to enter into controlled waters receptors. No further assessment is considered necessary at this time.

Potable Water

Water providers are required to maintain the safety of staff, contractors, and customers. On this basis, water providers work with a range of trigger values when laying mains pipes or services in contaminated ground, in the same way that assessment is made by contaminated land practitioners.

A very low risk is anticipated on the basis of available information. No specific precautions in construction are considered likely to be required, although the utility provider should be contacted to determine whether there are any specific requirements they may have. Testing in accordance with UK Water Industry Research ('UKWIR') [28] published guidance could potentially be required.

Soils Disposal (Waste Acceptance Criteria)

Where any arisings are generated during redevelopment works, and they are intended for disposal to landfill, there is a requirement to determine if they would be classified as inert, non-hazardous or hazardous.

Given that it is a statutory requirement to ensure that wastes are characterised to meet specific acceptance criteria if disposal to landfill is to be undertaken, Waste Acceptance Criteria (WAC) testing would need to be completed in parallel with standard soils analysis. This testing would need to be undertaken on representative samples of any materials to be disposed of, prior to being removed from Site.

Technical Guidance WM3 [29], which was introduced on the 1st July 2015 and is adapted from the third edition of Technical Guidance WM2[1], sets out the requirement for classification. The classification assesses the composition of the material and determines the concentrations of hazardous substances within it, in relation to particular thresholds.

[1] Environment Agency (2011). Technical Guidance (WM2). Hazardous Waste: Interpretation of the Definition and Classification of Hazardous Waste (2nd Edition, Version 2.3).

5 FURTHER WORKS

5.1 Introduction

The overall objective of this preliminary assessment was to contribute towards the understanding of the ground conditions that underlie the proposed development site situated at Jacquet UK, Tankersley, Barnsley. Research into the history and evolution of the Site up to the present day has been undertaken, which allows a fair assessment of the risks posed to development to be made at this stage.

It is considered that the study has provided sufficient background data in terms of the historical land use to the Site and its surroundings, together with details of the general geology, mining legacy, hydrogeology, and anticipated sources of contamination.

The preliminary environmental risk assessment, when considered within the context of proposed end-use, indicates that some potential low-level contaminant linkages may present an unacceptable level of risk to human health in relation to the identified source-pathway-receptor linkages. On this basis, it is considered that some further works are warranted prior to the Site's redevelopment so that Site-specific data can be obtained. From a geotechnical perspective, a phase of intrusive Site-based works to confirm the nature and strength profile of the underlying fill soils should also be completed.

No risk has been identified with respect to the potential for mining legacy issues though, so no further assessment is considered necessary.

5.2 Objectives of Investigation

The objectives of an intrusive ground investigation would be to:

a. Investigate the general nature of the underlying fill soils, and through testing, determine its geotechnical parameters.

b. Report the presence of any buried obstructions and/or other excavation difficulties that may be encountered.

c. Confirm the nature of the hydrogeological regime beneath the Site.

d. Investigate the general level of risk associated with fugitive ground gases.

e. Identify the nature and concentration of any contamination within the underlying fill soils, complete sulphate analysis to assist with new buried concrete design, and undertake Waste Acceptance Criteria testing for soils disposal purposes, and

f. Provide general advice in relation to any environmental or geotechnical issues associated with the Site and/or any other recommendations needed to facilitate the proposed development, including, where necessary, identifying any additional phases of investigation, assessment or remediation that may need to be carried out.

5.3 Proposed Methods of Investigation

It is recommended that the following works given in Table 5.1 below be completed. The positioning of exploratory locations would be subject to any access constraints and the presence of any underground utilities.

Table 5.1 - Phase 2 Investigation Recommendations

	Anticipated Scope	**Likely Investigation Method**	**Potential Contaminants of Concern**
Environmental Investigation			
1	Determine overall soil types and general contaminant levels within the near surface soils across the development area	Mechanical excavation and/or boring with sample recovery	Including a range of metals/metalloids, general inorganics, PAH, asbestos, redox, conductivity, Calorific Value
2	WAC testing for waste soils disposal		Full WAC Single Stage
3	Ground Gases	Mechanical boring with piezometer installation and periodic monitoring	CO_2, CH_4
Geotechnical Investigation			
4	Investigate the geotechnical properties of the underlying soils through in-situ and laboratory based testing	Percussive boring with sample recovery	-
5	Determine Index parameters (i.e. Atterberg, Water Content), sulphate concentrations and any other parameters as required	-	-

5.4 Testing

Geotechnical

With respect to geotechnical works, the nature, thickness, and integrity of the on-Site fill soils should be investigated. Representative soil samples should be taken for a suite of geotechnical laboratory testing, with in situ strength testing (e.g. SPT/SPTC) also being undertaken throughout the vertical soils profile to refusal (n = 50) at selected accessible positions across the Site so that bearing capacities for foundation design may be established.

These works will need to be undertaken in general accordance with the requirements of BS5930, BS10175, BS EN 1997-1 (2004+A1:2013) [30] and BS EN 1997-2 (2007) [31]. All works will need to be logged on-site by a competent engineer, with standard strata descriptions of the soils encountered being in general compliance with BS EN ISO 14688-1 (2002+A1:2013) [32], BS EN ISO 14688-2 (2004+A1:2014) [33] and BS EN ISO 14689 (2003) [34].

Environmental

All sampling undertaken as part of the ground investigation works would need to be in general accordance with those guidelines prescribed in BS10175 and any specific requirements of the testing laboratory. All environmental soil samples would need to be collected in a combination of 500ml plastic tubs with sealable lids, 250ml glass amber jars and 60ml glass amber vials (this being subject to analytical requirements). This would also be the case for where WAC samples were taken for soils disposal purposes.

Care would need to be taken to minimise cross contamination between sampling. All of the environmental samples would need to be packed into cool boxes and transported to an MCERTS and UKAS accredited laboratory of Inspire's choosing for analysis and subsequent storage / disposal. Standard retention times would apply.

The analytical strategy adopted for the environmental investigation would be designed to provide an overall assessment of potential contaminants thought likely to be present within the on-Site soils as encountered.

5.5 Outline Remediation Requirements

Soil

Although considered unlikely, it is currently unknown if soil remedial activities for contamination will be required within the context of the proposed development. Any remediation works to be completed would need to be undertaken in accordance with the requirements of guidance prescribed by YALPAG [35]. It is noted, however, that ground levels will likely be raised to facilitate development, but any soils used in that process would need to be environmentally compliant.

Where remediation is to be completed, LCRM Stage 3 proposals and verification methodology would need to be submitted to the Local Planning Authority in the form of a standalone Remedial Strategy.

Ground Gas Remediation

Until confirmed otherwise, for the purposes of mitigating risk from potential ground gas ingress, recommendation for the provision of protective measures commensurate with Characteristic Situation 2 of BS8485 is made. For information, the proposed commercial building would be categorised as Type D (low risk) since it would have relatively large volume internal spaces that would be generally well ventilated. Table 4 of the Standard indicates that a gas protection score by Characteristic Situation and Building Type would be 1.5 (where any office accommodation was provided within, this would be Type C and would carry a score of 2.5 instead). These scores would need to be met through the provision of, for example:

- the structural barrier of the floor slab, be it a segmental subfloor (beam and block), cast in-situ ground bearing floor, cast in-situ monolithic reinforced ground bearing raft, or reinforced cast in-situ suspended floor;

- good or very good performing passive sub-floor ventilation (e.g. clear void, void former blanket, no fines gravel layer), and

- a carbon dioxide (and/or methane) resistant membrane.

As with any soil contamination requirement, remediation proposals and verification methodology for the gas protection measures to be introduced would need to be submitted to the Local Planning Authority in the form of an LCRM Stage 3 Remedial Strategy.

For information, the installation of a gas membrane and its associated components to be used in development would need to be carried out in accordance with manufacturer requirements and/or any other current guidance (e.g. CIRIA C735) [36]. Independent inspection of the membrane and componentry installation would also be required by a competent consultant, with relevant documentary and photographic evidence being provided to the Local Planning Authority in a final post-installation Verification Report.

6 REGULATORY APPROVAL

This preliminary risk assessment report has been compiled in accordance with good practice guidance for the assessment and management of land that may be affected by land contamination and ground stability hazards.

The recommendations presented are considered reasonable on the basis of available information and the assessment of the Site as carried out by Inspire. However, it remains the responsibility of the developer/landowner to ensure that the Site poses no significant risk to any sensitive receptor(s) and that it remains aligned with the proposed end-use and assessment framework adopted in this report and any accompanying reports.

If at any time in the future, additional information comes to light that puts into doubt the accuracy of the professional opinion or third party information presented herein, then it may be necessary to revisit the assessment.

Works undertaken cannot be guaranteed to gain approval by the regulatory authorities and / or your warranty provider, so copies of this report should be made available to the relevant organisations for comment and approval, prior to undertaking any irrecoverable works associated with the Site.

7 INFORMATION SOURCES

The following references have been cited in the production of this report:

1 BSCP (1997). Jacquet UK. Workshop and Offices. Wentworth Park Industrial Estate, Barnsley. Structural Survey Report, Ref. 9780/AJL/SSR1.W1, September.

2 BS10175 (2011+A2:2017). Investigation of Potentially Contaminated Sites. Code of practice.

3 BS5930 (2015+A1:2020). Code of Practice for Ground Investigations.

4 Environment Agency (2021). Land Contamination: Risk Management. LCRM: Stage 1 risk assessment - GOV.UK (www.gov.uk).

5 Environment Agency (2009). Updated Technical Background to the CLEA Model, Science Report SC050021/SR3.

6 Environment Agency (2021). Land Contamination: Risk Management. LCRM: Stage 2 options appraisal - GOV.UK (www.gov.uk).

7 Environment Agency (2021). Land Contamination: Risk Management. LCRM: Stage 3 remediation and verification - GOV.UK (www.gov.uk).

8 British Geological Survey (2008). Barnsley. England and Wales Sheet 87. Solid and Drift Geology. 1:50,000 (Keyworth, Nottingham: British Geological Survey).

9 UKRI (2023). http://www.bgs.ac.uk/map-viewers/geoindex-onshore.

10 Groundsure (2023). Enviro+Geo Insight Report. Jacquet UK, Tankersley, Barnsley. Ref No. EMS-887086_1133779, dated 10th August.

11 Groundsure (2023). Historical Ordnance Survey Plans. Jacquet UK, Tankersley, Barnsley. Ref No. EMS-887086_1133778, dated 10th August.

12 The Coal Authority (2023). https://mapapps2.bgs.ac.uk/coalauthority/home.html.

13 The Coal Authority (2023). Consultants Coal Mining Report. Jacquet UK, Tankersley, Barnsley, South Yorkshire. Ref No. 51003372182001, dated 11th August.

14 Environment Agency (2023). https://environment.data.gov.uk / catchment-planning / waterbody / GB40402G992300.

15 NHBC Standards (2019). Part 4: Foundations - Chapter 4.2.

16 HSE (2020). https:// www.hse.gov.uk/construction/safetytopics/excavations.htm.

17 Building Research Establishment (2005). Special Digest SD1, Concrete in Aggressive Ground.

18 BS 8500-1 (2015+A2:2019). Concrete – Complementary British Standard to BS EN 206. Part 1 – Method of Specifying and Guidance for the Specifier.

19 Building Research Establishment (2003). Digest 365, Soakaway Design.

20 Environmental Protection Act 1990: Part 2A Contaminated Land, Statutory Guidance, Edition 2, 2006.

21 Environment Act (1995).

22 The Contaminated Land Regulations (2000, amended 2005).

23 CIRIA C552 (2001). Contaminated Land Risk Assessment – A Guide to Good Practice. D. J. Rudland, R. M. Lancefield & P. N. Mayel.

24 BS8485 (2015+A1:2019) Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings.

25 Department for Environment, Food & Rural Affairs (2014). SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document.

26 LQM / CIEH: The LQM / CIEH S4UL's for Human Health Risk Assessment. Land Quality Press, Nottingham, 2015.

27 Environment Agency. Contaminated Land Exposure Assessment (CLEA) software version 1.071. https://www.gov.uk/government/publications/contaminated-land-exposure-assessment-clea-tool.

28 UKWIR (2011). Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites. Ref. 10/WM/03/21).

29 Environment Agency (2018). Technical Guidance (WM3). Waste Classification, Guidance on the Classification and Assessment of Waste (1st Edition, Version 1.1).

30 BS EN 1997-1 (2004+A1:2013). Eurocode 7. Geotechnical Design. General Rules.

31 BS EN 1997-2 (2007). Eurocode 7. Geotechnical Design. Ground Investigation and Testing.

32 BS EN ISO 14688-1 (2002+A1:2013). Geotechnical Investigation and Testing — Identification and Classification of Soil — Part 1: Identification and Description.

33 BS EN ISO 14688-2 (2004+A1:2014). Geotechnical Investigation and Testing. Identification and Classification of Soil. Principles for a Classification.

34 BS EN ISO 14689 (2003). Geotechnical Investigation and Testing. Identification, Description and Classification of Rock. Part 1: Identification and Description.

35 Yorkshire and Lincolnshire Pollution Advisory Group (2021). Verification Requirements for Cover Systems. Technical Guidance for Developers, Landowners and Consultants. Version 4.1.

36 CIRIA C735 (2014). Good Practice on the Testing and Verification of Protection Systems for Buildings against Hazardous Ground Gases.

8 REPORTING LIMITS

Copyright © 2023 Inspire Design & Development Ltd. All rights reserved.

The findings and opinions provided in this document are given in good faith and are subject to the limitations and constraints imposed by the methods and information sources described. Factual information including, where stated, a visual inspection of the site, has been obtained from a variety of sources. Inspire assumes that third party data is reliable but cannot independently confirm this as the validity and accuracy of this information is outside our control. No guarantee can therefore be given as to the completeness of the information gathered during the study and no responsibility is accepted for errors or omissions in the third party information used. Inspire's professional judgement and experience is however used to ensure that uncertainties are reduced to a level appropriate to the Site's conditions, the purpose of the investigation and the resources devoted to it by the Client.

Whilst every effort has been made to carry out a qualitative Stage 1 LCRM and Coal Mining Risk Assessment, that enables a realistic preliminary characterisation of the geotechnical and environmental parameters to be identified, the possibility of significant variation in actual ground and groundwater conditions existing cannot be discounted. The findings and opinions presented in this report are relevant to the time this assessment was undertaken but should not necessarily be relied upon to represent conditions at a substantially later date. Further information, ground investigation, construction activities, change of site use, or the passage of time may reveal conditions that were not indicated in the data presented and therefore could not have been considered in the preparation of this report. Where such information might impact upon stated opinions, Inspire reserve the right to modify the opinions expressed in this report. Where opinions expressed in this report are based on current available LCRM guidelines and other legislation, no liability can be accepted for the effects of any future changes to such guidelines and legislation. New information or improved practices and changes in legislation may require reinterpretation of the report as a whole, or in part.

The conclusions and recommendations presented in this report are based on the Site-specific assessment but utilising third party documentary information as appropriate. They are, however, limited to those that could be reasonably made at the time the assessment was undertaken. Where assessments of site areas affected in particular ways are given, these are approximate.

This report does not constitute an archaeological, ecological, arboriculturalist / invasive plant species or UXO survey. Any comment given in relation to these is for information only. Further assessments to assess these may be required as part of any planning condition and should therefore be undertaken by suitably qualified experts as required.

Inspire reserve the right to edit and / or retract any conclusion or recommendation made in this report should any further information, with respect to the Site, become available.

Inspire disclaim any obligation to update the report for events taking place after the time during which the assessment was carried out.

Inspire do not provide or purport to provide legal advice. Should the Client require such advice then that of lawyers should be sought.

Inspire accept no responsibility if any findings given in this report are not implemented by the Client or their agents.

Inspire accept no responsibility if any further works, as requested by the Local Planning Authority in the discharge of their duty of care, are not implemented by the Client or their agents.

FIGURES & DRAWINGS

This drawing is copyright and owned by Southgate and Sarabia Architects (SASA) Ltd, and is for use on this site only unless contractually stated otherwise.

DO NOT SCALE this drawing (printed or electronic versions). Contractors must check all dimensions from site.

All other design team elements, where indicated, have been imported from the consultant's drawings or models and reference should be made to the individual consultant's drawings for exact setting out, size and type of component.

Discrepancies and / or ambiguities within this drawing, between it and information given elsewhere, must be reported immediately to the architect for clarification before proceeding.

All works are to be carried out in accordance with the latest British Standards and Codes of Practice unless specifically directed otherwise in the specification.

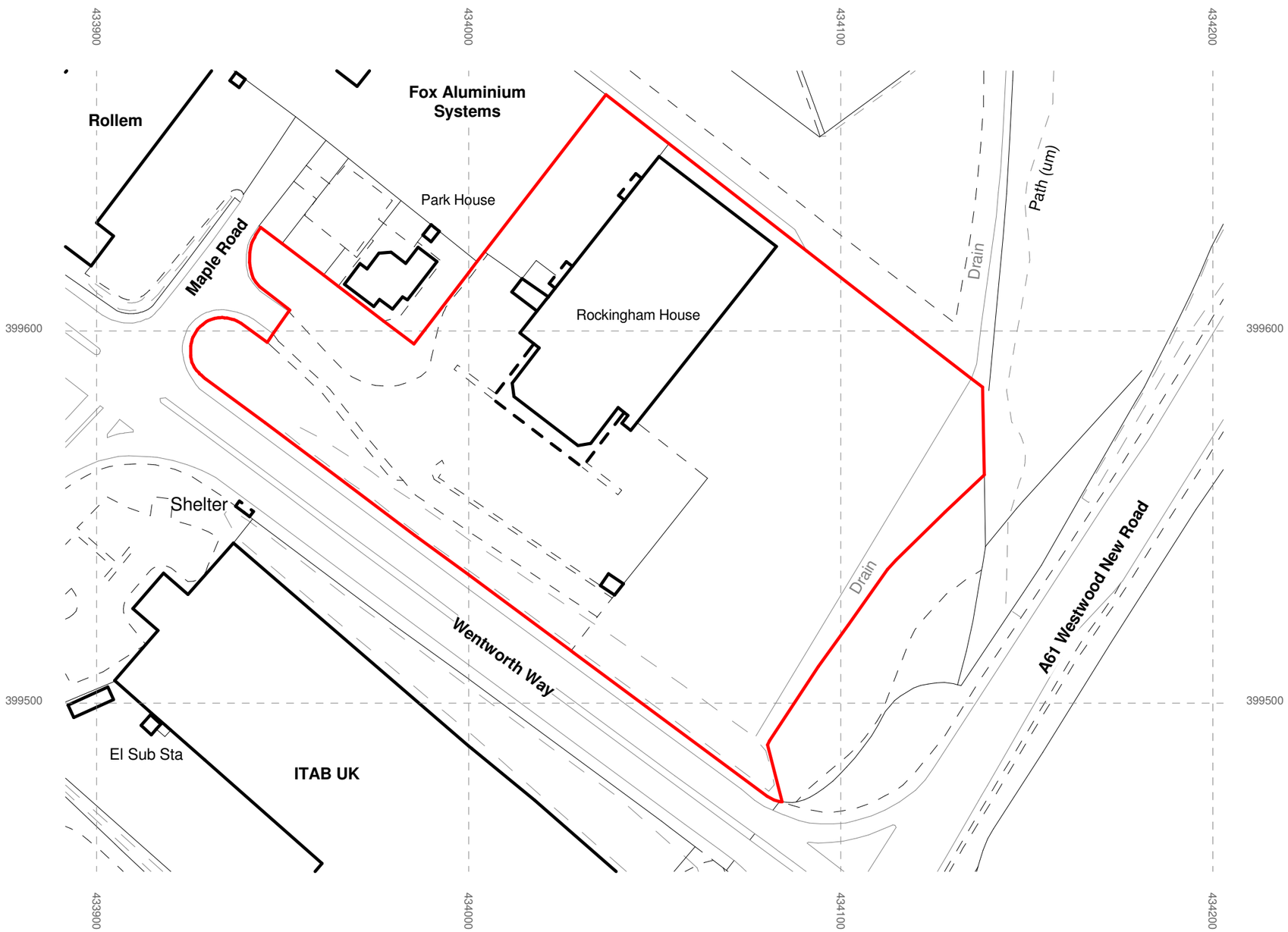
Responsibility for the reproduction of this drawing in paper form, or if issued in electronic format, lies with the recipient to check that all information has been replicated in full and is correct when compared to the original paper or electronic image. Graphical representations of equipment on this drawing have been co-ordinated, but are approximations only. Please refer to the Specifications and / or Details for actual sizes and / or specific contractor construction information.

This original document is issued for the purpose indicated below and contains information of confidential nature. Further copies and circulation will be strictly in accordance with the confidentiality agreement under the contract. This original must be destroyed or returned to SASA.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

Refer to the relevant Construction (Design and Management) documentation where applicable.

All works on this drawing will be carried out by a competent contractor, working to an approved method statement.



Proposed Site Boundary (1.91Ha)

rev:	date:	comment(s):	issued by:
A	2023-07-26	Coordinates and site area added	CC

Status: S0 RIBA Stage: 2

Southgate & Sarabia ARCHITECTS

Architecture
Consultancy
Interior Design
Landscape Design
Masterplanning

Unit 4 Royal Mills, 17 Redhill Street,
Manchester, M4 5BA

T: +44 (0)161 804 8048
info@southgate-sarabia.co.uk
Registered no. 11814917

www.southgate-sarabia.co.uk

Client: Jacquet UK
Rockingham House
Wentworth Way
Wentworth Industrial Estate
Tankersley, Barnsley
S75 3DH

JACQUET

Job: Erection of a new storage & manufacturing warehouse building & operations yard

Title: Location Plan

Date: 2023-06-16 Scale @ A3: 1 : 1250

Drawn: HK Checked: NSJ Authorised: NSJ

N

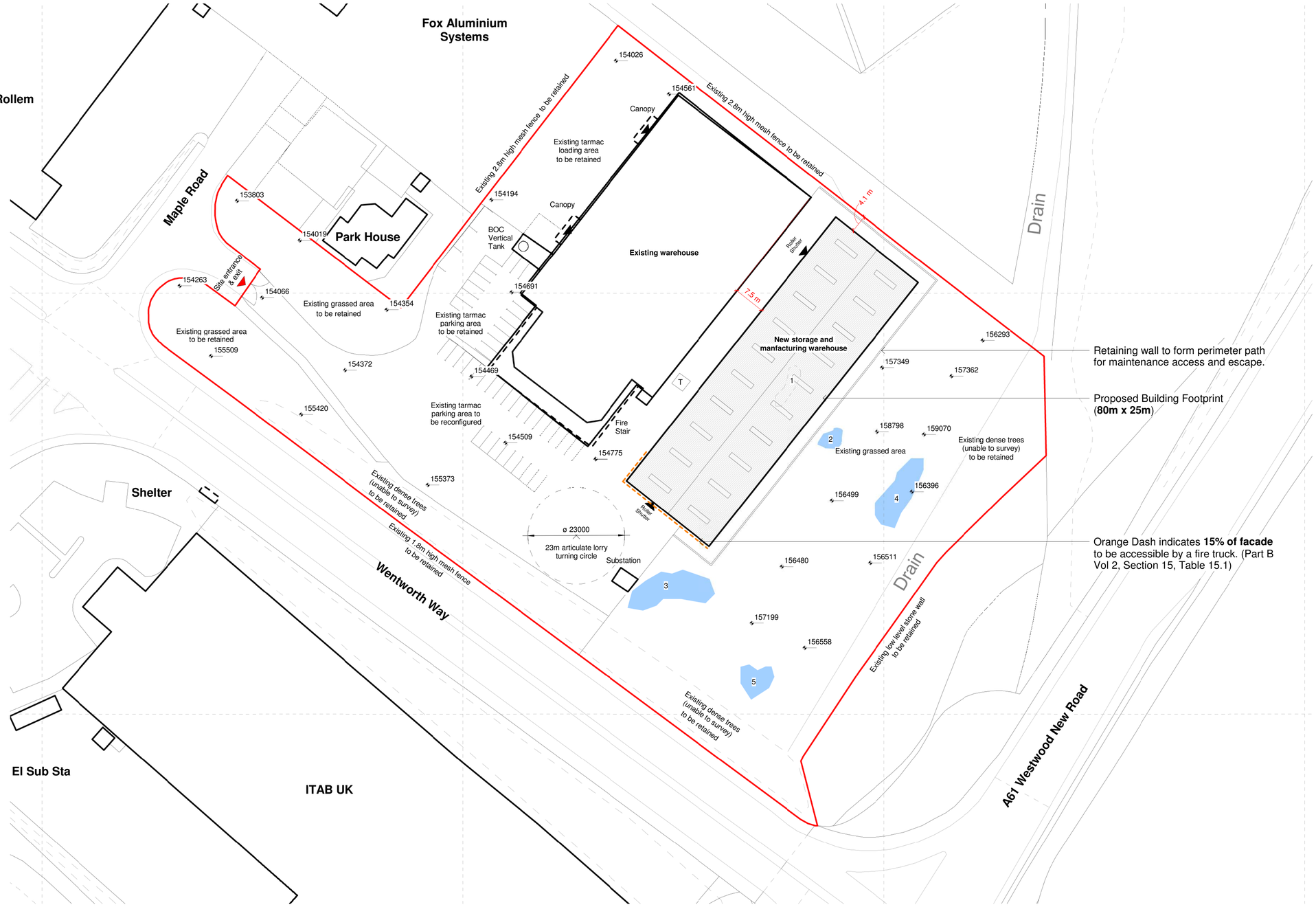
0m 25m 50m 75m 100m 125m

VISUAL SCALE 1:1250

Job Number	Originator	Volume	Level	Type	Role	Number	Revision
A23026	SASA	Z0	XX	DR	A	91100	A

© Southgate & Sarabia Architects Ltd

All rights reserved 2021 ©



This drawing is copyright and owned by Southgate and Sarabia Architects (SASA) Ltd, and is for use on this site only unless contractually stated otherwise.

DO NOT SCALE this drawing (printed or electronic versions). Contractors must check all dimensions from site.

All other design team elements, where indicated, have been imported from the consultant's drawings or models and reference should be made to the individual consultant's drawings for exact setting out, size and type of component.

Discrepancies and / or ambiguities within this drawing, between it and information given elsewhere, must be reported immediately to the architect for clarification before proceeding.

All works are to be carried out in accordance with the latest British Standards and Codes of Practice unless specifically directed otherwise in the specification.

Responsibility for the reproduction of this drawing in paper form, or if issued in electronic format, lies with the recipient to check that all information has been replicated in full and is correct when compared to the original paper or electronic image. Graphical representations of equipment on this drawing have been co-ordinated, but are approximations only. Please refer to the Specifications and / or Details for actual sizes and / or specific contractor construction information.

This original document is issued for the purpose indicated below and contains information of confidential nature. Further copies and circulation will be strictly in accordance with the confidentiality agreement under the contract. This original must be destroyed or returned to SASA

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

Refer to the relevant Construction (Design and Management) documentation where applicable.

All works on this drawing will be carried out by a competent contractor, working to an approved method statement.

rev:	date:	comment(s):	issued by:
B	2023-07-26	Design updates after design coordination checks	CC
A	2023-07-20	Building Location updated after site visit	CC

Status: S0 RIBA Stage: 2

Southgate & Sarabia ARCHITECTS

Architecture
Consultancy
Interior Design
Landscape Design
Masterplanning

Unit 4 Royal Mills, 17 Redhill Street,
Manchester, M4 5BA

T: +44 (0)161 804 8048
info@southgate-sarabia.co.uk
Registered no. 11814917

www.southgate-sarabia.co.uk

Client: Jacquet UK
Rockingham House
Wentworth Way
Wentworth Industrial Estate
Tankersley, Barnsley
S75 3DH

JACQUET

Job: Erection of a new storage & manufacturing warehouse building & operations yard

Title: Proposed Site Plan

Date: 2023-06-16 Scale @ A1: 1 : 500

Drawn: HK Checked By: NSJ Authorised By: NSJ

N

0m 10m 20m 30m 40m 50m

VISUAL SCALE 1:500

Job Number	Originator	Volume	Level	Type	Role	Number	Revision
A23026	SASA	Z0	XX	DR	A	91111	B

© Southgate & Sarabia Architects Ltd

All rights reserved 2021 ©

APPENDIX A

Enviro+Geo Insight Report

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

Jacquet UK, Tankersley, Barnsley

Order Details

Date: 10/08/2023

Your ref: EMS_887086_1097805

Our Ref: EMS-887086_1133779

Site Details

Location: 434045 399573

Area: 1.91 ha

Authority: Barnsley Metropolitan Borough Council ↗



Summary of findings p. 2 >

OS MasterMap site plan p.14 >

Aerial image p. 9 >

groundsure.com/insightuserguide ↗

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

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	3	2	37	96	-
21 >	1.2 >	Historical tanks >	0	0	18	6	-
22	1.3	Historical energy features	0	0	0	0	-
22	1.4	Historical petrol stations	0	0	0	0	-
22	1.5	Historical garages	0	0	0	0	-
23	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
24 >	2.1 >	Historical industrial land uses >	4	2	52	133	-
31 >	2.2 >	Historical tanks >	0	0	25	7	-
33	2.3	Historical energy features	0	0	0	0	-
33	2.4	Historical petrol stations	0	0	0	0	-
33	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
34	3.1	Active or recent landfill	0	0	0	0	-
34	3.2	Historical landfill (BGS records)	0	0	0	0	-
35	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
35	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
35 >	3.5 >	Historical waste sites >	0	0	1	3	-
36	3.6	Licensed waste sites	0	0	0	0	-
36 >	3.7 >	Waste exemptions >	0	0	1	1	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
37 >	4.1 >	Recent industrial land uses >	1	0	11	-	-
38	4.2	Current or recent petrol stations	0	0	0	0	-
38	4.3	Electricity cables	0	0	0	0	-
39	4.4	Gas pipelines	0	0	0	0	-
39	4.5	Sites determined as Contaminated Land	0	0	0	0	-

39 >	4.6 >	Control of Major Accident Hazards (COMAH) >	1	0	0	0	-
39 >	4.7 >	Regulated explosive sites >	0	0	0	1	-
40 >	4.8 >	Hazardous substance storage/usage >	0	0	2	0	-
40	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
40	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
41 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	0	2	-
41	4.12	Radioactive Substance Authorisations	0	0	0	0	-
41	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
41	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
42	4.15	Pollutant release to public sewer	0	0	0	0	-
42	4.16	List 1 Dangerous Substances	0	0	0	0	-
42	4.17	List 2 Dangerous Substances	0	0	0	0	-
42	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
42	4.19	Pollution inventory substances	0	0	0	0	-
43	4.20	Pollution inventory waste transfers	0	0	0	0	-
43	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
44	5.1	Superficial aquifer	None (within 500m)				
45 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
47 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
48	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
48	5.5	Groundwater vulnerability- local information	None (within 0m)				
49 >	5.6 >	Groundwater abstractions >	0	0	0	0	6
51 >	5.7 >	Surface water abstractions >	0	0	0	0	1
52	5.8	Potable abstractions	0	0	0	0	0
52	5.9	Source Protection Zones	0	0	0	0	-
52	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
53 >	6.1 >	Water Network (OS MasterMap) >	2	0	0	-	-

54 >	6.2 >	Surface water features >	1	0	1	-	-
54 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
54 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
55 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
56	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
56	7.2	Historical Flood Events	0	0	0	-	-
56	7.3	Flood Defences	0	0	0	-	-
57	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
57	7.5	Flood Storage Areas	0	0	0	-	-
58	7.6	Flood Zone 2	None (within 50m)				
58	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
59	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding >					
60 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
61 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	0	1
62	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
62	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
62	10.4	Special Protection Areas (SPA)	0	0	0	0	0
62	10.5	National Nature Reserves (NNR)	0	0	0	0	0
63 >	10.6 >	Local Nature Reserves (LNR) >	1	0	0	0	0
63 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	18
64	10.8	Biosphere Reserves	0	0	0	0	0
64	10.9	Forest Parks	0	0	0	0	0
64	10.10	Marine Conservation Zones	0	0	0	0	0
65 >	10.11 >	Green Belt >	1	0	0	0	1
65	10.12	Proposed Ramsar sites	0	0	0	0	0

