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PROPOSED RESIDENTIAL DEVELOPMENT NORTHCOTE ROAD LANGHO, BLACKBURN, LANCASHIRE

FOR

OAK TREE DEVELOPMENTS

JUNE 2023

PHASE 1 GEO-ENVIRONMENTAL DESK STUDY REPORT

22009/GEDS/01

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EXECUTIVE SUMMARY

This executive summary is a brief summary only and should be read in conjunction with the full report.

Section	Subject	Summary
Site Details	Site Address	Northcote Road, Langho, Blackburn, Lancashire
	Grid Reference	70750E 34574N
	Current Land Use	The site is currently vacant and comprises of a grass field.
	Proposed Development	It is proposed to build ten (10 No.) detached residential properties with associated road access, parking and private garden areas.
Site History	On Site	The earliest survey, 1844- 1848, shows the site to be largely undeveloped and an area of woodland located within the north eastern corner of the site. The site largely remained unchanged until 2013. From aerial photographs, a temporary car park was in place from 2013 to 2018.
	Beyond Site Boundary	Within 250m, the earliest survey shows the site to be bound to the west by Northcote Road and to the east, grass fields leading to Whalley Road 20m east. In addition, there is a railway line 20m south of the site boundary. A farm is added to the northern boundary from 1892, c.1991, and a mill and mill pond 230 and 220m south west of the site boundary, c.1970. From 1970, the A666 road was built and now runs adjacent to the eastern boundary and a large roundabout was added 180m north east.
Geological and Mining Appraisal	Made Ground	BGS mapping has indicated the presence of Made Ground located 5m north east of the site boundary. The Made Ground is believed to be generated from the new roundabout and road construction from 1970. Additionally, a temporary car park was present within the southern third of the site from 2013 to 2018.
	Superficial Geology	Devensian Till- comprised of poorly sorted gravelly, sandy silty clay.
	Bedrock Geology	Bowland Shale Formation- Mudstone.
	Radon	Following the UK Radon Risk Map update dated December 2022, the site has been reclassified to BASIC Radon Gas Protection measures required as 5-10% of surrounding properties are above the Radon Action Level.
	Mining	The site is not at risk from shallow coal mining beneath the site.
	Subsidence Hazards	Very low to negligible risk
Environmental Appraisal	Landfill Sites	One area of Made Ground was identified from the report, 5m north east of the site boundary. We believe the Made Ground to likely be inert and put in place during the construction phase of the roundabout and road and so unlikely to be a source of ground gas on site.
	Hydrogeology	Superficial- Secondary undifferentiated aquifer Bedrock: Secondary undifferentiated
	Hydrology	The site is within the catchment of the River Calder, Pendle Water to conf Ribble and is situated 1498m north east
	Flood Risk	Very low risk of Flooding, consequently a Flood Risk assessment is unlikely to be required to be required for this site.
	Industrial Land Uses	Within 250m off the site boundary, there are fourteen (14 No.) records of historical industrial land uses. The areas of greatest importance relate to railway sidings, 35m south east of the site boundary.
Recommendations	The Conceptual Ground Model indicates that a nominal intrusive ground investigation is required to assess the ground conditions for contamination. This is due to the presence of the car park within the southern third of the site and the potential for contamination within this area and the potential for leaching across the site.	

NORTHCOTE ROAD, LANGHO

1.0 INTRODUCTION

1.1 Instructions

1.1.1 We are instructed by Oak Tree Developments, Office Suite 2, No. 1 Derby Street, Leigh, Lancashire. WN7 4PF to carry out a detailed Phase I desk study to examine the geotechnical and geo environmental risks associated with a parcel of land located upon the eastern side of Northcote Road, Langho. This risk assessment has been prepared in support of a planning application to redevelop the site in a residential manner.

1.2 Objectives

1.2.1 This environmental assessment has been carried out in accordance with the principal recommendations of BS10175: 2011 + A2:2017 "Investigation of Potentially Contaminated Sites" with regard to the consideration of potential soil and groundwater contamination along with the generation and migration of toxic and explosive ground gases. It is intended that the report will be submitted to the local planning authority as a preliminary risk assessment in support of a planning application. This report has been prepared to document the following:-

- Review of readily available published data which could provide information on the current status, ground conditions and site history;
- Findings of a preliminary contaminated land risk assessment;
- Findings of a preliminary geotechnical risk assessment;

1.3 Sources of Information

1.3.1 This report has been prepared using information from the following sources:-

- Groundsure Enviro+Geo Insight report dated 1st February 2022;
- Groundsure historic Ordnance Survey maps;
- Environment Agency information.
- Walkover survey of the site conducted 2nd March 2022

1.4 Development Proposals

1.4.1 We have been provided with a sketch layout for a proposed residential development comprising of ten (10 No.) detached residential properties with associated road access, parking and private garden areas.

1.4.2 It is acknowledged that the development proposals for this site are likely to be amended as a result of local planning requirements. If the final development proposals are radically different, then recommendations made within this report may become inappropriate.

1.5 Limitations of Report

1.5.1 This report is a desk study report which has been prepared using readily available information in accordance with the project stage requirements, budget and timescales. The opinions expressed in this report and the comments and recommendations given are based upon the information obtained from the desk assessment and an initial site reconnaissance. At this stage intrusive investigations have yet to be undertaken at the site to establish actual ground and groundwater conditions and provide data for assessment of the environmental status of the site.

1.5.2 The information, views and conclusions drawn concerning the site are based in part on information supplied to Robert E Fry & Associates Ltd (REFA) by other parties. REFA has proceeded in good faith on the assumption that this information is accurate. REFA accepts no liability for any inaccurate conclusions, assumptions or actions taken resulting from any inaccurate information supplied to REFA from others.

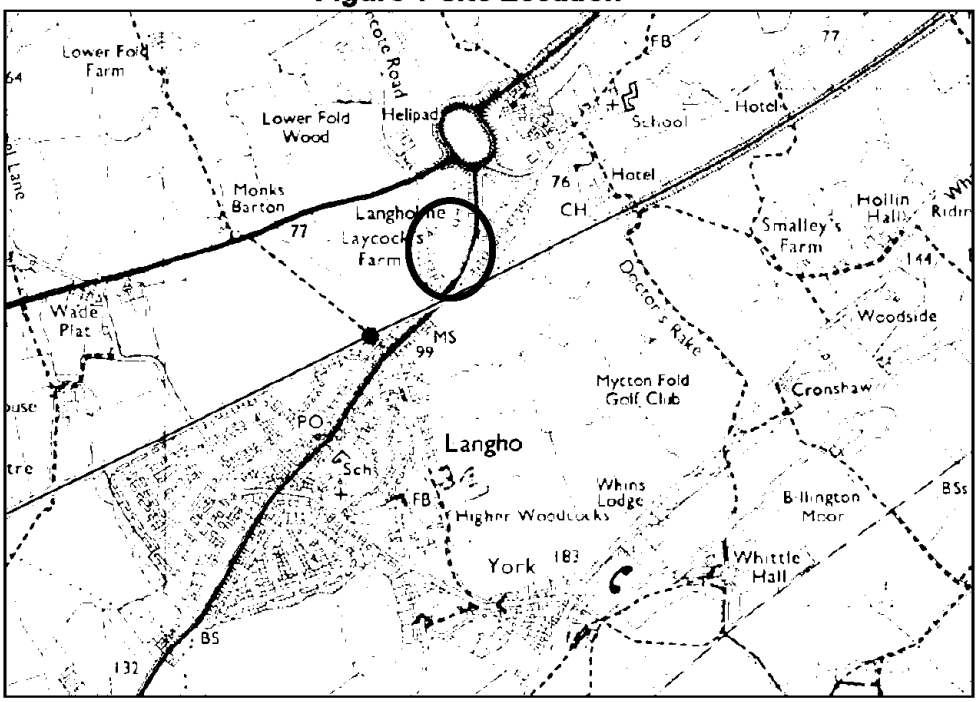
1.5.3 The copyright of this report (including its electronic form) shall remain vested in (REFA) but the client shall have a license to copy and use the document for the purpose for which it was provided. REFA shall not be liable for the use by any persons of the document for any purpose other than that for which the same was provided by REFA. This document shall not be reproduced in whole or in part or relied upon by third parties for any use whatsoever without the express written authority of REFA.

2.0 THE SITE

2.1 Location

2.1.1 The site is irregular in shape and extends to an area of approximately 0.41 hectares. The site is located immediately to the east of Northcote Road, approximately 7.20km to the north east of Blackburn town centre. The centre of the site is situated at National Grid Reference SD 70750, 34574 within a generally residential/semi-rural type area. The location of the site is shown in figure 1 below.

Figure 1 Site Location



2.2 Site Walkover

2.2.1 We have undertaken an initial walkover survey of the site to identify any areas which may impact upon the proposed site redevelopment works. These features are identified upon the walkover survey plan and photograph location plan which is appended to this report for reference (Drawing: 22009/01 and 22009/02).

2.2.2 The site walkover was conducted on 2nd March 2022 and at the time of the survey the weather conditions were generally dry but overcast. We have summarised the main findings of the walkover below:

- Within the northern third of the site, a shed, tractor and trailer were denoted along the centre of the northern boundary with an area of woodland located in the north east corner of the site.
- The central portion of the site is largely vacant and comprises of grassed vegetation and a fire pit. A small area of standing water was also identified infilling an area of tractor ruts.
- The southern portion of the site is largely undeveloped and comprises of a grass field.

2.3 Boundaries

2.3.1 The boundaries to the site appear to be reasonably well formed by existing fences and hedgerows. The northern boundary is formed by the rear gardens of existing residential properties, including Broad Oaks. The eastern boundary is formed by the A666 and the southern boundary by Whalley Road. Two thirds of the western boundary is formed by Northcote Road.

2.4 Access

2.4.1 Access to the site is currently gained via a gate located north of the existing building that backs onto site. We are aware however that the development proposals include the provision of a new formal highway extending from Northcote Road in the centre of the western boundary.

2.5 Topography

2.5.1 The general topography of the site slopes down towards Northcote Road.

2.6 Trees

2.6.1 The site largely is free of trees and shrubs, however there is a dense pocket of trees situated in the north eastern corner of the site. Additionally, mature trees line the eastern boundary and sparse mature trees mark a portion of the western boundary. We would recommend that a fully detailed arboriculturist survey be undertaken prior to the commencement of any development works.

3.0 DESK STUDY

3.0.1 As part of our environmental desk study we have commissioned an Enviro+Geo Insight report by Groundsure which gives details of all recorded environmental and geological features relating to the site and its immediately surrounding area. We have also obtained copies of all available old Ordnance Survey maps for the area and these also give historical guidance regarding the former usage of the site area and its immediate vicinity.

3.1 Historical Industrial Sites

3.1.1 The Groundsure report has identified no records of historical industrial site located within the study site area. Within 250m off the site boundary, there are fourteen (14 No.) records of historical industrial land uses. The areas of greatest importance relate to railway sidings, 35m south east of the site boundary.

3.1.2 The Groundsure report has not identified any records relating to the presence of historical tanks within 250m of the study site boundary.

3.2 Waste and Landfill

3.2.1 There are no active or recent landfill sites recorded within 500m of the boundary to the study site area.

3.2.2 The British Geological Survey undertook a survey for the Department of the Environment (DoE) of operational and closed landfill sites in 1973. The survey indicated that there are no landfill sites within 250 metres of the site boundary.

3.2.3 Local Authority records and detailed Ordnance Surveys indicate no landfill sites within 250 metres of the site boundary.

3.2.4 The Environment Agency have one record of known historical (closed) landfill sites, where there is no PPC permit or current waste management licence, within 250 metres of the site boundary. The site is situated 229m north east of the site boundary. Given its proximity to the site, it is unlikely that this will pose a ground gas risk on site.

3.2.5 Local Authority records and detailed Ordnance Surveys indicate that there are no records of historical waste sites within 250 metres of the site.

3.2.6 According to the Environment Agency and Natural Resources Wales there are five records of historical waste sites within 250 metres of the site. The nearest record relates to a site located 232m north east of the site boundary.

3.2.7 The Environment Agency and Natural Resources Wales have no records of activities involving the storage, treatment, use or disposal of wastes that are exempt from needing a permit (within specific limits and conditions) within 250 metres of the site boundary.

3.3 Current Land Uses

3.3.1 There are three (3 No.) records or recent industrial land uses within 250m of the site. The most important of these features relates to the Langho Rail Station situated 169 south west of the site boundary. The remainder of the industrial land uses are considered to be of a low risk in terms of any potential environment impact upon the present site or its future residential usage.

3.4 Pollution Incidents

3.4.1 The Environment Agency and Natural Resource Wales have one (1No.) record of a substantiated pollution incident. This incident occurred in 2007, 147m south west of the site boundary, the event itself had a significant impact on water. Given the date of the event and the distance to the site, it is unlikely this will have any impact upon the site.

3.5 Hydrogeology & Hydrology

3.5.1 The underlying superficial deposits within the site area are classified as secondary undifferentiated deposits. This designation is assigned where it is not possible to attribute either category A or B to a rock type.

3.5.2 The underlying bedrock within the site area are classified as secondary undifferentiated deposits. This designation is assigned where it is not possible to attribute either category A or B to a rock type, due to the variable characteristic of the rock.

3.5.3 The Groundsure report has identified that the superficial deposits have a low groundwater vulnerability and the underlying bedrock geology is considered to have a low vulnerability. The aquifers within the superficial and underlying bedrock are not considered to be at risk from potential migration of contaminants.

3.5.4 According to data provided by the Environment Agency and Natural Resources, there are no groundwater abstractions licenses, two surface water abstraction licenses, the nearest being 1659m south east and two potable abstraction licenses, the nearest being 1659m south east of the site boundary.

3.5.5 The site is not situated within a Source Protection Zone.

3.5.6 The Ordnance Survey indicate there are fourteen (14 No.) records of rivers, streams within 250m of the site boundary. The nearest being an inland river 52m west of the site boundary.

3.5.7 The Water Framework Directive indicate the site is within the catchment of the River Calder, Pendle Water to conf Ribble and is situated 1498m north east of the site boundary. The groundwater body is known as the Douglas, Darwen and Calder Carboniferous Aquifers.

3.6 Flooding

3.6.1 Flooding data is maintained by the Environment Agency and Natural Resources Wales. The Risk of Flooding from Rivers and Sea (RoFRaS) database indicates that within 50m of the site boundary the highest risk of flooding is Very Low.

3.6.2 In the period since records began in 1946, there have been no historical flood events within 250m of the site boundary.

3.6.3 Within 250m, there are no flood defences, no areas benefitting from flood defences, and no flood storage areas

3.6.4 The site is not within 50m of a Flood Zone 2 area or within 50m of a Flood Zone 3 area.

3.6.5 According to Ambiental Risk Analytics surface water "FloodMap" there is negligible risk on site and within 50m, and a 1 in 30 year, 0.3-1.0m risk of flooding within 50m of the site boundary.

3.6.6 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. Ambiental Risk Analytics indicated a low risk of groundwater flooding on site and a low risk of ground water flooding within 50m of the site boundary.

Given the above, it is unlikely that a Flood Risk Assessment will be required for this site.

3.7 Geology

3.7.1 BGS mapping has indicated the presence of Made Ground located 5m north east of the site boundary. The Made Ground is generated from the construction of the roundabout and road from 1970. We believe the Made Ground to be likely inert so unlikely to be a source of ground gas on site. Additionally, Made Ground could potentially be present within the area of the temporary car park identified from the Historical Appraisal and dated 2013 to 2018; further investigation works will be needed within this location.

3.7.2 The BGS maps indicate that the superficial deposits within the site to comprise of Glacial Till deposits. These materials comprise of poorly sorted gravelly, sandy silty clays. The maximum permeability of these deposits is indicated to be high and the minimum as low.

3.7.3 The underlying solid geology below the site comprises of the Bowland Shale Formation, mudstone, with the maximum and minimum permeability as low.

3.7.4 The risk from on-site shrinking/ swelling clays is very low, running sands is very low, compressible deposits/ strata is negligible, collapsible deposits/ strata is very low, landslides is very low and dissolution of soluble rocks is negligible.

3.8 Mining, Radon, Soil Chemistry

3.8.1 Ordnance Survey mapping identified surface excavations that may or more not have been backfilled with unknown material. Within 250m, there are six (6 No.) surface excavations, the nearest being 209m north and denoted as an unspecified pit.

3.8.2 Ordnance Survey mapping identified underground workings in the form of the mine shafts, adits and workings. Within 1000 metres of the site boundary, there are no underground workings present

3.8.3 The British Geological Survey maintain records of mining other than coal, including vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert). The British Geological Survey indicate that there is potential for non- coal mining beneath the site. The potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered.

3.8.4 The Coal Authority and others indicate the site is not at risk from shallow coal mine workings.

3.8.5 The British Geological Survey and Public Health England have estimated the percentage of dwellings exceeding the "Radon Action Level" of 200 Becquerels/ m^3 for the UK based on geological assessments and long- term measurements of radon in more than 479,000 households.

3.8.6 Following an update to the UK Radon Risk Map in December 2022, the data within the appended Groundsure report has been superseded. According to the updated UK Radon Risk Map, the site is in now within an area affected by radon gas as 5 to 10% of surrounding properties are above the Radon Action Level. As such BASIC Radon gas protection measures are required for this development.

3.8.7 The British Geological Survey have estimated likely background concentrations of potentially harmful arsenic, cadmium, chromium, lead and nickel in the topsoil. Data for on-site topsoil is given. In addition data for the land within 50 metres of the site boundary is given.

3.9 Railway Infrastructure

3.9.1 The Report has identified five (5 No.) records of historical railway features within 250m of the site boundary. The nearest feature relates to Railway Sidings 35m south east of the site boundary.

3.9.1 The Report has also identified 14 (14 No.) records of current railway land use. The nearest feature relates to a railway line 42m south east of the site boundary.

3.10 Site History

3.10.1 Historical Appraisal

The past history of the site has been interpreted from the study of old Ordnance Survey plans supplied by Groundsure, as follows:

Table 1 – Small Scale Surveys	
Date	***Scale***
1844-1848	*1:10,560*
1892	*1:10,560*
*1896**	*1:10,560*
1909-1910	*1:10,560*
1929-1933	*1:10,560*
1950-1951	*1:10,560*
1966-1969	*1:10,560*
1970-1976	*1:10,000*
1991	*1:10,000*
2001	*1:10,000*
2010	*1:10,000*
2022	*1:10,000*

Table 2 – Large Scale Surveys	
Date	***Scale***
1892	*1:2,500*
1912	*1:2,500*
1932	*1:2,500*
1969	*1:2,500*
1977-1982	*1:2,500*
1982	*1:2,500*
1992	*1:2,500*
2003	*1:1,250*

** Partial or no coverage of the site or surrounding area*

TABLE 3 - HISTORICAL APPRAISAL		
Date	**On site**	**Beyond site boundary**
1844-1848	The earliest survey shows the site to be undeveloped with the north east corner comprising of woodland, derived from the adjoining wooded area north east of the site.	The site is currently bound to the north, east and south by fields with the western boundary formed by Northcote Road. There is a railway line 20m south of the site boundary. There is a watercourse 80m north east of the site boundary. Whalley Road is located 20m east of the site boundary.
1892	No significant changes to the site.	A farm has been added adjacent to the northern site boundary. A mill and associated mill pond 230 and 220m south west of the site boundary, respectively.
1909-1912	No significant changes to the site.	No significant changes to the surrounding area.
1929-1933	No significant changes to the site.	A goods yard has been added 100m south west of the site boundary
1950-1951	No significant changes to the site.	No significant changes to the surrounding area.
1969	No significant changes to the site.	Residential housing has been added 10m west and 30m east of the site boundary.
1970-1976	No significant changes to the site.	The mill and mill pond have been lost from the survey. A new road, A666, has been built and now forms the eastern boundary and a large roundabout added 180m north east of the site boundary.
1977-1982	No significant changes to the site.	Further housing has been added 30m north east of the site boundary.
1991-1992	No significant changes to the site.	The residential property that backs onto the site has been added to the survey.
2001-2003	No significant changes to the site.	No significant changes to the surrounding area.
2010	No significant changes to the site.	No significant changes to the surrounding area.
2022	No significant changes to the site.	No significant changes to the surrounding area.

The small-scale maps dated 2022 contain insufficient detail for review, however, aerial photographs provided through the Groundsure Report, dated 2017, indicated a car park was present within the southern third of the site from 2017 to 2020. However, aerial photographs dated 2013 from Google Earth indicate that car park was present from this date. In addition, the aerial photographs also indicate it was removed from the site from 2018, see Figure 2 and 3.

Figure 2 Aerial Photograph from Google Earth, dated 2013

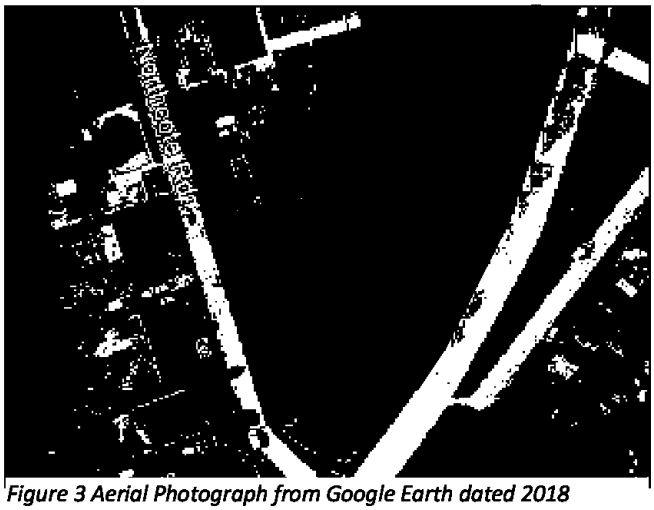


Figure 3 Aerial Photograph from Google Earth dated 2018

3.11 Ground Gas

3.11.1 Through reviewing the historical maps relating to the site and the information provided within the Groundsure report, an assessment of the potential risk from Ground Gas can be made. The Historical Appraisal has not identified any significant sources of ground gas within 250m of the site. The only feature, being a mill pond 230m south west, first identified from 1892 and lost from the survey from 1970. Given its date and proximity to the site it is unlikely this will provide a significant source of ground gas on site. The report has identified a large body of Made Ground 5m north east of the site boundary. This possibly relates to the construction of the new road, A666, which currently forms the eastern site boundary and roundabout 180m north east. The Made Ground is likely to comprise of inert materials used to form the road and is again unlikely to be a source of ground gas on site as a result. Consequently, we conclude there is a low risk of ground gas on site and no gas monitoring is required for the site.

4.0 REVIEW OF GEO-ENVIRONMENTAL RISK

4.1 Introduction

4.1.1 This element of the report is aimed at identifying possible risks, if any, arising from substances used or deposited on site or from other sources of land contamination. Both past and current potentially contaminative land uses have been considered.

4.1.2 The risk assessment utilises a source-pathway-receptor methodology for assessing whether a source of contamination could potentially lead to harmful consequences. This requires that there be a pollutant linkage from source to receptor for harm to be caused. The source-pathway-receptor methodology relationship allows an assessment of the environmental risk to be determined based upon the nature of the source, the degree of exposure of the receptor of the source and the sensitivity of the receptor.

Table 4: Statutory Receptors & Pathways

Target (Receptor)	Potential Source – Pathway Linkage
Site Users / Residents	Inhalation of soil gas, odours or dust. Ingestion of, and skin contact with, contaminated soil. Ingestion of contaminants in vegetables etc. or in soils adhering to vegetable etc.
Construction / Maintenance Workers	Inhalation of soil gas, odours or dust. Ingestion of, and skin contact with contaminated soil.
Plants	Adverse effects on growth caused by presence of contaminants in soil.
Buildings & Structures	Flow of ground gas into buildings. Asphyxiation, toxicity, explosion & fire hazards. Sulphate attack of foundations. Hydrocarbons penetration plastic water supply pipes.
Groundwater	Migration of soluble contaminants into groundwater on/off site. Migration of oils into groundwater on/off site.
Surface water	Migration of soluble contaminants and/or direct run off of contaminants. Migration of oils into groundwater on/off site.

4.1.3 A conceptual model of plausible pollutant linkages has been formulated for the site in accordance with the risk assessment approach applied to contaminated land assessment.

4.2 Conceptual Ground Model

A conceptual model of plausible pollutant linkages has been formulated for the site in accordance with the risk assessment approach applied to contaminated land assessment.

4.2.1 Sources

- General contaminants associated with Made Ground (if present) derived from the construction of the temporary car park within the southern third of the site and dated 2013 to 2018.
- Spillages and leakages of fuels and oils, on site, from vehicles identified from the walkover survey and from the car park within the southern third of the site, dated 2013 to 2018.
- Ground gas migration from a designated area of Made Ground located 5m north east, produced following the construction of the A666 which forms the eastern boundary.

4.2.2 Migration

Potential pathways from source and receptor for the proposed development are:

- Direct skin contact, with and/ or ingestion of contaminated soils and/ or water.
- Inhalation of dust, vapours and/ or gases.
- Dissolved contaminants via infiltrating surface water/ migrating groundwater.
- Dissolved ground gases via infiltrating surface water/ migrating groundwater.
- Volatile contaminants via permeable soils and rocks.
- Ground gases via permeable soils and rocks
- Consumption of contaminated fruit and/ or vegetables.

4.2.3 Receptors

Potential receptors for the proposed development are:

- Site operatives during demolition, earthworks and/ or construction.
- The end users of the development.
- Vegetation, bushes and trees planted as part of the development of the site.
- Controlled waters including surface water and groundwater, including aquifers.
- Maintenance operatives entering on-site confined spaces after development.

4.2.4 Conclusion

Careful assessment of all currently available information has enabled a preliminary conceptual model using the sources, migration and receptors which has prepared the Preliminary Conceptual Model as detailed in Table 4:

The Preliminary Risk Rating is derived from CIRIA 'Contaminated Land Risk Assessment, a Guide to Good Practice' please see the appended Preliminary Risk Rating Guidance.

TABLE 5 – PRELIMINARY CONCEPTUAL SITE MODEL

Potential Source	Potential Receptor	Possible Pathway	Risk	Mitigation / Investigation
Made Ground (Derived from the construction of the temporary car park within the southern third of the site.).	Site personnel during construction	Direct contact of soils	Low	Nominal ground investigation to take soil samples
		Inhalation or ingestion of soil / dust		
	Future site users	Direct contact of soils	Low	
		Inhalation or ingestion of soil / dust		
	Surface water in the vicinity of the site	Leaching of contaminants through drainage system		
	Ground water in aquifer	Leaching of contaminants to ground water		
	Future site users	Vapour migration from soils		
	Proposed buildings and services	Direct contact with contaminated soils		
	Plants in gardens and soft landscaping	Direct contact	Low	
Asbestos on/ in the Ground	Site operatives and End Users	Inhalation of fibres		Representative asbestos screening tests if suspected asbestos containing materials are found.
Contaminated ground water	Site personnel during construction	Water entering excavations		Sampling of ground water (where encountered).
	Future site Users	Retained surface water		
Radon Gas (5 - 10% of surrounding properties are above the Radon Action Level)	Site personal in confined spaces and end users of the site	Inhalation of Gas	Moderate	BASIC Radon gas protection measures required.
Landfill (Large area of Made Ground 5m north east, derived from the construction of the new road which now runs adjacent to the eastern boundary. The material is likely to be inert and used to form the road).	Site personal in confined spaces and end users of the site	Inhalation of Gas	Low	No ground gas monitoring required.
Vehicles (Vehicles identified to be on site and a temporary car park was identified in the southern third of the site, from 2013 to 2018).	Site personnel during construction	Direct contact of soils	Low	Soil sampling within the southern third of the site to test for Total Petroleum Hydrocarbons (TPH) and Benzene/ Toluene/ Ethylbenzene/ Xylene (BTEX)
		Inhalation or ingestion of soil / dust		
	Future site users	Direct contact of soils	Low	
		Inhalation or ingestion of soil / dust		
	Surface water in the vicinity of the site	Leaching of contaminants through drainage system		
	Ground water in aquifer	Leaching of contaminants to ground water		
	Future site users	Vapour migration from soils		
	Proposed buildings and services	Direct contact with contaminated soils		
	Plants in gardens and soft landscaping	Direct contact	Low	

4.3 General

The Conceptual Ground Model indicates that a nominal intrusive ground investigation is required to assess the ground conditions for contamination. This is due to the presence of the car park within the southern third of the site and the potential for contamination within this area and the potential for leaching across the site.

5.0 PRELIMINARY GEOTECHNICAL ASSESSMENT

5.1 Details of The Site

5.1.1 The site currently comprises of a large area of effectively vacant land the southern portion of which may have been utilised for agricultural purposes in the past whilst the northern section is very steeply sloping and heavily wooded.

5.1.2 It is likely that the development of the site will require the following stages:-

- Provision of foundations typically extending to depths of some 0.9m below ground level;
- Construction of drainage;
- Construction of residential properties/commercial property;
- Areas of hard standings.
- Assessment of surface water flooding and the provision of land drainage arrangements to prevent future garden flooding events.

5.2 Geotechnical Hazards & Foundation Considerations

5.2.1 Based upon the information available to this desk study the anticipated ground conditions present within this site are outlined in table 6 below:-

Table 6: Anticipated Ground Conditions

Ground Material	***Anticipated Condition***
Topsoil	Anticipated to be present over the majority of the site
Made Ground	Possibly present within the southern third of the site generated from the construction of the car park.
Glacial Till Deposits	Deposits comprising of firm to stiff clay anticipated to be present over the whole site
Bedrock	Bowland Shale Formation- Mudstone
Groundwater	Natural groundwater is expected to lie at depth within the bedrock

It will be essential for intrusive ground investigation works to be undertaken to confirm that the anticipated ground conditions are an accurate appraisal of the true ground conditions.

