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**PROPOSED RESIDENTIAL DEVELOPMENT
NORTHCOTE ROAD
LANGHO,
BLACKBURN,
LANCASHIRE**

FOR

OAK TREE DEVELOPMENTS

MARCH 2022

**PHASE 1 GEO-ENVIRONMENTAL DESK
STUDY REPORT**

22009/GEDS

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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	No radon gas protection measures are required.
	Mining	The site is not at risk from shallow coal mining beneath the site.
Environmental Appraisal	Subsidence Hazards	Very low to negligible risk
	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.
Recommendations	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.
	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.	

PHASE 1 GEO-ENVIRONMENTAL DESK STUDY REPORT

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.
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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/ m³ for the UK based on geological assessments and long- term measurements of radon in more than 479,000 households.
- 3.8.6 The site is in an area unlikely to be affected by radon gas as < 1% of surrounding properties are above the Radon Action Level. The Groundsure Report has indicated no Radon Gas protection measures are required for this site.
- 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.

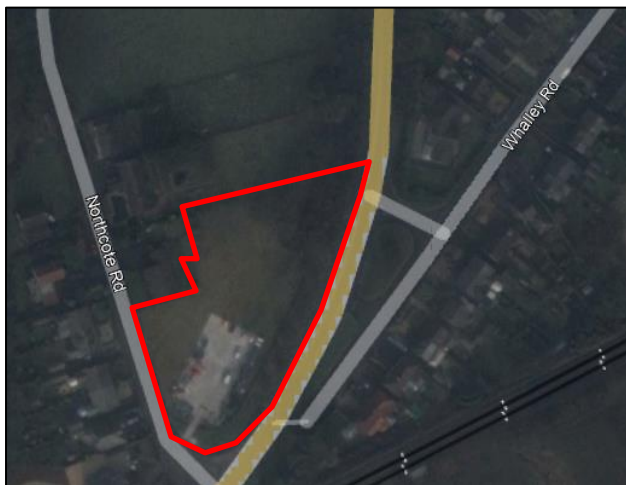


Figure 2 Aerial Photograph from Google Earth, dated 2013

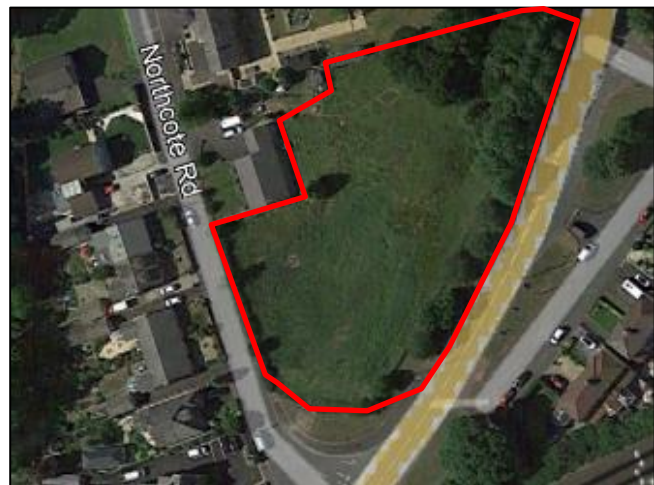


Figure 3 Aerial Photograph from Google Earth dated 2018

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	Very Low	
	Ground water in aquifer	Leaching of contaminants to ground water	Very Low	
	Future site users	Vapour migration from soils	Very Low	
	Proposed buildings and services	Direct contact with contaminated soils	Very Low	
	Plants in gardens and soft landscaping	Direct contact	Low	
Asbestos on/ in the Ground	Site operatives and End Users	Inhalation of fibres	Very Low	Representative asbestos screening tests if suspected asbestos containing materials are found.
Contaminated ground water	Site personnel during construction	Water entering excavations	Very Low	Sampling of ground water (where encountered).
	Future site Users	Retained surface water	Very Low	
Radon Gas (< 1% of surrounding properties are above the Radon Action Level)	Site personal in confined spaces and end users of the site	Inhalation of Gas	Very Low	Groundsure has indicated no radon gas protection measures are required for this site.
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	Very Low	
	Ground water in aquifer	Leaching of contaminants to ground water	Very Low	
	Future site users	Vapour migration from soils	Very Low	
	Proposed buildings and services	Direct contact with contaminated soils	Very Low	
	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	<ul style="list-style-type: none"> Localised made ground Soft glacial till deposits
Granular deposits	Possible	<ul style="list-style-type: none"> Localised sand lenses within the cohesive strata
Ground subject to or at risk of landslides	Unlikely	<ul style="list-style-type: none"> Site gently slopes east towards A66
High ground water table	Unlikely	<ul style="list-style-type: none"> Secondary undifferentiated in superficial deposits Secondary undifferentiated aquifer in bedrock Local perched ground water within impermeable clays
Surface water retention	Likely	<ul style="list-style-type: none"> Low permeability superficial deposits over site area
Surface water run off	Likely	<ul style="list-style-type: none"> Low permeability superficial deposits sloping topography towards the eastern boundary
Mining	Unlikely	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Cohesive superficial deposits
Adverse ground chemistry	Possible	<ul style="list-style-type: none"> Made Ground deposits potentially present where the temporary car was from 2013 to 2018
Live services	Unlikely	<ul style="list-style-type: none"> 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".

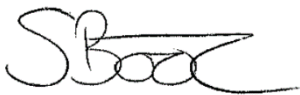
6.2 Proposed Scope of Ground Investigations

- 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



Stephen Boot B.Sc. (Hons) FGS



Hollie Marengo BSc (Hons), MSc, FGS
Senior Geo-Environmental Manager

APPENDIX A

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
Very High Risk	<p>Extensive Ground Investigation is Required</p> <p>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.</p>
High Risk	<p>Extensive Ground Investigation is Required</p> <p>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.</p>
Moderate Risk	<p>Ground Investigation Required</p> <p>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.</p>
Low Risk	<p>Nominal Ground Investigation Required.</p> <p>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.</p>
Very Low Risk	<p>No Ground Investigation Required*</p> <p>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.</p>

* 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.

APPENDIX B



Location Image



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 as recognised by **SSIP** SAFETY SCHEMES IN PROCUREMENT
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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

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Tel: -(01942) 826020 Fax: -(01942) 230816
CONSULTING ENGINEERS
CIVIL • STRUCTURAL
GEOTECHNICAL • ENVIRONMENTAL

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

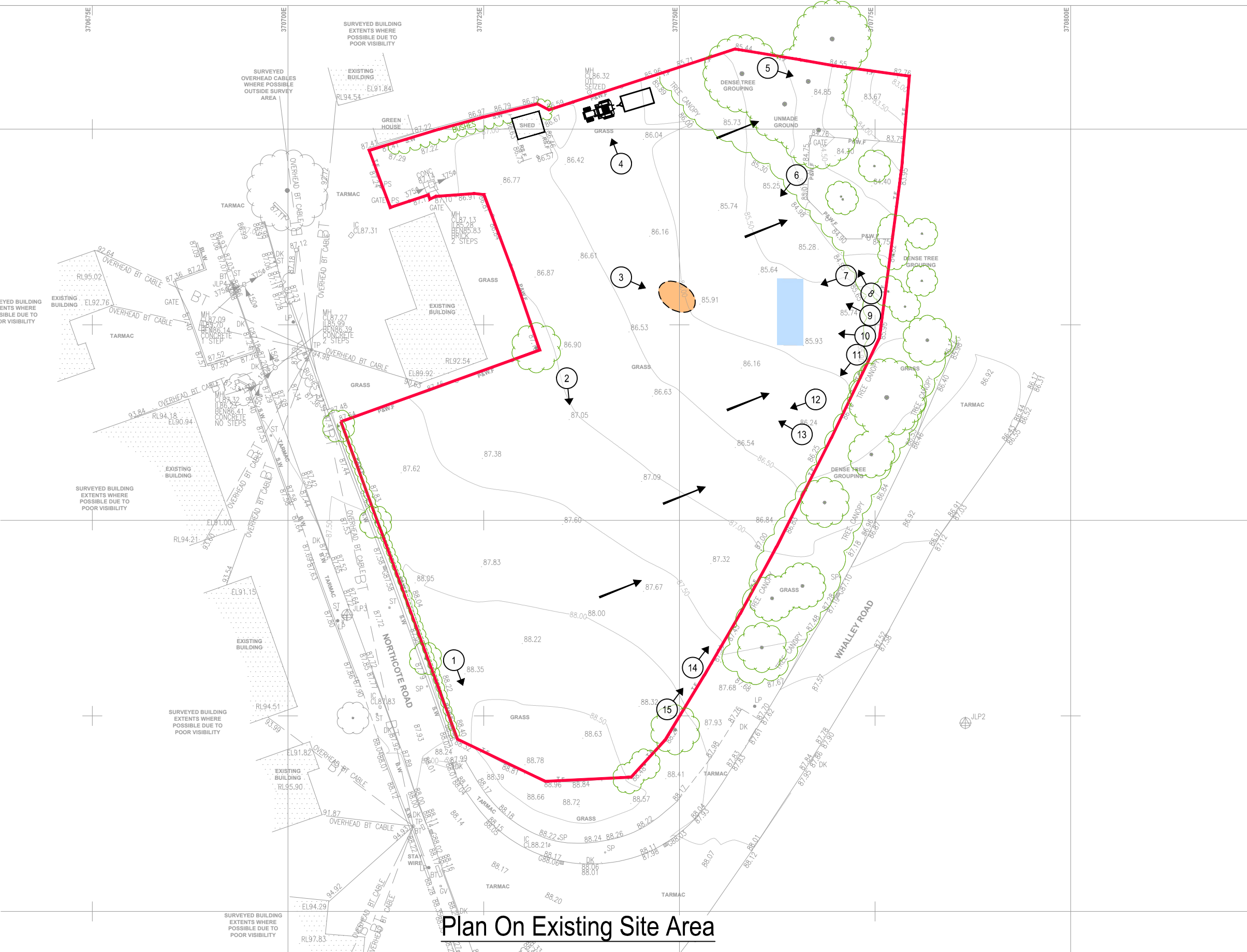
DRAWING No	rev
22009/01	

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APPENDIX C



Location Image



LEGEND:

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

DRG REFERENCES:

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

revision suffix	Revision Details	Date

as recognised by

worksafe consultant **SSIP** SAFETY SCHEMES IN PROCUREMENT

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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
Photo Location Plan

REFA 45 Bridgeman Terrace Wigan, Lancs WN1 1TT
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		10.03.22	1:500 @ A3	PT

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APPENDIX D

<div><div>REFA</div></div>		Photographs	
Site: Northcote Road		Report Number: 22009	
Client: Oak Tree Developments		Sheet: 1/3	
		Survey Date: 02.03.22	

WALKOVER SURVEY PHOTOGRAPHS

1



2



3



4



5



6



<div><div>REFA</div></div>		Photographs	
Site: Northcote Road		Report Number: 22009	
Client: Oak Tree Developments		Sheet: 2/3	
		Survey Date: 02.03.22	

WALKOVER SURVEY PHOTOGRAPHS

7



8



9



10



11



12



Site: Northcote Road
Client: Oak Tree Developments

Report Number:
22009
Sheet:
3/3
Survey Date:
02.03.22

WALKOVER SURVEY PHOTOGRAPHS

13



14



15



APPENDIX E

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](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

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	<u>Historical industrial land uses</u>	0	2	12	26	-
16	1.2	Historical tanks	0	0	0	0	-
16	1.3	<u>Historical energy features</u>	0	0	0	4	-
17	1.4	Historical petrol stations	0	0	0	0	-
17	1.5	<u>Historical garages</u>	0	0	0	2	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
19	2.1	<u>Historical industrial land uses</u>	0	3	16	33	-
21	2.2	Historical tanks	0	0	0	0	-
22	2.3	<u>Historical energy features</u>	0	0	0	7	-
22	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	<u>Historical garages</u>	0	0	0	3	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
25	3.4	<u>Historical landfill (EA/NRW records)</u>	0	0	1	0	-
25	3.5	<u>Historical waste sites</u>	0	0	0	1	-
26	3.6	<u>Licensed waste sites</u>	0	0	5	0	-
27	3.7	<u>Waste exemptions</u>	0	0	0	10	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
29	4.1	<u>Recent industrial land uses</u>	0	0	3	-	-
30	4.2	<u>Current or recent petrol stations</u>	0	0	0	1	-
30	4.3	Electricity cables	0	0	0	0	-
30	4.4	Gas pipelines	0	0	0	0	-
30	4.5	Sites determined as Contaminated Land	0	0	0	0	-



31	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
31	4.7	Regulated explosive sites	0	0	0	0	-
31	4.8	Hazardous substance storage/usage	0	0	0	0	-
31	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
31	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
32	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	0	1	-
32	4.12	Radioactive Substance Authorisations	0	0	0	0	-
32	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	0	3	-
33	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
33	4.15	Pollutant release to public sewer	0	0	0	0	-
33	4.16	List 1 Dangerous Substances	0	0	0	0	-
34	4.17	List 2 Dangerous Substances	0	0	0	0	-
34	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	1	4	-
35	4.19	Pollution inventory substances	0	0	0	0	-
35	4.20	Pollution inventory waste transfers	0	0	0	0	-
35	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
36	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
38	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
40	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
41	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
41	5.5	Groundwater vulnerability- local information	None (within 0m)				
42	5.6	Groundwater abstractions	0	0	0	0	0
43	5.7	<u>Surface water abstractions</u>	0	0	0	0	2
43	5.8	<u>Potable abstractions</u>	0	0	0	0	2
44	5.9	Source Protection Zones	0	0	0	0	-
44	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
45	6.1	<u>Water Network (OS MasterMap)</u>	0	0	14	-	-



47	6.2	<u>Surface water features</u>	0	0	9	-	-
47	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
47	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
48	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
49	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
49	7.2	Historical Flood Events	0	0	0	-	-
49	7.3	Flood Defences	0	0	0	-	-
50	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
50	7.5	Flood Storage Areas	0	0	0	-	-
51	7.6	Flood Zone 2	None (within 50m)				
51	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
52	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
54	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
55	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
56	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
56	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
56	10.4	Special Protection Areas (SPA)	0	0	0	0	0
56	10.5	National Nature Reserves (NNR)	0	0	0	0	0
57	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
57	10.7	<u>Designated Ancient Woodland</u>	0	0	0	0	1
57	10.8	Biosphere Reserves	0	0	0	0	0
57	10.9	Forest Parks	0	0	0	0	0
58	10.10	Marine Conservation Zones	0	0	0	0	0
58	10.11	<u>Green Belt</u>	0	1	0	0	1
58	10.12	Proposed Ramsar sites	0	0	0	0	0



58	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
59	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
59	10.15	Nitrate Sensitive Areas	0	0	0	0	0
59	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
60	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
61	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
62	11.1	World Heritage Sites	0	0	0	-	-
62	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
62	11.3	National Parks	0	0	0	-	-
62	11.4	Listed Buildings	0	0	0	-	-
63	11.5	Conservation Areas	0	0	0	-	-
63	11.6	Scheduled Ancient Monuments	0	0	0	-	-
63	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
64	<u>12.1</u>	<u>Agricultural Land Classification</u>	Grade 4 (within 250m)				
65	12.2	Open Access Land	0	0	0	-	-
65	12.3	Tree Felling Licences	0	0	0	-	-
65	12.4	Environmental Stewardship Schemes	0	0	0	-	-
66	<u>12.5</u>	<u>Countryside Stewardship Schemes</u>	0	0	1	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
67	<u>13.1</u>	<u>Priority Habitat Inventory</u>	0	1	4	-	-
68	13.2	Habitat Networks	0	0	0	-	-
68	13.3	Open Mosaic Habitat	0	0	0	-	-
68	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
69	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
70	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	0	1	0	1	-
71	<u>14.3</u>	<u>Superficial geology (10k)</u>	1	0	0	0	-

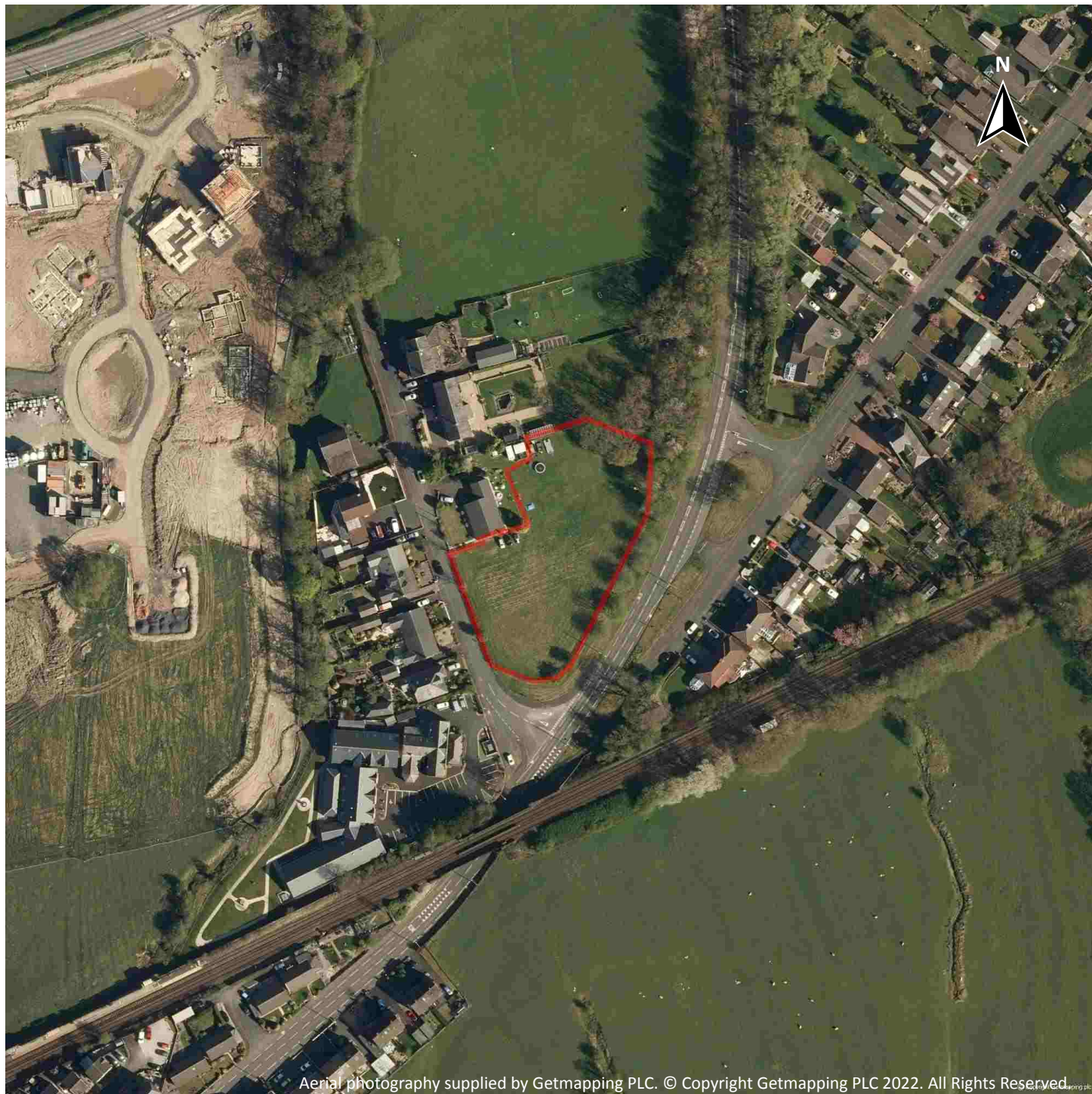


72	14.4	Landslip (10k)	0	0	0	0	-
73	14.5	<u>Bedrock geology (10k)</u>	1	0	0	2	-
74	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
75	15.1	<u>50k Availability</u>	Identified (within 500m)				
76	15.2	Artificial and made ground (50k)	0	0	0	0	-
76	15.3	Artificial ground permeability (50k)	0	0	-	-	-
77	15.4	<u>Superficial geology (50k)</u>	1	0	0	0	-
78	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
78	15.6	Landslip (50k)	0	0	0	0	-
78	15.7	Landslip permeability (50k)	None (within 50m)				
79	15.8	<u>Bedrock geology (50k)</u>	1	0	0	2	-
80	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
80	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
81	16.1	<u>BGS Boreholes</u>	0	0	3	-	-
Page	Section	Natural ground subsidence					
83	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
84	17.2	<u>Running sands</u>	Very low (within 50m)				
85	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
86	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
87	17.5	<u>Landslides</u>	Very low (within 50m)				
88	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
89	18.1	Natural cavities	0	0	0	0	-
90	18.2	BritPits	0	0	0	0	-
90	18.3	<u>Surface ground workings</u>	0	0	6	-	-
90	18.4	Underground workings	0	0	0	0	0
91	18.5	Historical Mineral Planning Areas	0	0	0	0	-



91	18.6	<u>Non-coal mining</u>	1	0	0	2	2
92	18.7	Mining cavities	0	0	0	0	0
92	18.8	JPB mining areas	None (within 0m)				
92	18.9	Coal mining	None (within 0m)				
92	18.10	Brine areas	None (within 0m)				
92	18.11	Gypsum areas	None (within 0m)				
93	18.12	Tin mining	None (within 0m)				
93	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
94	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
95	20.1	<u>BGS Estimated Background Soil Chemistry</u>	1	1	-	-	-
95	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
95	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
96	21.1	Underground railways (London)	0	0	0	-	-
96	21.2	Underground railways (Non-London)	0	0	0	-	-
97	21.3	Railway tunnels	0	0	0	-	-
97	21.4	<u>Historical railway and tunnel features</u>	0	3	2	-	-
97	21.5	Royal Mail tunnels	0	0	0	-	-
98	21.6	Historical railways	0	0	0	-	-
98	21.7	<u>Railways</u>	0	4	10	-	-
99	21.8	Crossrail 1	0	0	0	0	-
99	21.9	Crossrail 2	0	0	0	0	-
99	21.10	HS2	0	0	0	0	-