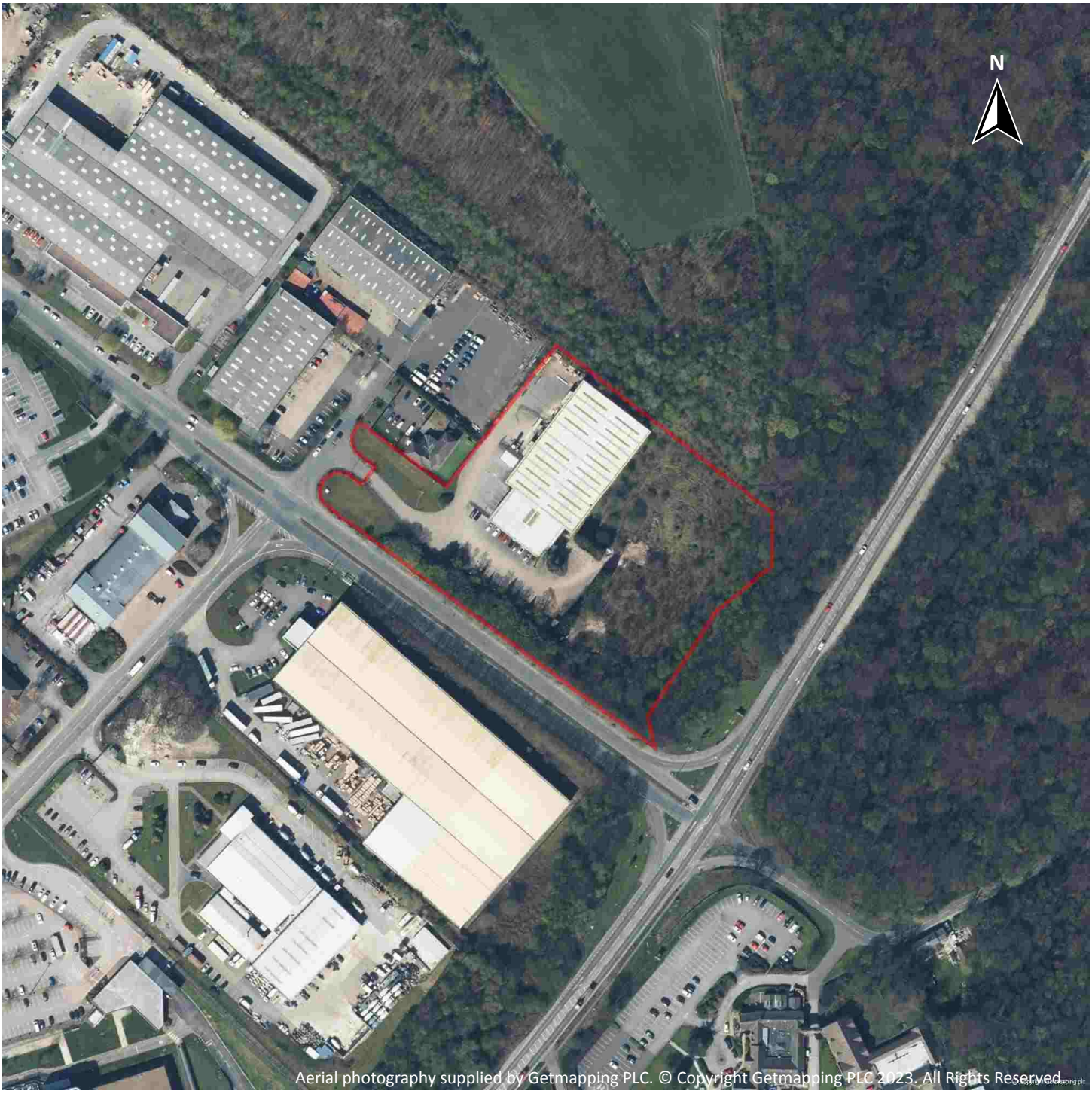
65	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
65	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
66	10.15	Nitrate Sensitive Areas	0	0	0	0	0
66 >	10.16 >	Nitrate Vulnerable Zones >	2	0	1	1	0
67 >	10.17 >	SSSI Impact Risk Zones >	2	-	-	-	-
68 >	10.18 >	SSSI Units >	0	0	0	0	1
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
70	11.1	World Heritage Sites	0	0	0	-	-
71	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
71	11.3	National Parks	0	0	0	-	-
71 >	11.4 >	Listed Buildings >	0	0	2	-	-
72	11.5	Conservation Areas	0	0	0	-	-
72	11.6	Scheduled Ancient Monuments	0	0	0	-	-
72	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
73 >	12.1 >	Agricultural Land Classification >	Grade 3 (within 250m)				
74	12.2	Open Access Land	0	0	0	-	-
74 >	12.3 >	Tree Felling Licences >	0	4	7	-	-
75 >	12.4 >	Environmental Stewardship Schemes >	0	0	1	-	-
75	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
76 >	13.1 >	Priority Habitat Inventory >	1	1	2	-	-
77	13.2	Habitat Networks	0	0	0	-	-
77	13.3	Open Mosaic Habitat	0	0	0	-	-
77	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
78 >	14.1 >	10k Availability >	Identified (within 500m)				
79 >	14.2 >	Artificial and made ground (10k) >	1	0	1	6	-
81	14.3	Superficial geology (10k)	0	0	0	0	-

81	14.4	Landslip (10k)	0	0	0	0	-
82 >	14.5 >	Bedrock geology (10k) >	2	2	3	16	-
84 >	14.6 >	Bedrock faults and other linear features (10k) >	3	0	4	11	-
Page	Section	**Geology 1:50,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
85 >	15.1 >	50k Availability >	Identified (within 500m)				
86 >	15.2 >	Artificial and made ground (50k) >	1	0	1	2	-
87 >	15.3 >	Artificial ground permeability (50k) >	1	0	-	-	-
88	15.4	Superficial geology (50k)	0	0	0	0	-
88	15.5	Superficial permeability (50k)	None (within 50m)				
88	15.6	Landslip (50k)	0	0	0	0	-
88	15.7	Landslip permeability (50k)	None (within 50m)				
89 >	15.8 >	Bedrock geology (50k) >	2	2	3	7	-
90 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
91 >	15.10 >	Bedrock faults and other linear features (50k) >	1	0	4	8	-
Page	Section	**Boreholes >**	On site	0-50m	50-250m	250-500m	500-2000m
92 >	16.1 >	BGS Boreholes >	0	0	25	-	-
Page	Section	**Natural ground subsidence >**					
94 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
96 >	17.2 >	Running sands >	Very low (within 50m)				
98 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
100 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
101 >	17.5 >	Landslides >	Moderate (within 50m)				
103 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	**Mining and ground workings >**	On site	0-50m	50-250m	250-500m	500-2000m
105 >	18.1 >	BritPits >	0	0	2	19	-
110 >	18.2 >	Surface ground workings >	0	1	23	-	-
111 >	18.3 >	Underground workings >	2	1	4	33	54
115	18.4	Underground mining extents	0	0	0	0	-
115	18.5	Historical Mineral Planning Areas	0	0	0	0	-

115 >	18.6 >	Non-coal mining >	2	1	1	12	16
119	18.7	JPB mining areas	None (within 0m)				
119 >	18.8 >	The Coal Authority non-coal mining >	0	0	0	3	-
120	18.9	Researched mining	0	0	0	0	-
120	18.10	Mining record office plans	0	0	0	0	-
120	18.11	BGS mine plans	0	0	0	0	-
120 >	18.12 >	Coal mining >	Identified (within 0m)				
121	18.13	Brine areas	None (within 0m)				
121	18.14	Gypsum areas	None (within 0m)				
121	18.15	Tin mining	None (within 0m)				
121	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
122	19.1	Natural cavities	0	0	0	0	-
122	19.2	Mining cavities	0	0	0	0	0
122	19.3	Reported recent incidents	0	0	0	0	-
122	19.4	Historical incidents	0	0	0	0	-
123	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
124 >	20.1 >	Radon >	Between 1% and 3% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
126 >	21.1 >	BGS Estimated Background Soil Chemistry >	7	4	-	-	-
127	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
127	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
128	22.1	Underground railways (London)	0	0	0	-	-
128	22.2	Underground railways (Non-London)	0	0	0	-	-
129	22.3	Railway tunnels	0	0	0	-	-
129 >	22.4 >	Historical railway and tunnel features >	0	0	16	-	-
130	22.5	Royal Mail tunnels	0	0	0	-	-

130 >	**22.6 >**	**Historical railways >**	0	0	1	-	-
130	22.7	Railways	0	0	0	-	-
130	22.8	Crossrail 1	0	0	0	0	-
131	22.9	Crossrail 2	0	0	0	0	-
131	22.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 19/04/2021

Site Area: 1.91ha

Recent site history - 2018 aerial photograph



Capture Date: 30/06/2018

Site Area: 1.91ha

Recent site history - 2012 aerial photograph



Capture Date: 28/05/2012

Site Area: 1.91ha

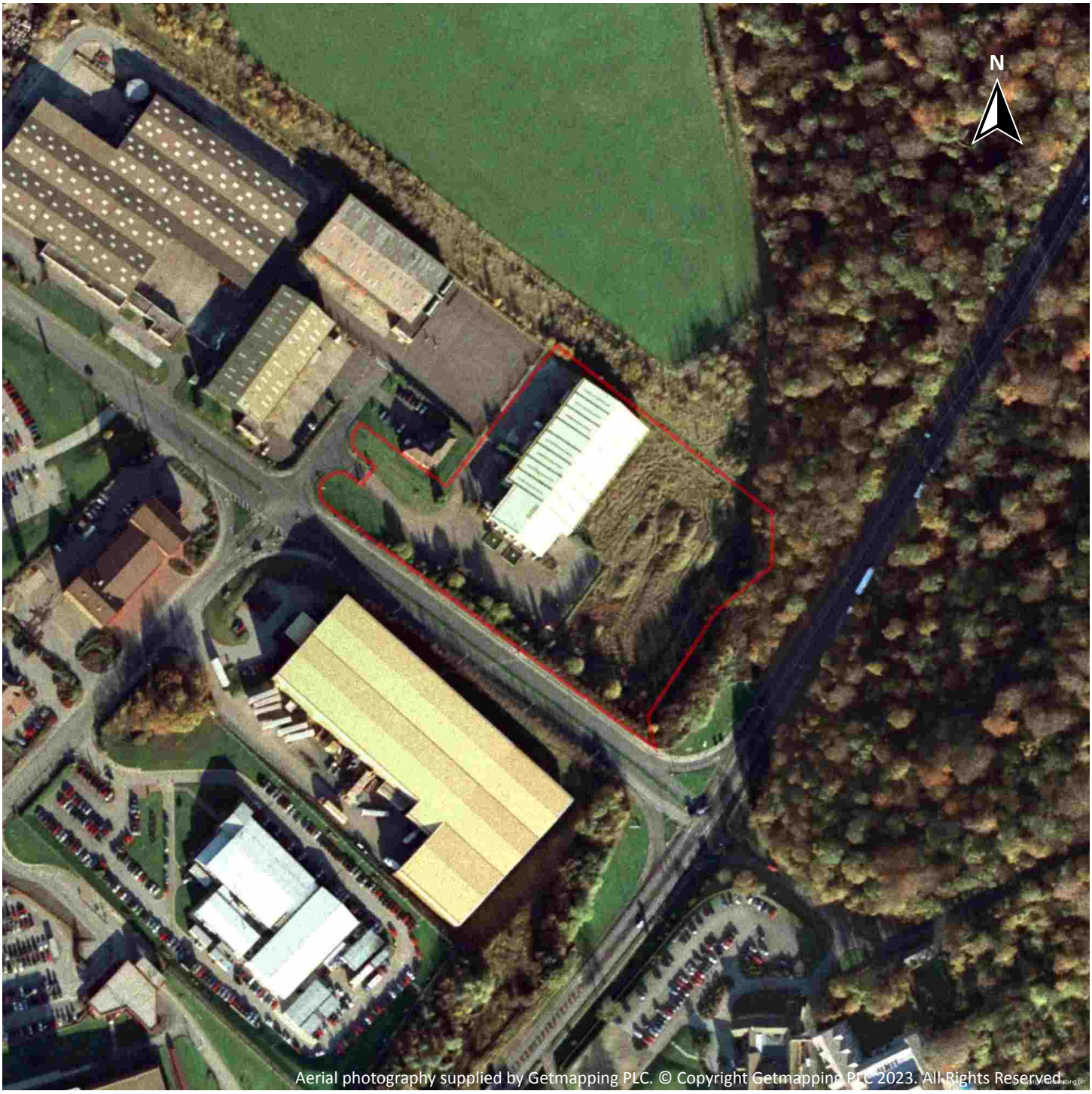
Recent site history - 2009 aerial photograph



Capture Date: 11/09/2009

Site Area: 1.91ha

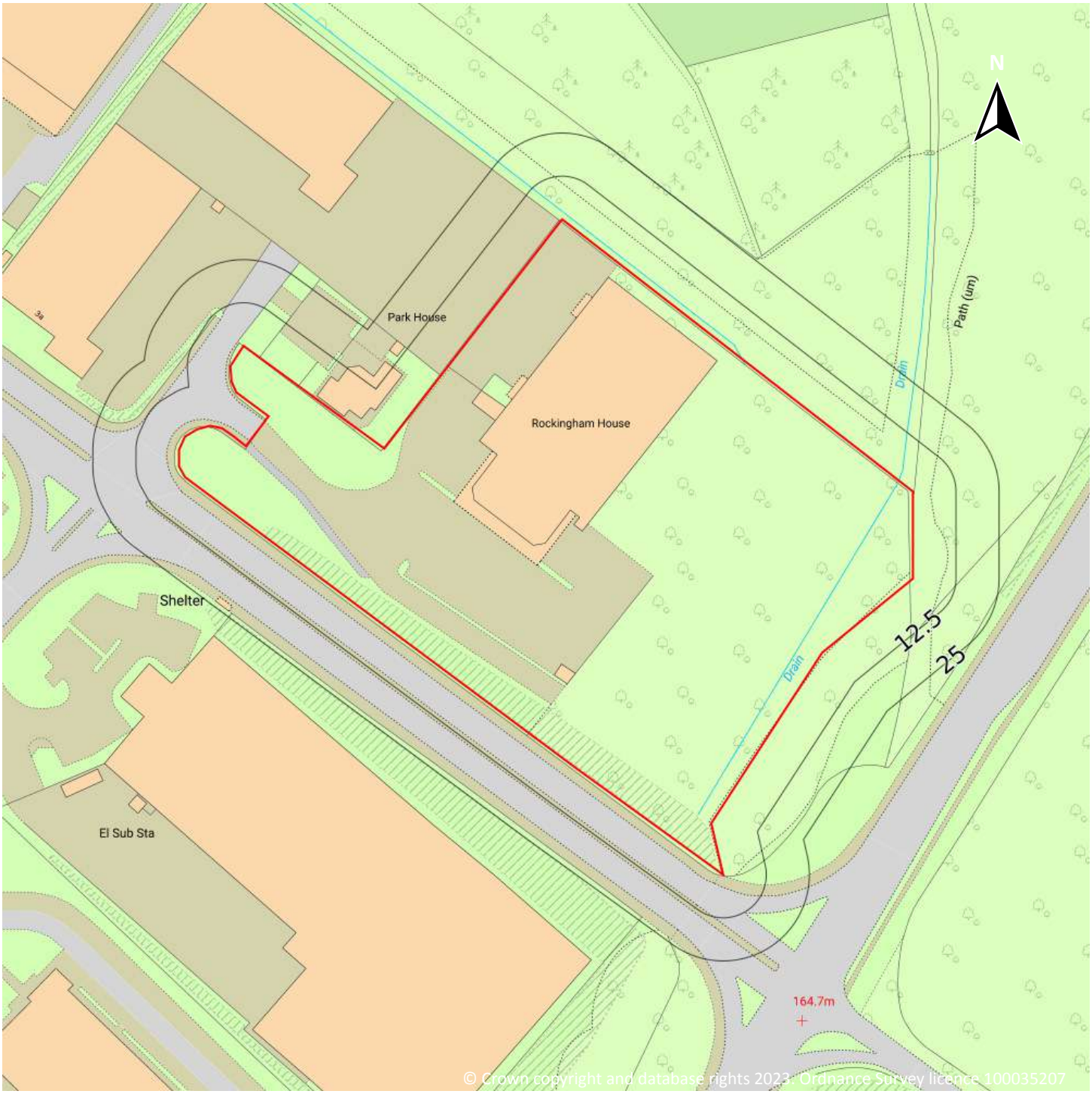
Recent site history - 1999 aerial photograph



Capture Date: 10/07/1999

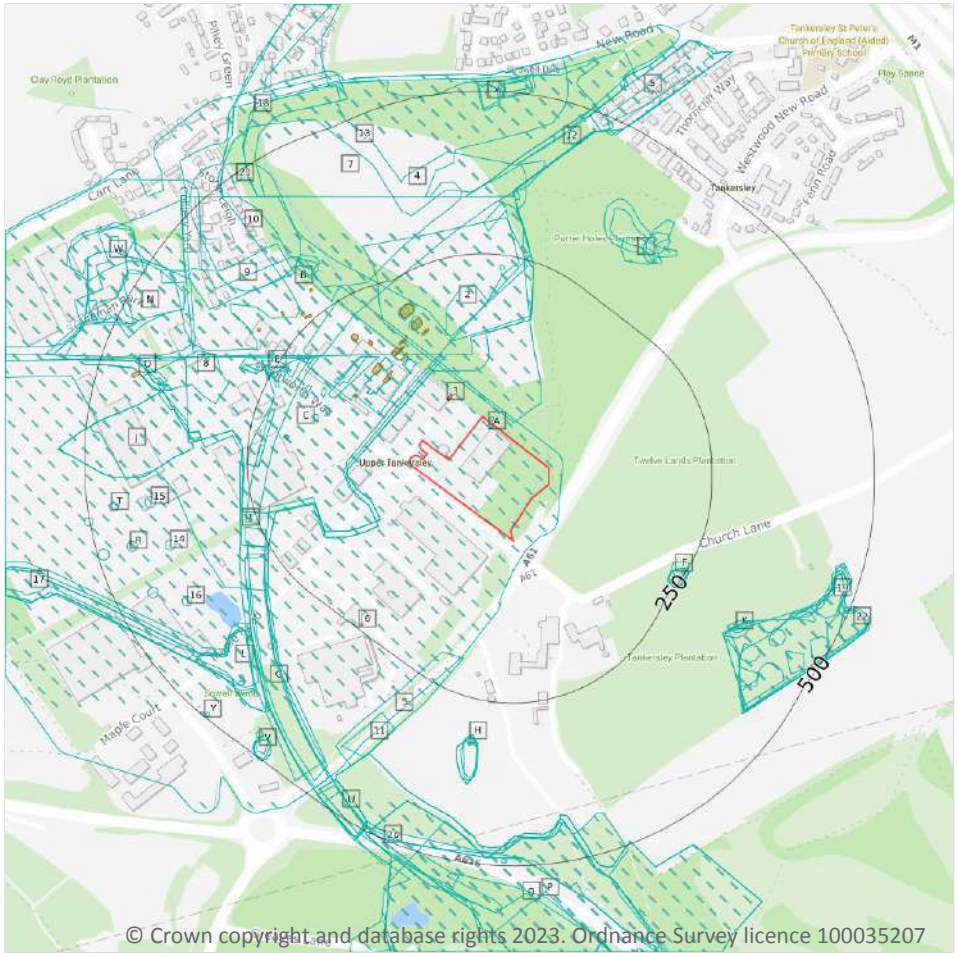
Site Area: 1.91ha

OS MasterMap site plan



Site Area: 1.91ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

1.1 Historical industrial land uses

Records within 500m	138

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

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

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Industrial Park**	**1992**	**2367015**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Shaft**	**1938**	**1728228**
A	**On site**	**Unspecified Shaft**	**1948**	**1744298**
A	3m N	Unspecified Shaft	1951	1579081
2	22m N	Disused Workings	1992	1581001
B	57m NW	Colliery	1891 - 1966	2366857
B	58m NW	Railway Sidings	1903 - 1966	2367817
C	62m NW	Unspecified Commercial/Industrial	1948	1682974
B	68m NW	Unspecified Commercial/Industrial	1951	2367060
C	77m NW	Unspecified Commercial/Industrial	1980	1742812
C	101m NW	Railway Buildings	1903	1677379
C	101m NW	Railway Buildings	1938	1731173
C	118m NW	Gasometers	1903	1572201
C	118m NW	Railway Buildings	1938	1601734
4	124m N	Unspecified Disused Tip	1977 - 1980	2366284
D	132m N	Refuse Heap	1966	1596921
C	139m NW	Railway Building	1938	1704804
C	141m W	Railway Building	1938	1584893
C	145m NW	Railway Building	1903	1668795
C	153m W	Railway Building	1938	1584897
C	164m NW	Railway Building	1903	1584895
C	169m NW	Unspecified Tank	1948	1678579
C	172m NW	Unspecified Tank	1951 - 1966	1727221
C	187m NW	Railway Building	1938	1584894
C	189m NW	Unspecified Tank	1948	1737988
C	190m W	Railway Building	1938	1734342
C	190m W	Railway Building	1903	1705563
C	191m NW	Unspecified Tank	1966	1721440
5	197m S	Cuttings	1951	1655140

ID	Location	Land use	Dates present	Group ID
B	202m NW	Tramway Sidings	1891	2367903
C	203m W	Railway Sidings	1891	1662697
E	214m NW	Railway Buildings	1938	1640235
E	214m NW	Railway Buildings	1903	1628317
C	221m W	Railway Buildings	1938	1601737
C	225m W	Railway Building	1903	1584896
F	226m SE	Unspecified Pit	1951 - 1966	1670765
D	228m N	Pumping Shaft	1903	1579675
E	230m NW	Railway Buildings	1891	1649223
F	232m SE	Unspecified Pit	1938	1689751
F	232m SE	Unspecified Pit	1903	1709913
F	232m SE	Old Ironstone Pits	1948	1575282
G	244m W	Cuttings	1891	1748464
7	255m NW	Refuse Heap	1891 - 1966	2366045
G	255m W	Cuttings	1951	1716250
G	263m W	Cuttings	1903	1629088
G	263m W	Cuttings	1938 - 1948	1726977
E	271m NW	Railway Building	1903	1584892
8	302m W	Unspecified Heap	1966	1569073
B	304m NW	Unspecified Heap	1948	1615362
H	305m S	Unspecified Shaft	1951	1579079
H	305m S	Unspecified Heap	1948 - 1966	1702153
H	308m S	Unspecified Disused Shaft	1966 - 1992	1674616
B	311m NW	Unspecified Heap	1951	1670995
H	312m S	Refuse Heap	1938	1712273
H	312m S	Refuse Heap	1903	1725884
H	315m S	Unspecified Disused Tip	1992	1573694
H	316m S	Unspecified Shaft	1903	1706856

ID	Location	Land use	Dates present	Group ID
H	316m S	Unspecified Shaft	1938 - 1948	1726312
9	323m NW	Unspecified Depot	1992	1583417
I	323m NE	Refuse Heap	1966	1699434
10	329m NW	Sewage Works	1992	2366589
11	332m SW	Cuttings	1966 - 1992	1628586
I	332m NE	Unspecified Disused Tip	1980	1573693
J	333m W	Hospital	1891	1602942
J	333m W	Infectious Diseases Hospital	1903	1603506
12	338m N	Railway Sidings	1965	1496293
13	339m N	Refuse Heap	1965	1491586
I	344m NE	Refuse Heap	1948	1628456
I	347m NE	Refuse Heap	1951	1690448
K	349m SE	Old Ironstone Pits	1951	1657126
L	351m SW	Refuse Heap	1951	1735136
K	351m SE	Old Ironstone Pits	1938 - 1948	1665494
K	352m SE	Old Ironstone Pits	1903	1699348
K	354m SE	Unspecified Disused Tips	1980 - 1992	1686895
K	355m SE	Unspecified Heap	1891	1569075
K	355m SE	Unspecified Heaps	1966	1704573
L	356m SW	Refuse Heap	1938	1626490
L	356m SW	Refuse Heap	1903	1655063
L	356m SW	Refuse Heap	1891	1725265
M	360m SW	Unspecified Heap	1966 - 1980	1670113
M	362m SW	Refuse Heap	1948	1624374
N	368m W	Brick Field	1891	1583188
N	377m NW	Brick Works	1903	1583785
O	380m W	Unspecified Ground Workings	1891	1664796
O	380m W	Unspecified Ground Workings	1938	1705078

ID	Location	Land use	Dates present	Group ID
O	380m W	Unspecified Ground Workings	1903	1710416
14	381m W	Unspecified Pit	1891	1609895
K	387m SE	Old Ironstone Pits	1951	1648174
K	391m SE	Unspecified Heaps	1891	1658043
P	394m SW	Unspecified Commercial/Industrial	1966	1562835
P	394m SW	Colliery	1951	1685577
15	395m W	Unspecified Pit	1891	1609891
16	396m SW	Unspecified Pit	1891	1609896
K	411m SE	Old Ironstone Pits	1951	1746030
K	413m SE	Old Ironstone Pits	1951	1660619
M	413m SW	Unspecified Old Shafts	1951	1559417
N	417m NW	Refuse Heap	1966	1725463
M	420m SW	Unspecified Old Shaft	1948	1626748
K	421m SE	Old Ironstone Pits	1951	1692842
Q	431m S	Colliery	1903	1634176
Q	431m S	Colliery	1891	1649499
L	434m W	Unspecified Pit	1891	1609888
Q	435m S	Colliery	1948	1690473
17	437m SW	Unspecified Heap	1948	1644813
R	437m W	Unspecified Pit	1891	1609892
Q	439m S	Colliery	1938	1684620
S	440m N	Railway Sidings	1891	1509041
18	445m NW	Railway Sidings	1951	1558147
K	445m SE	Old Ironstone Pits	1951	1620124
T	451m W	Unspecified Pit	1891	1609890
19	452m E	Old Ironstone Pits	1951	1678738
20	456m SW	Railway Sidings	1951	1646928
U	456m SW	Cuttings	1951	1710425

ID	Location	Land use	Dates present	Group ID
V	462m SW	Unspecified Heap	1951	1703375
V	463m SW	Disused Air Shaft	1966 - 1980	1657786
U	465m SW	Cuttings	1891	1670224
K	468m SE	Old Ironstone Pits	1951	1673811
W	469m NW	Refuse Heap	1938	1740095
V	469m SW	Unspecified Heap	1903	1614775
V	469m SW	Unspecified Heap	1938	1674814
Q	469m SW	Railway Sidings	1938 - 1948	1680231
X	470m N	Sludge Bed	1938	1492536
X	471m N	Sludge Bed	1948	1490790
V	471m SW	Unspecified Heap	1948	1743159
W	474m NW	Refuse Heap	1948 - 1951	1618462
S	475m N	Unspecified Depot	1977	1428489
R	483m W	Unspecified Pit	1891	1609893
Q	487m S	Railway Sidings	1891	1686386
Q	487m S	Railway Sidings	1903	1712832
21	487m NW	Unspecified Heap	1951	1417618
X	490m N	Filter Beds	1938	1474272
Q	490m S	Railway Building	1938	1584920
X	491m N	Filter Beds	1948	1514679
Y	491m SW	Unspecified Old Shafts	1951	1559418
22	492m E	Old Ironstone Pits	1951	1658249
T	495m W	Unspecified Pit	1891	1609889
Y	496m SW	Unspecified Old Shafts	1951	1559416
X	499m N	Filter Beds	1951	1513323

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	24

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

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

ID	Location	Land use	Dates present	Group ID
3	56m NW	Unspecified Tank	1989 - 1996	270089
C	105m NW	Tanks	1956	260374
C	122m NW	Unspecified Tank	1956	253886
C	122m NW	Tanks	1956	260375
C	126m NW	Tanks	1956	260377
C	136m NW	Tanks	1931	268472
C	139m NW	Tanks	1956	271830
C	140m NW	Tanks	1905 - 1931	272176
C	151m NW	Tanks	1905 - 1931	263344
C	153m NW	Tanks	1956	260376
C	154m NW	Tanks	1931	270031
C	155m NW	Tanks	1956	276414
C	160m NW	Unspecified Tank	1905	253885
C	165m NW	Unspecified Tank	1989 - 1996	263995
C	168m NW	Unspecified Tank	1931 - 1956	269060
C	184m NW	Unspecified Tank	1989 - 1996	275160
C	191m NW	Unspecified Tank	1931 - 1956	272479
6	240m SW	Unspecified Tank	1963	253887
B	255m NW	Unspecified Tank	1956	253884
B	265m NW	Unspecified Tank	1893	253882
B	285m NW	Unspecified Tank	1893	253883

ID	Location	Land use	Dates present	Group ID
B	286m NW	Unspecified Tank	1956	253881
B	301m NW	Unspecified Tank	1893	253880
O	436m W	Unspecified Tank	1989 - 1996	275287

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	0

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'.

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

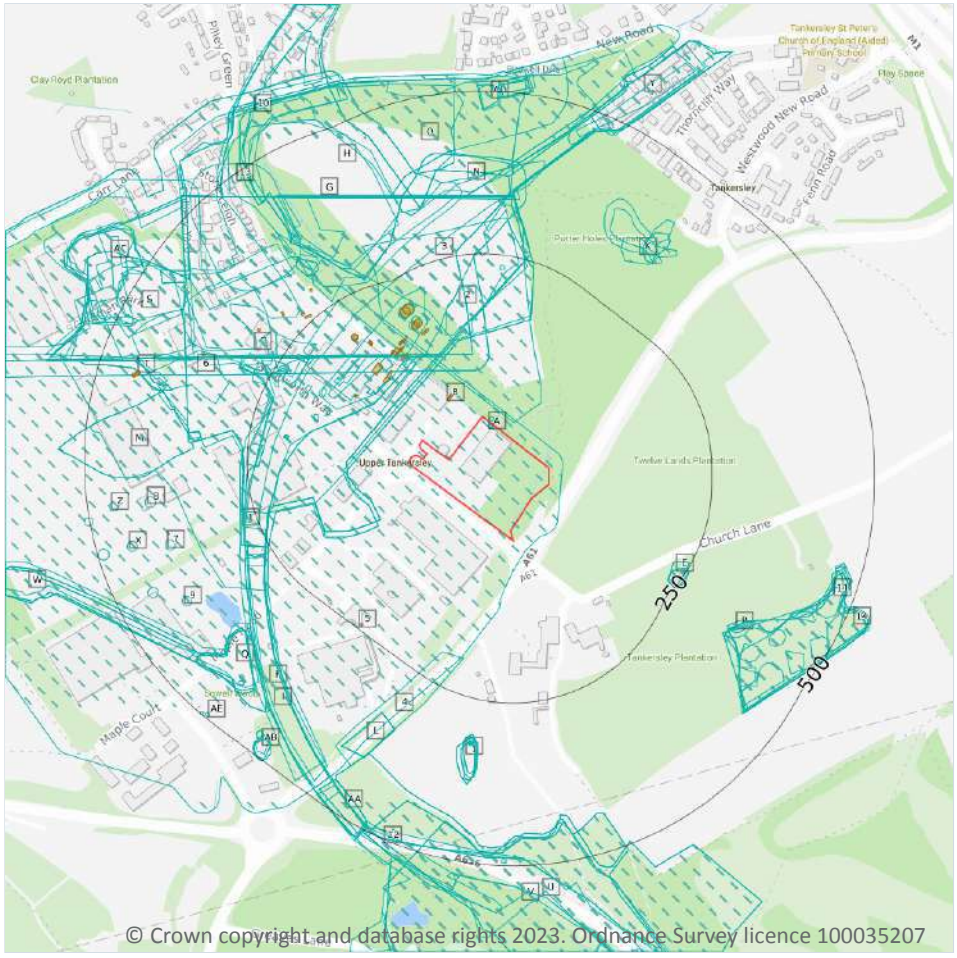
1.6 Historical military land

Records within 500m	0

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

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

2 Past land use - un-grouped



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

2.1 Historical industrial land uses

Records within 500m	191

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 24 >**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Industrial Park**	**1992**	**2367015**
A	**On site**	**Unspecified Shaft**	**1938**	**1728228**
A	**On site**	**Unspecified Shaft**	**1948**	**1744298**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Shaft**	**1948**	**1744298**
A	3m N	Unspecified Shaft	1951	1579081
2	22m N	Disused Workings	1992	1581001
C	57m NW	Colliery	1966	2366857
C	58m NW	Railway Sidings	1966	2367817
C	62m NW	Unspecified Commercial/Industrial	1948	1682974
C	68m NW	Railway Sidings	1966	2367817
C	68m NW	Unspecified Commercial/Industrial	1951	2367060
C	68m NW	Railway Sidings	1951	2367817
C	72m N	Colliery	1938	2366857
C	72m N	Colliery	1903	2366857
C	77m NW	Unspecified Commercial/Industrial	1980	1742812
C	84m NW	Railway Sidings	1948	2367817
C	93m NW	Railway Sidings	1938	2367817
C	93m NW	Railway Sidings	1903	2367817
C	97m N	Railway Sidings	1938	2367817
C	97m N	Railway Sidings	1903	2367817
C	97m N	Colliery	1891	2366857
C	101m NW	Railway Buildings	1938	1731173
C	101m NW	Railway Buildings	1903	1677379
C	113m N	Colliery	1948	2366857
C	113m N	Colliery	1948	2366857
C	118m NW	Railway Buildings	1938	1601734
C	118m NW	Gasometers	1903	1572201
3	124m N	Unspecified Disused Tip	1980	2366284
C	129m NW	Railway Sidings	1948	2367817
D	132m N	Refuse Heap	1966	1596921
C	139m NW	Railway Building	1938	1704804

ID	Location	Land Use	Date	Group ID
C	141m W	Railway Building	1938	1584893
C	145m NW	Railway Building	1903	1668795
C	153m W	Railway Building	1938	1584897
C	164m NW	Railway Building	1903	1584895
C	169m NW	Unspecified Tank	1948	1678579
C	172m NW	Unspecified Tank	1966	1727221
C	172m NW	Unspecified Tank	1951	1727221
C	187m NW	Railway Building	1938	1584894
C	189m NW	Unspecified Tank	1948	1737988
C	190m W	Railway Building	1938	1734342
C	190m W	Railway Building	1903	1705563
C	191m NW	Unspecified Tank	1966	1721440
4	197m S	Cuttings	1951	1655140
C	202m NW	Tramway Sidings	1891	2367903
C	203m W	Railway Sidings	1891	1662697
C	214m NW	Railway Buildings	1938	1640235
C	214m NW	Railway Buildings	1903	1628317
C	221m W	Railway Buildings	1938	1601737
C	225m W	Railway Building	1903	1584896
E	226m SE	Unspecified Pit	1966	1670765
E	226m SE	Unspecified Pit	1951	1670765
D	228m N	Pumping Shaft	1903	1579675
C	230m NW	Railway Buildings	1891	1649223
E	232m SE	Unspecified Pit	1938	1689751
E	232m SE	Unspecified Pit	1903	1709913
E	232m SE	Old Ironstone Pits	1948	1575282
F	244m W	Cuttings	1891	1748464
C	255m NW	Refuse Heap	1966	2366045

ID	Location	Land Use	Date	Group ID
F	255m W	Cuttings	1951	1716250
G	257m NW	Refuse Heap	1891	2366045
H	263m NW	Refuse Heap	1948	2366045
H	263m NW	Refuse Heap	1948	2366045
I	263m W	Cuttings	1938	1726977
I	263m W	Cuttings	1903	1629088
I	264m W	Cuttings	1948	1726977
C	271m NW	Railway Building	1903	1584892
H	283m NW	Refuse Heap	1938	2366045
G	291m NW	Refuse Heap	1903	2366045
6	302m W	Unspecified Heap	1966	1569073
C	304m NW	Unspecified Heap	1948	1615362
C	304m NW	Unspecified Heap	1948	1615362
J	305m S	Unspecified Heap	1966	1702153
J	305m S	Unspecified Heap	1951	1702153
J	305m S	Unspecified Shaft	1951	1579079
J	308m S	Unspecified Disused Shaft	1966	1674616
J	308m S	Unspecified Disused Shaft	1992	1674616
J	308m S	Unspecified Disused Shaft	1980	1674616
C	311m NW	Unspecified Heap	1951	1670995
J	312m S	Refuse Heap	1938	1712273
J	312m S	Refuse Heap	1903	1725884
C	312m NW	Refuse Heap	1951	2366045
J	315m S	Unspecified Disused Tip	1992	1573694
J	316m S	Unspecified Shaft	1938	1726312
J	316m S	Unspecified Shaft	1903	1706856
J	316m S	Unspecified Shaft	1948	1726312
J	316m S	Unspecified Heap	1948	1702153