5.2.2 A summary of potential geo-technical hazards is detailed within table 7 below:-

Table 7: Summary of Potential Geotechnical Hazards		
Hazard Category (excluding contamination issues)	***Hazard Status***	***Engineering Considerations***
Highly compressible / low bearing capacity soils (soft clays)	Possible	• Localised made ground • Soft glacial till deposits
Granular deposits	Possible	• Localised sand lenses within the cohesive strata
Ground subject to or at risk of landslides	Unlikely	• Site gently slopes east towards A66
High ground water table	Unlikely	• Secondary undifferentiated in superficial deposits • Secondary undifferentiated aquifer in bedrock • Local perched ground water within impermeable clays
Surface water retention	Likely	• Low permeability superficial deposits over site area
Surface water run off	Likely	• Low permeability superficial deposits sloping topography towards the eastern boundary
Mining	Unlikely	• No indication of shallow coal mine workings. • The report has indicated the potential for non-coal mining beneath the site, however, the potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered.
Volume change potential of soils	Likely	• Cohesive superficial deposits
Adverse ground chemistry	*Possible*	• Made Ground deposits potentially present where the temporary car was from 2013 to 2018
Live services	Unlikely	• One manhole cover was identified from the Walkover Survey, likely relating to drainage. • Full service check to be completed prior to development proceeding

5.2.3 It is likely that the development will utilise strip foundations across the majority of the site however there may be a requirement for deeper foundations in those areas of tree root effects.

5.2.4 It is anticipated that the majority of properties within the site should be provided with a suspended ground floor construction that may be of a pre-cast concrete beam and block type arrangement or a cast in-situ construction.

5.2.5 Due to the sloping gradient of the site it is anticipated that there may be a requirement for localised retaining features as part of the development site.

5.3 Drainage

5.3.1 The desk study has indicated that the site is likely to be underlain by glacial tills extending over the whole of the development area. Based upon this information it is considered unlikely that the natural superficial deposits within the site will be conducive to the adoption of a soakaway system of surface water drainage. Indeed, the presence of standing surface water across the site area confirms the permeability of the underlying strata. It is considered extremely unlikely that a soakaway system of surface water drainage will be possible at this site, and we would recommend that a drainage feasibility

study be undertaken at an early date to ensure appropriate drainage connections for surface water and foul water can be achieved.

6.0 PROPOSED GROUND INVESTIGATIONS

6.1 Ground Investigation

6.1.1 By undertaking an intrusive ground investigation an assessment of the ground and groundwater profiles may be carried out and the geo-technical and geo-environmental risks associated with this site identified. The investigation will allow a quantitative assessment as to whether any of the potential risks identified in this study are present and are of material concern to the proposed development. The works should be undertaken in accordance with the recommendations laid down in BS 10175 : 2011 + A2:2017 "Investigation of Potentially Contaminated Sites".

6.2 Proposed Scope of Ground Investigations

6.2.1 On the basis of the currently available information regarding the geo-environmental setting of the site and to confirm the assumptions made, an intrusive ground investigation should be carried out. This should be utilised to confirm the geological succession and engineering properties of the sub surface materials. The scope of works for the ground investigation should comprise of the following: -

- Programme of ground investigations to identify the strata sequence and assess engineering properties.
- Sampling of the existing strata for chemical and civil engineering laboratory test purposes.
- Programme of chemical analyses upon representative samples of the strata to determine their suitability for reuse within a residential environment.
- Undertake a programme of ground gas monitoring adjacent to the eastern and western sides of the site where adjoining landfill operations may have taken place in the past.
- Reinstatement.
- Commission an arboriculturists report on all trees within the site.
- Preparation of factual and interpretative report.

6.2.2 These ground investigation proposals are intended to represent a preliminary assessment only and it is important that where unusual or suspicious ground conditions are identified, the design of the intrusive investigations should be amended to assess these areas.

Signed for and on behalf of
R E FRY & ASSOCIATES LIMITED

[redacted]

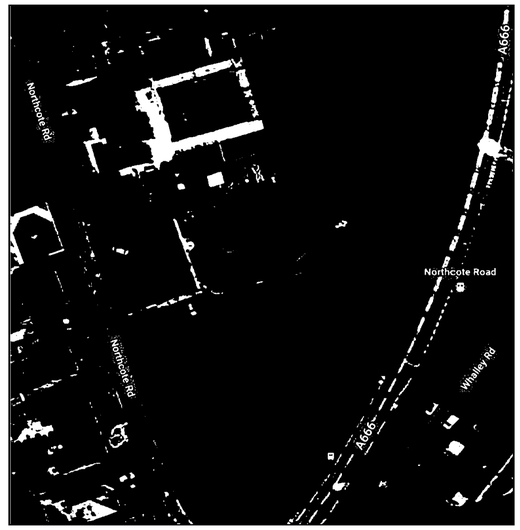
[redacted] BSc (Hons), MSc, FGS
Senior Geo-Environmental Manager

PRELIMINARY RISK RATING GUIDENCE

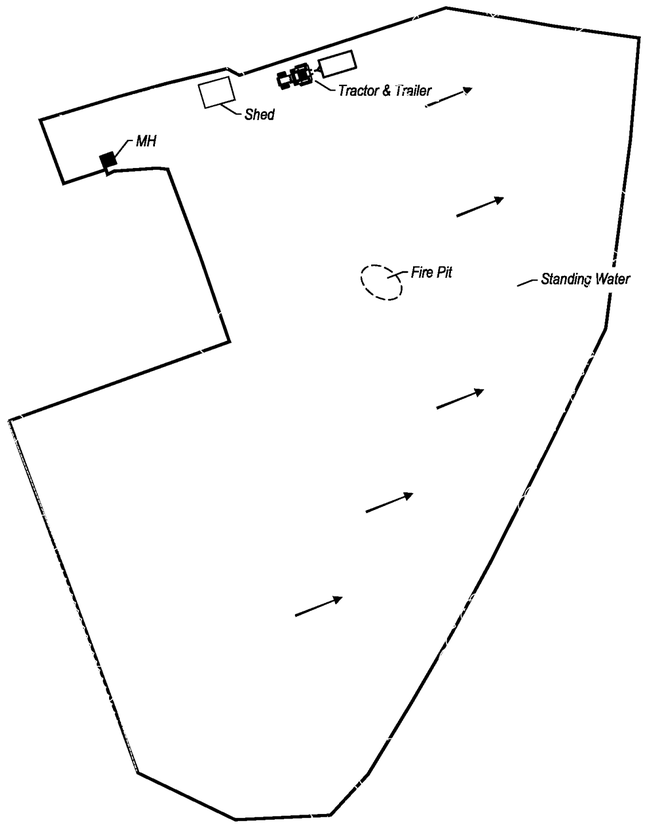
The Following table, taken from CIRIA C552 'Contaminated Land Risk Assessment. A Guide to Good Practice', has been used when developing the Conceptual Ground Model and the Preliminary Risk Ratings. This method requires an assessment of the magnitude of the probability (likelihood) of the risk occurring and the magnitude of the potential consequence (severity) of the risk occurring to formulate the Preliminary Risk Rating table below:

Preliminary Risk Rating	***Action Required***
	Extensive Ground Investigation is Required *There is a high probability that severe harm could arise to a designated receptor from an identified hazard, or, there is evidence that severe harm to a designated receptor is currently happening. The risk, if realised, is likely to result in substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.*
	Extensive Ground Investigation is Required *Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent Investigation (if not already undertaken) is required, and remedial works may be necessary in the short term and are likely over the long term.*
Moderate Risk	*Ground Investigation Required* *It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if, any harm were to occur it Is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.*
Low Risk	*Nominal Ground Investigation Required.* *It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised would at most be mild.*
	*No Ground Investigation Required** *There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.*

** If, during the building phase of the project unforeseen contaminated ground conditions are encountered then a review of the hazards identified in the Preliminary Conceptual Model of the Report should be undertaken and consequently a Ground Investigation may be required to identify and delineate the source.*



Location Image



Plan On Existing Site Area

LEGEND:

- Approximate Site Boundary
- Indicates Slope Direction
- Approximate Extent Of Standing Water
- Approximate Extent Of Fire Pit
- Existing Trees & Hedges

DRG REFERENCES:

- Survey Eng Ltd Topographical Survey OD.TS.08 Rev A

revision suffix	Revision Details	Date

worksafe consultant SS P
www.smasltd.com

Drawing Stage			Drawing Status			
	Draft			Comments	●	Tender
●	Issued		●	Information		Construction
	Preliminary			Approval		As Built

This drawing is not authorised unless signed as checked & approved

Client
Oak Tree Developments

Job title
Northcote Road
Langho

Drawing title
Walk Over
Survey Plan

REFA
45 Bridgeman Terrace
Wigan, Lancs
WN1 1TT
Tel:-(01942) 826020
Fax:-(01942) 230816

CONSULTING ENGINEERS
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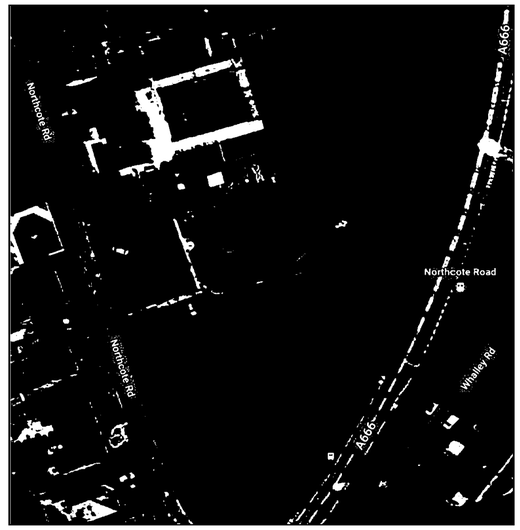
GEOTECHNICAL • ENVIRONMENTAL

Chkd	Appvd	date	scale	drawn
		10.03.22	1:500 @ A3	PT

DRAWING No **22009/01** rev



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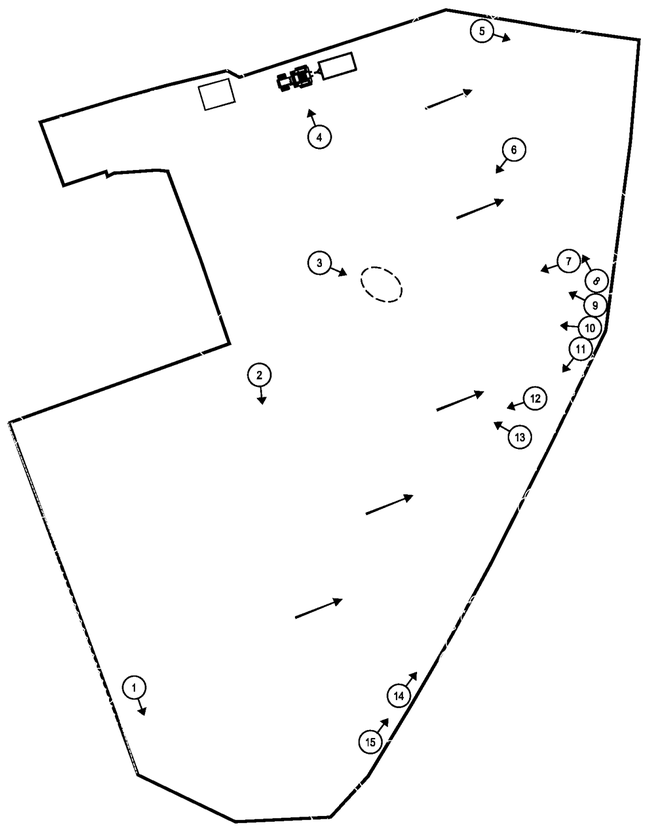

Plan On Existing Site Area

LEGEND:

- Approximate Site Boundary
- Indicates Slope Direction
- Approximate Extent Of Standing Water
- Approximate Extent Of Fire Pit
- Existing Trees & Hedges
- 16 Photo Reference & Direction

DRG REFERENCES:

- Survey Eng Ltd Topographical Survey OD.TS.08 Rev A

revision suffix	Revision Details	Date

worksafe consultant SS P
www.smasltd.com

Drawing Stage			Drawing Status			
	Draft			Comments	●	Tender
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Client
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Northcote Road
Langho

Drawing title
Photo Location Plan

REFA
45 Bridgeman Terrace
Wigan, Lancs
WN1 1TT
Tel:-(01942) 826020
Fax:-(01942) 230816

CONSULTING ENGINEERS
CIVIL • STRUCTURAL
GEOTECHNICAL • ENVIRONMENTAL

Chkd	Appvd	date	scale	drawn
		10.03.22	1:500 @ A3	PT

DRAWING No **22009/02** rev

REFA

Photographs

Site: Northcote Road

Client: Oak Tree Developments

Report Number: 22009

Sheet: 1/3

Survey Date: 02.03.22

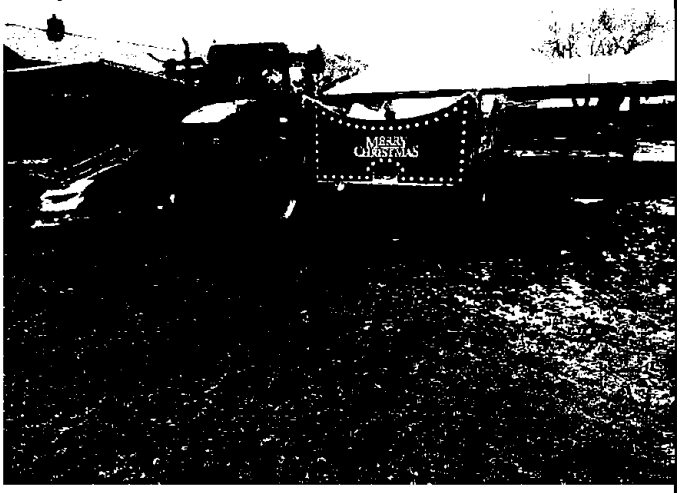
WALKOVER SURVEY PHOTOGRAPHS

1

2

3

4



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6

REFA

Photographs

Site: Northcote Road

Client: Oak Tree Developments

Report Number: 22009

Sheet: 2/3

Survey Date: 02.03.22

WALKOVER SURVEY PHOTOGRAPHS

7

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12

REFA

Photographs

Site: Northcote Road

Client: Oak Tree Developments

Report Number: 22009

Sheet: 3/3

Survey Date: 02.03.22

WALKOVER SURVEY PHOTOGRAPHS

13

14

15

Groundsure Enviro+Geo Insight

FERNS, NORTHCOTE ROAD, LANGHO, BB6 8BG

Order Details

Date: 01/02/2022

Your ref: 22009

Our Ref: GS-8488098

Client: ROBERT E FRY & ASSOCIATES LTD

Site Details

Location: 370743 434567

Area: 0.41 ha

Authority: Ribble Valley Borough Council

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

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	Historical industrial land uses		2	12	26	
16	1.3	Historical energy features				4	
17	1.5	Historical garages				2	

Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
19	2.1	Historical industrial land uses		3	16	33	
22	2.3	Historical energy features				7	
22	2.5	Historical garages				3	

Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
25	3.4	Historical landfill (EA/NRW records)			1		
25	3.5	Historical waste sites				1	
26	3.6	Licensed waste sites			5		
27	3.7	Waste exemptions				10	

Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
29	4.1	Recent industrial land uses			3		
30	4.2	Current or recent petrol stations				1	

32	4.11	Licensed pollutant release (Part A(2)/B)		1
32	4.13	Licensed Discharges to controlled waters		3
34	4.18	Pollution Incidents (EA/NRW)	1	4

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
36	5.1	Superficial aquifer	Identified (within 500m)				
38	5.2	Bedrock aquifer	Identified (within 500m)				
40	5.3	Groundwater vulnerability	Identified (within 50m)				
43	5.7	Surface water abstractions					2
43	5.8	Potable abstractions					2

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
45	6.1	Water Network (OS MasterMap)			14		

47	6.2	Surface water features			9		
47	6.3	WFD Surface water body catchments	1				
47	6.4	WFD Surface water bodies					
48	6.5	WFD Groundwater bodies	1				

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m

Page	Section	Surface water flooding	
52	8.1	Surface water flooding	1 in 30 year, 0.3m - 1.0m (within 50m)

Page	Section	Groundwater flooding	
54	9.1	Groundwater flooding	Low (within 50m)

Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m

57	10.7	Designated Ancient Woodland					1
58	10.11	Green Belt		1			1

60	**10.17**	**SSSI Impact Risk Zones**	1				

Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m

Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
64	**12.1**	**Agricultural Land Classification**	Grade 4 (within 250m)				

66	**12.5**	**Countryside Stewardship Schemes**			1		

Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
67	**13.1**	**Priority Habitat Inventory**		1	4		

Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
69	**14.1**	**10k Availability**	Identified (within 500m)				
70	**14.2**	**Artificial and made ground (10k)**		1		1	
71	**14.3**	**Superficial geology (10k)**	1				

73	14.5	Bedrock geology (10k)	1			2	

Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
75	15.1	50k Availability	Identified (within 500m)				
77	15.4	Superficial geology (50k)	1				
78	15.5	Superficial permeability (50k)	Identified (within 50m)				
79	15.8	Bedrock geology (50k)	1			2	
80	15.9	Bedrock permeability (50k)	Identified (within 50m)				

Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
81	16.1	BGS Boreholes			3		

Page	Section	Natural ground subsidence	
83	17.1	Shrink swell clays	Very low (within 50m)
84	17.2	Running sands	Very low (within 50m)
85	17.3	Compressible deposits	Negligible (within 50m)
86	17.4	Collapsible deposits	Very low (within 50m)
87	17.5	Landslides	Very low (within 50m)
88	17.6	Ground dissolution of soluble rocks	Negligible (within 50m)

Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
90	18.3	Surface ground workings			6		

91	18.6	Non-coal mining	1		2	2

Page	Section	Radon	
94	19.1	Radon	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
95	20.1	BGS Estimated Background Soil Chemistry	1	1			

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
97	21.4	Historical railway and tunnel features		3	2		
98	21.7	Railways		4	10		

Recent aerial photograph

Capture Date: 16/04/2020

Site Area: 0.41ha

Recent site history - 2017 aerial photograph

Capture Date: 03/04/2017

Site Area: 0.41ha

Recent site history - 2001 aerial photograph

Capture Date: 25/06/2001

Site Area: 0.41ha

Recent site history - 2000 aerial photograph

Capture Date: 07/05/2000

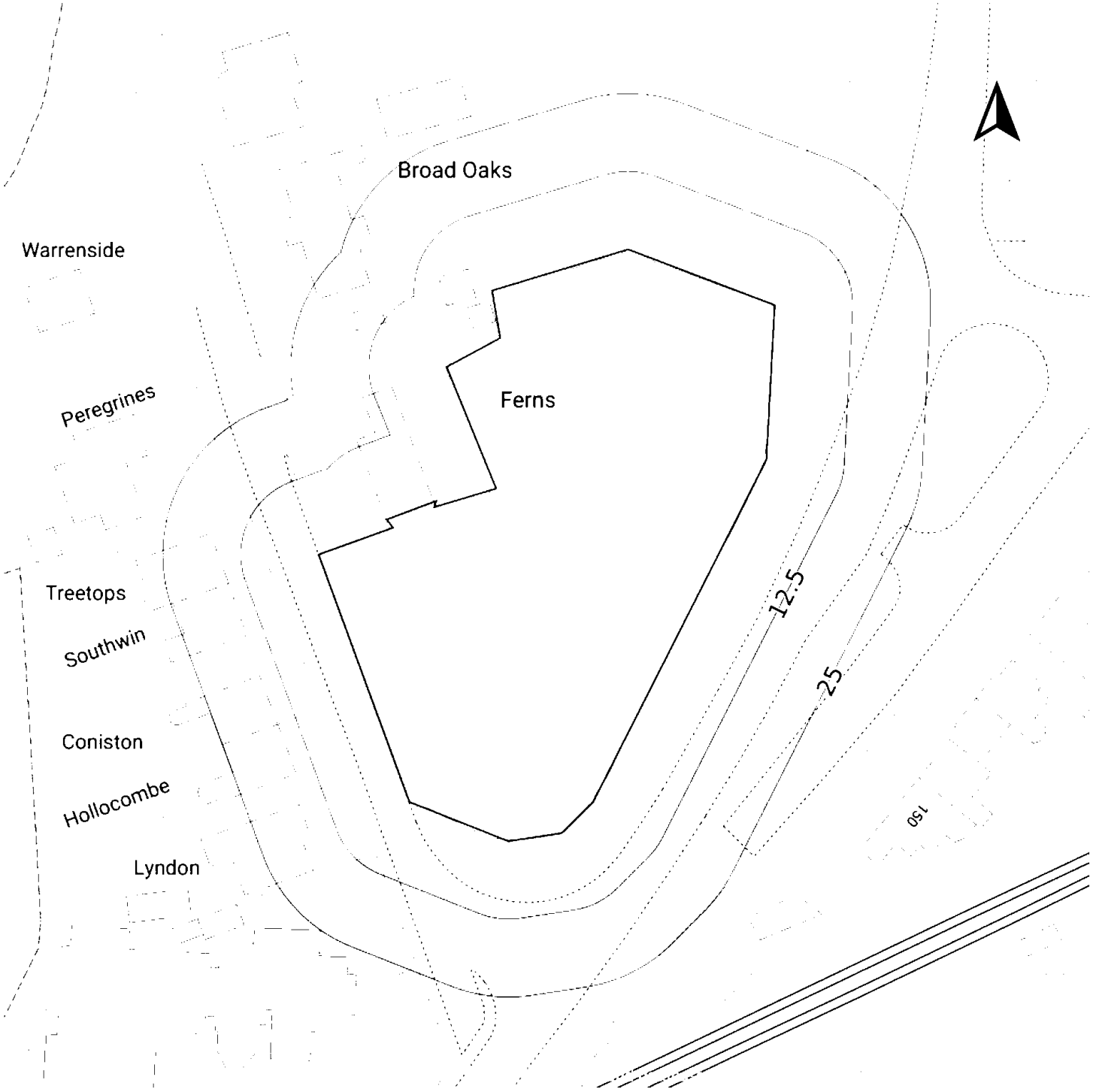
Site Area: 0.41ha

Recent site history - 1999 aerial photograph

Capture Date: 10/09/1999

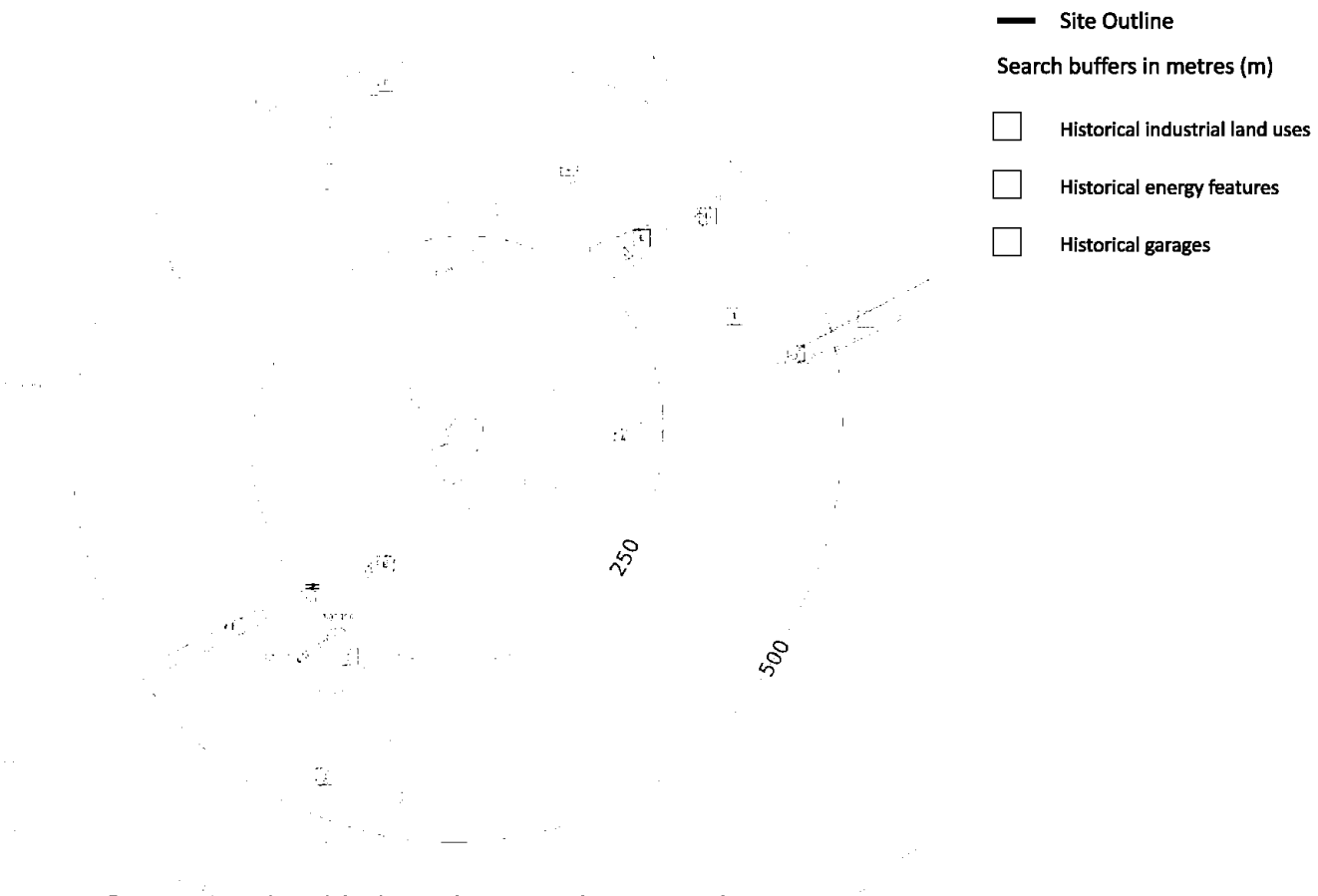
Site Area: 0.41ha

OS MasterMap site plan



Site Area: 0.41ha

1 Past land use



1.1 Historical industrial land uses

Records within 500m **40**

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

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

ID	Location	Land use	Dates present	Group ID

ID	Location	Land use	Dates present	Group ID

ID	Location	Land use	Dates present	Group ID

1.2 Historical tanks

Records within 500m **0**

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'.

1.3 Historical energy features

Records within 500m **4**

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

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

ID	Location	Land use	Dates present	Group ID

1.4 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'.

1.5 Historical garages

Records within 500m **2**

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

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

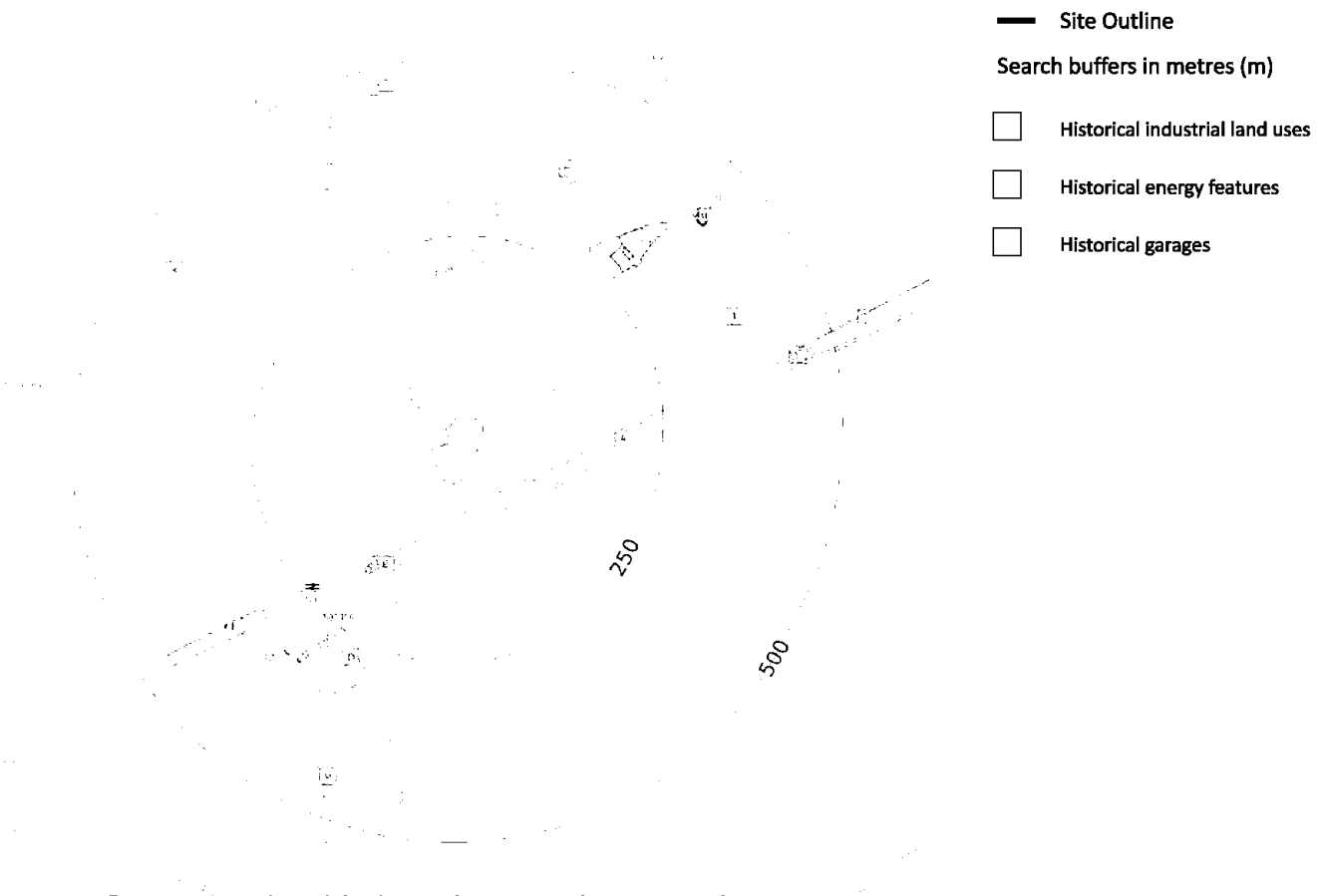
ID	Location	Land use	Dates present	Group ID

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.