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

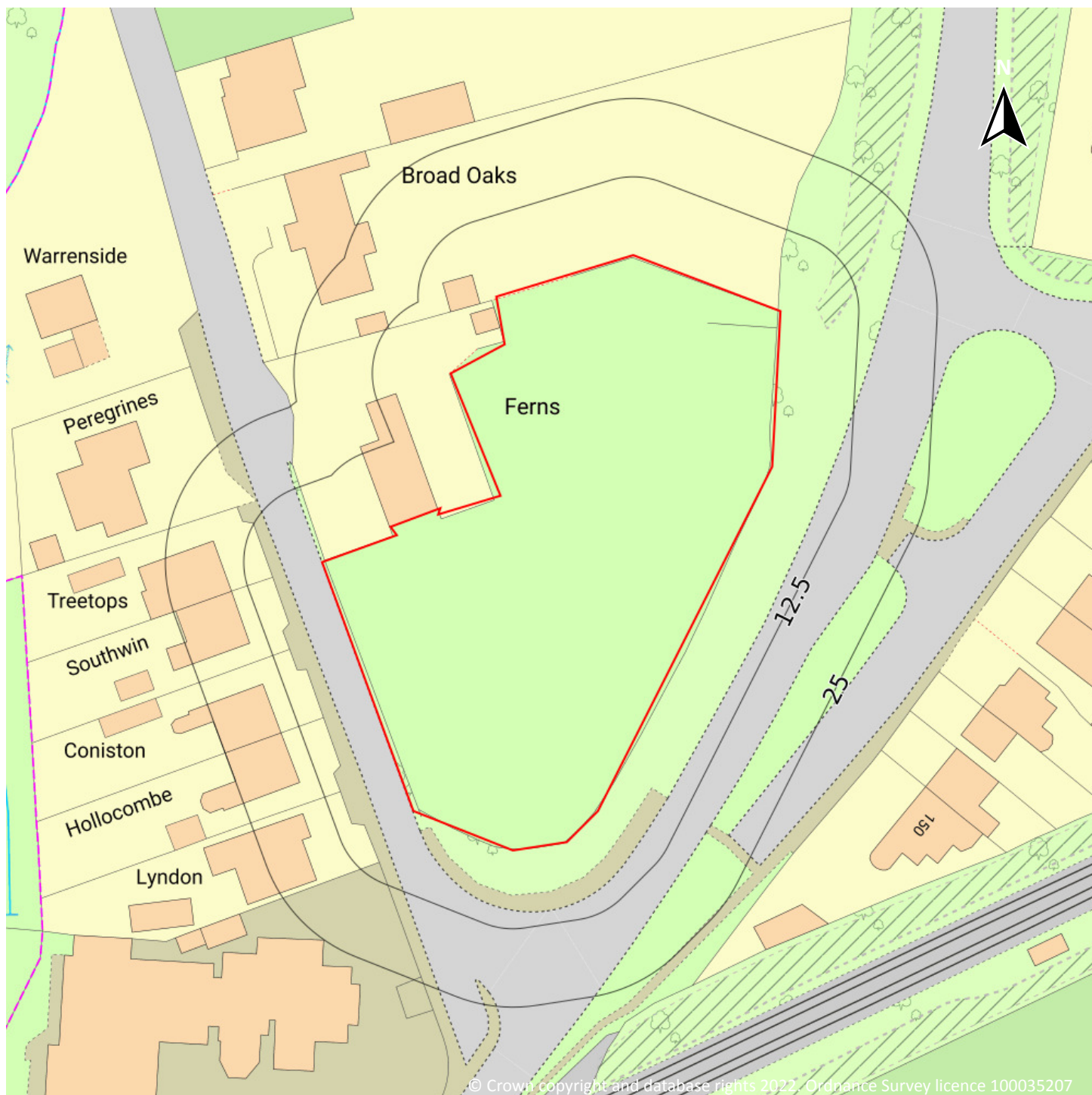


Capture Date: 10/09/1999

Site Area: 0.41ha



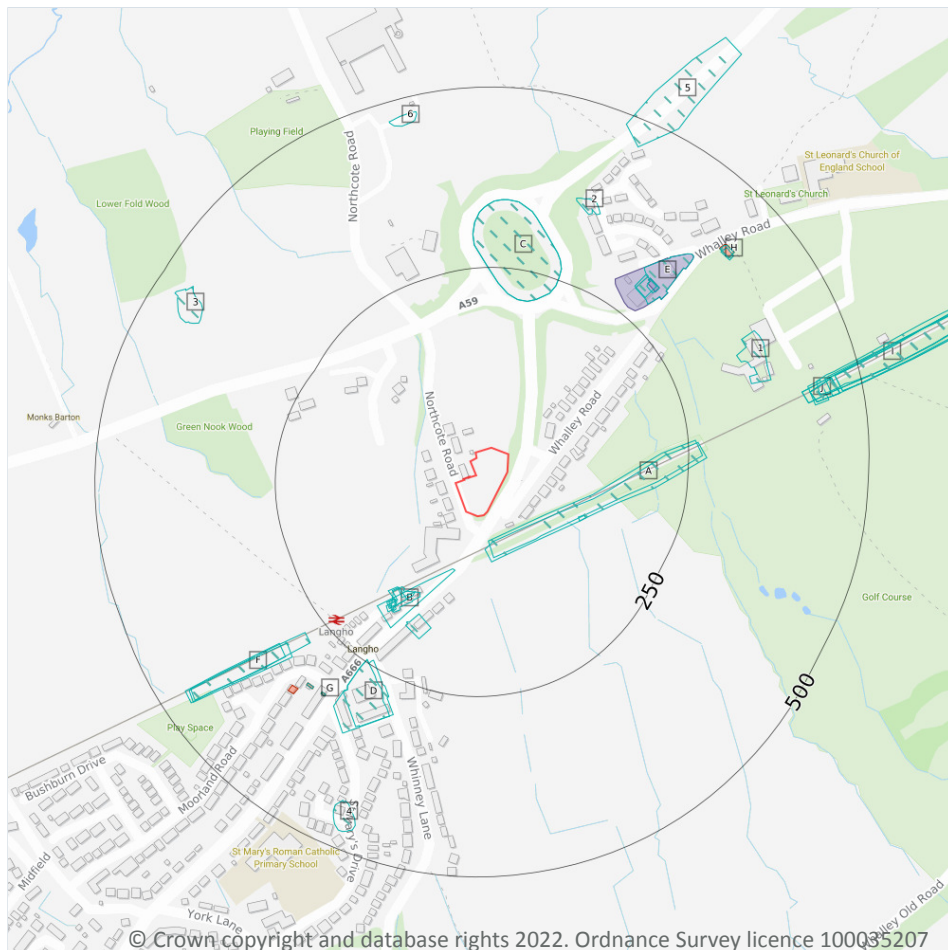
OS MasterMap site plan



Site Area: 0.41ha



1 Past land use



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

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
A	35m SE	Railway Sidings	1910 - 1933	709271



ID	Location	Land use	Dates present	Group ID
A	39m SE	Railway Sidings	1950	711607
B	80m S	Railway Sidings	1910 - 1933	784383
A	116m SE	Railway Building	1950	669918
B	129m SW	Railway Station	1950	695293
B	132m SW	Railway Station	1910 - 1933	779127
B	140m SW	Railway Station	1892	784111
B	156m SW	Station House	1976	657551
B	156m SW	Police Station	1973 - 1976	762471
B	156m SW	Railway Station	1846	788459
C	209m N	Unspecified Pit	1976	722228
C	209m N	Unspecified Pit	1981	757115
D	243m SW	Unspecified Mill	1933 - 1950	778858
D	247m SW	Unspecified Mill	1910	712017
F	279m SW	Cuttings	1892	733560
E	284m NE	Garage	1981	785110
E	288m NE	Garage	1991	700277
E	300m NE	Garage	1973 - 1976	785569
F	308m SW	Cuttings	1950	742546
F	317m SW	Cuttings	1910 - 1933	747896
G	320m SW	Electricity Substation	1976	686438
G	322m SW	Electricity Substation	1981	686434
1	345m NE	Lunatic Asylum	1846	644838
2	350m N	Unspecified Pit	1933 - 1950	773053
H	407m NE	Electric Substation	1973 - 1991	756432
H	409m NE	Electricity Substation	1981	686437
I	416m E	Cuttings	1933	706008
I	416m E	Cuttings	1910	789359
3	419m NW	Unspecified Pit	1933 - 1950	764313



ID	Location	Land use	Dates present	Group ID
J	426m E	Cuttings	1846	704778
J	427m E	Cuttings	1973	736340
J	427m E	Cuttings	1950	752528
J	427m E	Cuttings	1991	781441
4	435m S	Unspecified Pit	1933 - 1950	719625
I	439m E	Cuttings	1892	697603
I	451m E	Cuttings	1846	697410
5	462m NE	Cuttings	1973	642339
6	463m N	Refuse Heap	1846	677206
I	465m E	Cuttings	1950	758253
I	465m E	Cuttings	1973 - 1991	790389

This data is sourced from Ordnance Survey / Groundsure.

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 ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

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 ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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



ID	Location	Land use	Dates present	Group ID
G	320m SW	Electricity Substation	1976	45140
G	322m SW	Electricity Substation	1968 - 1981	51279
G	338m SW	Electricity Substation	1997	45139
H	409m NE	Electricity Substation	1968 - 1992	55942

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

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 ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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

ID	Location	Land use	Dates present	Group ID
E	263m NE	Garage	1981 - 1997	18111
E	304m NE	Garage	1976	16774

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

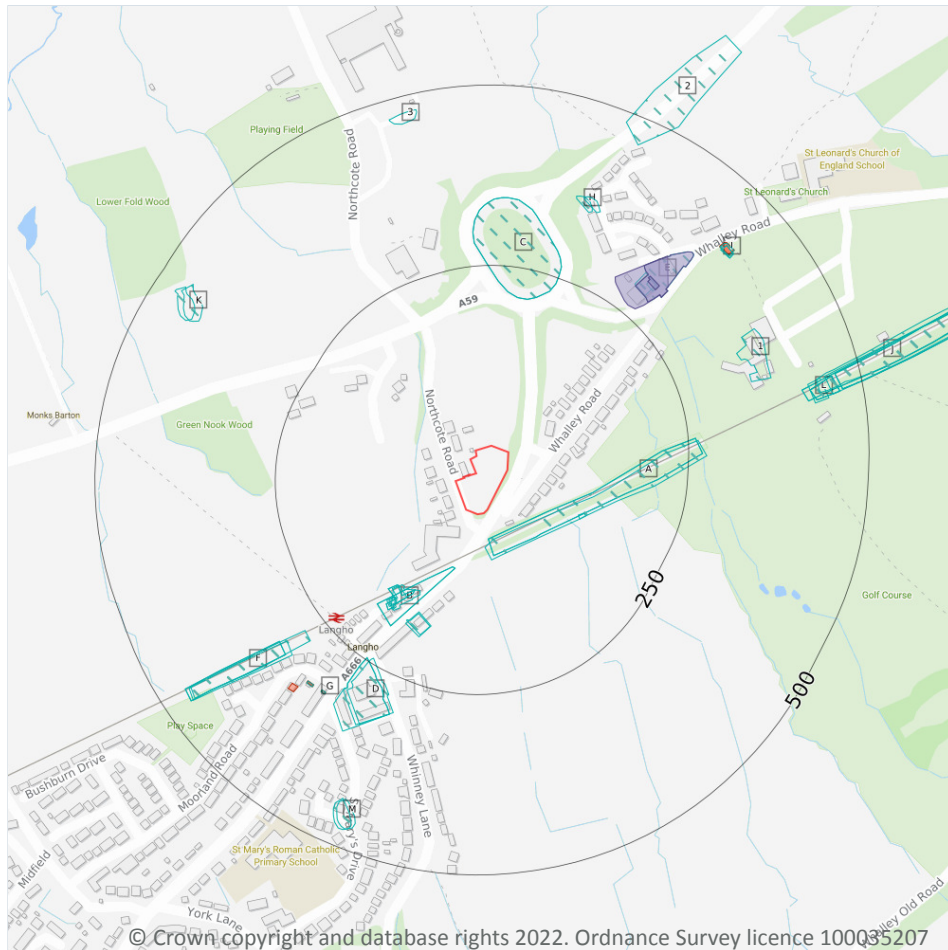
0

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

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



2 Past land use - un-grouped



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

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
A	35m SE	Railway Sidings	1933	709271
A	35m SE	Railway Sidings	1910	709271
A	39m SE	Railway Sidings	1950	711607



ID	Location	Land Use	Date	Group ID
B	80m S	Railway Sidings	1933	784383
B	80m S	Railway Sidings	1910	784383
A	116m SE	Railway Building	1950	669918
B	129m SW	Railway Station	1950	695293
B	132m SW	Railway Station	1933	779127
B	132m SW	Railway Station	1910	779127
B	140m SW	Railway Station	1892	784111
B	156m SW	Station House	1976	657551
B	156m SW	Police Station	1973	762471
B	156m SW	Railway Station	1846	788459
B	158m SW	Police Station	1976	762471
C	209m N	Unspecified Pit	1981	757115
C	209m N	Unspecified Pit	1976	722228
D	243m SW	Unspecified Mill	1950	778858
D	247m SW	Unspecified Mill	1933	778858
D	247m SW	Unspecified Mill	1910	712017
F	279m SW	Cuttings	1892	733560
E	284m NE	Garage	1981	785110
E	288m NE	Garage	1991	700277
E	300m NE	Garage	1973	785569
E	304m NE	Garage	1976	785569
F	308m SW	Cuttings	1950	742546
F	317m SW	Cuttings	1933	747896
F	317m SW	Cuttings	1910	747896
G	320m SW	Electricity Substation	1976	686438
G	322m SW	Electricity Substation	1981	686434
1	345m NE	Lunatic Asylum	1846	644838
H	350m N	Unspecified Pit	1933	773053



ID	Location	Land Use	Date	Group ID
H	354m N	Unspecified Pit	1950	773053
I	407m NE	Electric Substation	1991	756432
I	407m NE	Electric Substation	1973	756432
I	409m NE	Electricity Substation	1981	686437
J	416m E	Cuttings	1933	706008
J	416m E	Cuttings	1910	789359
K	419m NW	Unspecified Pit	1950	764313
L	426m E	Cuttings	1846	704778
L	427m E	Cuttings	1991	781441
L	427m E	Cuttings	1973	736340
L	427m E	Cuttings	1950	752528
K	429m NW	Unspecified Pit	1933	764313
M	435m S	Unspecified Pit	1950	719625
M	435m SW	Unspecified Pit	1933	719625
J	439m E	Cuttings	1892	697603
J	451m E	Cuttings	1846	697410
2	462m NE	Cuttings	1973	642339
3	463m N	Refuse Heap	1846	677206
J	465m E	Cuttings	1991	790389
J	465m E	Cuttings	1973	790389
J	465m E	Cuttings	1950	758253

This data is sourced from Ordnance Survey / Groundsure.

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'.

This data is sourced from Ordnance Survey / Groundsure.



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
G	320m SW	Electricity Substation	1976	45140
G	322m SW	Electricity Substation	1981	51279
G	322m SW	Electricity Substation	1968	51279
G	338m SW	Electricity Substation	1997	45139
I	409m NE	Electricity Substation	1981	55942
I	409m NE	Electricity Substation	1968	55942
I	409m NE	Electricity Substation	1992	55942

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

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
E	263m NE	Garage	1997	18111

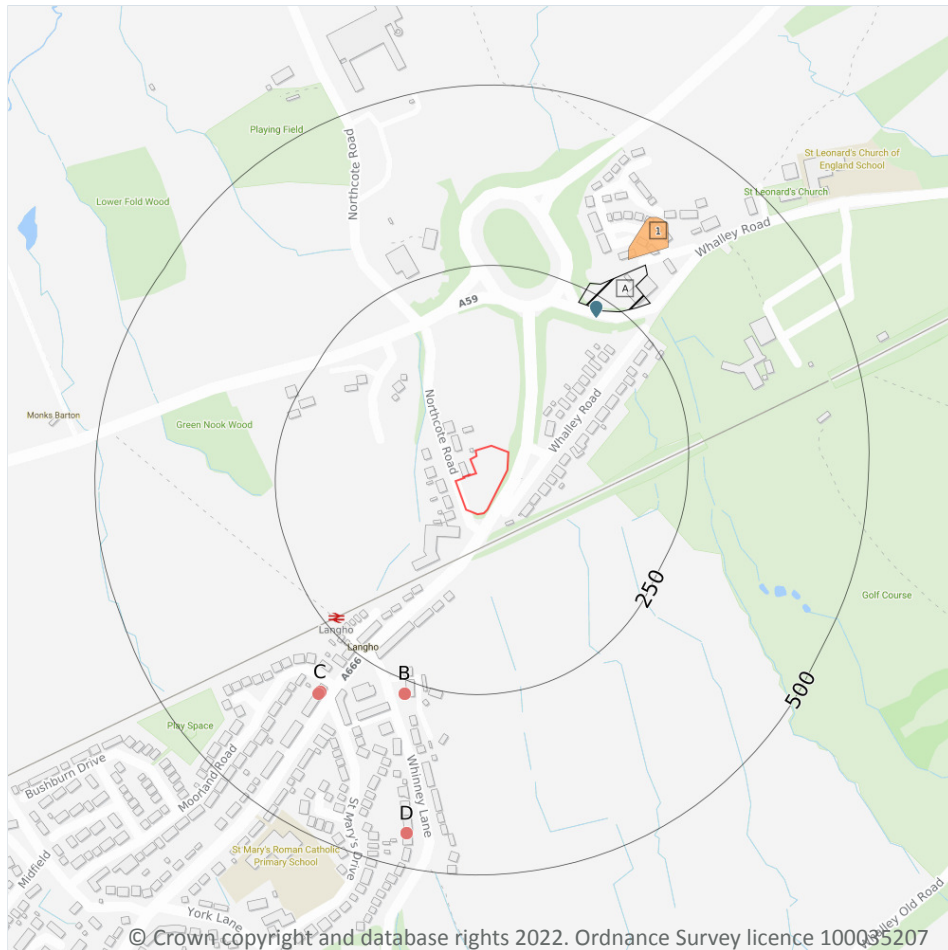


ID	Location	Land Use	Date	Group ID
E	284m NE	Garage	1981	18111
E	304m NE	Garage	1976	16774

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Historical waste sites
- Licensed waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

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		
A	229m NE	Site Address: Petre Garage, Northcote Mannor Hotel, Langho, Lancashire Licence Holder Address: -	Waste Licence: - Site Reference: K1/03/030 Waste Type: Waste Unknown Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded: - Last Recorded: -

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

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
1	314m NE	Site Address: N/A	Type of Site: Household Waste Disposal Centre Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1997

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



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		
A	232m NE	Site Name: Petre Arms H W D C Site Address: Longsight Road, Langho, Blackburn, Lancashire, BB6 8AB Correspondence Address: Tustin Court, Portway, Preston, Lancashire, PR2 2YQ	Type of Site: Special Waste Transfer Station Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT021 EPR reference: - Operator: Sita (Lancashire) Ltd Waste Management licence No: 54116 Annual Tonnage: 0	Issue Date: 14/05/1993 Effective Date: - Modified: 18/02/2000 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
A	232m NE	Site Name: Petre Arms H W R C Site Address: Land/premises At, Longsight Road, Langho, Blackburn, Lancashire, BB6 8AB Correspondence Address: -	Type of Site: Special Waste Transfer Station Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT021 EPR reference: EA/EPR/RP3991CU/V003 Operator: Sita Lancashire Ltd Waste Management licence No: 54116 Annual Tonnage: 0	Issue Date: 14/05/1993 Effective Date: - Modified: 28/01/2003 Surrendered Date: 20/06/2011 Expiry Date: - Cancelled Date: - Status: Surrendered
A	232m NE	Site Name: Petre Arms H W D C Site Address: Longsight Road, Langho, Blackburn, Lancashire, BB6 8AB Correspondence Address: Tustin Court, Portway, Preston, Lancashire, PR2 2YQ	Type of Site: Special Waste Transfer Station Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT021 EPR reference: - Operator: Sita U K Ltd Waste Management licence No: 54116 Annual Tonnage: 4999	Issue Date: 14/05/1993 Effective Date: - Modified: 28/01/2003 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified



ID	Location	Details		
A	232m NE	Site Name: Petre Arms H W R C Site Address: Land/premises At, Longsight Road, Langho, Blackburn, Lancashire, BB6 8AB Correspondence Address: -	Type of Site: Special Waste Transfer Station Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT021 EPR reference: EA/EPR/RP3991CU/V003 Operator: Sita (Lancashire) Ltd Waste Management licence No: 54116 Annual Tonnage: 0	Issue Date: 14/05/1993 Effective Date: - Modified: 28/01/2003 Surrendered Date: 20/06/2011 Expiry Date: - Cancelled Date: - Status: Surrendered
A	232m NE	Site Name: Petre Arms H W R C Site Address: Land/premises At, Longsight Road, Langho, Blackburn, Lancashire, BB6 8AB Correspondence Address: -	Type of Site: Household Waste Amenity Site Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT021 EPR reference: EA/EPR/RP3991CU/V003 Operator: Sita (Lancashire) Ltd Waste Management licence No: 54116 Annual Tonnage: 0	Issue Date: 14/05/1993 Effective Date: - Modified: 28/01/2003 Surrendered Date: Jun 20 2011 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered

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

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
B	269m S	1-3, WHINNEY LANE, LANGHO, BLACKBURN, BB6 8DQ	WEX174999	Disposing of waste exemption	On a farm	Burning waste in the open
B	269m S	1-3, WHINNEY LANE, LANGHO, BLACKBURN, BB6 8DQ	WEX011826	Disposing of waste exemption	On a farm	Burning waste in the open
B	269m S	1-3, WHINNEY LANE, LANGHO, BLACKBURN, BB6 8DQ	WEX011826	Using waste exemption	On a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
C	325m SW	1A, EAST VIEW TERRACE, LANGHO, BLACKBURN, BB6 8BX	WEX233090	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
C	325m SW	1A, EAST VIEW TERRACE, LANGHO, BLACKBURN, BB6 8BX	WEX087347	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
C	328m SW	A 1 East View Terrace Blackburn Lancashire BB6 8BX	EPR/FF0732VU /A001	Treating waste exemption	Non- Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
D	454m S	1-3 Whinney Lane BLACKBURN BB6 8DQ	EPR/ZH0077LR /A001	Disposing of waste exemption	Agricultural Waste Only	Deposit of waste from dredging of inland waters
D	454m S	1-3 Whinney Lane BLACKBURN BB6 8DQ	EPR/ZH0077LR /A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
D	454m S	1-3 Whinney Lane BLACKBURN BB6 8DQ	EPR/ZH0077LR /A001	Using waste exemption	Agricultural Waste Only	Use of waste in construction
D	454m S	1-3 Whinney Lane BLACKBURN BB6 8DQ	EPR/ZH0077LR /A001	Using waste exemption	Agricultural Waste Only	Spreading waste on agricultural land to confer benefit

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- △ Current or recent petrol stations
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

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
A	169m SW	Langho Rail Station	Lancashire, BB6	Railway Stations, Junctions and Halts	Public Transport, Stations and Infrastructure
1	222m SW	Adele's Travel	2, Olive Bank, Langho, Blackburn, Lancashire, BB6 8ED	Airlines and Airline Services	Transport, Storage and Delivery



ID	Location	Company	Address	Activity	Category
2	233m N	Electricity Sub Station	Lancashire, BB6	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

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
C	340m NE	GULF	Whalley Road, Langho, Blackburn, Lancashire, BB6 8AB	No	Open

This data is sourced from Experian.

4.3 Electricity cables

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

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

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

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

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

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

This data is sourced from Local Authority records.



4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m**0**

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

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



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

Records within 500m

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	
C	342m NE	Petre Service Station, Whalley Road, Langho, Blackburn, BB6 8AB	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

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	
B	264m NE	PETRE ARMS ROUNDABOUT CSO, PETRE WOOD, LONGSIGHT ROAD, LANGHO / BLACKBURN, LANCASHIRE, BB6 8AB	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01RIB0017 Permit Version: 2 Receiving Water: STREAM TRIB BUSHBURN BROOK	Status: VARIED UNDER EPR 2010 Issue date: 31/03/2020 Effective Date: 31/03/2020 Revocation Date: -



ID	Location	Address	Details	
B	276m NE	LANGHO SEWER, RIBBLE VALLEY, LANCASHIRE	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01LA1546 Permit Version: 1 Receiving Water: TRIB BUSHBURN BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 13/07/1967 Revocation Date: 13/07/1967
B	276m NE	PETRE ARMS ROUNDABOUT CSO, PETRE WOOD, LONGSIGHT ROAD, LANGHO / BLACKBURN, LANCASHIRE, BB6 8AB	Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 01RIB0017 Permit Version: 1 Receiving Water: STREAM TRIB BUSHBURN BROOK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/04/1991 Revocation Date: 30/03/2020

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

4.14 Pollutant release to surface waters (Red List)

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

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

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

4.15 Pollutant release to public sewer

Records within 500m	0
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Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0
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Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

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

4.17 List 2 Dangerous Substances

Records within 500m

0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m

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	
A	147m SW	Incident Date: 23/04/2007 Incident Identification: 488519 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
3	266m W	Incident Date: 14/06/2011 Incident Identification: 893889 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
4	330m N	Incident Date: 25/03/2008 Incident Identification: 573188 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5	426m N	Incident Date: 14/02/2008 Incident Identification: 564069 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
6	472m N	Incident Date: 11/11/2007 Incident Identification: 544427 Pollutant: Sewage Materials Pollutant Description: Crude Sewage	Water Impact: Category 2 (Significant) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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



4.19 Pollution inventory substances

Records within 500m

0

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

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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