ID	Location	Land Use	Date	Group ID
J	316m S	Unspecified Shaft	1948	1726312
J	316m S	Unspecified Heap	1948	1702153
C	323m NW	Unspecified Depot	1992	1583417
K	323m NE	Refuse Heap	1966	1699434
C	329m NW	Sewage Works	1992	2366589
L	332m SW	Cuttings	1966	1628586
L	332m SW	Cuttings	1992	1628586
L	332m SW	Cuttings	1980	1628586
K	332m NE	Unspecified Disused Tip	1980	1573693
M	333m W	Infectious Diseases Hospital	1903	1603506
M	333m W	Hospital	1891	1602942
N	334m N	Railway Sidings	1951	2367817
O	336m N	Unspecified Disused Tip	1977	2366284
N	338m N	Railway Sidings	1965	1496293
O	339m N	Refuse Heap	1965	1491586
O	341m N	Colliery	1951	2366857
K	344m NE	Refuse Heap	1948	1628456
K	344m NE	Refuse Heap	1948	1628456
K	347m NE	Refuse Heap	1951	1690448
P	349m SE	Old Ironstone Pits	1951	1657126
Q	351m SW	Refuse Heap	1951	1735136
P	351m SE	Old Ironstone Pits	1948	1665494
P	352m SE	Old Ironstone Pits	1938	1665494
P	352m SE	Old Ironstone Pits	1903	1699348
P	354m SE	Unspecified Disused Tips	1992	1686895
P	354m SE	Unspecified Disused Tips	1980	1686895
P	355m SE	Unspecified Heap	1891	1569075
P	355m SE	Unspecified Heaps	1966	1704573

ID	Location	Land Use	Date	Group ID
Q	356m SW	Refuse Heap	1938	1626490
Q	356m SW	Refuse Heap	1903	1655063
Q	356m SW	Refuse Heap	1891	1725265
R	360m SW	Unspecified Heap	1966	1670113
R	360m SW	Unspecified Heap	1980	1670113
R	362m SW	Refuse Heap	1948	1624374
R	362m SW	Refuse Heap	1948	1624374
O	364m N	Refuse Heap	1951	2366045
S	368m W	Brick Field	1891	1583188
S	377m NW	Brick Works	1903	1583785
T	380m W	Unspecified Ground Workings	1938	1705078
T	380m W	Unspecified Ground Workings	1903	1710416
T	380m W	Unspecified Ground Workings	1891	1664796
7	381m W	Unspecified Pit	1891	1609895
P	387m SE	Old Ironstone Pits	1951	1648174
P	391m SE	Unspecified Heaps	1891	1658043
U	394m SW	Unspecified Commercial/Industrial	1966	1562835
U	394m SW	Colliery	1951	1685577
8	395m W	Unspecified Pit	1891	1609891
9	396m SW	Unspecified Pit	1891	1609896
P	411m SE	Old Ironstone Pits	1951	1746030
P	413m SE	Old Ironstone Pits	1951	1660619
R	413m SW	Unspecified Old Shafts	1951	1559417
S	417m NW	Refuse Heap	1966	1725463
R	420m SW	Unspecified Old Shaft	1948	1626748
R	420m SW	Unspecified Old Shaft	1948	1626748
P	421m SE	Old Ironstone Pits	1951	1692842
V	431m S	Colliery	1903	1634176

ID	Location	Land Use	Date	Group ID
V	431m S	Colliery	1891	1649499
Q	434m W	Unspecified Pit	1891	1609888
V	435m S	Colliery	1948	1690473
V	435m S	Colliery	1948	1690473
W	437m SW	Unspecified Heap	1948	1644813
W	437m SW	Unspecified Heap	1948	1644813
X	437m W	Unspecified Pit	1891	1609892
V	439m S	Colliery	1938	1684620
Y	440m N	Railway Sidings	1891	1509041
10	445m NW	Railway Sidings	1951	1558147
P	445m SE	Old Ironstone Pits	1951	1620124
Z	451m W	Unspecified Pit	1891	1609890
11	452m E	Old Ironstone Pits	1951	1678738
Y	454m N	Railway Sidings	1965	1496293
12	456m SW	Railway Sidings	1951	1646928
AA	456m SW	Cuttings	1951	1710425
AB	462m SW	Unspecified Heap	1951	1703375
AB	463m SW	Disused Air Shaft	1966	1657786
AB	463m SW	Disused Air Shaft	1980	1657786
AA	465m SW	Cuttings	1891	1670224
P	468m SE	Old Ironstone Pits	1951	1673811
AC	469m NW	Refuse Heap	1938	1740095
AB	469m SW	Unspecified Heap	1938	1674814
AB	469m SW	Unspecified Heap	1903	1614775
V	469m SW	Railway Sidings	1948	1680231
AD	470m N	Sludge Bed	1938	1492536
AD	471m N	Sludge Bed	1948	1490790
AD	471m N	Sludge Bed	1948	1490790

ID	Location	Land Use	Date	Group ID
AB	471m SW	Unspecified Heap	1948	1743159
AB	471m SW	Unspecified Heap	1948	1743159
AC	474m NW	Refuse Heap	1948	1618462
AC	474m NW	Refuse Heap	1948	1618462
Y	475m N	Unspecified Depot	1977	1428489
AC	478m NW	Refuse Heap	1951	1618462
V	482m S	Railway Sidings	1938	1680231
X	483m W	Unspecified Pit	1891	1609893
V	487m S	Railway Sidings	1903	1712832
V	487m S	Railway Sidings	1891	1686386
13	487m NW	Unspecified Heap	1951	1417618
AD	490m N	Filter Beds	1938	1474272
V	490m S	Railway Building	1938	1584920
AD	491m N	Filter Beds	1948	1514679
AD	491m N	Filter Beds	1948	1514679
AE	491m SW	Unspecified Old Shafts	1951	1559418
14	492m E	Old Ironstone Pits	1951	1658249
Z	495m W	Unspecified Pit	1891	1609889
AE	496m SW	Unspecified Old Shafts	1951	1559416
AD	499m N	Filter Beds	1951	1513323

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	32

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 24 >**

ID	Location	Land Use	Date	Group ID
B	56m NW	Unspecified Tank	1989	270089
B	56m NW	Unspecified Tank	1996	270089
C	105m NW	Tanks	1956	260374
C	122m NW	Unspecified Tank	1956	253886
C	122m NW	Tanks	1956	260375
C	126m NW	Tanks	1956	260377
C	136m NW	Tanks	1931	268472
C	139m NW	Tanks	1956	271830
C	140m NW	Tanks	1905	272176
C	140m NW	Tanks	1931	272176
C	151m NW	Tanks	1905	263344
C	151m NW	Tanks	1931	263344
C	153m NW	Tanks	1956	260376
C	154m NW	Tanks	1931	270031
C	155m NW	Tanks	1956	276414
C	160m NW	Unspecified Tank	1905	253885
C	165m NW	Unspecified Tank	1989	263995
C	167m NW	Unspecified Tank	1996	263995
C	168m NW	Unspecified Tank	1931	269060
C	168m NW	Unspecified Tank	1956	269060
C	184m NW	Unspecified Tank	1989	275160
C	185m NW	Unspecified Tank	1996	275160
C	191m NW	Unspecified Tank	1931	272479
C	192m NW	Unspecified Tank	1956	272479
5	240m SW	Unspecified Tank	1963	253887
C	255m NW	Unspecified Tank	1956	253884
C	265m NW	Unspecified Tank	1893	253882
C	285m NW	Unspecified Tank	1893	253883

ID	Location	Land Use	Date	Group ID
C	286m NW	Unspecified Tank	1956	253881
C	301m NW	Unspecified Tank	1893	253880
T	436m W	Unspecified Tank	1996	275287
T	436m W	Unspecified Tank	1989	275287

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	0

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'.

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

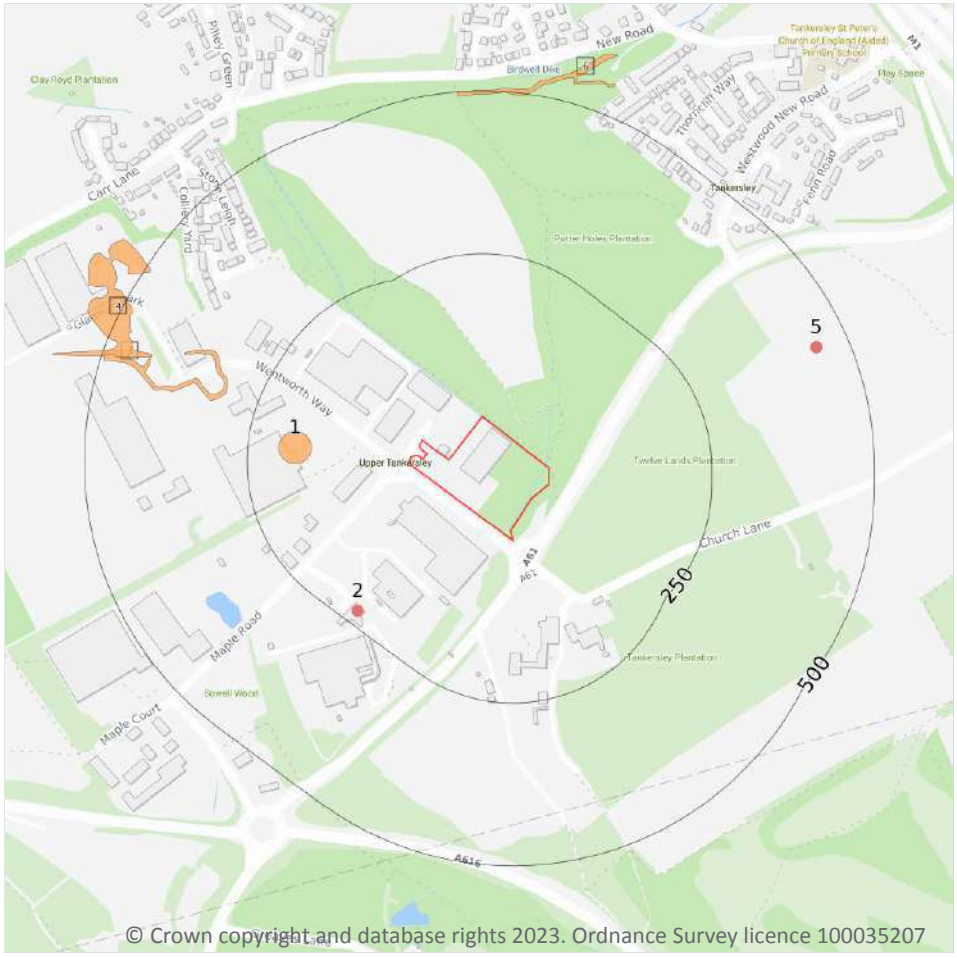
2.5 Historical garages

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

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	0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

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

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

3.5 Historical waste sites

Records within 500m	4

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 34 >**

ID	Location	Address	Further Details	Date
1	152m W	Site Address: Distinction Doors, Wentworth Way, Tankersley, Barnsley, South Yorkshire, S75 3DH	Type of Site: Dust Extraction Unit (Extension) Planning application reference: 2016/1009 Description: Scheme comprises installation of a new dust extraction unit. Data source: Historic Planning Application Data Type: Point	21/03/2017
3	301m W	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	1956
4	427m W	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	1905

ID	Location	Address	Further Details	Date
6	493m 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	1956

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	**2**

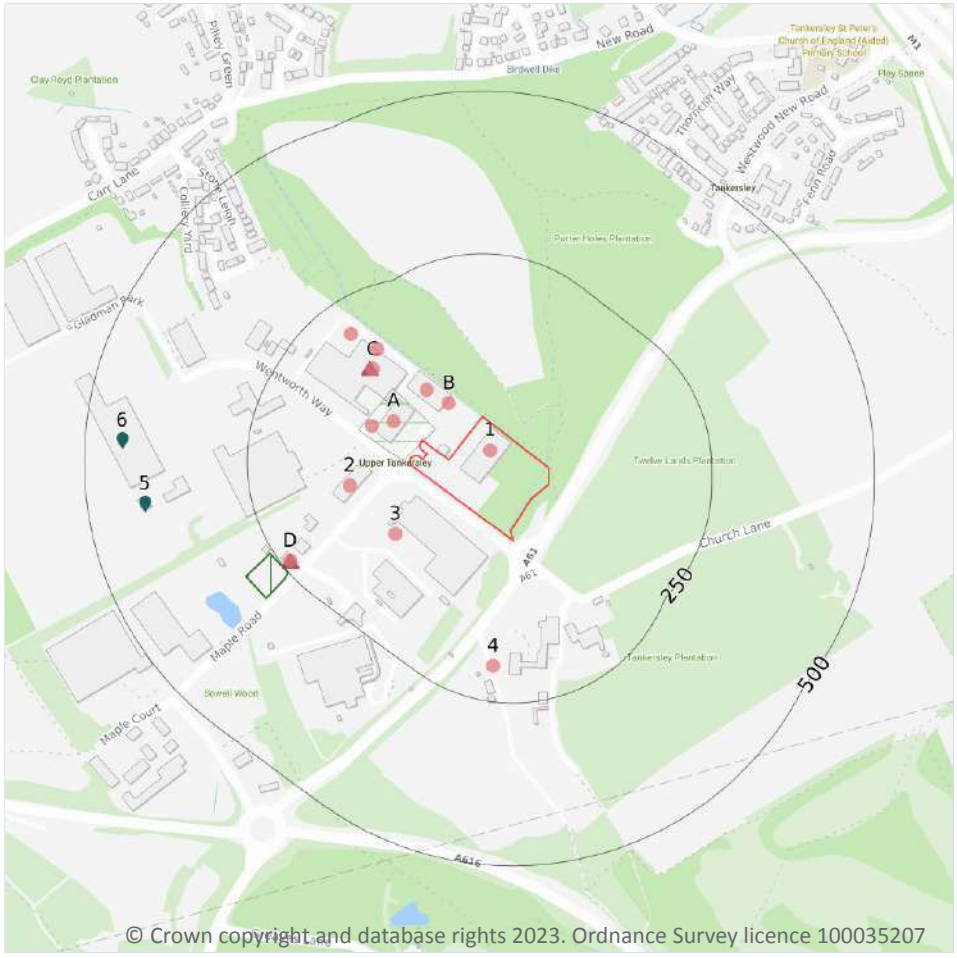
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 34 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
2	229m SW	DX Network Services Ltd, Maple Drive, Tankersley, Barnsley, S75 3DJ	WEX291098	Storing waste exemption	Not on a farm	Storage of waste in a secure place
5	450m E	-	WEX299116	Storing waste exemption	On a Farm	Storage of sludge

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

4 Current industrial land use



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Recent industrial land uses

Control of Major Accident Hazards

Regulated explosive sites

Hazardous substance storage/usage

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

4.1 Recent industrial land uses

Records within 250m	**12**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Jacquet Metal Service**	**Rockingham House, Wentworth Way, Tankersley, Barnsley, South Yorkshire, S75 3DH**	**Metals Manufacturers, Fabricators and Stockholders**	**Industrial Products**
B	53m NW	Tank	South Yorkshire, S75	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
A	53m NW	Rollem Ltd	Unit 3a Rollem House, Wentworth Way, Tankersley, Barnsley, South Yorkshire, S75 3DH	Plate Makers, Print Finishers and Type Setters	IT, Advertising, Marketing and Media Services
A	77m NW	Electricity Sub Station	South Yorkshire, S75	Electrical Features	Infrastructure and Facilities
B	78m NW	Fox Aluminium	Park Works, Wentworth Way, Tankersley, Barnsley, South Yorkshire, S75 3DH	Metals Manufacturers, Fabricators and Stockholders	Industrial Products
2	99m W	Tankersley Fire Station	-, Maple Road, Tankersley, Barnsley, South Yorkshire, S75 3DL	Fire Brigade Stations	Central and Local Government
3	99m SW	Electricity Sub Station	South Yorkshire, S75	Electrical Features	Infrastructure and Facilities
C	133m NW	Distinction Doors	-, Wentworth Way, Tankersley, Barnsley, South Yorkshire, S75 3DH	General Construction Supplies	Industrial Products
C	157m NW	Tank	South Yorkshire, S75	Tanks (Generic)	Industrial Features
4	195m S	Electricity Sub Station	South Yorkshire, S75	Electrical Features	Infrastructure and Facilities
C	196m NW	Tank	South Yorkshire, S75	Tanks (Generic)	Industrial Features
D	237m SW	Glass Systems	-, Maple Road, Tankersley, Barnsley, South Yorkshire, S75 3DL	Glass	Industrial Products

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	1

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.

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Company	Address	Operational status	Tier
A	**On site**	**Mercedes Benz (uk) Ltd**	**Mercedes Benz (uk) Ltd, Wentworth Industrial Park, Tankersley, Barnsley, S75 3DH**	**Historical NIHHS Site**	**-**

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	1

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.

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Company	Operational Address
D	251m SW	Jimmy's Wholesale Fireworks Limited	Wentworth Business Park, Tankersley, Maple Road , Barnsley, S.Yorks, S75 3DL

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	2

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.

Features are displayed on the Current industrial land use map on **page 37 >**

ID	Location	Details	
C	137m NW	Application reference number: HSC/92/3 Application status: Approved Application date: 13/08/1992 Address: Daimler Chrysler UK Ltd, Wentworth Way, Tankersley, Barnsley, South Yorkshire, England, S75 3DH	Details: Liquid Petroleum Gas (propane) Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
D	237m SW	Application reference number: No Details Application status: Historical Consent Application date: No Details Address: Jimmy's Wholesale Fireworks Ltd, Wentworth Business Park, Maple Road, Tankersley, Barnsley, South Yorkshire, England, S75 3DL	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details

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 37 >**

ID	Location	Address	Details	
5	412m W	Mercedes Benz (UK) Ltd, Wentworth Way, Tankersley, Barnsley, S75 3DH	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
6	443m W	Mercedes Benz (UK) Ltd, Wentworth Way, Tankersley, Barnsley, S75 3DH	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	0

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

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

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

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

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

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

4.17 List 2 Dangerous Substances

Records within 500m	0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

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

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer

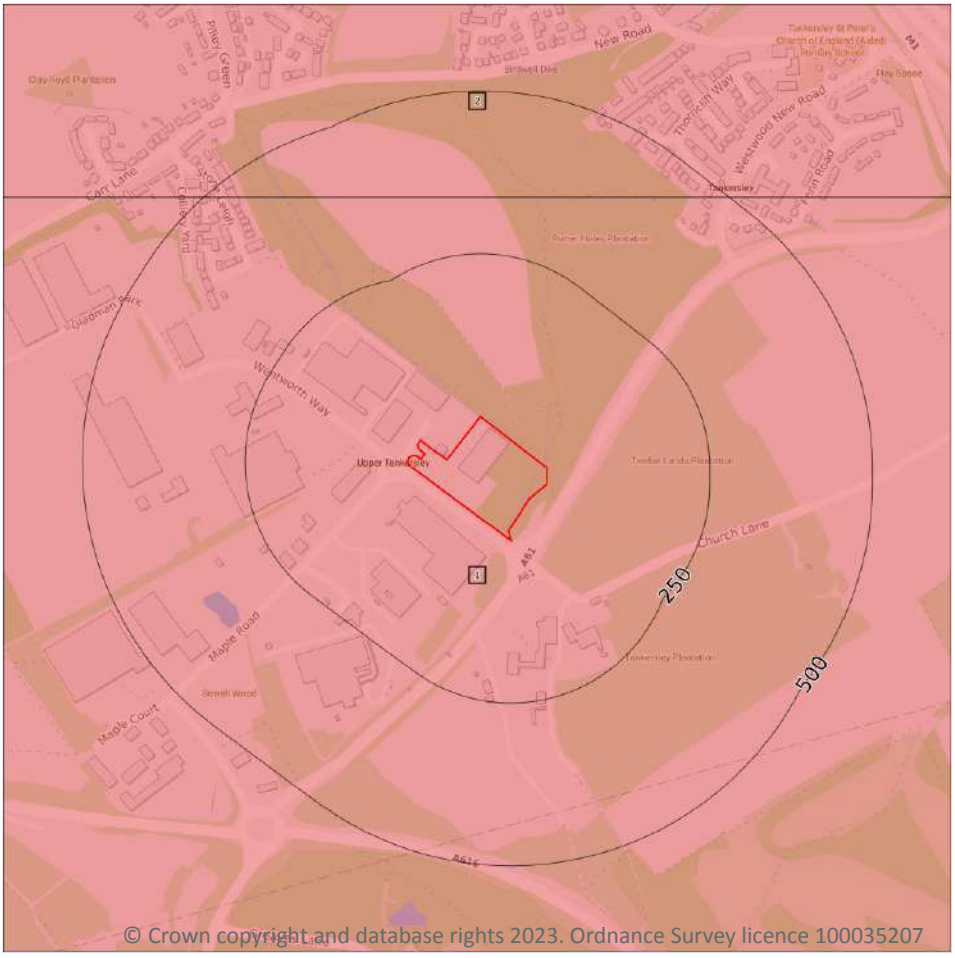
5.1 Superficial aquifer

Records within 500m	0

Aquifer status of groundwater held within superficial geology.

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m	2

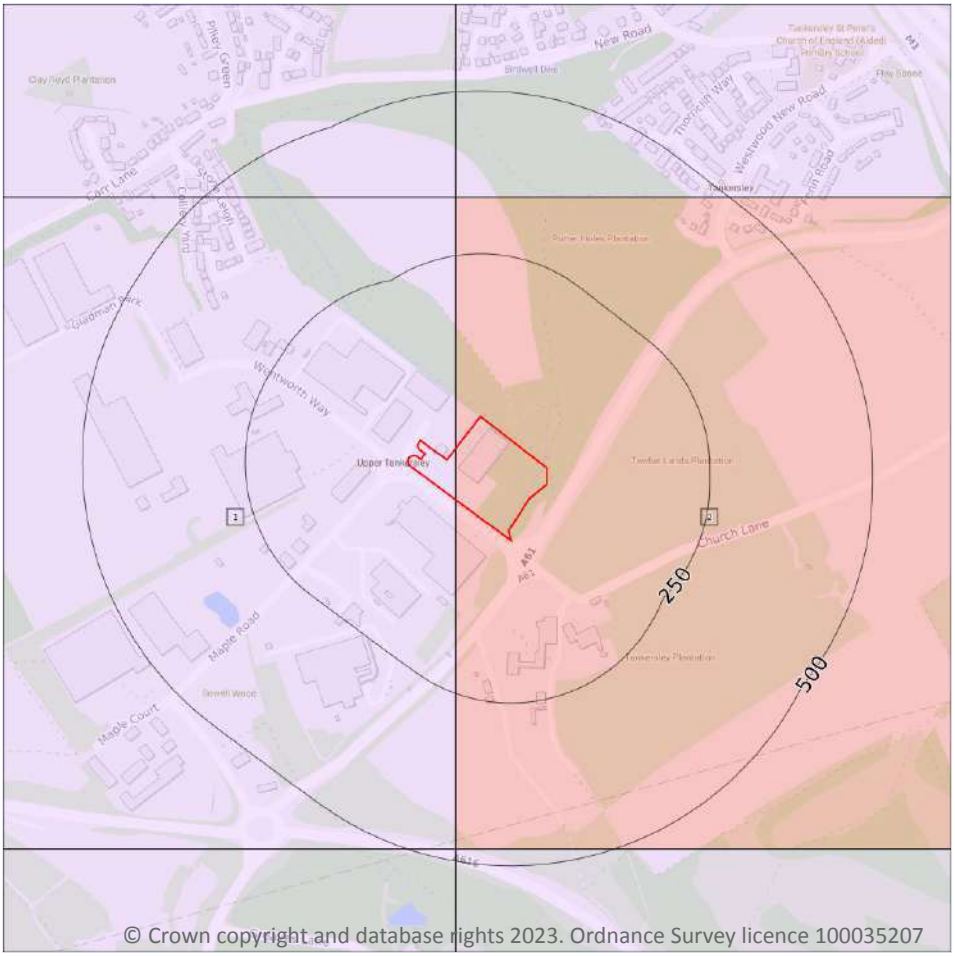
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 45 >**

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**
2	336m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	2

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

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

Features are displayed on the Groundwater vulnerability map on **page 47 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: Medium Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300-550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

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

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

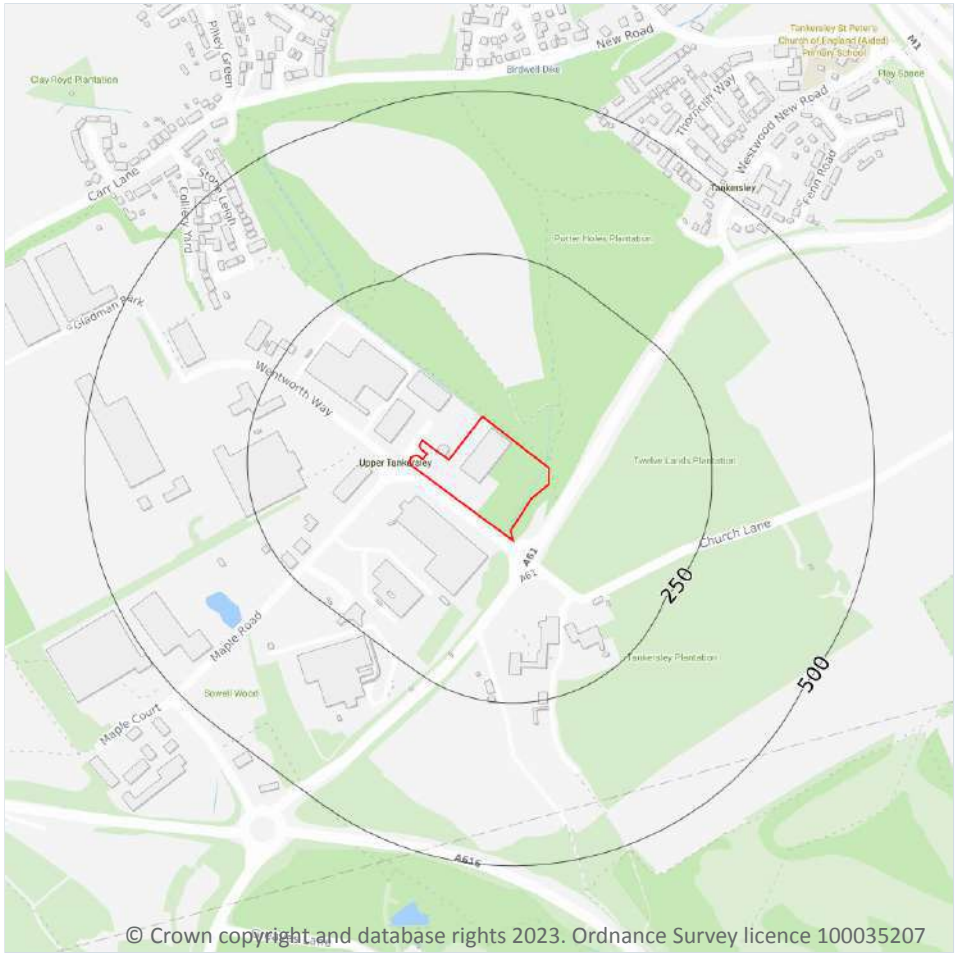
5.5 Groundwater vulnerability- local information

Records on site	0

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

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

Abstractions and Source Protection Zones



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	6

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 49 >**

ID	Location	Details	
-	1326m W	Status: Historical Licence No: 03/28/20/0057 Details: General Farming & Domestic Direct Source: Groundwater Midlands Region Point: RED HOUSE FARM, RATCLIIFE CULEY - WELL Data Type: Point Name: MESSRS J D & G G HUNT Easting: 432600 Northing: 399600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 08/06/1994 Version End Date: -
-	1679m SE	Status: Historical Licence No: 2/27/06/043 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE-SHAFT COAL MEASURES-HIGH GREEN Data Type: Point Name: TANKERSLEY PARK GOLF CLUB Easting: 435570 Northing: 398680	Annual Volume (m^3): 8200 Max Daily Volume (m^3): 226 Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/02/2004 Version End Date: -
-	1683m SE	Status: Active Licence No: 2/27/06/043 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE-SHAFT COAL MEASURES-HIGH GREEN Data Type: Point Name: TANKERSLEY PARK GOLF CLUB Easting: 435576 Northing: 398681	Annual Volume (m^3): 8200 Max Daily Volume (m^3): 216.91 Original Application No: NPS/WR/021609 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 103 Version Start Date: 01/04/2017 Version End Date: -
-	1781m SE	Status: Historical Licence No: 2/27/06/043 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - SHAFT - COAL MEASURES - HIGH GREEN SHEFFIELD Data Type: Point Name: TANKERSLEY PARK GOLF CLUB Easting: 435700 Northing: 398700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 24/10/2000 Version End Date: -

ID	Location	Details	
-	1781m SE	Status: Historical Licence No: 2/27/06/043 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE-SHAFT-COAL MEASURES-HIGH GREEN-SHEFFIELD Data Type: Point Name: TANKERSLEY PARK GOLF CLUB Easting: 435700 Northing: 398700	Annual Volume (m^3): 8200 Max Daily Volume (m^3): 226 Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/02/2004 Version End Date: -
-	1914m SW	Status: Historical Licence No: 2/27/08/132 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-HOLLY HOUSE FARM Data Type: Point Name: FIRTH Easting: 432870 Northing: 397990	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/06/2003 Expiry Date: 31/03/2017 Issue No: 1 Version Start Date: 26/06/2003 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 49 >**

ID	Location	Details	
-	1656m S	Status: Historical Licence No: 2/27/06/042 Details: General Use Relating To Secondary Category (Low Loss) Direct Source: SURFACE WATER Point: DEVIL'S BRIDGE POND - THORNCLIFFE Data Type: Point Name: SPIRE SHEFFIELD LTD Easting: 434600 Northing: 397900	Annual Volume (m^3): 18184 Max Daily Volume (m^3): 545.53 Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 30/09/1999 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



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

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	**2**

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

Features are displayed on the Hydrology map on **page 53 >**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	**On site**	**Inland river not influenced by normal tidal action.**	**On ground surface**	**Watercourse contains water year round (in normal circumstances)**	**-**

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**2**

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

Features are displayed on the Hydrology map on **page 53 >**

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 53 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
3	**On site**	**River**	**Rockley Dike from Source to River Dove**	**GB104027057480**	**Dearne**	**Don and Rother**

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

6.4 WFD Surface water bodies

Records identified	**1**

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

water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 53 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	652m N	River	Rockley Dike from Source to River Dove	GB104027057480 ↗	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 53 >**

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

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

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

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding

8.1 Surface water flooding

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

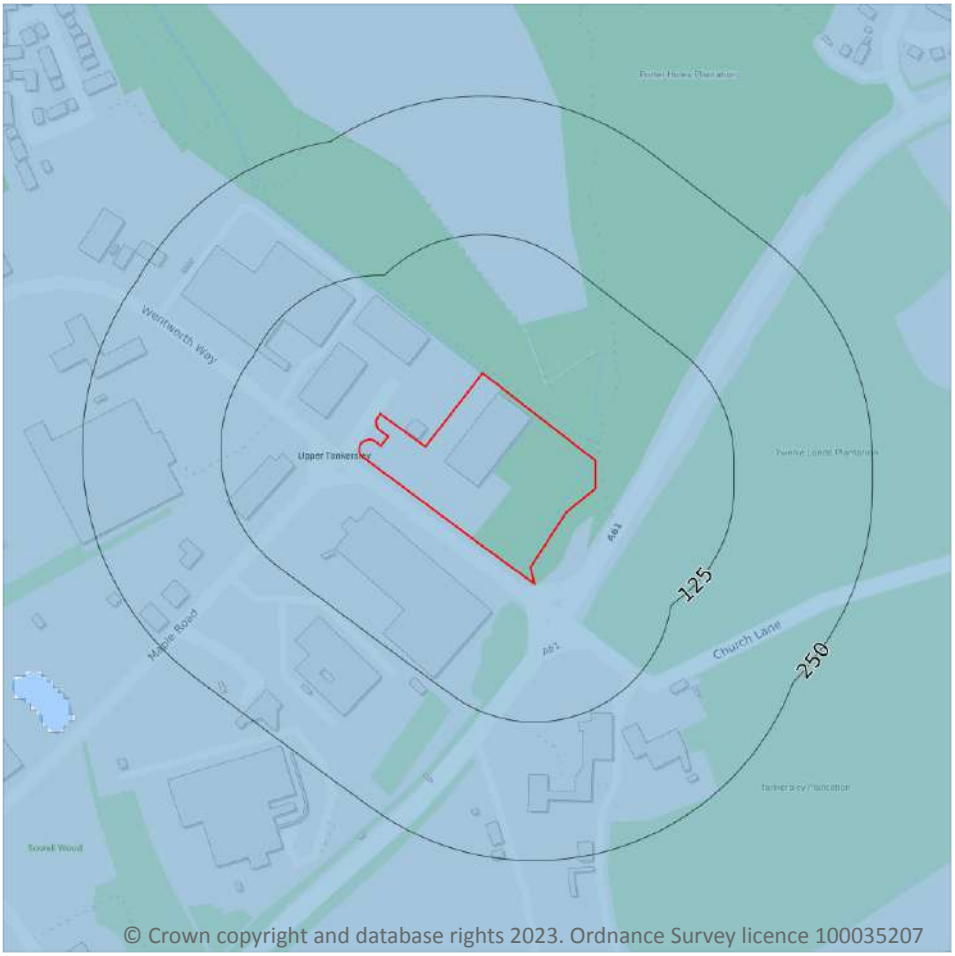
Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year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

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

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

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

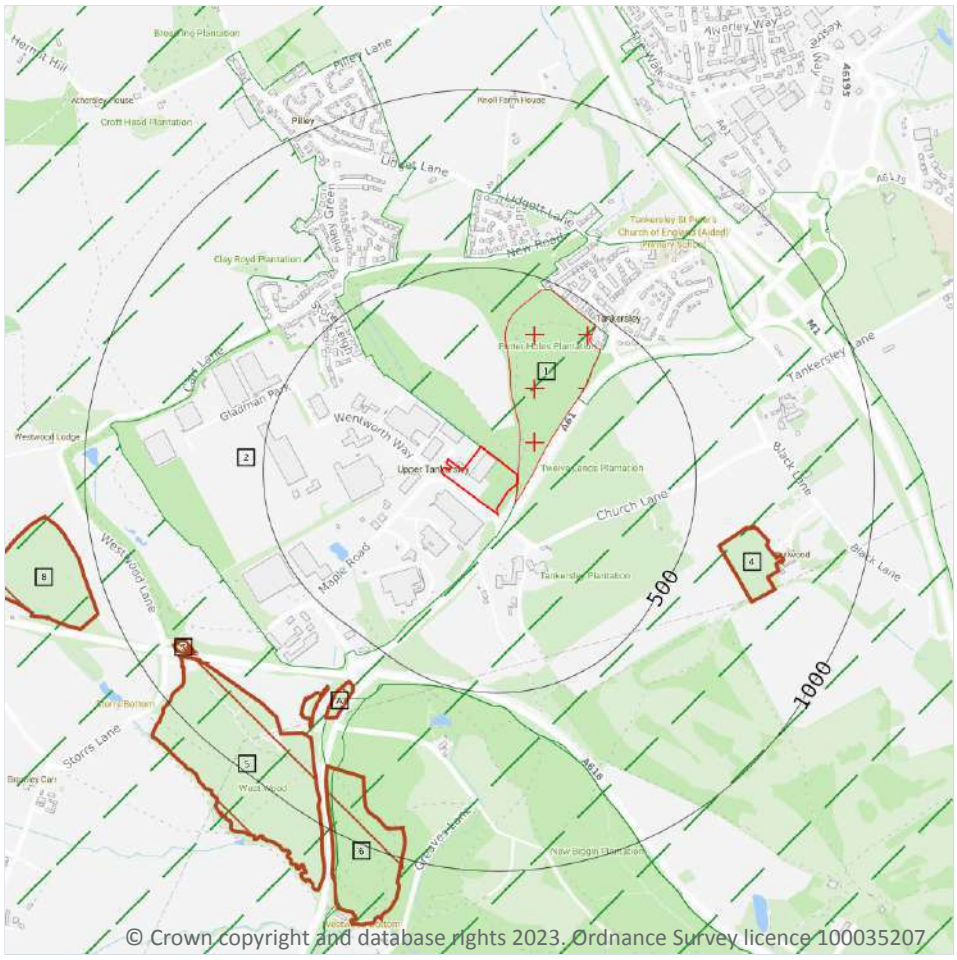
Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

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

Features are displayed on the Groundwater flooding map on **page 60 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Local Nature Reserves (LNR)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	1

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

Features are displayed on the Environmental designations map on **page 61 >**

ID	Location	Name	Data source
-	1921m NE	Dearne Valley Wetlands	Natural England

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	1

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.