2 Past land use - un-grouped



2.1 Historical industrial land uses

Records within 500m **52**

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

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID

ID	Location	Land Use	Date	Group ID

ID	Location	Land Use	Date	Group ID

2.2 Historical tanks

Records within 500m **0**

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'.

2.3 Historical energy features

Records within 500m **7**

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

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID

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'.

2.5 Historical garages

Records within 500m **3**

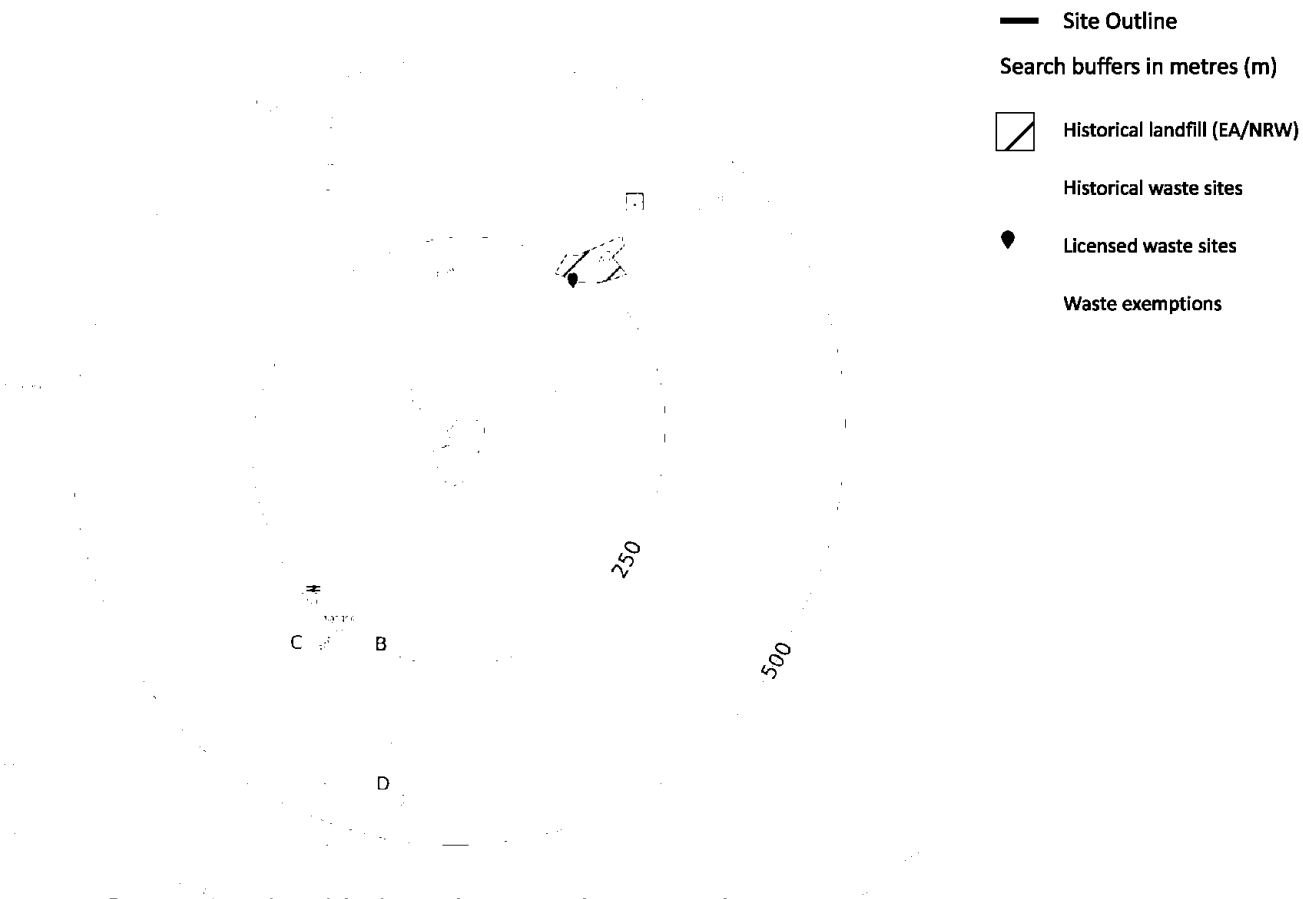
Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID

ID	Location	Land Use	Date	Group ID

3 Waste and landfill



3.1 Active or recent landfill

Records within 500m **0**

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

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.

3.3 Historical landfill (LA/mapping records)

Records within 500m	**0**

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	**1**

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

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Details

3.5 Historical waste sites

Records within 500m	**1**

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 24**

ID	Location	Address	Further Details	Date

3.6 Licensed waste sites

Records within 500m **5**

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

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Details

ID	Location	Details

3.7 Waste exemptions

Records within 500m **10**

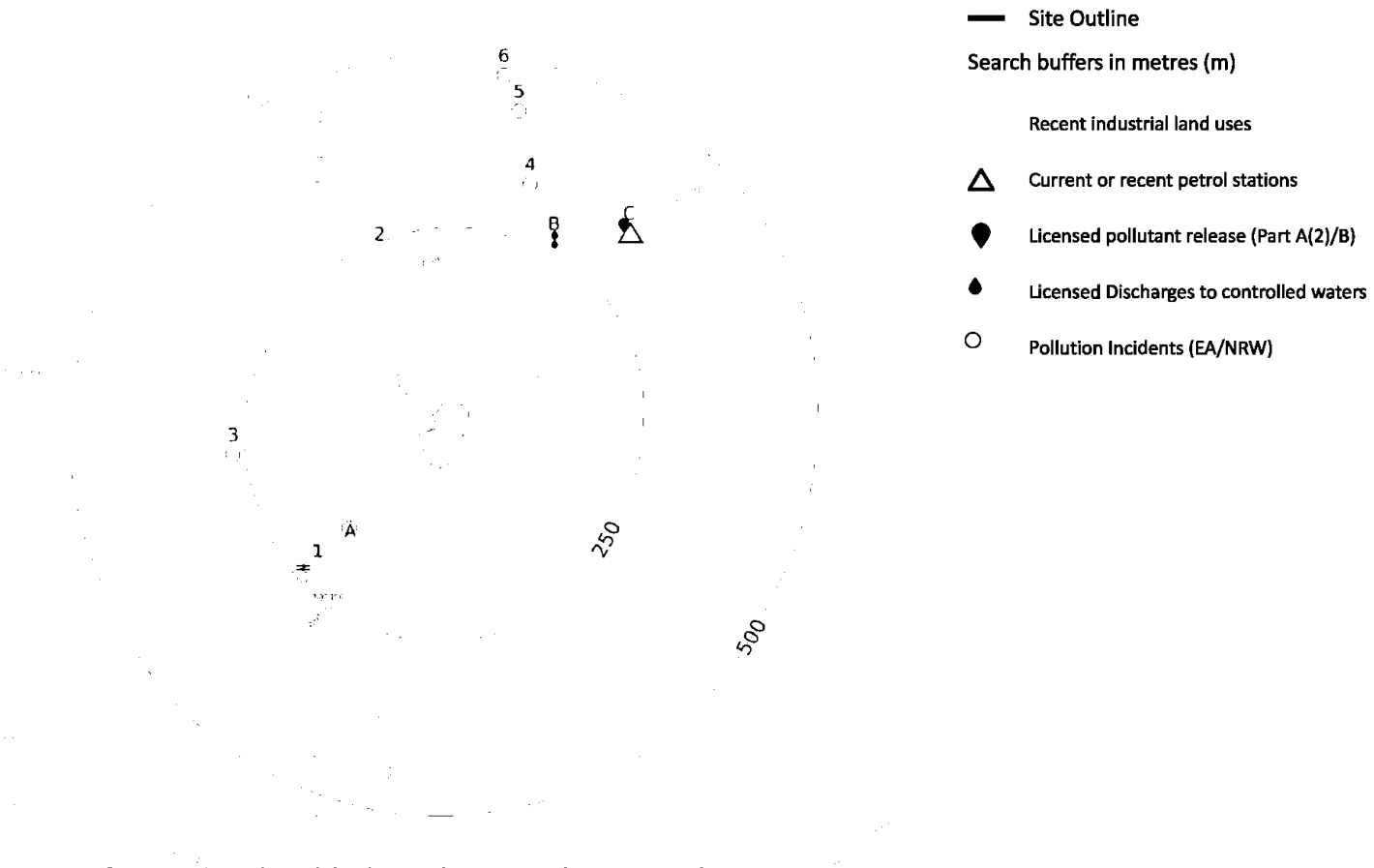
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Site	Reference	Category	Sub-Category	Description

ID	Location	Site	Reference	Category	Sub-Category	Description

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m **3**

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Company	Address	Activity	Category

ID	Location	Company	Address	Activity	Category

4.2 Current or recent petrol stations

Records within 500m **1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Company	Address	LPG	Status

4.3 Electricity cables

Records within 500m **0**

High voltage underground electricity transmission cables.

4.4 Gas pipelines

Records within 500m **0**

High pressure underground gas transmission pipelines.

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.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m **0**

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

4.7 Regulated explosive sites

Records within 500m **0**

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

4.8 Hazardous substance storage/usage

Records within 500m **0**

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

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.

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.

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

Records within 500m **1**

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 29**

ID	Location	Address	Details

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.

4.13 Licensed Discharges to controlled waters

Records within 500m **3**

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

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Address	Details

ID	Location	Address	Details

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.

4.15 Pollutant release to public sewer

Records within 500m **0**

Discharges of Special Category Effluents to the public sewer.

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.

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.

4.18 Pollution Incidents (EA/NRW)

Records within 500m **5**

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

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Details

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.

4.20 Pollution inventory waste transfers

Records within 500m	**0**

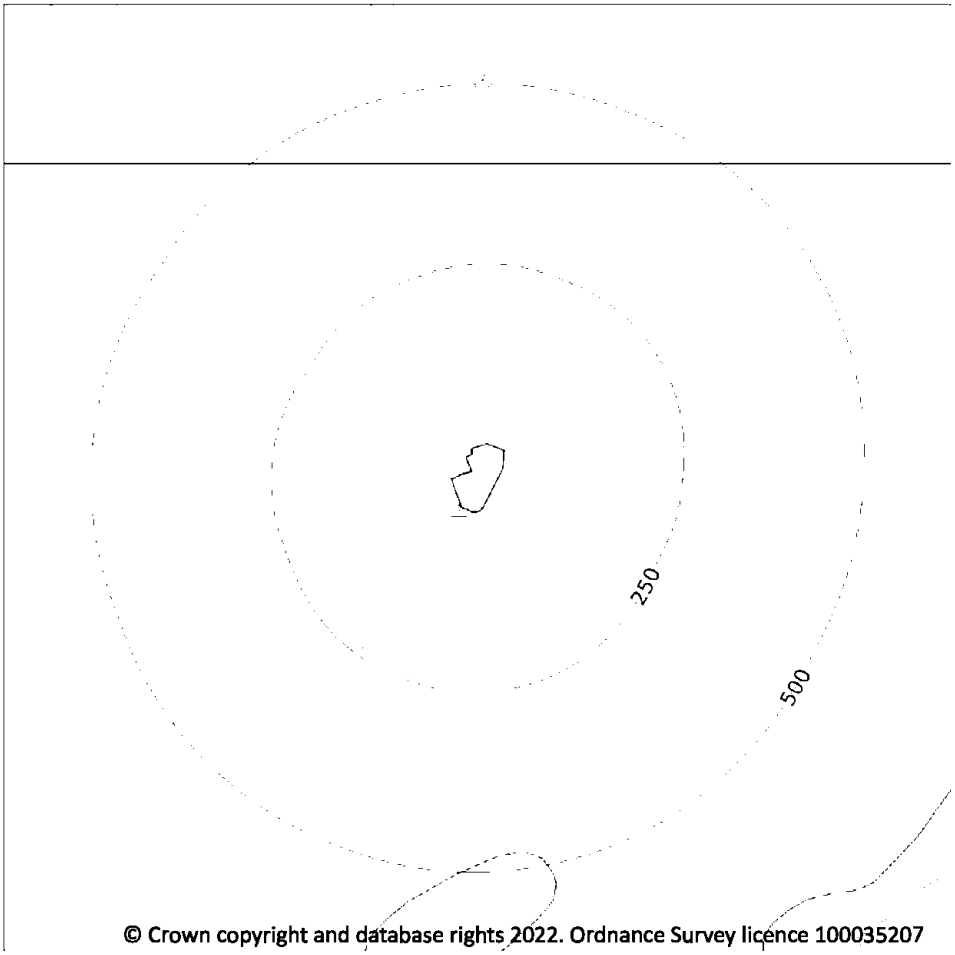
The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most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

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.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- ☐ Principal
- ☐ Secondary A
- ☐ Secondary B
- ☐ Secondary Undifferentiated
- ☐ Unproductive
- ☐ Unknown

5.1 Superficial aquifer

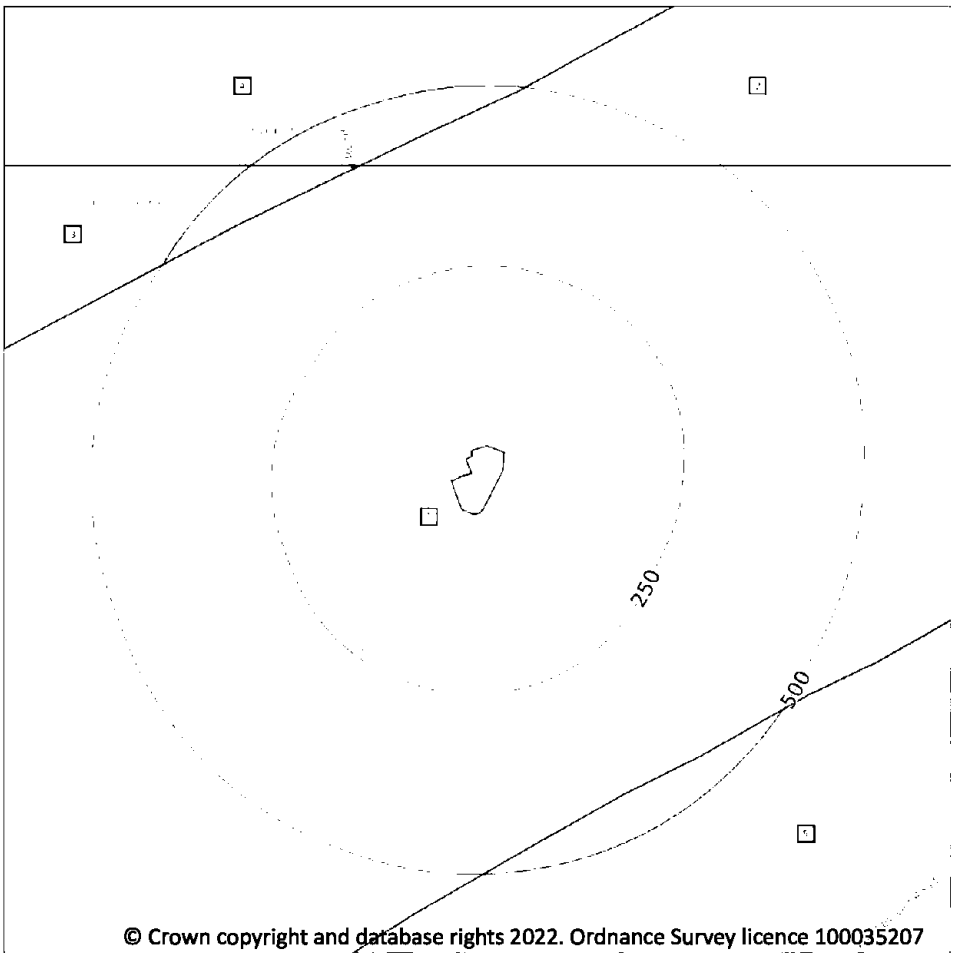
Records within 500m **2**

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 36**

ID	Location	Designation	Description
1	**On site**	**Secondary Undifferentiated**	**Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type**

Bedrock aquifer



Site Outline

Search buffers in metres (m)

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

5.2 Bedrock aquifer

Records within 500m **5**

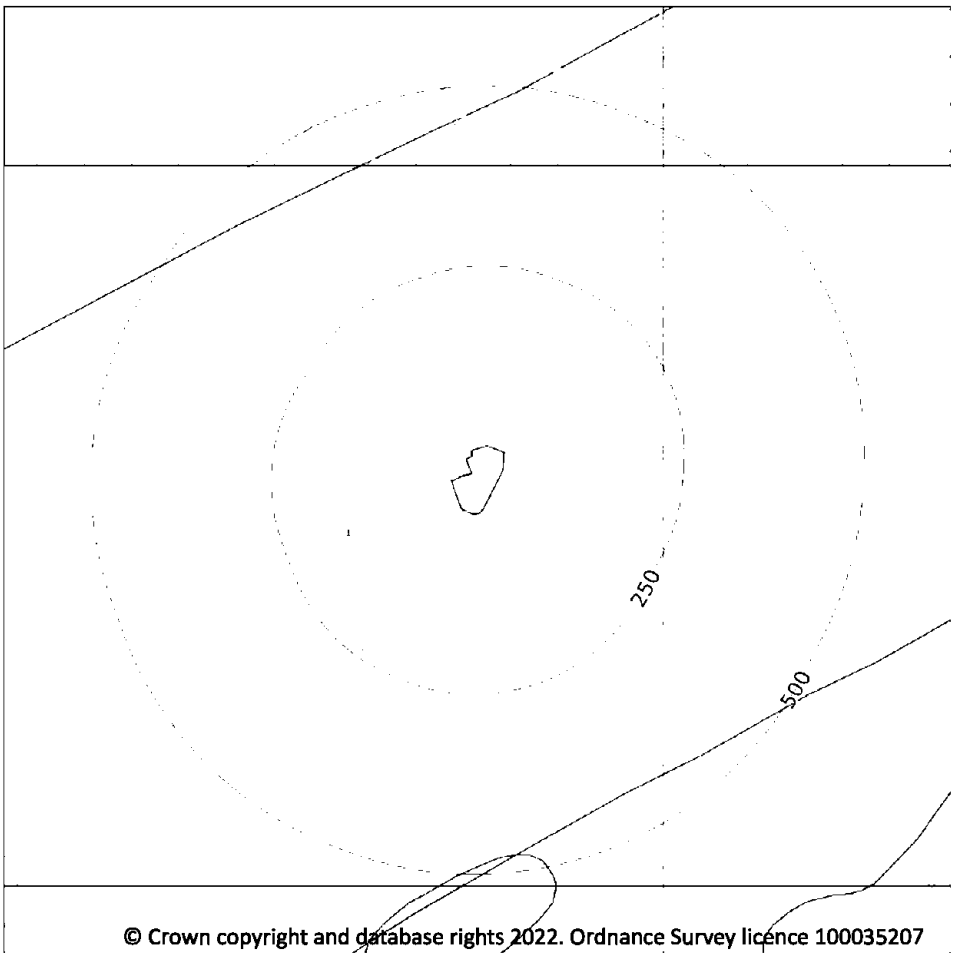
Aquifer status of groundwater held within bedrock geology.

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

ID	Location	Designation	Description
1	**On site**	**Secondary (undifferentiated)**	**Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type**

ID	Location	Designation	Description

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m **1**

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

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

Features are displayed on the Groundwater vulnerability map on **page 40**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year**	**Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: >90% Recharge potential: Medium**	**Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures**

5.4 Groundwater vulnerability- soluble rock risk

Records on site **0**

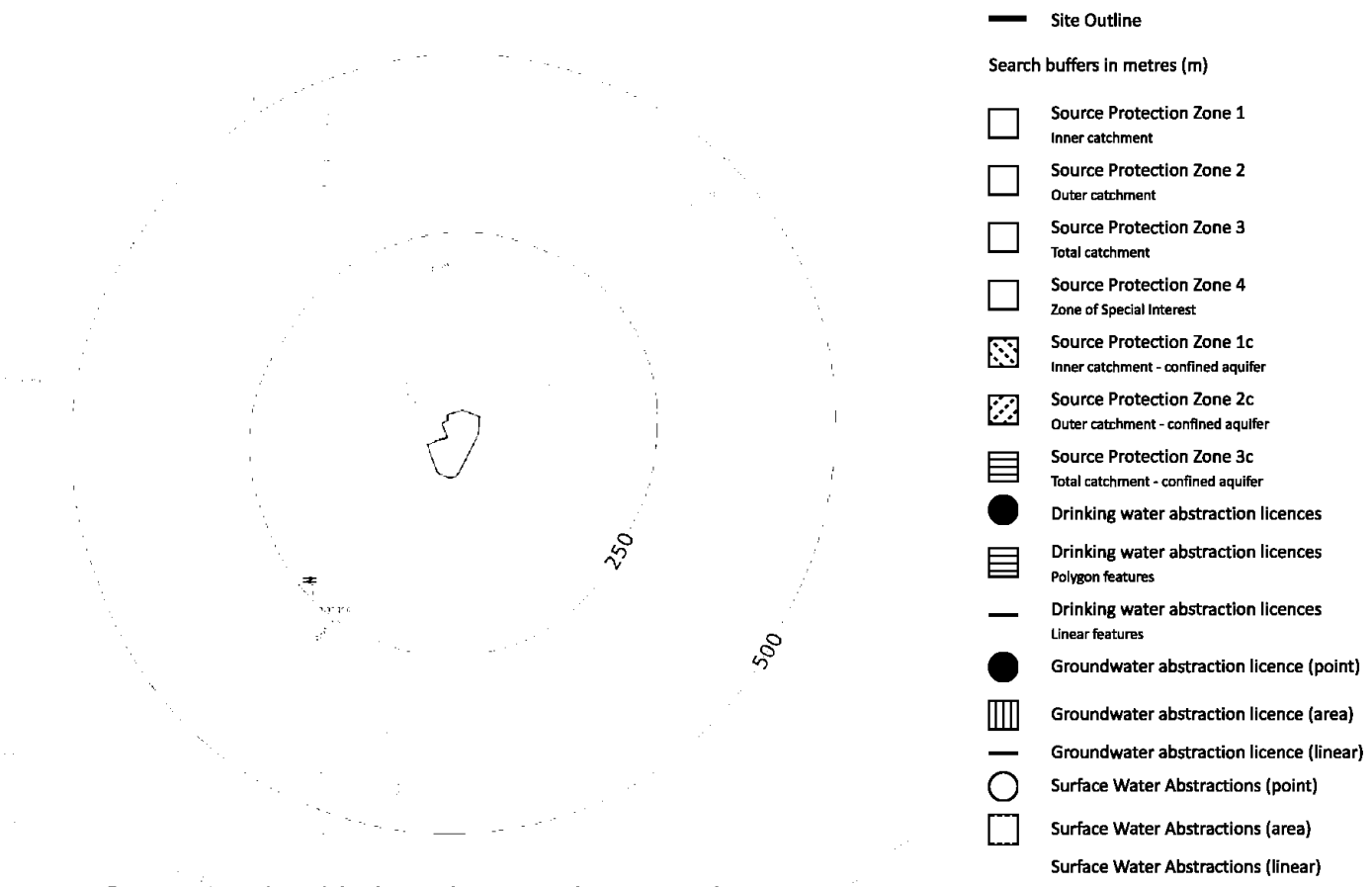
This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

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.

Abstractions and Source Protection Zones



5.6 Groundwater abstractions

Records within 2000m **0**

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

5.7 Surface water abstractions

Records within 2000m **2**

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 42**

ID	Location	Details

5.8 Potable abstractions

Records within 2000m **2**

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 42**

ID	Location	Details

5.9 Source Protection Zones

Records within 500m	**0**

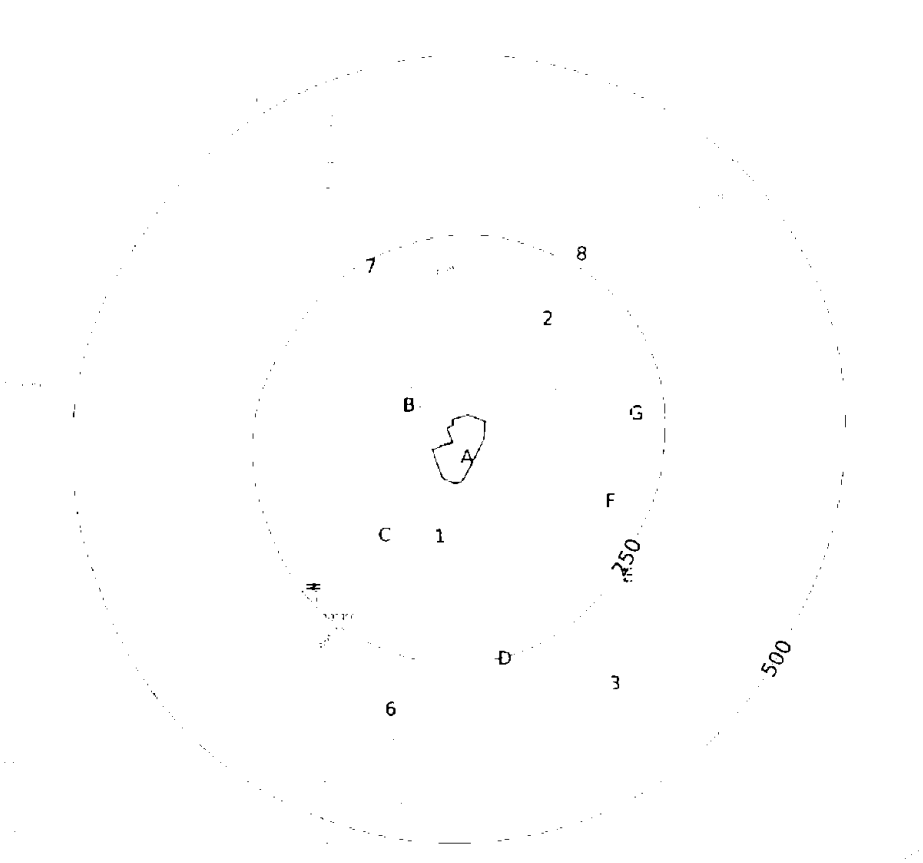
Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

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.

6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m **14**

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 45**

ID	Location	Type of water feature	Ground level	Permanence	Name

ID	Location	Type of water feature	Ground level	Permanence	Name

6.2 Surface water features

Records within 250m **9**

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 45**

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 45**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River**	**Calder - Pendle Water to conf Ribble**	**GB112071065490**	**Calder**	**Ribble**

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 45**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year

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 45**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Douglas, Darwen and Calder Carboniferous Aquifers**	**GB41202G100300**	**Poor**	**Poor**	**Good**	**2019**

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).

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.

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.

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.

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.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m **0**

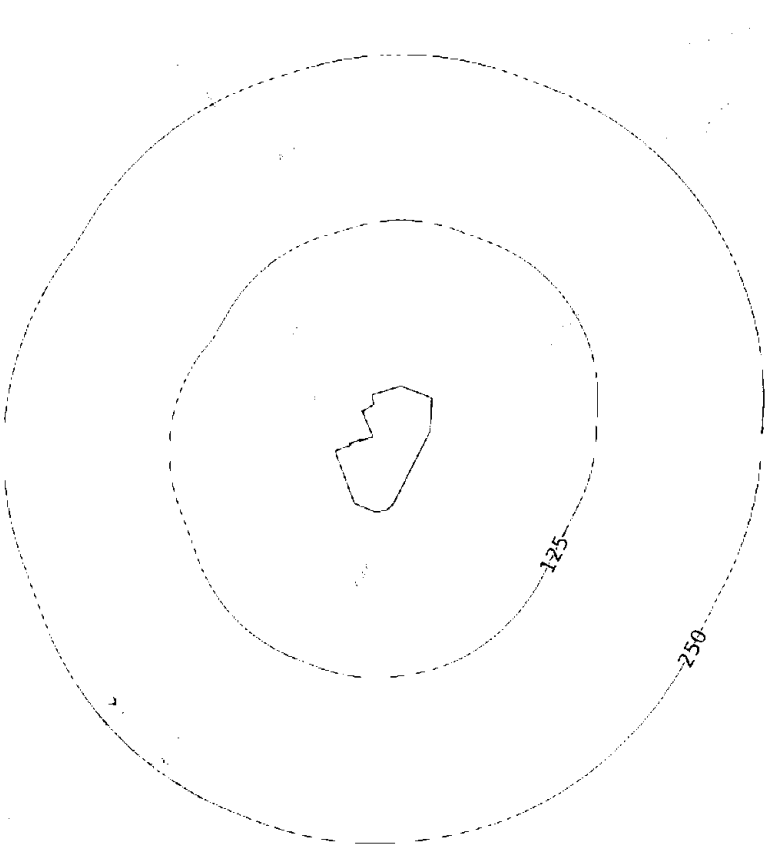
Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

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.