4.21 Pollution inventory radioactive waste

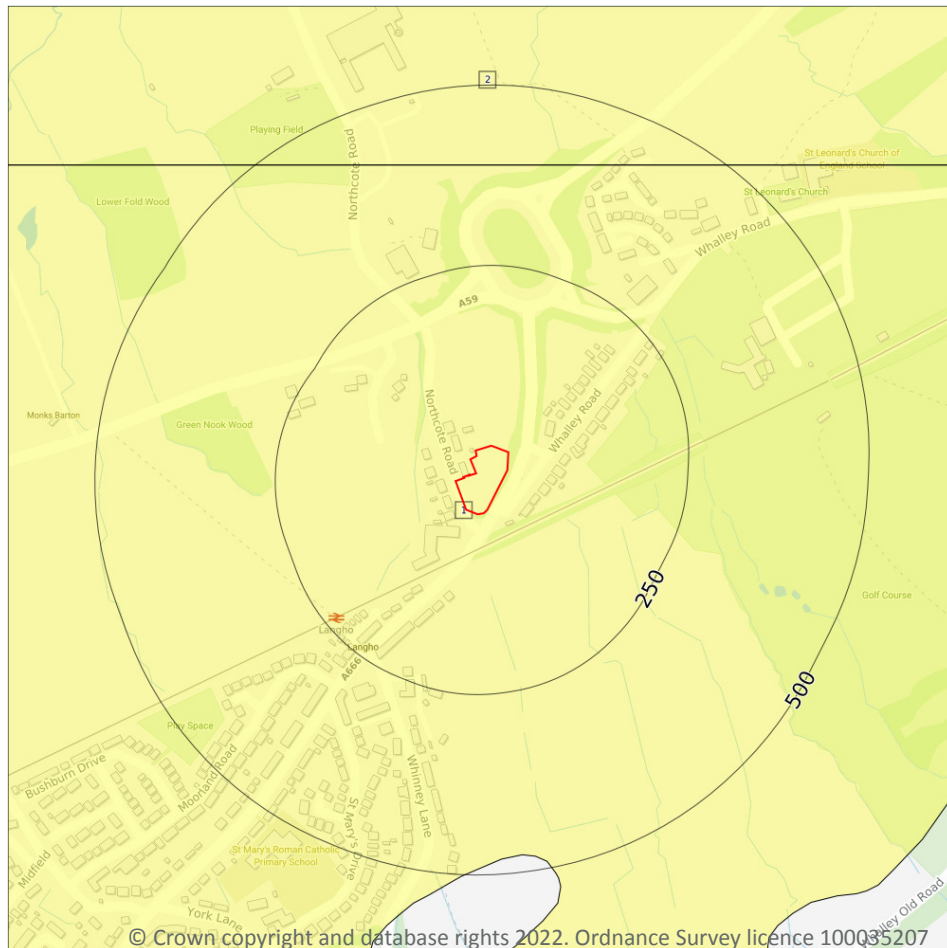
Records within 500m

0

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

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

5 Hydrogeology - Superficial aquifer



- 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**

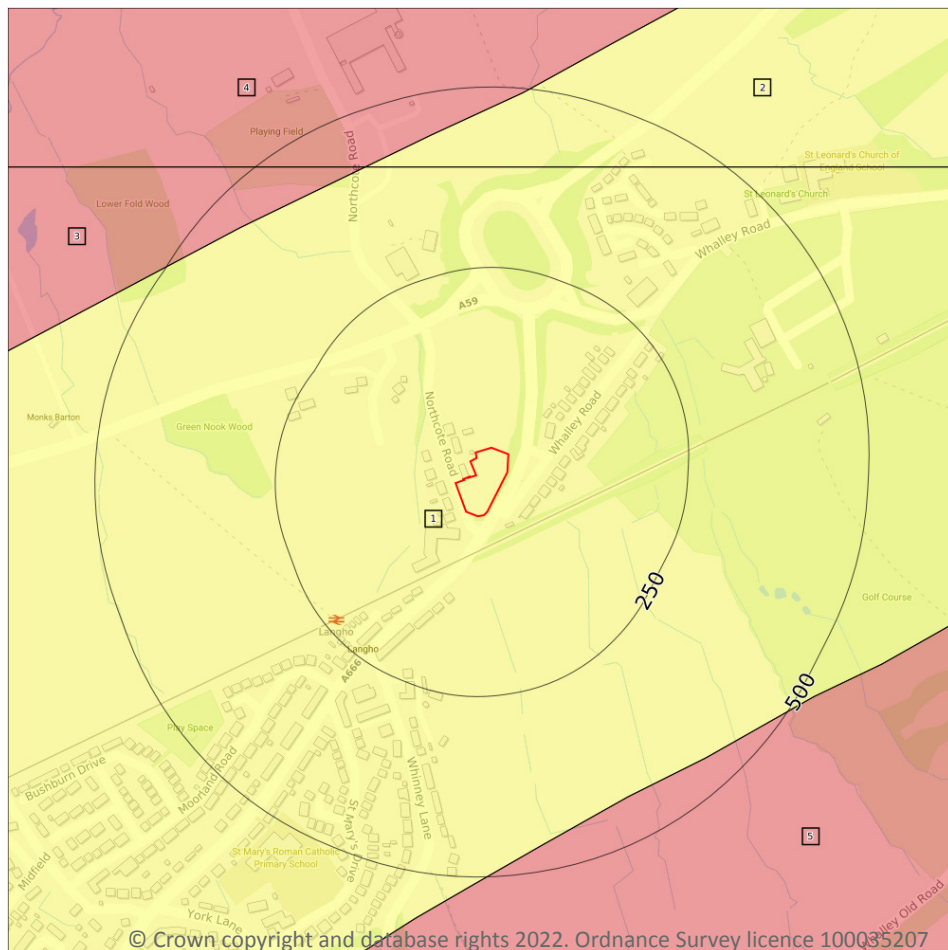
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	389m N	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



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



Bedrock aquifer



- Site Outline**
- Search buffers in metres (m)**
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

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
2	389m N	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

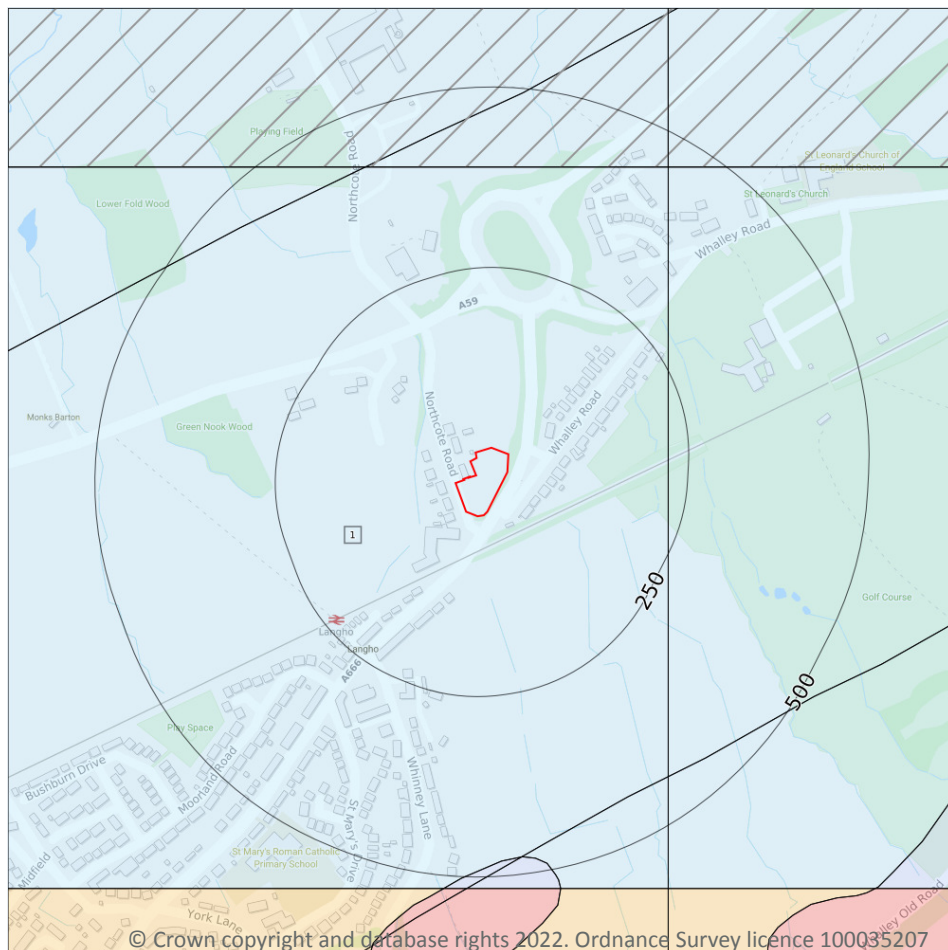


ID	Location	Designation	Description
3	423m NW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	424m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
5	438m SE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Groundwater vulnerability



— Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

1

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

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

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

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

Records on site

0

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

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

Abstractions and Source Protection Zones



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

5.6 Groundwater abstractions

Records within 2000m

0

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

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



5.7 Surface water abstractions

Records within 2000m

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	
-	1695m SE	Status: Historical Licence No: 2671336003 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "UPPER & LOWER DEAN IMP. RESERVOIRS, GREAT HARWOOD" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 371500 Northing: 433000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 06/01/1995 Version End Date: -
-	1695m SE	Status: Active Licence No: 2671336003 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: UPPER & LOWER DEAN IMP. RESERVOIRS, GREAT HARWOOD Data Type: Point Name: United Utilities Water Ltd Easting: 371500 Northing: 433000	Annual Volume (m ³): 2,613,950 Max Daily Volume (m ³): 7,137.22 Original Application No: - Original Start Date: 20/05/1966 Expiry Date: - Issue No: 101 Version Start Date: 10/05/2017 Version End Date: -

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

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	
-	1695m SE	Status: Historical Licence No: 2671336003 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "UPPER & LOWER DEAN IMP. RESERVOIRS, GREAT HARWOOD" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 371500 Northing: 433000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 06/01/1995 Version End Date: -
-	1695m SE	Status: Active Licence No: 2671336003 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: UPPER & LOWER DEAN IMP. RESERVOIRS, GREAT HARWOOD Data Type: Point Name: United Utilities Water Ltd Easting: 371500 Northing: 433000	Annual Volume (m ³): 2,613,950 Max Daily Volume (m ³): 7,137.22 Original Application No: - Original Start Date: 20/05/1966 Expiry Date: - Issue No: 101 Version Start Date: 10/05/2017 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0
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Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

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

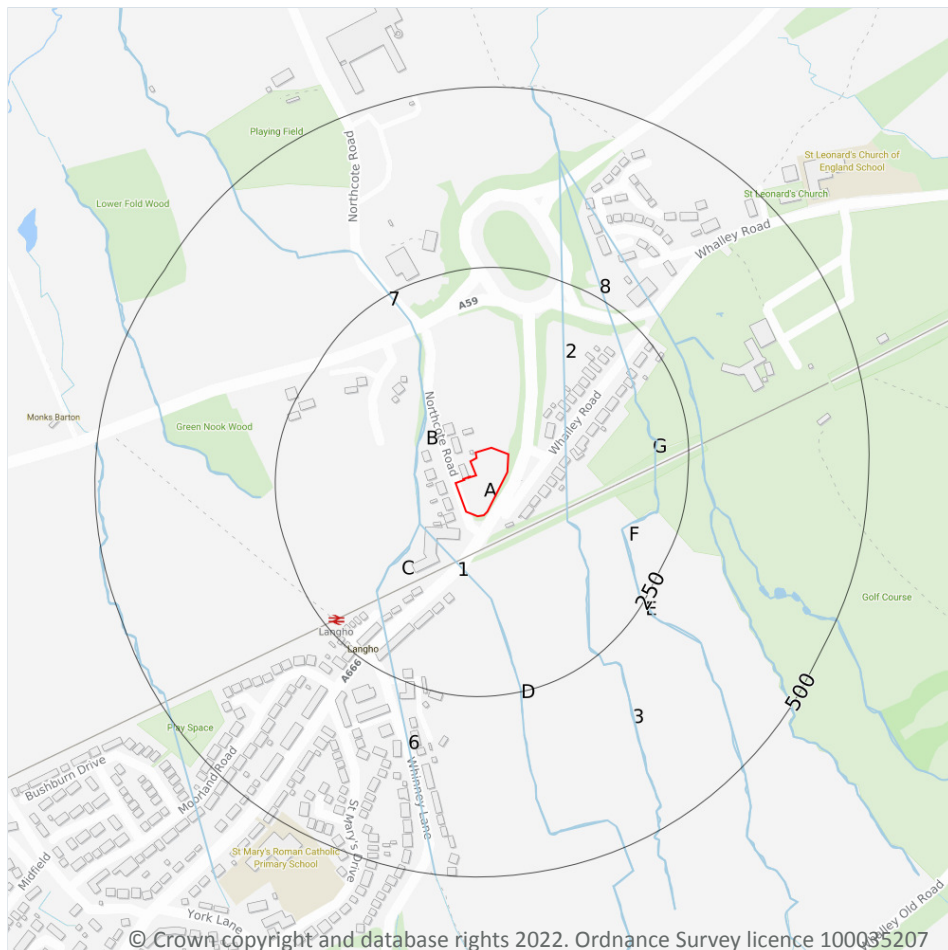
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0
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Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

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

6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

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
B	52m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

ID	Location	Type of water feature	Ground level	Permanence	Name
1	58m SW	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
C	66m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
2	79m E	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
3	105m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	116m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
6	166m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
E	177m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
F	177m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
7	181m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
F	186m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	190m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
8	196m NE	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
F	205m E	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.



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**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

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

Features are displayed on the Hydrology map on **page 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

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

6.4 WFD Surface water bodies

Records identified

1

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

Features are displayed on the Hydrology map on **page 45**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1498m NE	River	Calder - Pendle Water to conf Ribble	GB112071065490	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 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

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



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m**0**

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

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

7.2 Historical Flood Events

Records within 250m**0**

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

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

7.3 Flood Defences

Records within 250m**0**

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

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



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

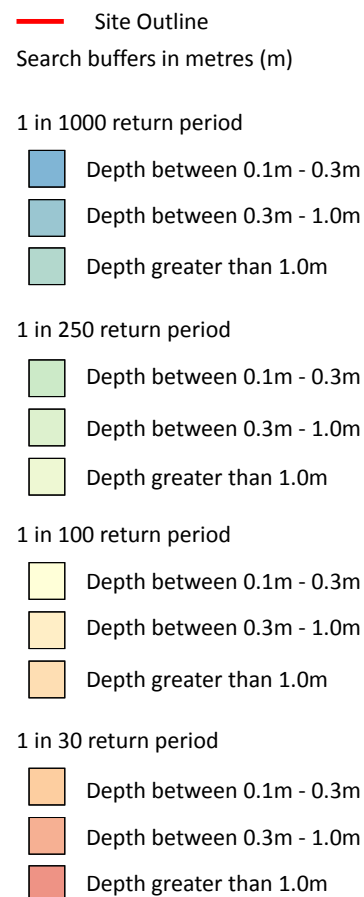
0

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

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



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

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.

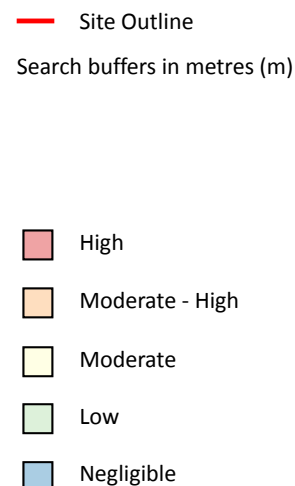
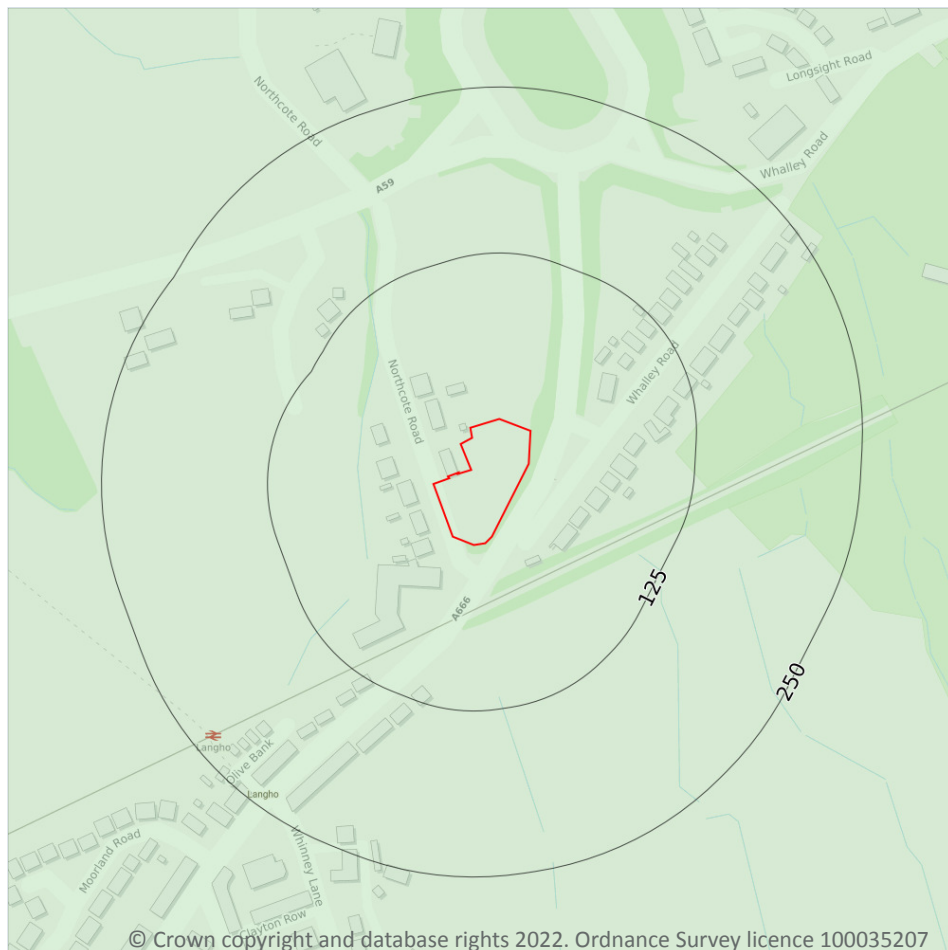
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

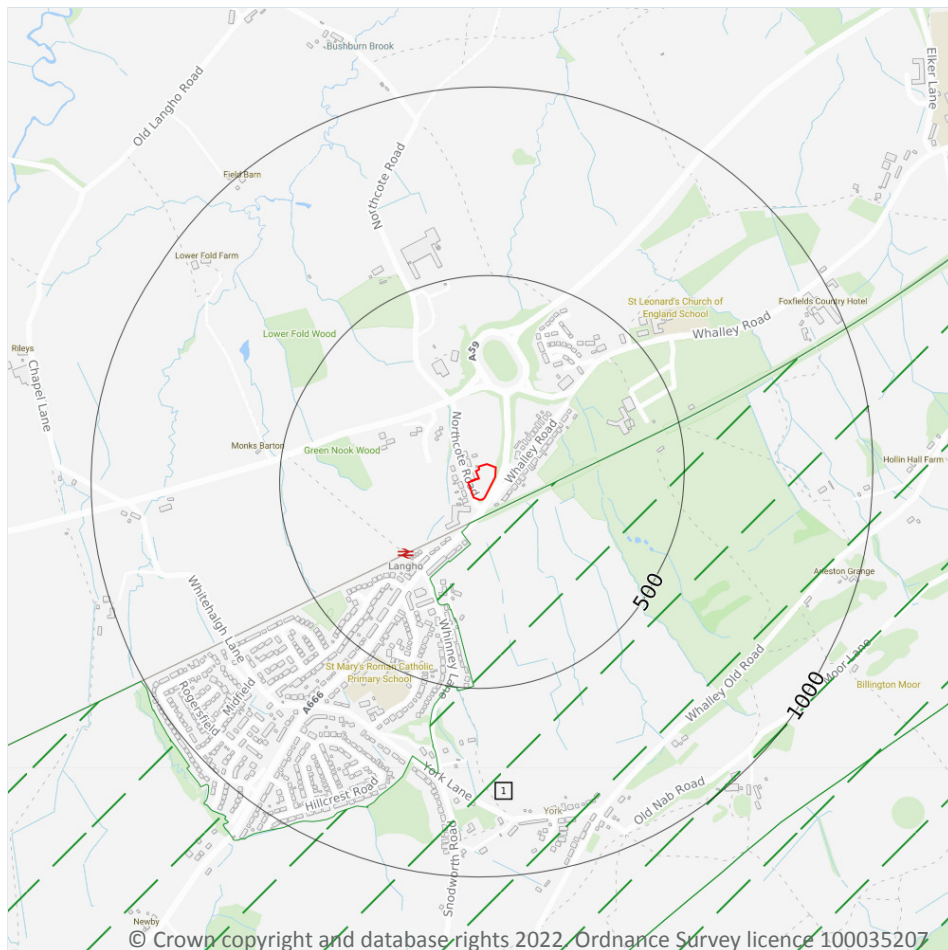
Low

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**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



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

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m**0**

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

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

10.7 Designated Ancient Woodland

Records within 2000m**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
-	1906m E	Dean Wood	Ancient & Semi-Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m**0**

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

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

10.9 Forest Parks

Records within 2000m**0**

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

This data is sourced from the Forestry Commission.



10.10 Marine Conservation Zones

Records within 2000m**0**

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

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

10.11 Green Belt

Records within 2000m**2**

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

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

ID	Location	Name	Local Authority name
1	42m SE	Merseyside and Greater Manchester	Ribble Valley
2	1164m SE	Merseyside and Greater Manchester	Hyndburn

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

10.12 Proposed Ramsar sites

Records within 2000m**0**

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

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

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



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

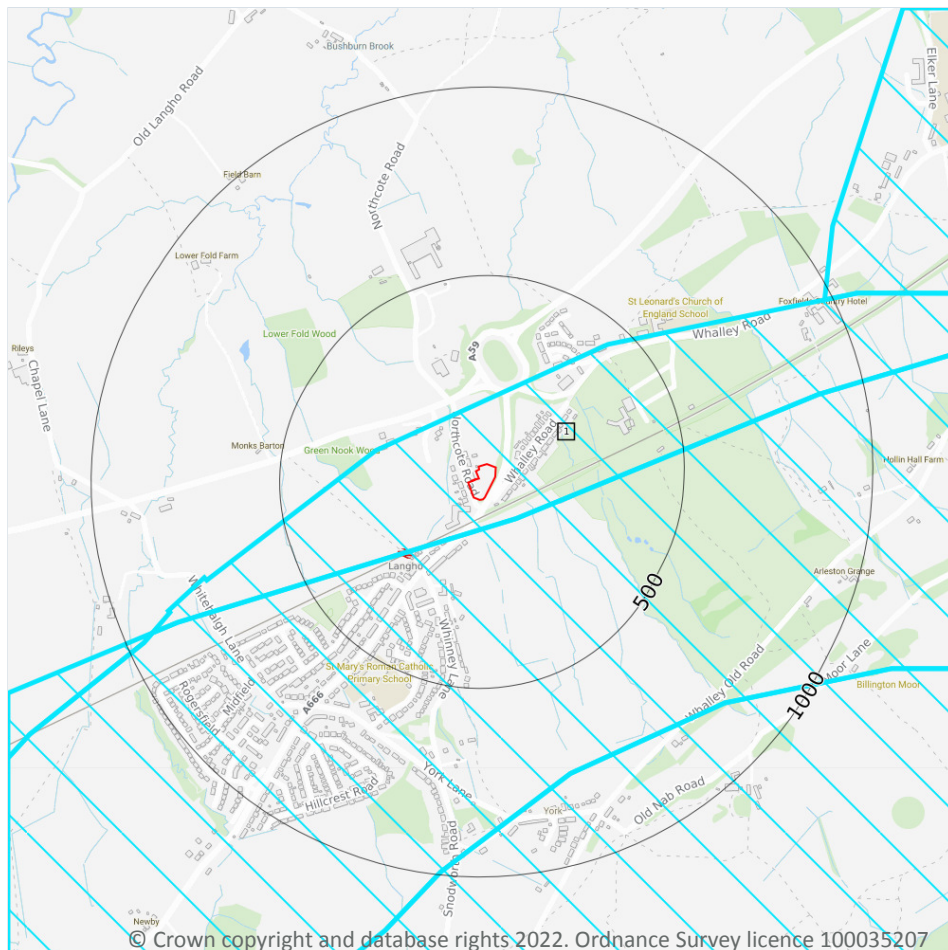
0

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.

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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

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.

This data is sourced from Natural England.



10.18 SSSI Units

Records within 2000m

0

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

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

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.



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

0

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

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



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

2

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

Features are displayed on the Agricultural designations map on **page 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
2	53m SE	Grade 4	Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

This data is sourced from Natural England.

12.2 Open Access Land

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

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

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

12.3 Tree Felling Licences

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

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

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

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m**1**

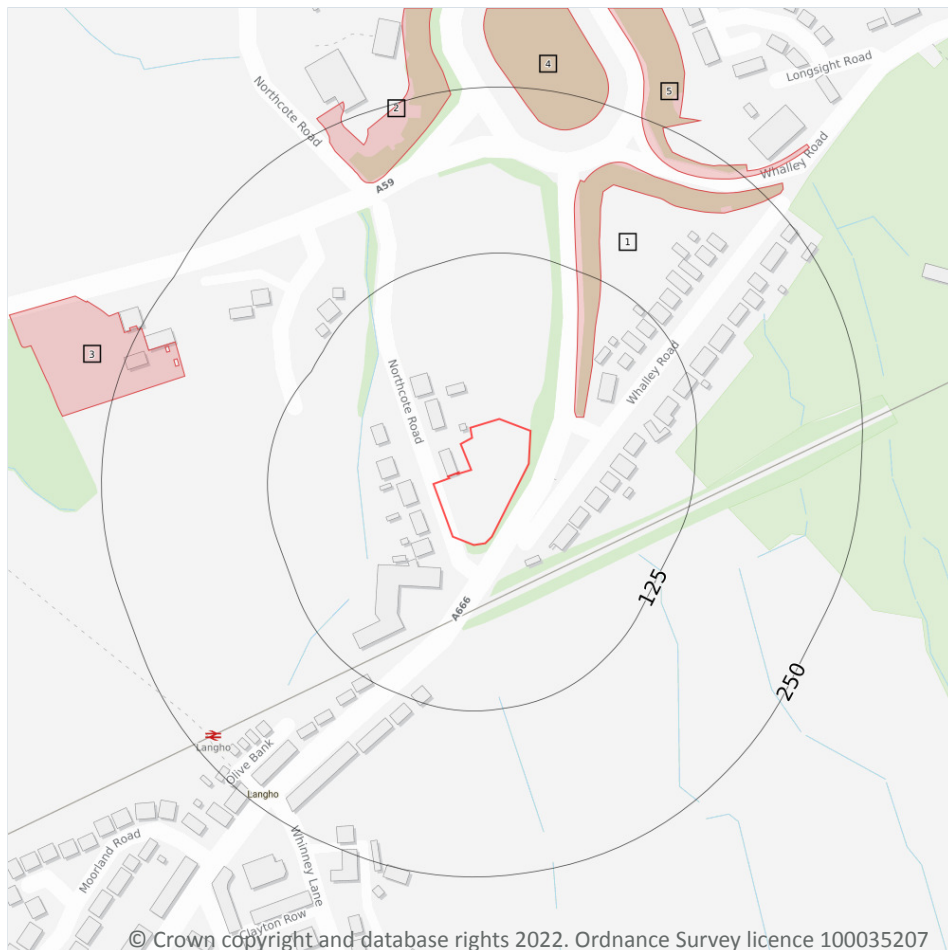
Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

Location	Reference	Scheme	Start Date	End Date
55m SE	311295	Countryside Stewardship (Middle Tier)	01/01/2017	31/12/2021

This data is sourced from Natural England.



13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

5

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

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

ID	Location	Main Habitat	Other habitats
1	36m E	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	199m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	204m NW	No main habitat but additional habitats present	Additional: DWOOD (INV 50%)
4	223m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
5	225m NE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

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

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

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

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

This data is sourced from Natural England.

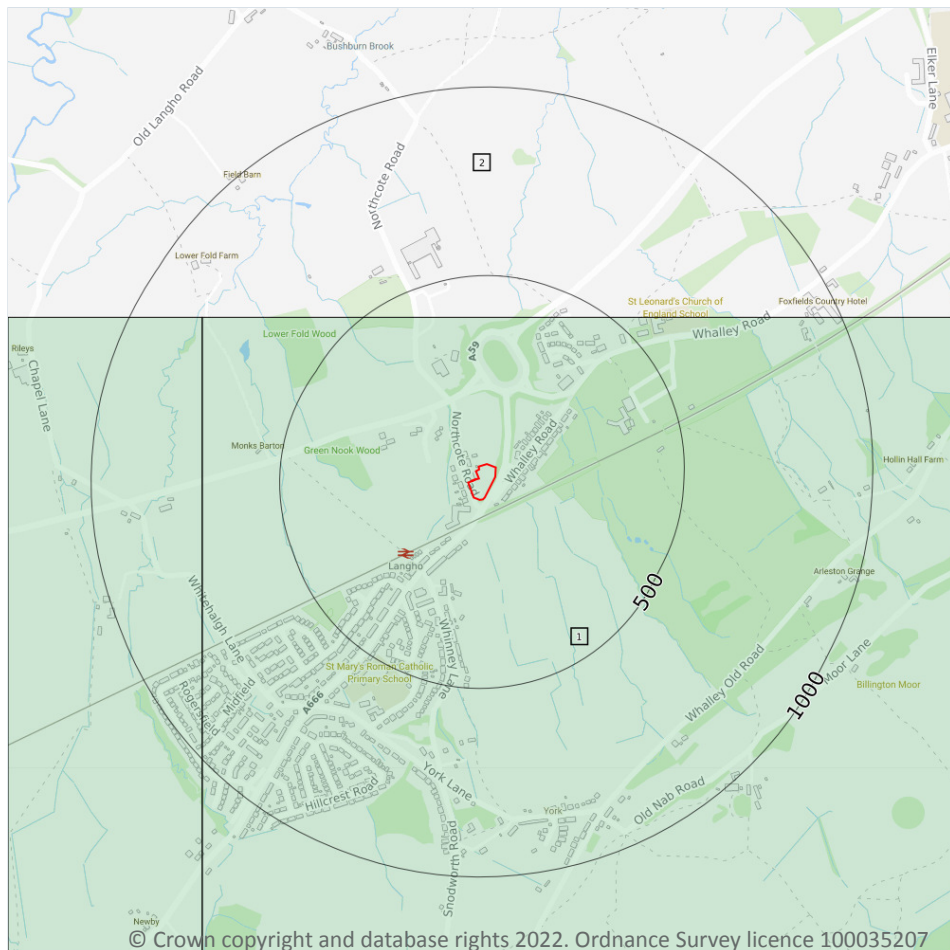
13.4 Limestone Pavement Orders

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

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



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

14.1 10k Availability

Records within 500m

2

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

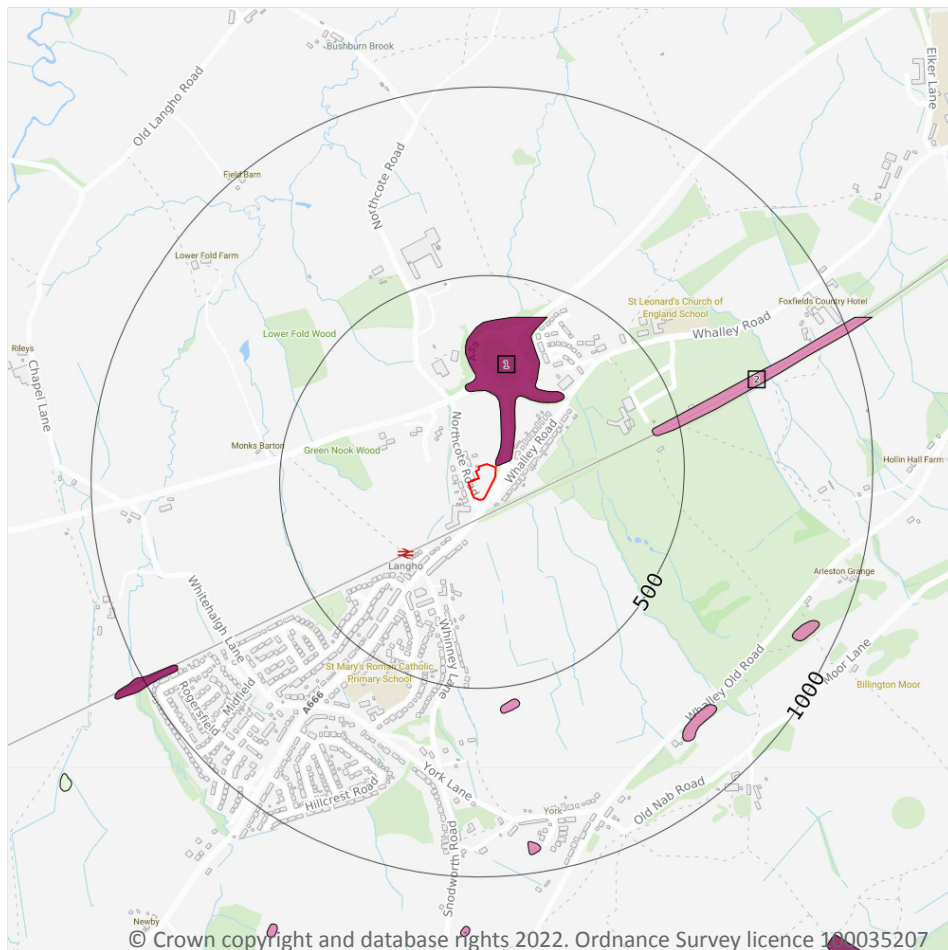
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 69**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD73SW
2	389m N	No coverage	No coverage	No coverage	No coverage	NoCov

This data is sourced from the British Geological Survey.



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



— Site Outline
Search buffers in metres (m)

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

14.2 Artificial and made ground (10k)

Records within 500m

2

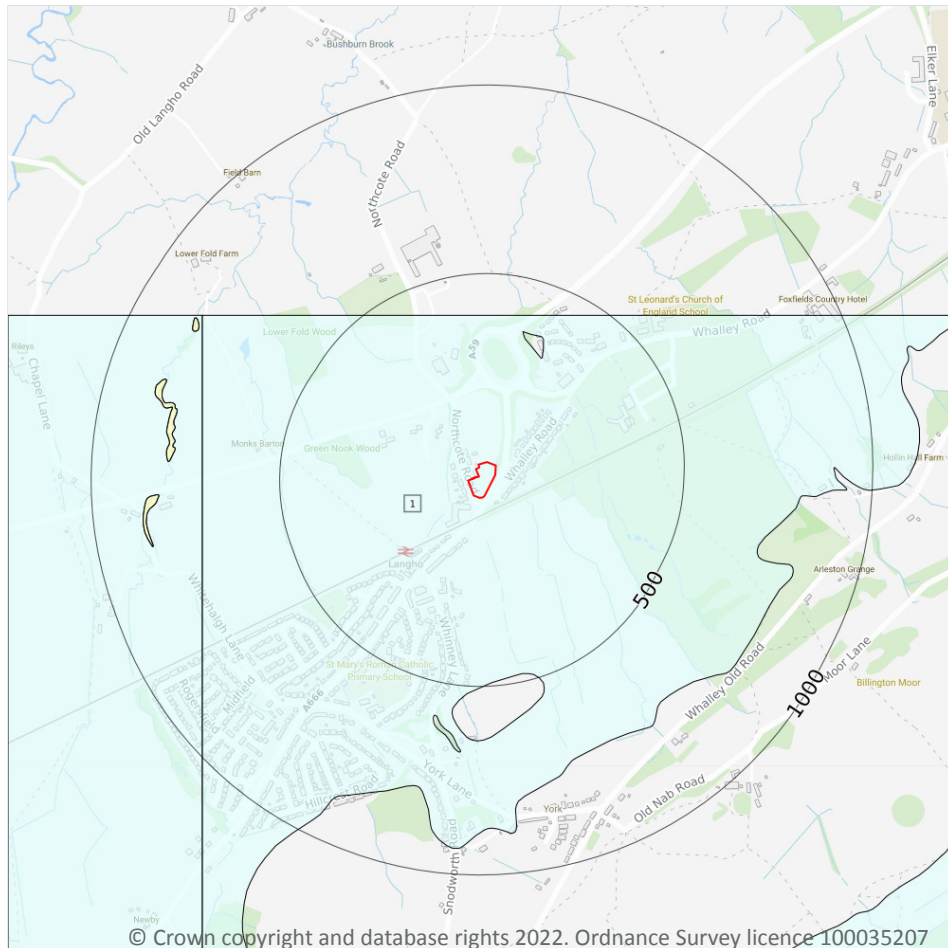
Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

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
1	5m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	426m E	WGR-VOID	Worked Ground (Undivided)	Void

This data is sourced from the British Geological Survey.

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

This data is sourced from the British Geological Survey.



14.4 Landslip (10k)

Records within 500m

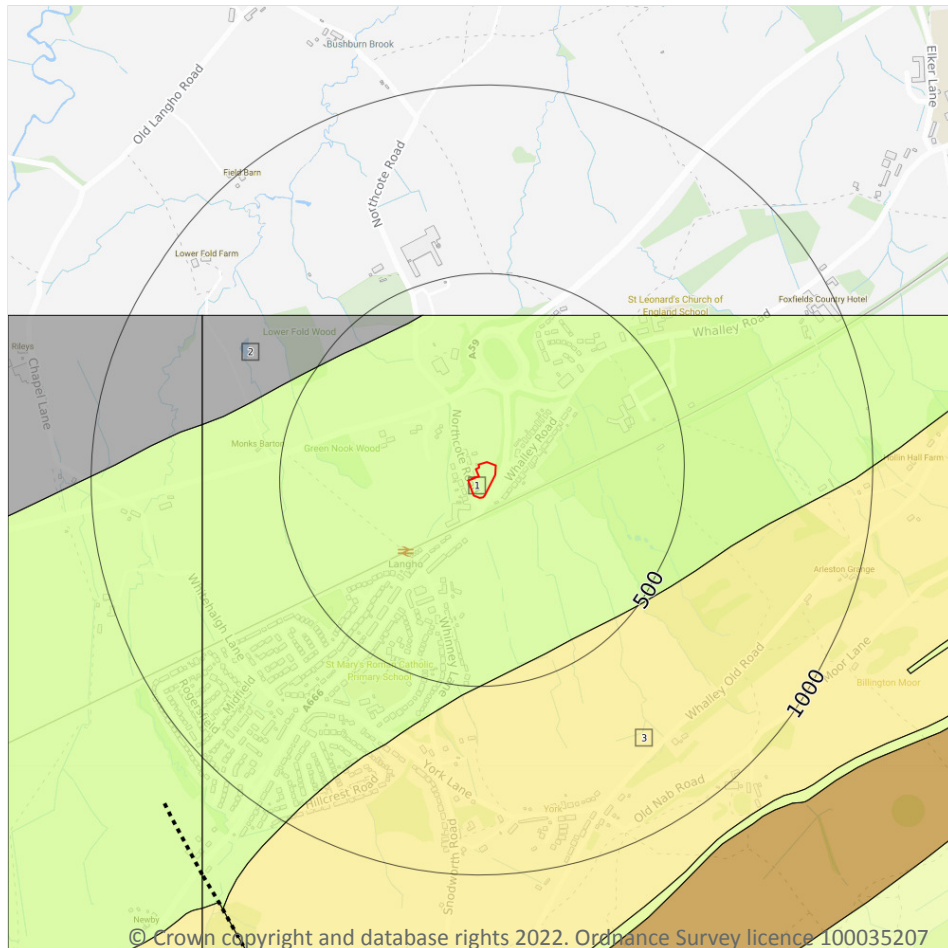
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m

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
2	419m NW	CRAV-MDST	Craven Group - Mudstone	Yeadonian Sub-age - Chadian Age
3	444m SE	PG-SDST	Pendle Grit Member - Sandstone	Pendleian Sub-age

This data is sourced from the British Geological Survey.



14.6 Bedrock faults and other linear features (10k)

Records within 500m

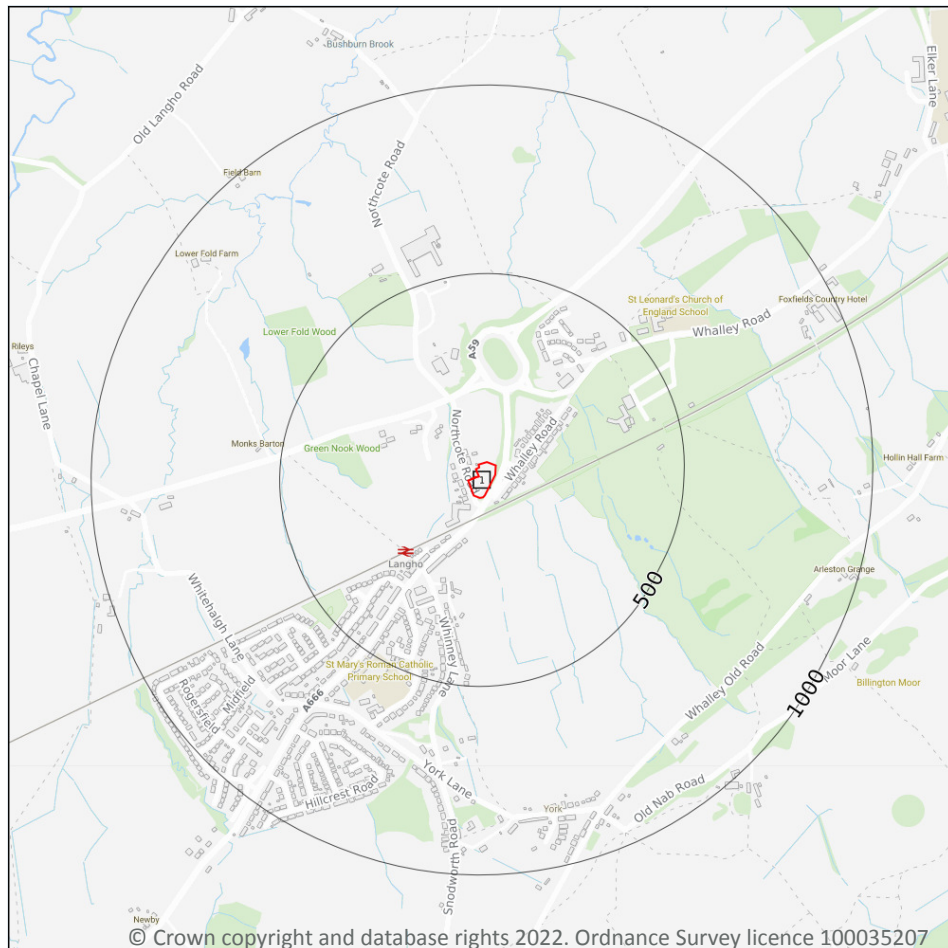
0

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.

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline

Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

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

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

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

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

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.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

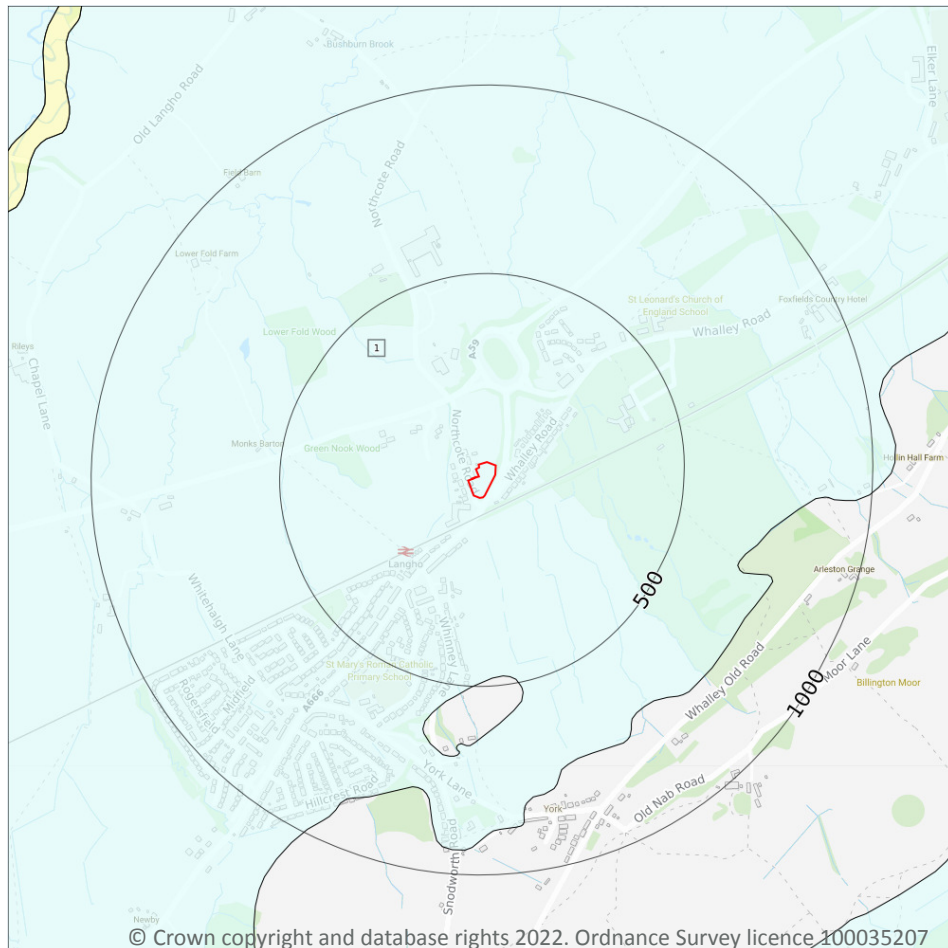
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



15.4 Superficial geology (50k)

Records within 500m

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, DEVANSIAN	DIAMICTON

This data is sourced from the British Geological Survey.



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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m**0**

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

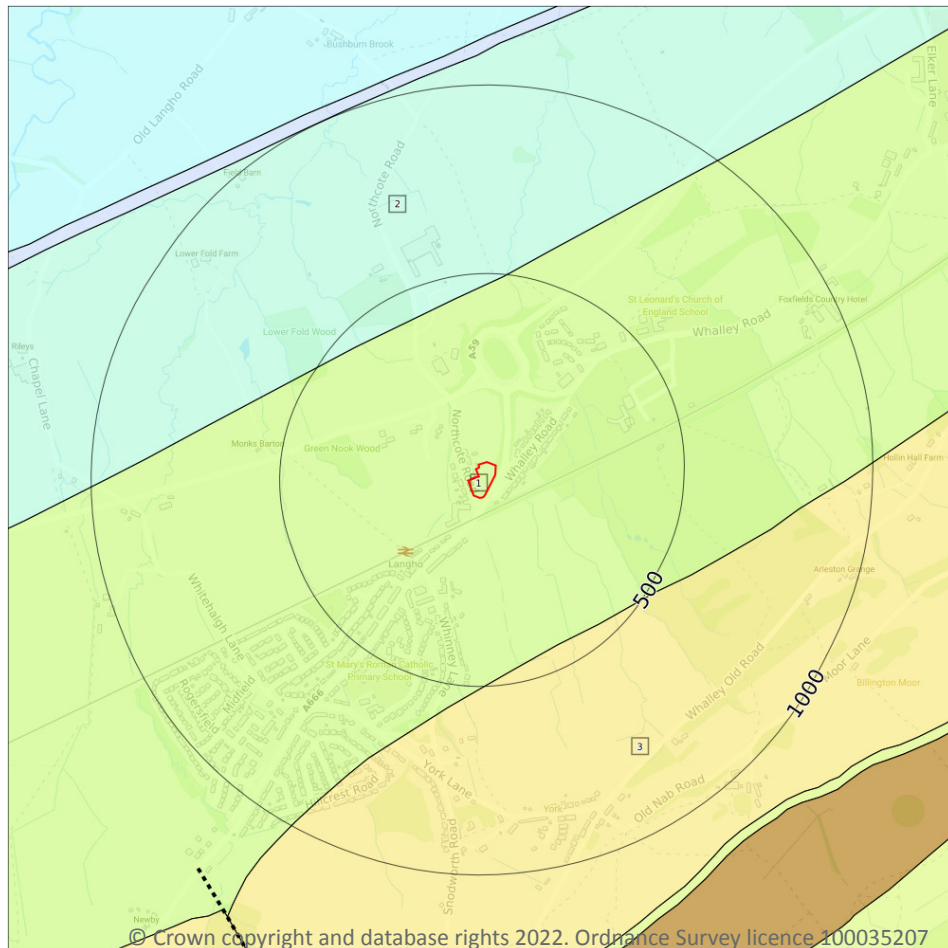
Records within 50m**0**

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

.... Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m

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	WISEAN
2	423m NW	RKM-MDST	RAD BROOK MUDSTONE MEMBER - MUDSTONE	WISEAN
3	438m SE	PG-SDST	PENDLE GRIT MEMBER - SANDSTONE	NAMURIAN

This data is sourced from the British Geological Survey.



15.9 Bedrock permeability (50k)

Records within 50m

1

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

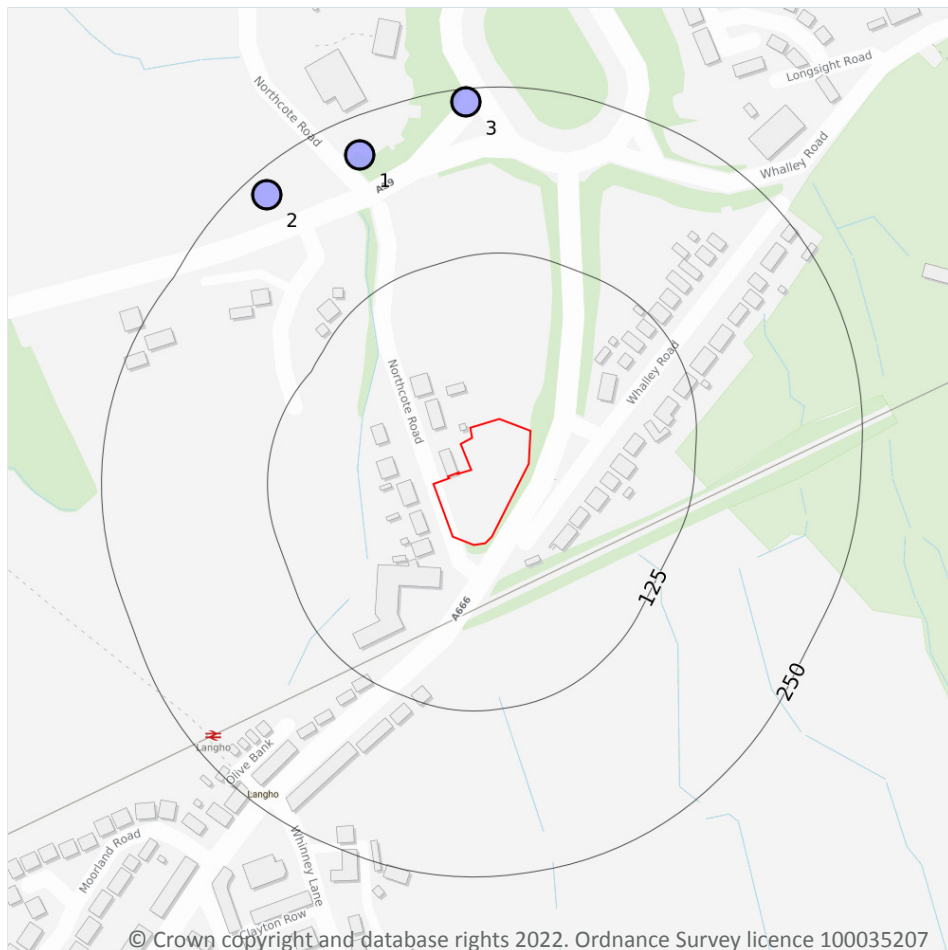
0

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.

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

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

16.1 BGS Boreholes

Records within 250m

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.

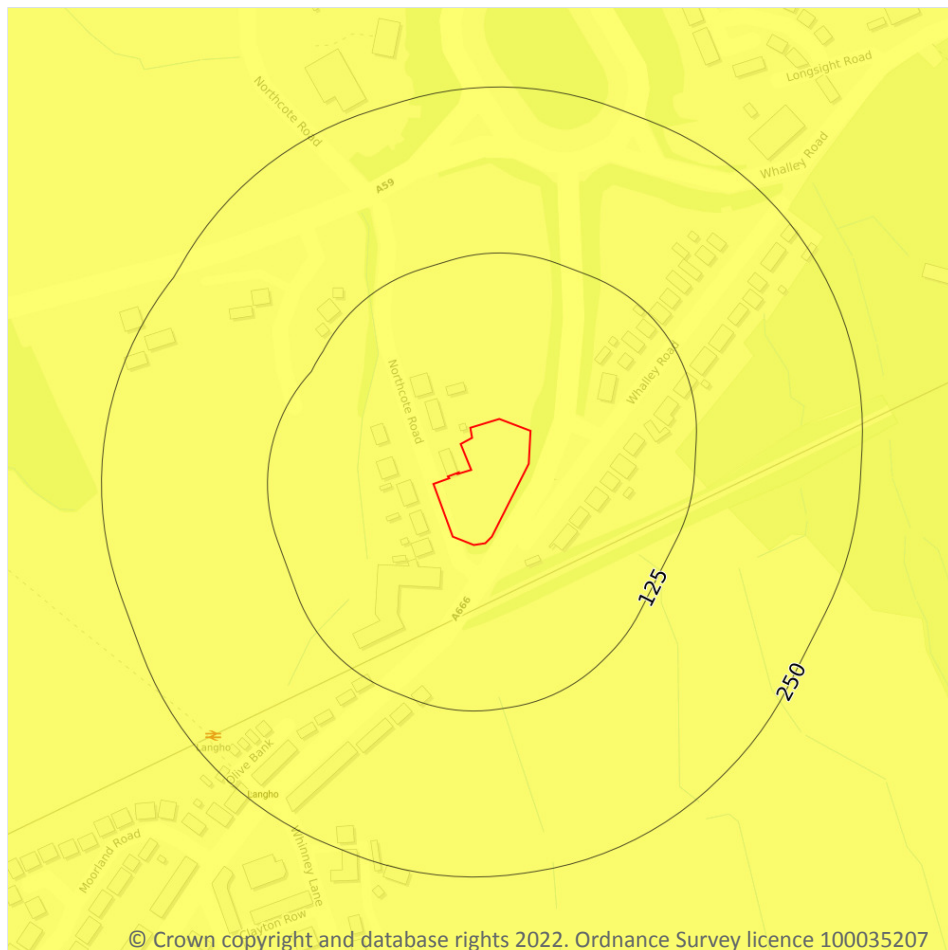
Features are displayed on the Boreholes map on **page 81**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	222m N	370650 434810	A59 WHALLEY-CLITHEROE BY-PASS 128	6.1	N	26106
2	233m NW	370580 434780	A59 WHALLEY-CLITHEROE BY-PASS 129	4.57	N	26105
3	240m N	370730 434850	A59 WHALLEY-CLITHEROE BY-PASS 127	7.16	N	26107

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



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

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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).

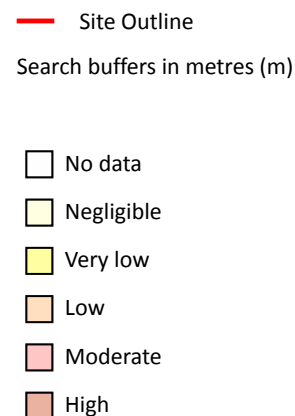
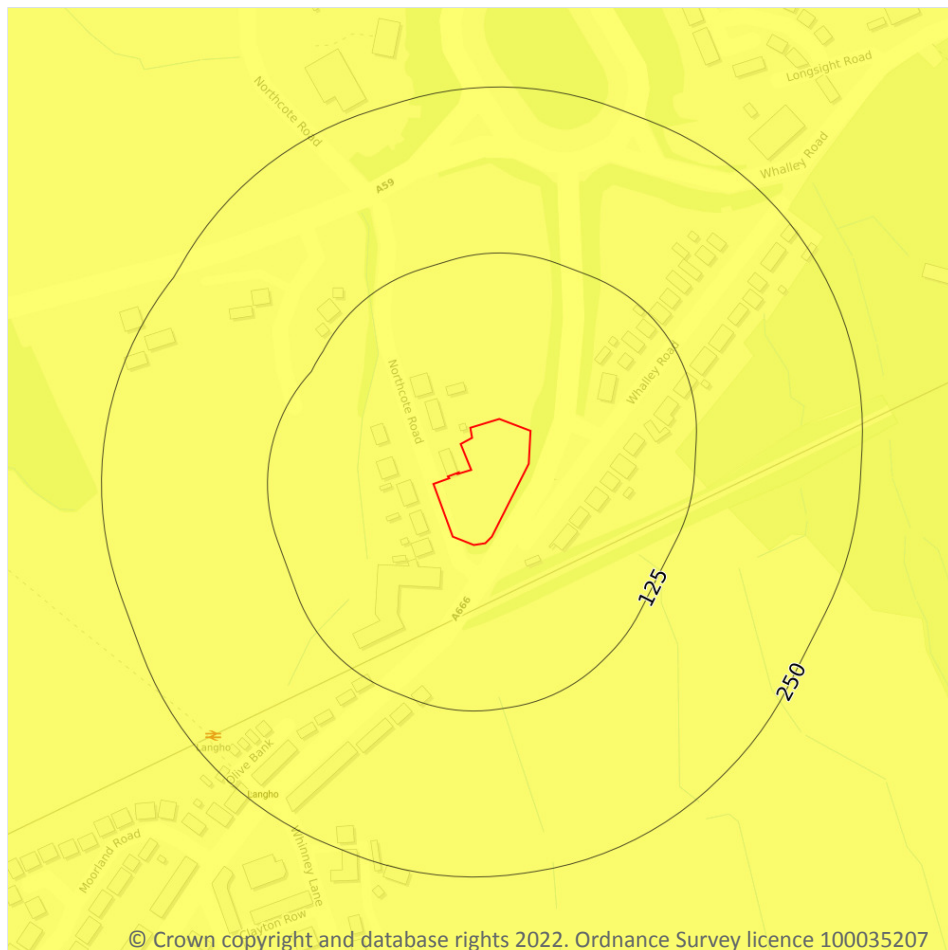
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 83**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

1

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

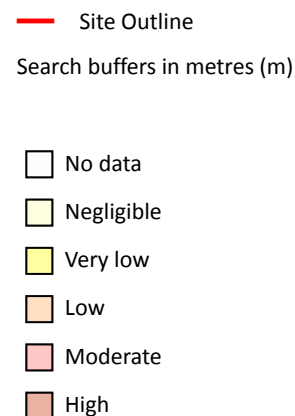
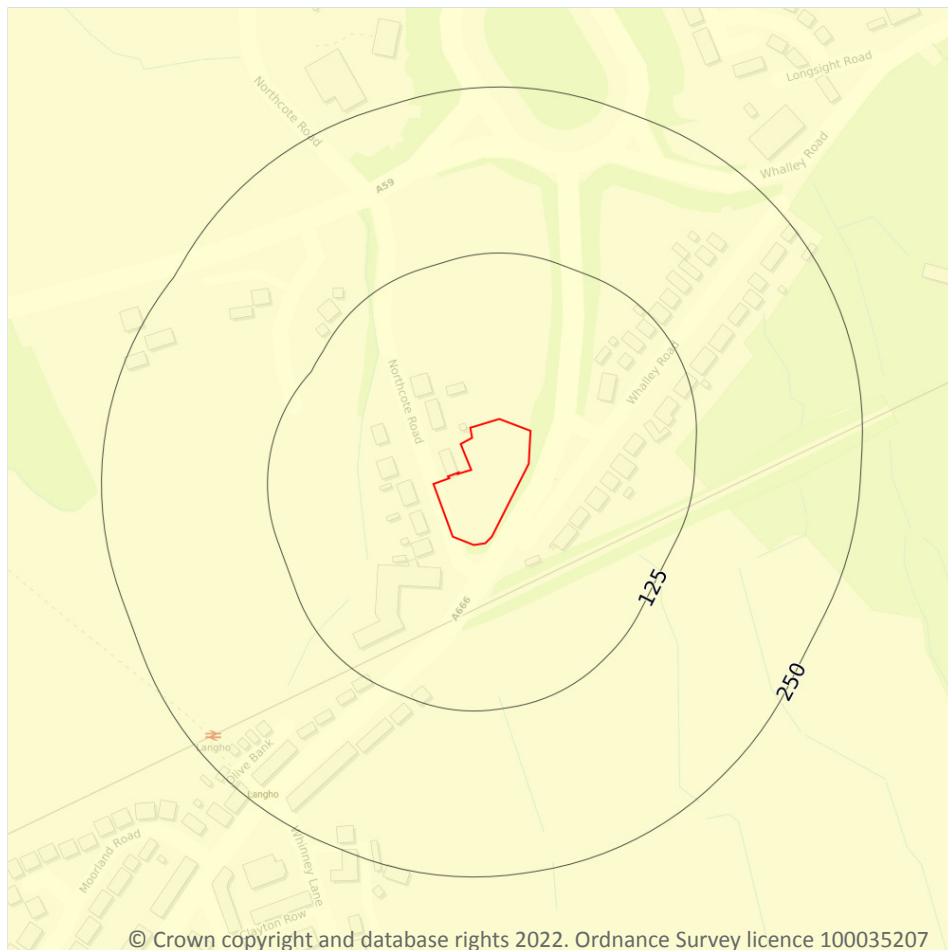
Features are displayed on the Natural ground subsidence - Running sands map on **page 84**

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.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

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

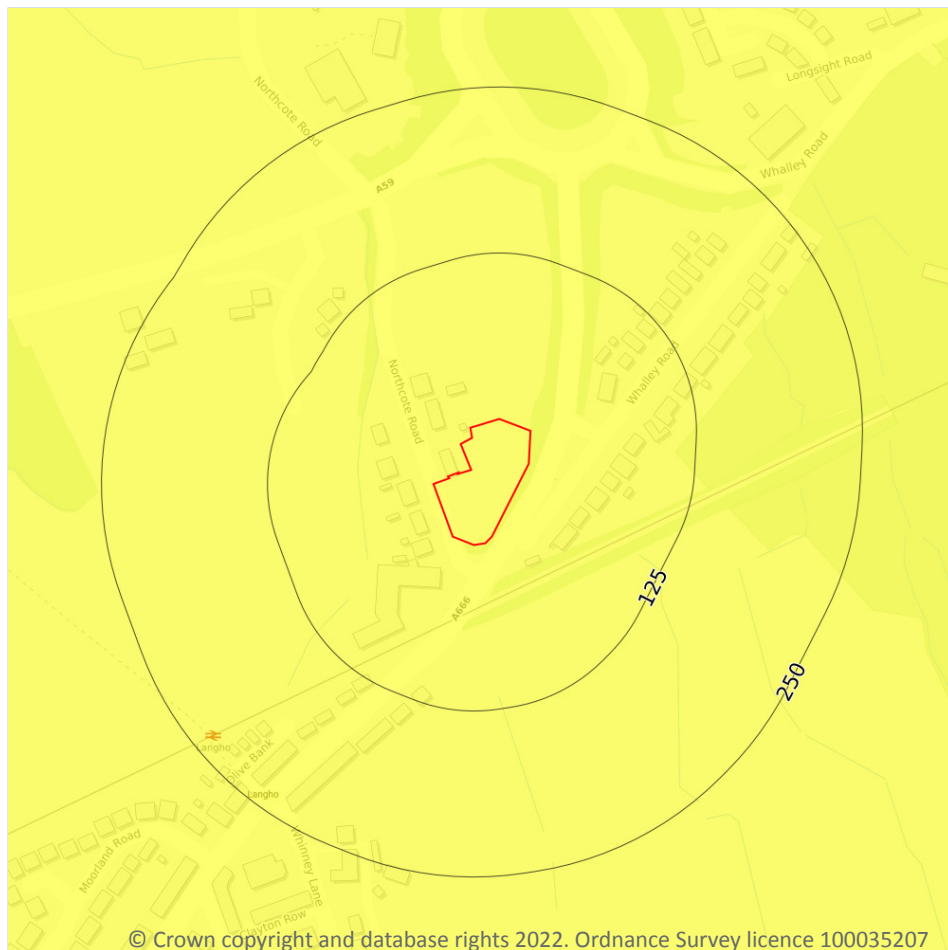
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 85**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



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

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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.

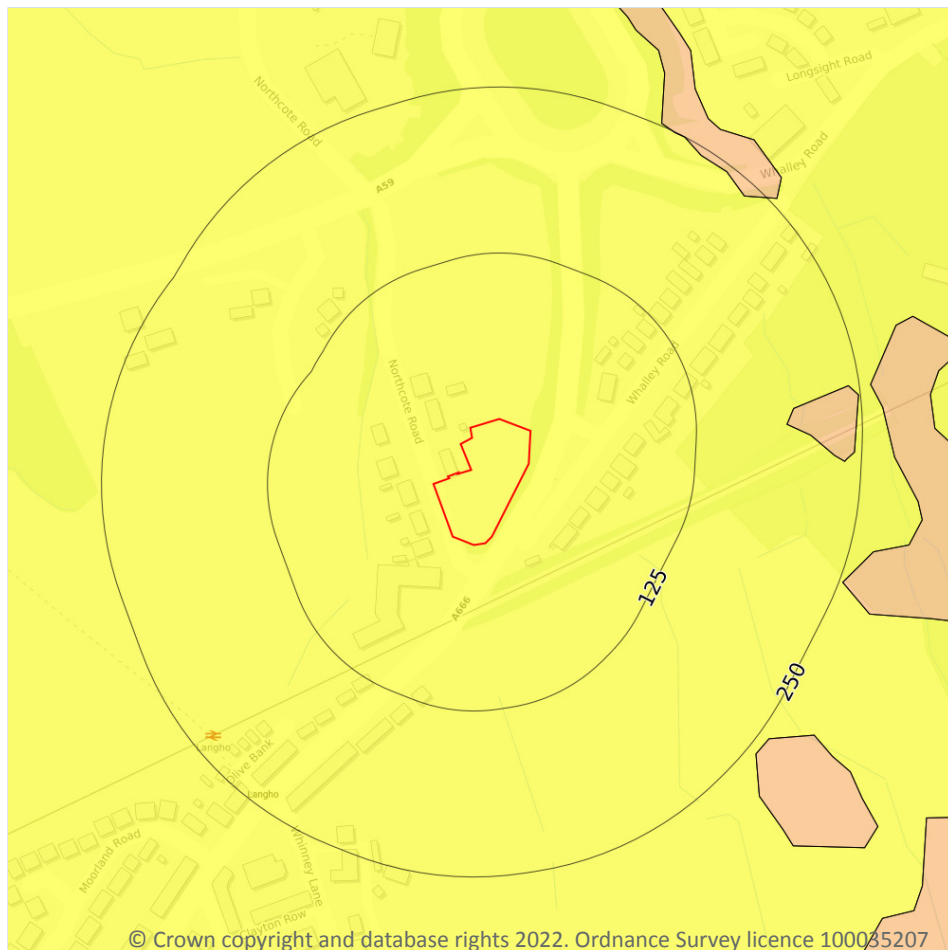
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 86**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



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

17.5 Landslides

Records within 50m

1

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

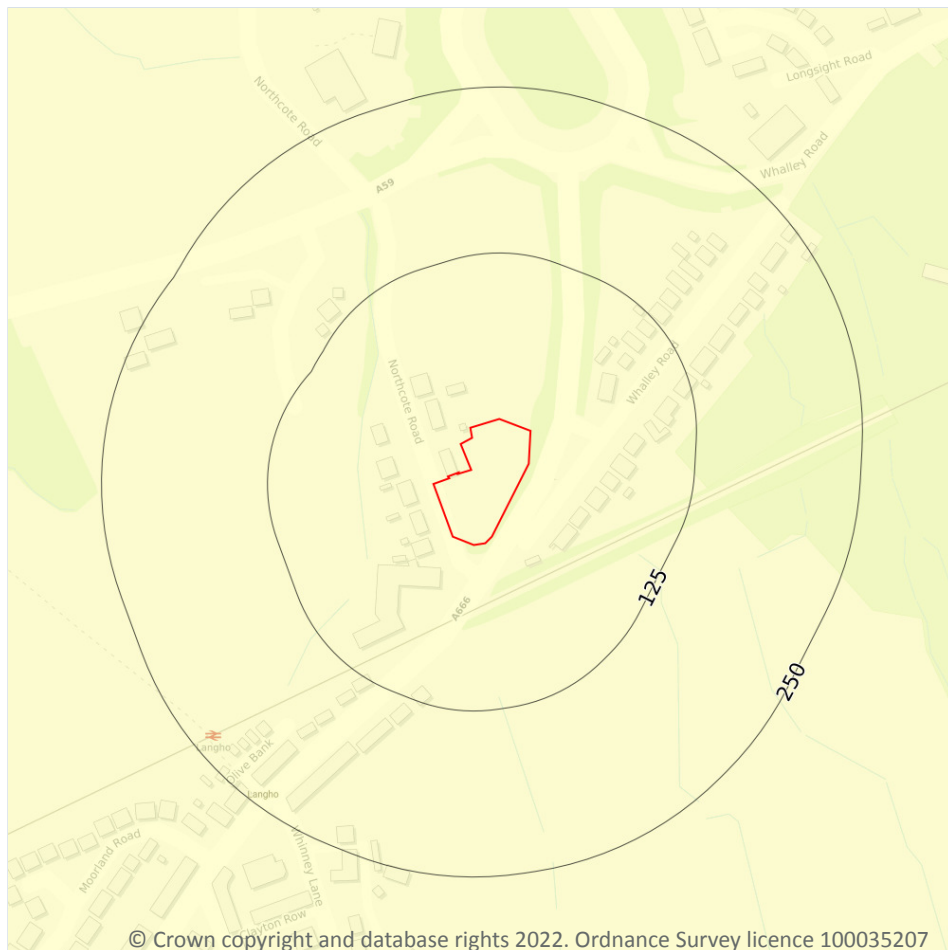
Features are displayed on the Natural ground subsidence - Landslides map on **page 87**

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.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



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

17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

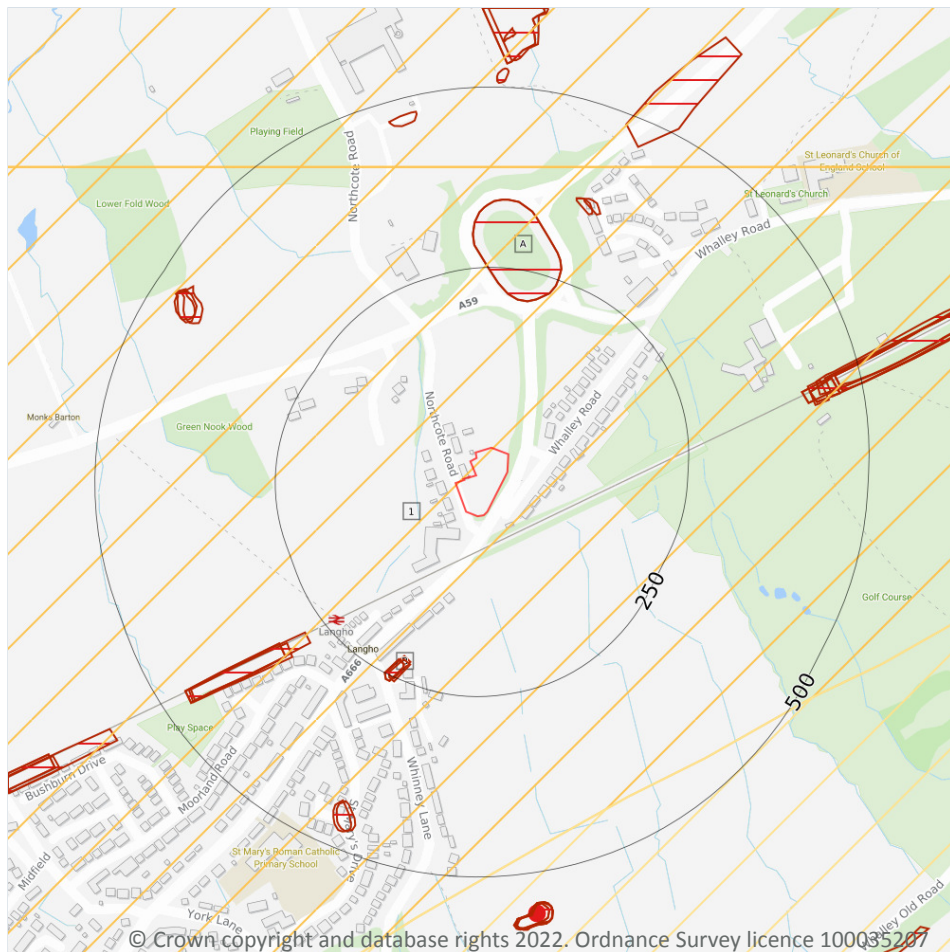
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 88**

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.

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
 - Sporadic underground mining of restricted extent possible
 - Localised small scale underground mining possible
 - Small scale mining possible
 - Underground mining known or likely within or in close proximity
 - Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m**0**

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

This data is sourced from the British Geological Survey.

18.3 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
A	209m N	Unspecified Pit	1981	1:2500
A	209m N	Unspecified Pit	1976	1:2500
B	218m SW	Pond	1892	1:10560
B	222m SW	Reservoir	1950	1:10560
B	225m SW	Reservoir	1933	1:10560
B	225m SW	Reservoir	1910	1:10560

This data is sourced from Ordnance Survey/Groundsure.

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.

This data is sourced from Ordnance Survey/Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

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
2	389m N	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
3	438m SE	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
-	705m W	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
-	830m NW	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

This data is sourced from the British Geological Survey.



18.7 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

0

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site

0

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

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

18.11 Gypsum areas

Records on site

0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0
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Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.13 Clay mining

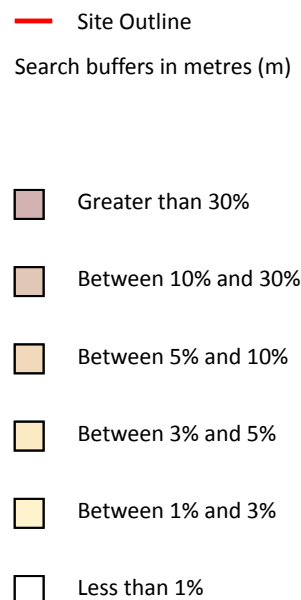
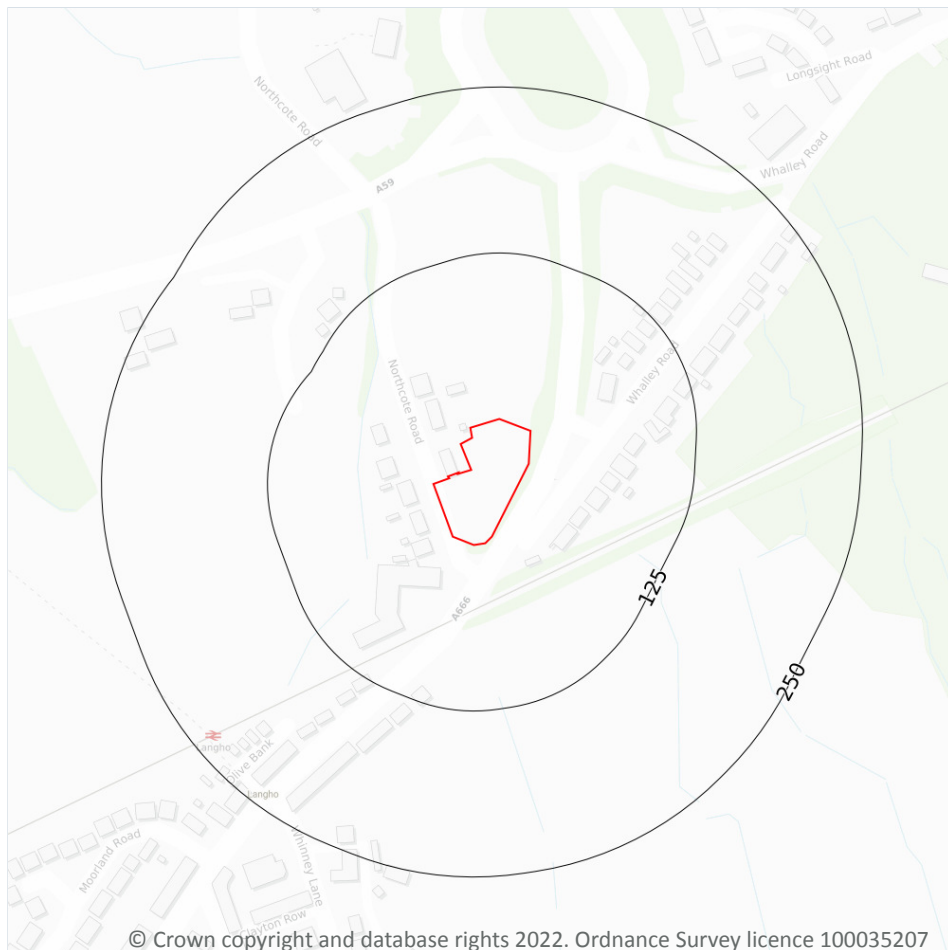
Records on site	0
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Generalised areas that may be affected by kaolin and ball clay extraction.

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



19 Radon



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**

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



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

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 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	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
16m S	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	3.0 - 6.0 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

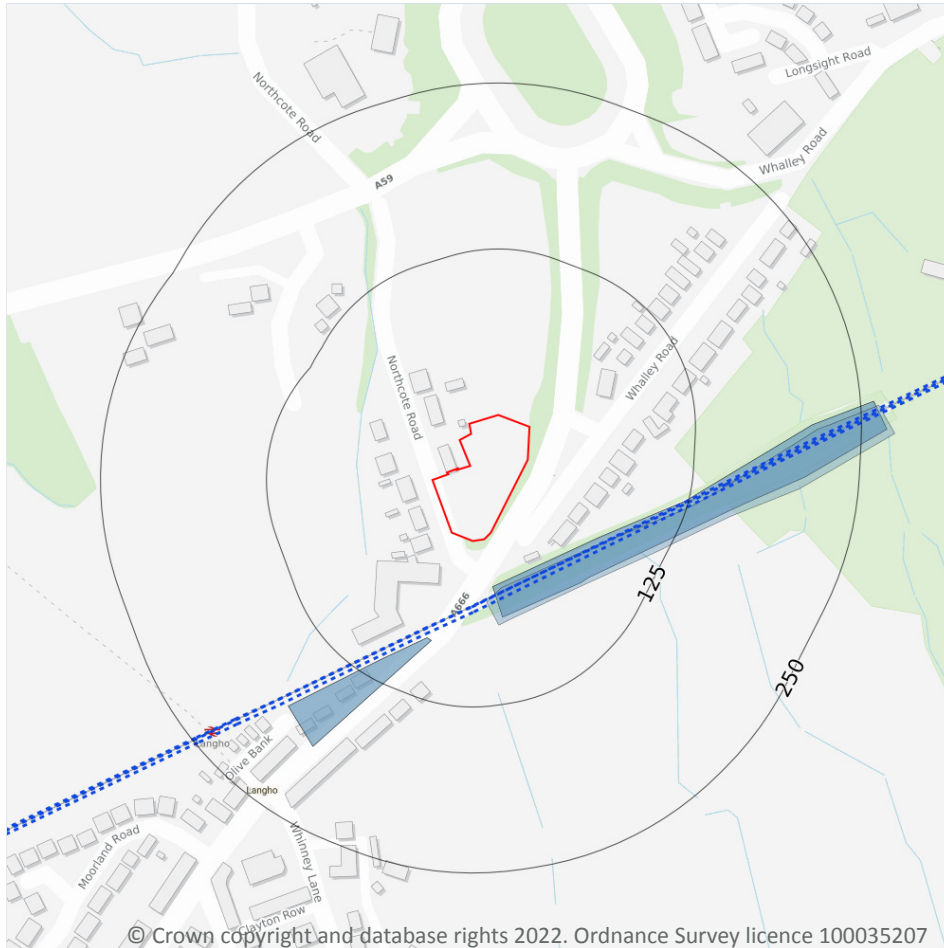
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The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- C2 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.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m

0

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



This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

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
35m SE	Railway Sidings	1933	10560
35m SE	Railway Sidings	1910	10560
39m SE	Railway Sidings	1950	10560
80m S	Railway Sidings	1933	10560
80m S	Railway Sidings	1910	10560

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m

0

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

This data is sourced from Groundsure/the Postal Museum.



21.6 Historical railways

Records within 250m**0**

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m**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
42m SE	Not given	Multi Track
42m SE	Ribble Valley Line	rail
46m SE	Ribble Valley Line	rail
50m S	Ribble Valley Line	rail
53m S	Ribble Valley Line	rail
75m S	Ribble Valley Line	rail
78m S	Not given	Multi Track
78m S	Ribble Valley Line	rail
122m E	Not given	Multi Track
151m E	Not given	Multi Track
216m SW	Ribble Valley Line	rail
217m SW	Ribble Valley Line	rail
246m SW	Ribble Valley Line	rail
247m SW	Ribble Valley Line	rail

This data is sourced from Ordnance Survey and OpenStreetMap.



21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

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APPENDIX F

These Ordnance Survey maps are not printed to scale and have been reduced to A4 size

A3 1/10,000 plans are available upon request

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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Edition N/A
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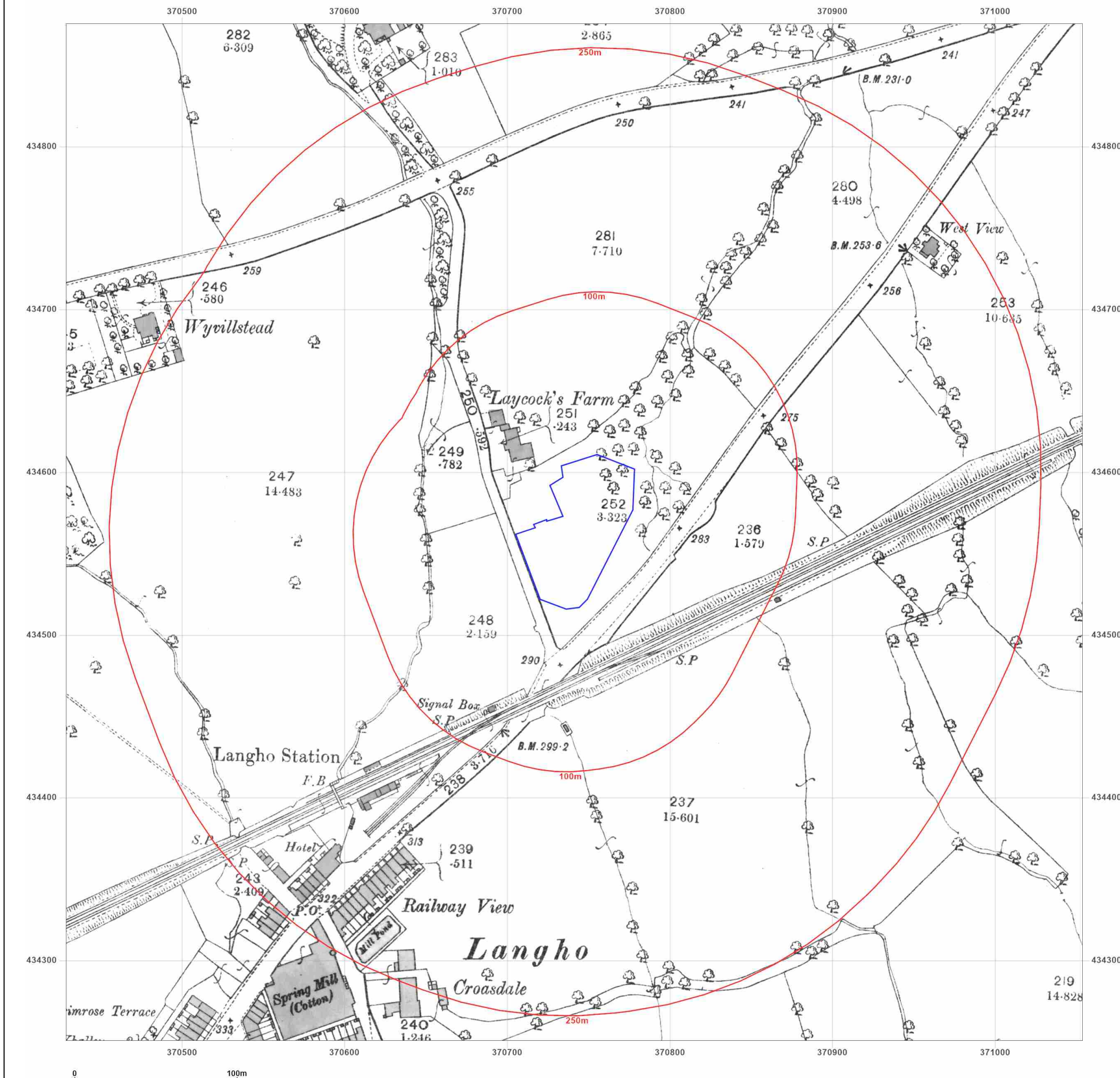


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Map Name: County Series

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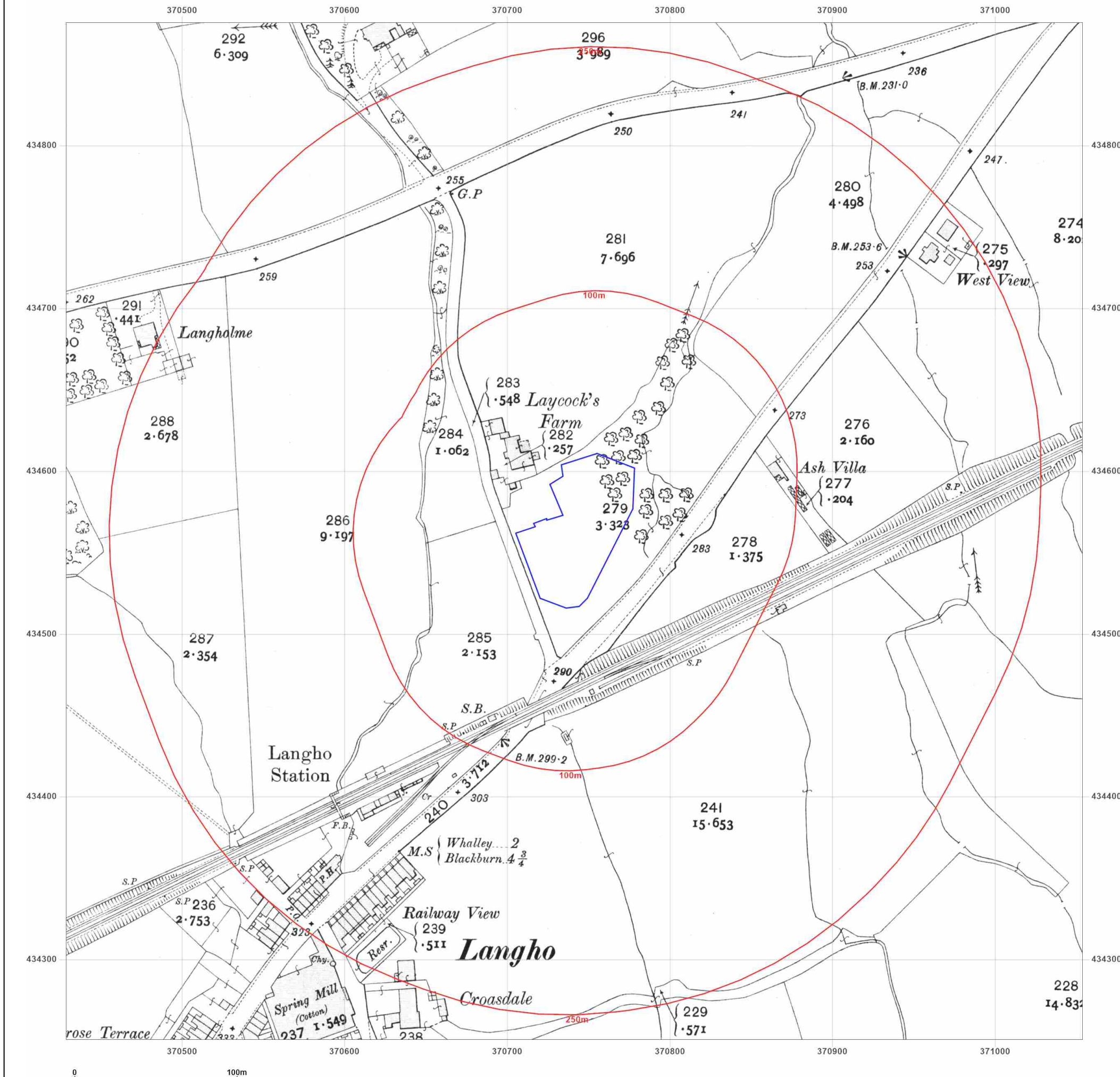


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Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series

Map date: 1932

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Map Name: National Grid

Map date: 1969

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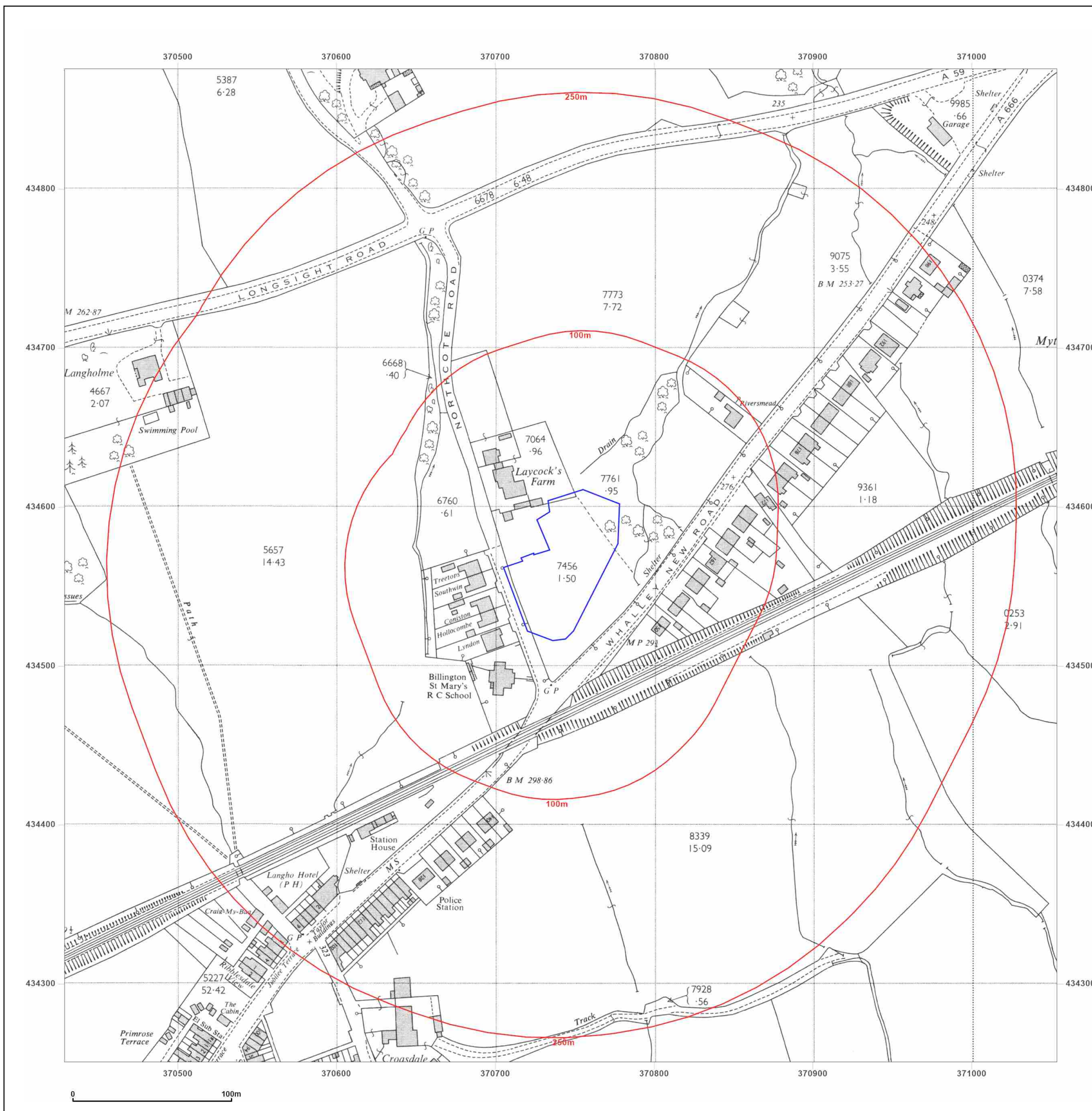


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Grid Ref: 370741, 434563

Map Name: National Grid

Map date: 1977-1982

Scale: 1:2,500

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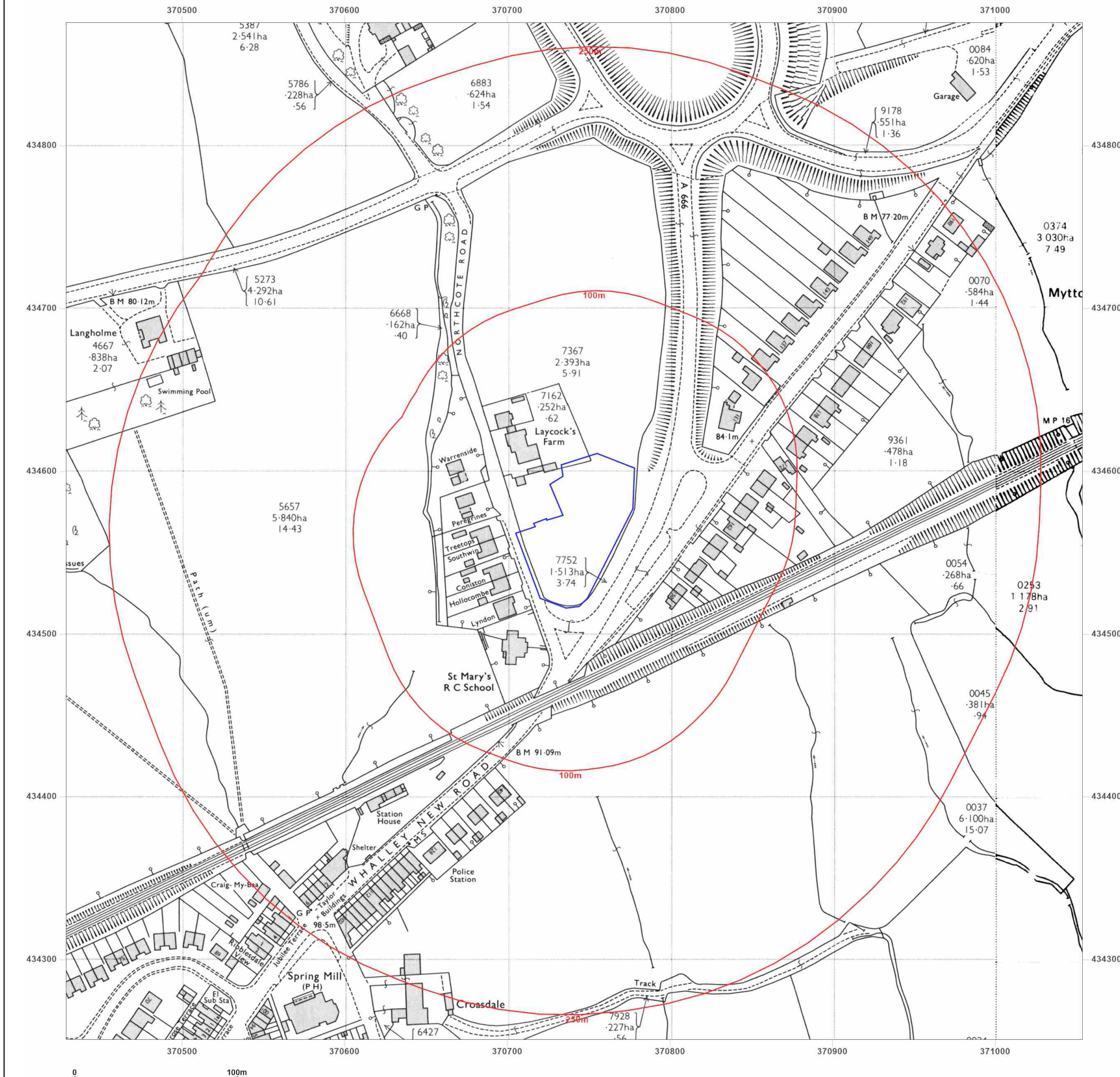


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Map Name: National Grid

Map date: 1992

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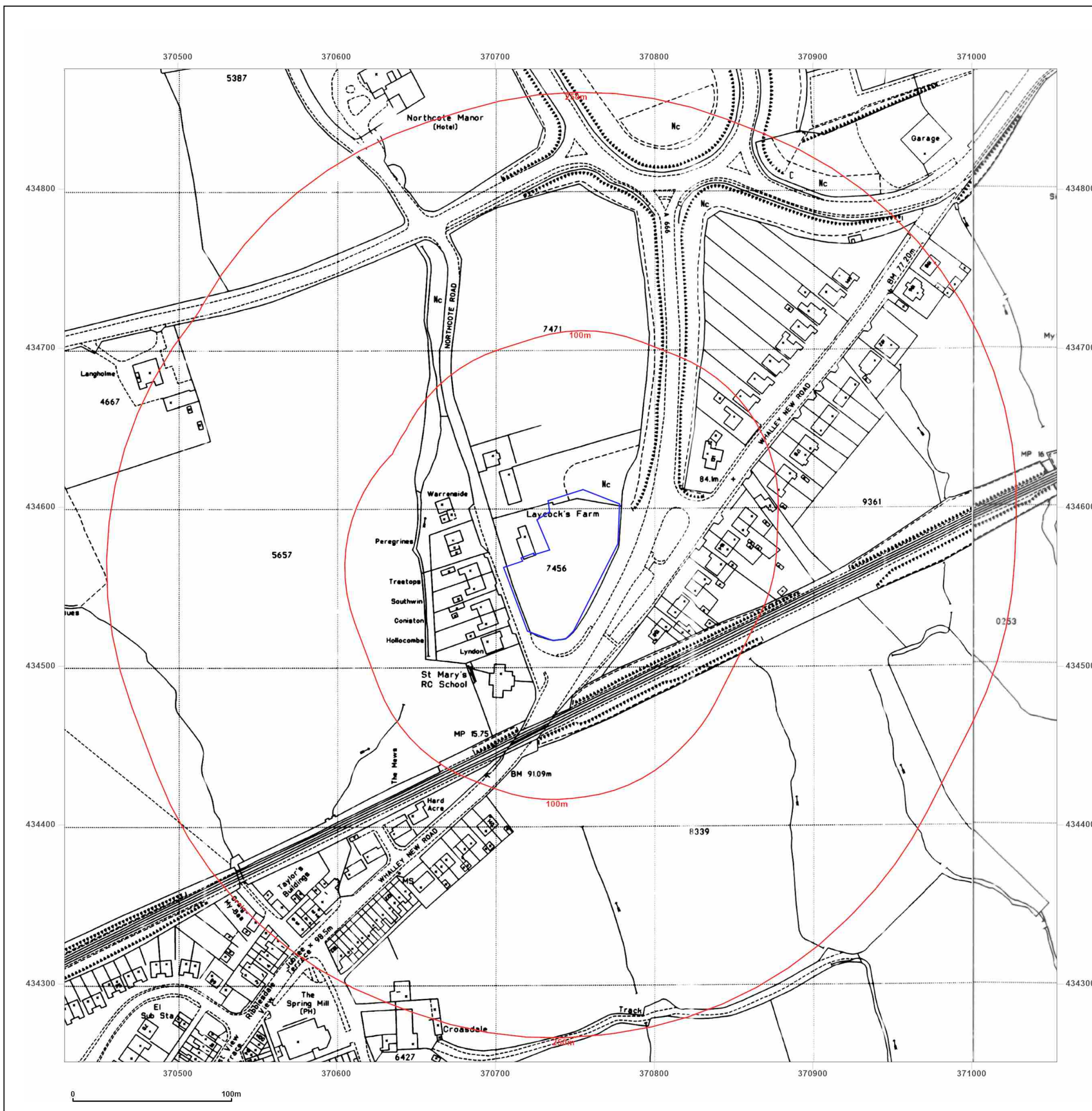


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Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: County Series

Map date: 1844-1848

Scale: 1:10,560

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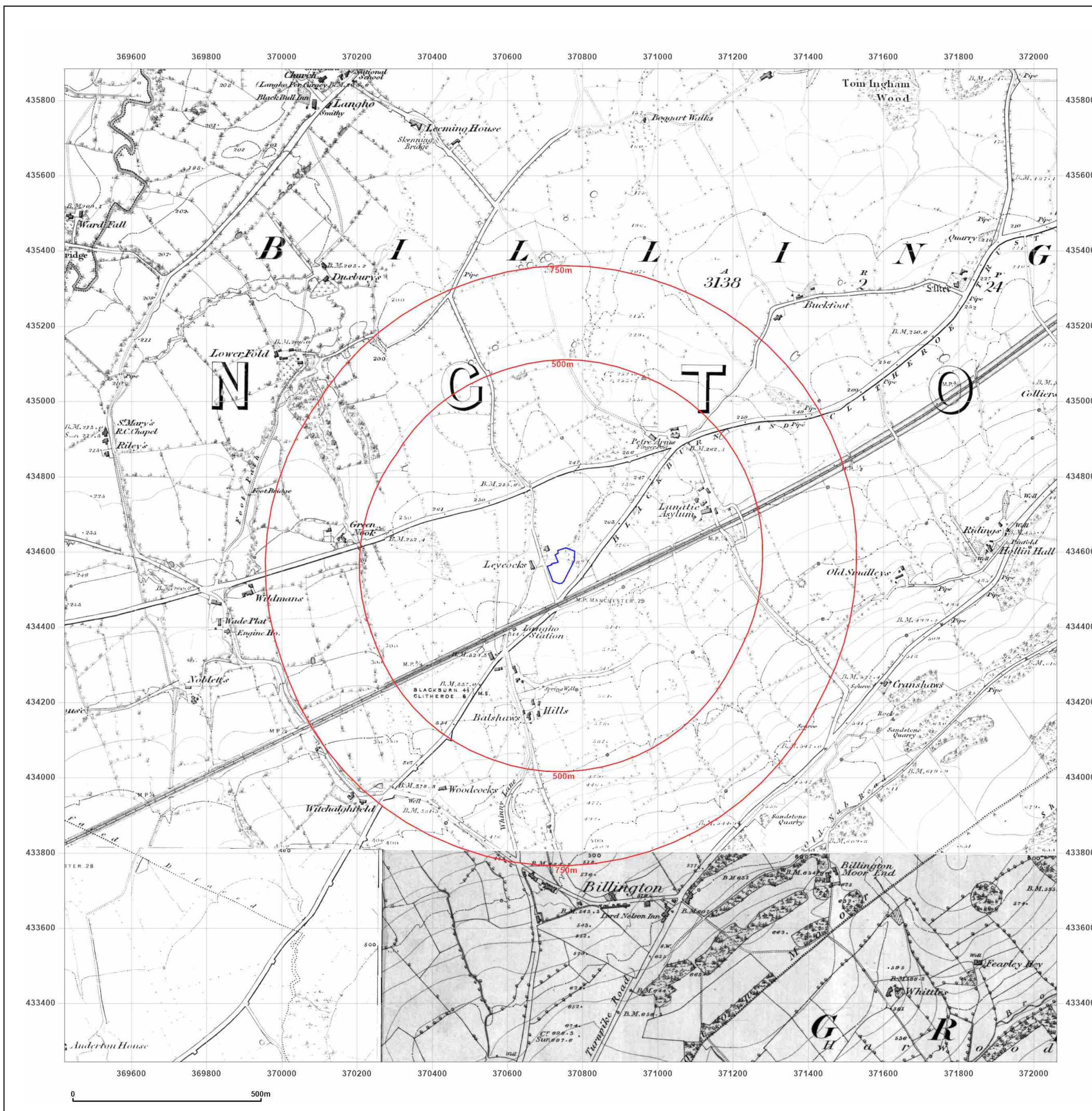


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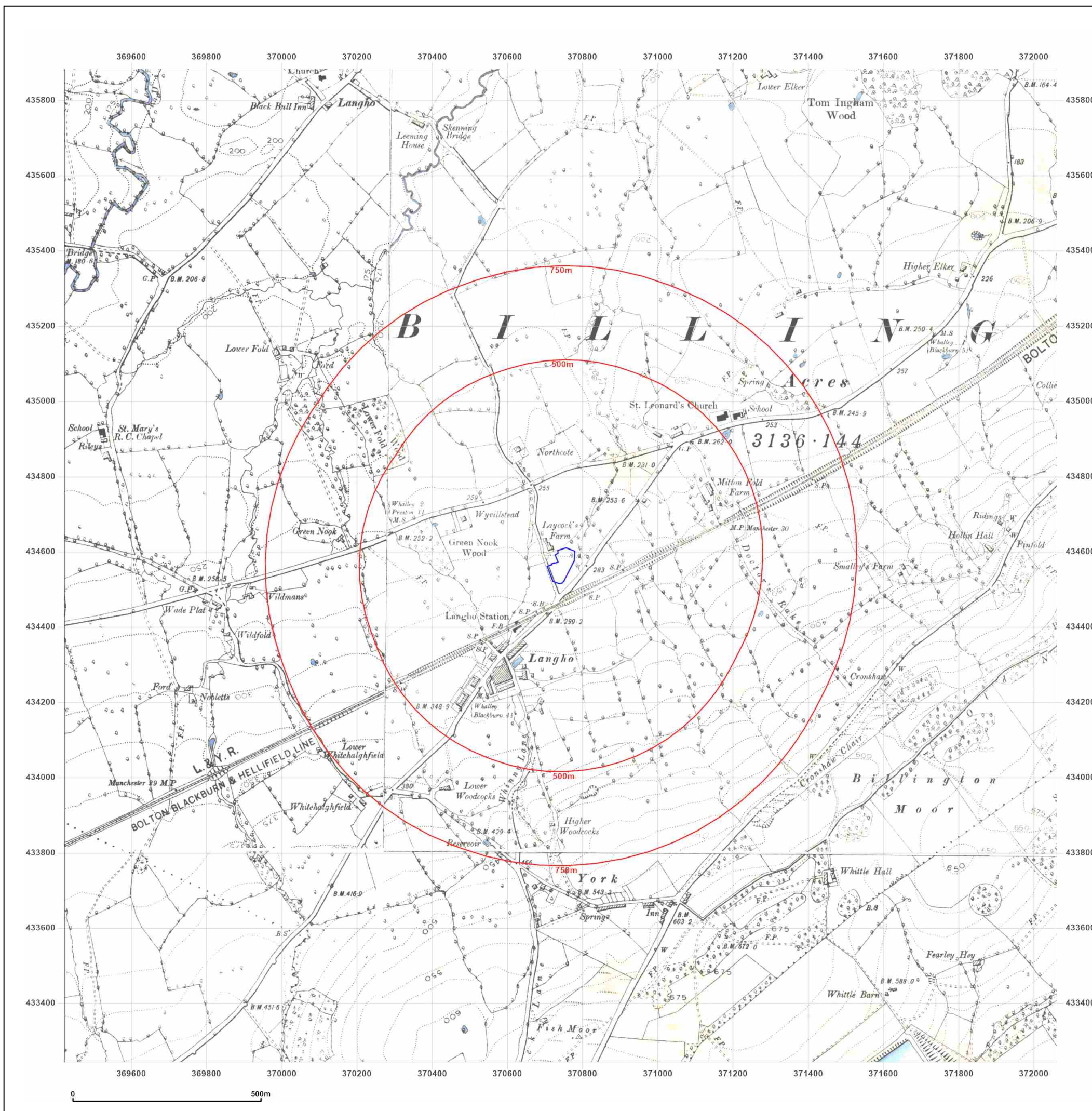


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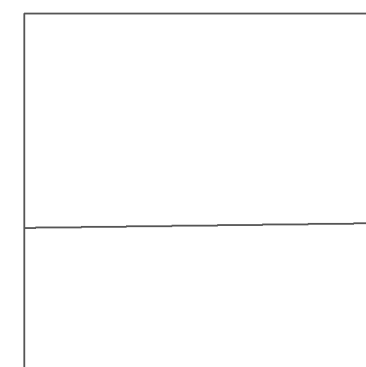
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Edition 1896
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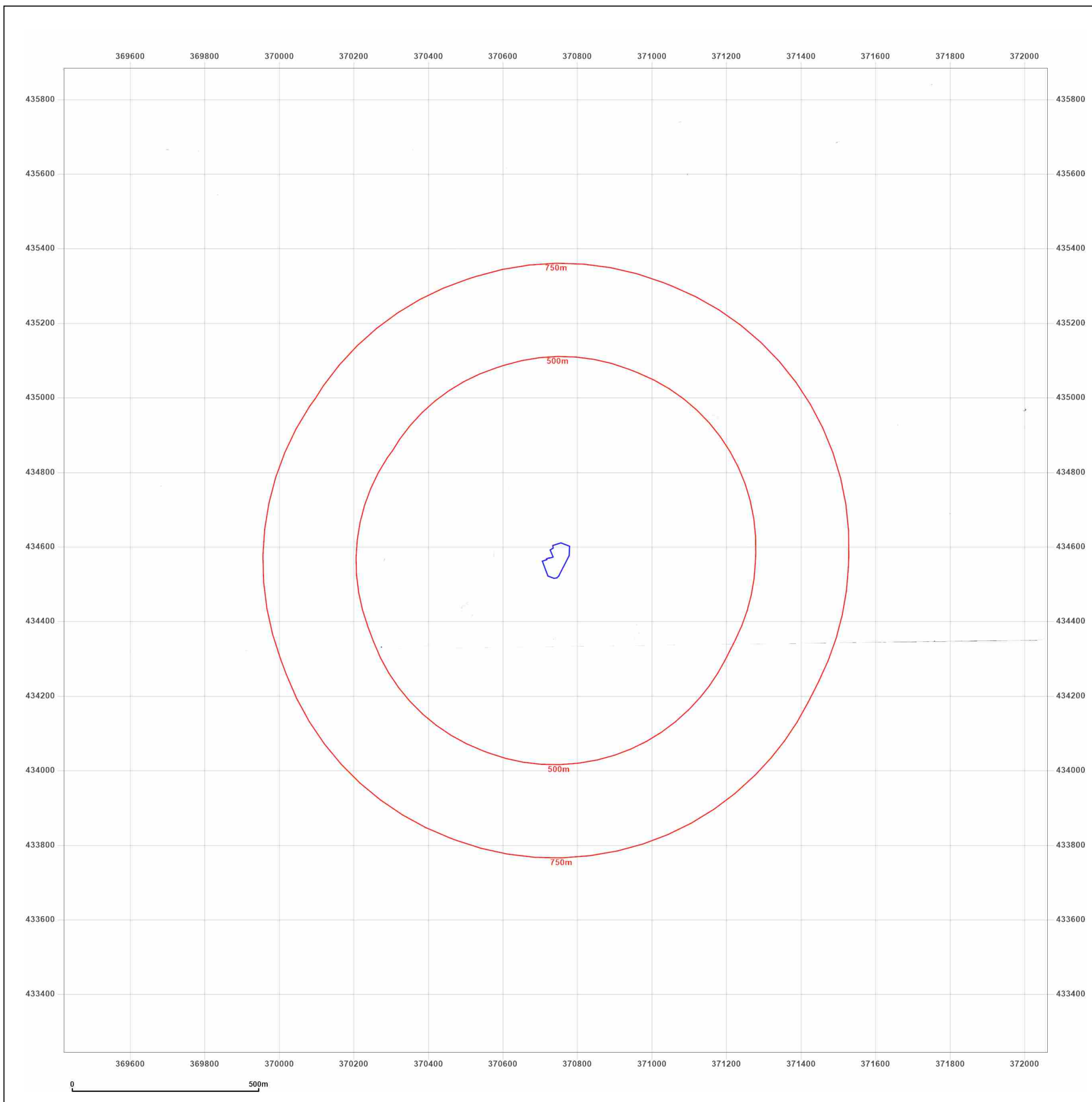


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Grid Ref: 370741, 434563

Map Name: County Series

Map date: 1909-1910

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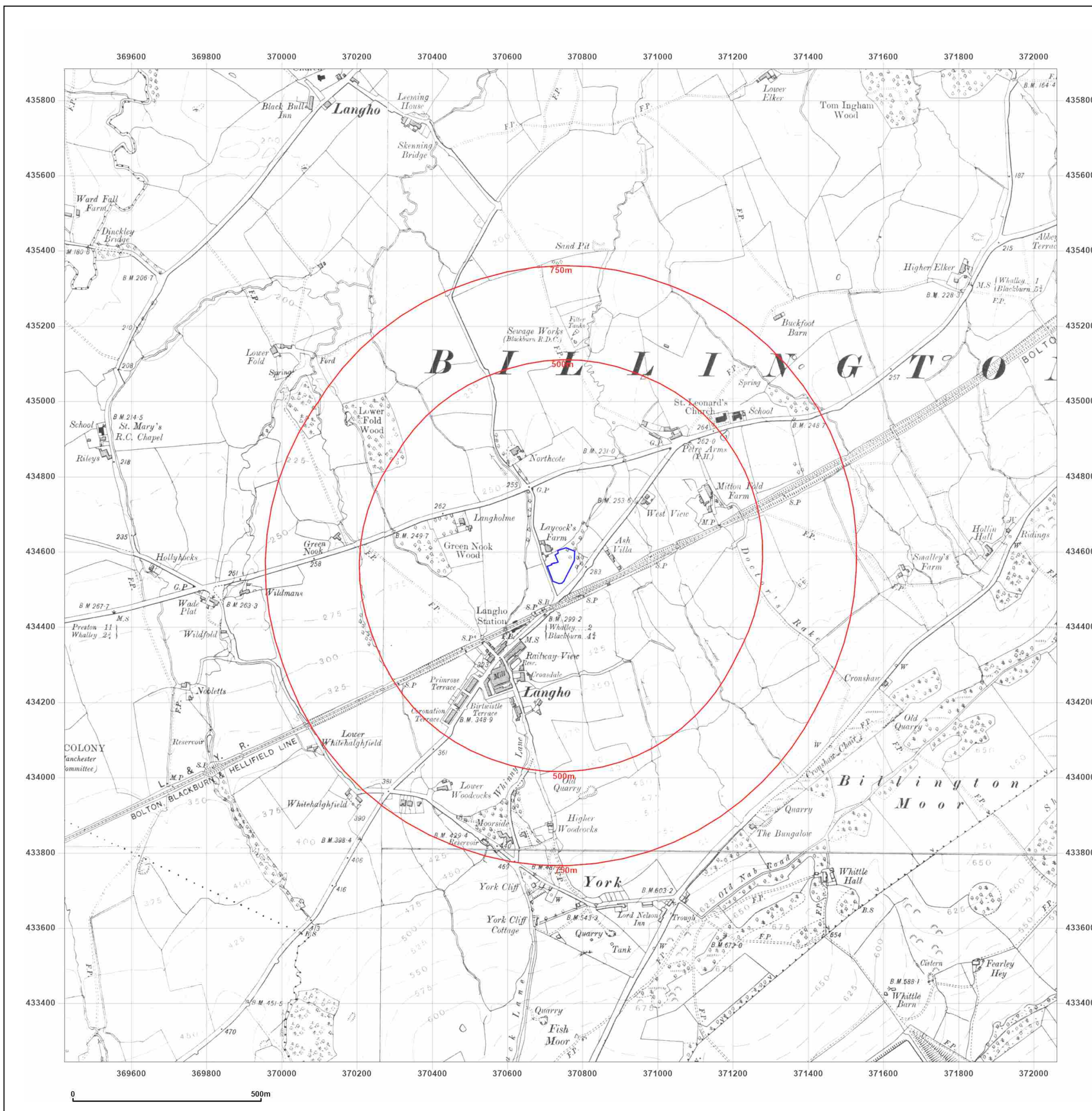


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Grid Ref: 370741, 434563

Map Name: County Series

Map date: 1929-1933

Scale: 1:10,560

Printed at: 1:10,560



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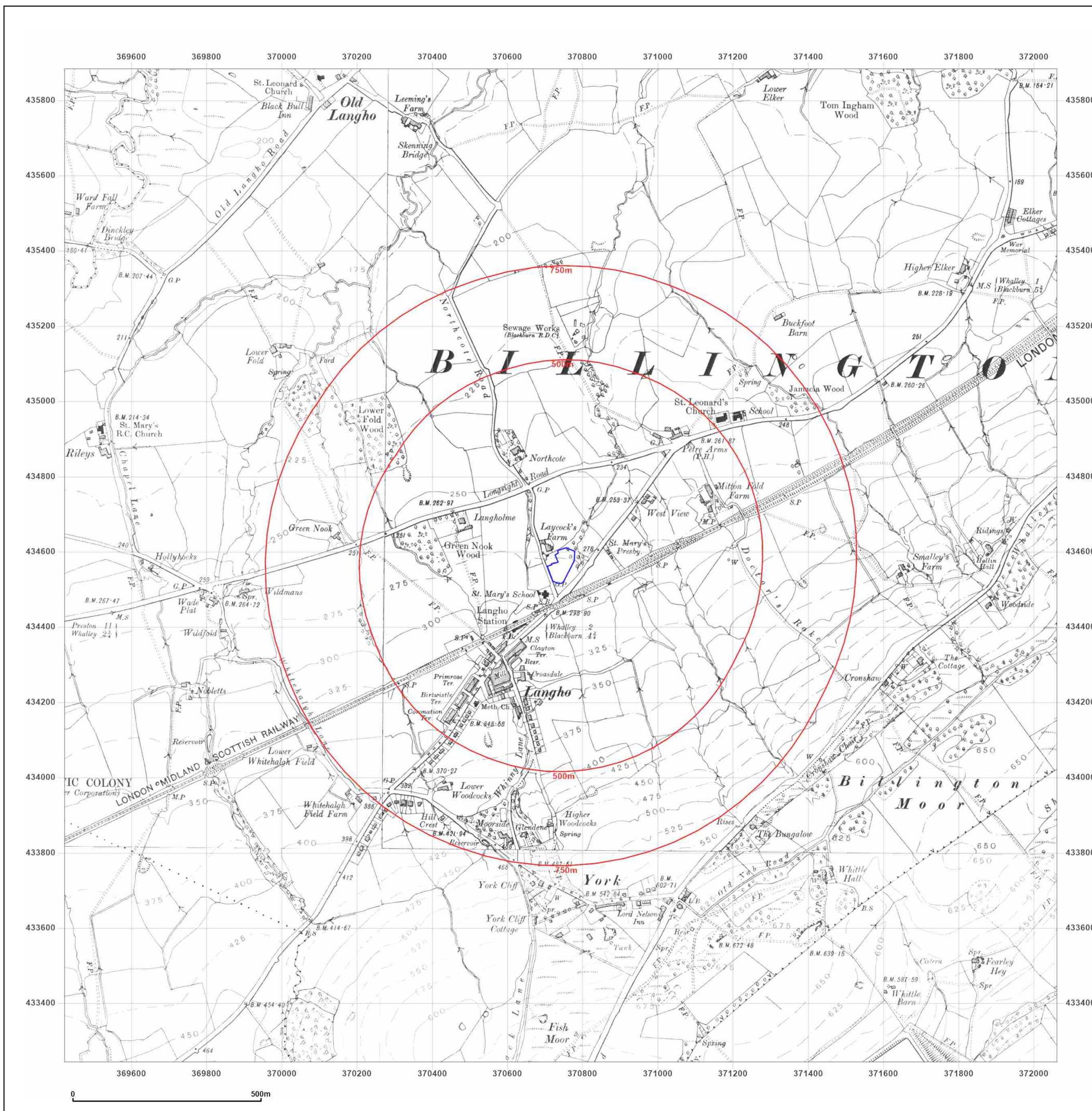


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Site Details:

FERNS, NORTHCOTE ROAD,
LANGHO, BB6 8BG

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

Map Name: Provisional

Map date: 1950-1951

Scale: 1:10,560

Printed at: 1:10,560



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

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

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

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

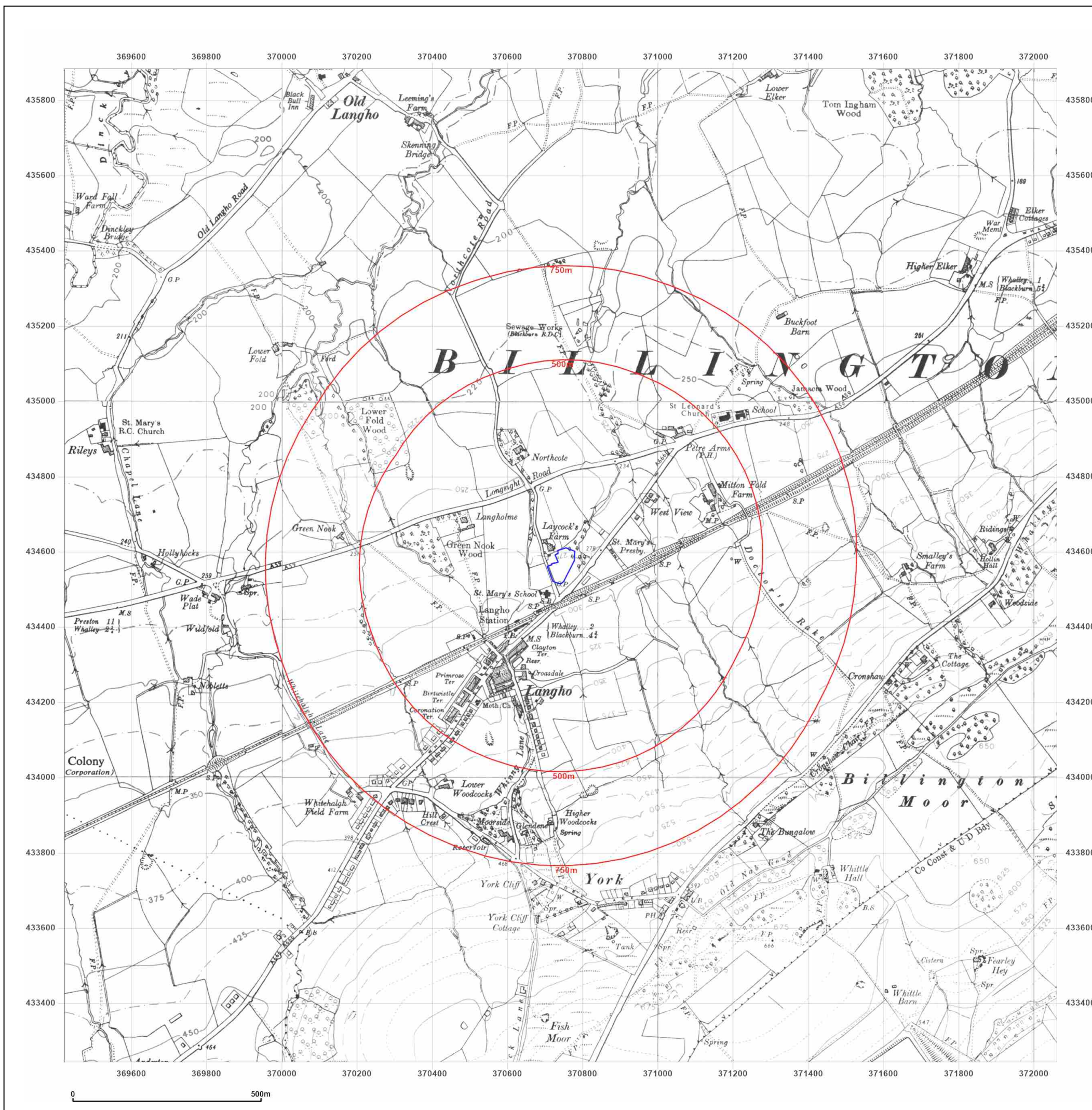


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Site Details:

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

Map Name: Provisional

Map date: 1966-1969

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed N/A
Revised 1966
Edition 1955
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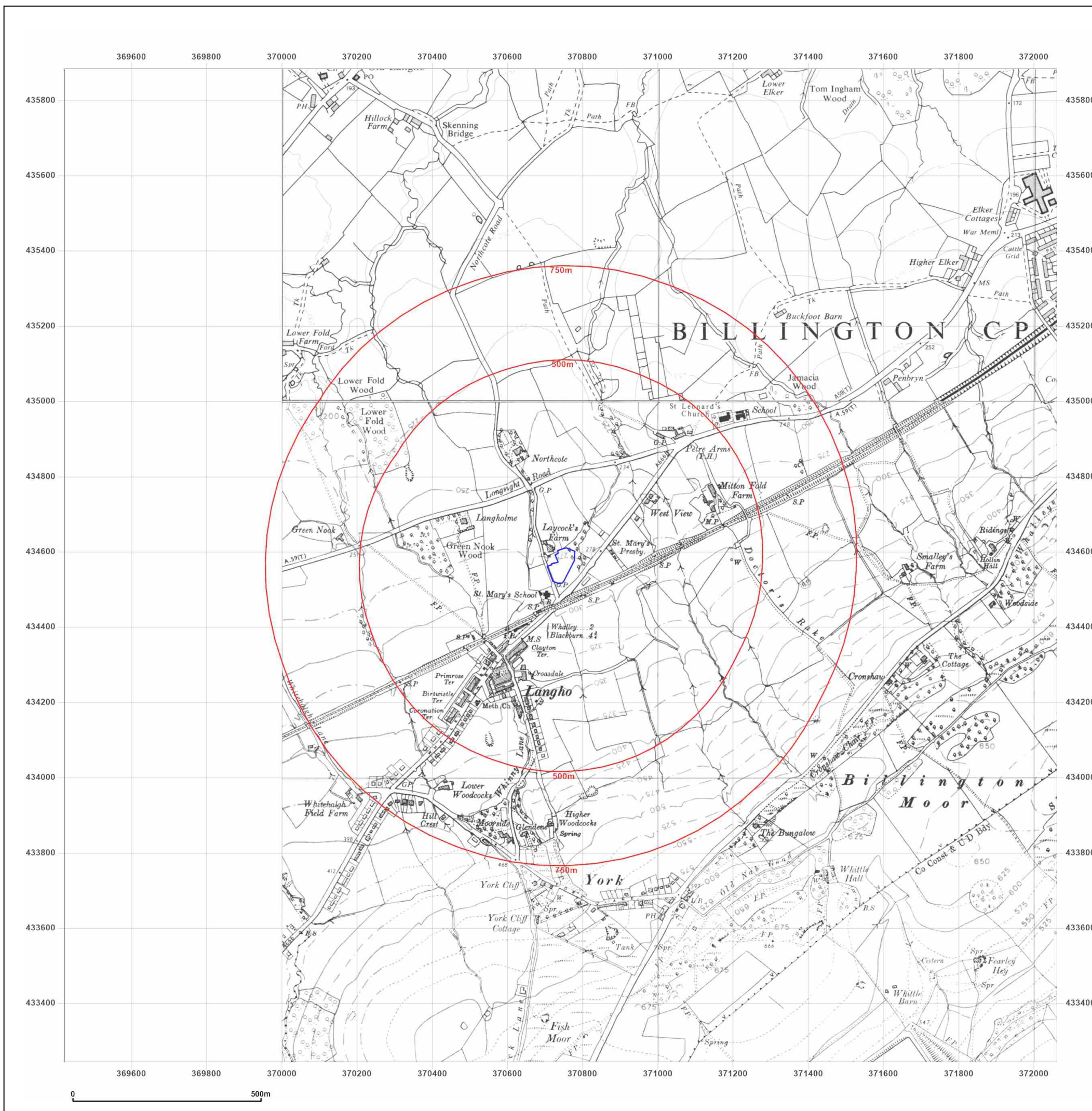


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Site Details:

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

Map Name: National Grid

Map date: 1970-1976

Scale: 1:10,000

Printed at: 1:10,000



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Revised 1973
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Surveyed 1975
Revised 1976
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Surveyed 1973
Revised 1973
Edition N/A
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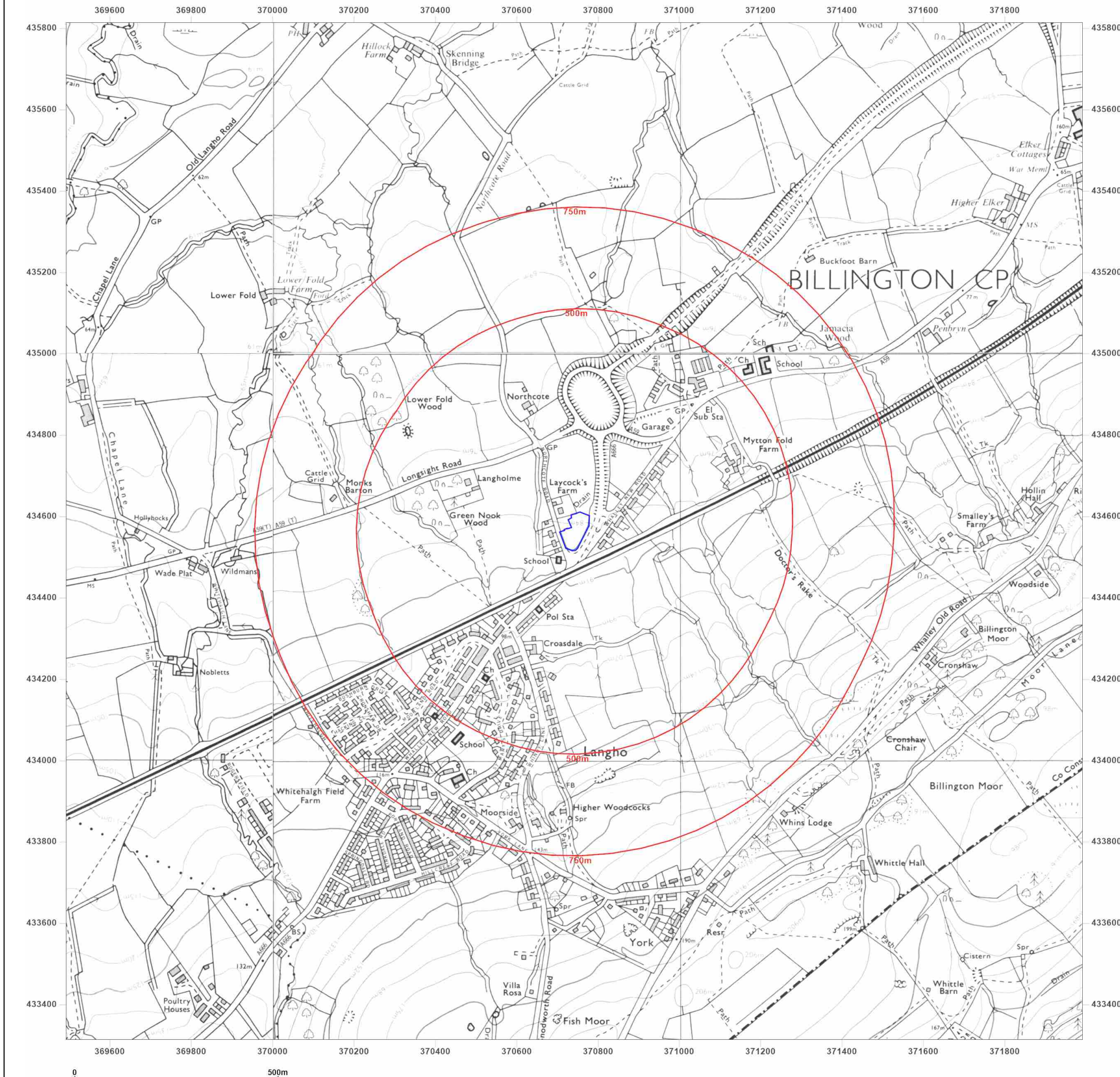


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Site Details:

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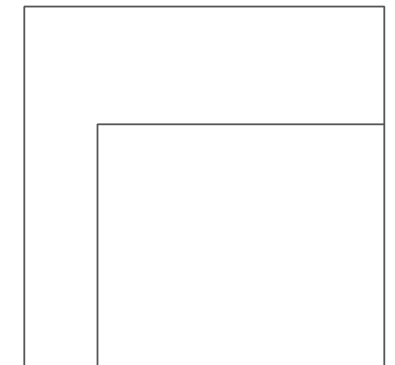
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Grid Ref: 370741, 434563

Map Name: National Grid

Map date: 1991

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Surveyed 1990
Revised 1991
Edition N/A
Copyright N/A
Levelled N/A

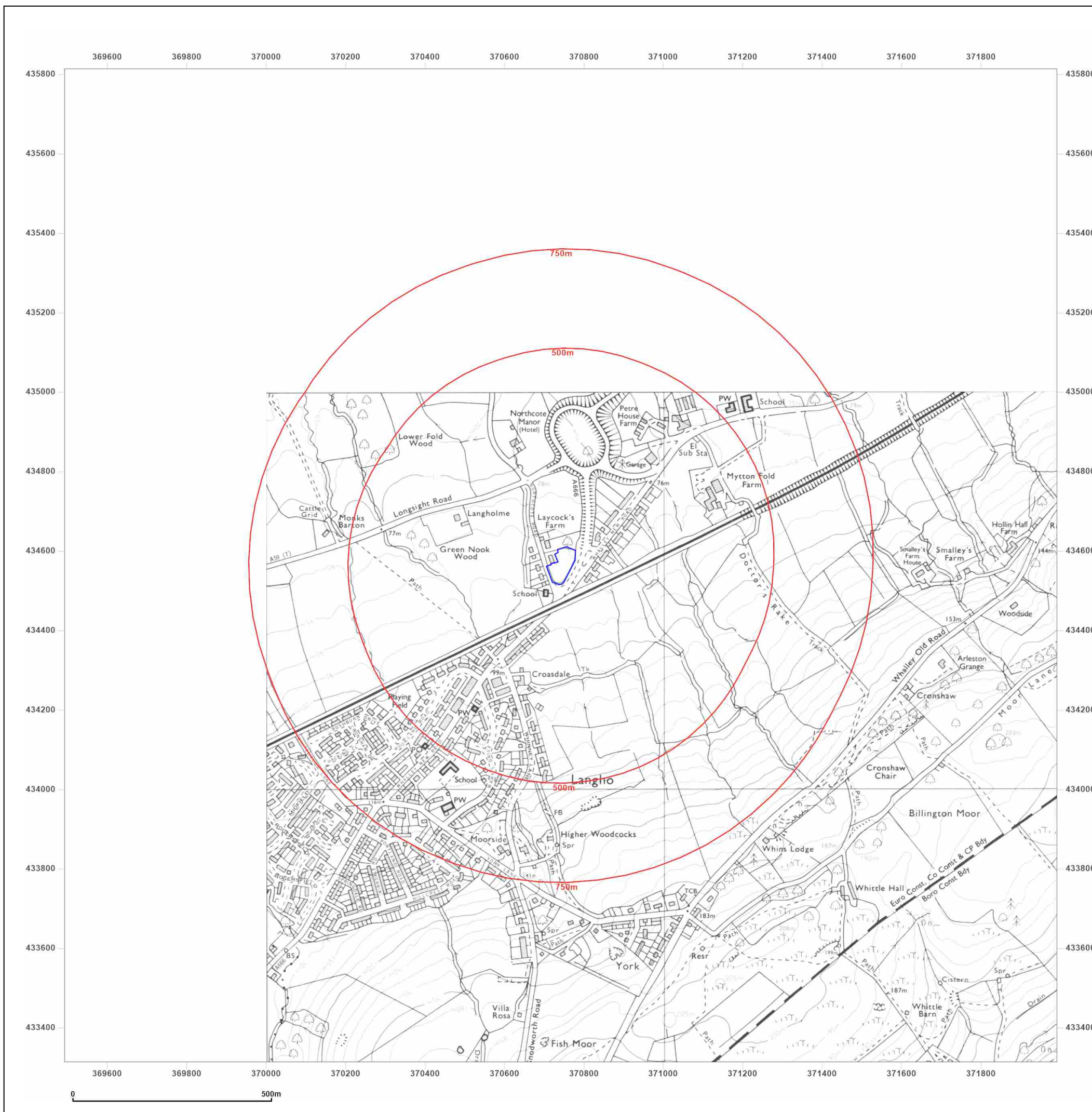


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Client Ref: 22009
Report Ref: GS-8488097
Grid Ref: 370741, 434563

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

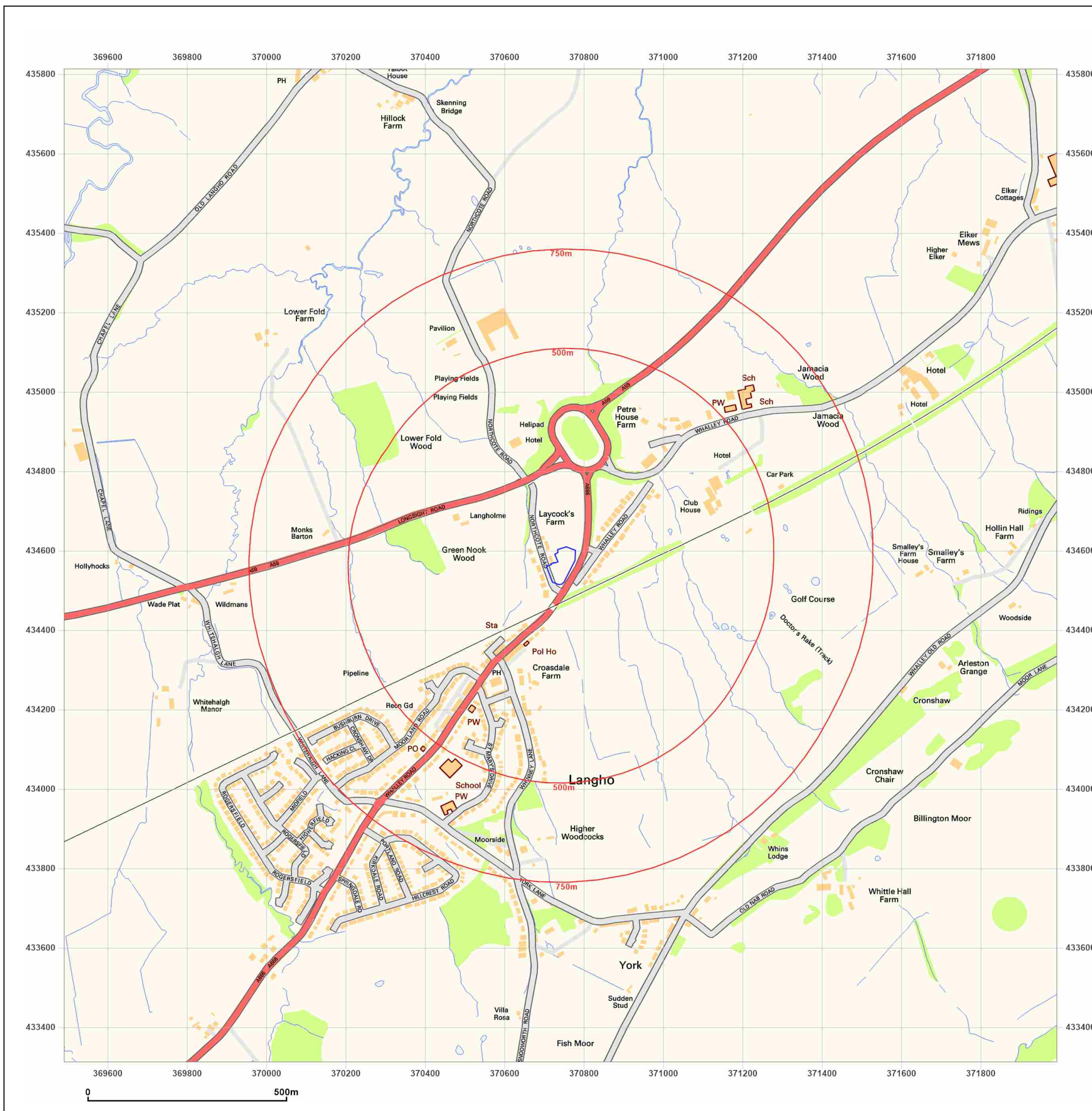


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Site Details:

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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



2022

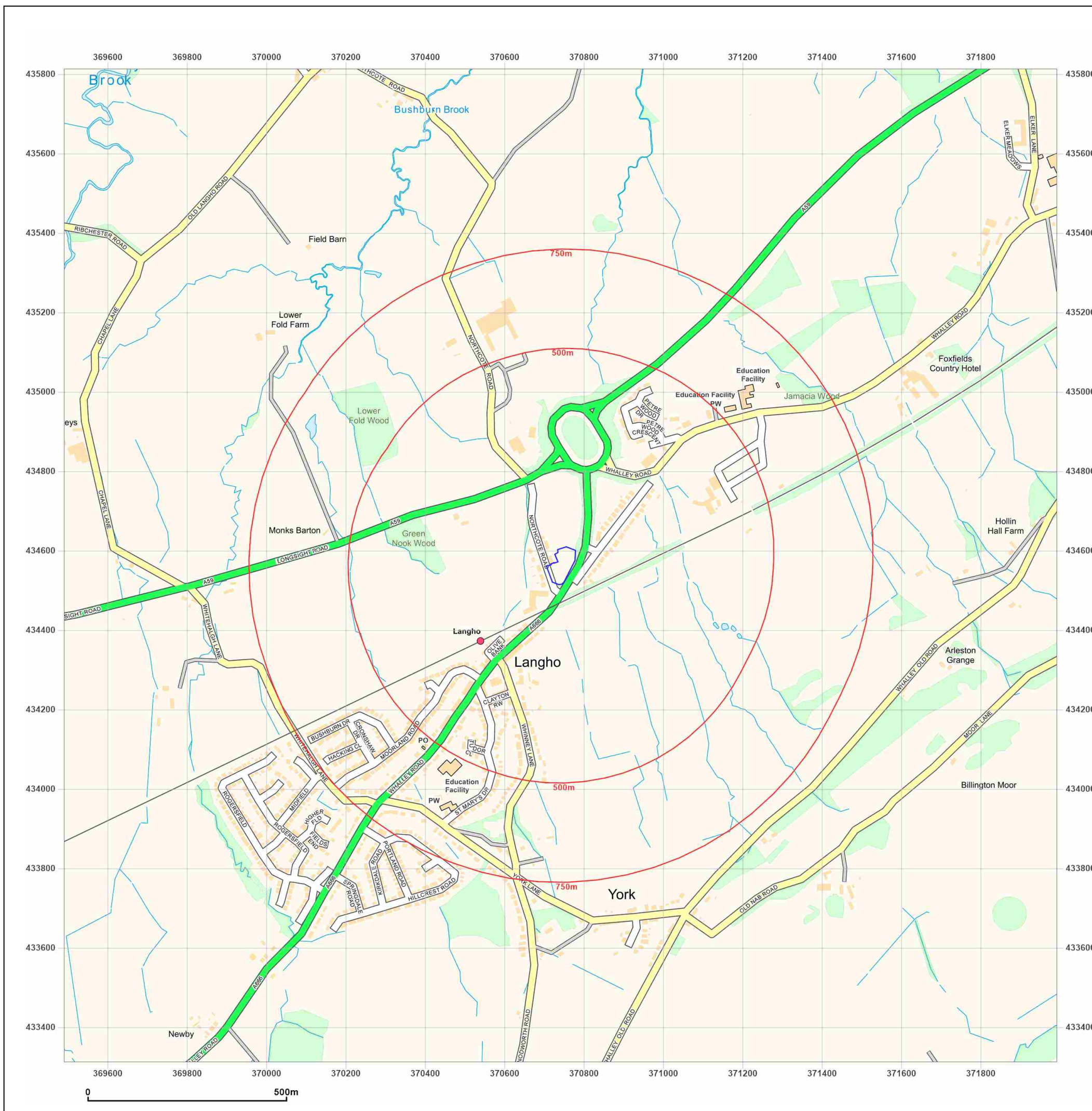


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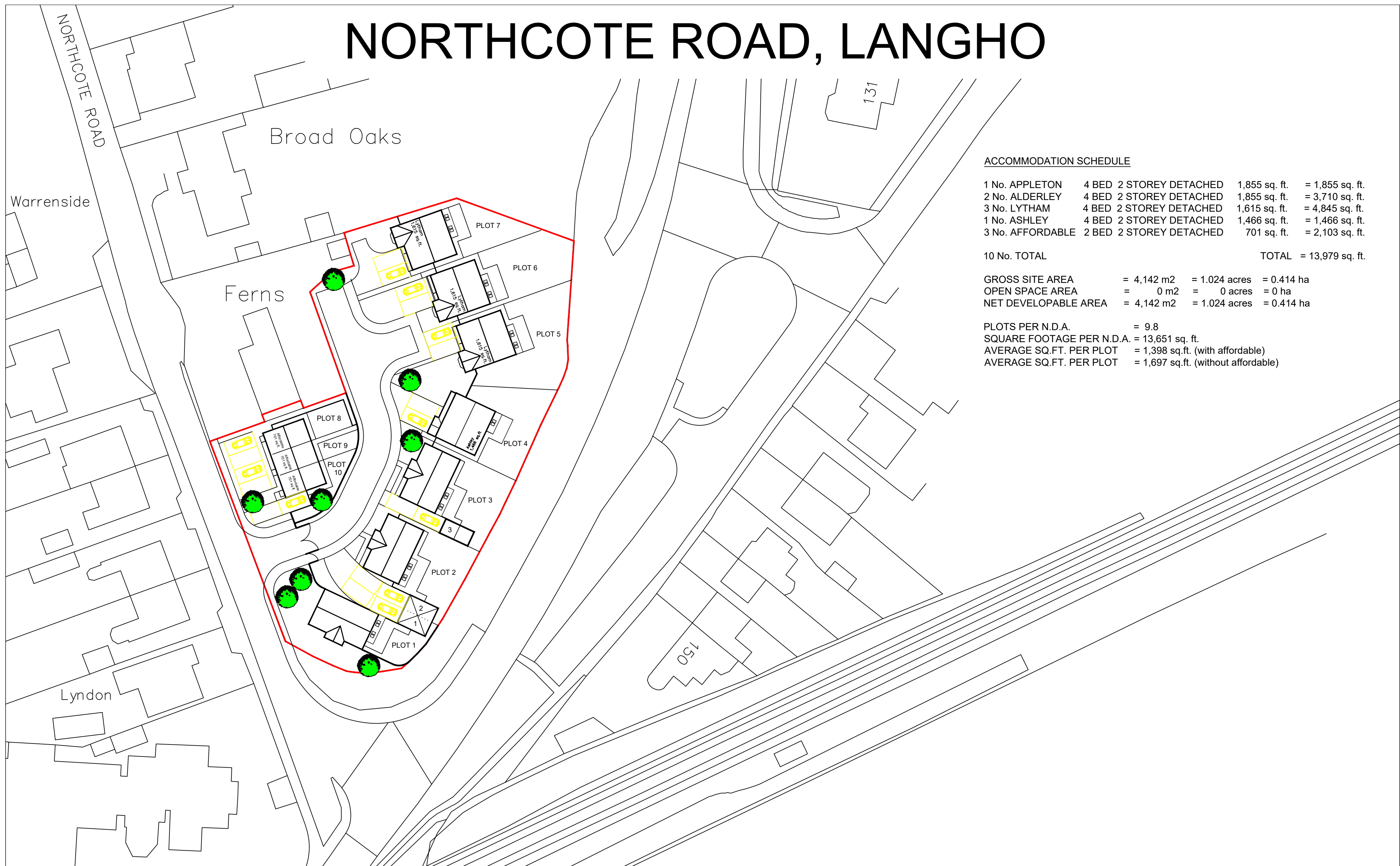
Production date: 01 February 2022

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APPENDIX G

NORTHCOTE ROAD, LANGHO



ACCOMMODATION SCHEDULE

1 No. APPLETON	4 BED 2 STOREY DETACHED	1,855 sq. ft.	= 1,855 sq. ft.
2 No. ALDERLEY	4 BED 2 STOREY DETACHED	1,855 sq. ft.	= 3,710 sq. ft.
3 No. LYTHAM	4 BED 2 STOREY DETACHED	1,615 sq. ft.	= 4,845 sq. ft.
1 No. ASHLEY	4 BED 2 STOREY DETACHED	1,466 sq. ft.	= 1,466 sq. ft.
3 No. AFFORDABLE	2 BED 2 STOREY DETACHED	701 sq. ft.	= 2,103 sq. ft.

10 No. TOTAL TOTAL = 13,979 sq. ft.

GROSS SITE AREA	= 4,142 m2	= 1.024 acres	= 0.414 ha
OPEN SPACE AREA	= 0 m2	= 0 acres	= 0 ha
NET DEVELOPABLE AREA	= 4,142 m2	= 1.024 acres	= 0.414 ha

PLOTS PER N.D.A.	= 9.8
SQUARE FOOTAGE PER N.D.A.	= 13,651 sq. ft.
AVERAGE SQ.FT. PER PLOT	= 1,398 sq.ft. (with affordable)
AVERAGE SQ.FT. PER PLOT	= 1,697 sq.ft. (without affordable)



Oak Tree Developments
Office Suite 2, No. 1 Derby Street,
Leigh, Lancashire, WN7 4PF

SKETCH LAYOUT (4 BED SCHEME) - 1:500 @ A2