Features are displayed on the Environmental designations map on **page 61 >**

ID	Location	Name	Data source
1	**On site**	**Potter Holes Plantation**	**Natural England**

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

10.7 Designated Ancient Woodland

Records within 2000m	18

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 61 >**

ID	Location	Name	Woodland Type
4	591m E	Bull Wood	Ancient & Semi-Natural Woodland
A	624m SW	West Wood	Ancient & Semi-Natural Woodland
A	672m SW	West Wood	Ancient & Semi-Natural Woodland
5	814m SW	West Wood	Ancient & Semi-Natural Woodland
6	827m S	West Wood	Ancient & Semi-Natural Woodland
7	855m SW	West Wood	Ancient & Semi-Natural Woodland
8	1040m W	Winterbottom Busks	Ancient & Semi-Natural Woodland
-	1353m N	The Old Park	Ancient Replanted Woodland
-	1422m N	The Old Park	Ancient & Semi-Natural Woodland
-	1464m SE	Thorncliffe Wood	Ancient & Semi-Natural Woodland
-	1677m NW	High Wood	Ancient & Semi-Natural Woodland
-	1684m N	The Old Park	Ancient & Semi-Natural Woodland

ID	Location	Name	Woodland Type
-	1693m N	The Old Park	Ancient Replanted Woodland
-	1765m NW	Unknown	Ancient Replanted Woodland
-	1815m NW	Unknown	Ancient & Semi-Natural Woodland
-	1838m NW	Unknown	Ancient & Semi-Natural Woodland
-	1852m NW	Unknown	Ancient Replanted Woodland
-	1971m W	Copley Wood	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	2

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

Features are displayed on the Environmental designations map on **page 61 >**

ID	Location	Name	Local Authority name
2	**On site**	**South and West Yorkshire**	**Barnsley**
3	507m S	South and West Yorkshire	Sheffield

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

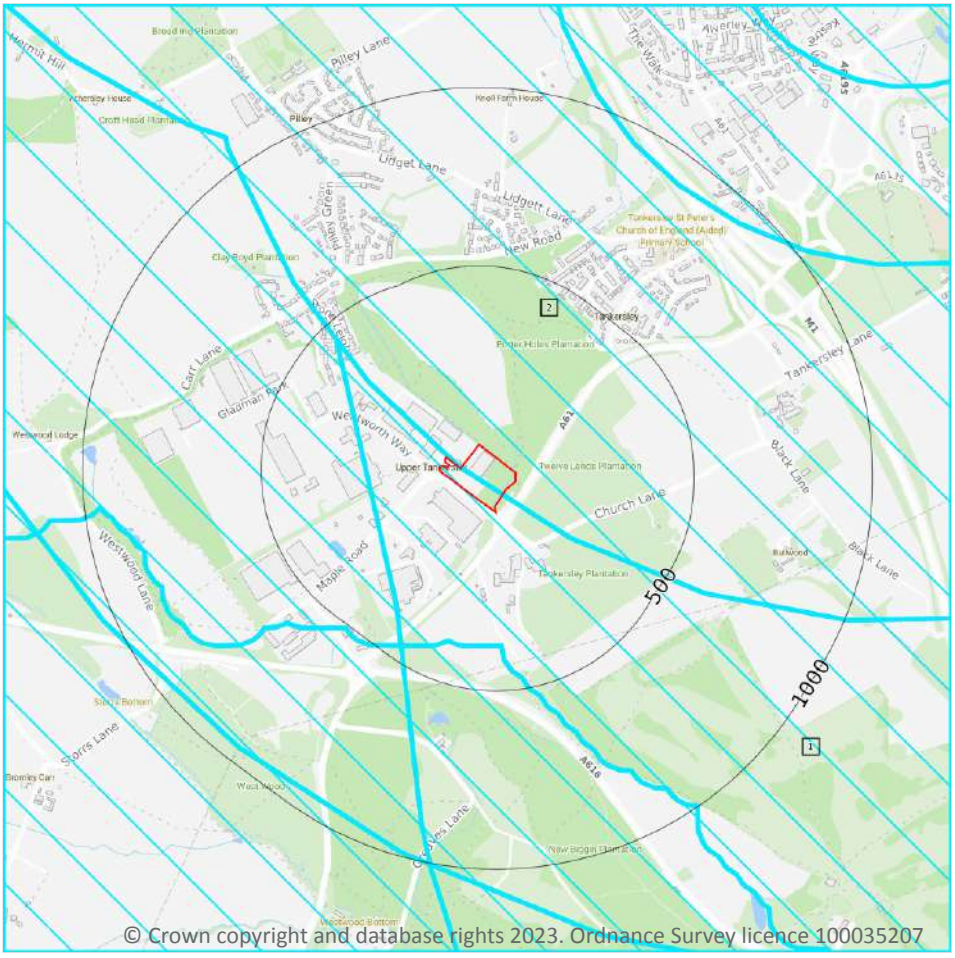
Records within 2000m	4

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

Location	Name	Type	NVZ ID	Status
On site	**River Dearne NVZ**	**Surface Water**	**278**	**Existing**
On site	**River Dearne NVZ**	**Surface Water**	**278**	**Existing**
165m S	Blackburn Brook from Source to River Don NVZ	Surface Water	261	Existing
324m S	Blackburn Brook from Source to River Don NVZ	Surface Water	261	Existing

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

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

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

10.17 SSSI Impact Risk Zones

Records on site	2

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

Features are displayed on the SSSI Impact Zones and Units map on **page 67 >**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t. Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream.**
2	On site	**Infrastructure - Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals. Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where footprint exceeds 1ha. Rural residential - Any residential development of 100 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 200m², manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion. Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 5m³/day to ground (ie to seep away) or to surface water, such as a beck or stream. Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	1

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

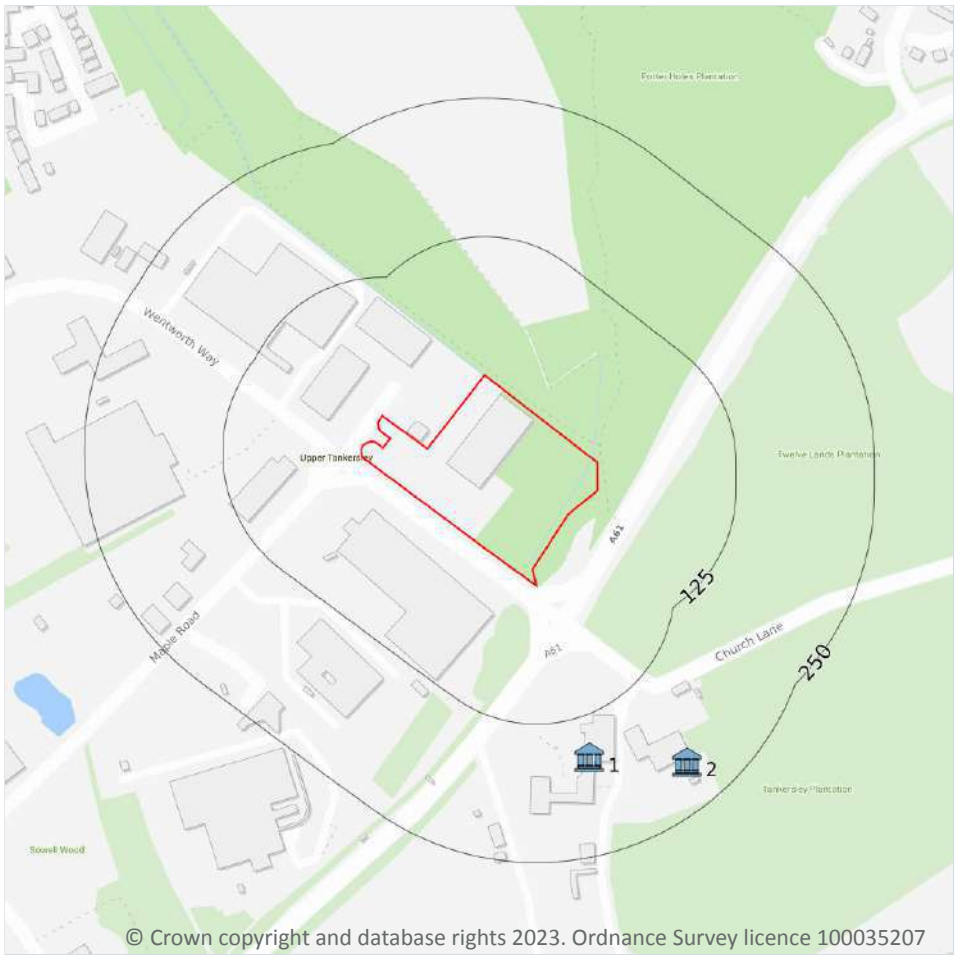
Features are displayed on the SSSI Impact Zones and Units map on **page 67 >**

ID: -
Location: 1921m NE
SSSI name: Dearne Valley Wetlands
Unit name: Barrow Colliery Site
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

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

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

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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	2

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 70 >**

ID	Location	Name	Grade	Reference Number	Listed date
1	162m S	Tankersley Farmhouse Including Tankersley Farm Cottage And Attached Farmbuildings	II	1191949	25/04/1969
2	209m SE	Farmbuilding Approximately 80 Metres To East Of Tankersley Farmhouse	II	1315055	04/12/1986

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

11.5 Conservation Areas

Records within 250m	0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

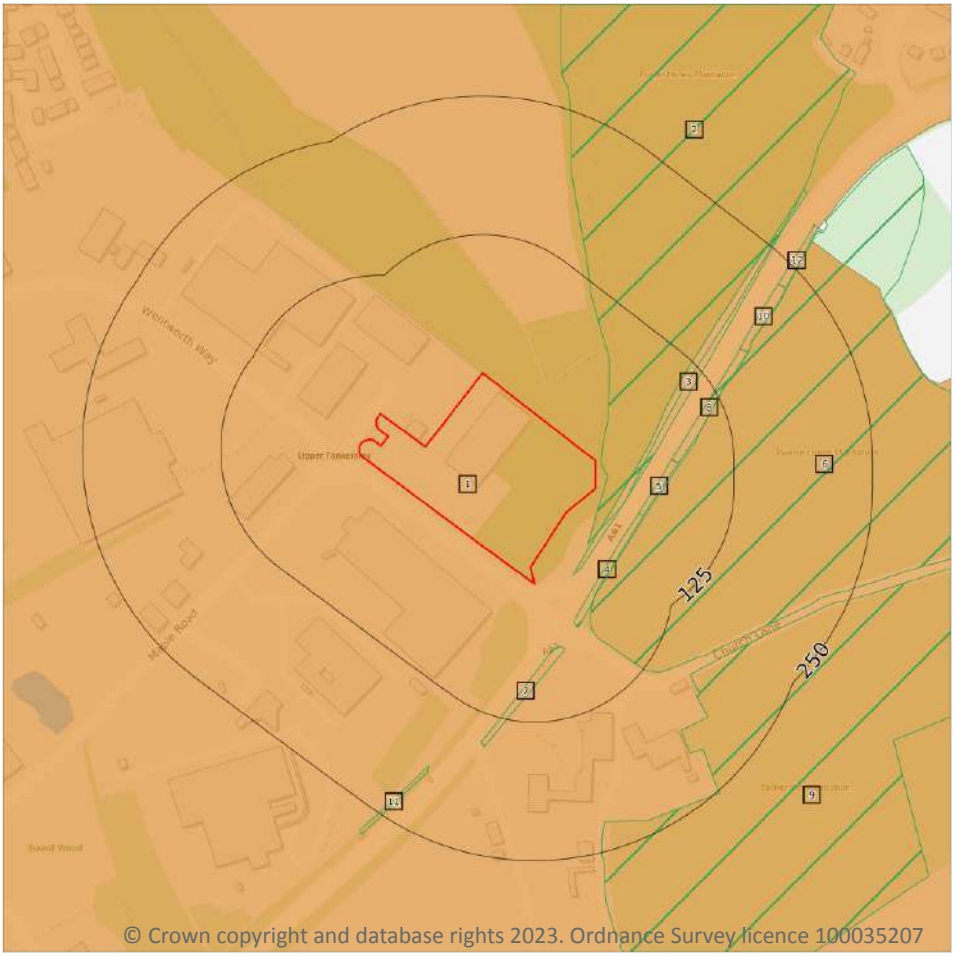
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

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

12.1 Agricultural Land Classification

Records within 250m	1

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

Features are displayed on the Agricultural designations map on **page 73 >**

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

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	11

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

Features are displayed on the Agricultural designations map on **page 73 >**

ID	Location	Description	Reference	Application date
2	5m E	Selective Fell/Thin (Unconditional)	012/153/11-12	23/02/2012
3	23m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
4	45m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
5	45m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
6	51m E	Selective Fell/Thin (Unconditional)	012/21/18-19	-
7	61m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
8	69m E	Selective Fell/Thin (Unconditional)	018/366/15-16	-
9	163m SE	Selective Fell/Thin (Unconditional)	012/21/18-19	-
10	165m NE	Selective Fell/Thin (Unconditional)	018/366/15-16	-
11	190m S	Selective Fell/Thin (Unconditional)	018/366/15-16	-
12	229m NE	Selective Fell/Thin (Unconditional)	018/366/15-16	-

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	**1**

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.

Location	Reference	Scheme	Start Date	End date
165m S	AG00317183	Higher Level Stewardship	01/10/2010	30/09/2020

This data is sourced from Natural England.

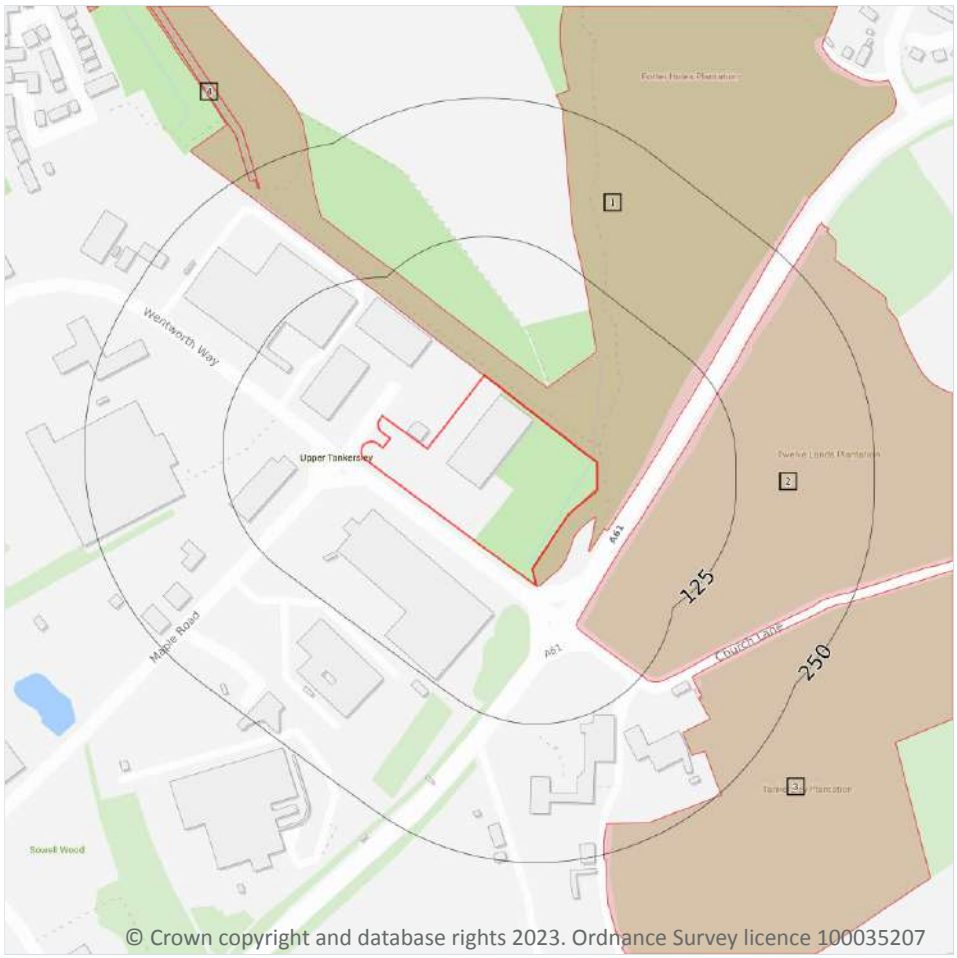
12.5 Countryside Stewardship Schemes

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	4

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 76 >**

ID	Location	Main Habitat	Other habitats
1	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
2	47m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	163m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	233m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	2

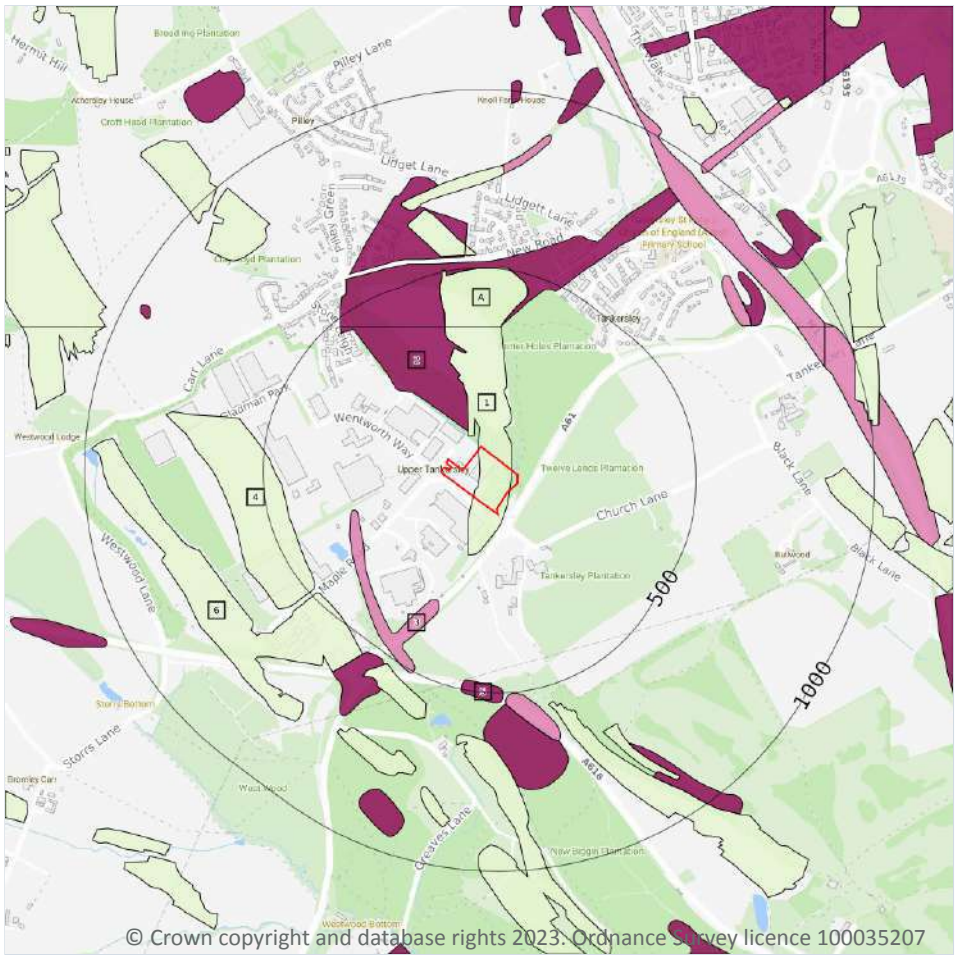
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 78 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**SK39NW**
2	336m N	Full	Full	Full	Full	SE30SW

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	8

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 79 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**WMGR-ARTDP**	**Infilled Ground**	**Artificial Deposit**
2	56m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	261m W	WGR-VOID	Worked Ground (Undivided)	Void
A	336m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
A	341m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	443m W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
5	471m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	480m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

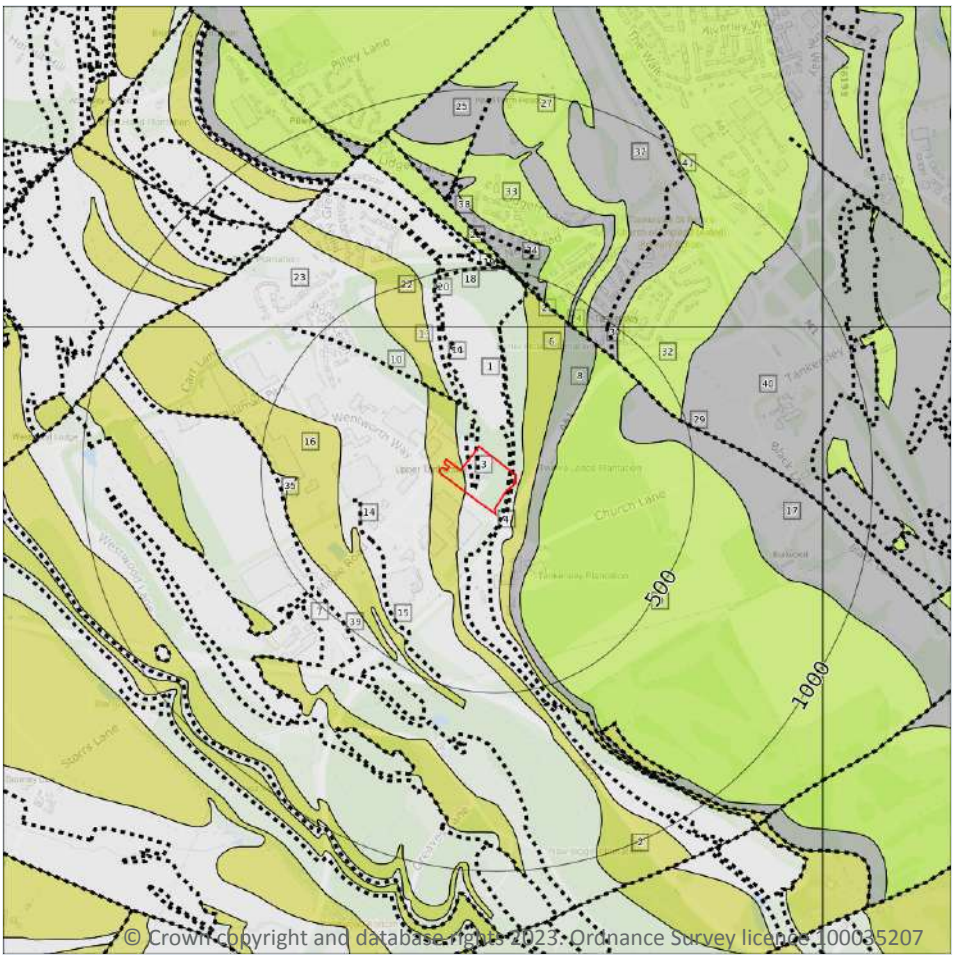
14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	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 82 >**

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**
6	9m E	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age

ID	Location	LEX Code	Description	Rock age
7	21m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
8	50m E	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
9	88m E	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
13	158m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
16	280m W	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
17	319m E	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
18	336m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
21	363m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
22	366m N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
23	412m NW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
24	414m NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
25	426m NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
26	426m NE	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
27	426m NE	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
30	426m NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
32	426m NE	HMR-SDST	Haigh Moor Rock - Sandstone	Duckmantian Sub-age
33	426m NE	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
34	442m N	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
37	451m NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
40	486m E	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**18**

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 82 >**

ID	Location	Category	Description
3	**On site**	**ROCK**	**Coal seam, inferred**
4	**On site**	**ROCK**	**Ironstone bed, inferred**
5	**On site**	**ROCK**	**Coal seam, inferred**
10	91m N	FAULT	Normal fault, inferred
11	116m N	ROCK	Coal seam, inferred
12	128m N	ROCK	Coal seam, inferred
14	235m W	ROCK	Coal seam, observed
15	268m SW	ROCK	Coal seam, inferred
19	341m N	ROCK	Coal seam, observed
20	355m N	ROCK	Coal seam, inferred
28	426m NE	FAULT	Normal fault, inferred
29	426m NE	FAULT	Normal fault, inferred
31	426m NE	ROCK	Coal seam, inferred
35	443m W	ROCK	Coal seam, observed
36	448m N	ROCK	Coal seam, inferred
38	469m N	FAULT	Normal fault, inferred
39	480m SW	ROCK	Coal seam, observed
41	486m NE	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

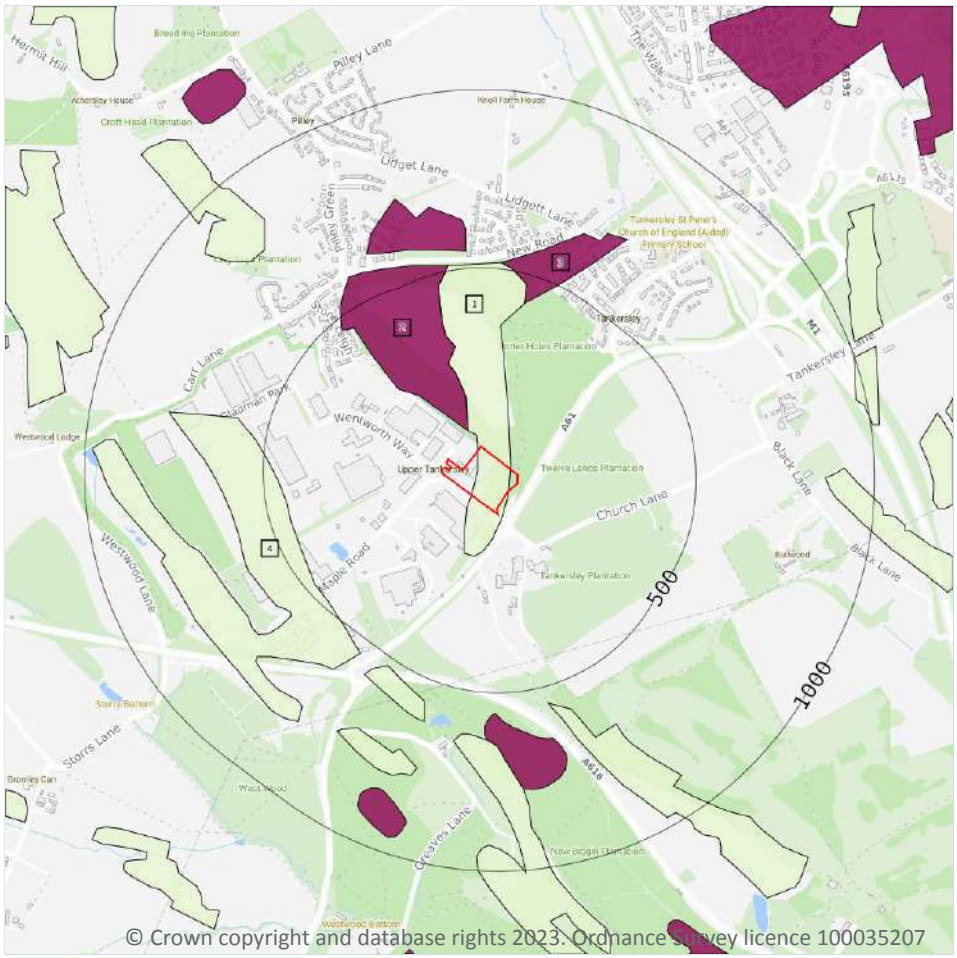
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 85 >**

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

This data is sourced from the British Geological Survey.

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



Site Outline

Search buffers in metres (m)

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

15.2 Artificial and made ground (50k)

Records within 500m	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 86 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**WMGR-ARTDP**	**INFILLED GROUND**	**ARTIFICIAL DEPOSIT**
2	58m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	420m N	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	441m W	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m	**1**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Very High**	**Low**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial

15.4 Superficial geology (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

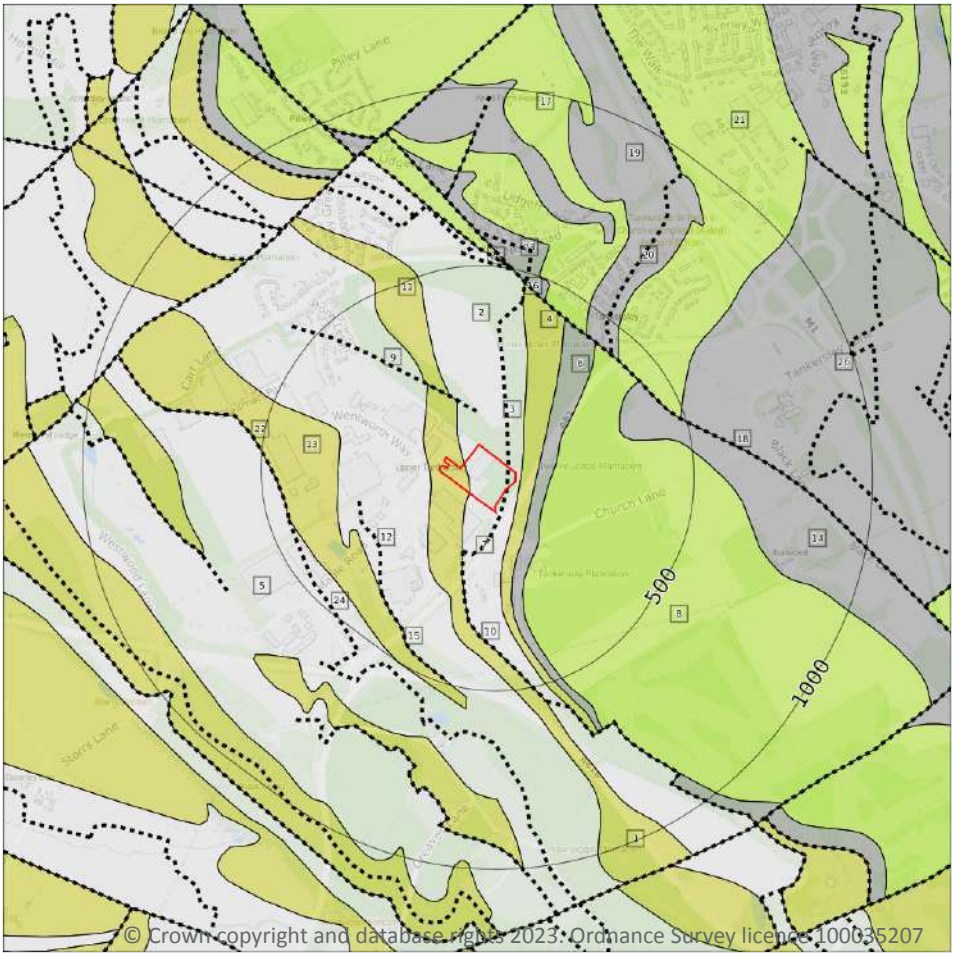
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



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	14

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 89 >**

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

ID	Location	LEX Code	Description	Rock age
4	13m E	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
5	26m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	55m E	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	91m E	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
11	158m N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
13	282m W	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
14	315m E	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
17	425m NE	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
19	426m NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
21	426m NE	HMR-SDST	HAIGH MOOR ROCK - SANDSTONE	WESTPHALIAN
23	442m N	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
26	486m E	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	**4**

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Moderate**	**Low**
On site	**Fracture**	**High**	**Moderate**
13m E	Fracture	High	Moderate

Location	Flow type	Maximum permeability	Minimum permeability
26m W	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	**13**

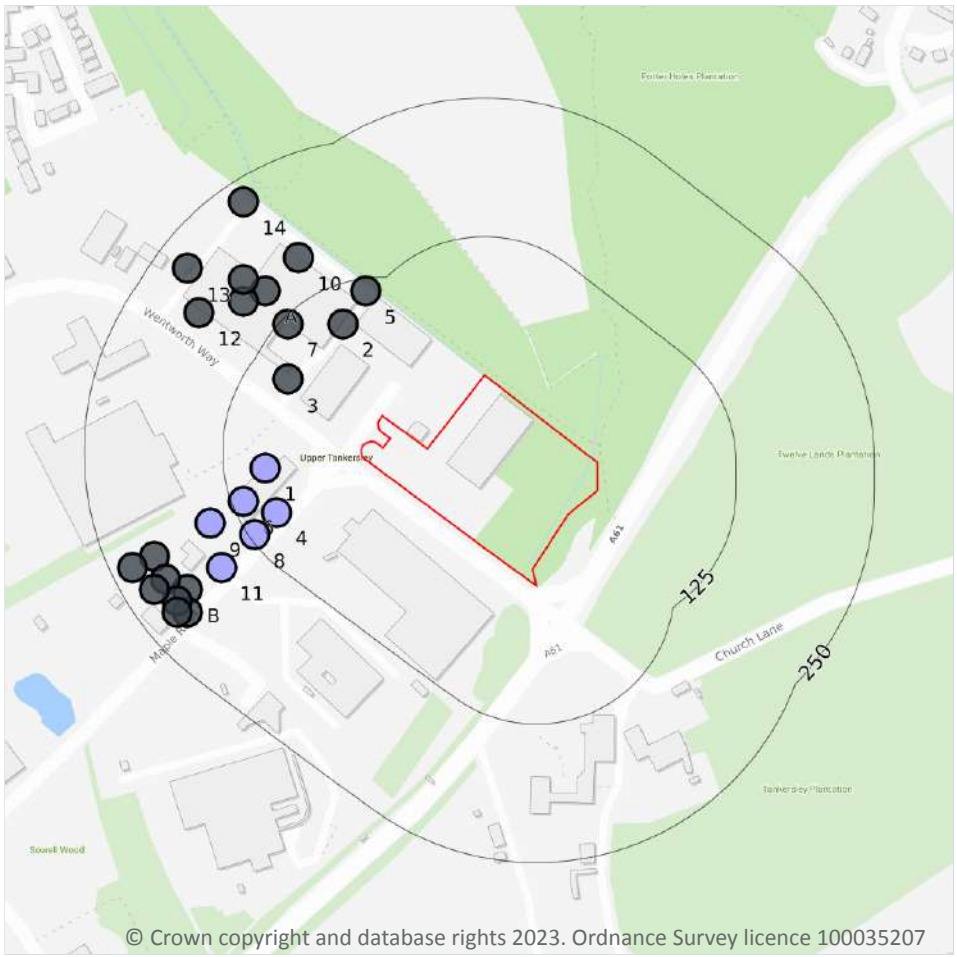
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 89 >**