8 Surface water flooding



Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

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

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

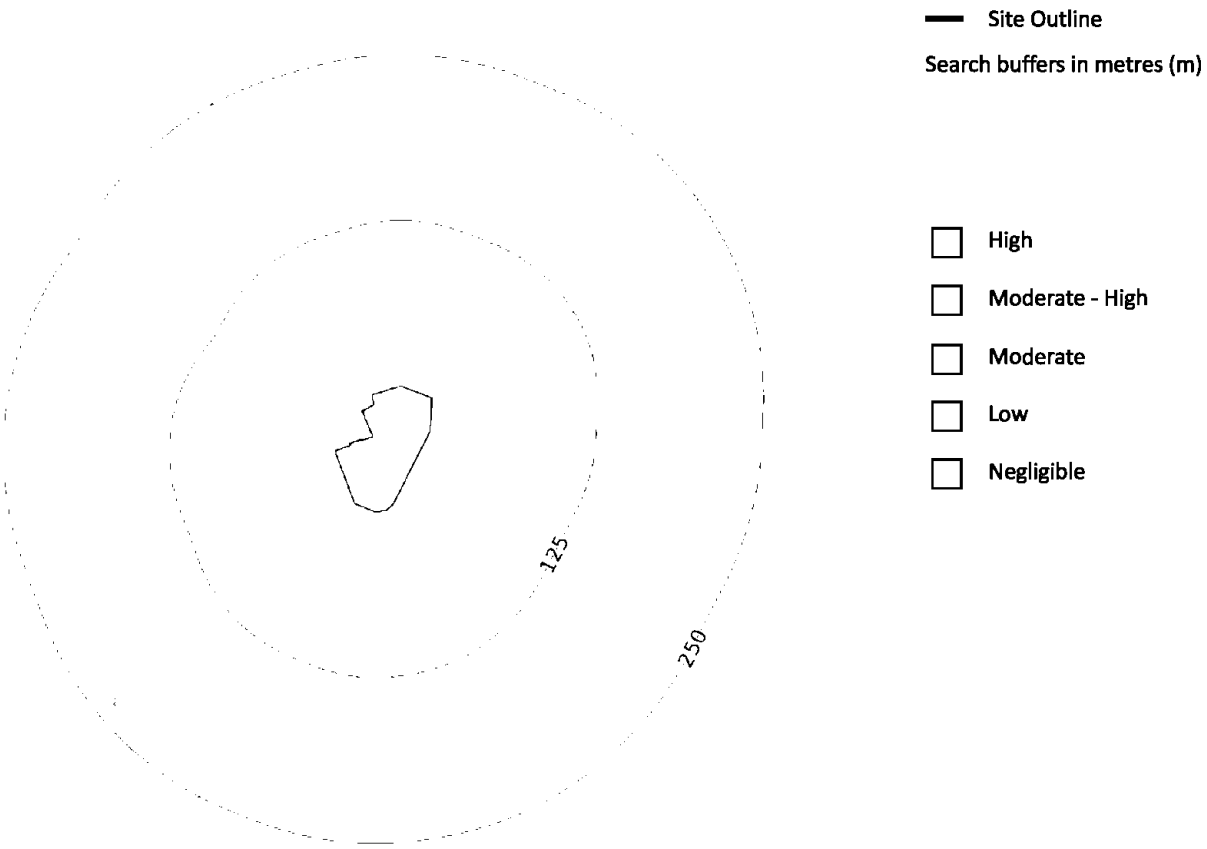
Features are displayed on the Surface water flooding map on **page 52**

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

9 Groundwater flooding



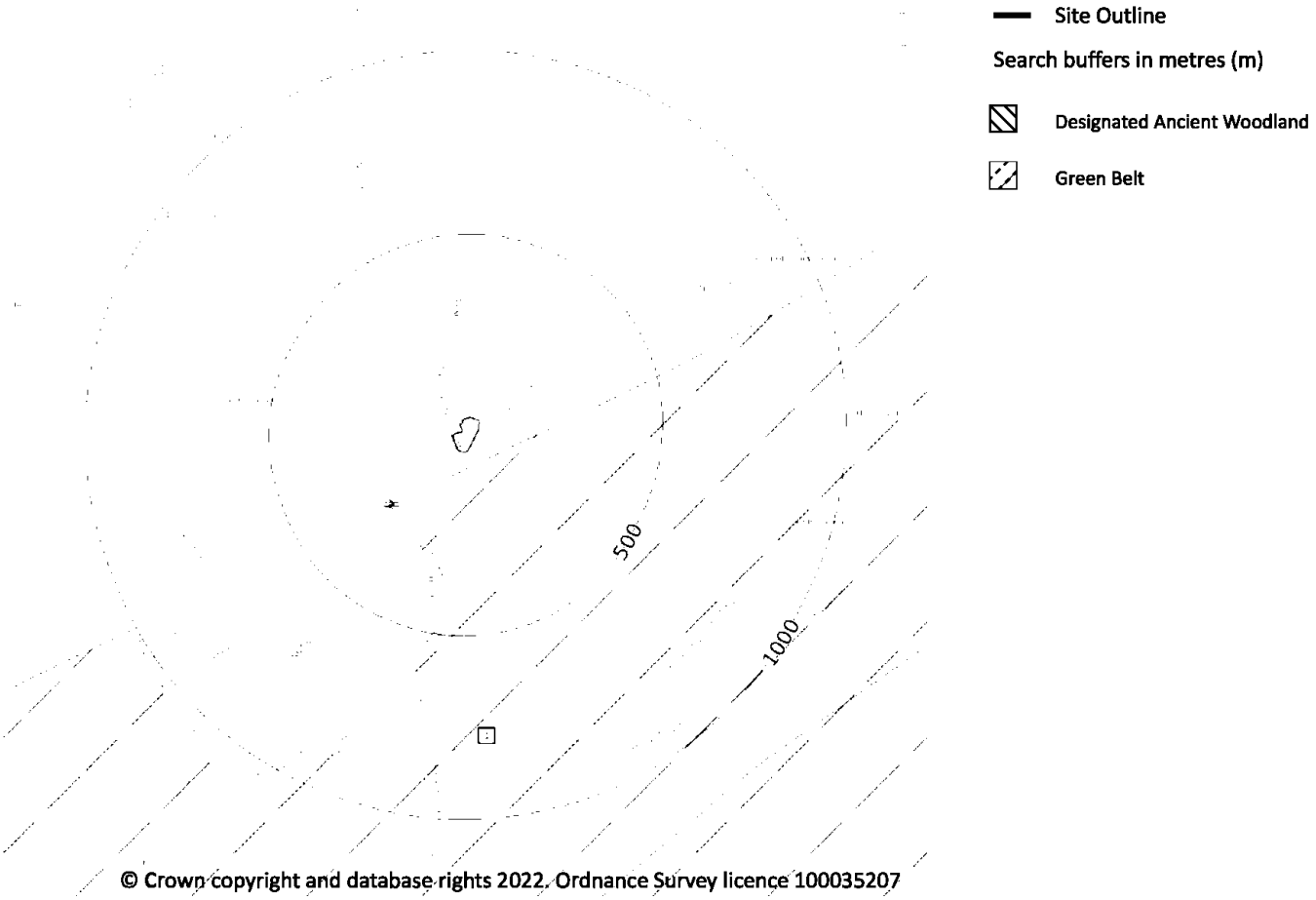
9.1 Groundwater flooding

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

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

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

10 Environmental designations



10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m **0**

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

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.

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.

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.

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.

10.6 Local Nature Reserves (LNR)

Records within 2000m **0**

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

10.7 Designated Ancient Woodland

Records within 2000m **1**

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

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

ID	Location	Name	Woodland Type

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.

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.

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.

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 55**

ID	Location	Name	Local Authority name

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.

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.

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.

10.15 Nitrate Sensitive Areas

Records within 2000m **0**

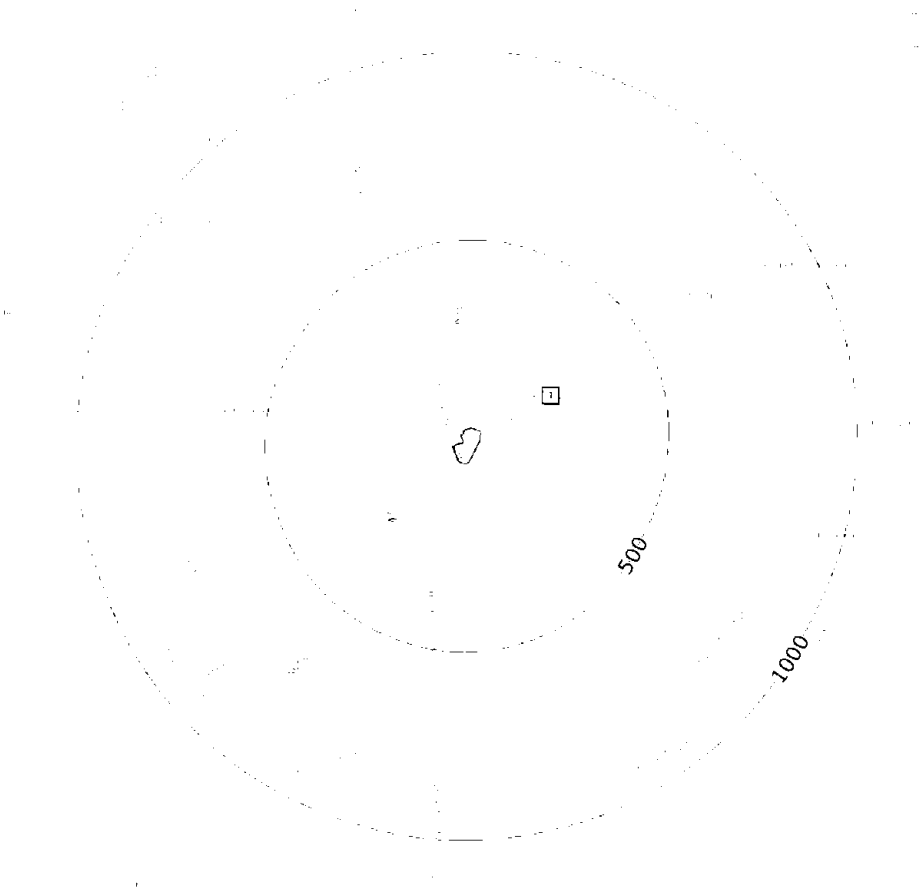
Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to 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).

10.16 Nitrate Vulnerable Zones

Records within 2000m **0**

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.

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

Not recorded

Favourable

Unfavourable - Recovering

Unfavourable - No change

Unfavourable - Declining

Partially destroyed

Destroyed

10.17 SSSI Impact Risk Zones

Records on site **1**

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

Features are displayed on the SSSI Impact Zones and Units map on **page 60**

ID	Location	Type of developments requiring consultation
1	**On site**	**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.**

10.18 SSSI Units

Records within 2000m	**0**

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

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m **0**

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

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.

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.

11.4 Listed Buildings

Records within 250m **0**

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

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.

11.6 Scheduled Ancient Monuments

Records within 250m **0**

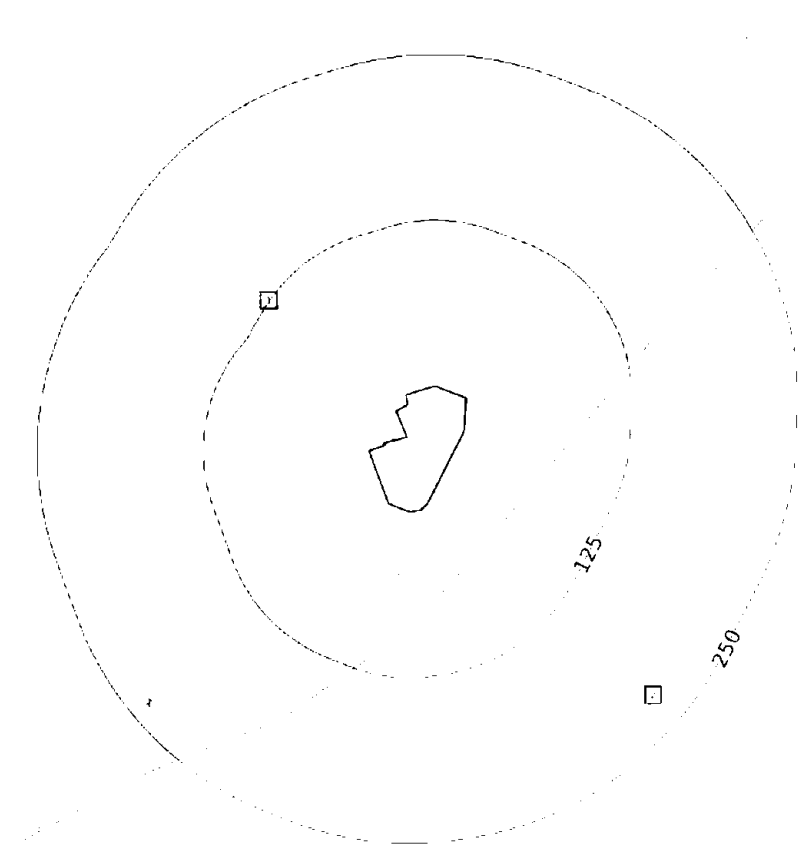
A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and 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.

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.

12 Agricultural designations



Site Outline

Search buffers in metres (m)

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

12.1 Agricultural Land Classification

Records within 250m **2**

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

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

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

ID	Location	Classification	Description

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.

12.3 Tree Felling Licences

Records within 250m **0**

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

12.4 Environmental Stewardship Schemes

Records within 250m **0**

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

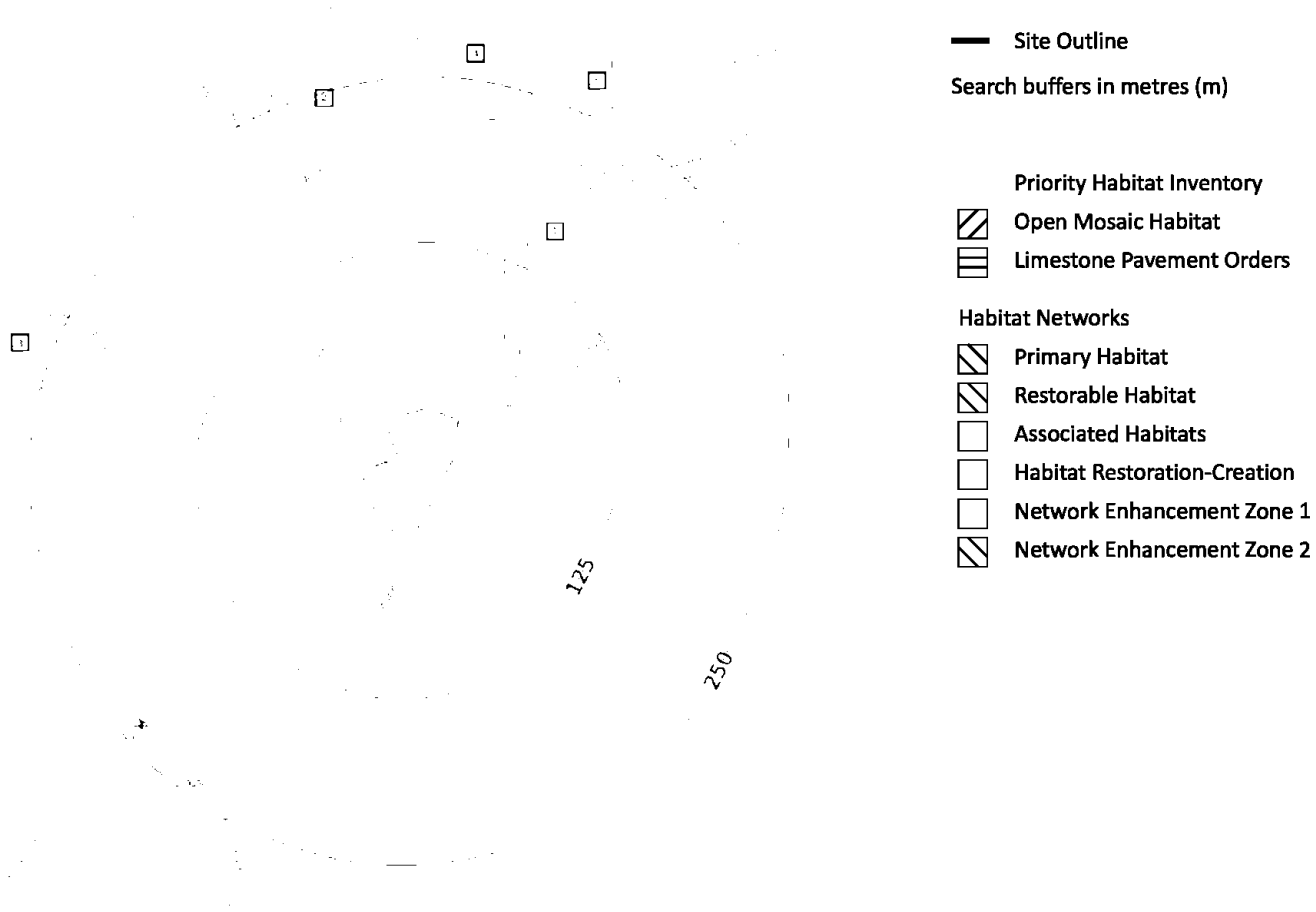
12.5 Countryside Stewardship Schemes

Records within 250m **1**

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.

Location	Reference	Scheme	Start Date	End Date

13 Habitat designations



13.1 Priority Habitat Inventory

Records within 250m **5**

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

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

ID	Location	Main Habitat	Other habitats

ID	Location	Main Habitat	Other habitats

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.

13.3 Open Mosaic Habitat

Records within 250m **0**

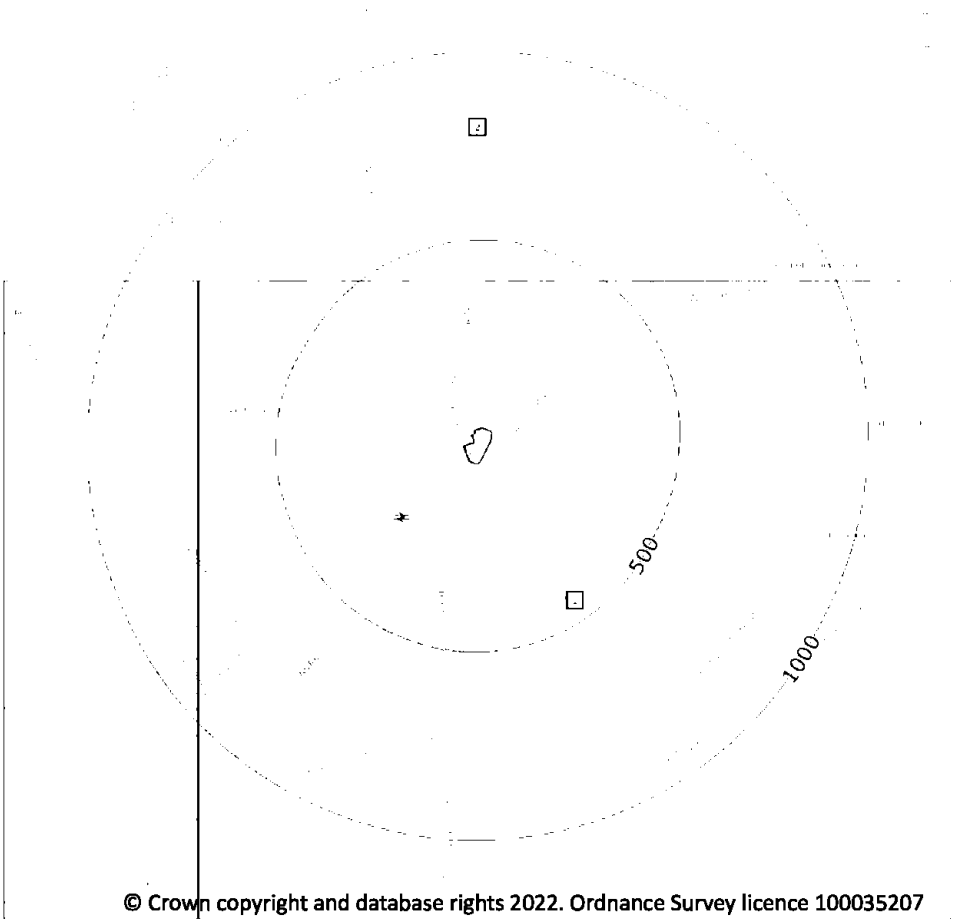
Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

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.

14 Geology 1:10,000 scale - Availability



14.1 10k Availability

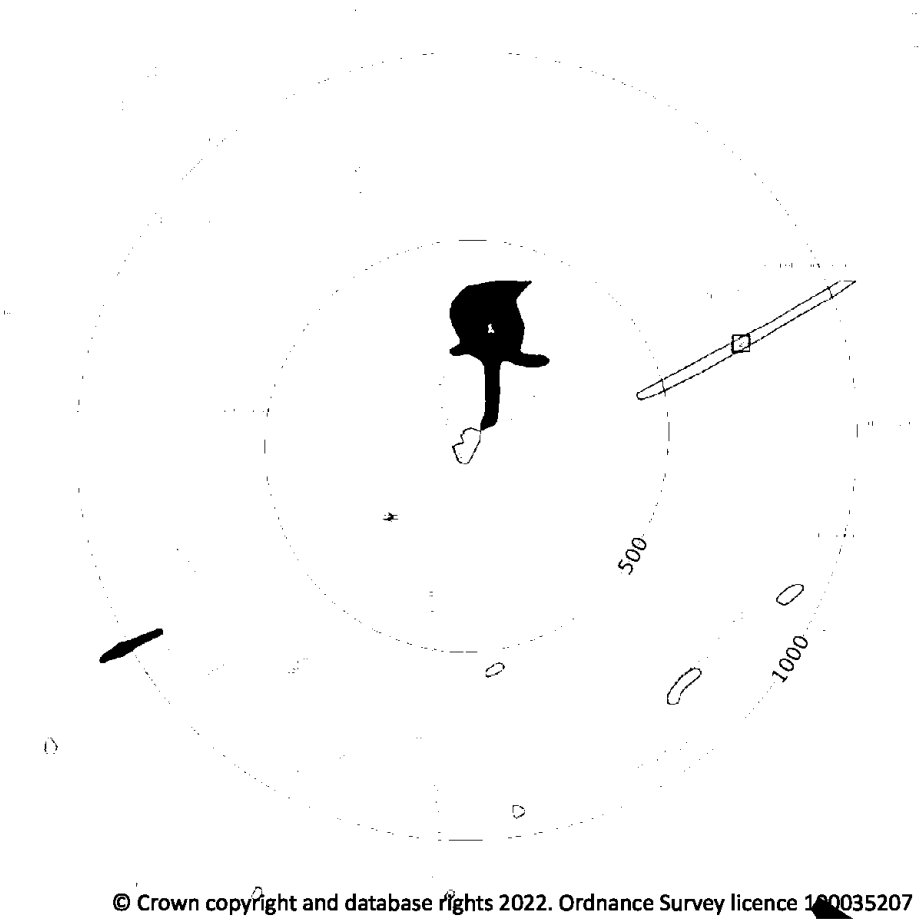
Records within 500m **2**

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 69**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SD73SW**

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)

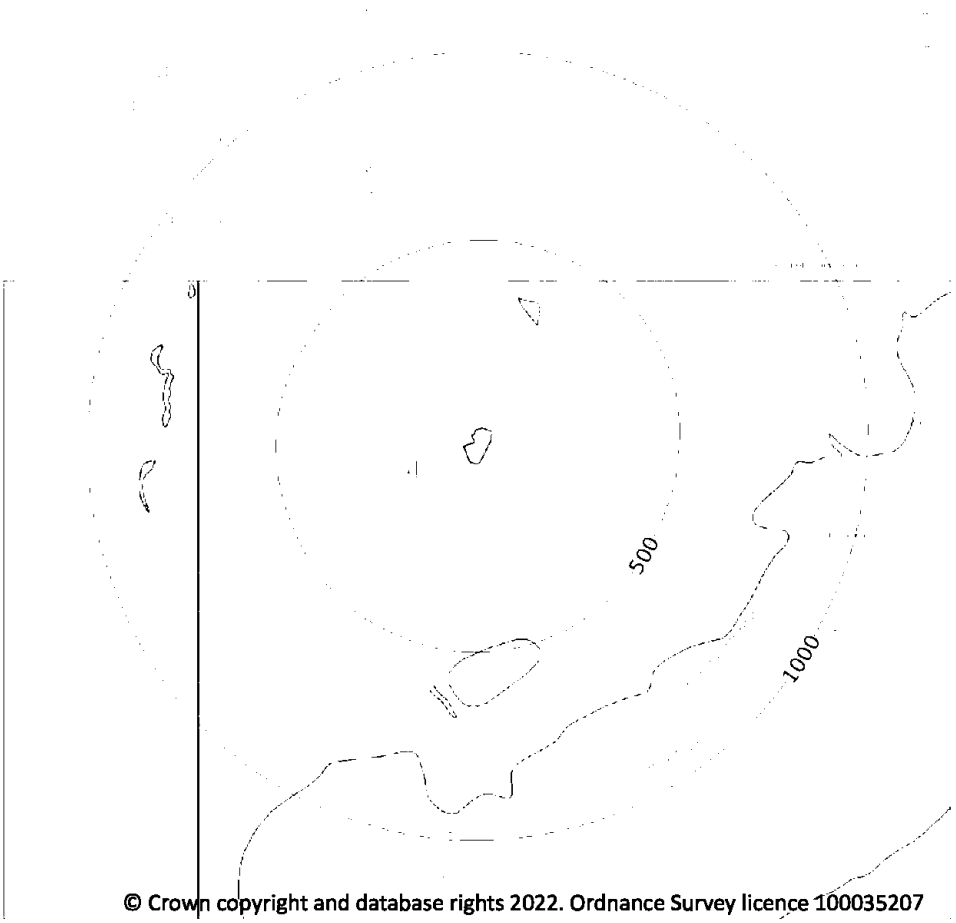
Records within 500m **2**

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

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

ID	Location	LEX Code	Description	Rock description

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m **1**

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.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 71**

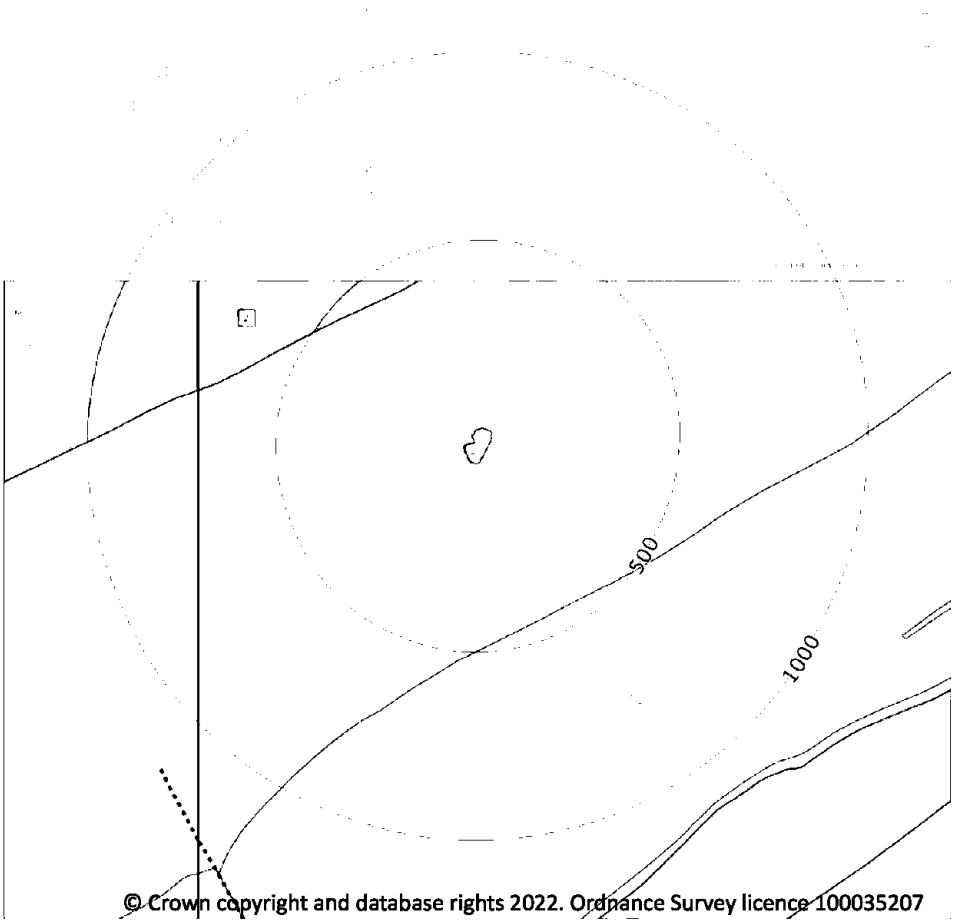
ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**

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.

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 **3**

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

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

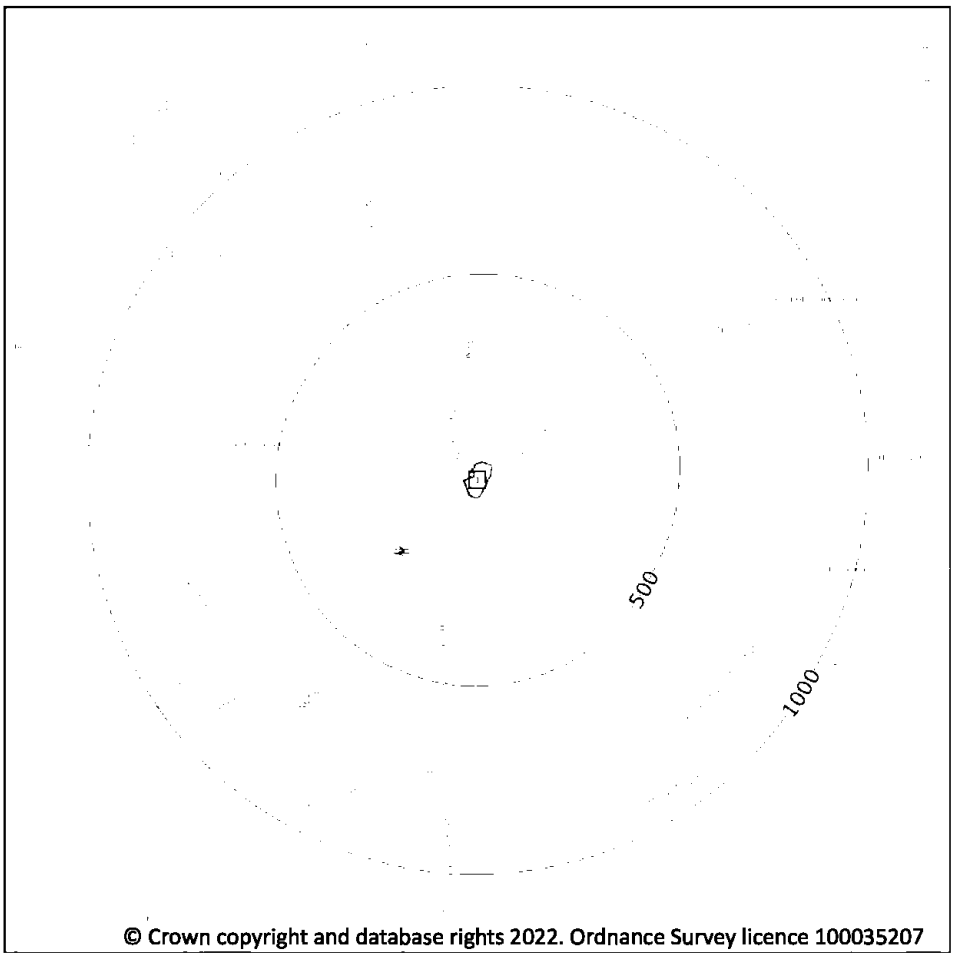
ID	Location	LEX Code	Description	Rock age
1	**On site**	**BSG-MDST**	**Bowland Shale Formation - Mudstone**	**Yeadonian Sub-age - Asbian Age**

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**0**

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.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m **1**

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

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

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**Full**	**EW068_clitheroe_v4**

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

15.2 Artificial and made ground (50k)

Records within 500m **0**

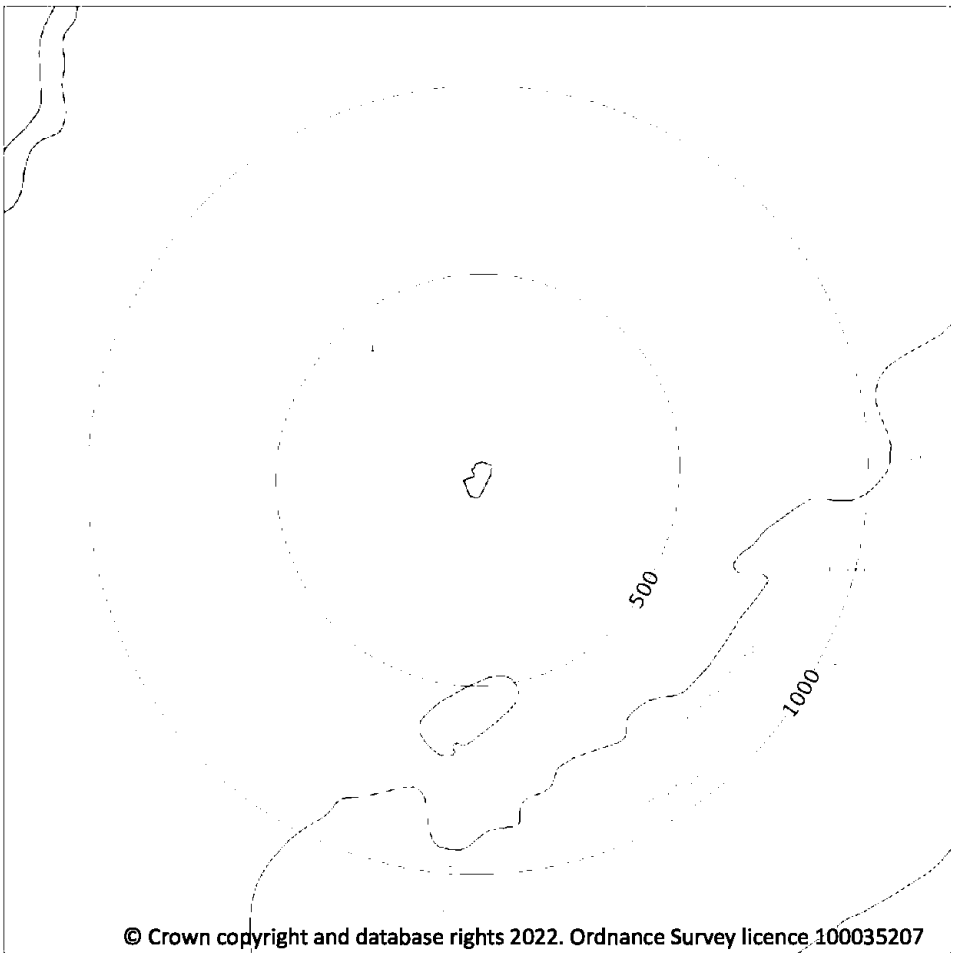
Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

15.3 Artificial ground permeability (50k)

Records within 50m **0**

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

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m **1**

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.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 77**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**

15.5 Superficial 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 superficial deposits (the zone between the land surface and the water table).

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

15.6 Landslip (50k)

Records within 500m **0**

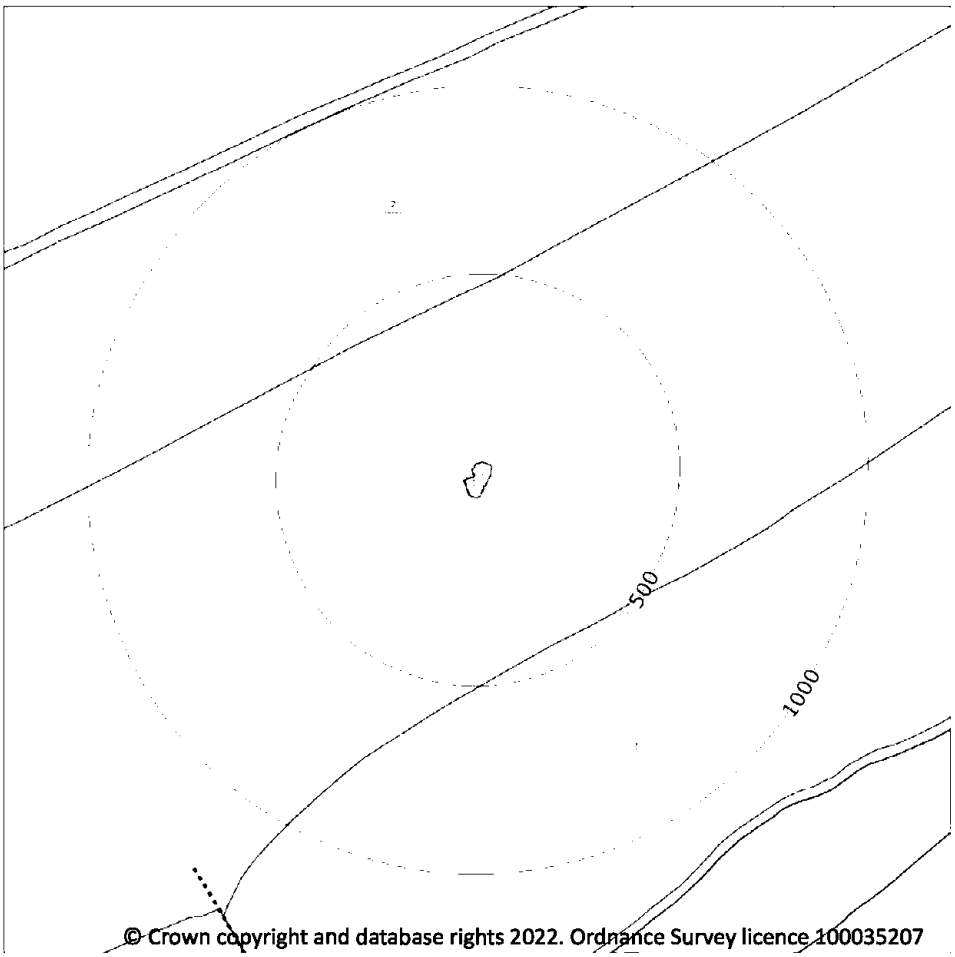
Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

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).

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 **3**

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

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

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BSG-MDST**	**BOWLAND SHALE FORMATION - MUDSTONE**	**VISEAN**

15.9 Bedrock permeability (50k)

Records within 50m **1**

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

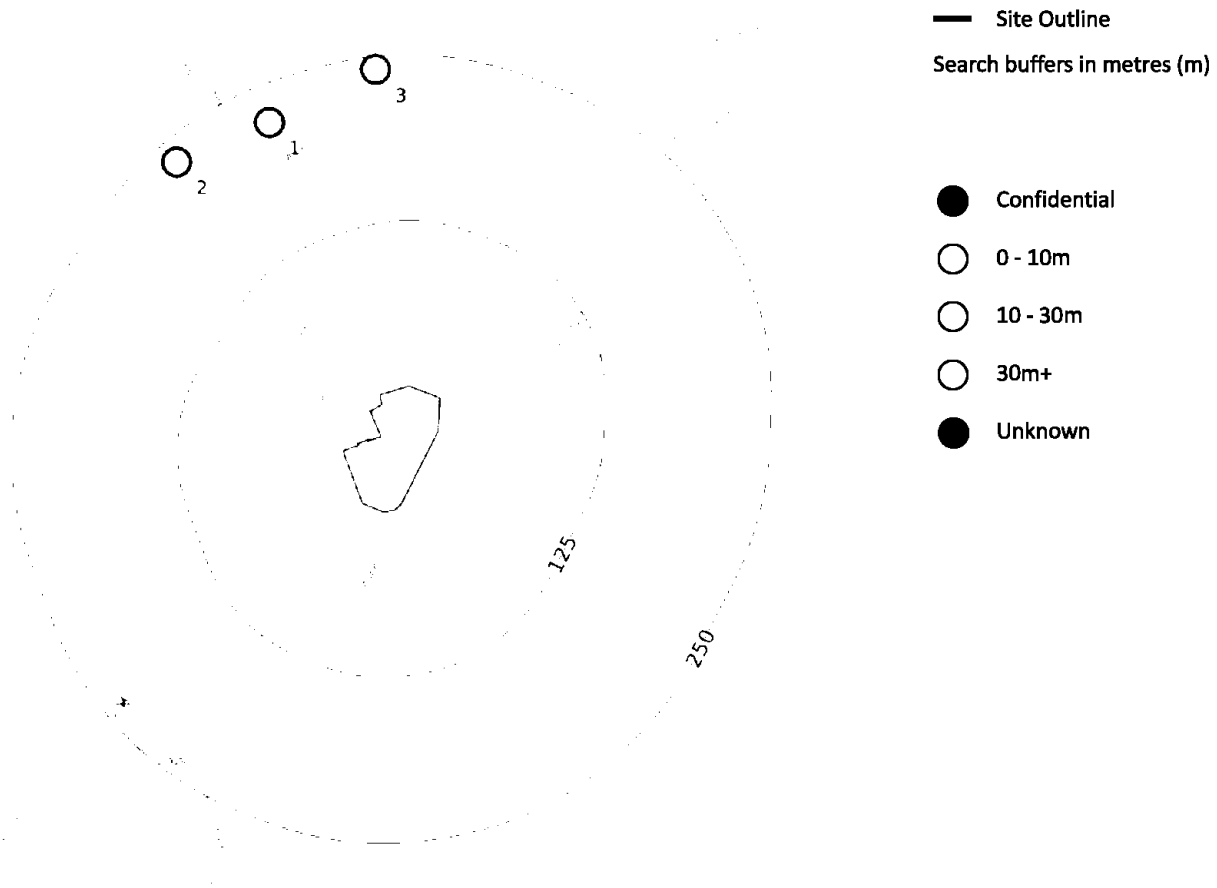
Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Low**	**Low**

15.10 Bedrock faults and other linear features (50k)

Records within 500m **0**

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.

16 Boreholes



16.1 BGS Boreholes

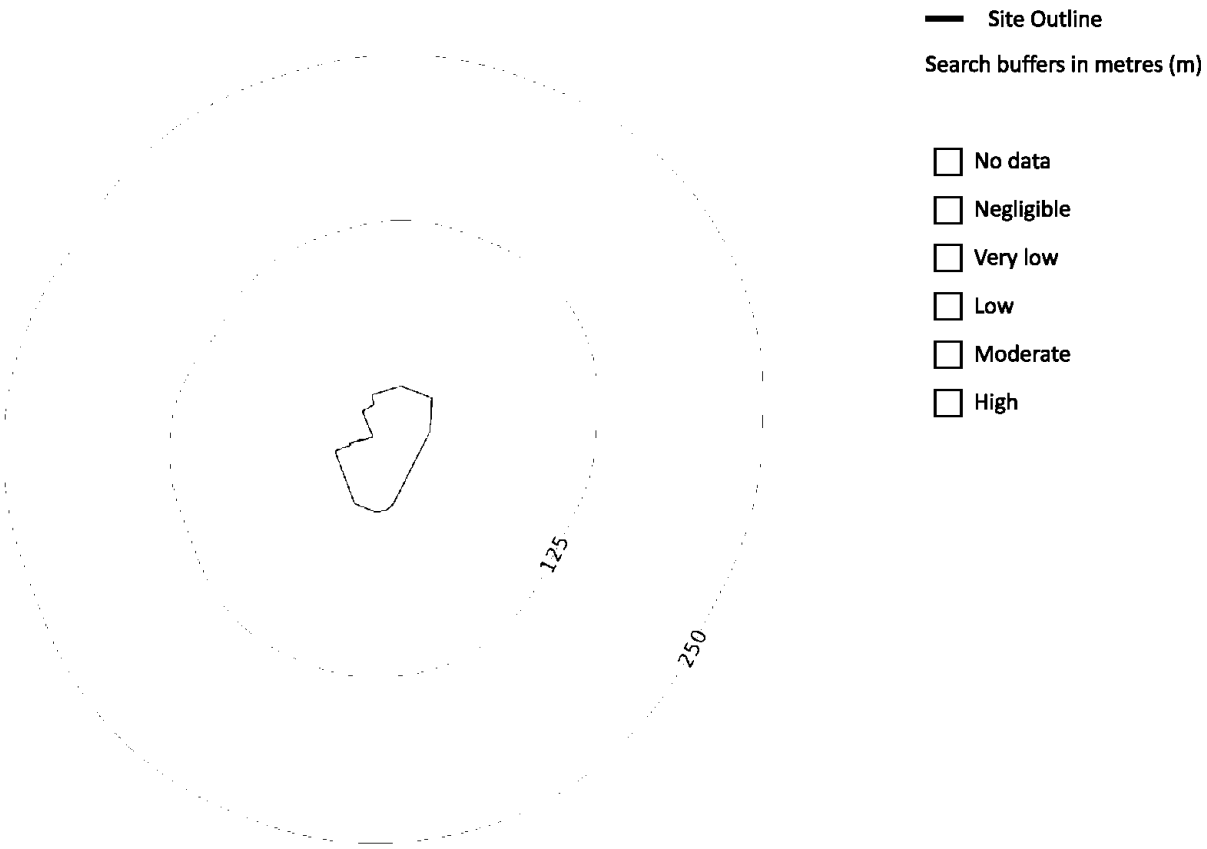
Records within 250m **3**

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 81**

ID	Location	Grid reference	Name	Length	Confidential	Web link
						26106
						26105
						26107