ID	Location	Category	Description
3	**On site**	**ROCK**	**Ironstone bed, inferred**
7	73m S	ROCK	Ironstone bed, observed
9	91m N	FAULT	Fault, inferred, displacement unknown
10	143m S	ROCK	Coal seam, inferred
12	238m W	ROCK	Coal seam, inferred
15	374m SW	ROCK	Coal seam, inferred
16	420m N	ROCK	Coal seam, inferred
18	425m NE	FAULT	Fault, inferred
20	426m NE	ROCK	Coal seam, inferred
22	441m W	ROCK	Coal seam, inferred
24	443m W	ROCK	Coal seam, inferred
25	469m N	ROCK	Coal seam, inferred
27	498m N	ROCK	Ironstone bed, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	25

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

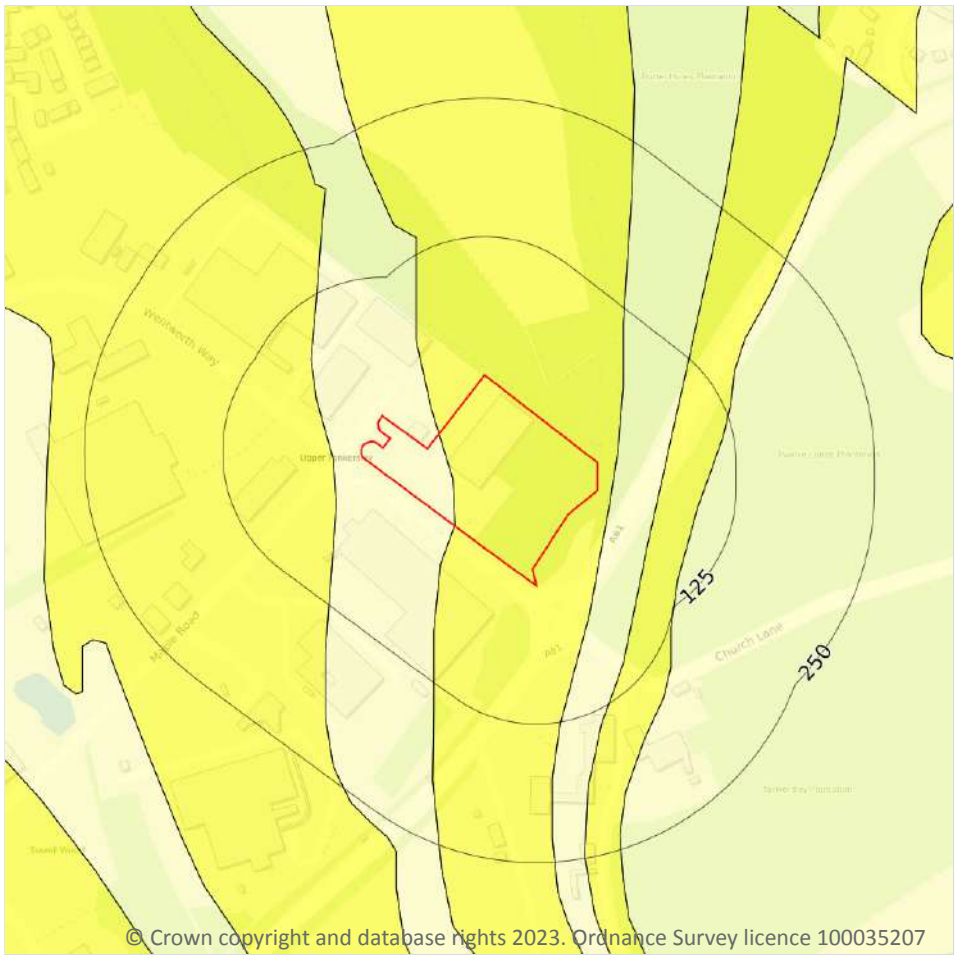
Features are displayed on the Boreholes map on **page 92 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	88m W	433840 399580	WENTWORTH PARK, SHEFFIELD TP3	4.0	N	215770 ↗
2	90m NW	433910 399710	WENTWORTH BUSINESS PARK 11	-	Y	N/A
3	90m NW	433860 399660	WENTWORTH BUSINESS PARK 1	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
4	92m W	433850 399540	WENTWORTH PARK, SHEFFIELD TP6	3.5	N	215773 ↗
5	114m NW	433930 399740	WENTWORTH BUSINESS PARK 5	-	Y	N/A
6	115m W	433820 399550	WENTWORTH PARK, SHEFFIELD TP2	3.5	N	215769 ↗
7	119m NW	433860 399710	WENTWORTH BUSINESS PARK 8	-	Y	N/A
8	120m W	433830 399520	WENTWORTH PARK, SHEFFIELD TP5	3.4	N	215772 ↗
9	150m W	433790 399530	WENTWORTH PARK, SHEFFIELD TP1	3.5	N	215768 ↗
A	155m NW	433840 399740	WENTWORTH BUSINESS PARK 10	-	Y	N/A
10	162m NW	433870 399770	WENTWORTH BUSINESS PARK 6	-	Y	N/A
11	162m W	433800 399490	WENTWORTH PARK, SHEFFIELD TP4	4.0	N	215771 ↗
A	162m NW	433820 399730	WENTWORTH BUSINESS PARK 9	-	Y	N/A
A	176m NW	433820 399750	WENTWORTH BUSINESS PARK 4	-	Y	N/A
12	189m NW	433780 399720	WENTWORTH BUSINESS PARK 7	-	Y	N/A
B	198m W	433770 399470	MAPLE ROAD WENTWORTH INDUSTRIAL PARK TANKERSLEY R8	-	Y	N/A
B	208m W	433740 399500	MAPLE ROAD WENTWORTH INDUSTRIAL PARK TANKERSLEY R1	-	Y	N/A
B	209m W	433750 399480	MAPLE ROAD WENTWORTH INDUSTRIAL PARK TANKERSLEY R3	-	Y	N/A
B	211m SW	433770 399450	MAPLE ROAD WENTWORTH INDUSTRIAL PARK TANKERSLEY R6	-	Y	N/A
B	212m W	433760 399460	MAPLE ROAD WENTWORTH INDUSTRIAL PARK TANKERSLEY R5	-	Y	N/A
B	218m SW	433760 399450	MAPLE ROAD WENTWORTH INDUSTRIAL PARK TANKERSLEY R7	-	Y	N/A
13	220m NW	433770 399760	WENTWORTH BUSINESS PARK 2	-	Y	N/A
B	223m W	433740 399470	MAPLE ROAD WENTWORTH INDUSTRIAL PARK TANKERSLEY R4	-	Y	N/A
14	230m NW	433820 399820	WENTWORTH BUSINESS PARK 3	-	Y	N/A
B	231m W	433720 399490	MAPLE ROAD WENTWORTH INDUSTRIAL PARK TANKERSLEY R2	-	Y	N/A

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	4

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).

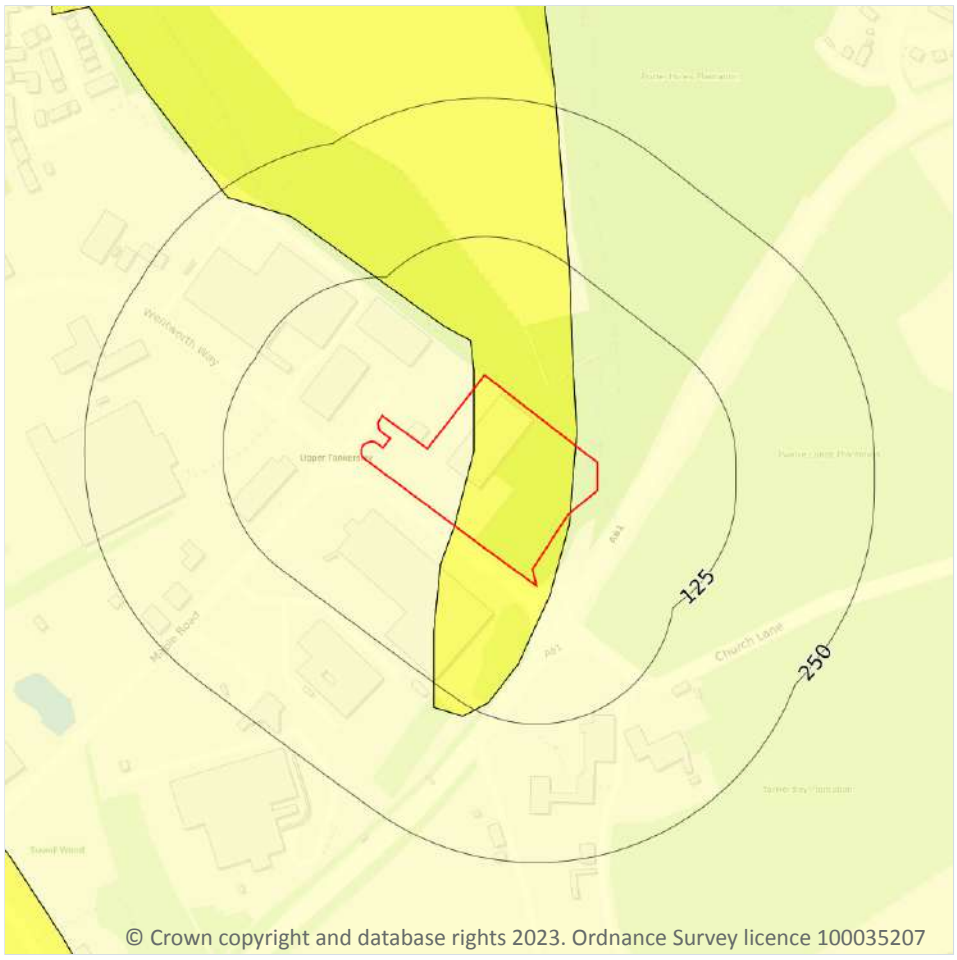
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 94 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**
On site	**Very low**	**Ground conditions predominantly low plasticity.**
13m E	Negligible	Ground conditions predominantly non-plastic.

Location	Hazard rating	Details
26m W	Very low	Ground conditions predominantly low plasticity.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	2

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

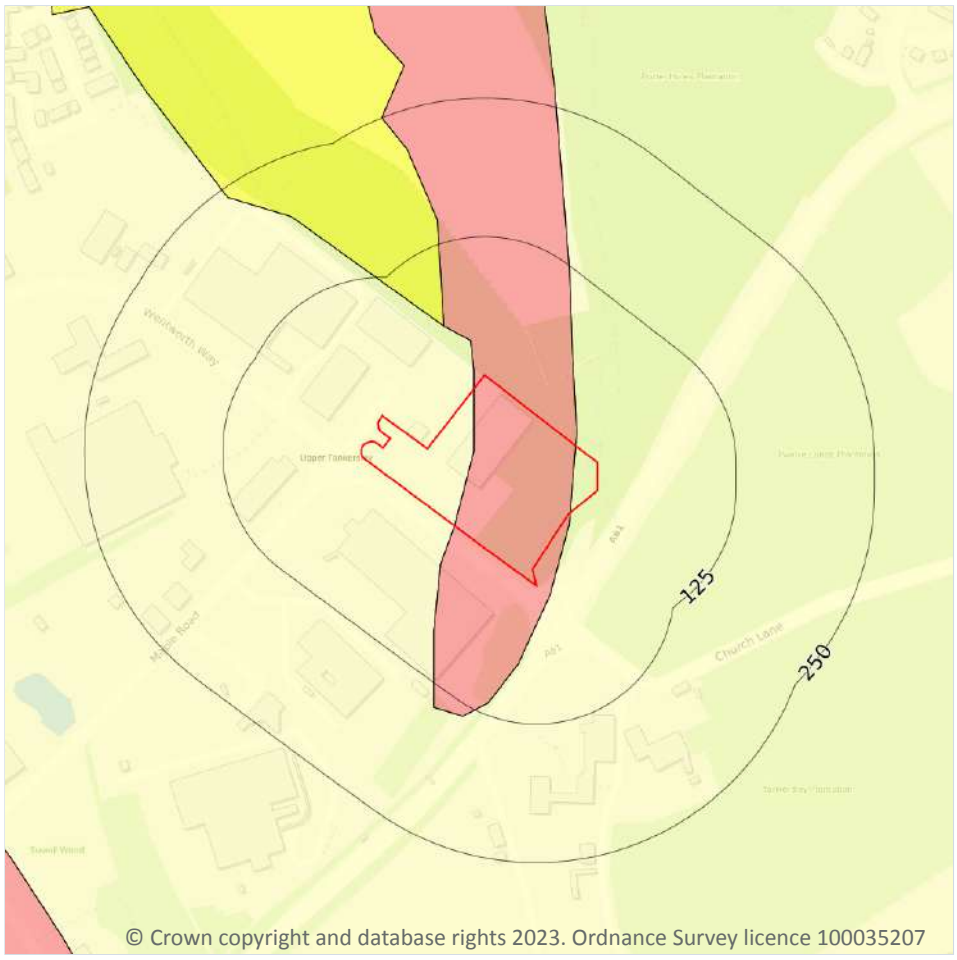
Features are displayed on the Natural ground subsidence - Running sands map on **page 96 >**

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

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	2

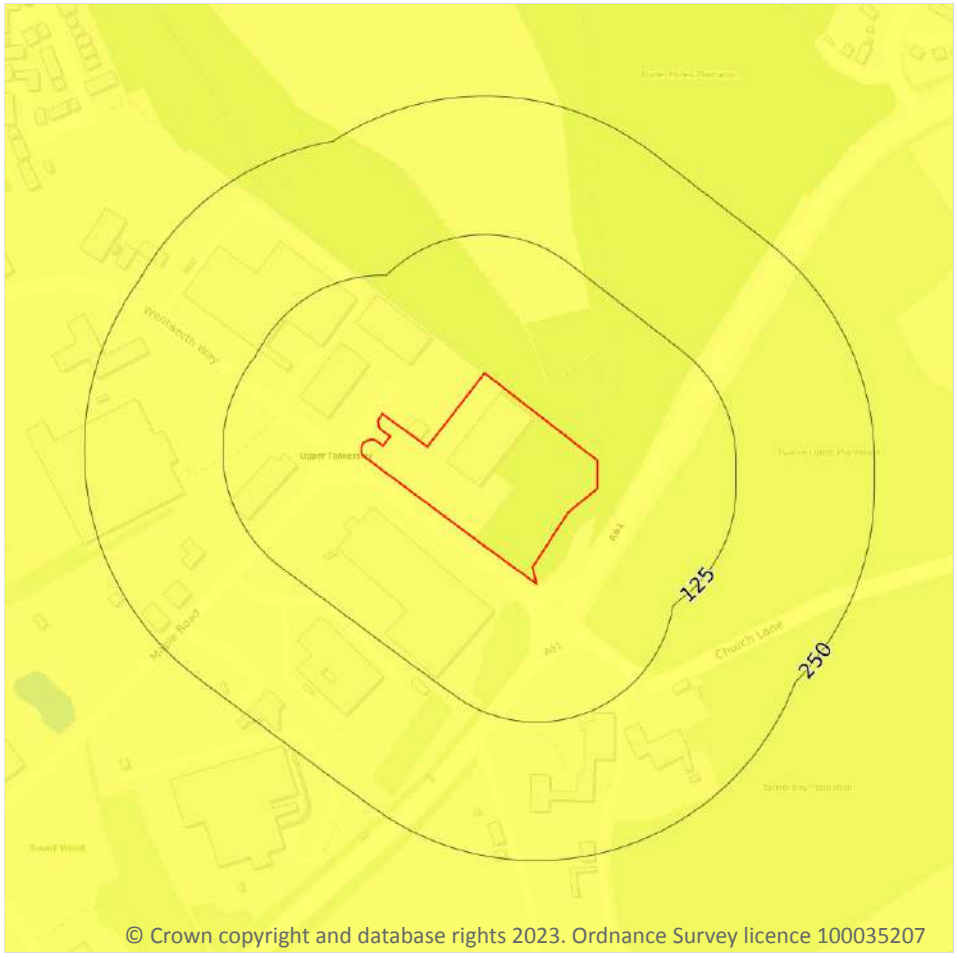
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 98 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

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 100 >**

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	3

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.

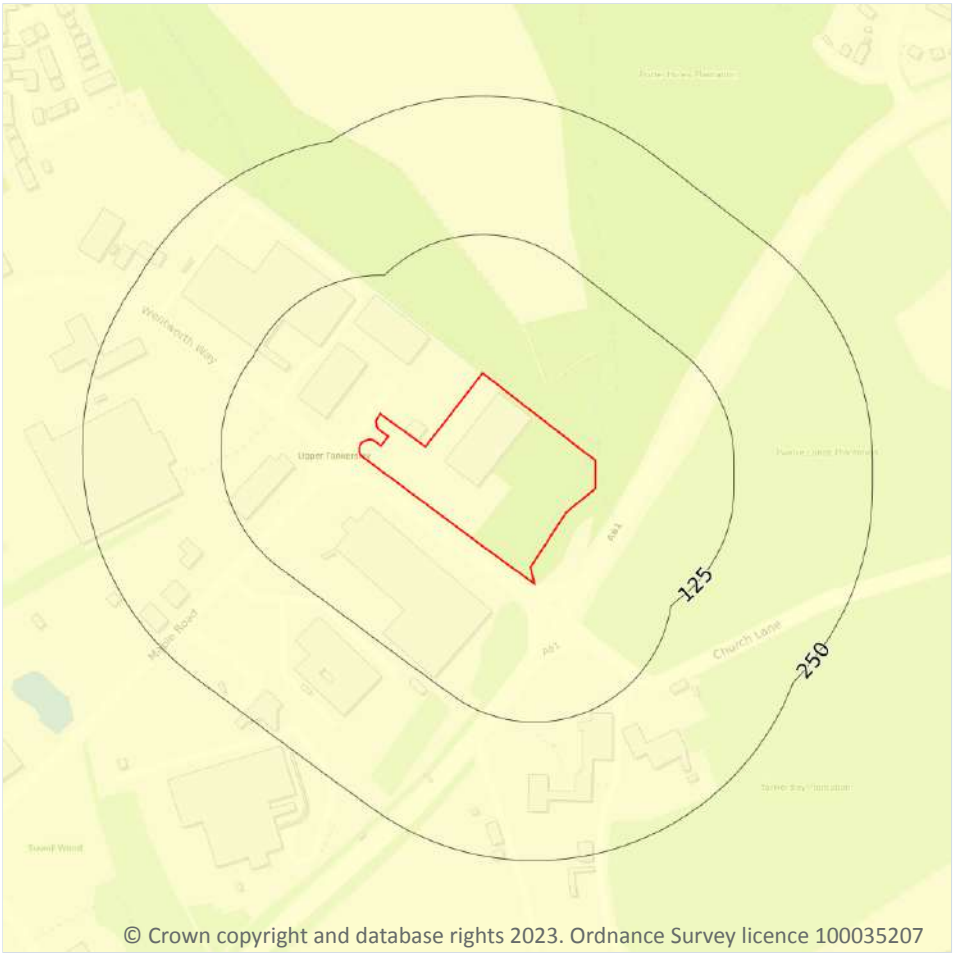
Features are displayed on the Natural ground subsidence - Landslides map on **page 101 >**

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

Location	Hazard rating	Details
15m SE	Low	Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site.
42m SE	Moderate	Slope instability problems are probably present or have occurred in the past. Land use should consider specifically the stability of the site.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

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

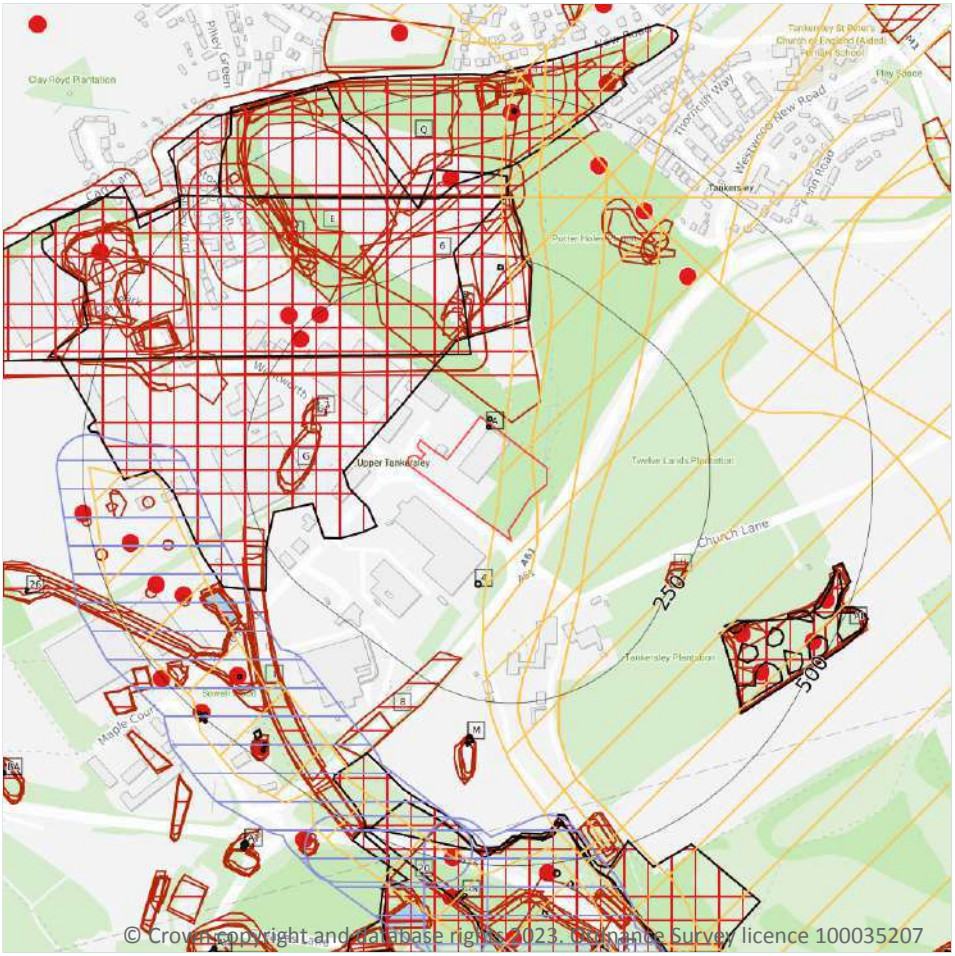
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 103 >**

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

This data is sourced from the British Geological Survey.

18 Mining and ground workings



Site Outline

Search buffers in metres (m)

BritPits

Surface ground workings

Underground workings

Underground mining extents

Historical mineral planning areas

TCA non-coal mining

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	21

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

Features are displayed on the Mining and ground workings map on **page 105 >**

ID	Location	Details	Description
C	240m NW	Name: Wharncliffe Silkstone Colliery, No. 1 Shaft Address: Tankersley, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	247m NW	Name: Wharncliffe Silkstone Colliery Shaft Address: Tankersley, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	261m NW	Name: Wharncliffe Silkstone Colliery Shaft Address: Tankersley, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	264m NW	Name: Wharncliffe Silkstone Colliery, No. 4 Shaft Address: Tankersley, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	278m NW	Name: Wharncliffe Silkstone Colliery, No. 3 Shaft Address: Tankersley, BARNSLEY, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
13	365m NE	Name: Potter Holes Bell Pits Address: Tankersley Common, HOYLAND, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
14	368m N	Name: Potter Holes Clay Pit Address: Tankersley, HOYLAND, South 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
S	377m SE	Name: Tankersley Plantation Ironstone Pits Address: Tankersley, HOYLAND, South Yorkshire Commodity: Ironstone Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
T	400m W	Name: West Wood Ironstone Pits Address: Tankersley, HOYLAND, South Yorkshire Commodity: Ironstone Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
O	403m NE	Name: Potter Holes Bell Pits Address: Tankersley Common, HOYLAND, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
N	416m SW	Name: Sowell Wood Ironstone Pits Address: Tankersley, HOYLAND, South Yorkshire Commodity: Ironstone Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
O	425m N	Name: Potter Holes Bell Pits Address: Tankersley Common, HOYLAND, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
T	430m W	Name: West Wood Ironstone Pits Address: Tankersley, HOYLAND, South Yorkshire Commodity: Ironstone Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
S	433m SE	Name: Tankersley Plantation Ironstone Pits Address: Tankersley, HOYLAND, South Yorkshire Commodity: Ironstone Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AA	443m W	Name: West Wood Ironstone Pits Address: Tankersley, HOYLAND, South Yorkshire Commodity: Ironstone Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
S	463m E	Name: Tankersley Plantation Ironstone Pits Address: Tankersley, HOYLAND, South Yorkshire Commodity: Ironstone Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AG	469m N	Name: Lacton House Drift Mine Air Shaft Address: Tankersley Common, HOYLAND, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
S	474m SE	Name: Tankersley Plantation Ironstone Pits Address: Tankersley, HOYLAND, South Yorkshire Commodity: Ironstone Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
AE	484m SW	Name: Catnob Pit Address: Tankersley, HOYLAND, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
23	494m S	Name: Tankersley Ironstone Pits Address: Tankersley, HOYLAND, South Yorkshire Commodity: Ironstone Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
AH	496m SW	Name: Sowell Pit Address: Tankersley, HOYLAND, South Yorkshire Commodity: Coal, Deep Status: Ceased	Type: Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots) Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	**24**

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

Features are displayed on the Mining and ground workings map on **page 105 >**

ID	Location	Land Use	Year of mapping	Mapping scale
B	22m N	Disused Workings	1992	1:10000
C	57m NW	Colliery	1966	1:10560
D	72m N	Colliery	1938	1:10560
D	72m N	Colliery	1903	1:10560
D	97m N	Colliery	1891	1:10560
E	113m N	Colliery	1948	1:10560
E	113m N	Colliery	1948	1:10560
6	124m N	Unspecified Disused Tip	1980	1:10000
B	131m N	Ponds	1948	1:10560
F	132m N	Refuse Heap	1966	1:10560
G	139m W	Pond	1938	1:10560
G	139m W	Pond	1903	1:10560
G	140m W	Ponds	1966	1:10560
G	140m W	Pond	1951	1:10560
G	141m W	Ponds	1948	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
7	143m W	Ponds	1903	1:10560
B	148m N	Ponds	1951	1:10560
8	197m S	Cuttings	1951	1:10560
H	226m SE	Unspecified Pit	1966	1:10560
H	226m SE	Unspecified Pit	1951	1:10560
H	232m SE	Unspecified Pit	1938	1:10560
H	232m SE	Unspecified Pit	1903	1:10560
H	232m SE	Old Ironstone Pits	1948	1:10560
I	244m W	Cuttings	1891	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	**94**

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

Features are displayed on the Mining and ground workings map on **page 105 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Unspecified Shaft**	**1938**	**1:10560**
A	**On site**	**Air Shaft**	**1903**	**1:10560**
A	3m N	Unspecified Shaft	1951	1:10560
C	57m NW	Colliery	1966	1:10560
4	79m S	Air Shaft	1903	1:10560
D	97m N	Colliery	1891	1:10560
F	228m N	Pumping Shaft	1903	1:10560
M	305m S	Unspecified Shaft	1951	1:10560
M	308m S	Unspecified Disused Shaft	1966	1:10560
M	308m S	Unspecified Disused Shaft	1992	1:10000
M	308m S	Unspecified Disused Shaft	1980	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
M	316m S	Unspecified Shaft	1938	1:10560
M	316m S	Unspecified Shaft	1903	1:10560
Q	341m N	Colliery	1951	1:10560
S	349m SE	Old Ironstone Pits	1951	1:10560
S	352m SE	Old Ironstone Pits	1938	1:10560
S	352m SE	Old Ironstone Pits	1903	1:10560
S	387m SE	Old Ironstone Pits	1951	1:10560
X	394m SW	Colliery	1951	1:10560
S	411m SE	Old Ironstone Pits	1951	1:10560
S	413m SE	Old Ironstone Pits	1951	1:10560
N	413m SW	Unspecified Old Shafts	1951	1:10560
S	421m SE	Old Ironstone Pits	1951	1:10560
X	431m S	Colliery	1903	1:10560
X	431m S	Colliery	1891	1:10560
X	439m S	Colliery	1938	1:10560
S	445m SE	Old Ironstone Pits	1951	1:10560
S	452m E	Old Ironstone Pits	1951	1:10560
AE	463m SW	Disused Air Shaft	1966	1:10560
AE	463m SW	Air Shaft	1992	1:10000
AE	463m SW	Disused Air Shaft	1980	1:10000
S	468m SE	Old Ironstone Pits	1951	1:10560
AG	469m N	Air Shaft	1938	1:10560
AG	469m N	Air Shaft	1903	1:10560
AE	474m SW	Air Shaft	1951	1:10560
AE	482m SW	Air Shaft	1938	1:10560
AE	482m SW	Air Shaft	1903	1:10560
AH	491m SW	Unspecified Old Shafts	1951	1:10560
AI	492m E	Old Ironstone Pits	1951	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
AH	496m SW	Unspecified Old Shafts	1951	1:10560
AH	500m SW	Unspecified Old Shaft	1938	1:10560
AH	500m SW	Unspecified Old Shafts	1903	1:10560
AH	504m SW	Unspecified Old Shafts	1938	1:10560
AH	504m SW	Unspecified Old Shafts	1903	1:10560
X	511m S	Unspecified Shafts	1980	1:10000
X	531m S	Unspecified Shafts	1980	1:10000
AN	543m S	Disused Air Shaft	1966	1:10560
AN	549m S	Air Shaft	1951	1:10560
X	571m S	Air Shaft	1938	1:10560
AT	612m SW	Disused Air Shaft	1966	1:10560
AT	612m SW	Disused Air Shaft	1980	1:10000
26	614m W	Unspecified Old Shaft	1903	1:10560
AT	615m SW	Air Shaft	1951	1:10560
AT	621m SW	Air Shaft	1938	1:10560
AT	622m SW	Air Shaft	1903	1:10560
-	702m N	Unspecified Drift	1903	1:10560
-	703m N	Drift	1938	1:10560
-	754m N	Drift	1977	1:10000
-	754m N	Drift	1965	1:10560
-	754m N	Drift	1951	1:10560
AY	771m SW	Unspecified Old Shaft	1951	1:10560
-	774m S	Air Shaft	1903	1:10560
AY	774m SW	Unspecified Disused Shaft	1966	1:10560
AY	775m SW	Unspecified Disused Shaft	1980	1:10000
BA	779m SW	Air Shaft	1903	1:10560
AY	782m SW	Unspecified Old Shaft	1938	1:10560
AY	782m SW	Unspecified Old Shaft	1903	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
-	817m W	Air Shaft	1951	1:10560
-	818m W	Air Shaft	1938	1:10560
-	819m W	Unspecified Shaft	1903	1:10560
-	875m W	Colliery	1903	1:10560
-	876m W	Colliery	1951	1:10560
-	877m W	Colliery	1938	1:10560
-	880m S	Unspecified Old Shaft	1903	1:10560
-	888m S	Unspecified Old Shaft	1951	1:10560
-	891m S	Unspecified Disused Shaft	1992	1:10000
-	891m S	Unspecified Disused Shaft	1980	1:10000
-	895m S	Unspecified Old Shaft	1938	1:10560
-	895m S	Unspecified Disused Shaft	1966	1:10560
-	899m S	Unspecified Old Shaft	1903	1:10560
BG	903m SE	Old Ironstone Pits	1938	1:10560
BG	903m SE	Old Ironstone Pits	1903	1:10560
-	929m NW	Air Shaft	1977	1:10000
-	929m NW	Air Shaft	1965	1:10560
-	929m NW	Air Shaft	1951	1:10560
-	931m NW	Air Shaft	1938	1:10560
-	931m NW	Air Shaft	1903	1:10560
-	934m W	Colliery	1938	1:10560
-	934m W	Colliery	1903	1:10560
-	934m W	Colliery	1891	1:10560
-	972m SE	Old Ironstone Pits	1938	1:10560
-	972m SE	Old Ironstone Pits	1903	1:10560
-	992m SE	Old Ironstone Pits	1938	1:10560
-	992m SE	Old Ironstone Pits	1903	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

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

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	32

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

Features are displayed on the Mining and ground workings map on **page 105 >**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Iron Ore (Bedded)**	**B**	**Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.**
2	**On site**	**Not available**	**Iron Ore (Bedded)**	**B**	**Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.**
3	43m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

ID	Location	Name	Commodity	Class	Likelihood
5	82m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
10	303m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
11	338m N	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
O	349m N	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
12	359m W	Not available	Ironstone (bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
O	388m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
16	388m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
17	388m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
O	405m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

ID	Location	Name	Commodity	Class	Likelihood
18	409m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
19	420m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
21	470m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
AG	492m N	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
24	509m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
AR	573m N	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	638m N	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
28	654m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	824m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

ID	Location	Name	Commodity	Class	Likelihood
-	857m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	857m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	857m NW	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	861m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	861m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	862m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	865m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	903m S	Not available	Ironstone (bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	915m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

ID	Location	Name	Commodity	Class	Likelihood
-	955m NE	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	978m E	Not available	Iron Ore (Bedded)	B	Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	**0**

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	**3**

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

Features are displayed on the Mining and ground workings map on **page 105 >**

ID	Location	Mineral type	Mineral
N	309m W	Metals	Ironstone
X	425m S	Metals	Ironstone
20	437m S	Metals	Ironstone

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	1

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

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

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

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

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

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

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

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

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

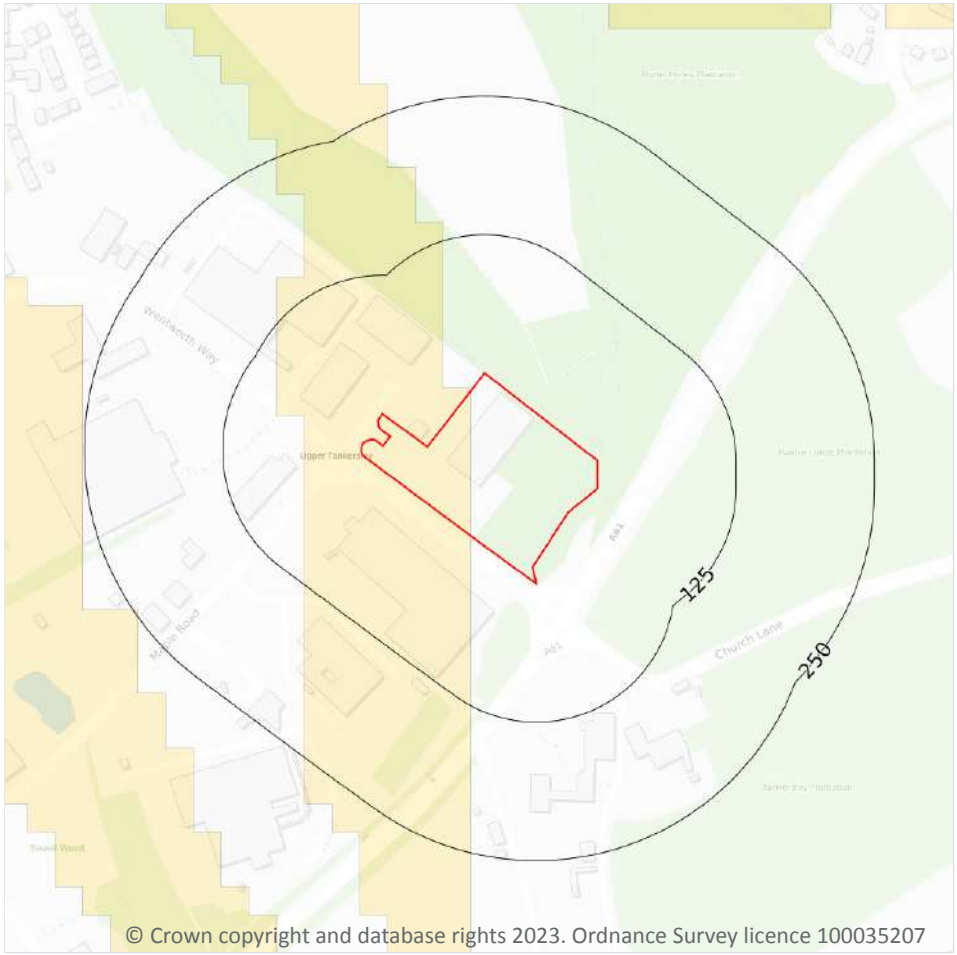
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

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

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

This data is sourced from the British Geological Survey.