17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

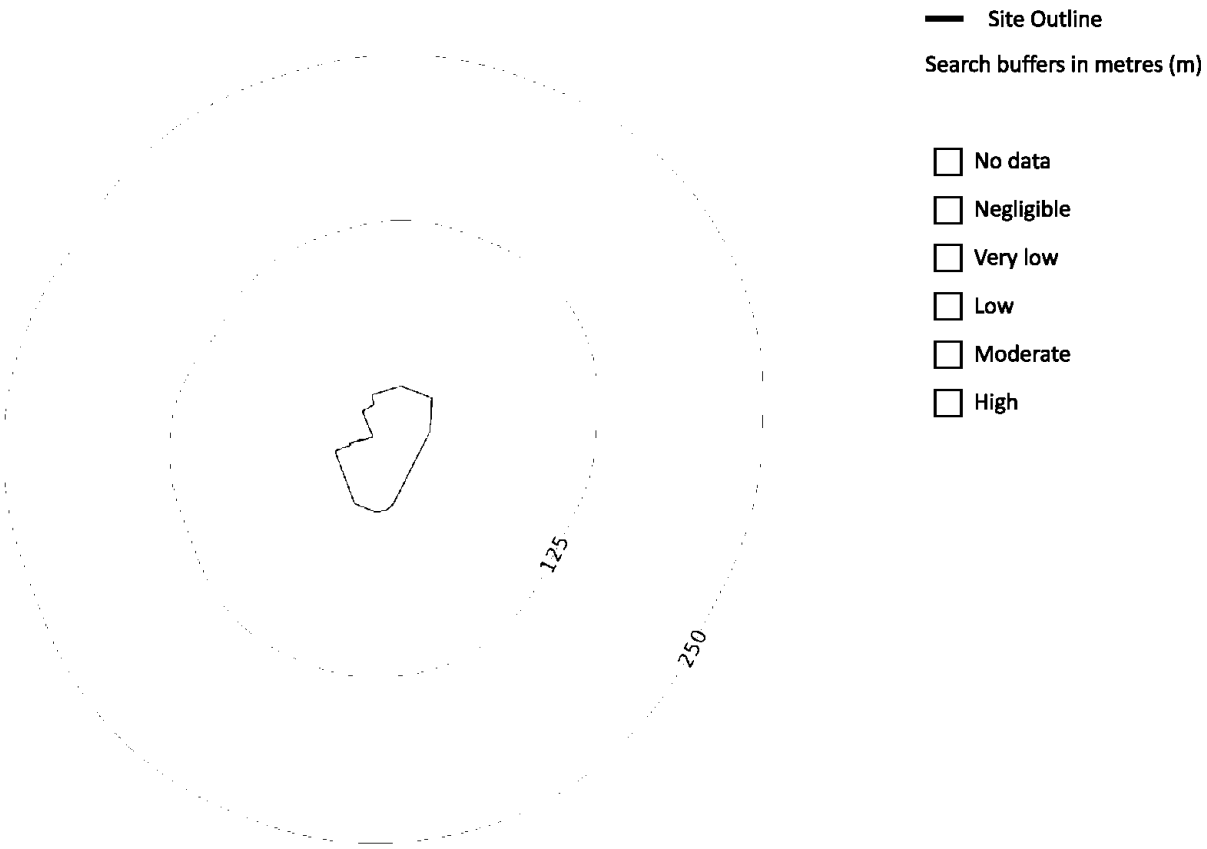
Records within 50m **1**

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

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

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**

Natural ground subsidence - Running sands



17.2 Running sands

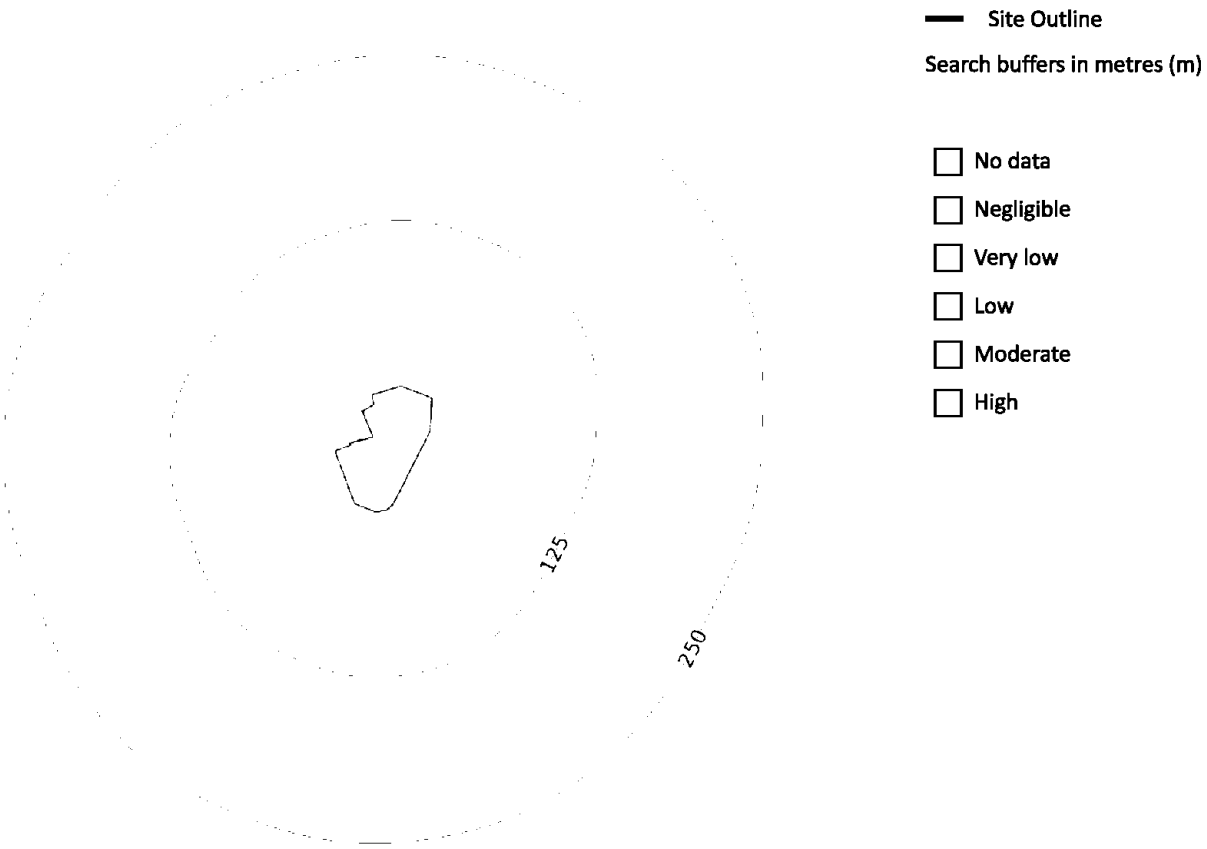
Records within 50m **1**

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

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

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.**

Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

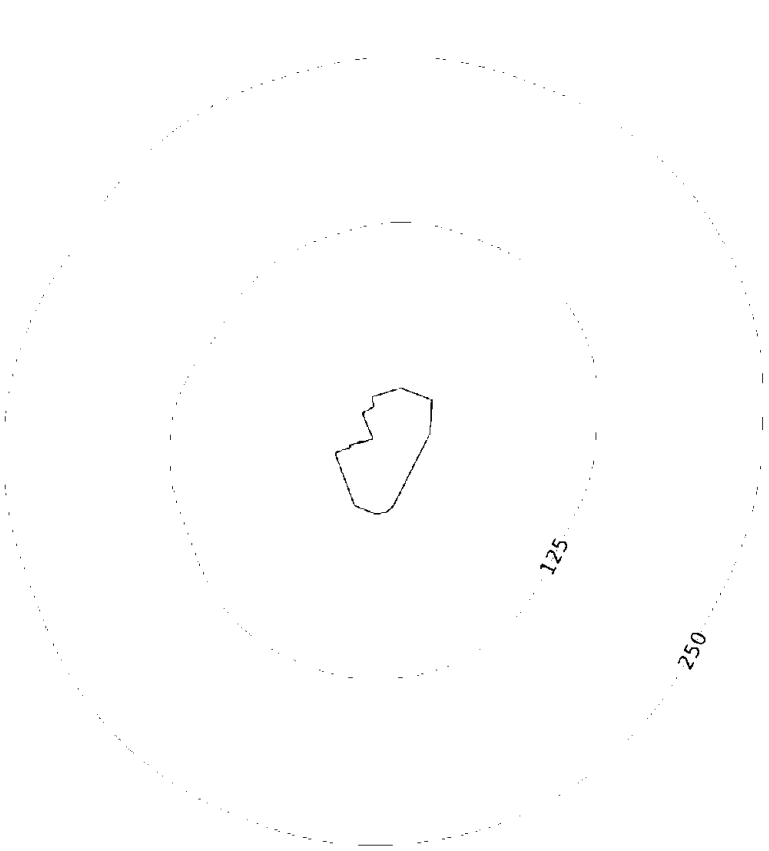
Records within 50m **1**

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

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 85**

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

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

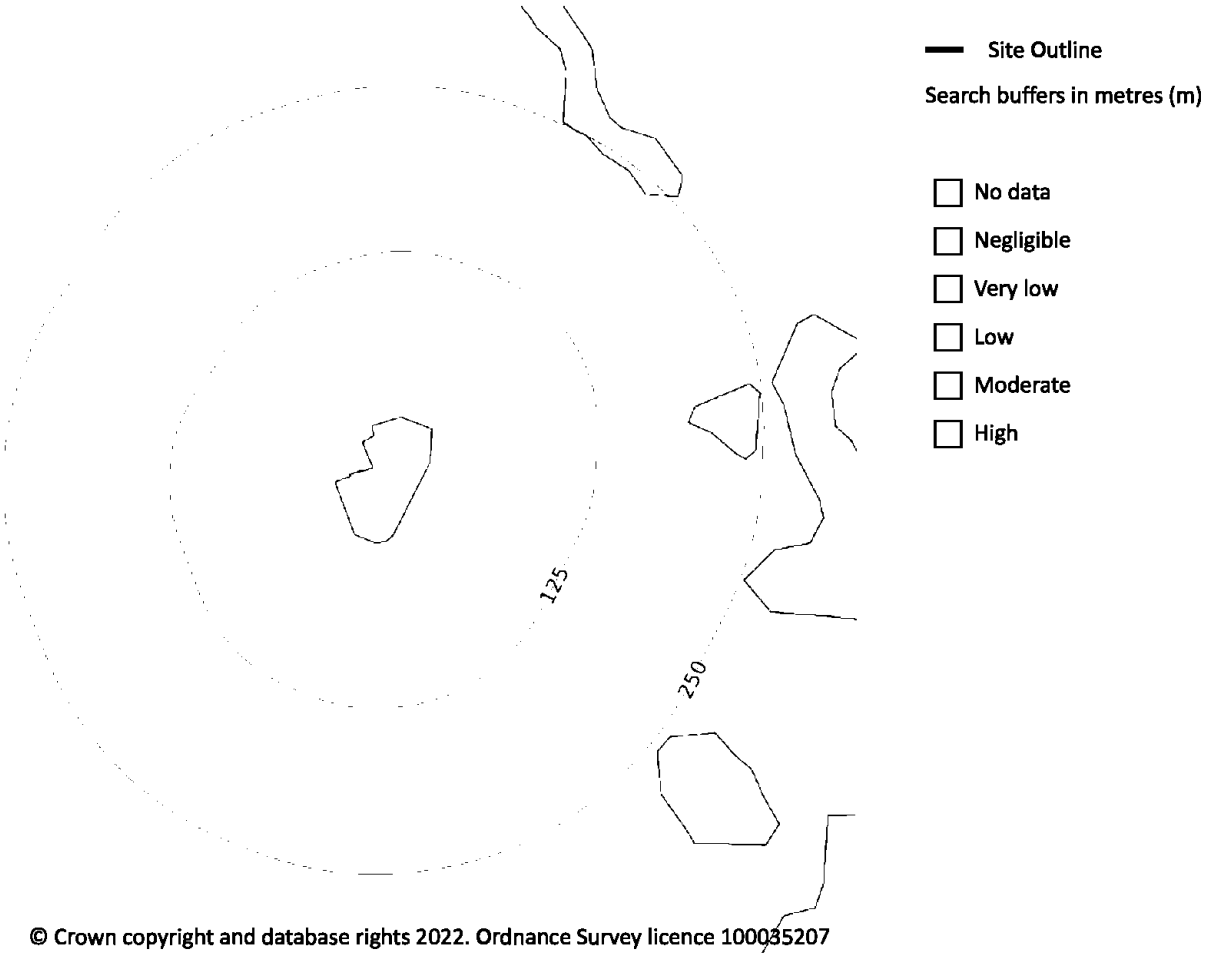
Records within 50m **1**

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 86**

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

Natural ground subsidence - Landslides



17.5 Landslides

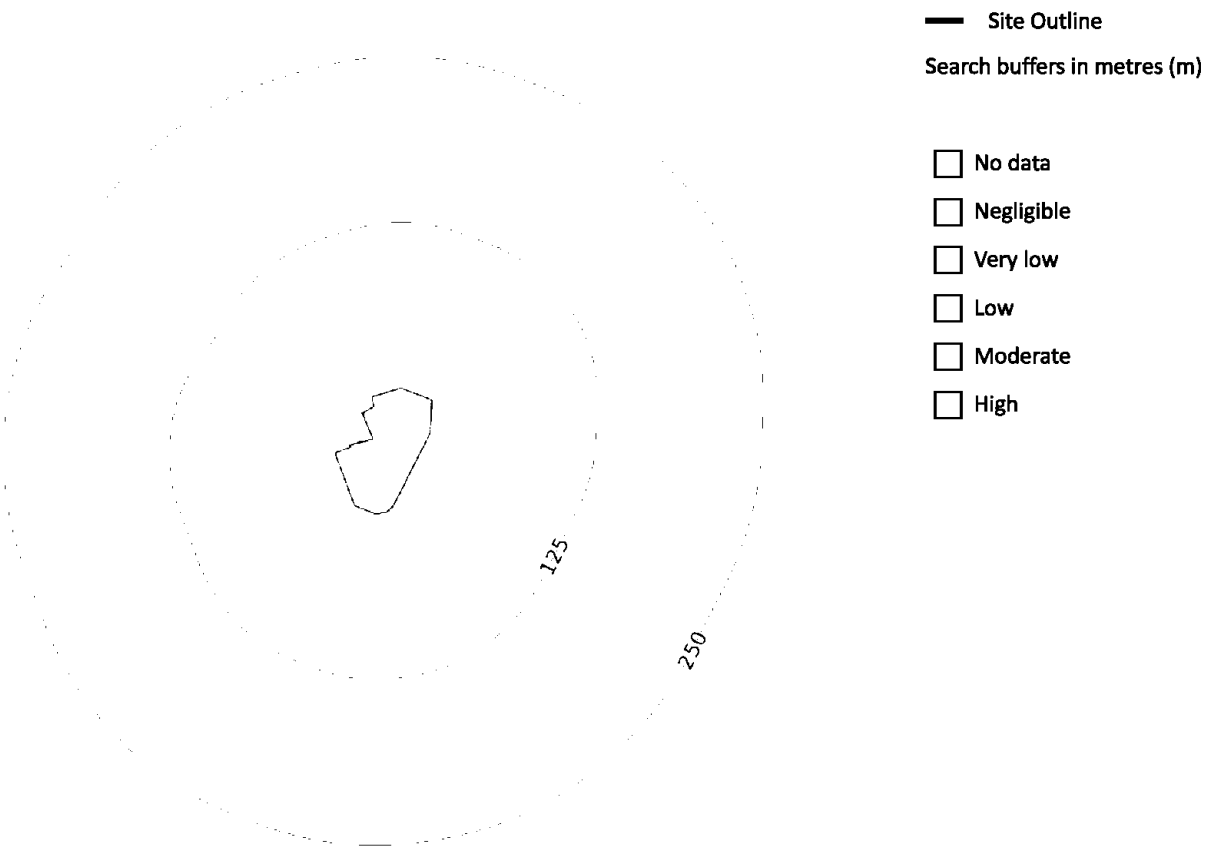
Records within 50m **1**

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

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

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.**

Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

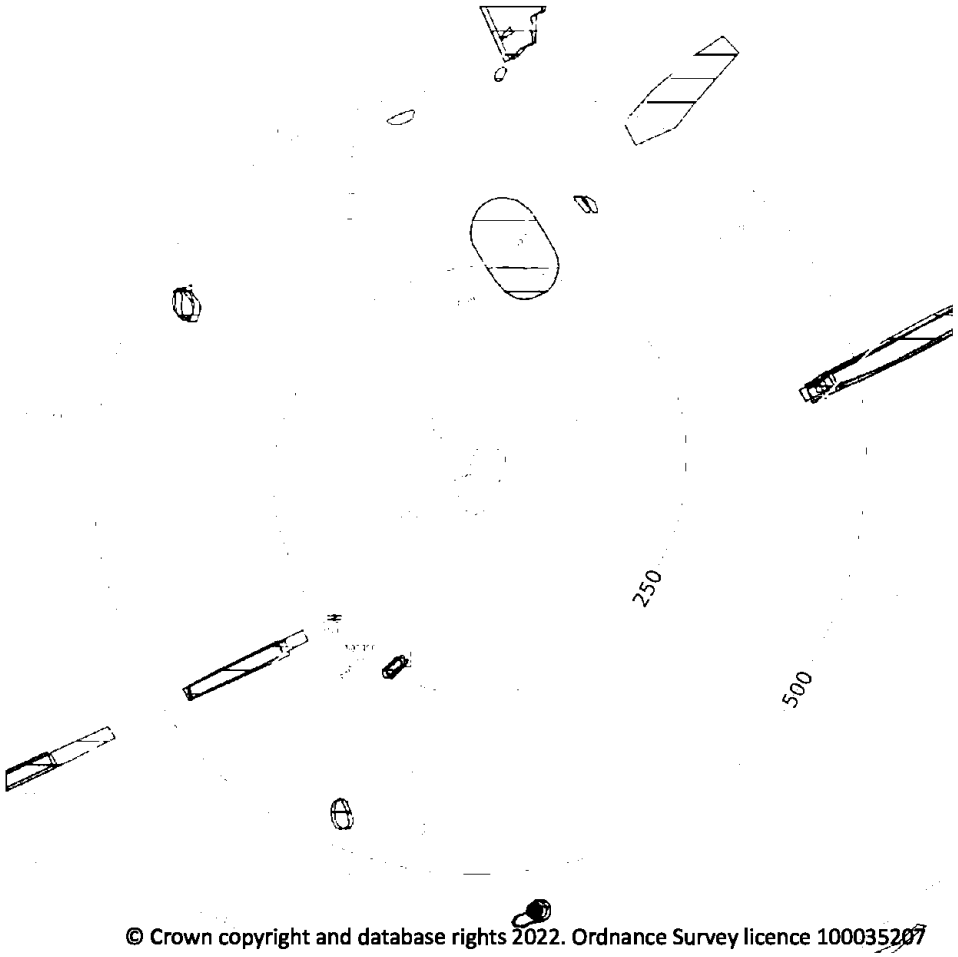
Records within 50m **1**

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 88**

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.**

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

BritPits

Surface ground workings

Underground workings

Historical Mineral Planning Areas

Mining Cavities

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m **0**

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

18.2 BritPits

Records within 500m **0**

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

18.3 Surface ground workings

Records within 250m **6**

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 89**

ID	Location	Land Use	Year of mapping	Mapping scale

18.4 Underground workings

Records within 1000m **0**

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

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.

18.6 Non-coal mining

Records within 1000m **5**

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 89**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Vein Mineral**	**B**	**Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered**

18.7 Mining cavities

Records within 1000m	**0**

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

18.8 JPB mining areas

Records on site	**0**

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

18.9 Coal mining

Records on site	**0**

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

18.10 Brine areas

Records on site	**0**

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

18.11 Gypsum areas

Records on site	**0**

Generalised areas that may be affected by gypsum extraction.

18.12 Tin mining

Records on site	**0**

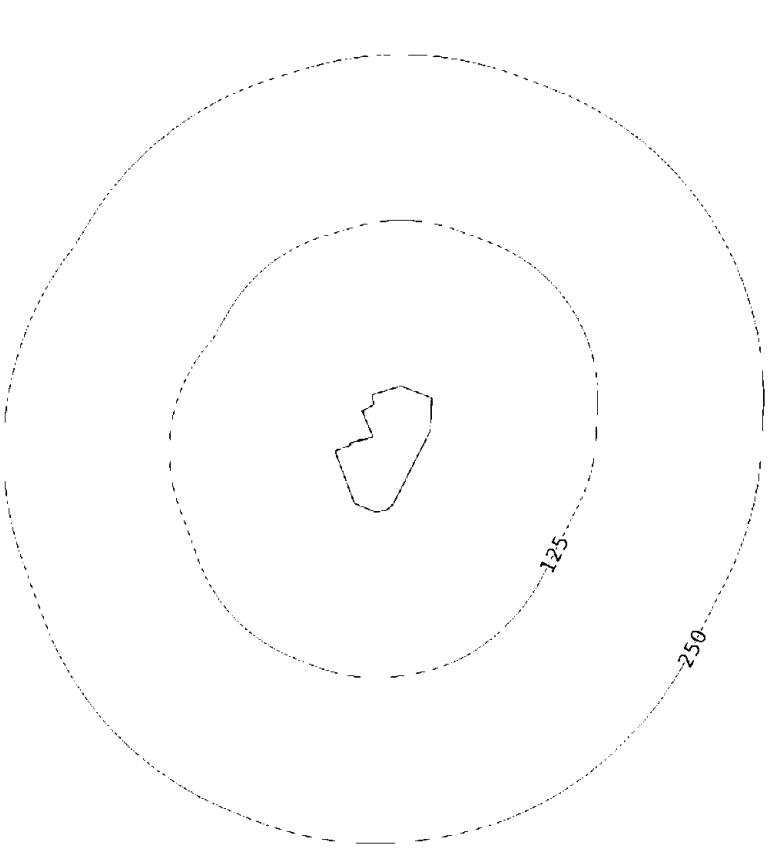
Generalised areas that may be affected by historical tin mining.

18.13 Clay mining

Records on site	**0**

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

19 Radon



Site Outline

Search buffers in metres (m)

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

19.1 Radon

Records on site **1**

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

Features are displayed on the Radon map on **page 94**

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

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m **2**

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**2.2 - 3.0 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m **0**

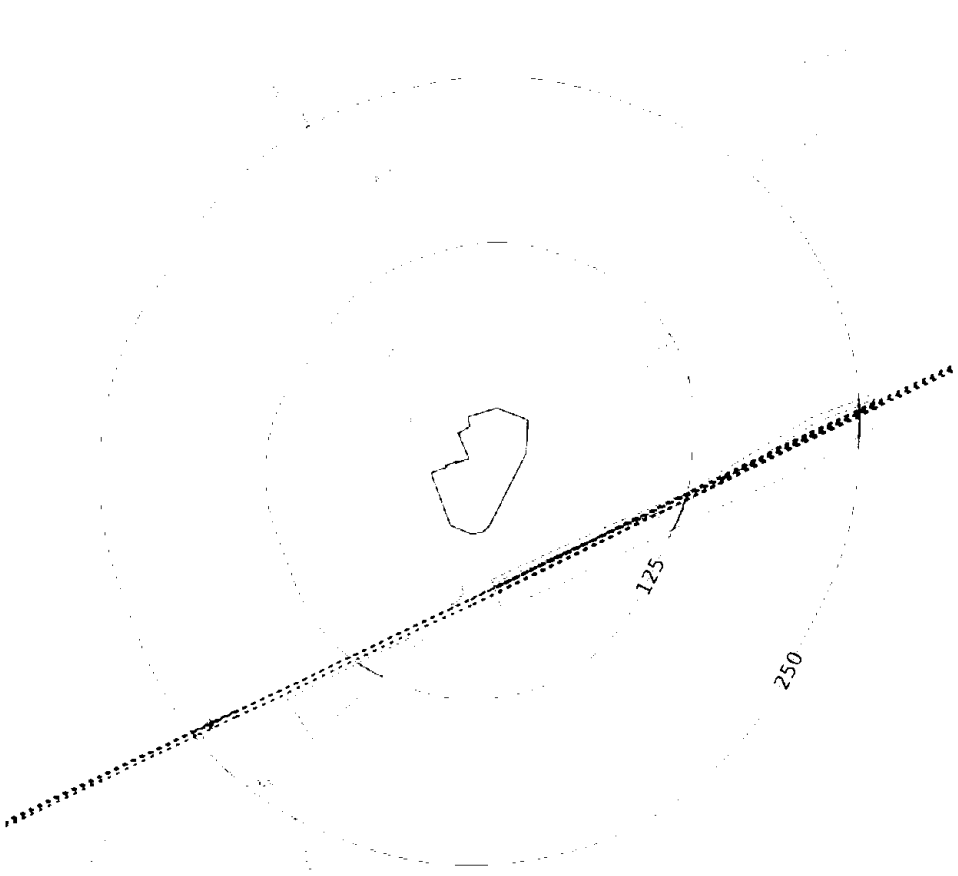
Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across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

20.3 BGS Measured Urban Soil Chemistry

Records within 50m **0**

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

21 Railway infrastructure and projects



Site Outline
Search buffers in metres (m)
Crossrail 1 Stations
Crossrail 1 Route
Crossrail 1 Worksites
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

21.1 Underground railways (London)

Records within 250m **0**

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

21.2 Underground railways (Non-London)

Records within 250m **0**

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

21.3 Railway tunnels

Records within 250m	**0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

21.4 Historical railway and tunnel features

Records within 250m	**5**

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 96**

Location	Land Use	Year of mapping	Mapping scale

21.5 Royal Mail tunnels

Records within 250m	**0**

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

21.6 Historical railways

Records within 250m **0**

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

21.7 Railways

Records within 250m **14**

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

Features are displayed on the Railway infrastructure and projects map on **page 96**

Location	Name	Type

21.8 Crossrail 1

Records within 500m	**0**

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

21.9 Crossrail 2

Records within 500m	**0**

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

21.10 HS2

Records within 500m	**0**

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

Data providers

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

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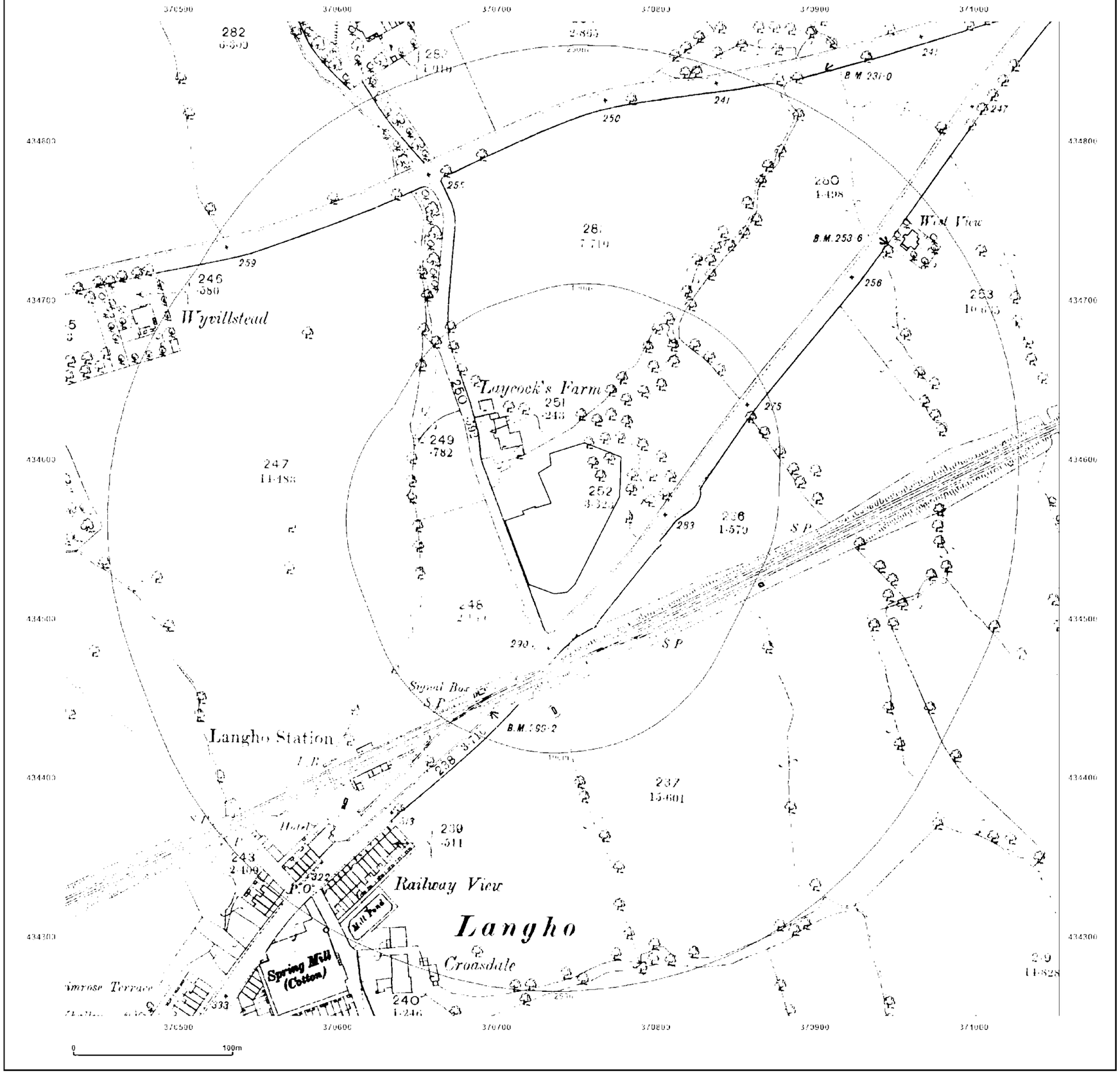

Groundsure INSIGHTS

Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series
Map date: **1892**
Scale: 1:2,500
Printed at: 1:2,500

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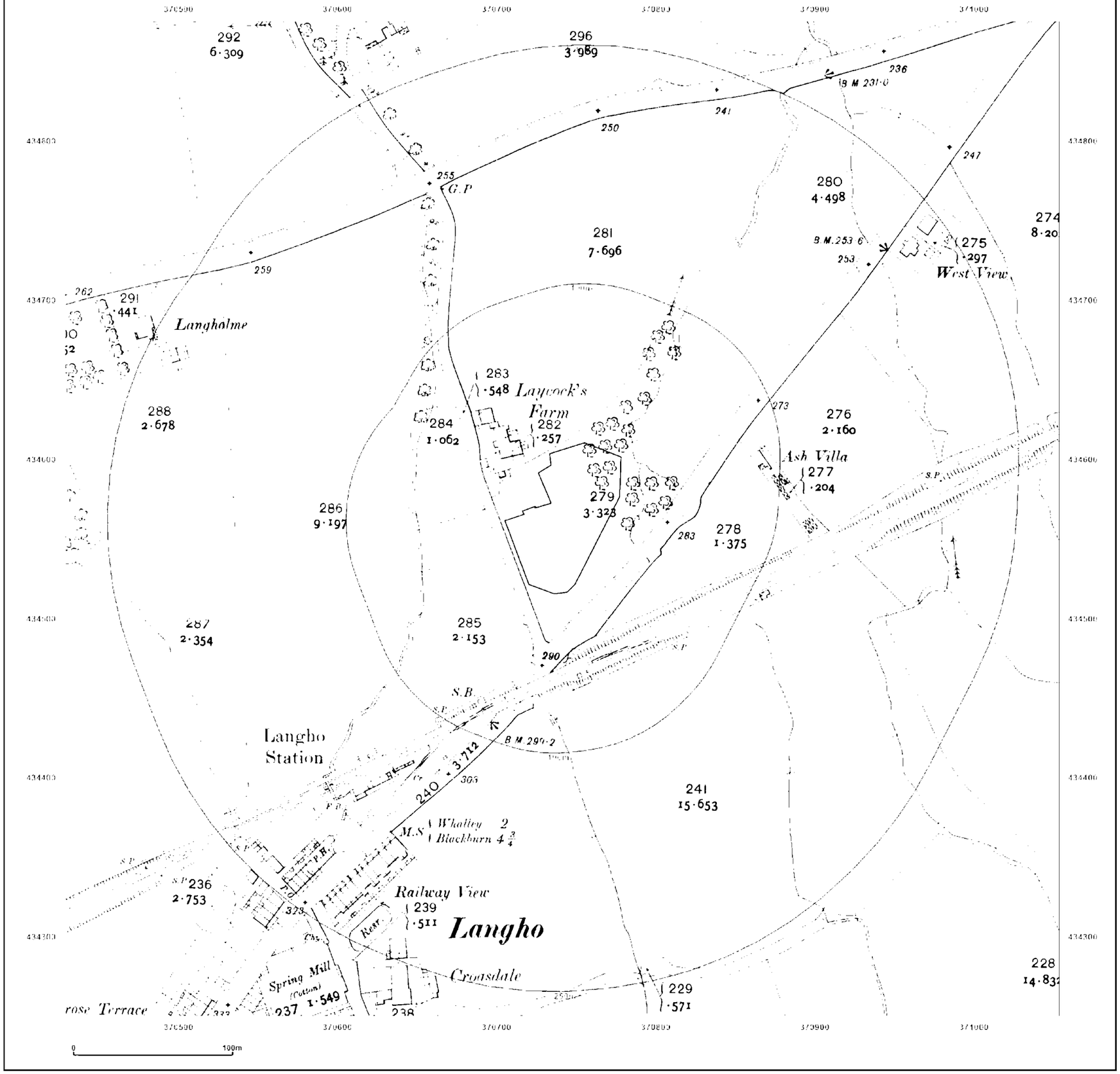

Groundsure INSIGHTS

Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series
Map date: 1912
Scale: 1:2,500
Printed at: 1:2,500

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Revised 1912
Edition N/A
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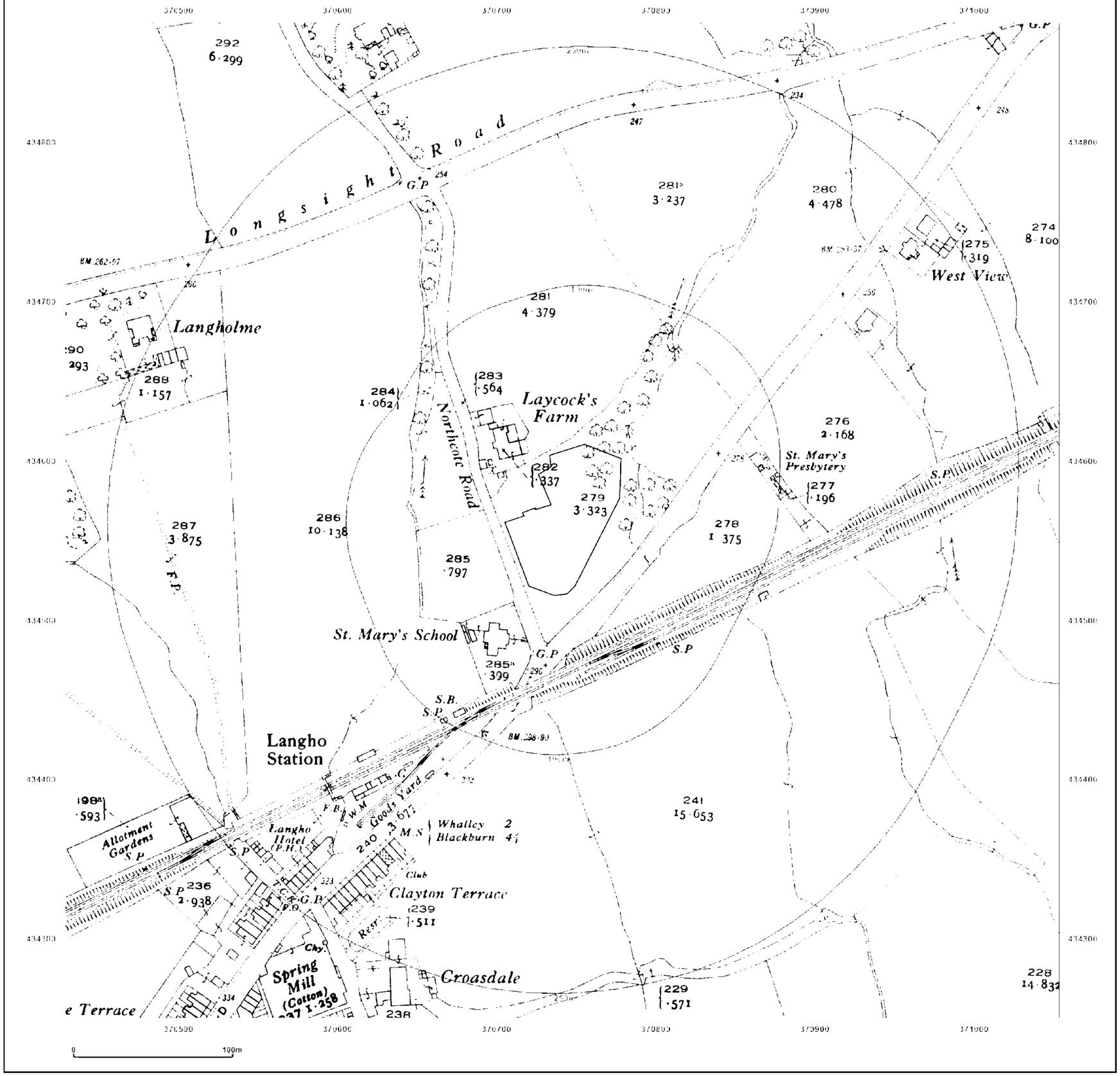

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Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series
Map date: 1932
Scale: 1:2,500
Printed at: 1:2,500

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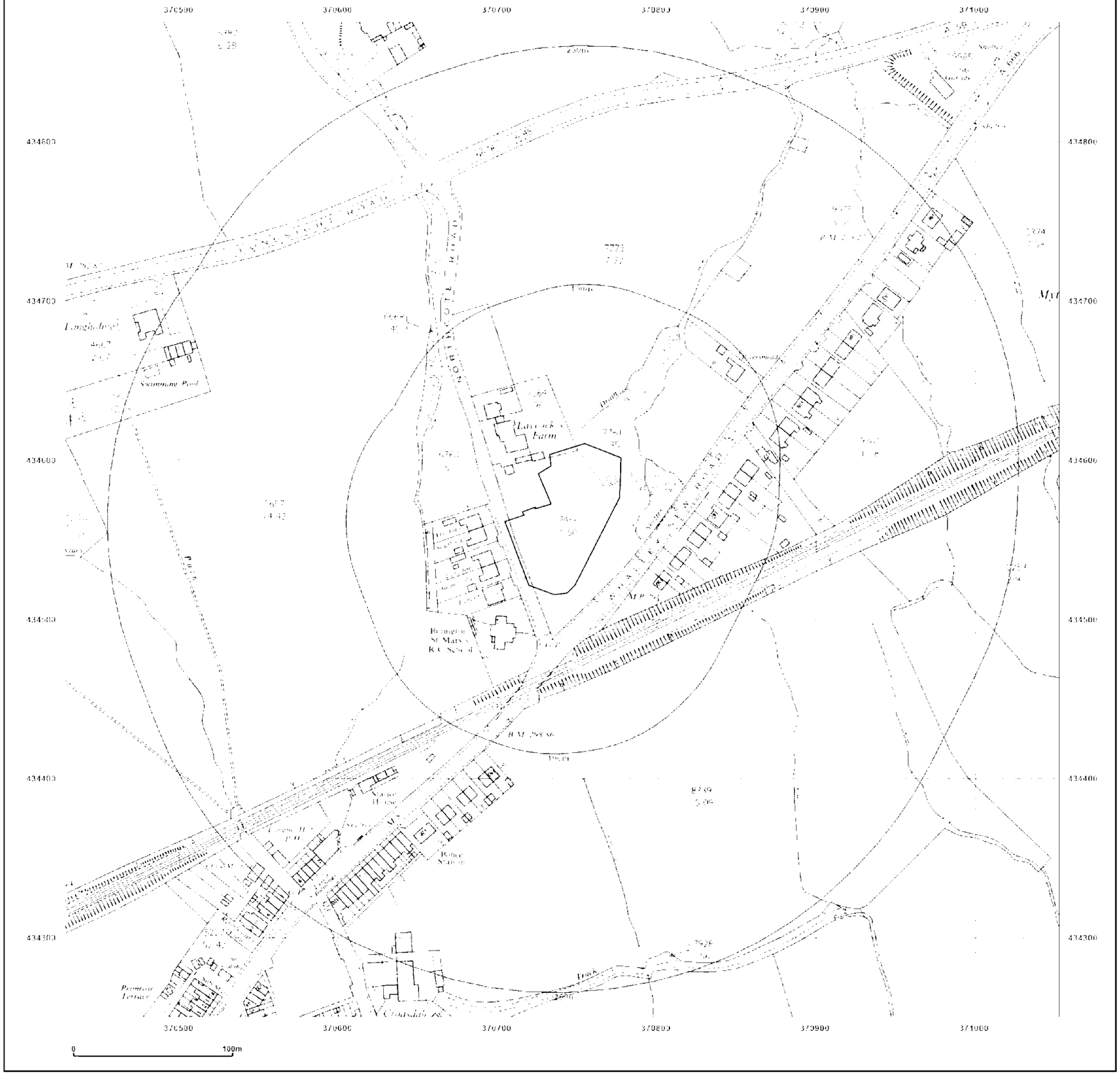

Groundsure INSIGHTS

Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: National Grid

Map date: **1969**

Scale: 1:2,500

Printed at: 1:2,500

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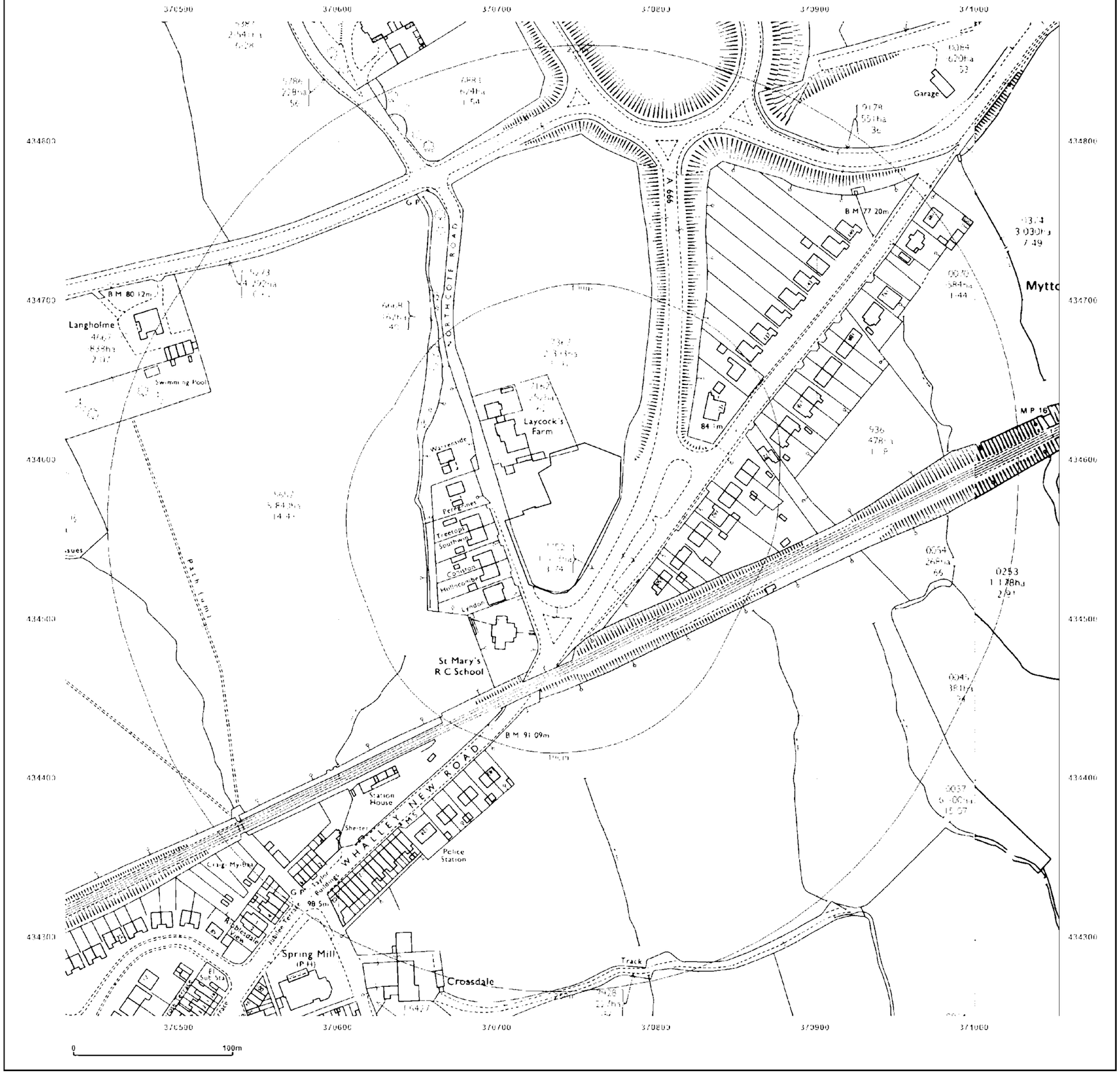

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Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: National Grid
Map date: **1977-1982**
Scale: 1:2,500
Printed at: 1:2,500

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Surveyed 1976
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Copyright 1977
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Revised N/A
Edition N/A
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Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: National Grid
Map date: **1982**
Scale: 1:2,500
Printed at: 1:2,500

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Revised 1981
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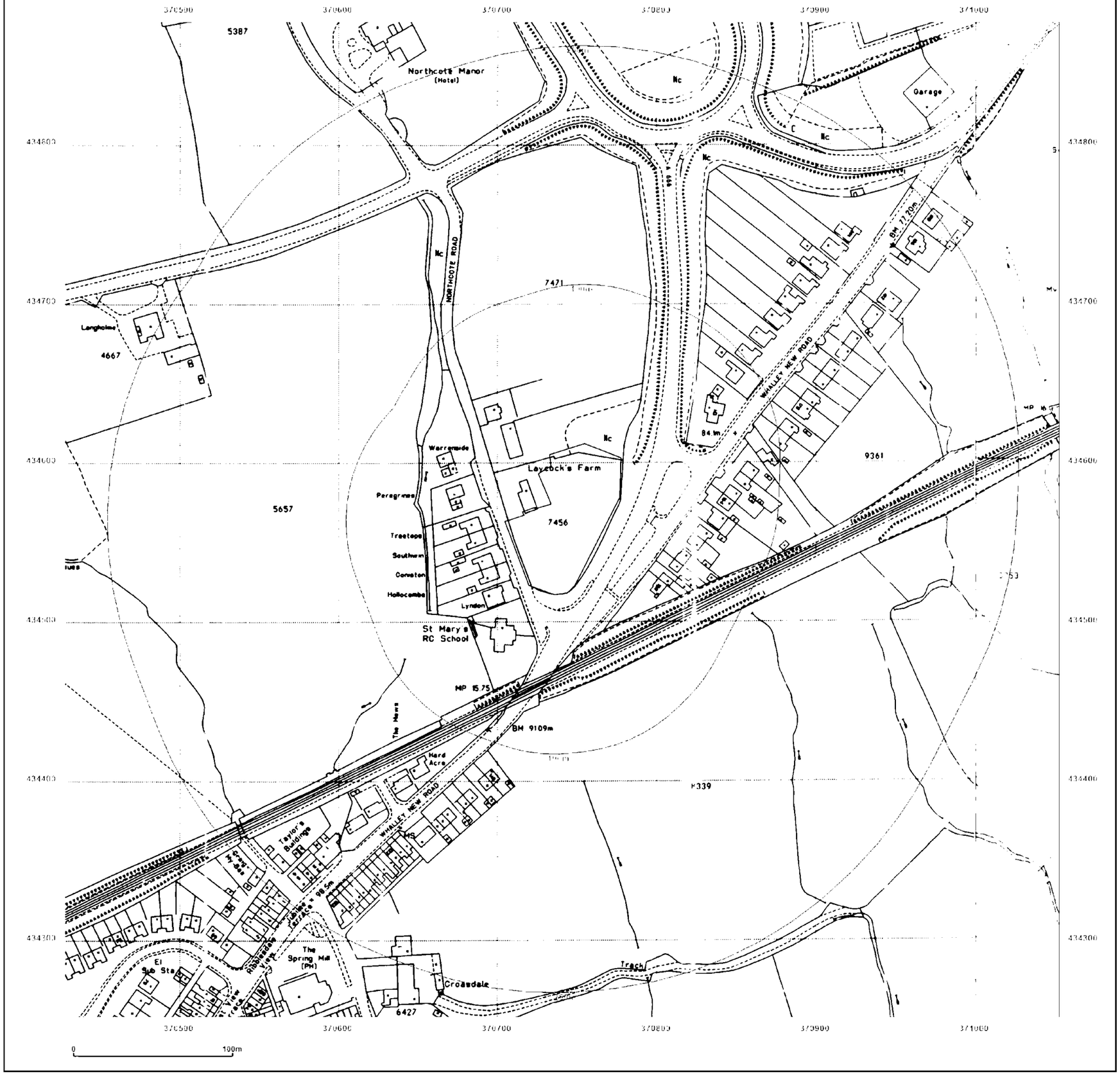

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Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: National Grid

Map date: **1992**

Scale: 1:2,500

Printed at: 1:2,500

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Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

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

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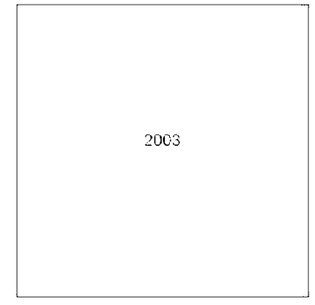

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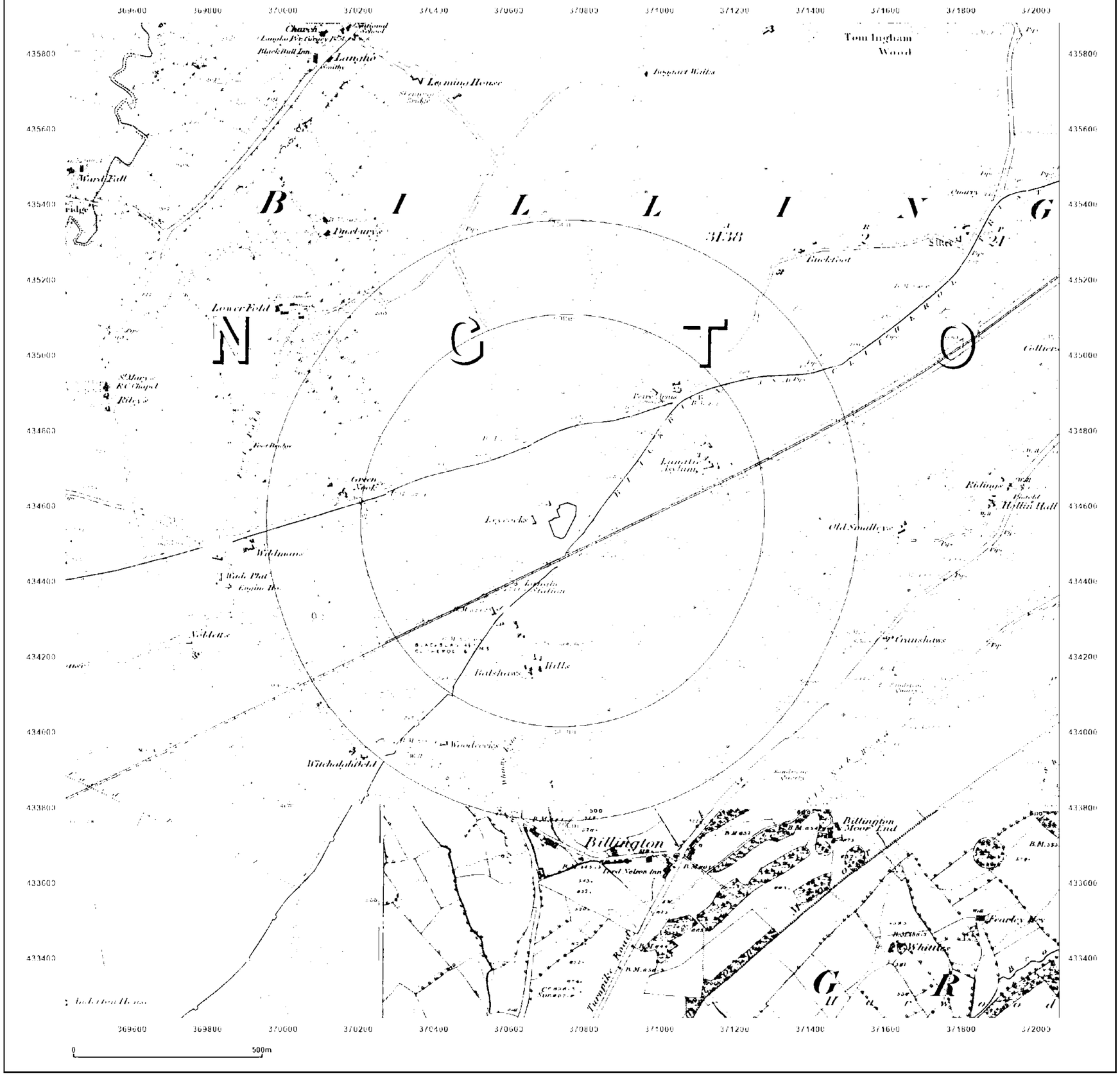

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Site Details:

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Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series
Map date: **1844-1848**
Scale: 1:10,560
Printed at: 1:10,560

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Surveyed 1844
Revised N/A
Edition 1847
Copyright N/A
Levelled N/A

Surveyed 1844
Revised N/A
Edition 1848
Copyright N/A
Levelled N/A

Surveyed 1844
Revised N/A
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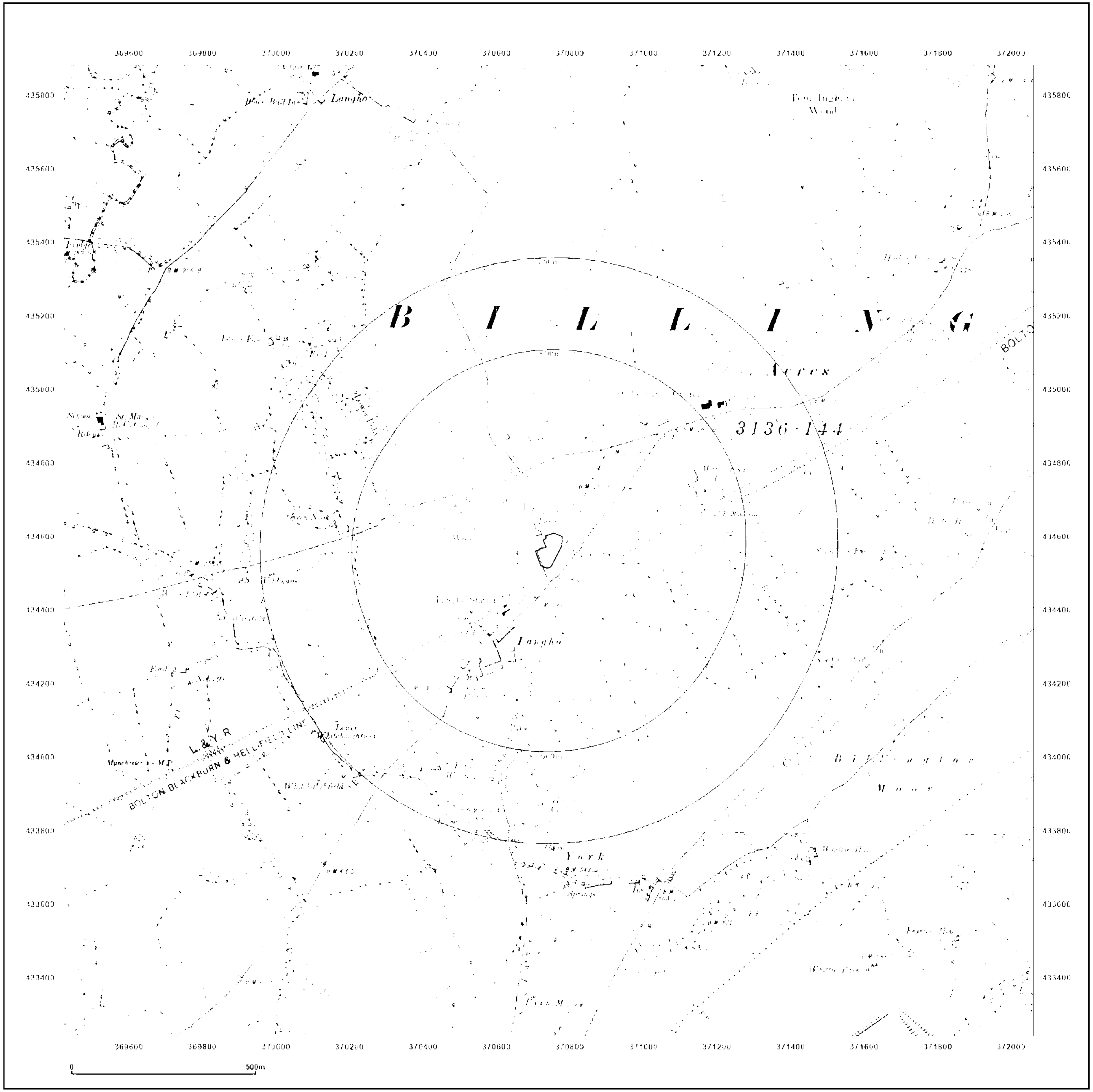

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Site Details:

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Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series

Map date: **1892**

Scale: 1:10,560

Printed at: 1:10,560

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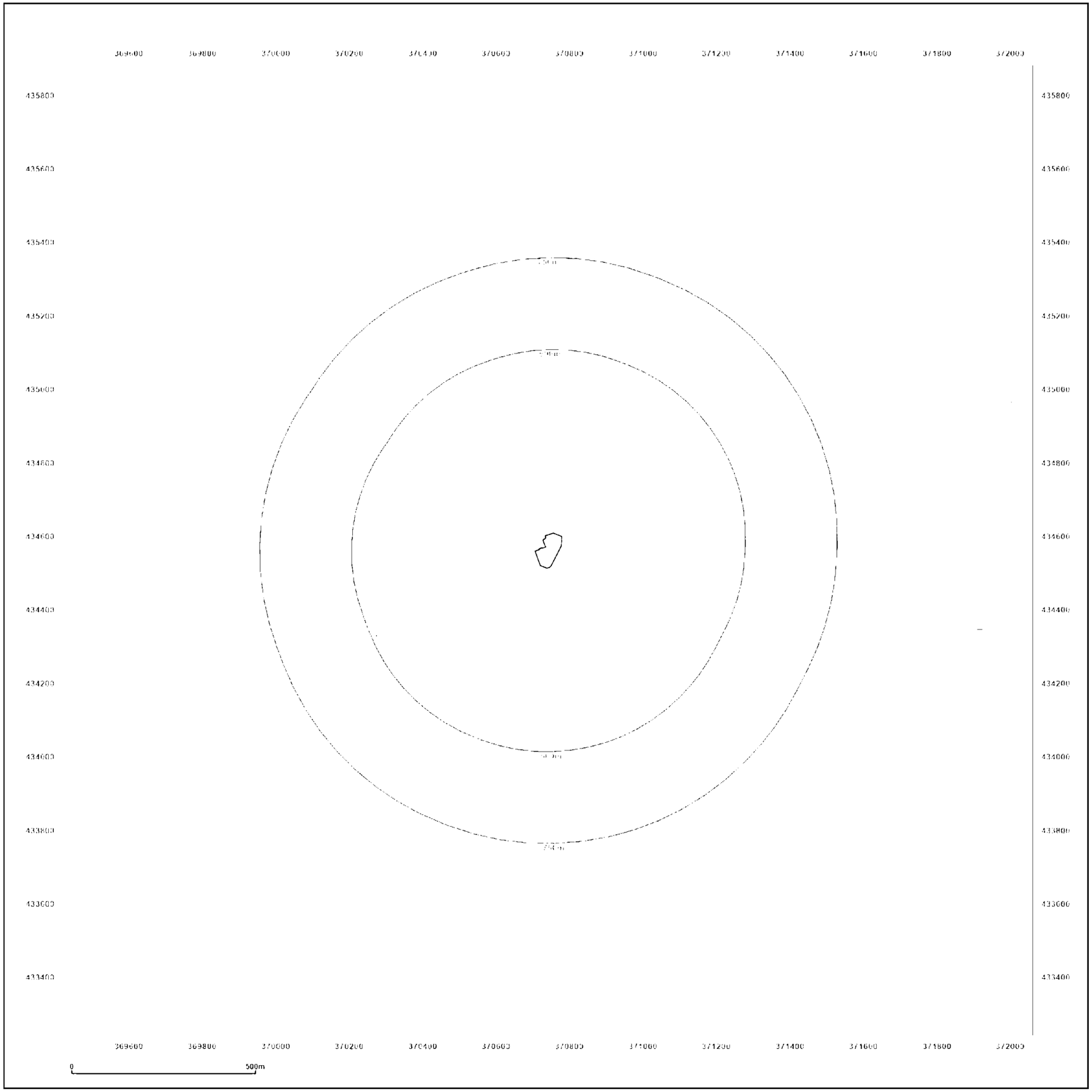

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Site Details:

FERNS, NORTHCOTE ROAD,
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Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series

Map date: **1896**

Scale: 1:10,560

Printed at: 1:10,560

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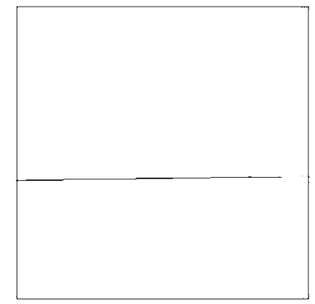
Surveyed 1847
Revised 1892
Edition 1896
Copyright N/A
Levelled N/A



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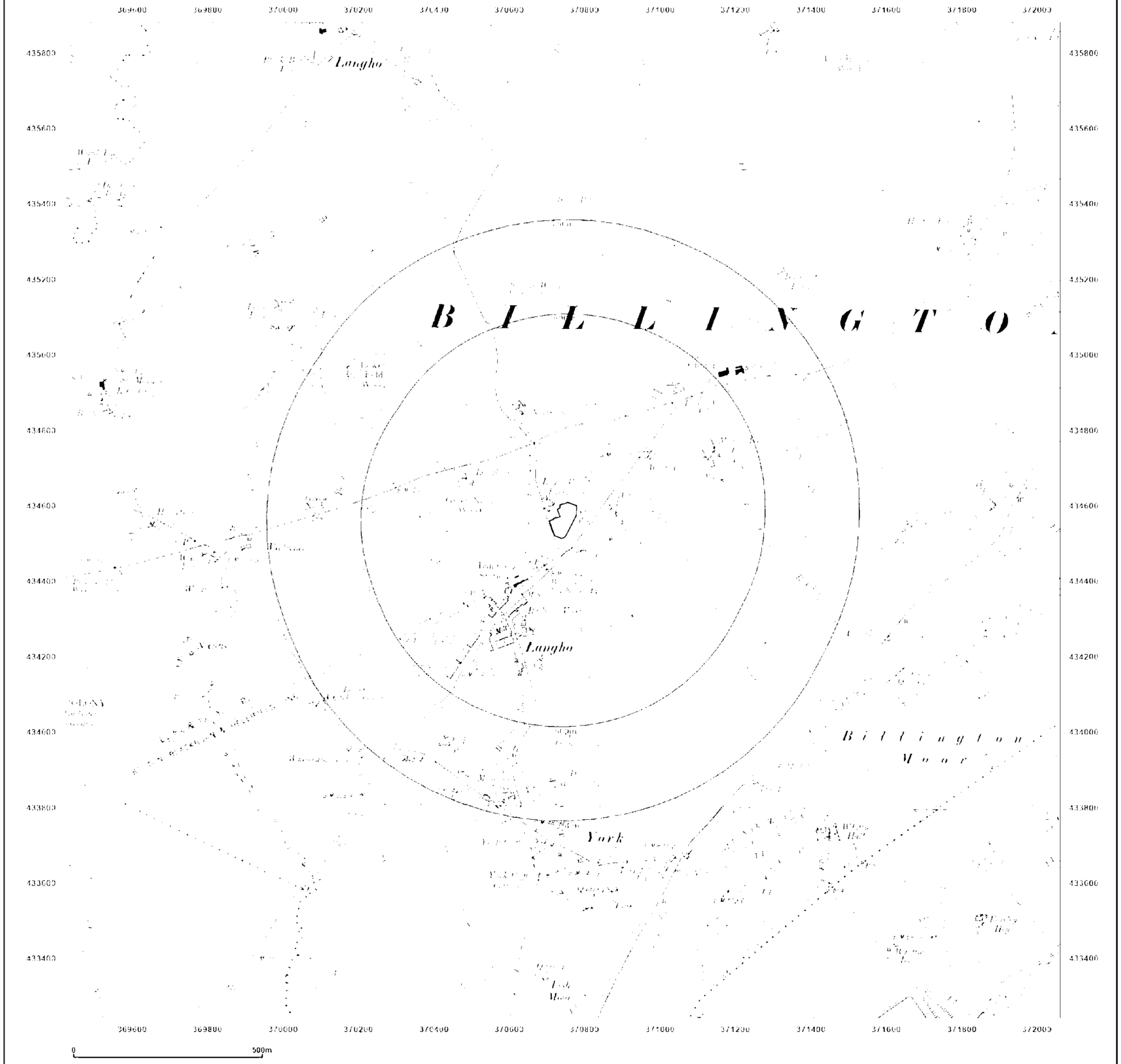

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Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series
Map date: **1909-1910**
Scale: 1:10,560
Printed at: 1:10,560

N
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Surveyed 1844
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1910
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1910
Edition N/A
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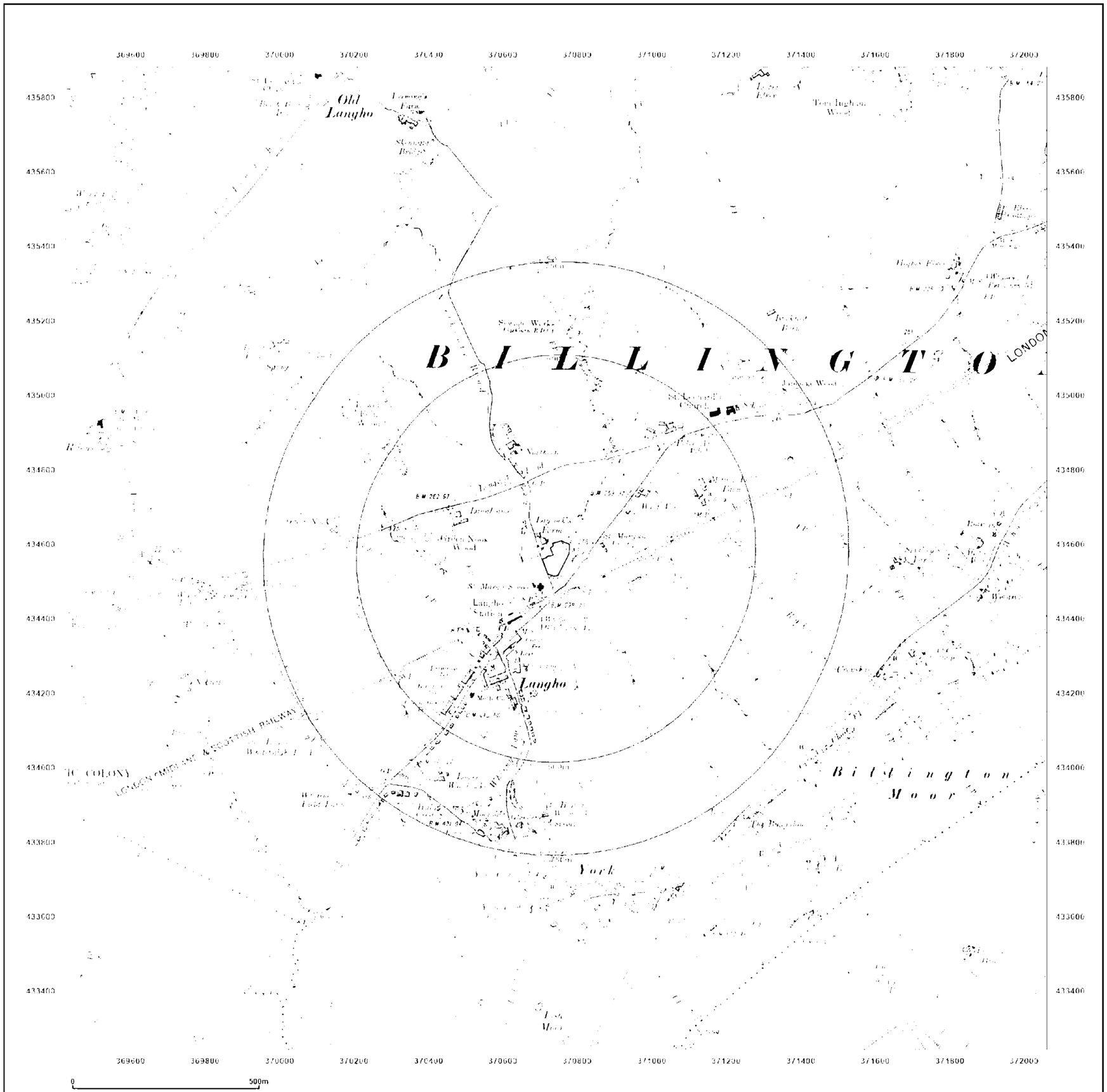

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LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series
Map date: **1929-1933**
Scale: 1:10,560
Printed at: 1:10,560

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Surveyed 1844
Revised 1932
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1933
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1930
Edition N/A
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Surveyed 1844
Revised 1929
Edition N/A
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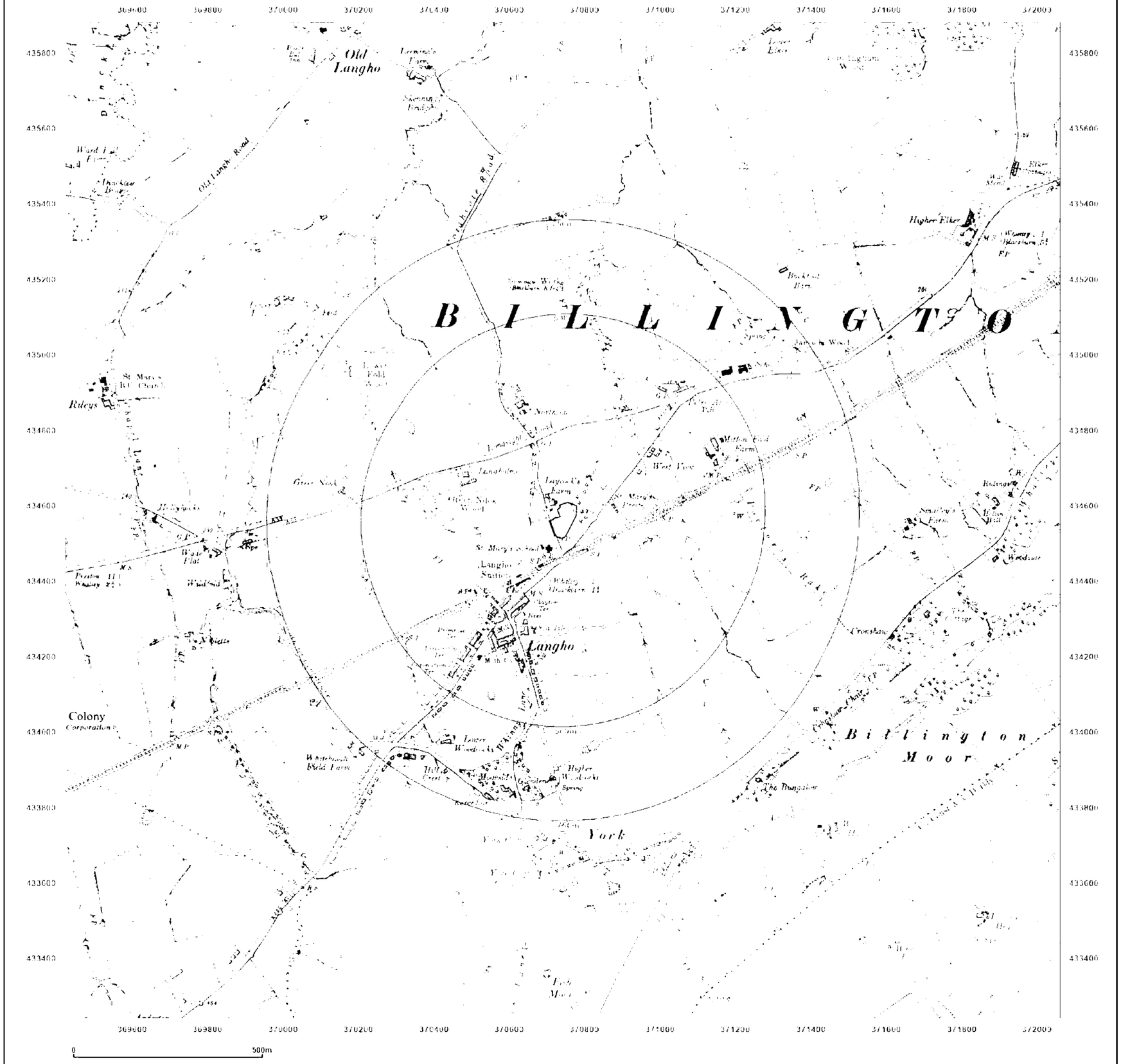