20 Radon



© Crown copyright and database rights 2023. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

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

20.1 Radon

Records on site	2

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

Features are displayed on the Radon map on **page 124 >**

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

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

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

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	11

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
29m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
31m SE	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
39m SW	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
42m E	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

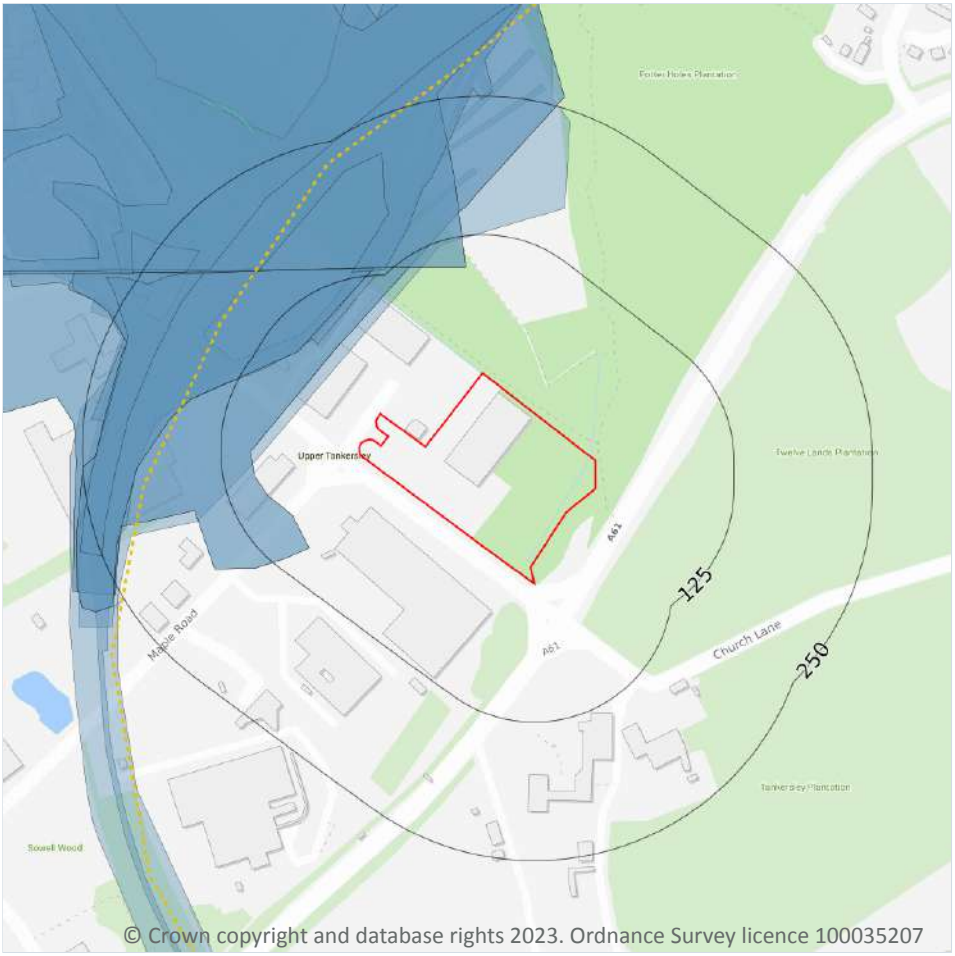
21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



Site Outline
Search buffers in metres (m)
Crossrail 1 Stations
Crossrail 1 Route
Crossrail 2 Stations
Crossrail 2 Route
Crossrail 2 Worksites
Crossrail 2 Safeguarding
Crossrail 2 Headhouses
Railway stations
Active railways
Active tunnels
Abandoned railways
Historic railways
Historic tunnels
Underground stations
Underground Lines
Royal Mail tunnels
HS2 optimised route
HS2 Stations
HS2 Depots
HS2 Surface Safeguarding
HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	16

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 128 >**

Location	Land Use	Year of mapping	Mapping scale
58m NW	Railway Sidings	1966	10560
68m NW	Railway Sidings	1966	10560
68m NW	Railway Sidings	1951	10560
84m NW	Railway Sidings	1948	10560
90m NW	Railway Sidings	1956	2500
93m NW	Railway Sidings	1938	10560
93m NW	Railway Sidings	1903	10560
97m N	Railway Sidings	1938	10560
97m N	Railway Sidings	1903	10560
129m NW	Railway Sidings	1948	10560
130m NW	Railway Sidings	1931	2500
160m N	Railway Sidings	1956	2500
197m N	Railway Sidings	1956	2500
202m NW	Tramway Sidings	1891	10560
203m W	Railway Sidings	1891	10560
213m NW	Railway Sidings	1893	2500

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	1

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

Features are displayed on the Railway infrastructure and projects map on **page 128 >**

Location	Description
161m W	Historic

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

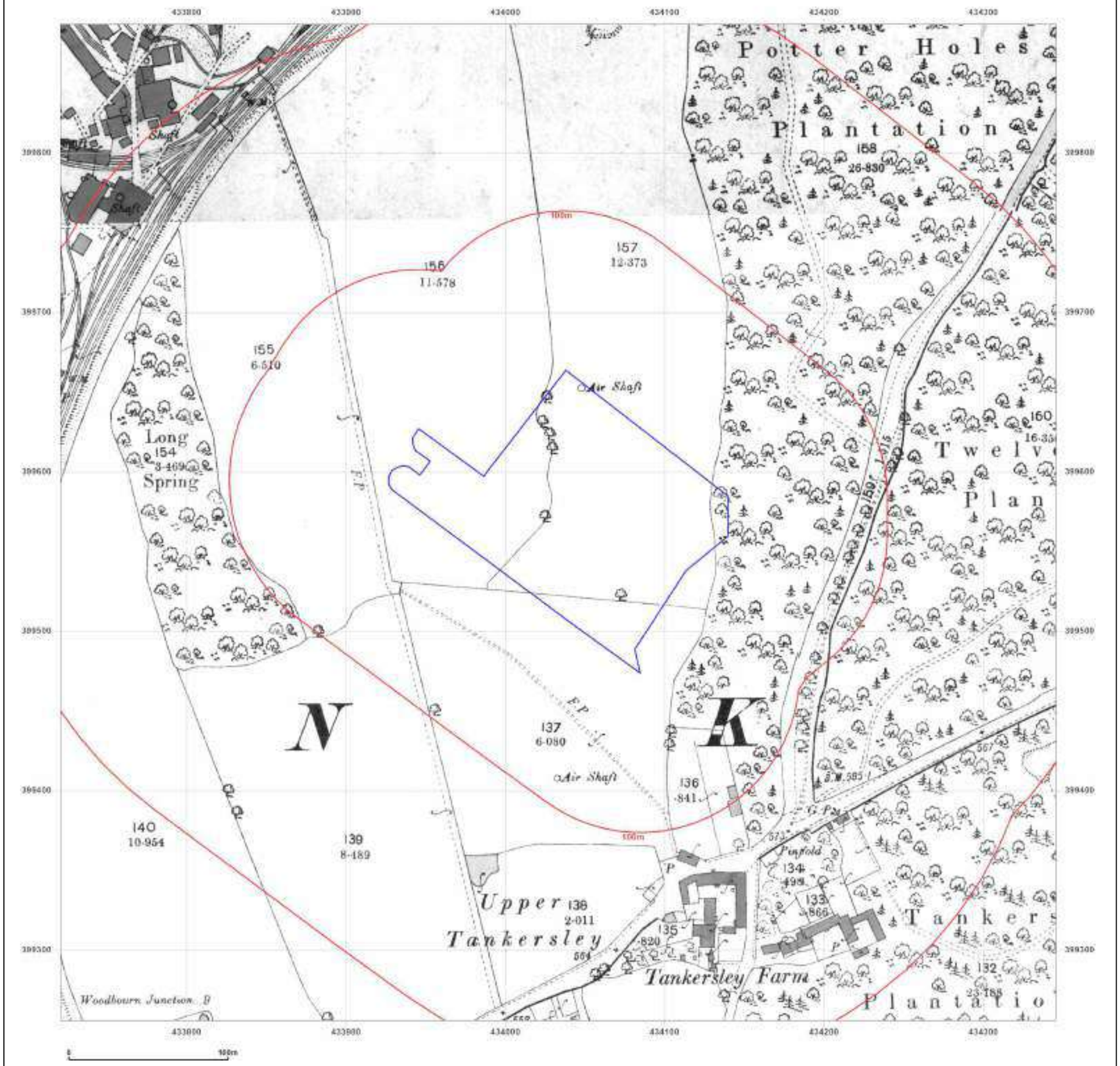
Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

Terms and conditions

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

APPENDIX B

Historical Ordnance Survey Plans



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Groundsure

Produced by
Groundsure Insights
www.groundsure.com

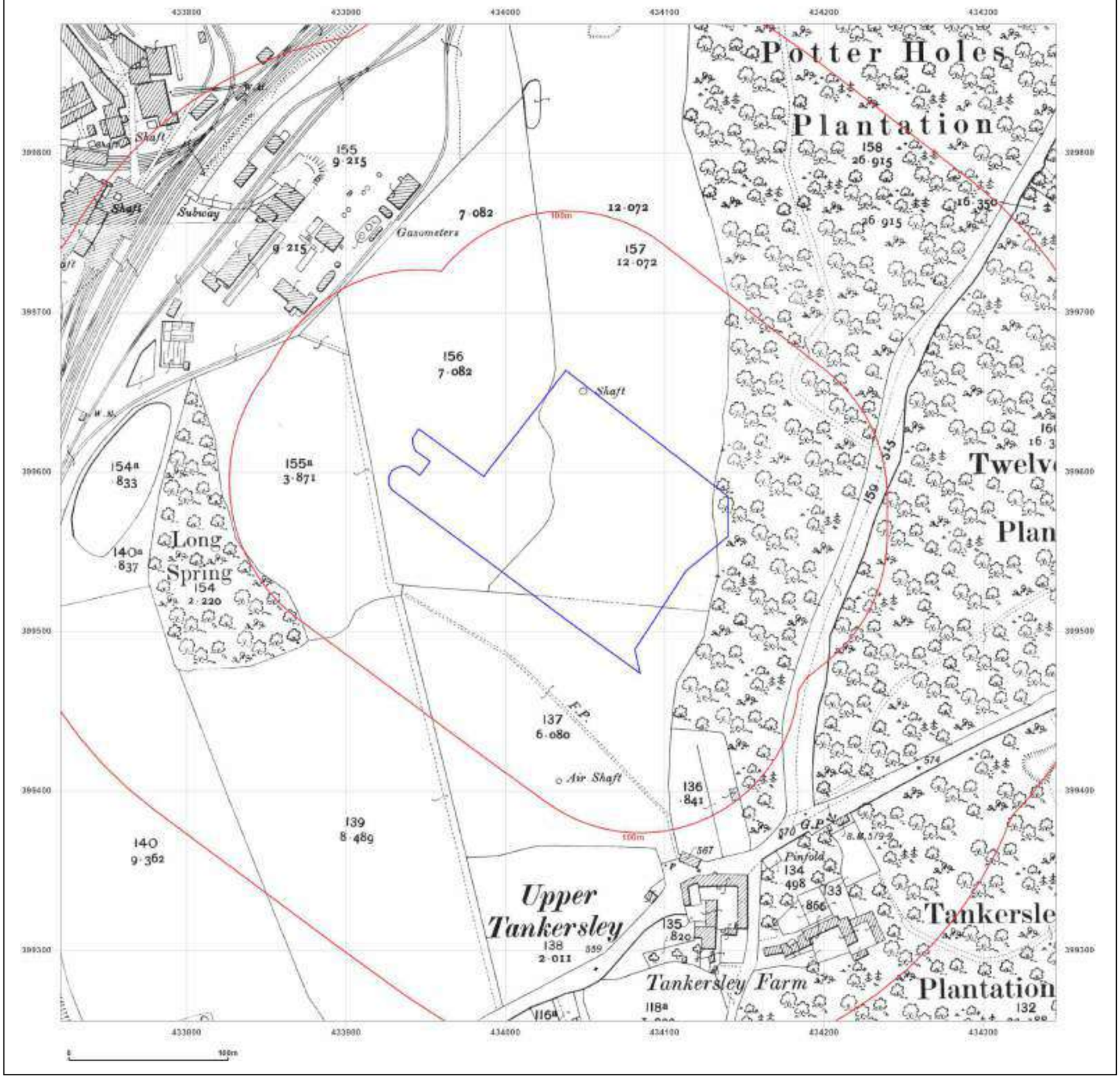
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: County Series

Map date: **1905**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Groundsure

Produced by
Groundsure Insights
www.groundsure.com

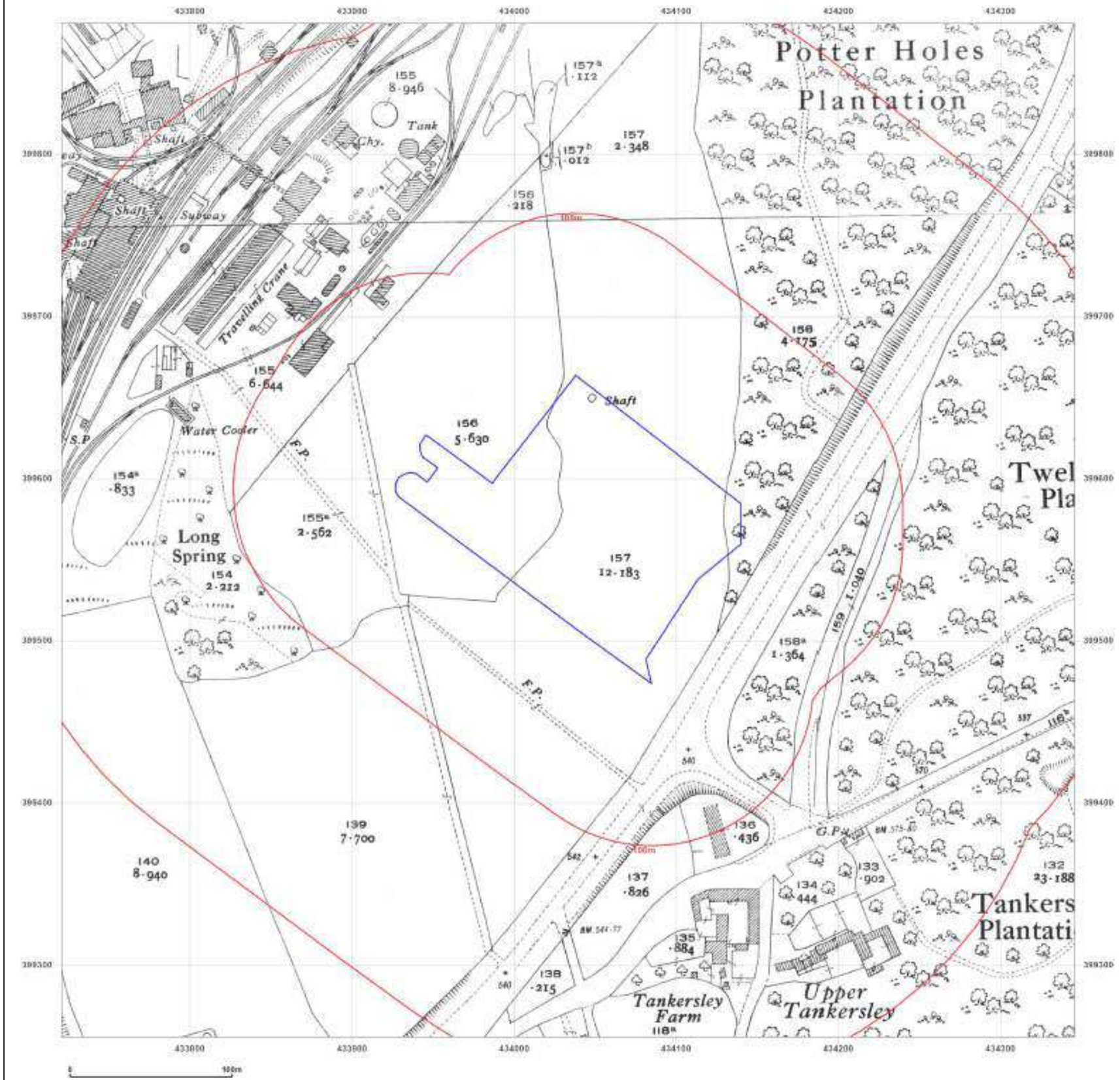
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

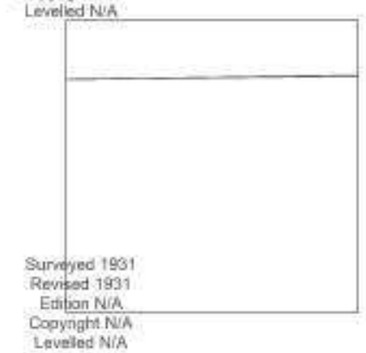
Map Name: County Series

Map date: **1931**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

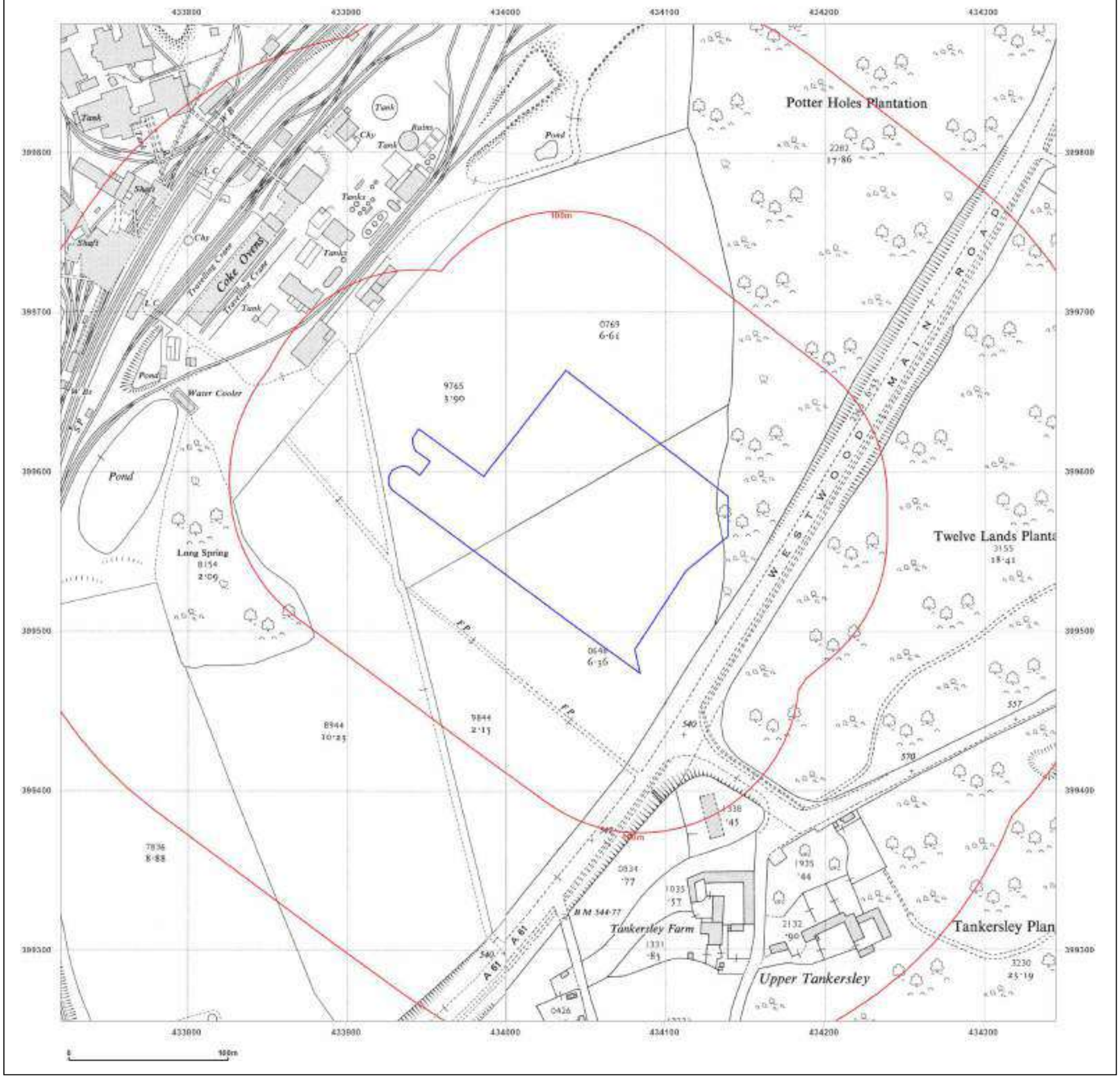
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

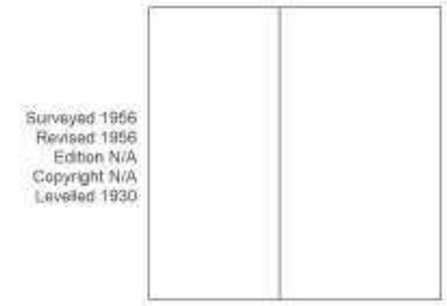
Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: National Grid
Map date: **1956**
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S



Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

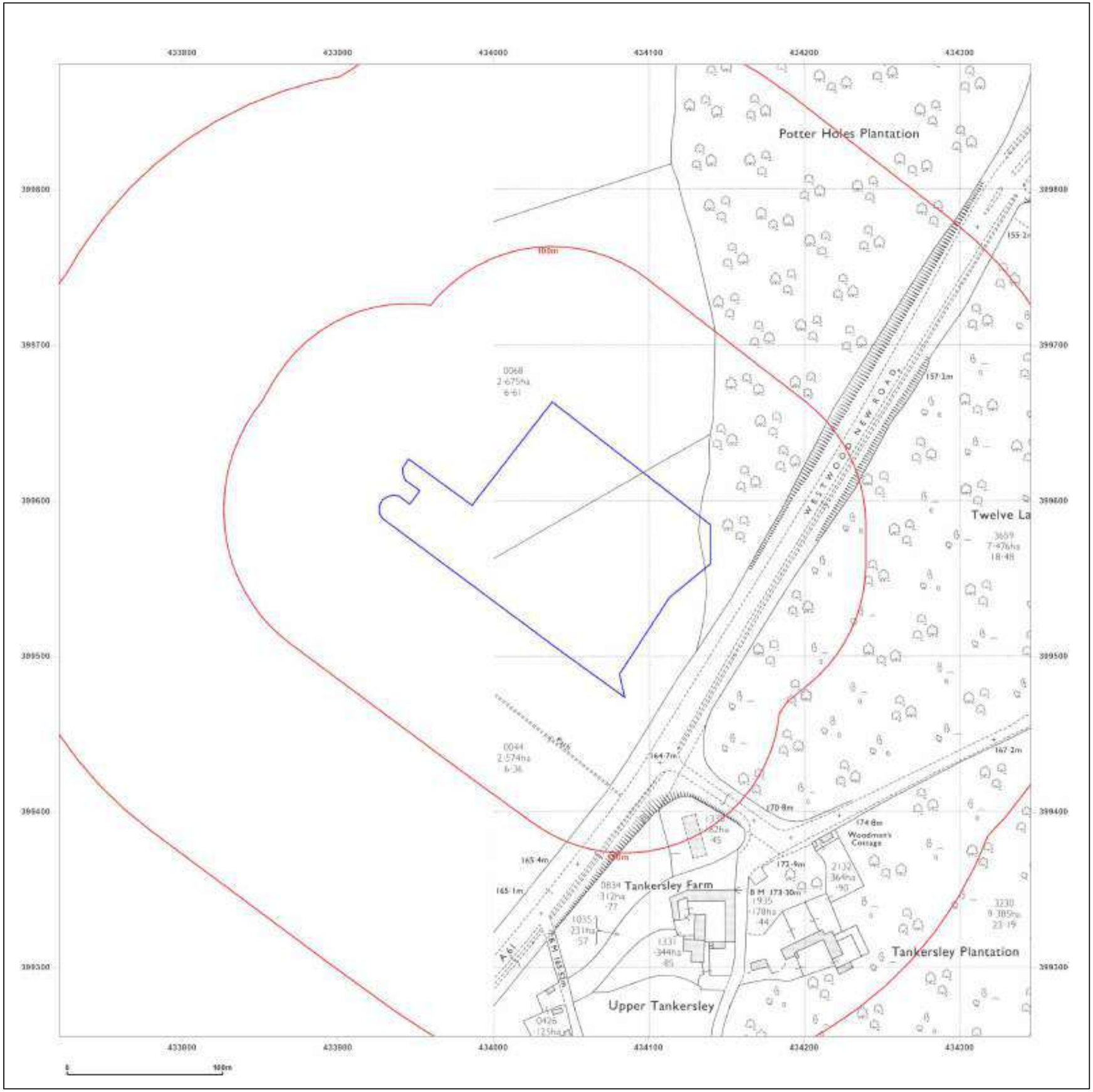
Powered by OS

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: National Grid

Map date: **1970**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1970
Revised 1970
Edition N/A
Copyright 1970
Levelled 1963

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

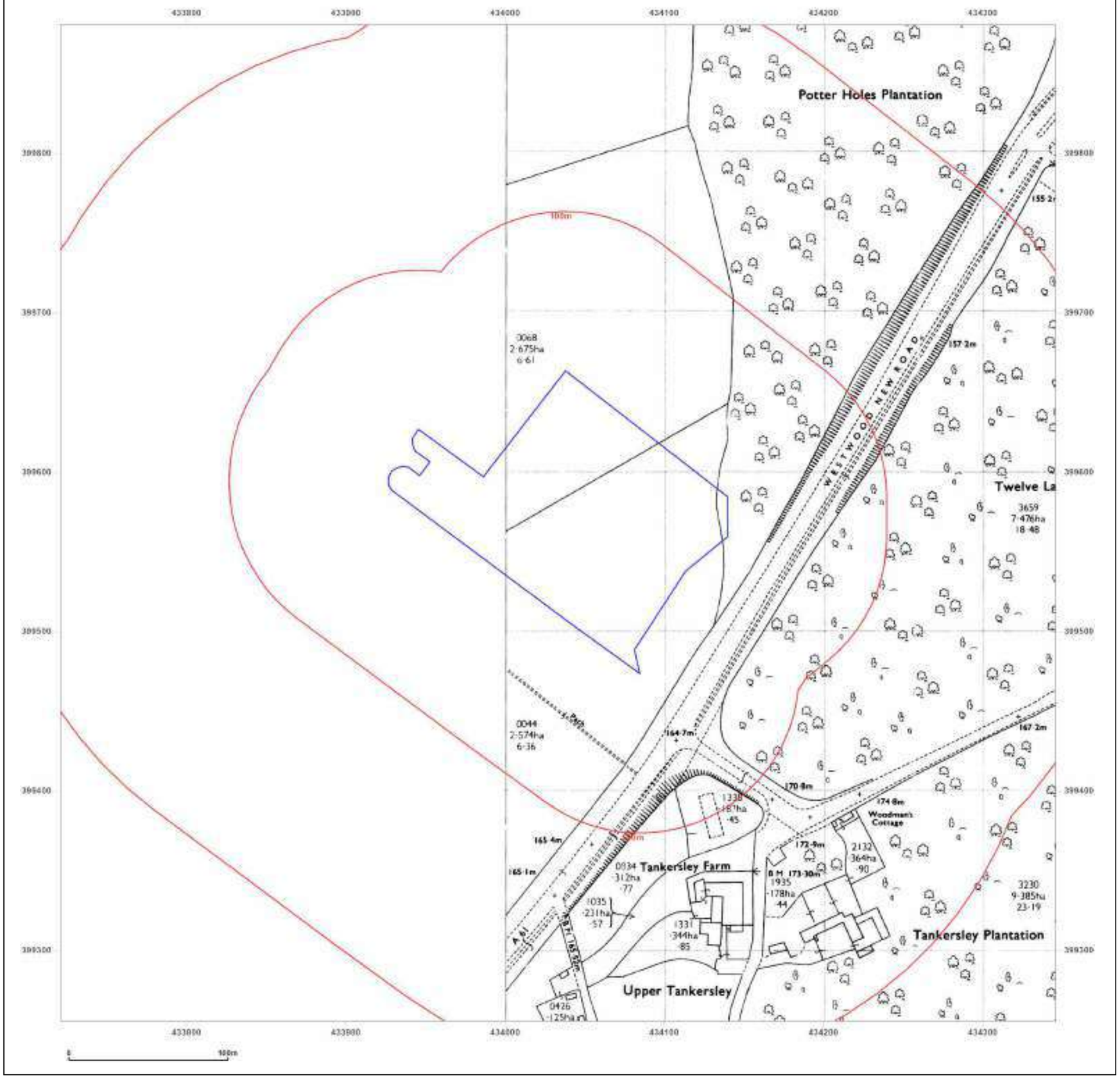
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: National Grid

Map date: **1970**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

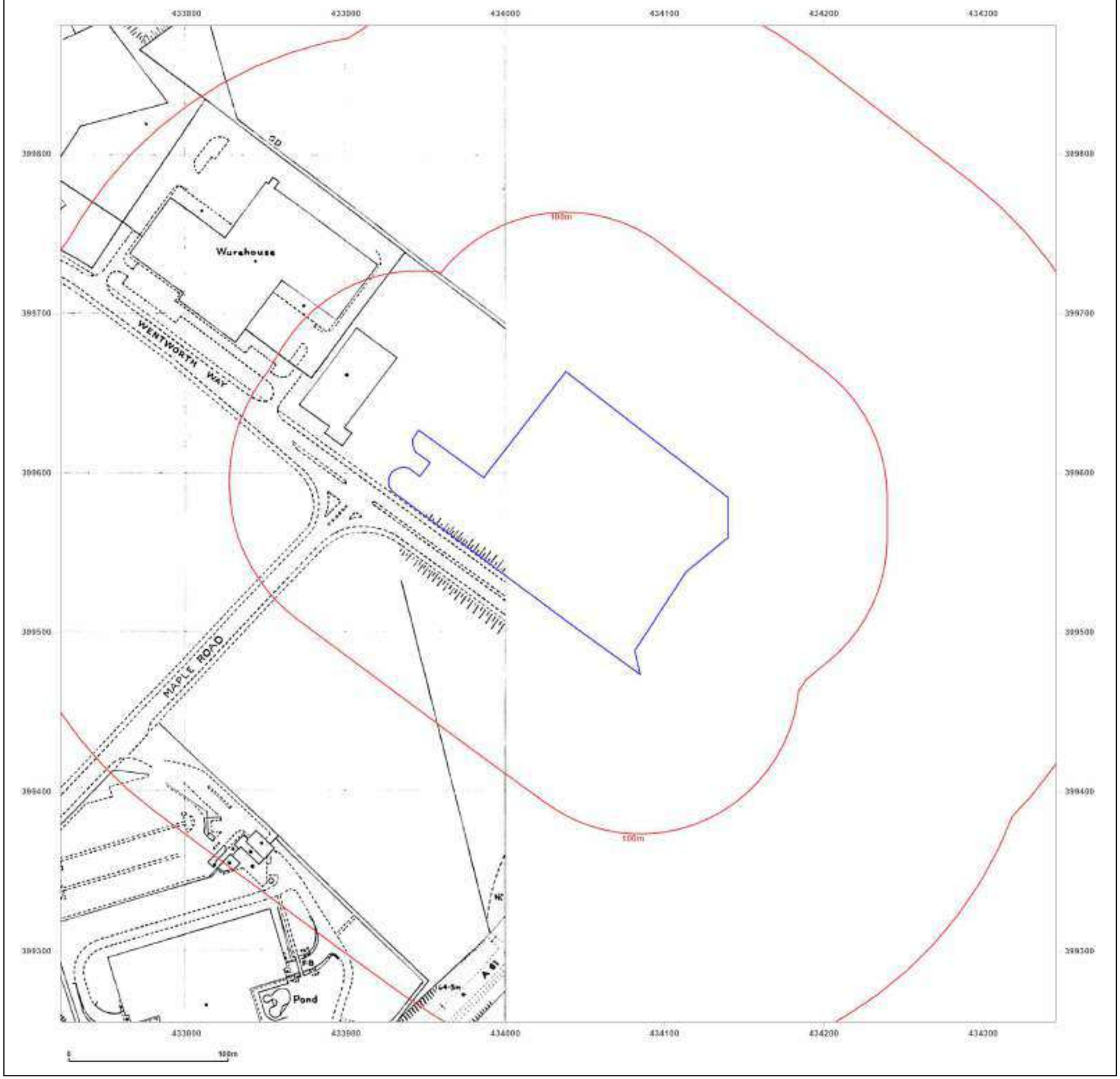
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley,
Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: National Grid

Map date: **1981**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1981
Levelled 1963

Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

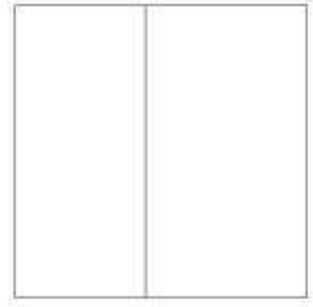
Map Name: National Grid

Map date: **1989**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Surveyed 1963
Revised 1989
Edition N/A
Copyright 1989
Levelled 1963

Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: National Grid

Map date: **1990**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

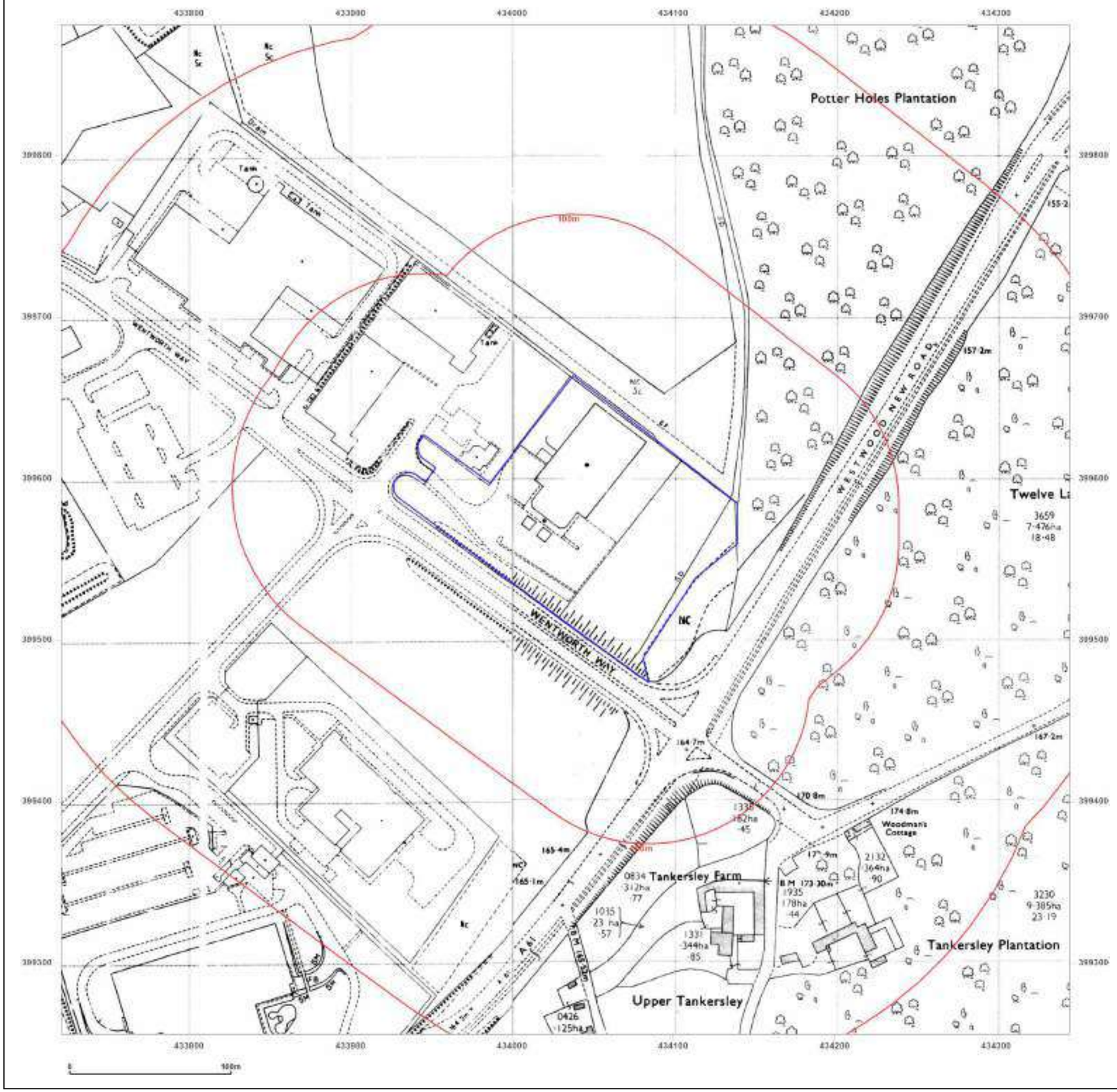
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

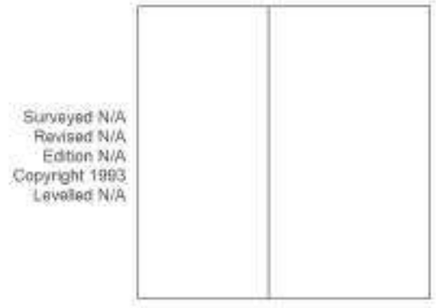
Map Name: National Grid

Map date: **1989-1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

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

N
W E
S



Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

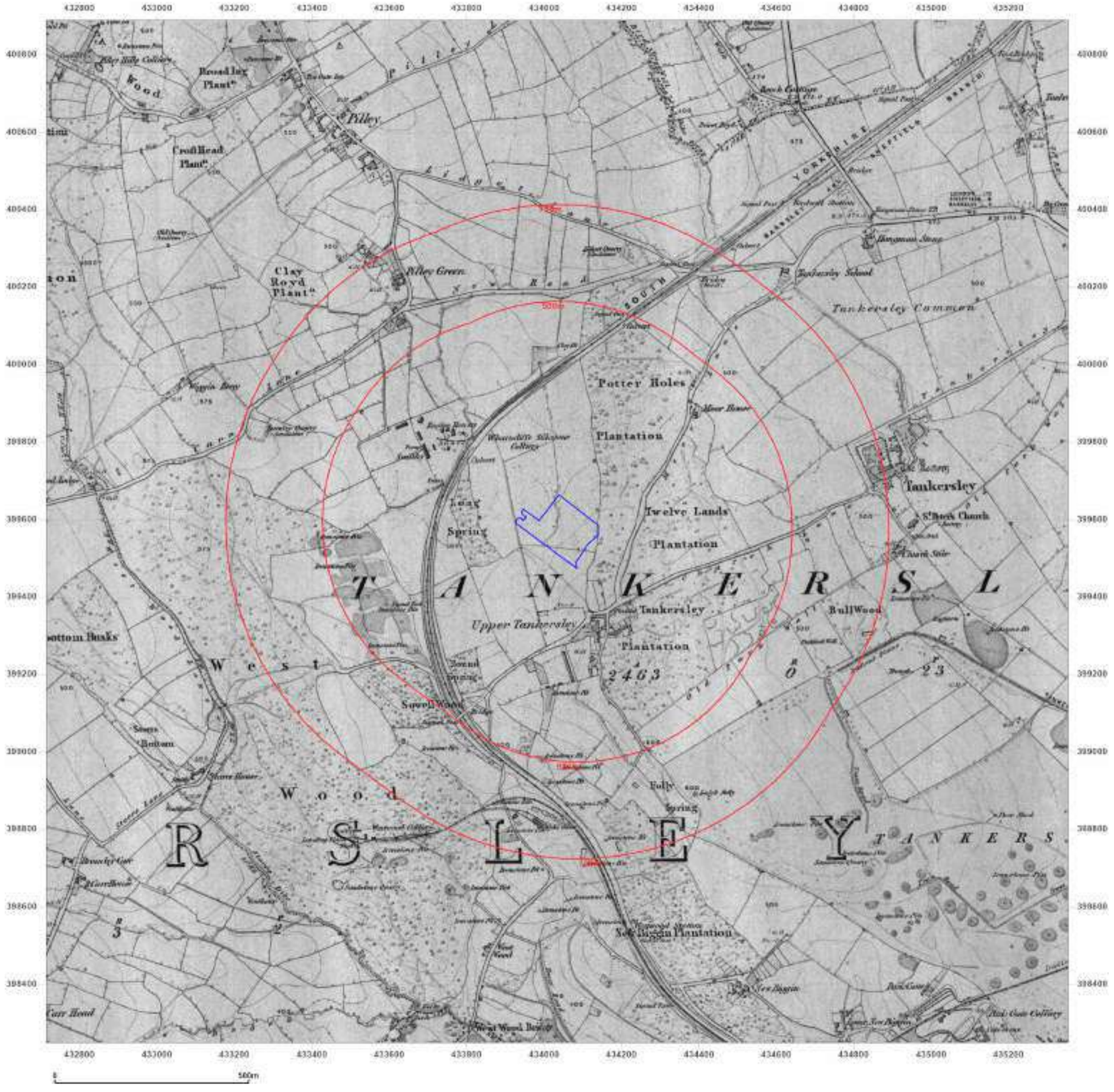
Powered by OS

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: County Series

Map date: **1855**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

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

Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

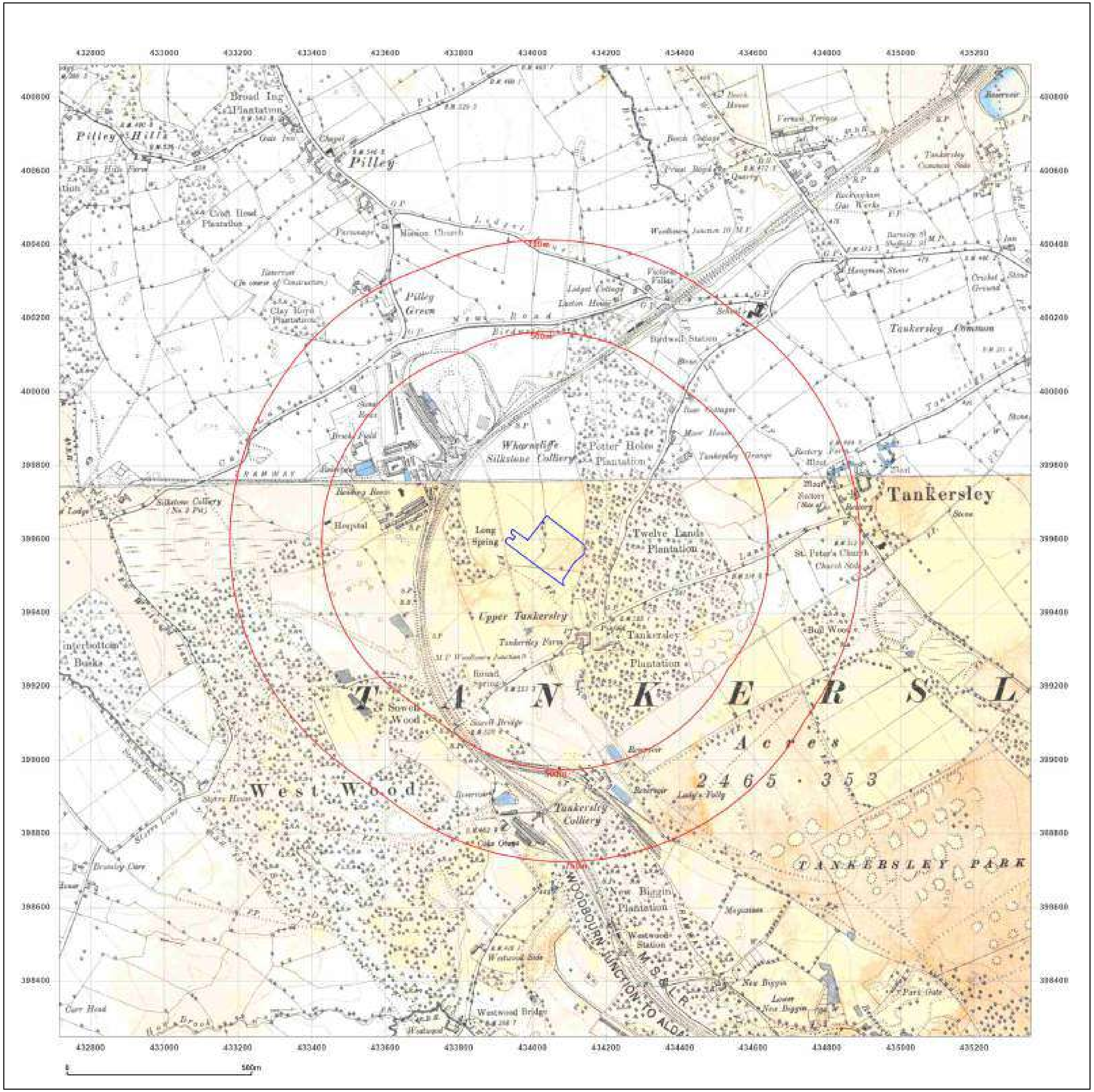
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: County Series

Map date: **1891-1894**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



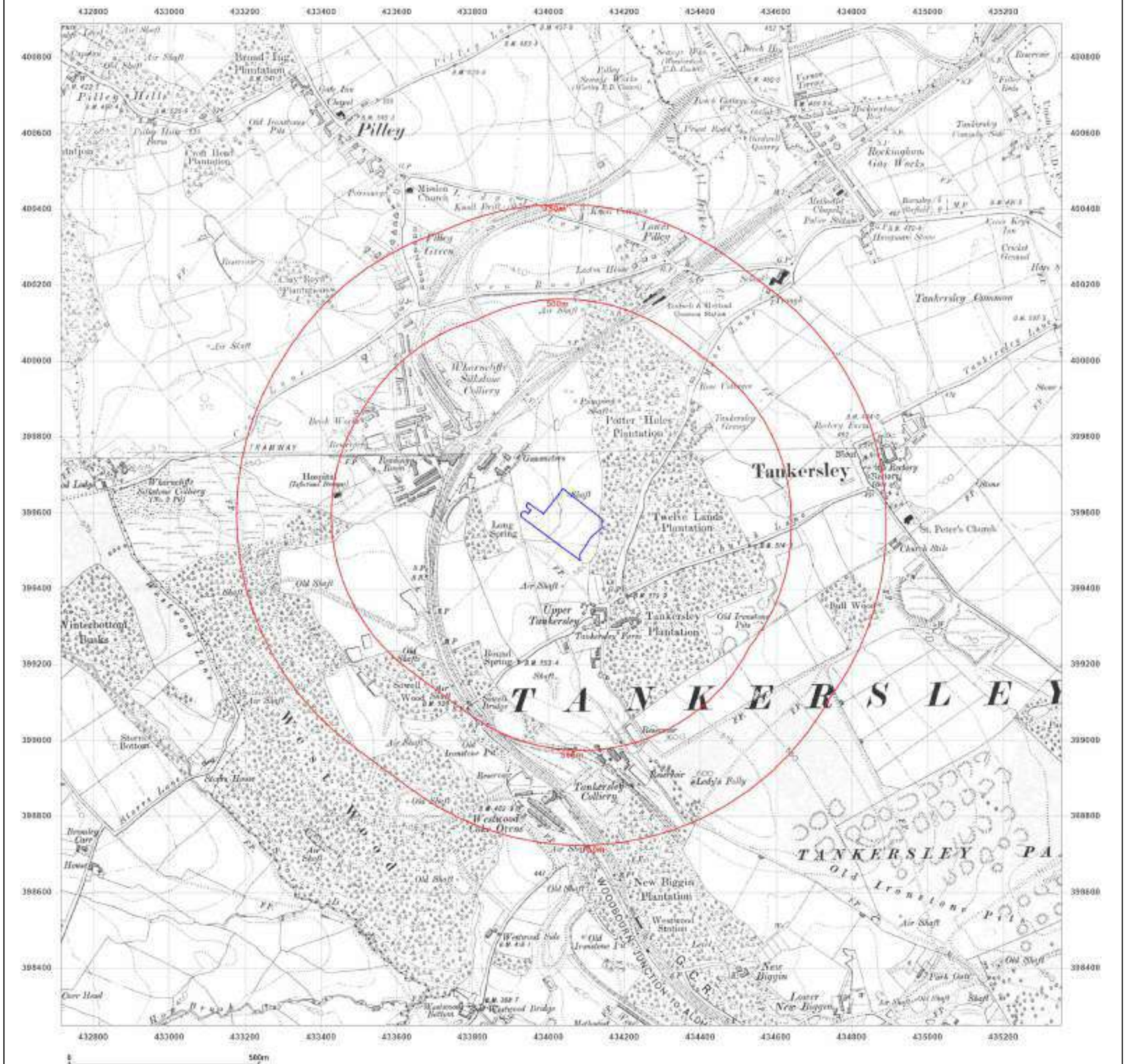
Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

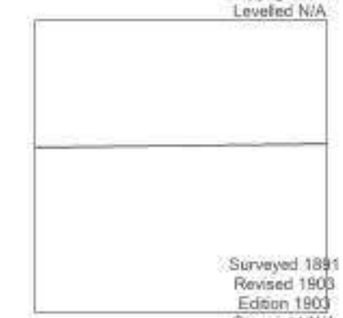
Map Name: County Series

Map date: **1903**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

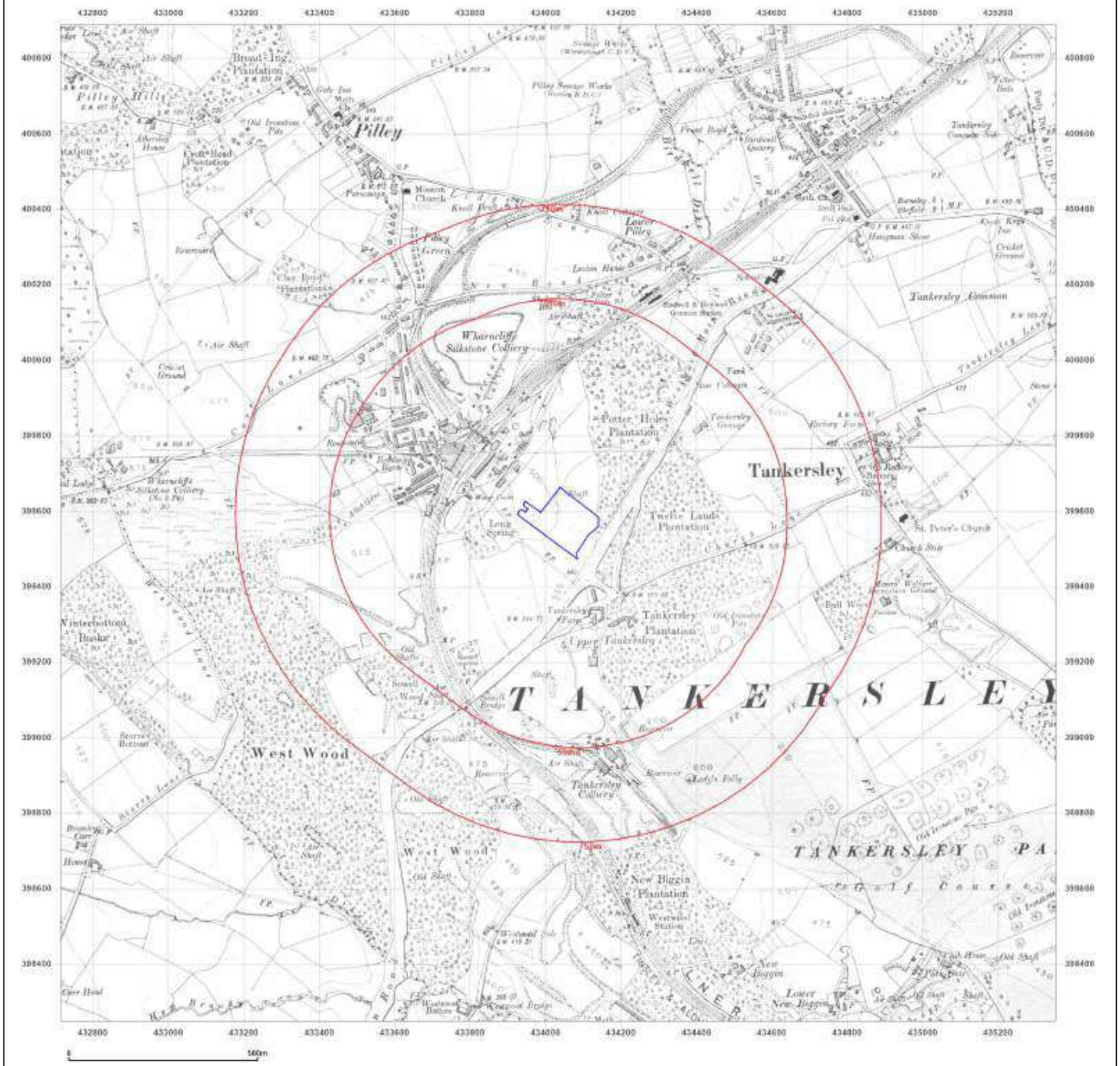
Powered by OS

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: County Series

Map date: **1929**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

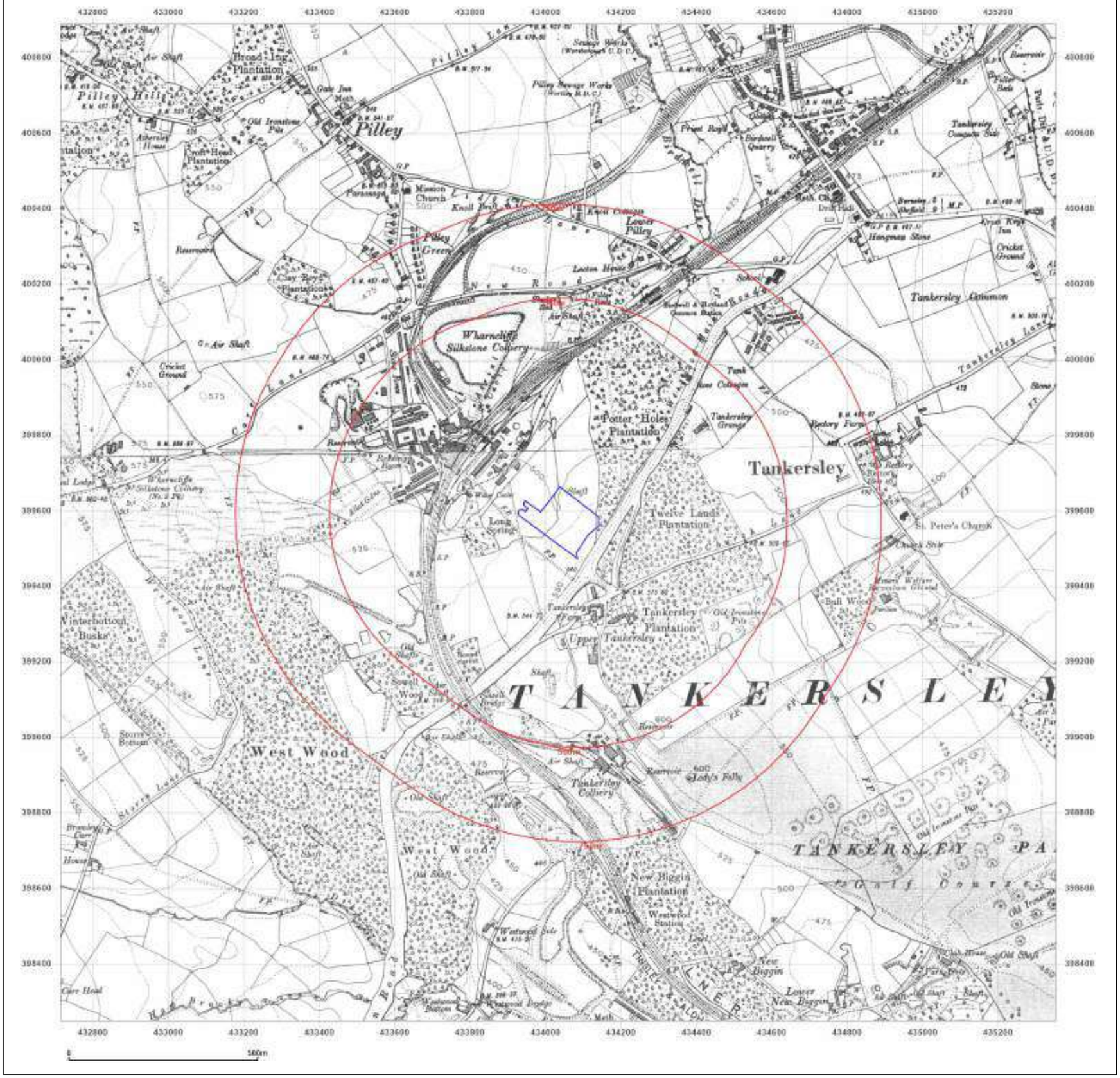
Powered by OS

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: County Series

Map date: **1938**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1851
Revised 1938
Edition 1938
Copyright N/A
Levelled 1929

Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

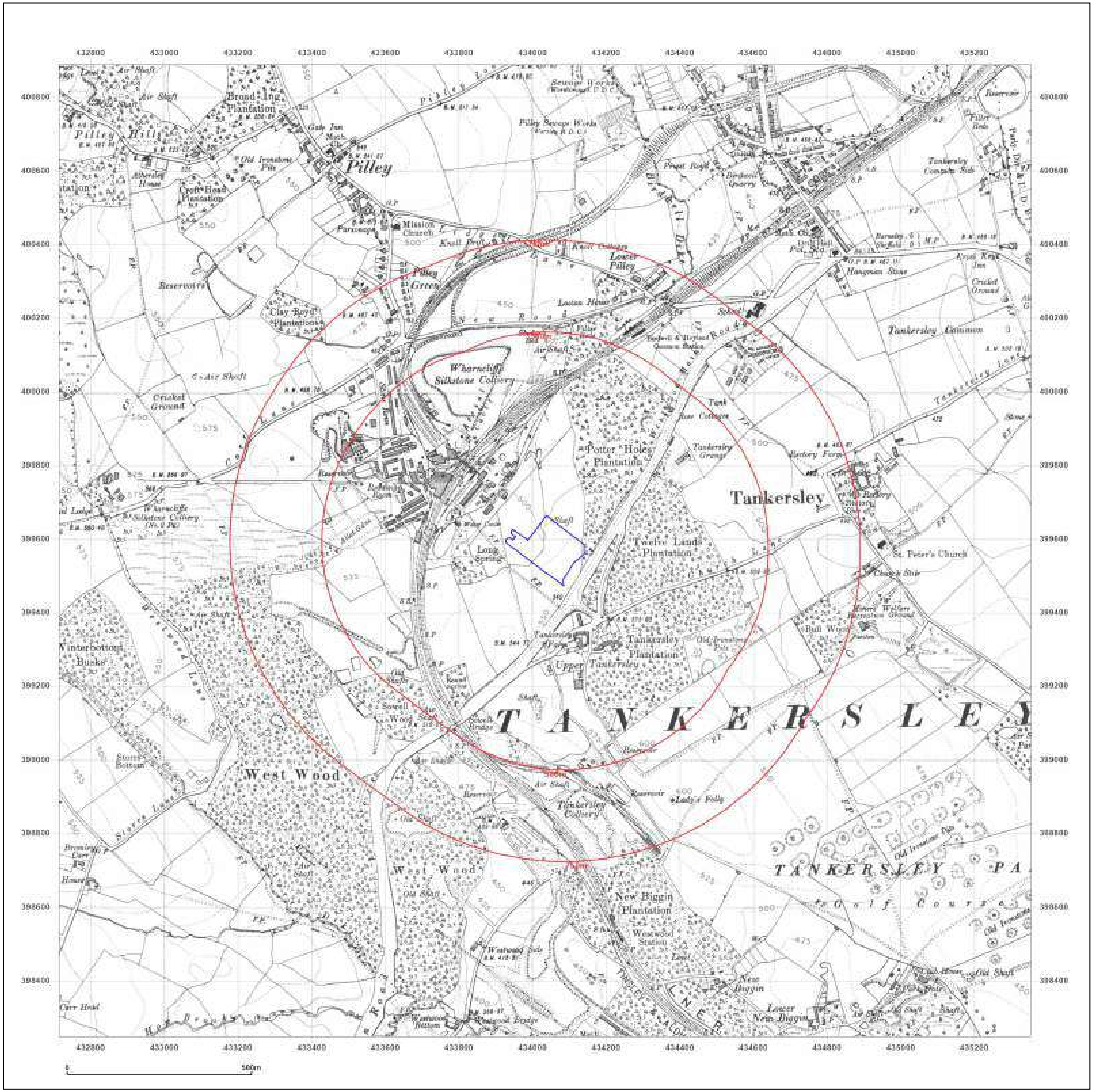
Powered by OS

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: County Series

Map date: 1948

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1851
Revised 1948
Edition 1948
Copyright N/A
Levelled 1929

Surveyed 1851
Revised 1948
Edition 1948
Copyright N/A
Levelled 1929

Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

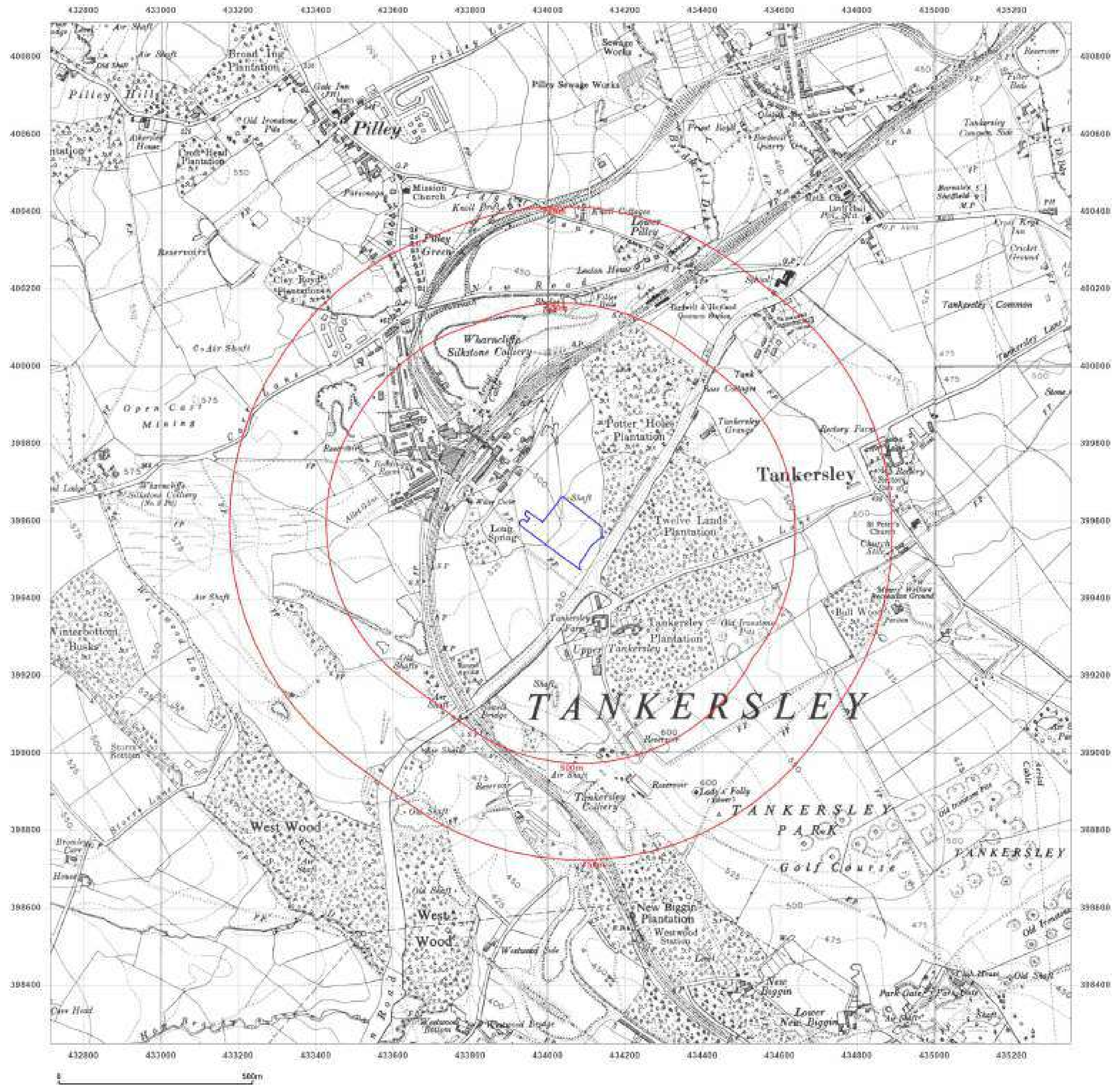
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

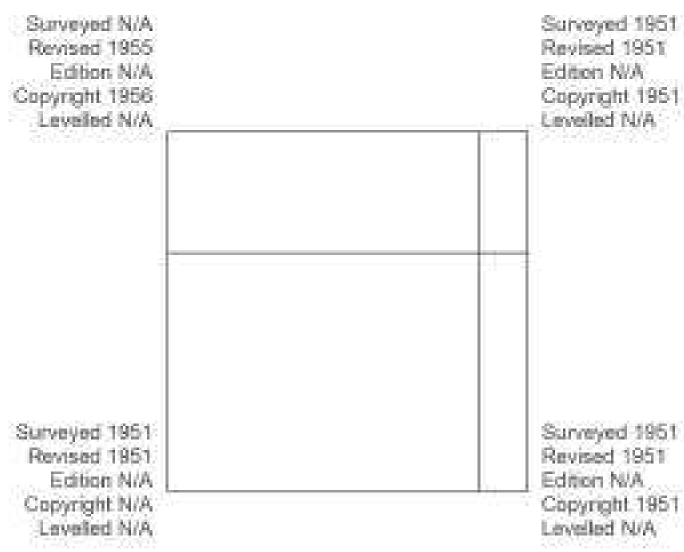
Map Name: Provisional

Map date: **1951-1956**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S



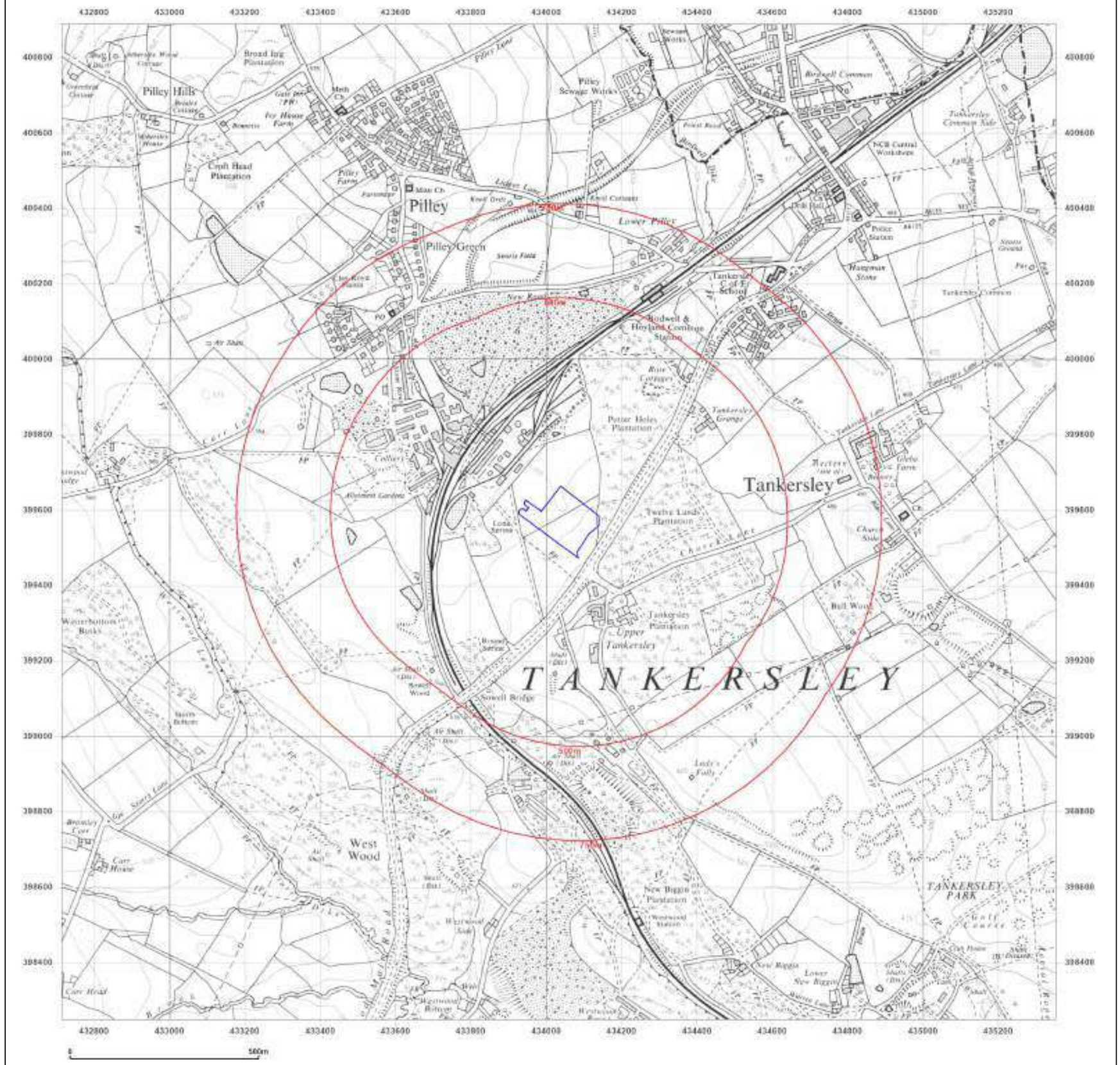
Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: Provisional

Map date: **1965-1966**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

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

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

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

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

Groundsure Insights

Produced by
Groundsure Insights
www.groundsure.com

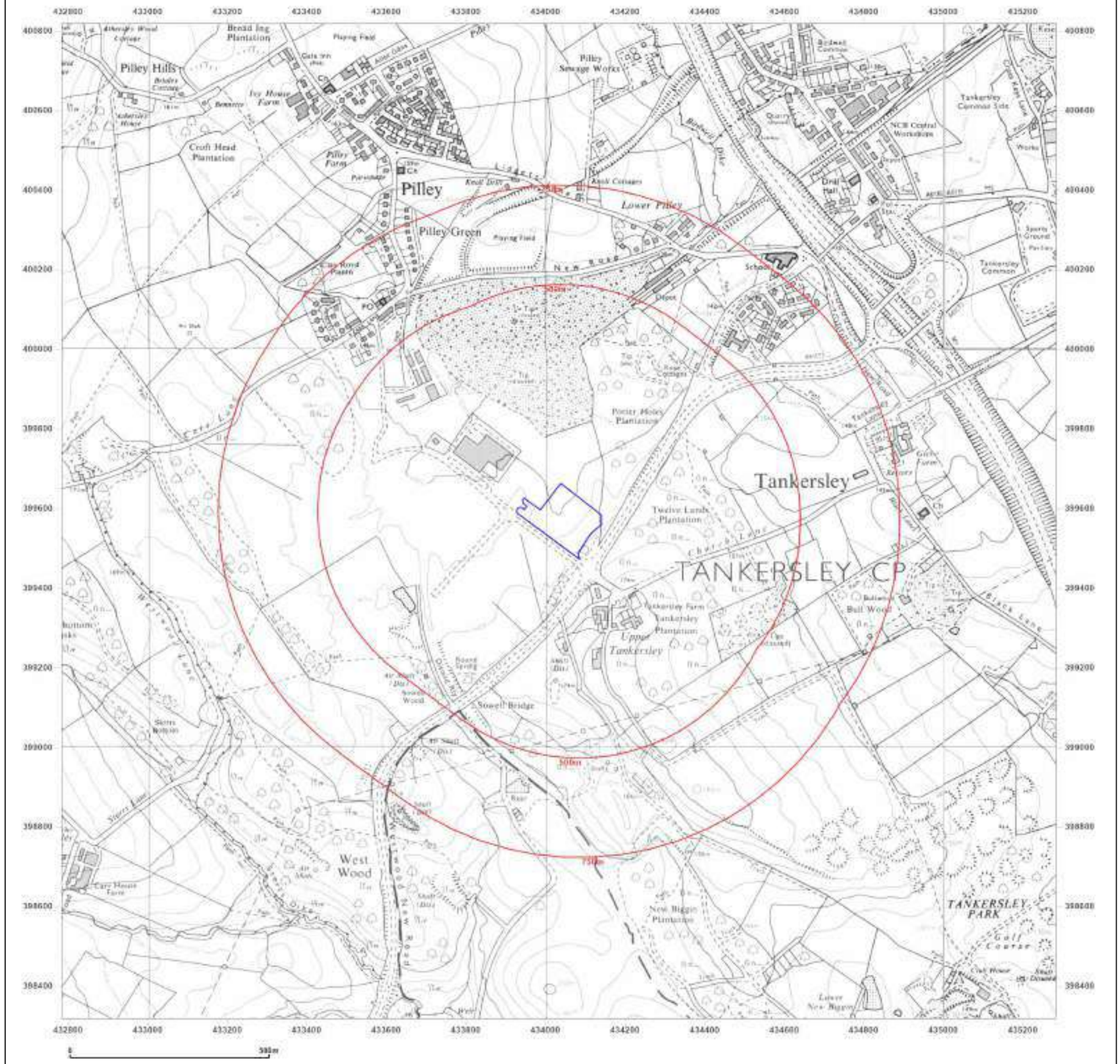
Powered by OS

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: National Grid

Map date: **1977-1980**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

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

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

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

Surveyed 1979
Revised 1980
Edition N/A
Copyright 1980
Levelled 1981

Groundsure INSIGHTS

Produced by
Groundsure Insights
www.groundsure.com

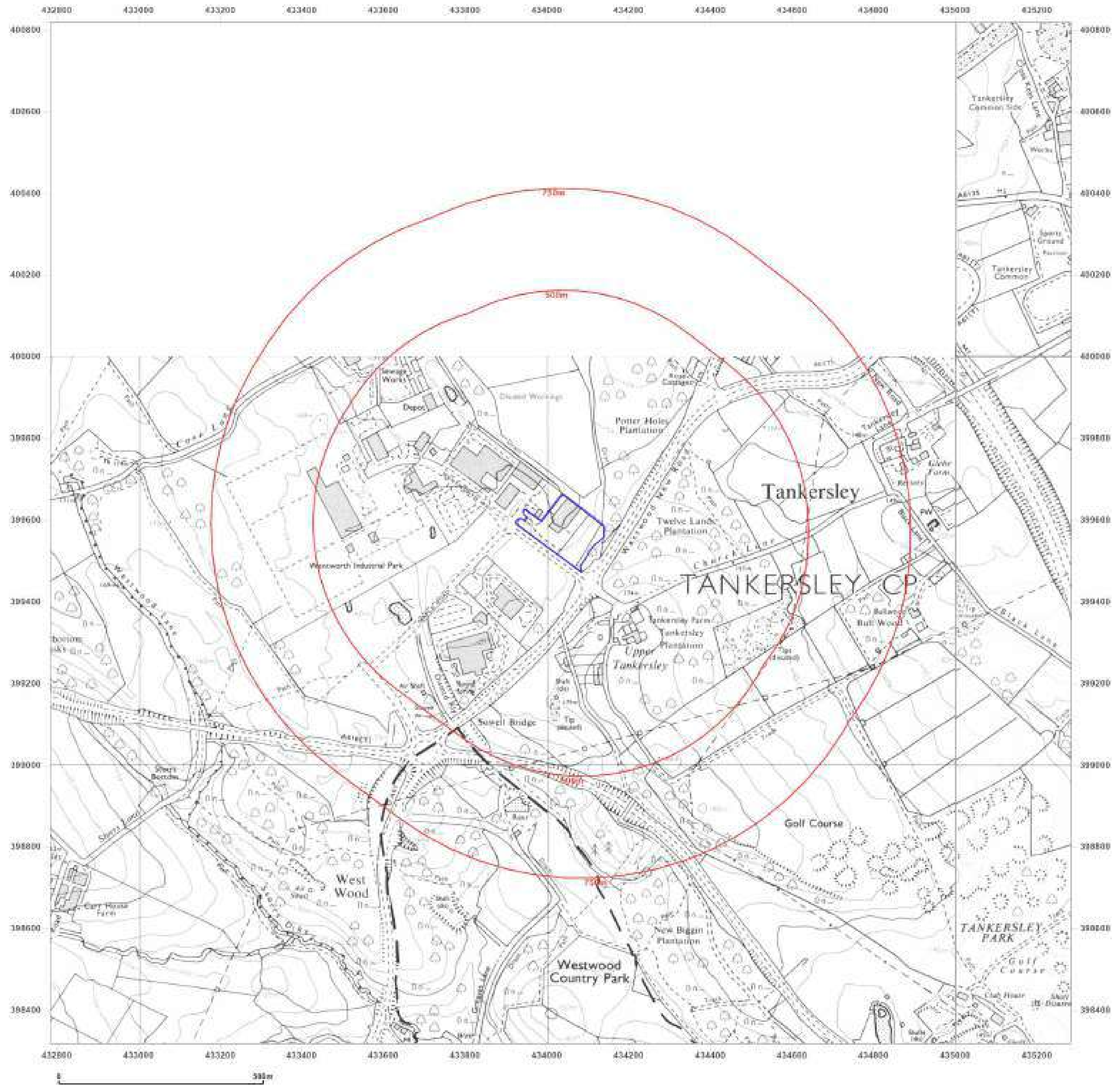
Powered by OS

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

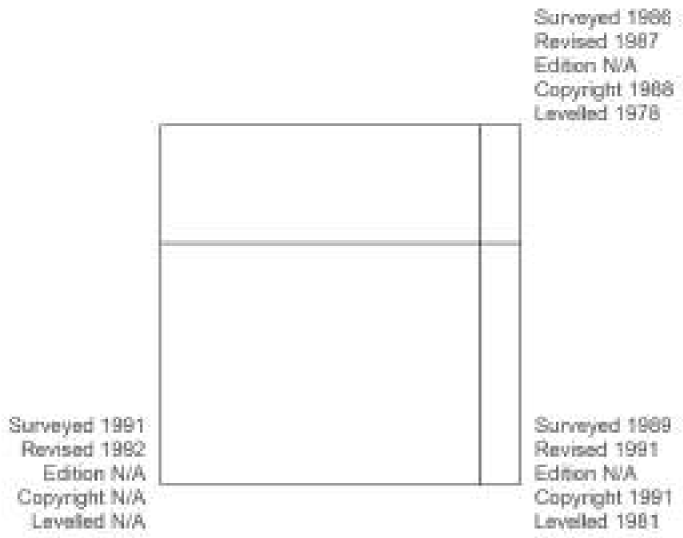
Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: National Grid

Map date: **1987-1992**

Scale: 1:10,000

Printed at: 1:10,000



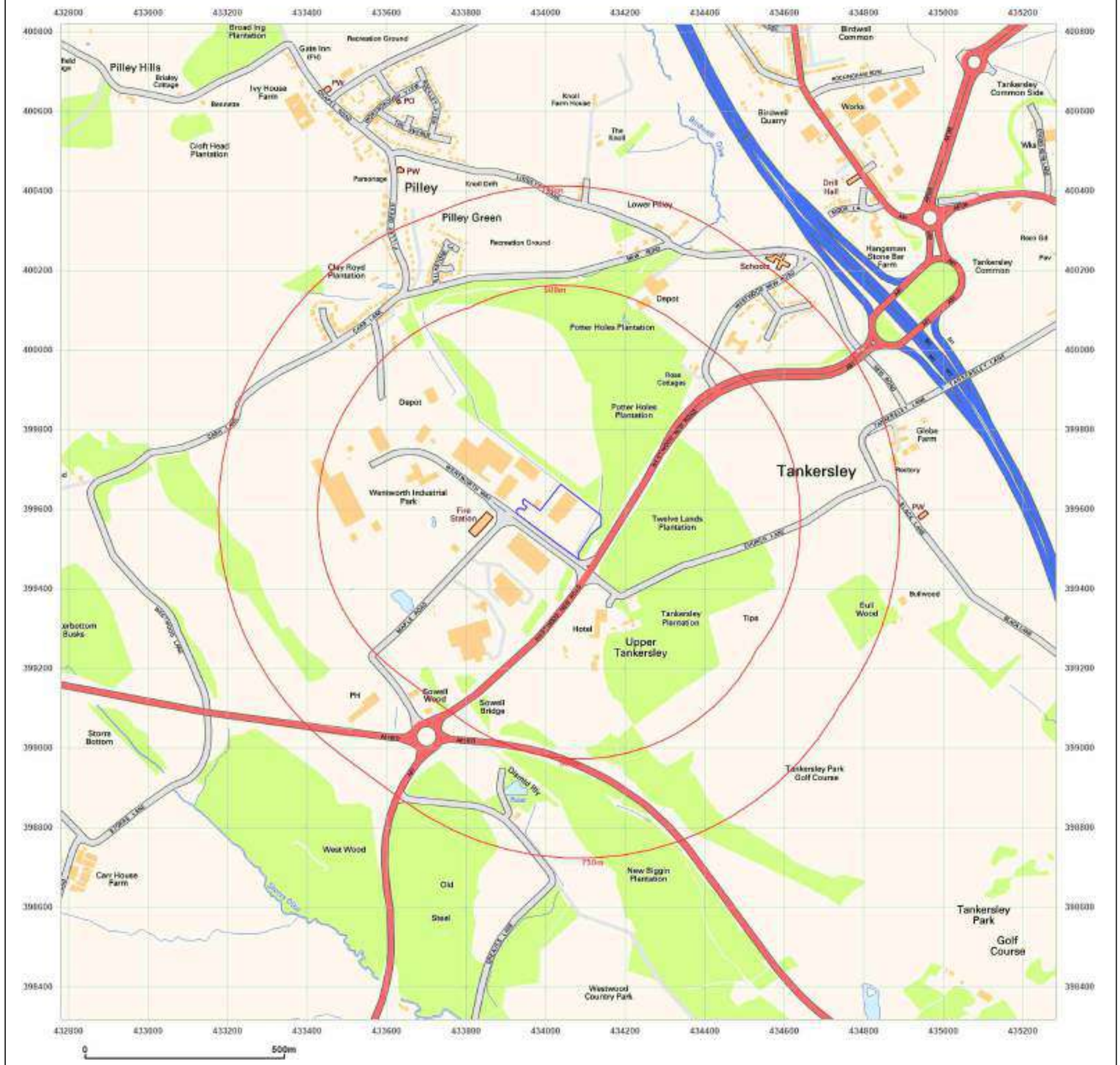
Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

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

N
W E
S

2001

Groundsure Insights

Produced by
Groundsure Insights
www.groundsure.com

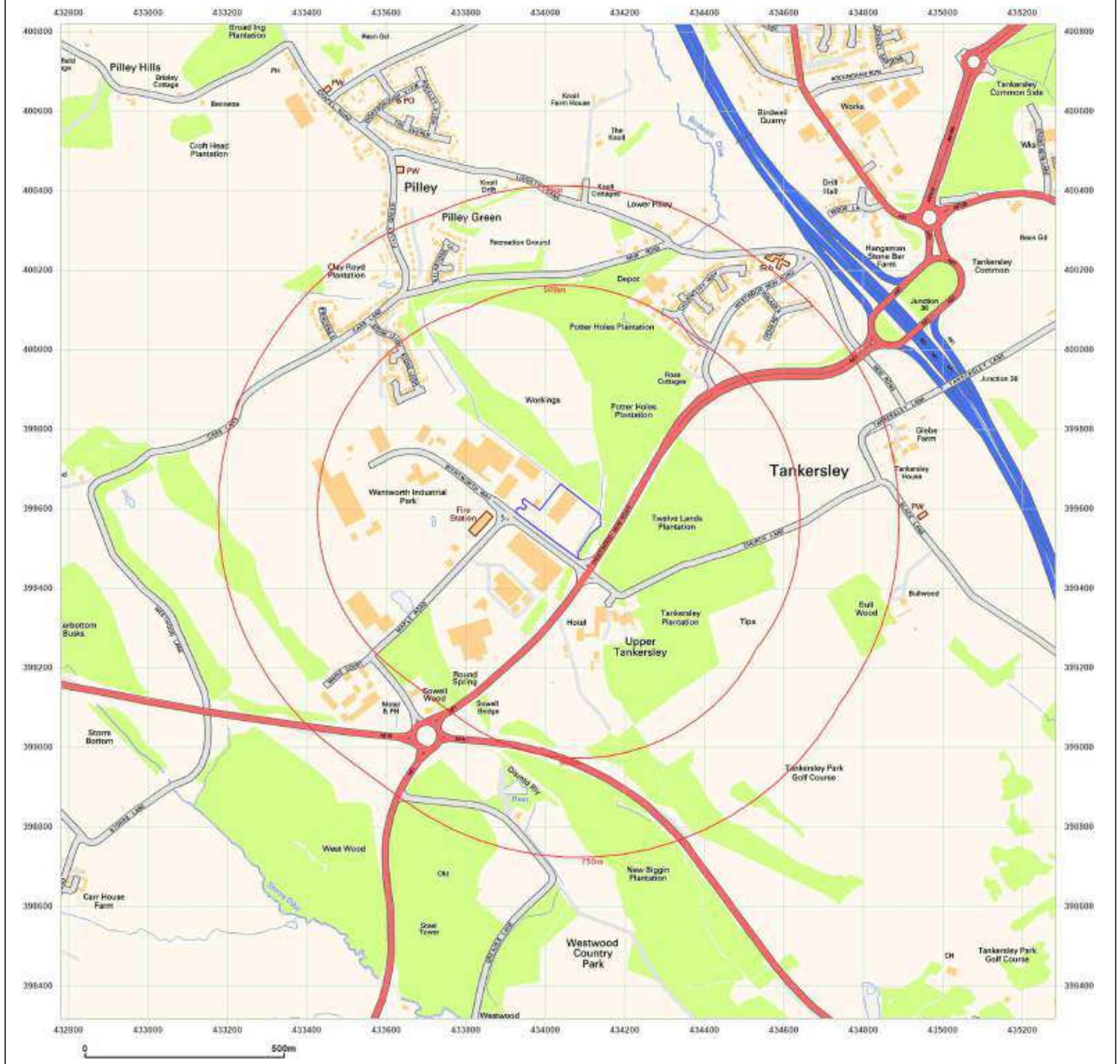
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2010

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

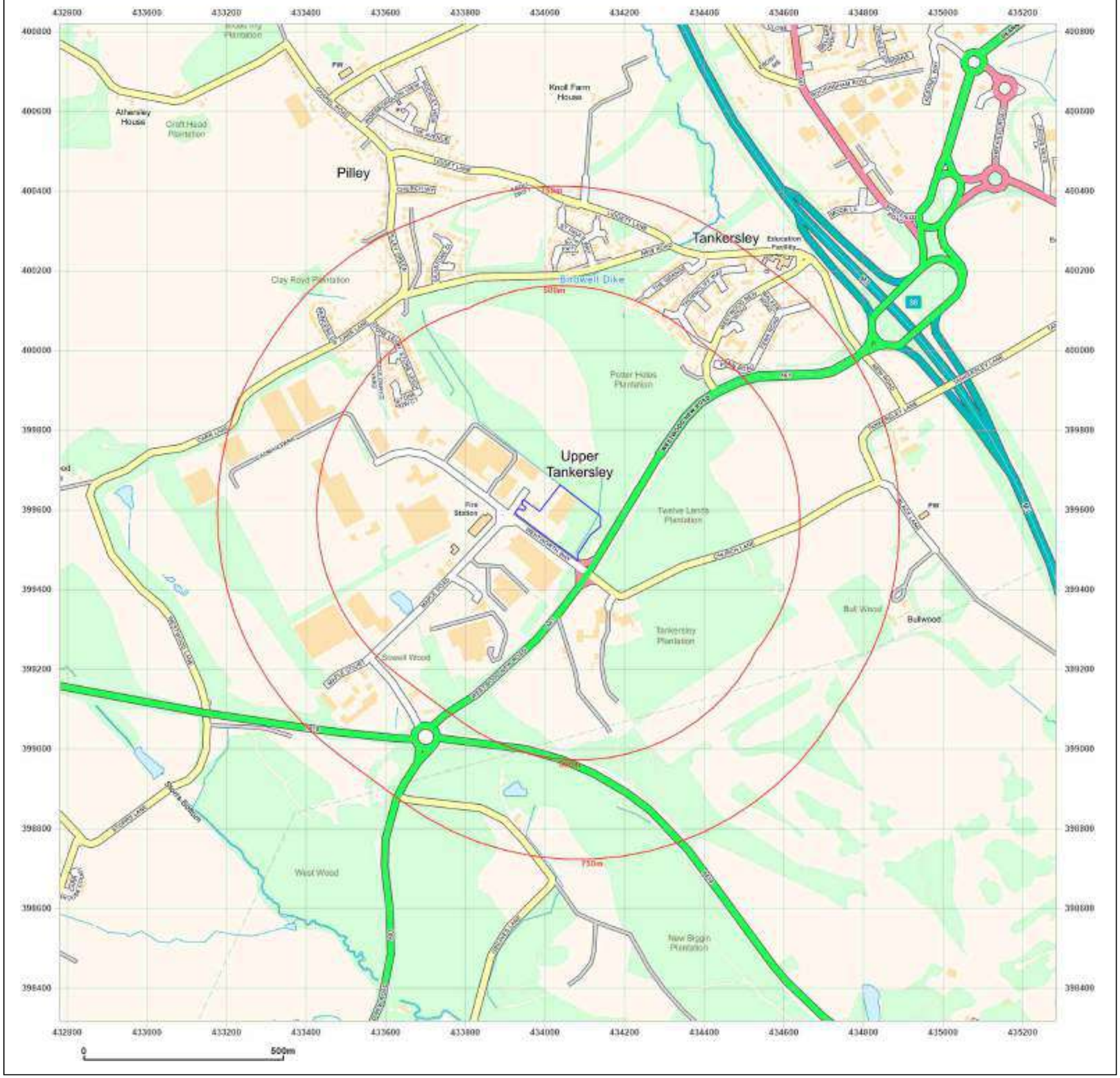
Powered by

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



EMAPSITE™

Site Details:

Jacquet UK, Tankersley, Barnsley

Client Ref: EMS_887086_1097805
Report Ref: EMS-887086_1133778
Grid Ref: 434033, 399568

Map Name: National Grid

Map date: **2023**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2023

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.emapsite.com
sales@emapsite.com

© Crown copyright and database rights 2019 Ordnance Survey 100035207

Production date: 10 August 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

APPENDIX C

Coal Authority Consultants Coal Mining Report

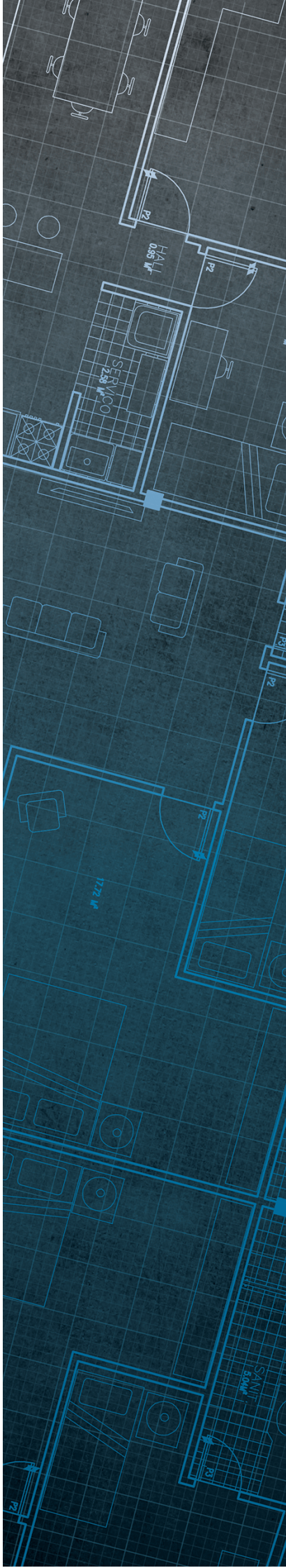
The Coal Authority

Consultants

Coal Mining Report

Jacquet Uk, Tankersley, Barnsley
South Yorkshire

Date of enquiry:	**11 August 2023**
Date enquiry received:	**11 August 2023**
Issue date:	**11 August 2023**
Our reference:	**51003372182001**
Your reference:	**1680**



Consultants

Coal Mining Report

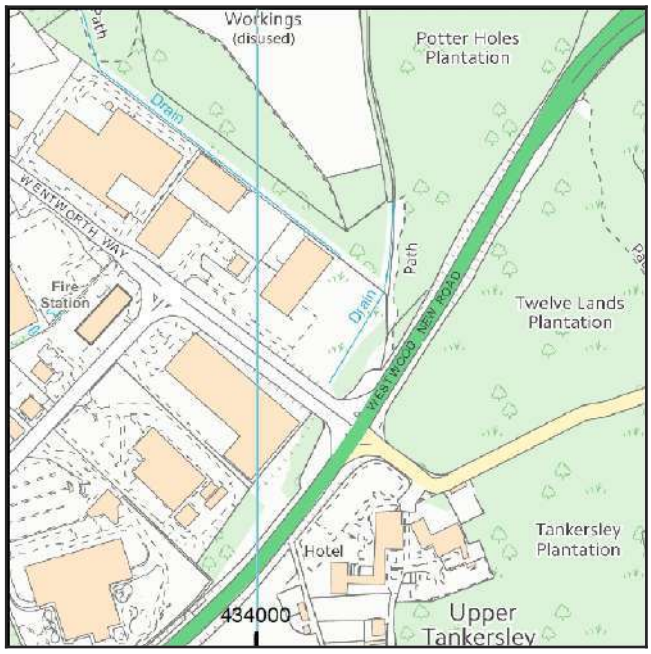
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

Inspire Design

Enquiry address

Jacquet Uk, Tankersley, Barnsley
South Yorkshire



Approximate position of property

Map data

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2018. All rights reserved.

Ordnance Survey Licence number: 100020315

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.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
WHARNCLIFFE	TOP FENTON	Coal	6IZ5	60	Beneath Property	4.8	North-East	140	1927
unnamed	LOW FENTON	Coal	65R0	62	West	5.4	North-East	157	1955
ROCKINGHAM	LOW FENTON	Coal	6XRN	64	Beneath Property	5.2	North-East	152	1955
TANKERSLEY	PARKGATE	Coal	6XRC	90	Beneath Property	3.5	East	160	1880
unnamed	PARKGATE	Coal	65RE	92	West	6.6	East	160	1896
TANKERSLEY	THORNCLIFFE	Coal	65R1	103	West	5.5	North-East	68	1886
unnamed	THORNCLIFFE	Coal	6620	104	Beneath Property	4.8	North-East	76	1895
unnamed	SILKSTONE	Coal	65RL	169	West	5.2	East	170	1875
TANKERSLEY	SILKSTONE	Coal	6IZD	171	Beneath Property	4.5	East	180	1874
TANKERSLEY	WHINMOOR	Coal	65RB	222	West	5.3	North-East	74	1915
TANKERSIDE	WHINMOOR	Coal	6XM0	223	Beneath Property	4.4	North-East	91	1918

Probable unrecorded shallow workings

Yes.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	434399-002	434055 399652		Coal	
Shaft	434399-003	434038 399409		Coal	
Shaft	434399-008	434139 399430		Coal	

Copyright © 2023 The Coal Authority

Abandoned mine plan catalogue numbers

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

M668	M671	9356
SY90	SY92	NE853
8641	OC241	8642

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

Seam name	Mineral	Seam workable	Distance to outcrop (m)	Direction to outcrop	Bearing of outcrop
FLOCKTON THICK	Coal	Yes	Within	N/A	17

Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

Opencast mines

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

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Copyright © 2023 The Coal Authority

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

Distance to gas incident/remediation (m)	Direction
349.7	North-West
470.4	South-West

See Section 4 for further information.

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

Copyright © 2023 The Coal Authority

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.

Copyright © 2023 The Coal Authority

Section 4 – Further information

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

Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

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

Development advice

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

Mine gas remedial works

The site is within an area of previous interest. It is close to where the Coal Authority has investigated and subsequently remediated the effects of mine or ground gas emissions following specific reported hazards.

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

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

Copyright © 2023 The Coal Authority

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.

Copyright © 2023 The Coal Authority

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

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

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

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

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

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

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

Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

Copyright © 2023 The Coal Authority

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.

Copyright © 2023 The Coal Authority

The Coal Authority

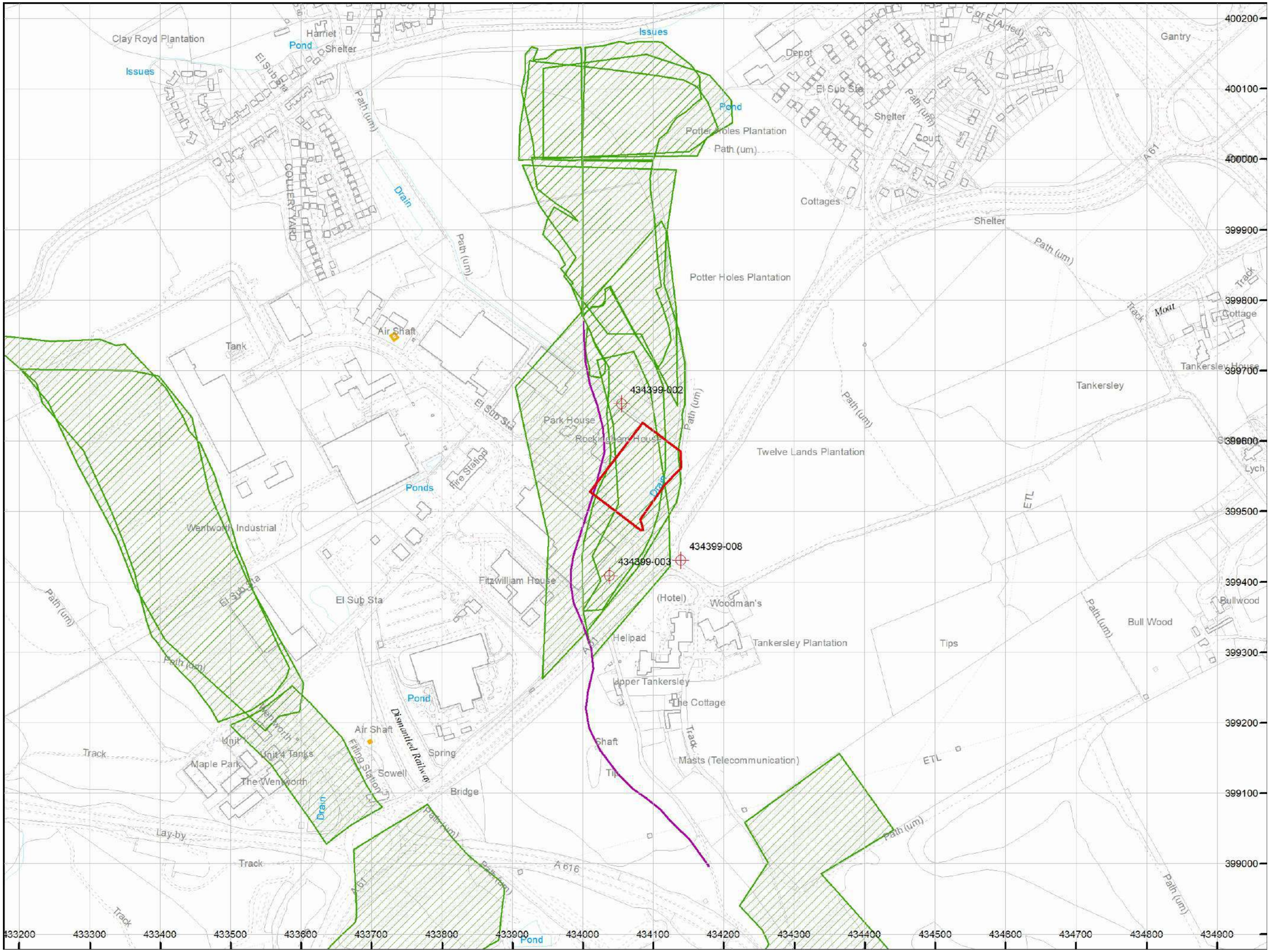
Summary of findings

Reproduced by permission of Ordnance Survey on behalf of HMSO.
© Crown copyright and database right 2018. All rights reserved.
Ordnance Survey Licence number: 100020315

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
- Disused mine shaft
- Outcrop (Proven)
- Unlicensed opencast site
- Mine gas remedial works



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