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Site Details:

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LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: Provisional
Map date: **1950-1951**
Scale: 1:10,560
Printed at: 1:10,560

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

Surveyed 1950
Revised 1950
Edition N/A
Copyright N/A
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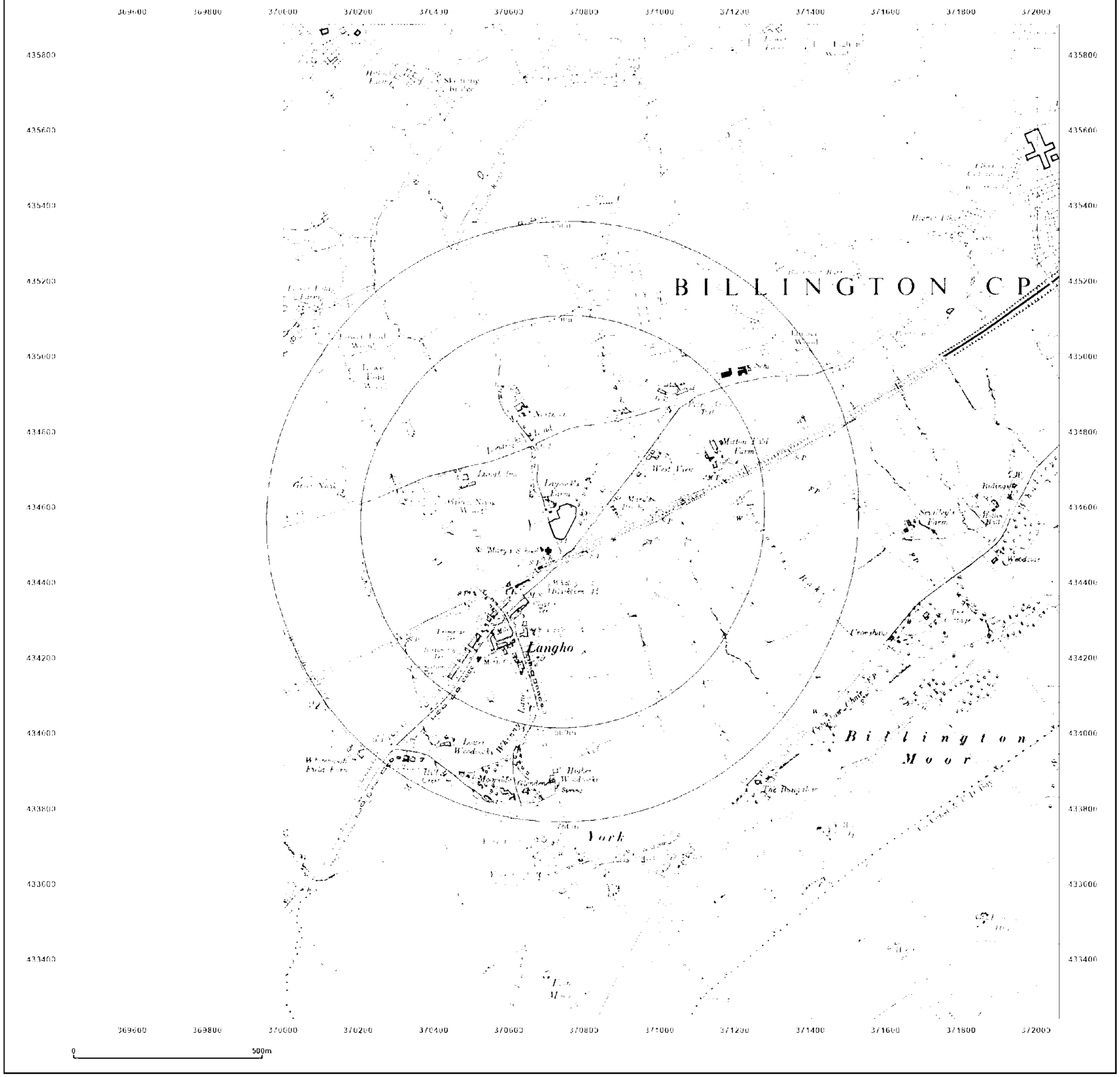

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Site Details:

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LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: Provisional
Map date: **1966-1969**
Scale: 1:10,560
Printed at: 1:10,560

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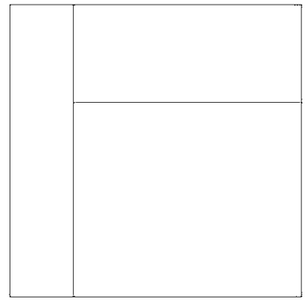
Surveyed 1969
Revised 1969
Edition N/A
Copyright N/A
Levelled N/A



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Revised 1966
Edition 1955
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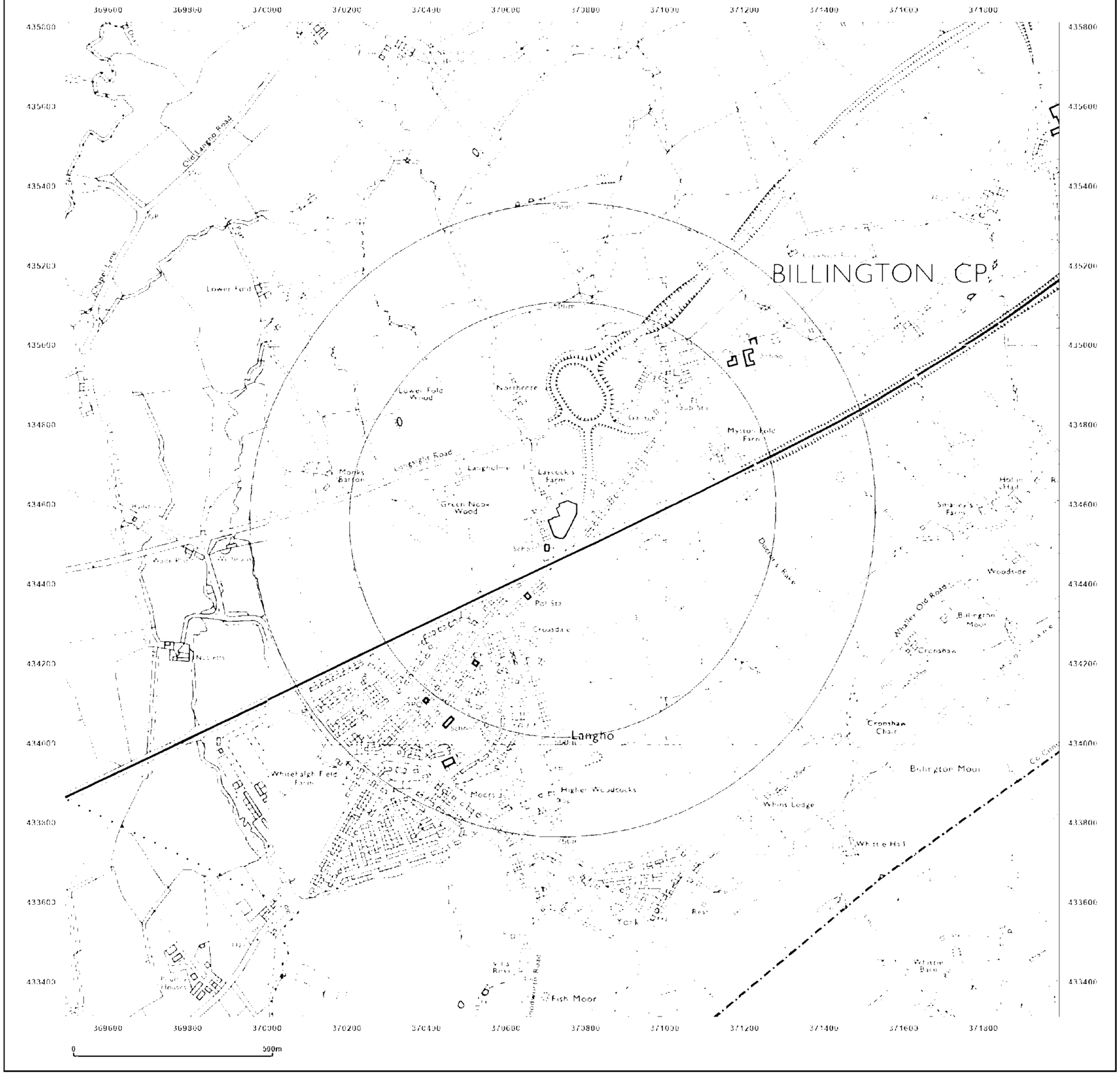

Groundsure INSIGHTS

Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: National Grid
Map date: **1970-1976**
Scale: 1:10,000
Printed at: 1:10,000

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

Surveyed 1972
Revised 1973
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1975
Revised 1976
Edition N/A
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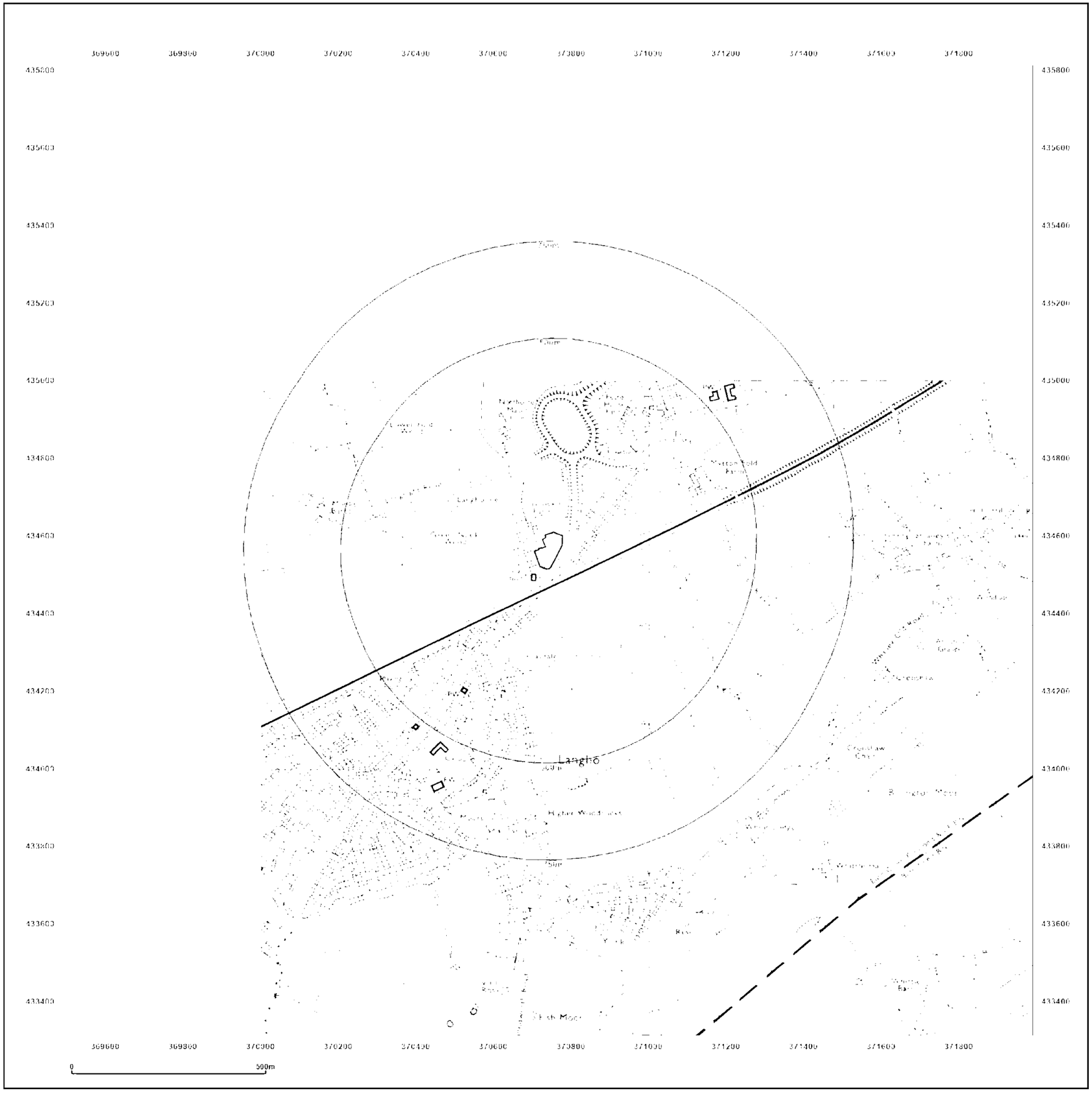

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Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: National Grid
Map date: **1991**
Scale: 1:10,000
Printed at: 1:10,000

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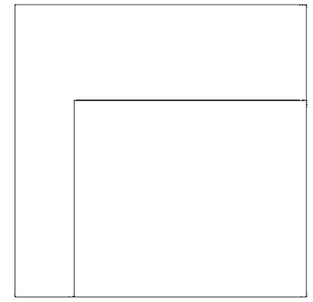

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Revised 1991
Edition N/A
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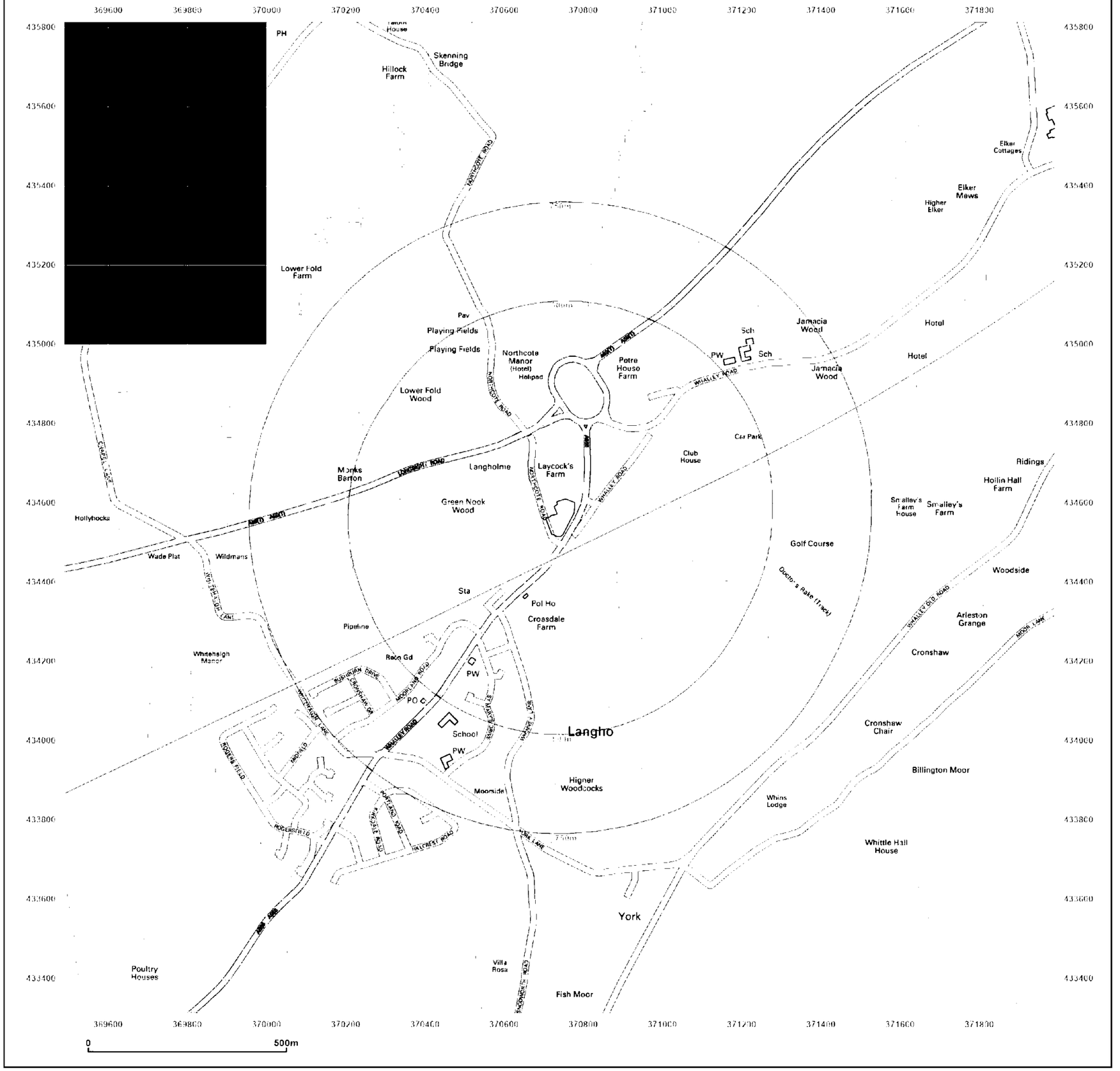

Groundsure INSIGHTS

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FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

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

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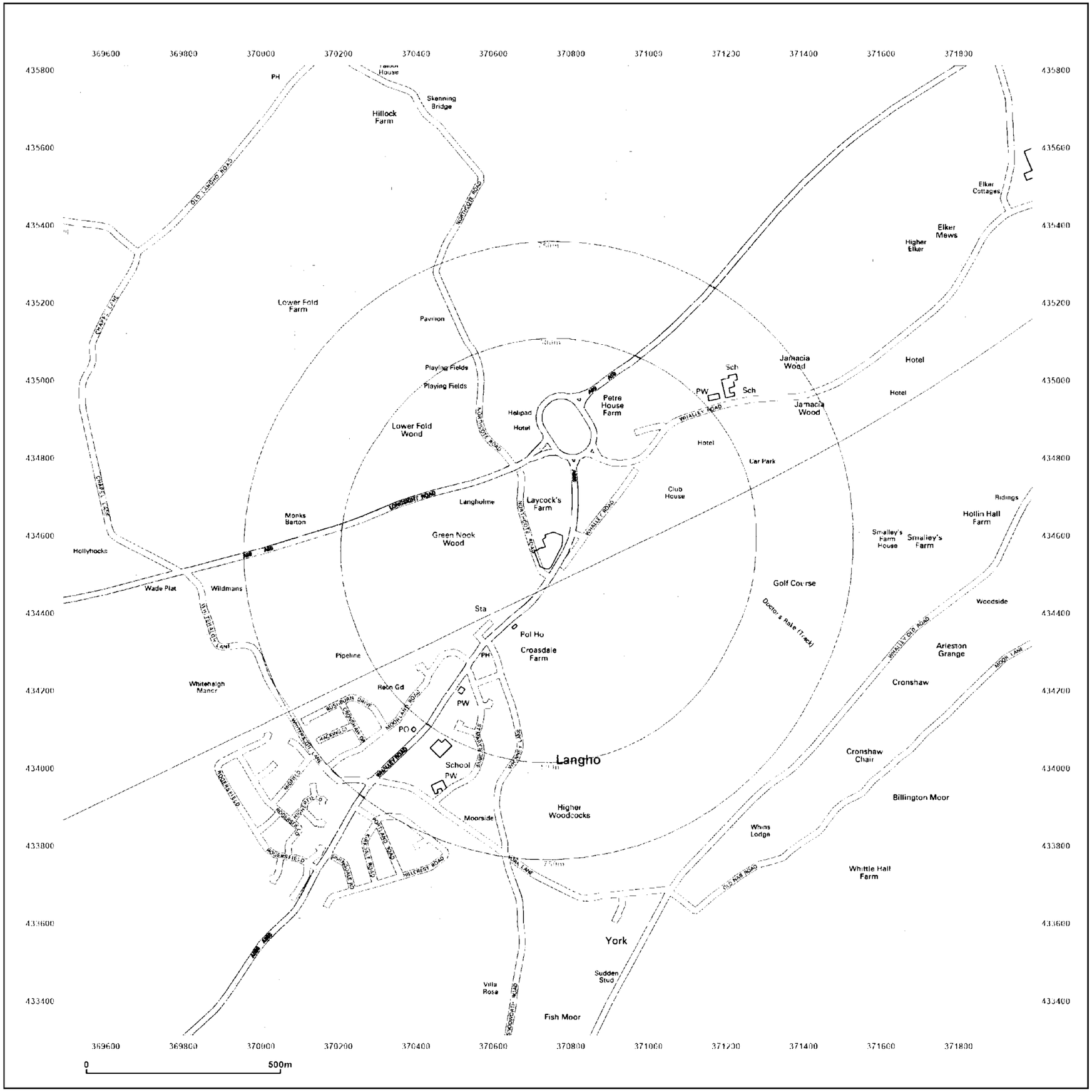

Groundsure INSIGHTS

Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

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

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Map legend available at:
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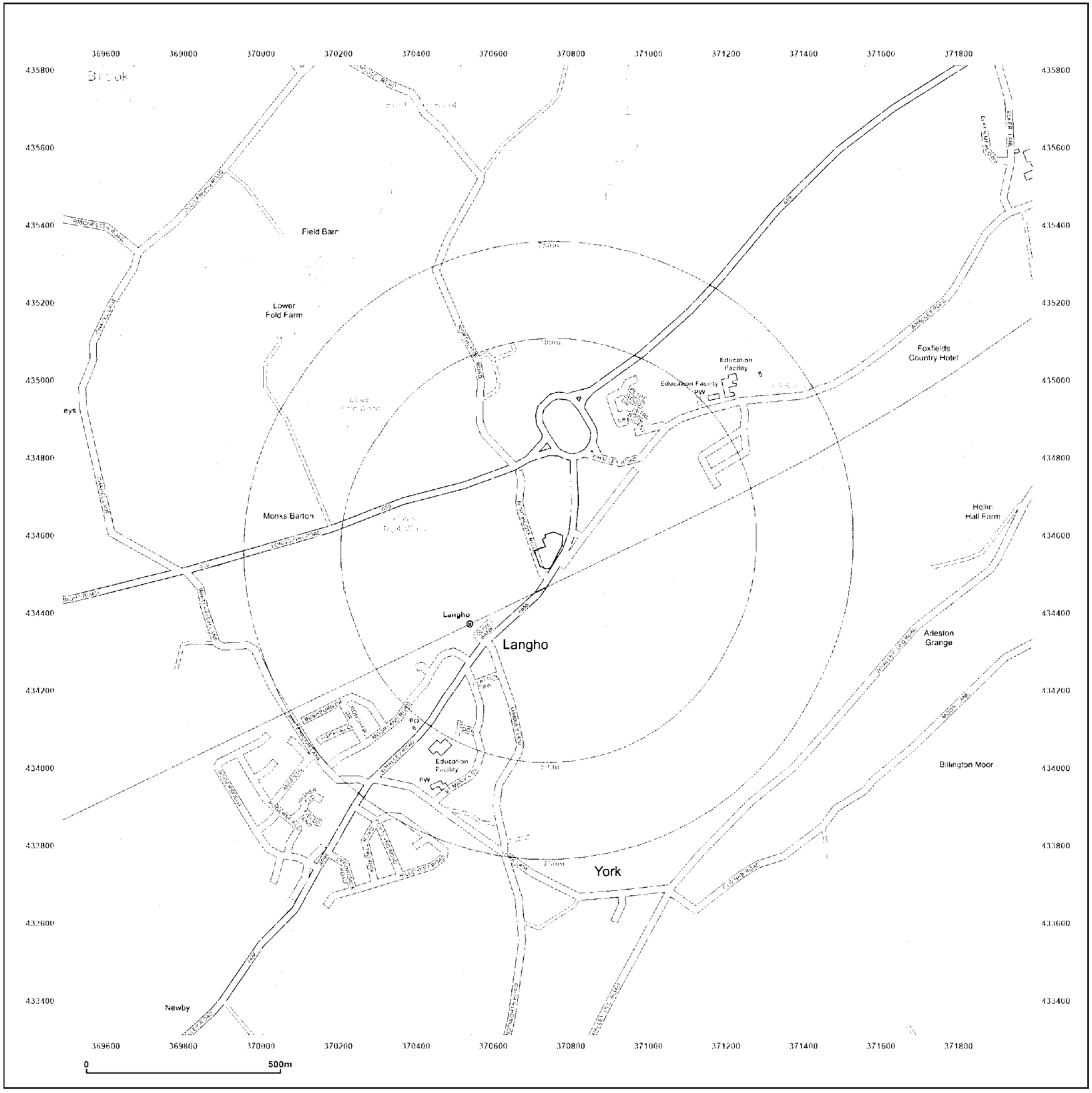

Groundsure INSIGHTS

Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: National Grid
Map date: **2022**
Scale: 1:10,000
Printed at: 1:10,000

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2022

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Production date: 01 February 2022

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

RevNo	Revision note	Date	Signature	Checked
A	1, Site access road increased to 5.5m wide as requested by LHA 2, Access road to remain in private ownership and unadopted by the Local Authority. 3, Visibility splays shown as 2.4m x 43m. The area to the Ferns property where the visibility line crosses is to be be safe guarded by legal agreement with the owner to prevent any foliage or fencing higher than 600mm.	15.07.22	JH	
B	1, Area of visibility splay to front of The Ferns outlined in red boundary. 2, The Ferns property outline indicated by blue boundary line 3, Pedestrian access route to existing bus stops on Whalley Road indicated. 4, Images of Northcote Road entrance added. 5, Access route to North of plot 8 altered as per LPA request. Now 1.8m boundary fence to boundary between the Ferns and plot 8. 6 Boundary wall and fence repositioned to plots 1 and 2 and screened with new hedgerow.	29.07.22	JH	
C	1, Eaves height and ridge levels added to plots 1 and 8 2, dimension added between plot 7 and the ferns	08.09.22	JH	
D	1, Plot 1 repositioned 1.1m further away from Northcote Road. 2, Garage attached to plot 1 to increase garden size 3, Garage attached to plot 3 to increase garden size 4, Plot 3 handed 5, Plot 8 house type substituted for dormer bungalow. 6, Plot 8 garage repositioned to provide better outlook for gable window to existing bunglaow.	24.02.23	JH	
E	1, Plots 2 and 3 switched as per LPA request	07.03.23	JH	
F	1, Plots 2 and 3 switched back due to insufficient garden outlook of plot 3 2, plot 8 redesigned to true dormer (1787sq.ft) 3, plot 1 FFL height lowered	13.03.23	JH	

SURVEYED BUILDING EXTENTS WHERE POSSIBLE DUE TO POOR VISIBILITY

SURVEYED OVERHEAD CABLES WHERE POSSIBLE OUTSIDE SURVEY AREA

EXISTING BUILDING

SURVEYED BUILDING EXTENTS WHERE POSSIBLE DUE TO POOR VISIBILITY

EXISTING BUILDING

SURVEYED BUILDING EXTENTS WHERE POSSIBLE DUE TO POOR VISIBILITY

EXISTING BUILDING

EXISTING BUILDING

EXISTING BUILDING

EXISTING BUILDING

GREEN HOUSE

SHED

TARMAC

TARMAC

TARMAC

TARMAC

TARMAC

TARMAC

TARMAC

TARMAC

GRASS

GRASS

GRASS

GRASS

DENSE TREE GROUPING

DENSE TREE GROUPING

T13,14,15 AND 16 TPO TREES TO BE PROTECTED

T11 AND T12 TO BE REMOVED

T1 to be removed

T2 to be removed

T3 to be removed

T5 to be removed

T11 to be removed

T12 to be removed

area shown hatched to be kept free of any foliage of fencing exceeding 600mm in height and safeguarded by legal agreement with property owner.

new 1.8m close boarded fencing

3m Easement zone for UU drain

2.4mx43m visibility splay to site egress

1.8m close boarded fencing with 0.6m wide hedgrow planting to outside face onto Whalley Road

1.8m stone wall with 0.6m wide hedgrow planting to outside face onto Whalley Road

EXISTING DROPPED KERBS

BUS STOP

pedestrian route to bus stop

pedestrian route to bus stop

pedestrian route to bus stop

EXISTING DROPPED KERBS

STAY WIRE

NORTHCOTE ROAD

WHALLEY ROAD

PLOT 1

PLOT 2

PLOT 3

PLOT 4

PLOT 5

PLOT 6

PLOT 7

PLOT 8

WOBURN 2 storey 1855sq.ft.

WENTWORTH 2 storey 1855sq.ft.

BIRKDALE 2 storey 1615sq.ft.

T1

T2

T3

T4

T5

T6

T7

T8

T9

T10

T11

T12

T13

T14

T15

T16

T17

ACCOMMODATION SCHEDULE

1 No. Dormer bungalow	4 BED dormer bunglaow	1,787 sq. ft.	= 1,787 sq.ft
1 No. WOBURN	4 BED 2 STOREY DETACHED	1,855 sq. ft.	= 1,855 sq. ft.
2 No. WENTWORTH	4 BED 2 STOREY DETACHED	1,855 sq. ft.	= 3,710 sq.ft.
4 No. BIRKDALE	4 BED 2 STOREY DETACHED	1,615 sq. ft.	= 6,460 sq. ft.
8 No. TOTAL		TOTAL	= 13,812 sq.ft.

GROSS SITE AREA	= 4,160 m2	= 1.027 acres	= 0.416 ha
OPEN SPACE AREA	= 0m2	= 0 acres	= 0ha
NET DEVELOPABLE AREA	= 4,160 m2	= 1.027 acres	= 0.416 ha

0m 5m 10m

1:200 scale bar

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PROJECT: PROPOSED RESIDENTIAL DEVELOPMENT LAND ADJ THE FERNS, NORTHCOTE ROAD, LANGHO, BB6 8BG

CLIENT: OAKTREE DEVELOPMENTS

Drawing Title: PROPOSED SITE LAYOUT

Drawing No: 2203-PL-03

Date: APRIL 2022

Scale: 1:200 @ A1

Revision: F

Issue: