

A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010041

6.8 Environmental Statement – Appendix 11.2 Preliminary Risk Assessment: Lionheart Business Park

Part B

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

June 2020

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulations 2009**

The A1 in Northumberland: Morpeth to Ellingham
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Environmental Statement - Appendix

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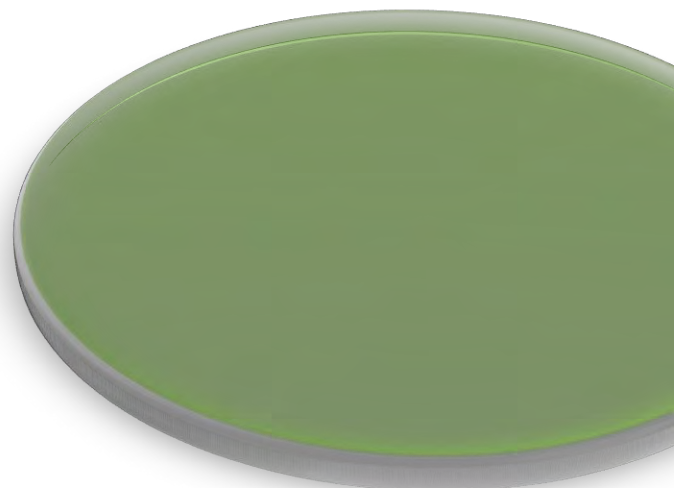


Lionheart Business Park, Alnwick

Preliminary Risk Assessment

Northumberland Estates

November 2016



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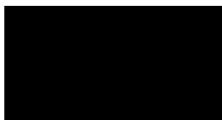
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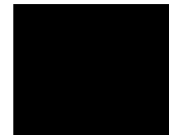
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- Appendix A** Report Conditions
- Appendix B** Groundsure Report (Historical Plans)
- Appendix C** Coal Authority Report
- Appendix D** Groundsure Report (Geo-Insight)
- Appendix E** Groundsure Report (Enviro-Insight)

0.0 REPORT SUMMARY

Site Location and Description	The site is located adjacent to the existing industrial site to east of the A1 as it passes the southern junction for Alnwick, Northumberland; the site is approximately 4.8km west of Alnmouth and 2.25km south east of the historic centre of Alnwick. The site has an area of 10.1ha and is currently free of structures and is in use as arable farm land. The approximate National Grid Reference (NGR) for the centre of the site is 419926 911503.
History of Site	There has been no significant development within the site boundary with the exception of a tramway which formerly ran through the west of the site.
Geology	Artificial Deposits: None Indicated Superficial Deposits: Glaciofluvial sand and gravel and Diamicton (Cohesive Glacial Till / "Boulder Clay") Solid Geology: Alston Formation (Limestone and Undifferentiated Limestone, Sandstone, Mudstone, Siltstone)
Mining	Risk to developments at the site as a result of underground mine workings is considered to be negligible.
Ground Workings	No evidence of underground or surface ground workings noted within the site boundaries.
Hydrogeology	Superficial Deposits: Secondary (A) Aquifer. Solid Geology: Secondary (A) Aquifer.
Hydrology	There are 13 No. river network features recorded within 500m of the site including Cawledge Burn and Willow Burn. There are 4 No. surface water features recorded within 250m of the site.
Flood Risk	RoFRaS rating: Very Low EA Flood Plain within 250m: Yes, Zone 2 and Zone 3.
Environmental Incidents	No records on the Environment Agency National Incidents Recording System, List 2 within 500m of site. 1 No. record on the Environment Agency National Incidents Recording System, List 1 within 250m of site.
Previous Ground Investigations	Land in the east of the site previously investigated in 2012; strata in line with expectations, no significant contamination noted. A number of boreholes and trial pits have been undertaken in the surrounding area, logs from these holes have been reviewed and confirm the information presented on the BGS plans and are discussed in Section 4.1.
Contamination Assessment	Potential contaminants include pesticides, fertilisers, hydrocarbons including coal derivatives, asbestos, metals and metalloids and inorganic compounds from historic tramway, agricultural uses and potential illegal tipping and spillages.
Engineering Considerations	Access: No significant constraints. Obstructions: Potential historic structures or materials along line of former tramway and boulders in superficial strata. Existing Structures: None. Settlement and Subsidence: Negligible to Low Risk. Slope Stability: No issues envisaged but should be considered for developments close to crest of slope along south east boundary. Excavations: No short term issues envisaged in cohesive strata, granular strata will likely require shoring. Foundations: Suitable solutions may comprise strip, trench fill, pads, rafts or piled footings.
Invasive Species	No suspected invasive species noted during walkover.
Archaeological Issues	No significant issues but full archaeological survey may be required.
Recommendations	It is recommended that intrusive ground investigations are undertaken at the site, comprising a suitable number of exploratory holes to target the superficial strata with appropriate chemical and geotechnical analysis and the installation of gas and groundwater monitoring points and supplement investigations undertaken previously in the north of the site. This will provide confirmation of the Preliminary Risk Assessment and allow the project to proceed on a more assured basis with regards earthworks, foundations and any risks to the proposed development and future site users arising from the materials present on and beneath the site. No significant archaeological issues are anticipated for the development; however, given the nature of historical activity in the surrounding area a full archaeological survey may be required prior to development. The Local Planning Authority (County Archaeologist) would be able to advise on any requirements arising from archaeological interest at the site.

This table is intended as a summary of the Desk Study findings and should be read in conjunction with the main report.

1.0 INTRODUCTION

Shadbolt Environmental (SE), part of **The Shadbolt Group (TSG)** were commissioned by the Client, **Northumberland Estates**, to carry out a Preliminary Risk Assessment (PRA), also referred to as Desk Top Study or Phase 1 Investigation; in respect of potential development of a site on the outskirts of Alnwick, Northumberland for a commercial end use.

This report provides an overview of the site and has been compiled from a review of readily available information, published data, historical information, preliminary data searches and a site walk over and is intended as preliminary appraisal only.

The following list of information sources represent the 'standard' documents, datasets or surveys undertaken during the production of a Preliminary Risk Assessment. Where additional sources are incorporated including previous investigations carried at or surrounding the site these are reviewed in Section 5.

- Site walkover survey.
- Historical and Recent Ordnance Survey maps and plans.
- British Geological Survey.
- The Environment Agency.
- Groundsure Report.
- The Coal Authority.
- NRPB-W26 'Radon Atlas of England and Wales,' NRPB, 2002.
- CIRIA 132 'A guide for safe working on contaminated sites,' CIRIA, 1996.
- CIRIA C552 'Contaminated Land Risk assessment. A guide to good practice,' CIRIA, 2001.
- BS10175 'Investigation of potentially contaminated sites – code of practice,' BS, 2011.
- CLR 11: Model Procedures for the management of land contamination (EA 2004)
- Environmental Protection Act 1990: Part IIA
- Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance April 2012.
- Ciria C733 Asbestos in soil and made ground: a guide to understanding and managing risks, March 2014.

This report has been prepared in accordance with the letter of appointment, report conditions and the terms and conditions of the agreement.

2.2 Site Description

An initial site walkover was undertaken by SE in October 2016. The site generally comprises an irregular plot of land to the south east of Alnwick and is bound by an existing commercial / industrial estate to the north west, woods to the north east, steeply sloping roughly vegetated land to the south east and arable land to the south west. A road running from the A1068 and Alnwick at the northern end to the village of Shilbottle at the south runs along the western boundary of the site.

The site comprises portions of 2 No. fields currently in use for arable farming and separated by a hedgerow. The eastern field is relatively smooth in topography but falls to the south east; the western field features a more undulating surface and generally falls to the south or south east. Overhead electrical services run roughly north-south through the eastern field.

At the time of the site walkover, the area adjacent to the existing Lionheart Enterprise Park and demarcated by the north western red line boundary, was being developed with a light industrial portal frame unit and associated infrastructure.

Further afield the majority of land to the south, east and west of the site comprises arable land. Heading northwards land use is mainly commercial / industrial with some retail premises to the south of the A1 with more retail and commercial units to the north giving way to relatively recent residential developments sprawling from the historic centre of Alnwick around 2km north / north west of the site.

At the time of the walkover crops had been recently harvested and the site surface comprised stubble.



Fig. 2 – Aerial Photograph

3.0 HISTORICAL LAND USE

The following table presents a summary of the historical land use of the site and its surroundings. This information is drawn from a study of available historical plans contained within the GroundSure report presented in **Appendix B**.

Map Date	Site	Surrounding Area
1864 to 1956	<p>Site is initially shown as 3 No. open fields with field boundaries splitting the site in to approximate thirds.</p> <p>From 1897 to 1938 a tramway is shown running north to south through the west of the site linking Shilbottle Colliery to the south east with a Gas Works 750m north of the site on the outskirts of Alnwick.</p>	<p>Surrounding land appears as farmland with wooded valleys to the north east and east as currently observed. The outskirts of Alnwick are shown around 1km north of the site with the town cemetery around 600m North. The town is served by a branch of the North Eastern Railway (NER). Which runs around 600m north east of the site.</p> <p>By 1897 a Gasworks with 3 No. gasometers/tanks is shown 750m north of the site served by the tramway which runs through the site. At this time the Alnwick and Coldstream branch line is also shown leaving the town and running away to the south east; the tramway runs to Shilbottle Colliery around 1200m SE of the site where a magazine (presumably powder for blasting) is also shown. A sawmill is also shown to the west of the gas works.</p> <p>Housing developments are shown to the south west of the town growing between 1926 and 1956 along with a school which has been extended at intervals through to the present day.</p>
1970 to 1990	<p>No significant changes are indicated within the site boundary during this time.</p> <p>One minor change is the removal of the eastern internal field boundary resulting in a larger field covering the eastern two-thirds of the site.</p>	<p>The line of the current A1 to the east of Alnwick is first shown by preparatory works in the 1970 map, in the same map Alnwick's rail link to the NER line at Alnmouth and the connecting Thornhill Branch are also shown as dismantled. The A1 is shown in its current alignment from 1978 onwards.</p> <p>Changes during this period are predominantly concentrated on the south westerly sprawl of Alnwick with new housing and industrial developments including the Willowburn Industrial Estate and adjacent service station including a petrol filling station.</p> <p>The gas works is shown with 3 No. gasometers/tanks to around 1990 at which point they are reduced to 1 No. Currently 1 No. circular trace of a former tank can be seen on aerial photography which is now shown within a depot at the northern end of the Willowburn Trading Estate.</p>
1995 to Present	<p>No significant changes are indicated within the site boundary during this time.</p>	<p>Additional commercial and industrial developments are shown during recent editions to the south/east of the A1 including the Lionheart Enterprise Park and Cawledge Business Park close to the site including newly constructed services including retail units and a petrol filling station.</p>

Summary of Site History

There has been no significant development within the site boundary or on land to the south or west throughout the mapped history. The exception to this is a Tramway shown to run through the site linking a gas works around 750m to the north and Shilbottle Colliery around 1200m to the south west.

The immediate surroundings have remained predominantly agricultural to the east of the A1 with the exception of the Lionheart Enterprise Park and Cawledge Business Park constructed around 2002 – 2010 to the northwest of the site.

4.0 ENVIRONMENTAL SETTING

Details of the geology underlying the site were gained from BGS Plans, GroundSure's Geo-Insight Report and the Coal Authority. The Coal Authority and Geo-Insight reports are included in **Appendix C** and **Appendix D** respectively.

Information on potentially contaminative activities/conditions and details of any areas of particular environmental sensitivity and/or under legislative protection in the vicinity of the site are detailed within GroundSure's Enviro-Insight Report, included in **Appendix E**.

The following sections represent a brief overview of the salient points contained within the above reports, for more detailed information reference should be made to the original documents.

4.1 Geology, Mining, Ground Stability and Ground Workings

4.1.1 Geology

No artificial deposits (Made Ground) are indicated within the site boundary.

Geological plans indicate that the site is largely underlain by superficial glaciofluvial deposits comprising sand and gravel with cohesive glacial till (Diamicton or "Boulder Clay") comprising predominantly clay strata with varying but generally low proportions of sand, gravel and oversized materials recorded in a thin strip along the north western boundary. It is likely that the diamicton deposits continue beneath recorded sand and gravel deposits.

The solid geology beneath the site predominantly comprises limestone and undifferentiated limestone, sandstone, mudstone and siltstone of the Alston Formation.

There are 3 No. faults inferred within 500m of the site between 211m and 307m from the site. These are not expected to have any impact on the stability of materials underlying the site.

1 No. coal seam is inferred to outcrop 70m E of the site. This is not expected to be persistent or worked.

4.1.2 Coal Mining

The site is located within an area where the effects of potential coal mining should be assessed as stated in the Groundsure report and verified by The Coal Authority's Gazetteer.

A Coal Authority Report has been obtained for the site and states the following:

Underground coal mining

Past

The property is not within a surface area that could be affected by past underground mining.

Present

The property is not in the likely zone of influence of any present underground mining.

Future

The property is not in an area for which the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area that is likely to be affected from any planned future underground coal mining. However, reserves of coal exist in the local area which could be worked at some time in the future.

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

Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

Coal mining geology

The Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

Opencast coal mining

Past

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

Present

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

Future

There are no licence requests outstanding to remove coal by opencast methods within 800m of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

Coal mining subsidence

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

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

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

Mine gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

Although coal reserves are known to exist and have been extracted in the area, the site is not considered to be in the zone of influence at the surface from known or potential mineworkings. The Coal Authority report confirms that no workings have been undertaken at depth beneath the site.

Accordingly, the risk to developments at the site as a result of underground mine workings is considered to be negligible.

4.1.3 Non-coal Mining and Natural Cavities

The Groundsure Geo-Insight report indicates the site is not within 1000m of an area of Non-Coal Mining Cavities, Natural Cavities, Brine Extraction, Gypsum Extraction, Tin Mining or Clay Mining.

The solid geology recorded beneath the site is known to contain small and inconsistent mineral veins which may have been subject to occasional minor mining of restricted extent.

4.1.4 Ground Stability

The BGS consider the overall risk to the site from natural ground subsidence to be Negligible to Low. This takes in to account the combined risks on site from Shrink-Swell Clays, Landslides, Soluble Rocks, Compressible Ground, Collapsible Rocks and Running Sands.

The most onerous risk rating, Low, has been applied to potential Shrink-Swell Clays and Ground Dissolution of Soluble Rocks.

Potential Shrink-Swell Clays are recorded within the site boundary as a small area in the south of the site to the east of the remaining field boundary. Accompanying details note the following; *“Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.”*

Potential Ground Dissolution Soluble Rocks are recorded as sub-cropping in a narrow band running SW to NE along the central axis of the site. Accompanying details note the following; *“Significant soluble rocks are present. Low possibility of subsidence occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow. Consider implications for stability when changes to drainage or new construction are planned. For new build, site investigation should consider potential for dissolution problems on the site and its surroundings. Care should be taken with local drainage into the bedrock. Some possibility groundwater pollution. For existing property, possible increase in insurance risk due to soluble rocks.”*

4.1.5 Ground Workings

There are no historic ground workings within the site boundary at the surface recorded on historic maps and 2 No. within 250m of the site. These records relate to road cuttings recorded 226m NW of the site.

There are no records of Underground Workings Features on historical mapping within 1000m of the site.

The BGS BRITPITS database contains 2 No. records relating to current surface mineral workings within 1000m of the site relating to a limestone quarry 361m SW of the site and a sandstone quarry recorded 361m and 601m SW respectively. The quarries are each recorded as having ceased operations.

4.2 Radon

Reference to the NRPB Report W26 'Radon Atlas of England and Wales,' 2002 and information contained in the EnviroInsight report indicates the following.

The property is in a Radon Affected Area as defined by the Health Protection Agency (HPA) as between 5% and 10% of properties are above the Action Level.

The property is in an area where Basic Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment.

4.3 Hydrogeology, Hydrology, Flood Risk and Drainage Issues

4.3.1 Hydrogeology

Information on the hydrogeological characteristics of the site has been obtained from the following:

- The Environment Agency Groundwater Vulnerability Maps
- The GroundSure Report

The superficial geology located beneath the site is designated a Secondary (A) Aquifer.

The solid geology located beneath the site is designated a Secondary (A) Aquifer.

Formerly classified as minor aquifers Secondary (A) Aquifers comprise 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.

4.3.2 Flood Risk

Information from the Environment Agency (EA) indicates that the site lies within 250m of an indicated Environment Agency Zone 2 and Zone 3 flood plains; these are recorded 72 and 74m SE of the site but are at a lower elevation than the site.

Information from the Environment Agency RoFRaS (Risk of Flooding from Rivers and Sea) database indicates that the risk of flooding at the centre of the site is **Very Low**. This classification indicates that the site has a less than 1 in 1000 chance of flooding in any given year.

The BGS indicate that the site does not lie within 50m of groundwater flooding susceptible areas.

Additionally, there are no Flood Defences or areas benefitting from Flood Defences or Flood Storage within 250m of the site.

4.3.3 River Network, Surface Water Features

There are no Environment Agency river quality records within 1500m of the site.

There are 13 No. river network features recorded within 500m of the site; the closest of which relate to features along Cawledge Burn and Willow Burn recorded from 75m E of the site.

There are 4 No. surface water features recorded within 250m of the site. These records are not shown on mapping within the GroundSure report but likely relate to streams / ditches and ponds located 73m to 215m from the boundary.

4.3.4 Groundwater, Surface Water and Potable Water Abstraction Licences

There are no Groundwater Abstraction Licences within 2000m of the site.

There are no Surface Water Abstraction Licence within 2000m of the site.

There are no Potable Water Abstraction Licences within 2000m of the site.

4.3.5 Source protection Zones

There are no Source Protection Zones within 500m of the site.

There are no Source Protection Zones within a Confined Aquifer within 500m of the site.

4.3.6 Groundwater Vulnerability and Soil Leaching Potential

The Environment Agency have classified the soils at the site as Soil Vulnerability Category “L” and “I1”

A classification of L denotes a minor aquifer overlain by soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.

A classification of I1 denotes soils which can possibly transmit a wide range of pollutants. In this case this likely refers to the expected sand and gravel superficial strata.

4.4 Environmental Permits, Incidents and Registers

4.4.1 Industrial Sites Holding Environmental Permits and/or Authorisations

There are no records of historic IPC Authorisations within 500m of the site.

There are no records of Part A(1) and IPPC Authorised Activities within 500m of the site.

There are no records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the site.

There are no records of List 1 Dangerous Substances Inventory sites within 500m of the site.

There are no records of List 2 Dangerous Substances Inventory sites within 500m of the site.

There are 5 No. records of Part A(2) and Part B Activities and Enforcements within 500m of the site. 3 No. of these relate to petrol stations and associated processes and 2 No. are historical permits relating to a coating process and clinical waste incineration. The closest record is 189m NW of the site.

There are 15 No. records of Category 3 or 4 Radioactive Substances Authorisations within 500m of the site. Each of these relate to the Disposal of Radioactive Waste or the Keeping and Use of Radioactive Materials at a point 466m W of the site.

There are 5 No. records of Licenced Discharge Consents within 500m of the site. These relate to sewage discharges and a pumping station. The closest of these records relates to a point 36m NE of the site relating to final/treated effluent discharges. Other next closest record is at a point 308m NW of the site.

There is 1 No. record of Water Industry Referrals (potentially harmful discharges to public sewers) within 500m of the site. This relates to a discharge arising from the Sterling Research Group 466m W of the site.

There are no records of Planning Hazardous Substance Consents and Enforcements within 500m of the site.

4.4.2 Dangerous or Hazardous Sites

There are no records of COMAH and NIHHS sites within 500m of the site.

4.4.3 Environment Agency Recorded Pollution Incidents

There are no records on the Environment Agency National Incidents Recording System, List 2 within 500m of site.

There is 1 No. record on the Environment Agency National Incidents Recording System, List 1 within 250m of site. This record relates to an incident causing Significant Impact to Air recorded 374m NW but no further details are given.

4.4.4 Contaminated Land

There are no records of Sites Determined as Contaminated Land under Part 2A EPA 1990 within 500m of the site.

4.5 Landfill and Other Waste Sites

4.5.1 Landfill Sites

There are no records of Environment Agency Registered Landfill Sites within 1000m of the site.

There are 3 No. records of Environment Agency Historic Landfill Sites within 1500m of the site. These records relate to records at East Cawledge 186m N of the site (no details), Alnwick Depot 698m N (Inert) and Alnwick Sewage Works 1467m N (inert).

There are no records on the BGS / DoE Landfill Site Survey Database within 1500m of the site relating to a site.

There is 1 No. record of Local Authority Landfill Sites within 1500m of the site. This relates to a refuse tip shown on 1971 mapping 327m NE of the site.

4.5.2 Other Waste Sites

There is 1 No. record of Waste Treatment, Transfer or Disposal Sites within 500m of the site. This relates to the Alnwick Waste Transfer station recorded within the adjacent enterprise park 32m NW of the site.

There are 10 No. records of Environment Agency Licensed Waste Sites within 1500m of the site. The closest of these relate to Waste Management License No. 64061, EPR Ref. EA/EPR/PP3694ZS/V002 to V004 82m NW of the site relating to the Alnwick Waste Transfer Station. The next closest records relate to the Alnwick Depot 755m NW of the site.

4.6 Current Land Uses

There are 14 No. records of Potentially Contaminative Industrial Sites within 250m of the site. These relate to businesses within the adjacent Lionheart Enterprise Park and Cawledge Park estates and electrical features such as substations. Businesses highlighted in the Groundsure report include vehicle sales, hire and maintenance, agricultural machinery, goods and contractors and lifting equipment suppliers.

There are 2 No. records of Petrol and Fuel Sites within 500m of the site. These are located 162m and 390m NW of the site and refer to BP and Co-Op operated service stations respectively.

There are no records of National Grid High Voltage Underground Electricity Transmission Cables within 500m of the site.

There are no records of National Grid High Pressure Gas Pipelines within 500m of the site.

4.7 Designated Environmentally Sensitive Sites

There are no records of Sites of Special Scientific Interest (SSSI) within 2000m of the site.

There are no records of National Nature Reserves (NNR) within 2000m of the site.

There are no records of Special Areas of Conservation (SAC) within 2000m of the site.

There are no records of Special Protection Areas (SPA) within 2000m of the site.

There are no records of Ramsar Sites within 2000m of the site.

There are no records of Ancient Woodland within 2000m of the site.

There are no records of Local Nature Reserves (LNR) within 2000m of the site.

There are no records of World Heritage Sites within 2000m of the site.

There are no records of Environmentally Sensitive Areas within 2000m of the site.

There are no records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the site.

There are no records of National Parks within 2000m of the site.

There are no records of Nitrate Sensitive Areas within 2000m of the site.

There are no records of Nitrate Vulnerable Zones within 2000m of the site.

There are no records of Green Belt Land within 2000m of the site.

5.0 PREVIOUS INVESTIGATIONS

SE have reviewed an intrusive investigation undertaken by Arc Environmental Ltd. for Northumberland Estates in 2012 (Ref. 12-092.01L) for a proposed biomass plant and saw mill in the east of the site.

The investigation comprised 12 No. mechanically excavated trial pits which identified strata in accordance with BGS plans broadly comprising near surface glaciofluvial clays and sand and gravel deposits overlying stiff glacial till. No significant contamination was identified.

A number of boreholes and trial pits have been undertaken in the surrounding area; where available logs from these holes have been reviewed, and confirm the information presented on the BGS plans and are discussed in Section 4.1.

6.0 CONCEPTUAL SITE MODEL

The information presented in the previous sections of this report has been collated and evaluated to establish an initial qualitative risk assessment and conceptual site model for the site. The following risk assessment identifies hazards posed both by, and to the site in its current status as well as potential future risks which may occur when the proposed end use is established. The proposed use of the site is **COMMERCIAL**.

6.1 Contaminated Land Regulations

Part IIA of the Environmental Protection Act 1990 provides a regime for the control of specific threats to health or the environment from existing land contamination. In accordance with the Act, the statutory guidance document and The Contaminated Land (England) Regulations 2000, the definition of contaminated land is intended to embody the concept of risk assessment. Within the meaning of the Act, land is only “contaminated land” where it appears to the regulatory authority, by reason of substances within, on, or under the land that:

- **Significant harm** is being caused, or there is significant possibility of such harm being caused; or
- **Pollution of controlled waters** is being, or is likely to be, caused.

The guidance defines “risk” as the combination of:

- **Probability**, or frequency, of occurrence of a defined hazard (for example, exposure of a property to a substance with the potential to cause harm); and
- **Magnitude** (including the seriousness) of the consequences.

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

- **Source**, i.e. a substance that is capable of causing pollution or harm;
- **Receptor** (or target), i.e. something which could be adversely affected by the contaminant; and
- **Pathway**, i.e. a route by which the contaminant can reach the receptor.

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

6.2 Potential Hazard Sources

Based on a review of the information currently available for the site it is considered that the following potential sources of contamination may be present at the site:

Actual / Potential on site sources

Given the site history and the current topography Made Ground is not likely to be present in significant quantities at the site. The most onerous area of likely Made Ground would likely be along the line of the former Tramway noted within the site history in the west of the site which ran between the Shilbottle Colliery and the Gas Works in Alnwick. Made Ground in this area may comprise ballast or similar track support such as sleepers although it is likely any such materials would have been removed from the near surface as the land was returned to agricultural use. Any other Made Ground present would likely comprise disturbed natural materials from the sites agricultural history. The site may also have been subject to illegal tipping or accidental spillages of contaminants in the past.

Considering the above, potential contaminants include pesticides, fertilisers, hydrocarbons including coal derivatives and related residues, asbestos, metals and metalloids and inorganic compounds.

The potential also exists for naturally occurring organic material in the superficial strata resulting in the potential for 'landfill' gas production by the burial and decomposition of organic material.

Potential off site sources

The potential exists for contamination to be present within the ground surrounding the site which may be transmitted to the site through the fabric of the underlying superficial strata. The site would also be susceptible to any airborne contaminants such as airborne particulates or vapours from surrounding land uses and the road network.

6.3 Potential Contaminant Pathways

Potential pathways are considered to be:

- Inhalation of dust and volatile contaminants
- Direct contact (ingestion and dermal contact)
- Leaching of contaminants and migration through permeable soils
- Groundwater migration
- Migration through service conduits
- Migration through the local drainage network
- Leakage from site drainage
- Surface water run-off
- Ground gas migration
- Plant root up-take

6.4 Potential Receptors at Risk

Potential receptors are considered to be as follows:

Human Health

- Current site users (Agricultural)
- Future site users (Commercial)
- Site development workers
- Site maintenance workers

Environmental

- Local aquifers
- Local surface waters
- Flora and fauna
- Buildings and underground services

6.5 Risk Assessment

The qualitative risk assessment has been undertaken to assess the significance of any potential pollutant linkages. The risks posed to each of the identified potential receptors are discussed separately and attributed a low, moderate or high level of risk. The risk assessment has been undertaken in accordance with BS10175:2001 and CIRIA Document C552: Contaminated Land Risk assessment, A Guide to Good Practice. The source – pathway – receptor linkages are developed around the information presented above.

The risk assessment has been undertaken by assessing the severity of the potential consequence, taking into account both the potential severity of the hazard and the sensitivity of the target, based on the categories given below.

Category	Definition
Severe	Acute risks to human health, catastrophic damage to buildings / property, major pollution of controlled waters
Medium	Chronic risk to human health, pollution of sensitive controlled waters, significant effects on sensitive ecosystems or species, significant damage to buildings or structures
Mild	Pollution of non-sensitive waters, minor damage to buildings or structures
Minor	Requirement for protective equipment during site works to mitigate health effects, damage to non-sensitive ecosystems or species

Table 6.1 – Definition of Risk Severity

The likelihood of an event (probability) takes into account both the presence of the hazard and target and the integrity of the pathway and has been assessed based on the categories given below.

Category	Definition
High Likelihood	Pollutant linkage may be present, and risk is almost certain to occur in long term, or there is evidence of harm to the receptor
Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term
Low Likelihood	Pollutant linkage may be present, and there is a possibility of the risk occurring, although there is no certainty that it will do so
Unlikely	Pollutant linkage may be present, but the circumstances under which harm would occur are improbable

Table 6.2 – Definition of Risk Probability

The potential severity of the risk and the probability of the risk occurring have been combined in accordance with the following matrix in order to give a level of risk for each potential hazard.

		Potential severity			
		SEVERE	MEDIUM	MILD	MINOR
Probability of Risk	High Likelihood	Very high	High	Moderate	Low/Moderate
	Likely	High	Moderate	Low/Moderate	Low
	Low likelihood	Moderate	Low/Moderate	Low	Very low
	Unlikely	Low/Moderate	Low	Very low	Very low

Table 6.3 – Risk Matrix of Potential Hazard

The following table provides an initial qualitative risk assessment for the site. Additional details are provided in the subsequent discussion sections.

Hazard / Pollutant	Source	Pathway	Receptor	Potential severity	Probability of risk	Level of risk
Made Ground, Tramway / Agricultural History, (Pesticides and Fertilisers, Asbestos, Hydrocarbons, Metals and Metalloids, Inorganic Compounds etc.)	Potential Made Ground, former and current off-site sources.	Inhalation, Dermal contact and Ingestion	Future site users, development workers, future buildings and structures.	Medium	Unlikely	Low
		Root Uptake	Plants	Minor	Unlikely	Very Low
		Groundwater Migration	Secondary (A) Aquifers, minor watercourse	Mild	Low Likelihood	Low
Hazardous gas and volatile compounds	Migration from possible Made Ground and organic soils	Inhalation, Explosion	Future site users, Structures	Medium	Unlikely	Low
			Site development workers	Medium	Unlikely	Low

Table 6.4 – Environmental Risk Assessment

The Risk Assessment presented above should be considered as preliminary and should be reassessed following intrusive ground investigations.

7.0 GROUND ENGINEERING CONSIDERATIONS

A number of geotechnical issues are anticipated at the site, which could affect any proposed development on the site. The following should be taken into account when designing site investigation, earth and construction works at the site.

7.1 Site Access

Pedestrian and vehicle access is available to all areas of the site via a gated access at the western end of the site.

No significant access constraints are envisaged; however vehicular traffic may be unable to progress effectively around the site due to likely soft ground. This would depend on the crop stage within the field at any given time. Any early works would require the removal of a suitable area of topsoil and the installation of a hardcore pad to allow deliveries and parking to take place within the site boundary.

7.2 Ground Obstructions

Given the site's history any significant ground obstructions are considered unlikely with the exception of potential land drains, sewers and services and the possibility of redundant structures or Made Ground in the vicinity of the historic tramway in the west of the site. Additionally, large cobbles and boulders naturally occur within the superficial strata recorded at the site and may require localised deepening or extending of excavations to remove if required.

7.3 Existing Structures

The site is currently free of structures and has remained as such throughout the mapped history.

7.4 Settlement and Subsidence

The BGS consider the overall risk to the site from natural ground subsidence to be Negligible to Low. This takes into account the combined risks on site from Shrink-Swell Clays, Landslides, Soluble Rocks, Compressible Ground, Collapsible Rocks and Running Sands.

The most onerous risk rating given (Low) relates to potential shrink-swell clays and dissolution of underlying solid geology.

7.5 Slope Stability

Given to the topography of the site slope stability is unlikely to be of concern; however, if developments are proposed at the crest of the slope at the south eastern boundary consideration should be given to potential issues and structural design and/or site investigation specified accordingly.

7.6 Excavations

Excavations in natural cohesive strata are likely to remain stable for a reasonable length of time, where excavations encounter granular strata the stability is likely to be greatly reduced. If excavations are to remain open for more than a few hours it is anticipated that some form of trench support will be required. The requirement for temporary support should be determined in accordance with current health and safety guidance.

7.7 Foundations / Earthworks

With regards to future development, at this initial stage, depending on the suitability of the underlying natural ground and the loadings required, foundation solutions may comprise;

- Traditional strip footings
- Pad foundations
- Raft foundations
- Piles

7.8 Flooding Issues

Flood risk at the site is designated as Very Low (RoFRaS) and is therefore highly unlikely to flood in any given year (less than 1 in 1000); however, appropriate drainage systems should be implemented to maintain effective site drainage without adversely impacting on surrounding watercourses during heavy rainfall.

7.9 Environmental Issues

Given the site history and the current topography Made Ground is not likely to be present in significant quantities at the site. The most onerous area of likely Made Ground would likely be along the line of the former Tramway noted within the site history in the west of the site which ran between the Shilbottle Colliery and the Gas Works in Alnwick. Made Ground in this area may comprise ballast or similar track support such as sleepers although it is likely any such materials would have been removed from the near surface as the land was returned to agricultural use. Any other Made Ground present would likely comprise disturbed natural materials from the sites agricultural history. The site may also have been subject to illegal tipping or accidental spillages of contaminants in the past.

Considering the above, potential contaminants include pesticides, fertilisers, hydrocarbons including coal derivatives and related residues, asbestos, metals and metalloids and inorganic compounds.

The potential also exists for naturally occurring organic material in the superficial strata resulting in the potential for 'landfill' gas production by the burial and decomposition of organic material.

The potential exists for contamination to be present within the ground surrounding the site which may be transmitted to the site through the fabric of the underlying superficial strata. The site would also be susceptible to any airborne contaminants such as airborne particulates or vapours from surrounding land uses and the road network.

7.10 Invasive Species

No invasive species were noted during the site walkover; however, due to the nature of such species any young plants may not have been identified during the walkover but would have the capacity to grow rapidly if left unchecked at the start of the growing season. Should any suspected invasive species be identified advice should be sought from a suitably qualified and experienced professional.

7.11 Mining Issues

The Coal Authority report confirms that no workings have been undertaken or may be reasonably expected beneath the site. Mineral veins may be present within the underlying solid geology but these are unlikely to be sufficiently well developed or persistent to warrant working.

Accordingly, the risk to developments at the site as a result of underground mine workings is considered to be negligible.

7.12 Archaeological Issues

No significant archaeological issues are anticipated for the development although given the long history of occupation and conflict in the region there may be a higher than average interest at the site; the Local Planning Authority (County Archaeologist) would be able to advise on any requirements arising from archaeological interest at the site.

8.0 SUMMARY CONCLUSIONS

The site generally comprises an irregular plot of land to the south east of Alnwick and is bound by an existing commercial / industrial estate to the north west, woods to the north east, steeply sloping roughly vegetated land to the south east and arable land to the south west. A road running from the A1068 and Alnwick at the northern end to the village of Shilbottle at the south runs along the western boundary of the site.

There has been no significant development within the site boundary throughout the mapped history with the exception of a tramway shown to run through the west of the site between the colliery at Shilbottle and the gas works at Alnwick.

Geological plans indicate that the site is underlain by superficial glaciofluvial deposits comprising sand and gravel with cohesive glacial till (Diamicton or "Boulder Clay") below which comprises predominantly clay strata with varying but generally low proportions of sand, gravel and oversized materials.

The solid geology beneath the site predominantly comprises limestone and undifferentiated limestone mudstone, sandstone and siltstone of the Alston Formation

The Coal Authority report confirms that no workings have been undertaken at depth beneath the site and nor would any be anticipated. Mineral veins may be present within the underlying solid geology but these are unlikely to be sufficiently well developed or persistent to warrant working. Accordingly, the risk to developments at the site as a result of underground mine workings is considered to be negligible.

The BGS consider the overall risk to the site from natural ground subsidence to be Negligible to Low. This takes into account the combined risks on site from Shrink-Swell Clays, Landslides, Soluble Rocks, Compressible Ground, Collapsible Rocks and Running Sands. The most onerous 'Low' risk rating has been applied to potential shrink-swell clays and ground dissolution of rocks.

Given the site history and the current topography Made Ground is not likely to be present in significant quantities at the site. Any present will likely be limited to the route of the former tramway in the west of the site where ballast or similar materials may be expected. Made Ground may otherwise comprise disturbed natural materials from the site's agricultural history but the site may have been subject to illegal tipping or accidental spillages of contaminants in the past.

Considering the above, potential contaminants include pesticides, fertilisers, hydrocarbons, asbestos, metals and metalloids and inorganic compounds. The potential also exists for naturally occurring organic material in the superficial strata resulting in the potential for 'landfill' gas production by the burial and decomposition of organic material.

The initial preliminary risk assessment based on a proposed Commercial/Industrial end use determines the risk to future site users and the environment from potential contamination located at the site to be **LOW**.

At this early stage it is possible that any of strip footings, pad and beam, piled, or raft foundations would be appropriate for the proposed extension at this site subject to the proposed loadings and confirmatory Intrusive Ground Investigation.

No significant archaeological issues are anticipated for the development although given the long history of occupation and conflict in the region there may be a higher than average interest at the site; the Local Planning Authority (County Archaeologist) would be able to advise on any requirements arising from archaeological interest at the site.

9.0 RECOMMENDATIONS

It is recommended that intrusive ground investigations are undertaken at the site, comprising a suitable number of exploratory holes to target the superficial strata with appropriate chemical and geotechnical analysis and the installation of gas and groundwater monitoring points and supplement investigations undertaken previously in the north of the site.

This will provide confirmation of the Preliminary Risk Assessment and allow the project to proceed on a more assured basis with regards earthworks, foundations and any risks to the proposed development and future site users arising from the materials present on and beneath the site.

No significant archaeological issues are anticipated for the development; however, given the nature of historical activity in the surrounding area a full archaeological survey may be required prior to development.

The Local Planning Authority (County Archaeologist) would be able to advise on any requirements arising from archaeological interest at the site.

The Shadbolt Group

10.0 REFERENCES

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- Asbestos in soil and made ground: a guide to understanding and managing the risks. Ciria March 2014.
- Northumberland County Council Keys to the Past Website.

APPENDIX A

REPORT CONDITIONS

REPORT CONDITIONS

GEO-ENVIRONMENTAL GROUND INVESTIGATION

*This report is produced for the benefit of **Northumberland Estates**, in accordance with the terms of the appointment.*

This report has been prepared in accordance with the terms and conditions of the appointment and relates to the condition of the site at the time of ground investigations. No warranty is provided as to the possibility of future changes in the condition of the site.

The Shadbolt Group take no responsibility for conditions which occur between the individual exploratory holes. Whilst every effort has been made to interpret the conditions between investigation locations, such information is only indicative.

Whilst the contamination assessment detailed within this report reflects our view, because there are no exact UK definitions of these matters, being subject to risk analysis, The Shadbolt Group are unable to give categorical assurances that they will be accepted by authorities or funds without question. This report is prepared and written for the purposes stated in the report and should not be used in a different context without reference to Shadbolt Environmental. In time, improved practices or amended legislation may necessitate a re-assessment.

The report is limited to the geotechnical and environmental aspects detailed within the report, and is necessarily restricted and no liability is accepted for any other aspect especially concerning gradual or sudden pollution incidents.

APPENDIX B

GROUNDSURE REPORT

HISTORICAL PLANS



Site Details:

Lionheart Business Park, NE66
2EU

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Report Ref: CMAPS-CM-574230-4281-071116HIS
Grid Ref: 419926, 611503

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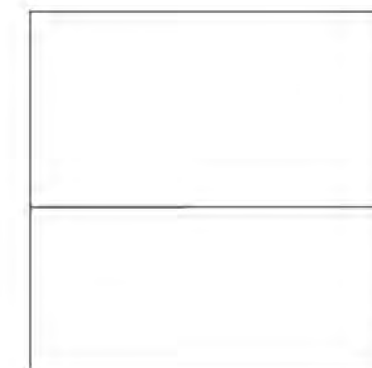
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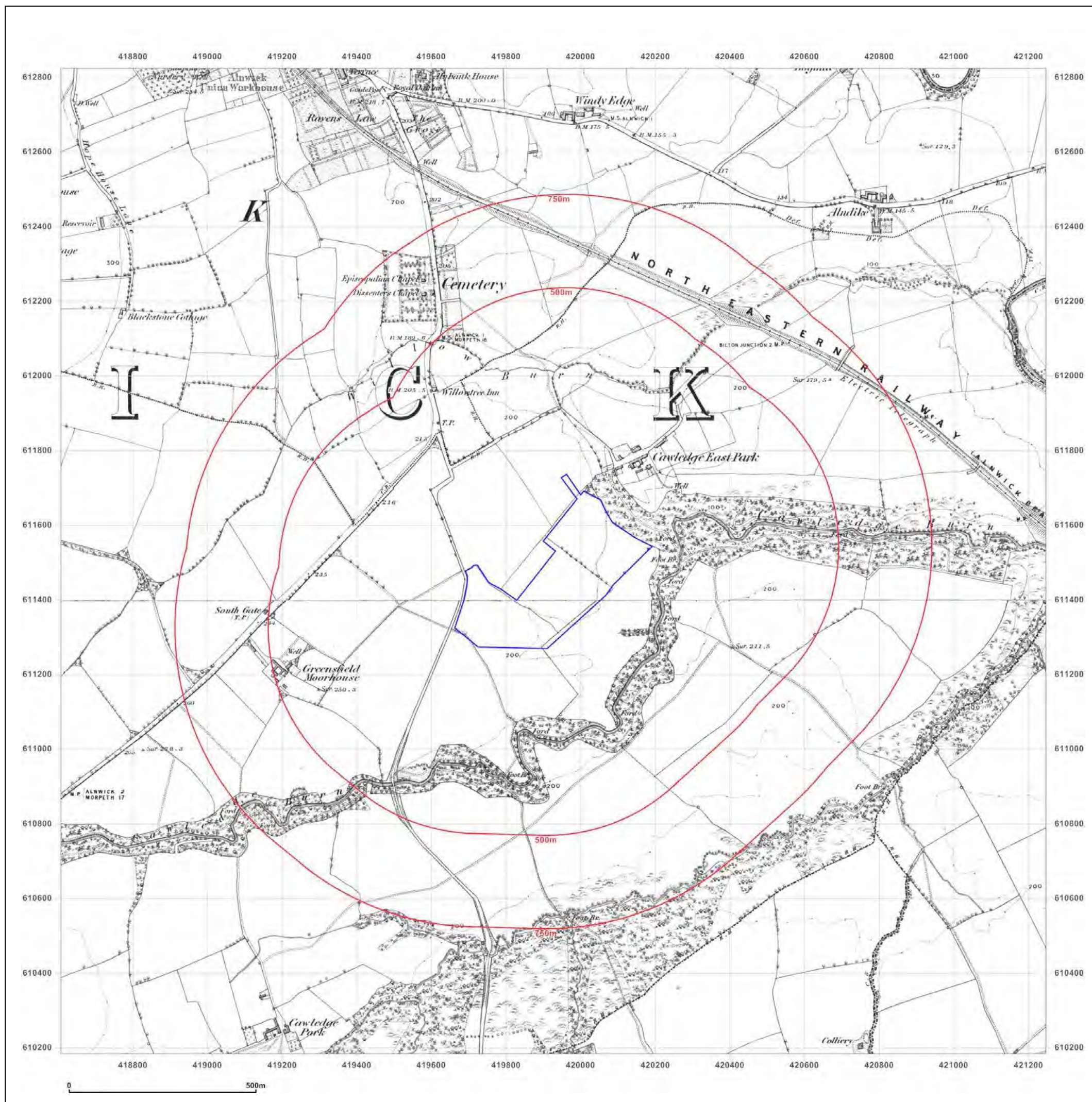


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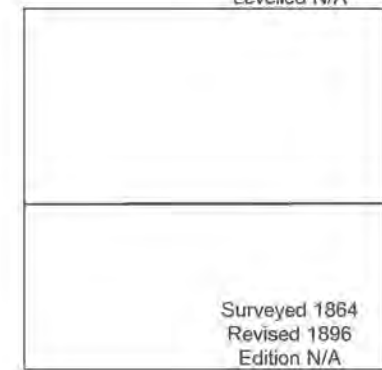
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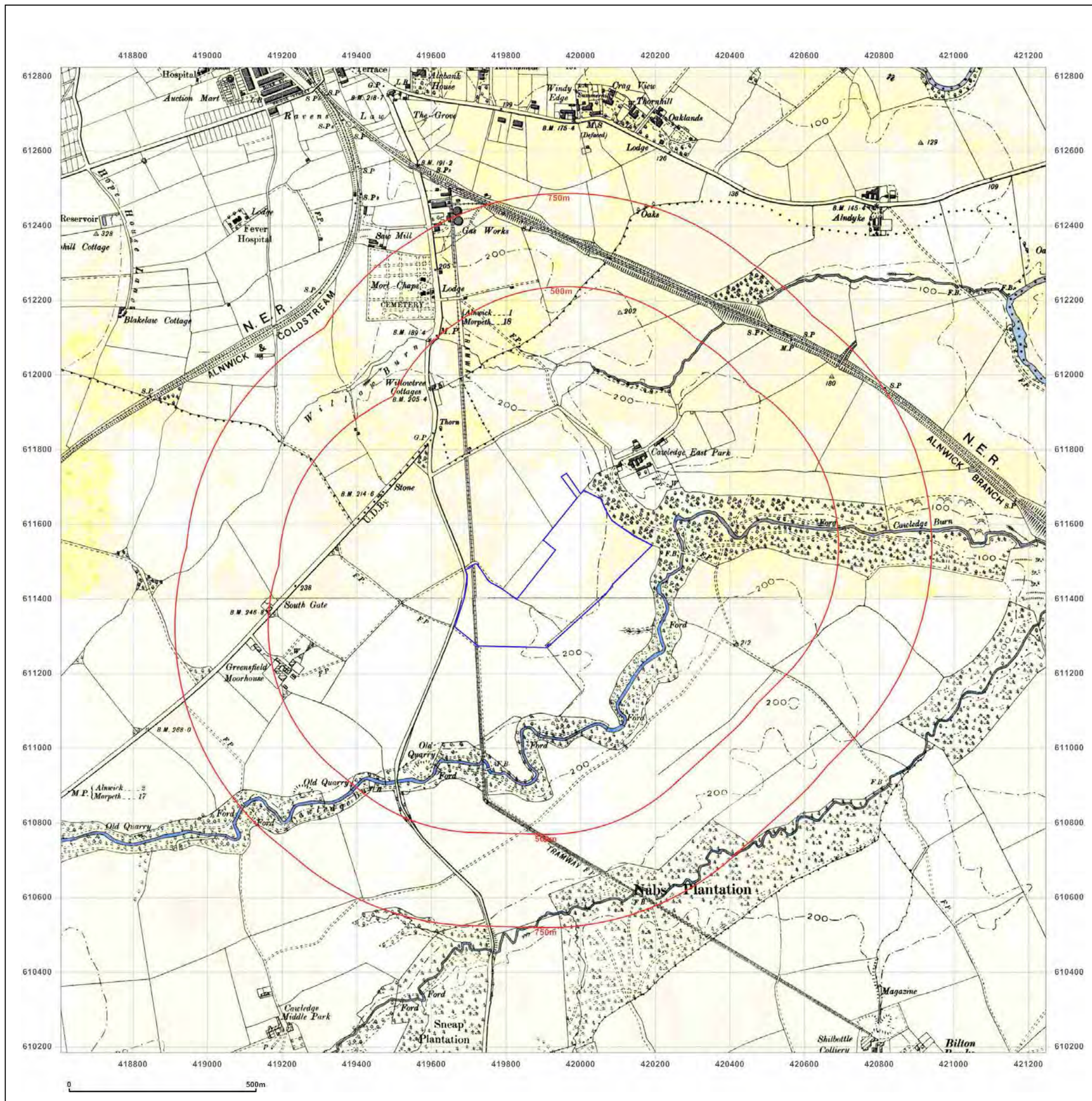


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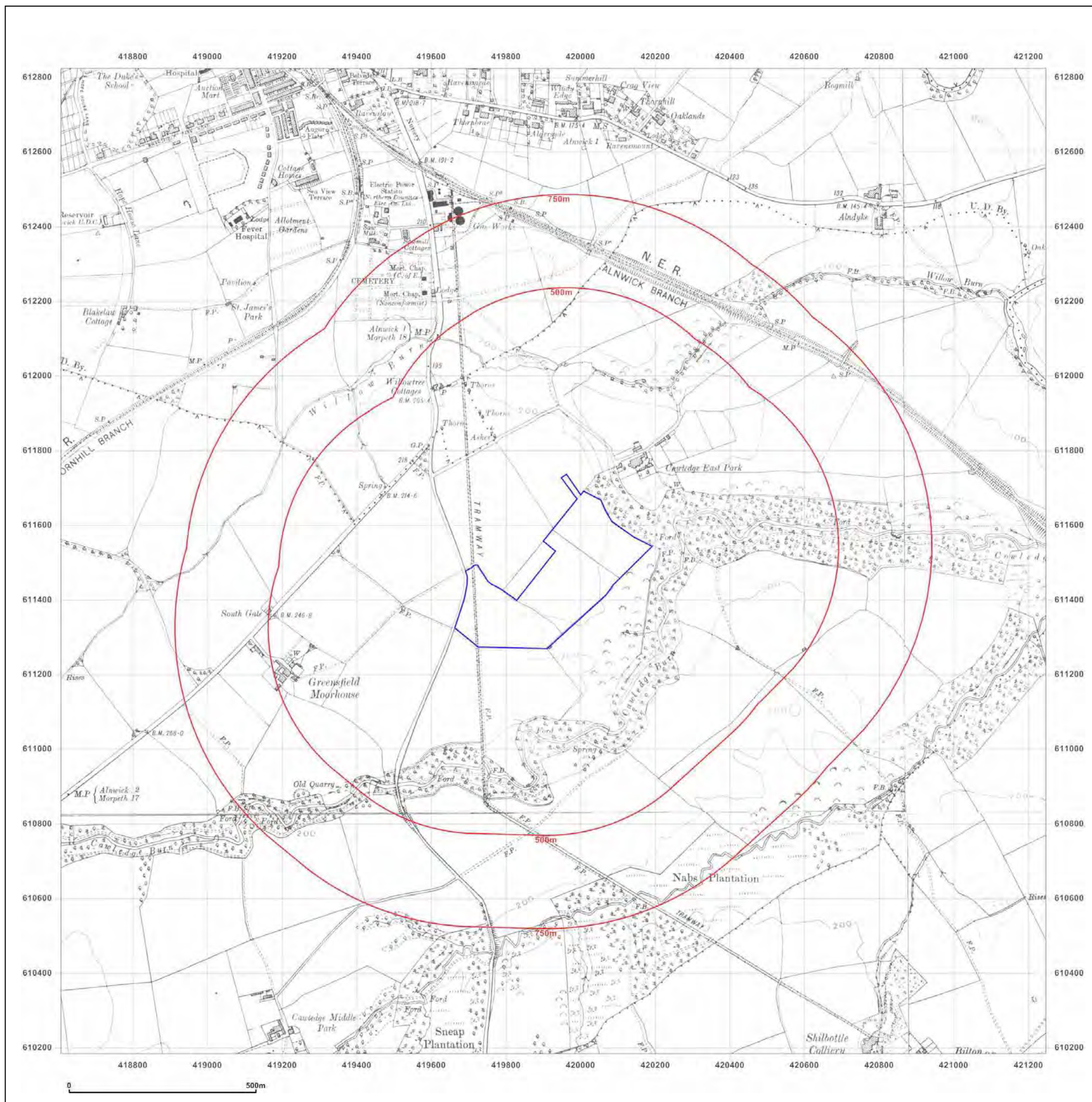


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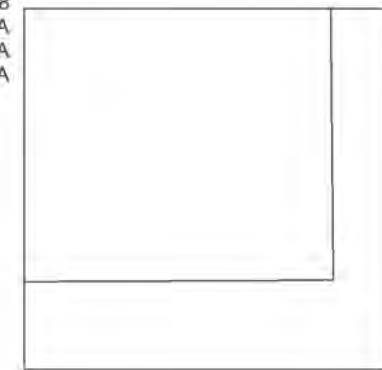
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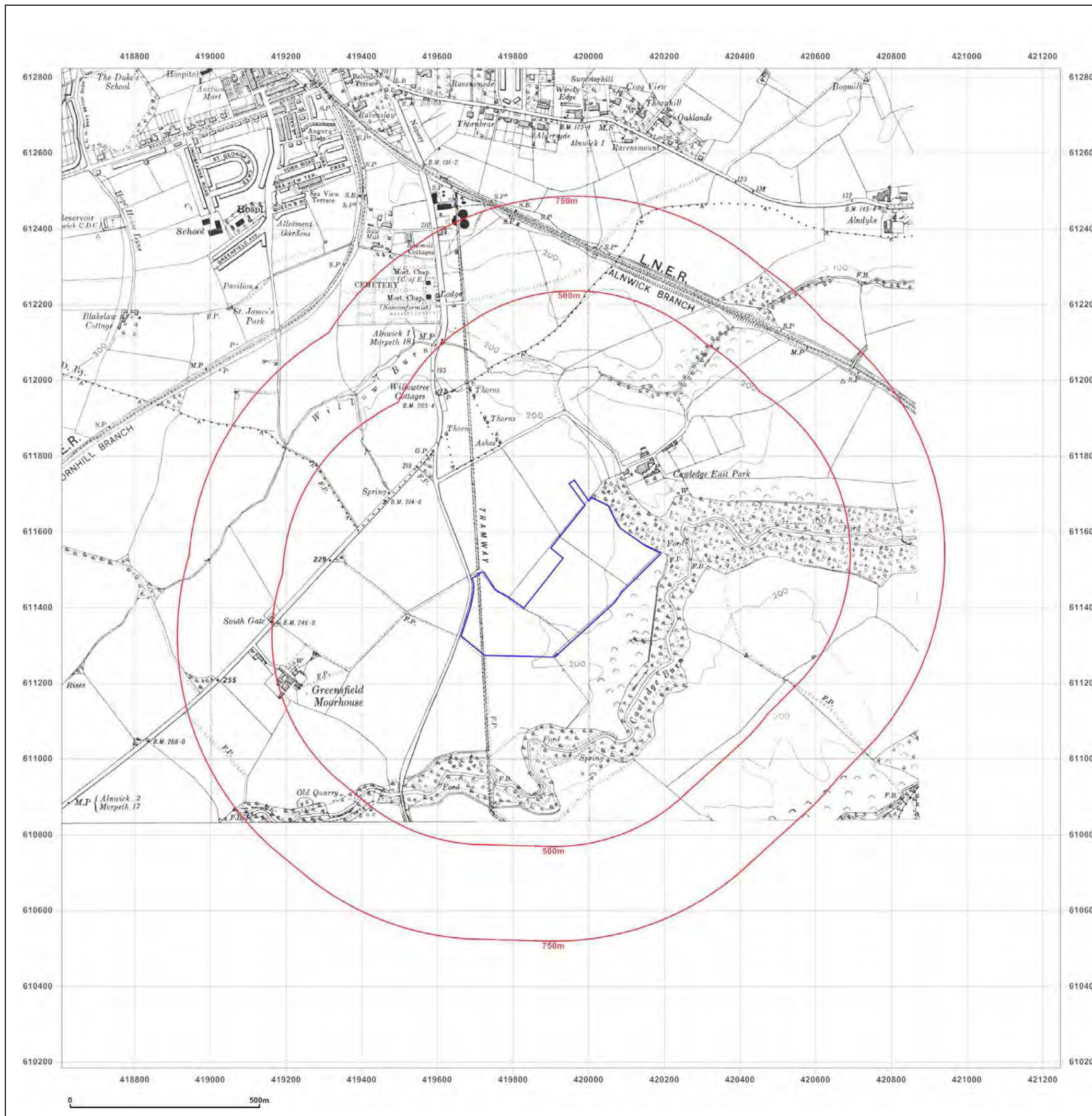


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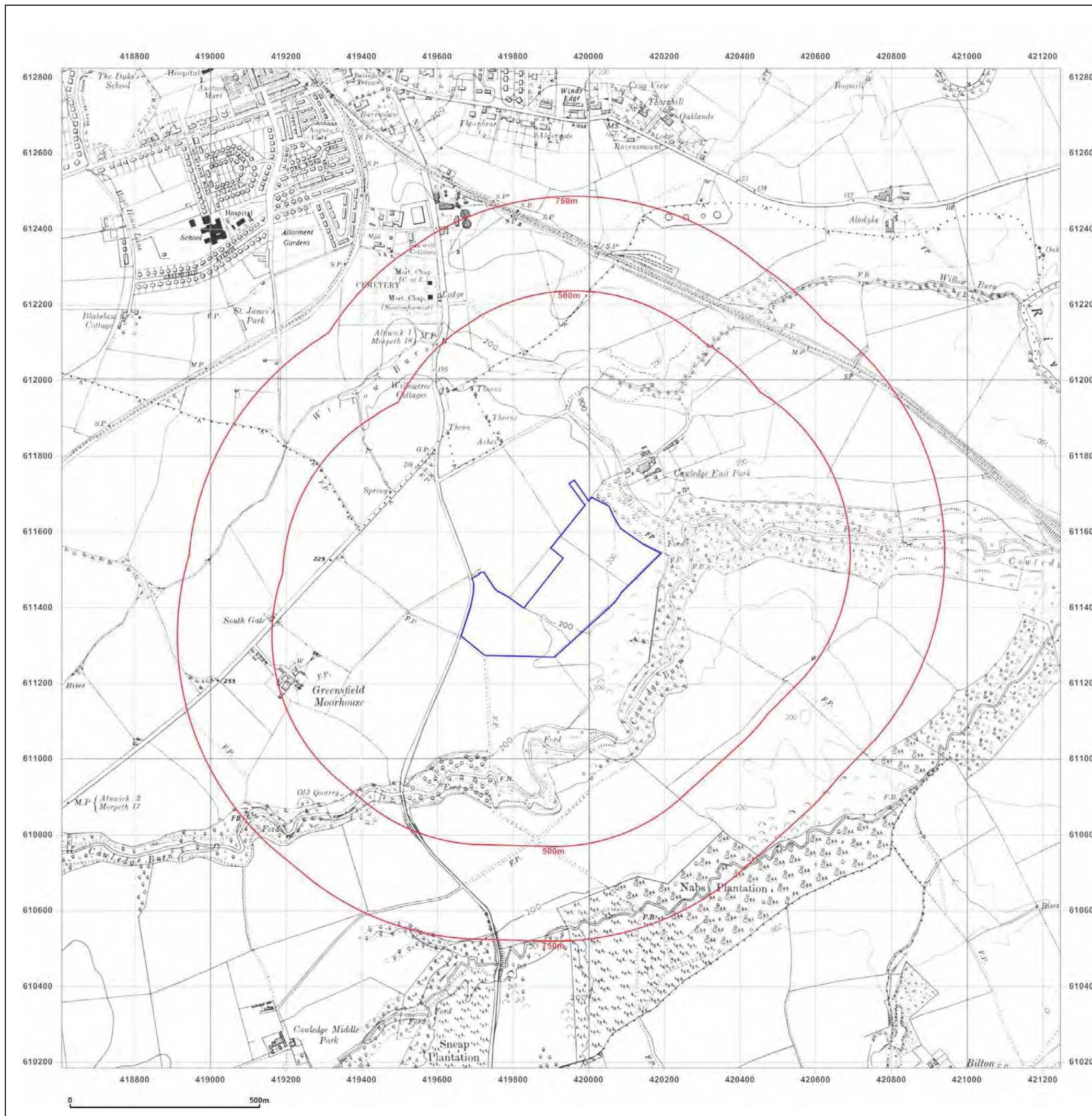


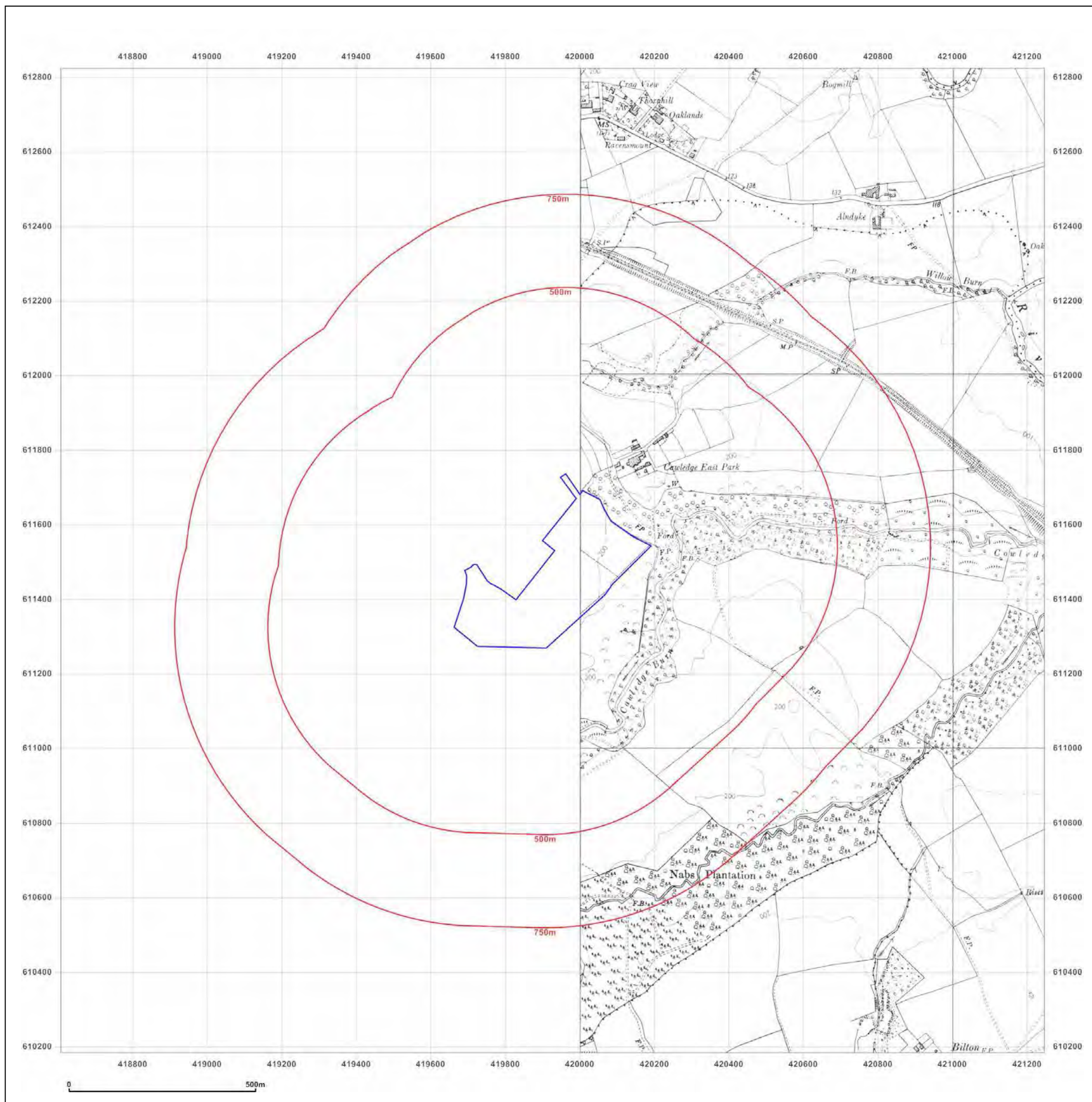
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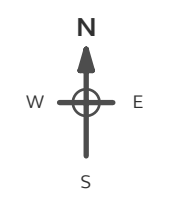




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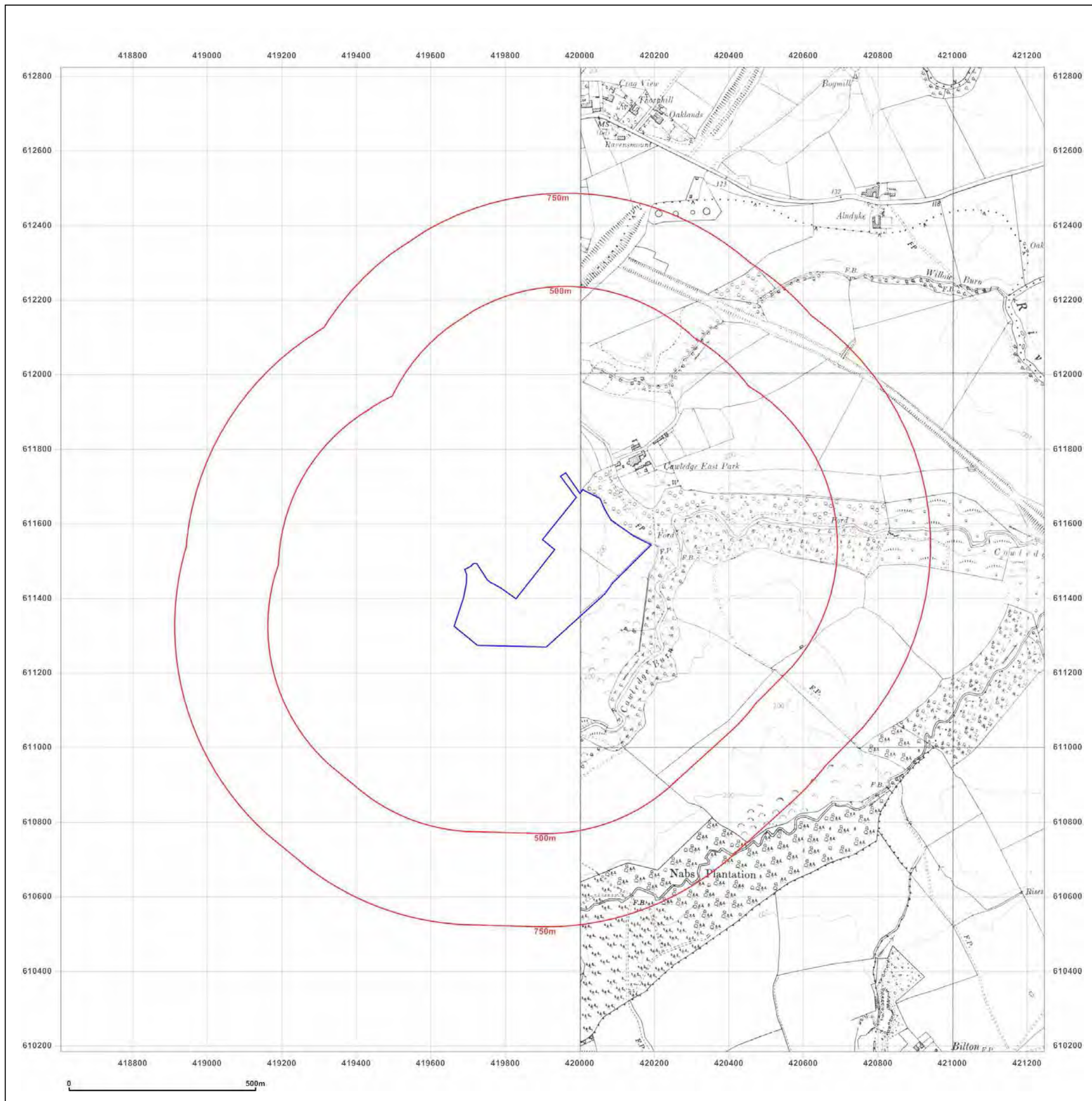
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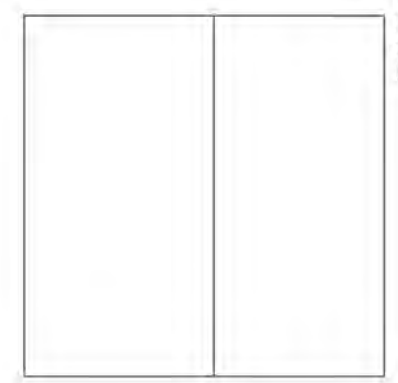
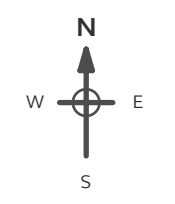
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Grid Ref: 419926, 611503

Map Name: National Grid

Map date: 1977

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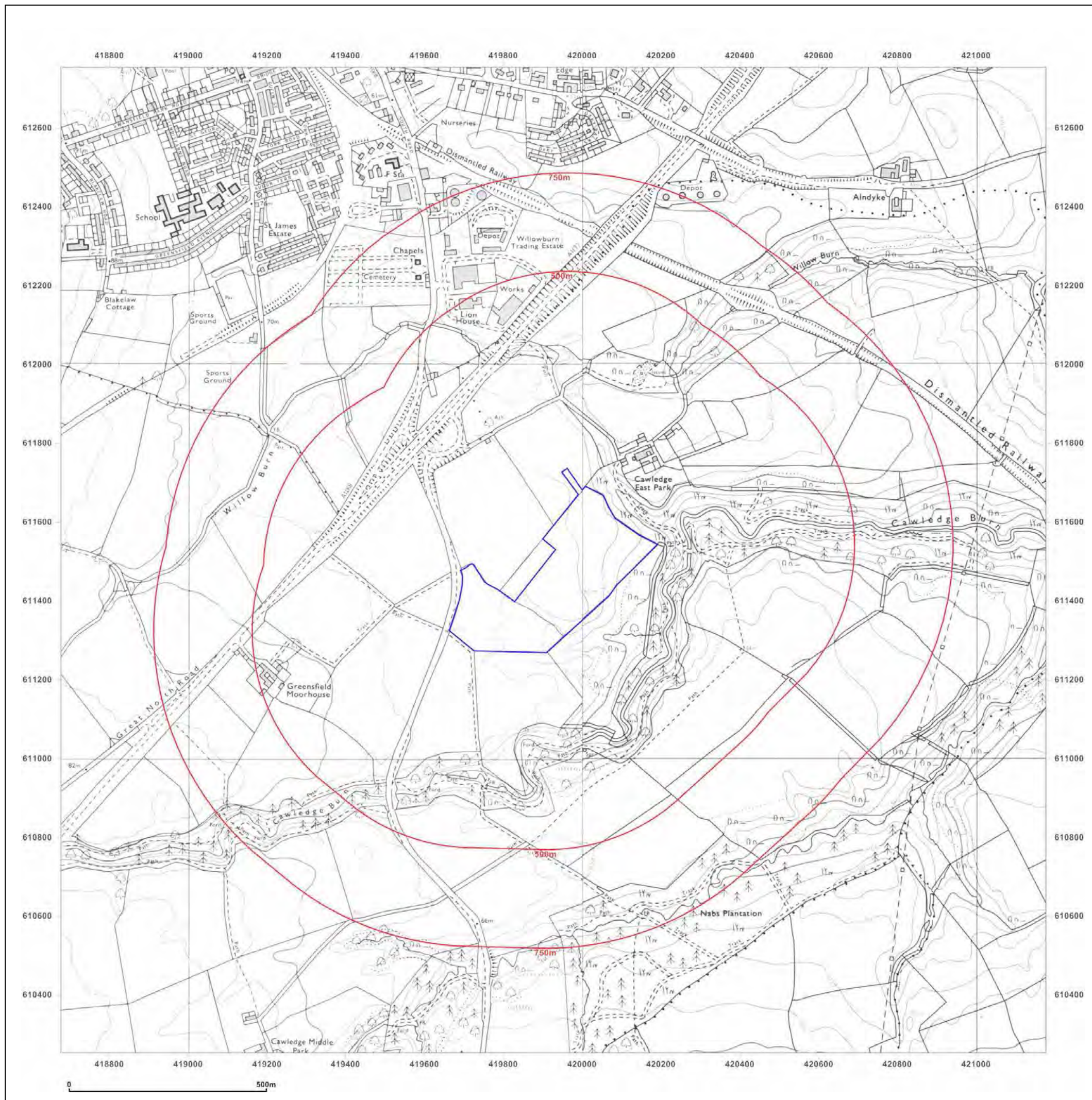


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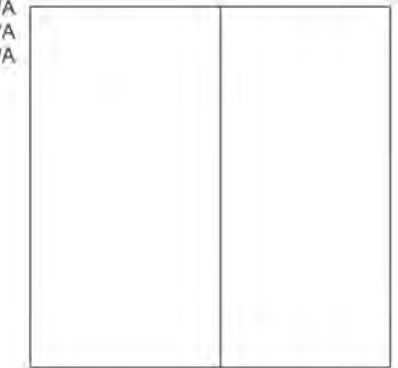
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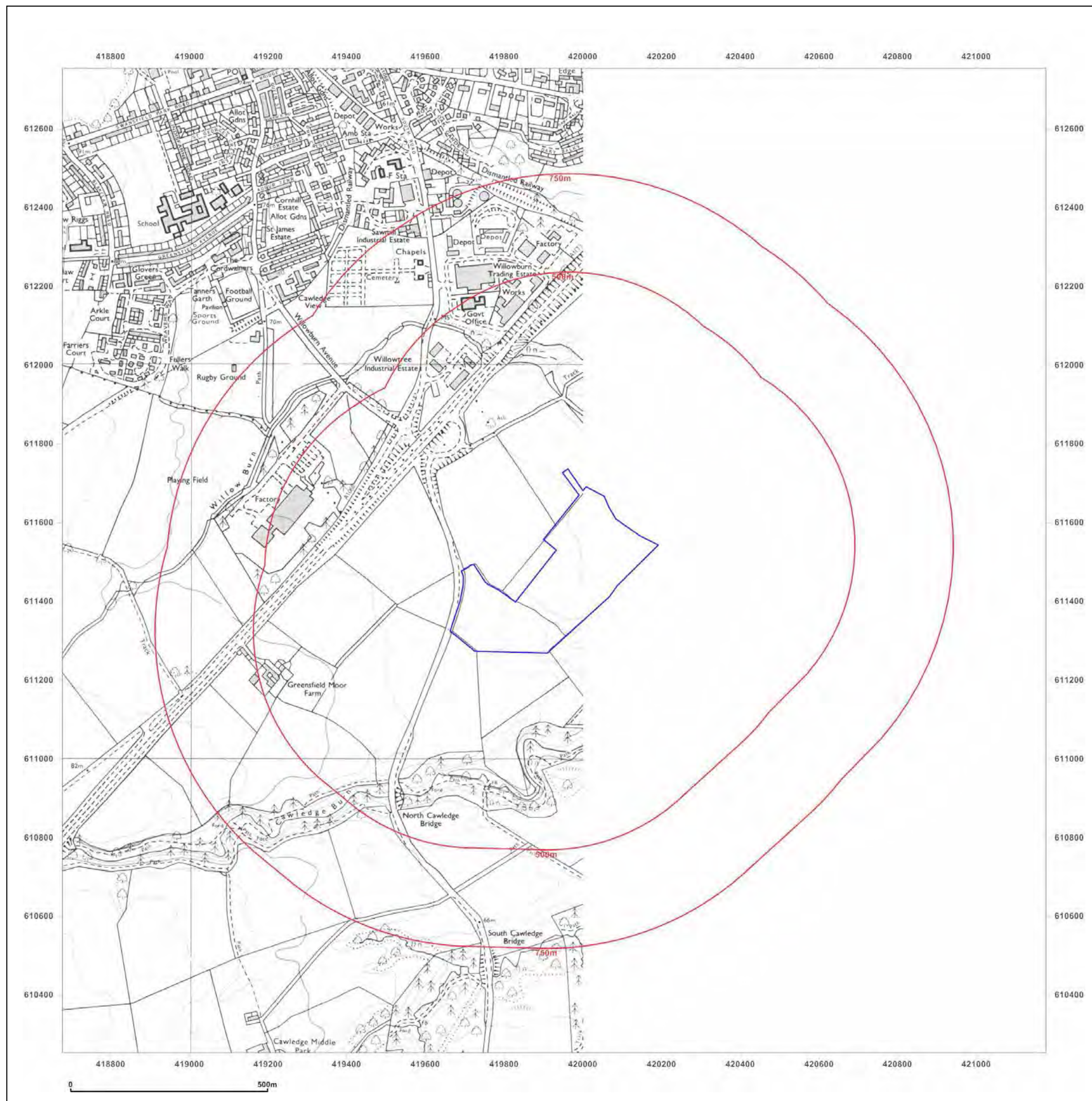


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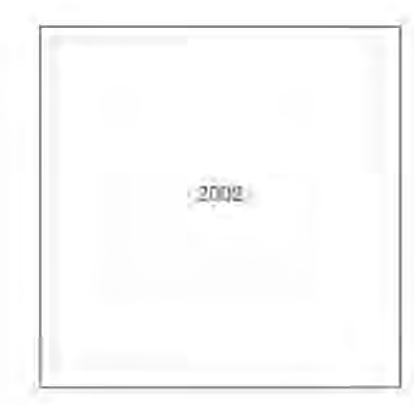
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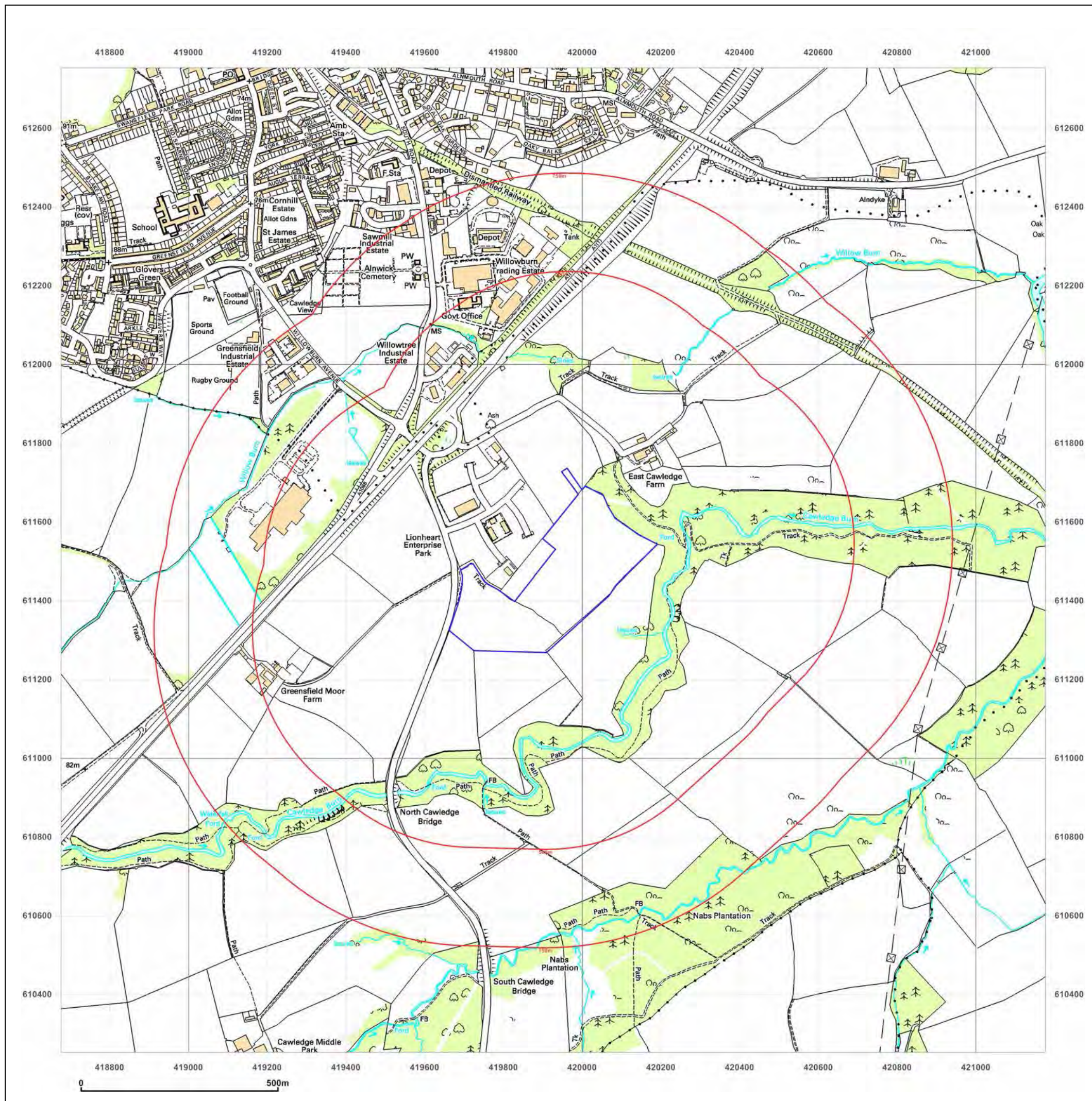


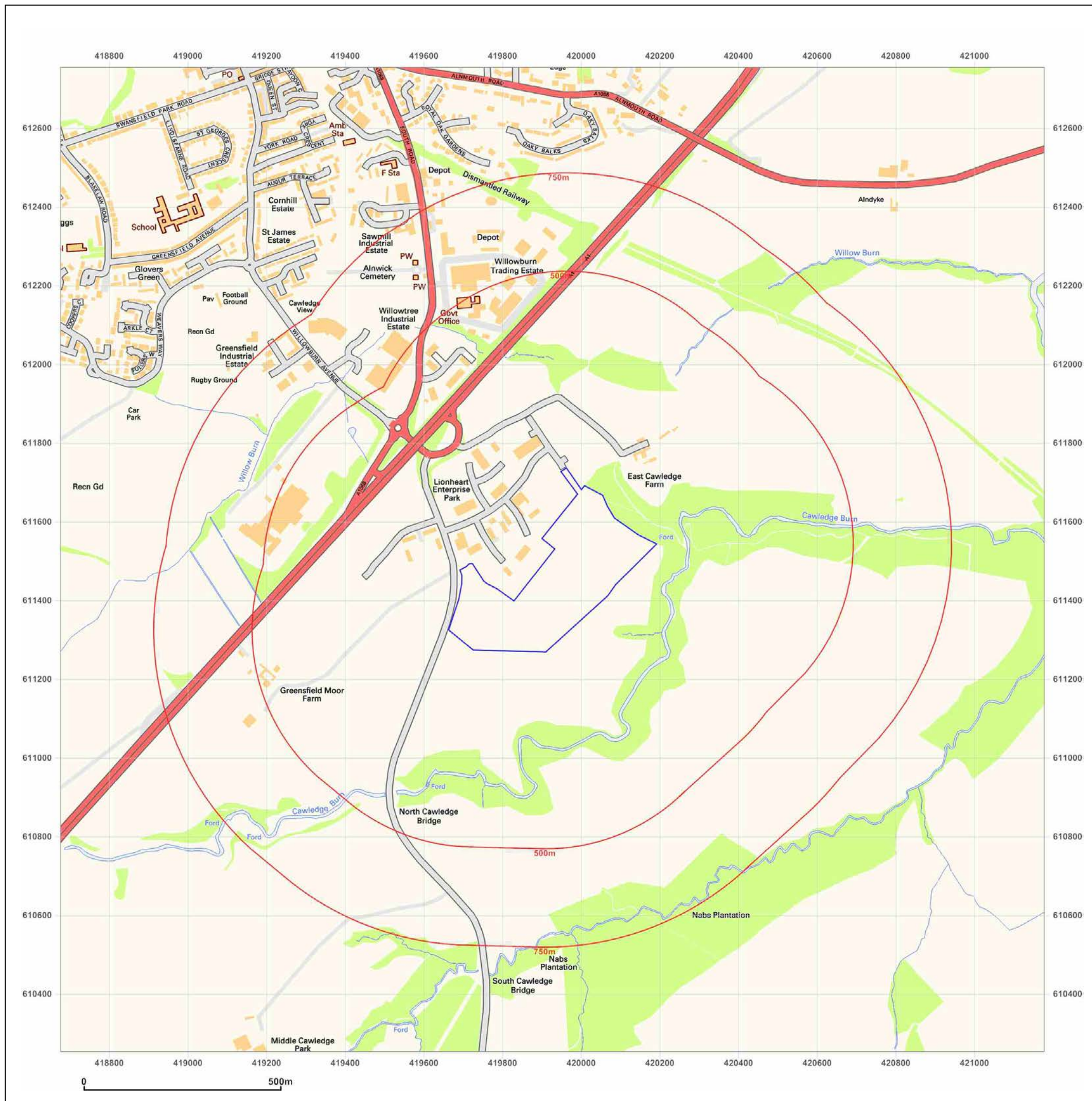
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Site Details:

Lionheart Business Park, NE66 2EU

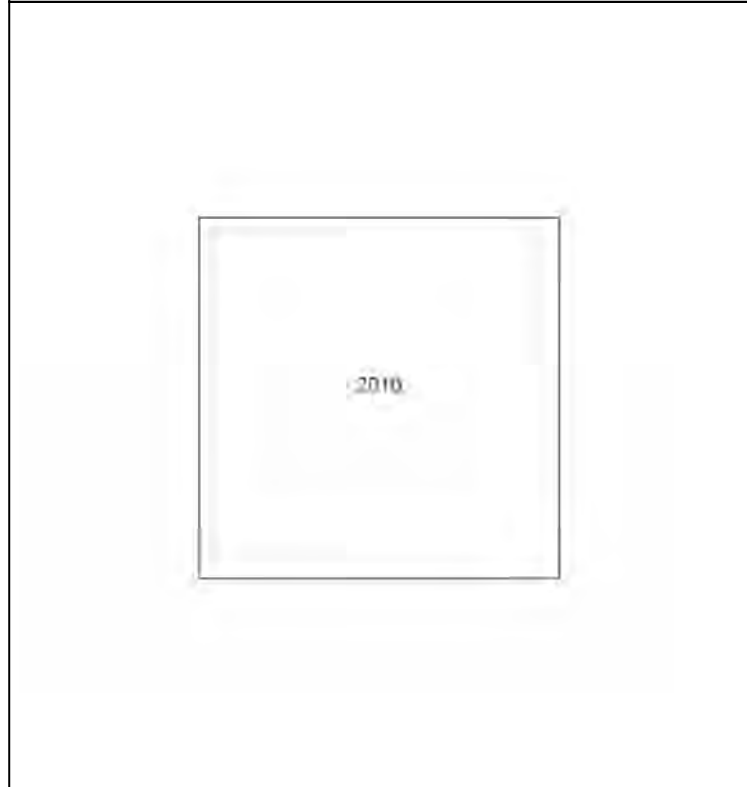
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Report Ref: CMAPS-CM-574230-4281-071116HIS
Grid Ref: 419926, 611503

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



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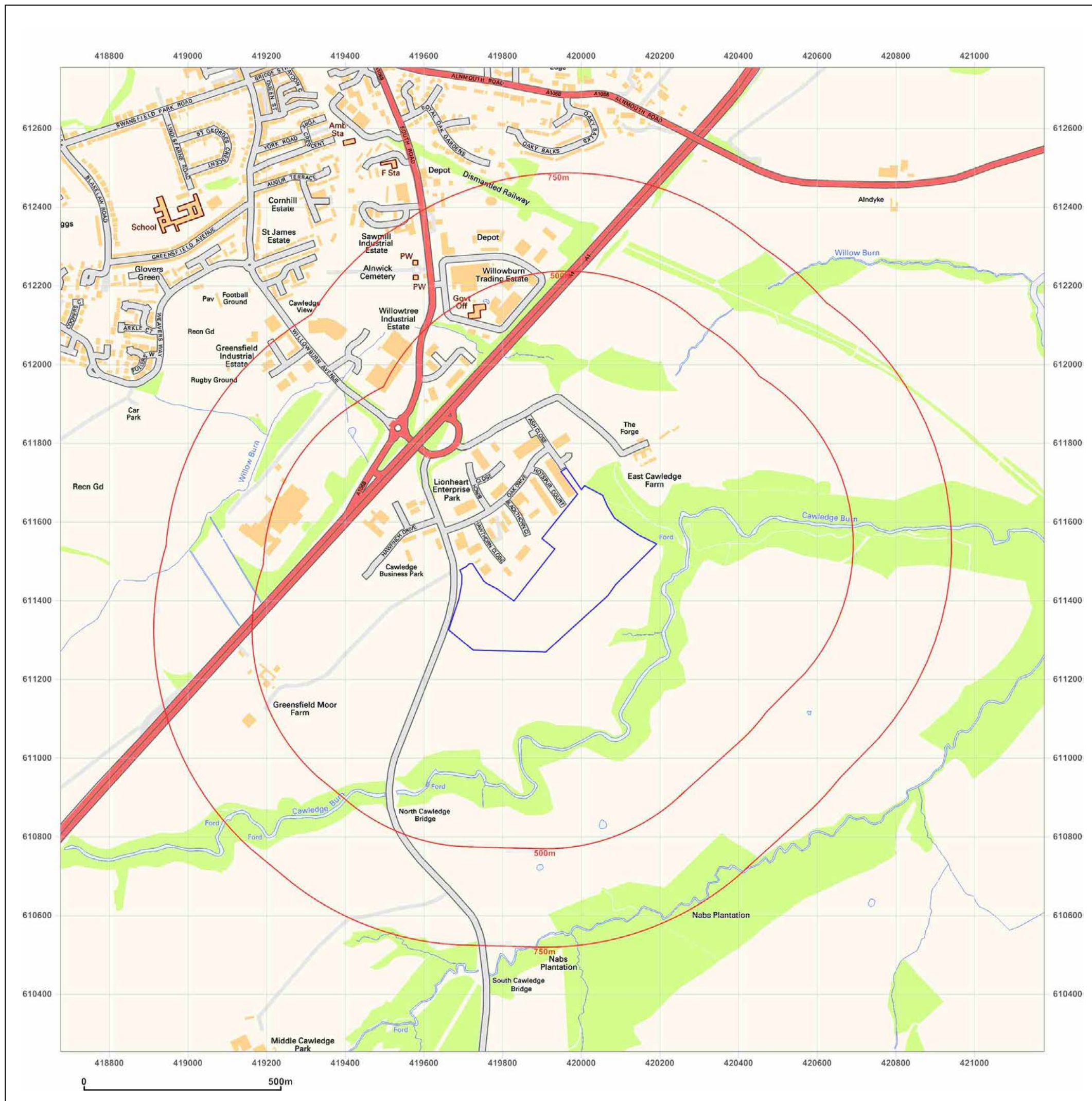


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Site Details:

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2EU

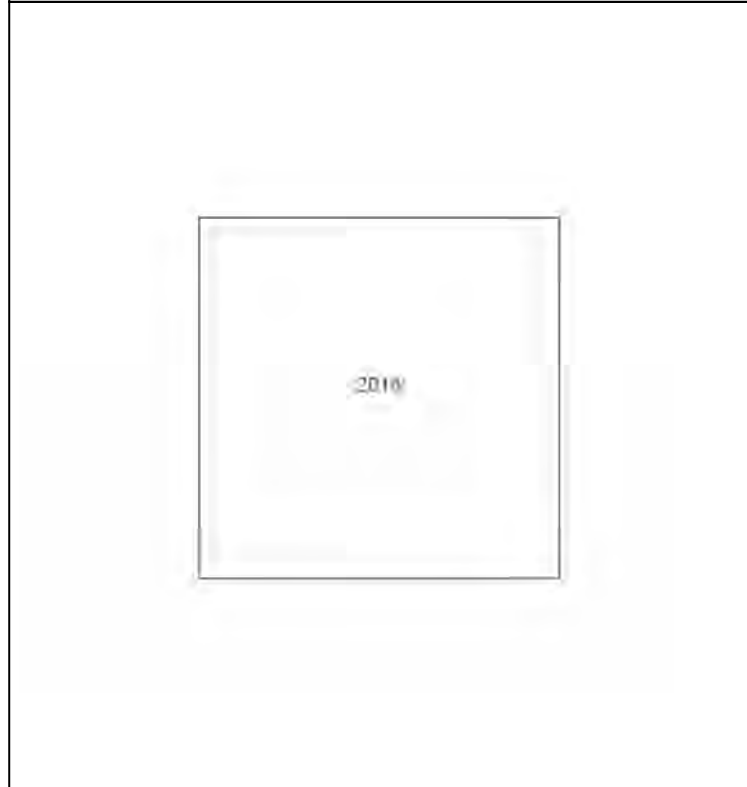
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Grid Ref: 419926, 611503

Map Name: National Grid

Map date: 2014

Scale: 1:10,000

Printed at: 1:10,000



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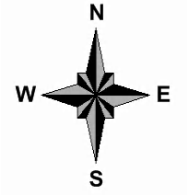


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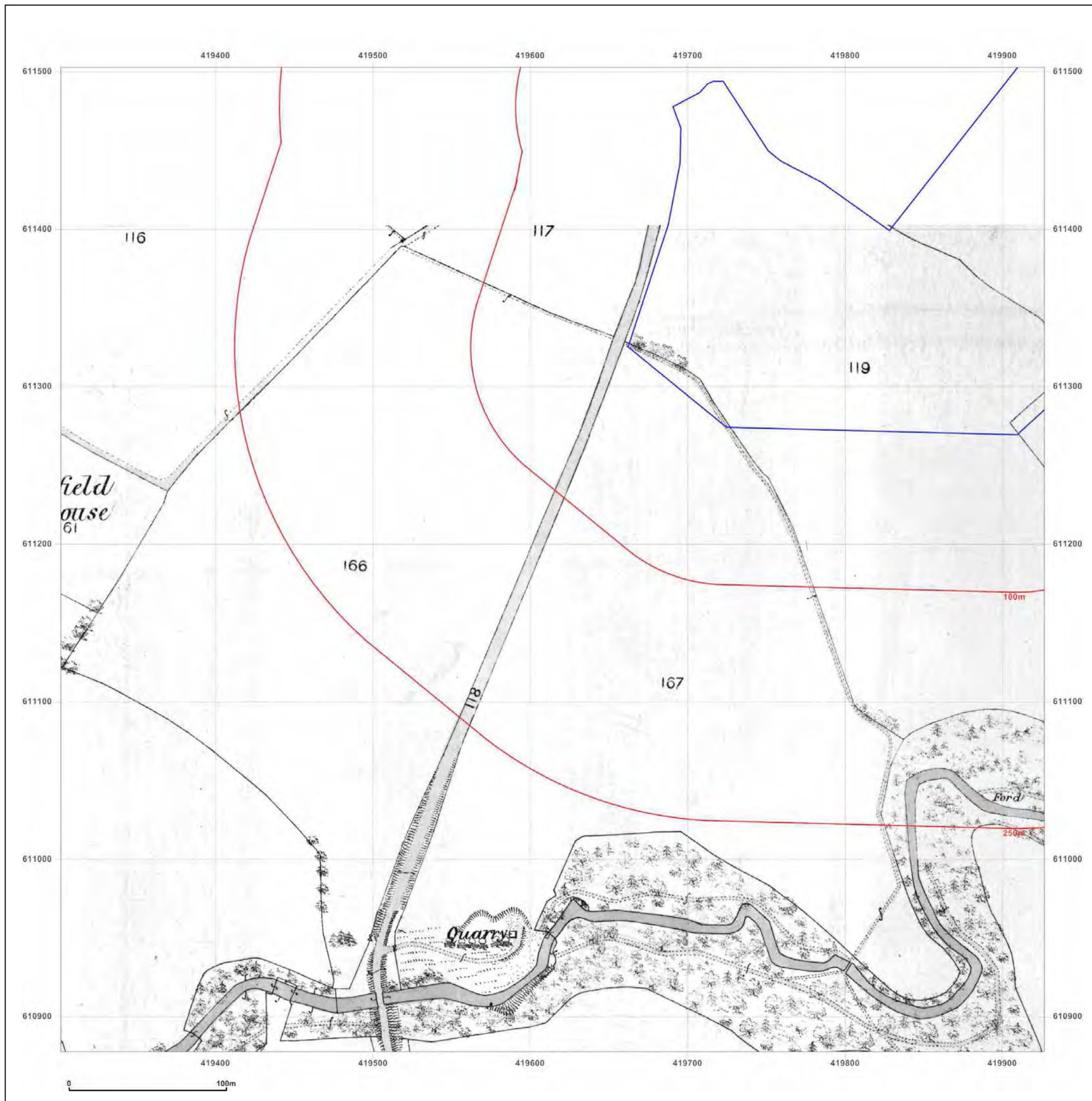
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1:2500 Scale Grid Index



Site Details:

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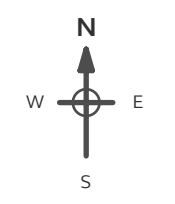
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Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_1
Grid Ref: 419614, 611190

Map Name: County Series

Map date: 1855

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1855
Revised 1855
Edition N/A
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Site Details:

Lionheart Business Park, NE66
2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_1
Grid Ref: 419614, 611190

Map Name: County Series

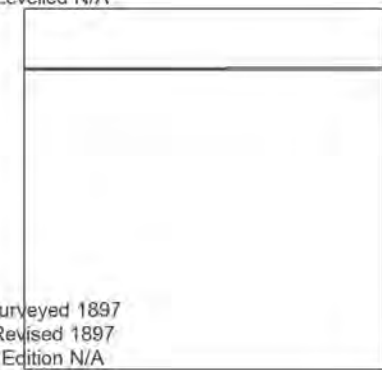
Map date: 1897

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1897
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Edition N/A
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Surveyed 1897
Revised 1897
Edition N/A
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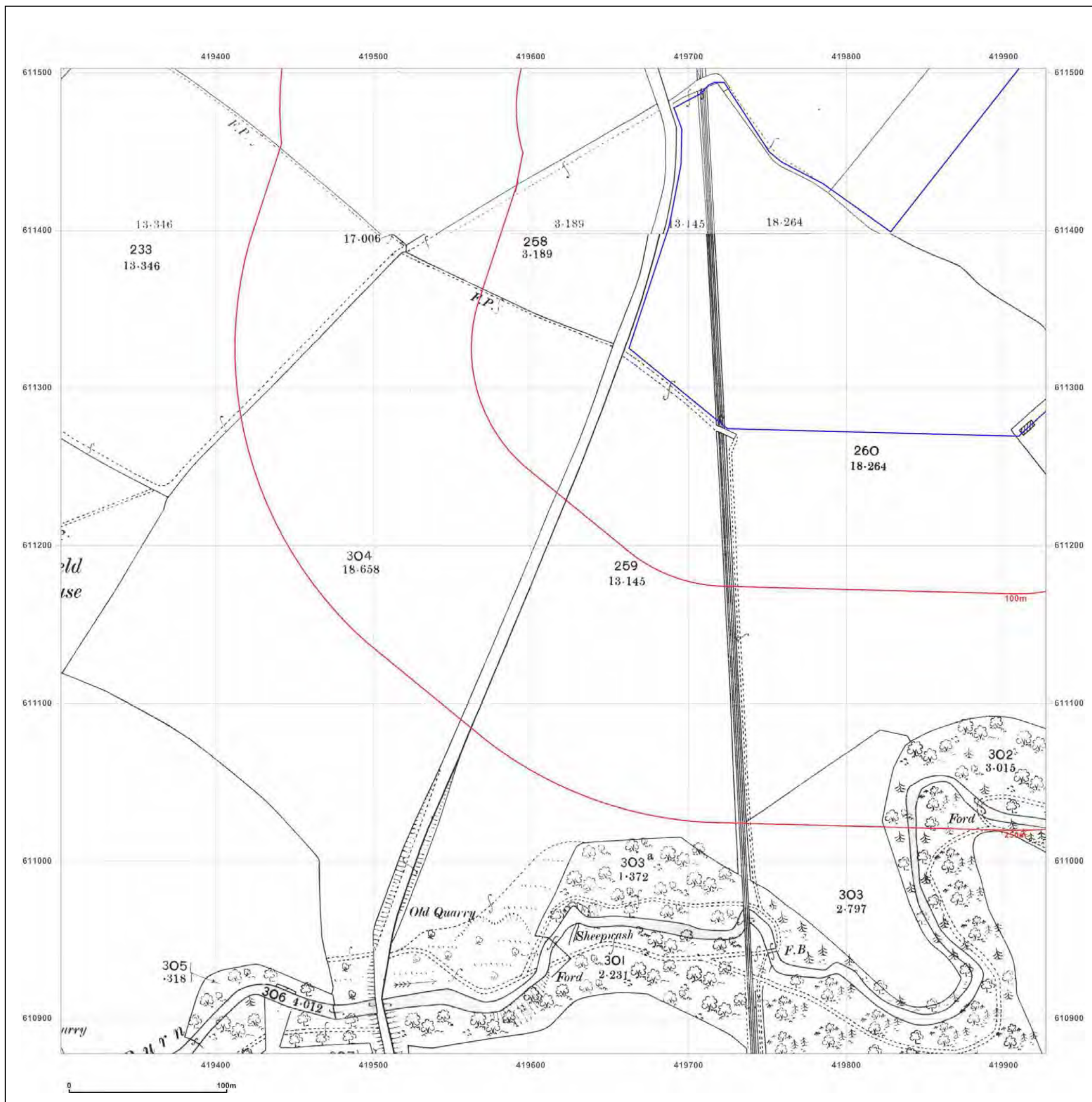


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Site Details:

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Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_1
Grid Ref: 419614, 611190

Map Name: County Series

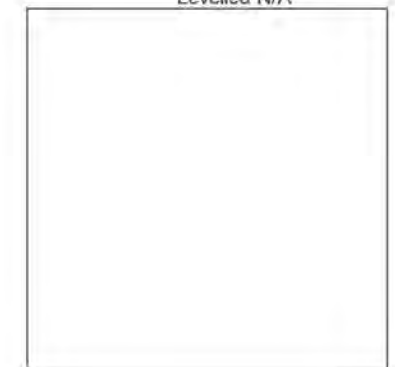
Map date: 1923

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1923
Revised 1923
Edition N/A
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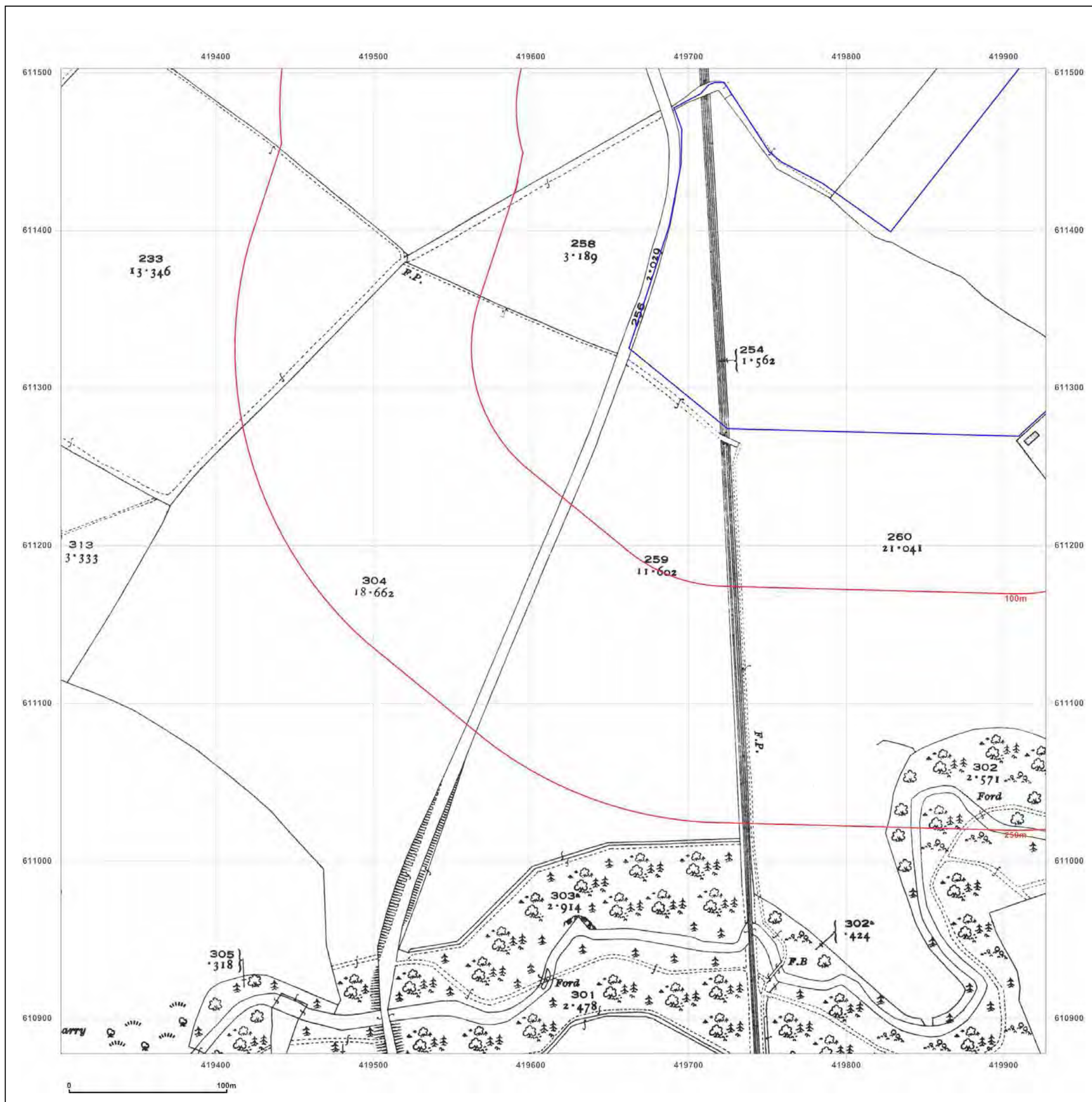


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Site Details:

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2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_1
Grid Ref: 419614, 611190

Map Name: National Grid

Map date: 1984-1987

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1984
Revised 1984
Edition N/A
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Surveyed 1959
Revised 1987
Edition N/A
Copyright 1987
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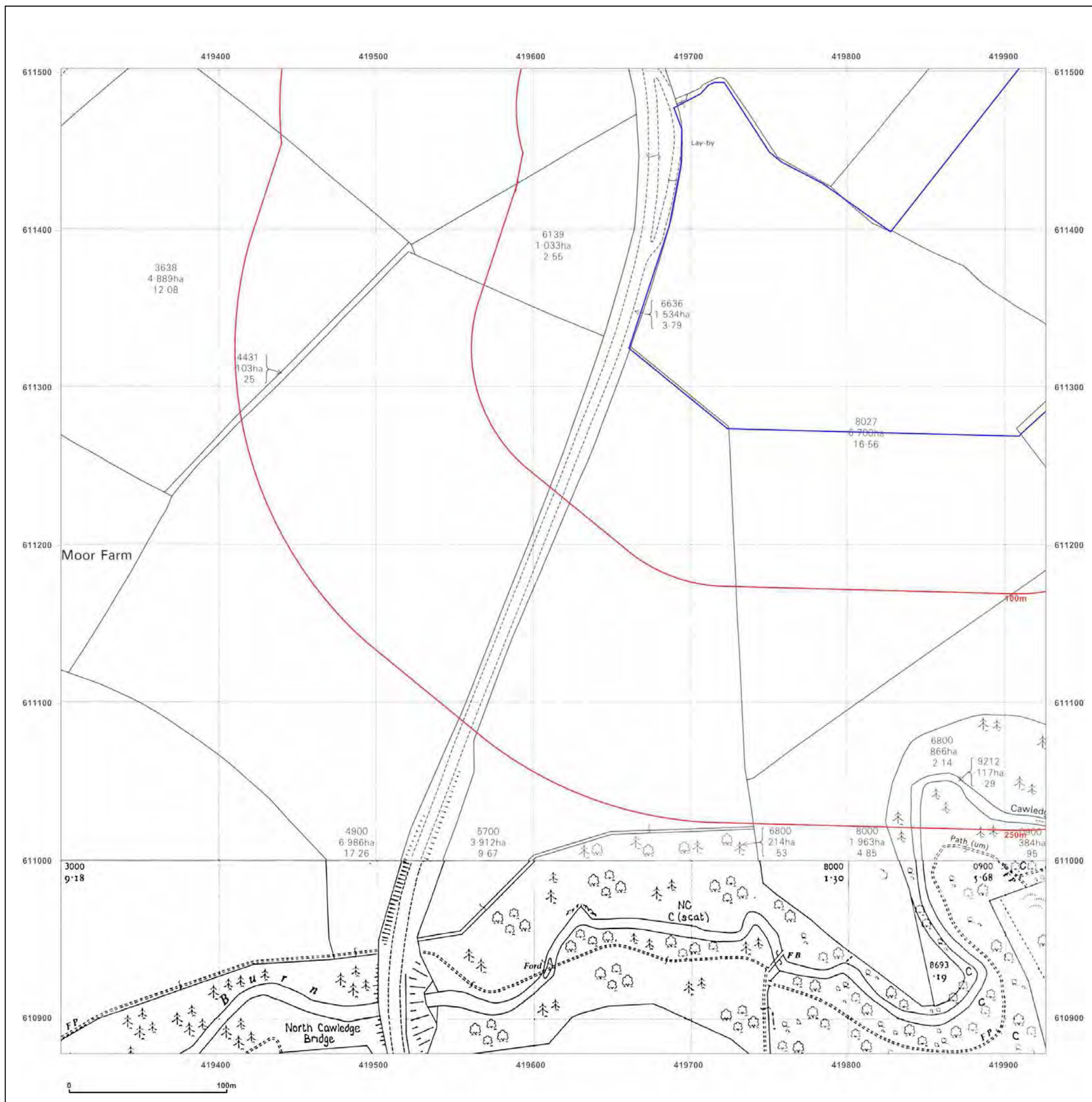


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Site Details:

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2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_1
Grid Ref: 419614, 611190

Map Name: National Grid

Map date: 1992-1994

Scale: 1:2,500

Printed at: 1:2,500



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Revised 1984
Edition N/A
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Levelled 1968

Surveyed 1994
Revised N/A
Edition N/A
Copyright 1994
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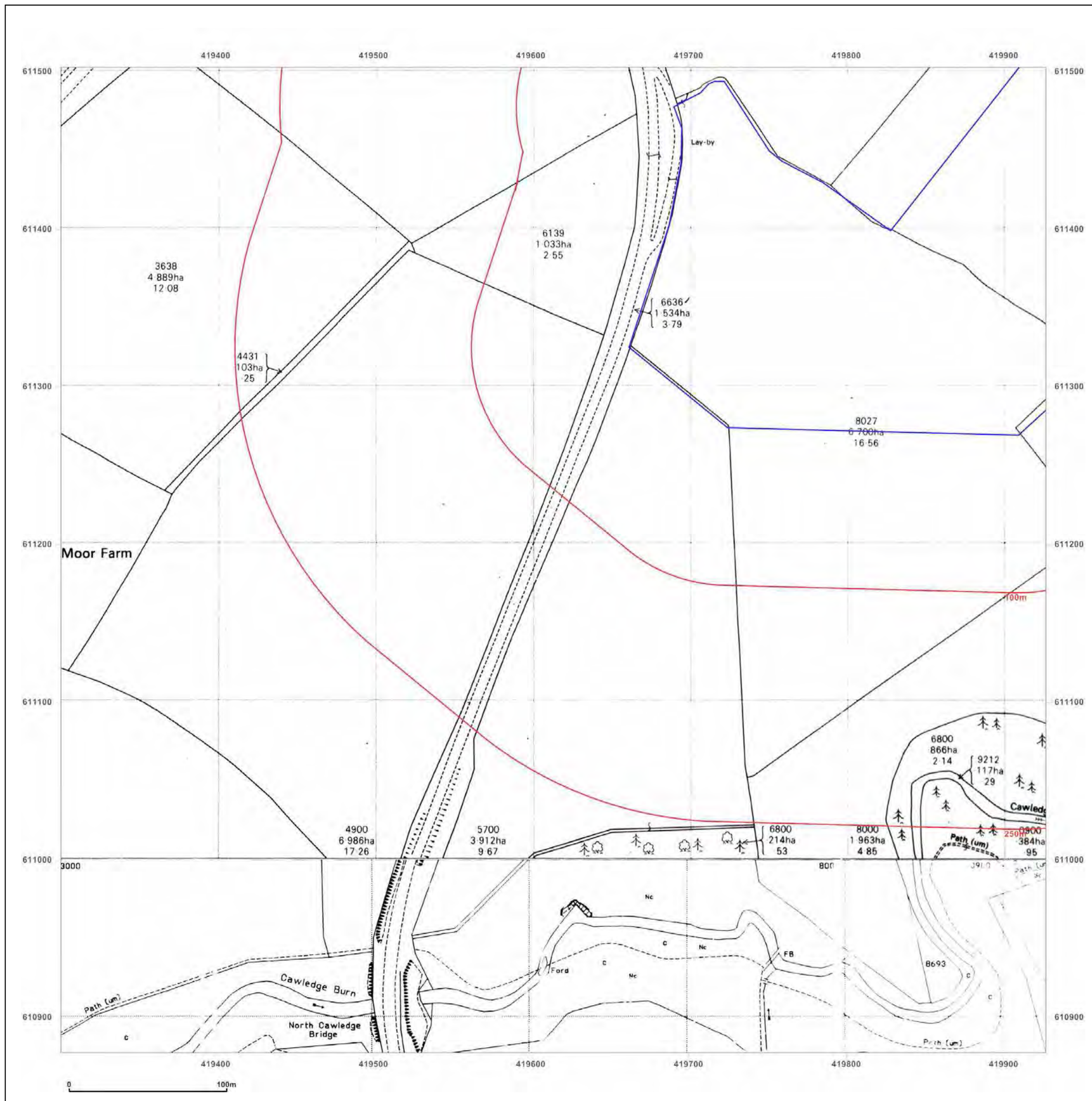


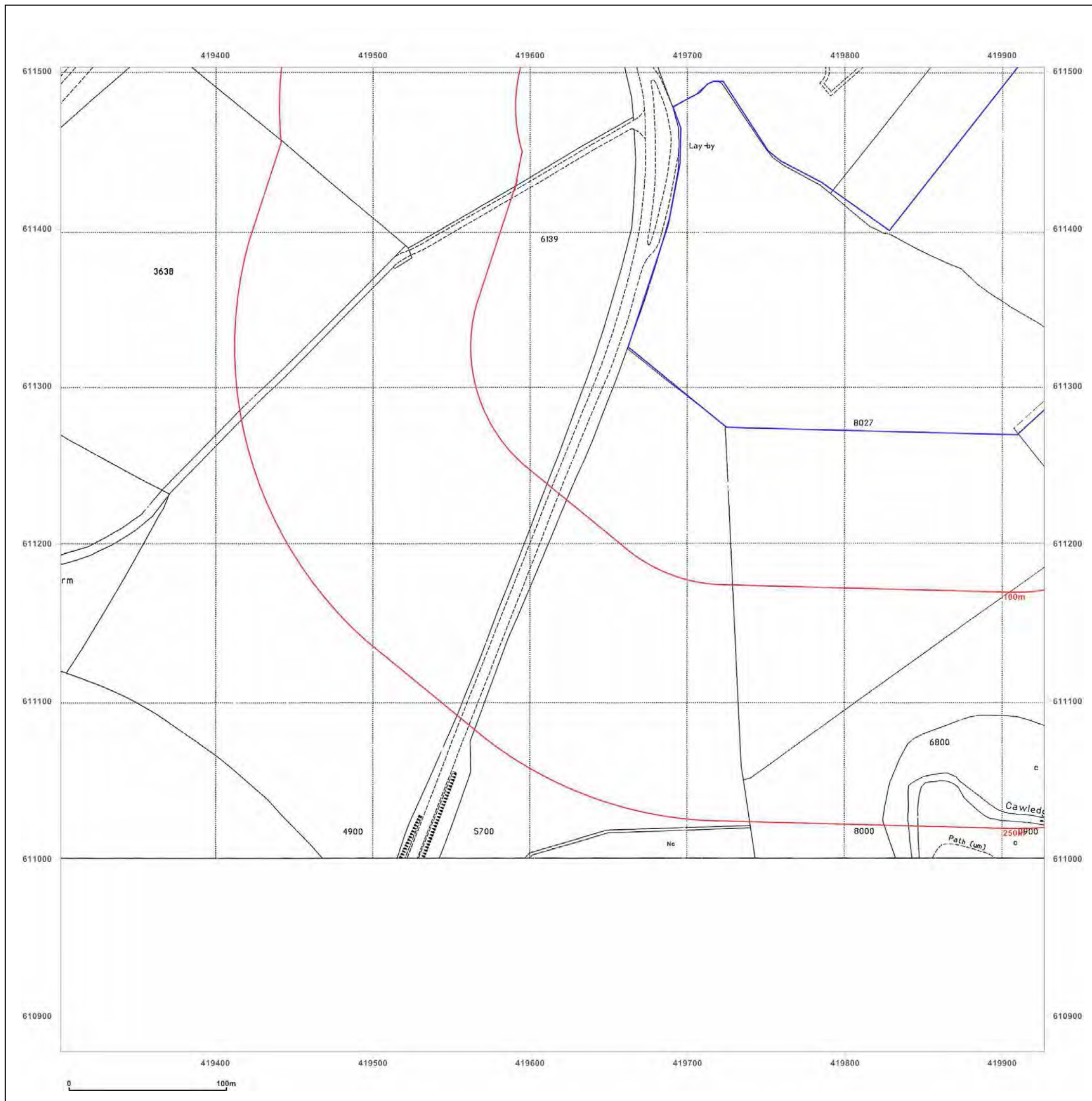
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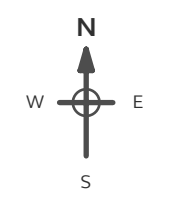




Site Details:
 Lionheart Business Park, NE66
 2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_1
Grid Ref: 419614, 611190

Map Name: National Grid
Map date: 1995
Scale: 1:2,500
Printed at: 1:2,500



Surveyed N/A
 Revised 1995
 Edition N/A
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Site Details:

Lionheart Business Park, NE66
2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_2
Grid Ref: 419614, 611815

Map Name: County Series

Map date: 1897

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1897
Revised 1897
Edition N/A
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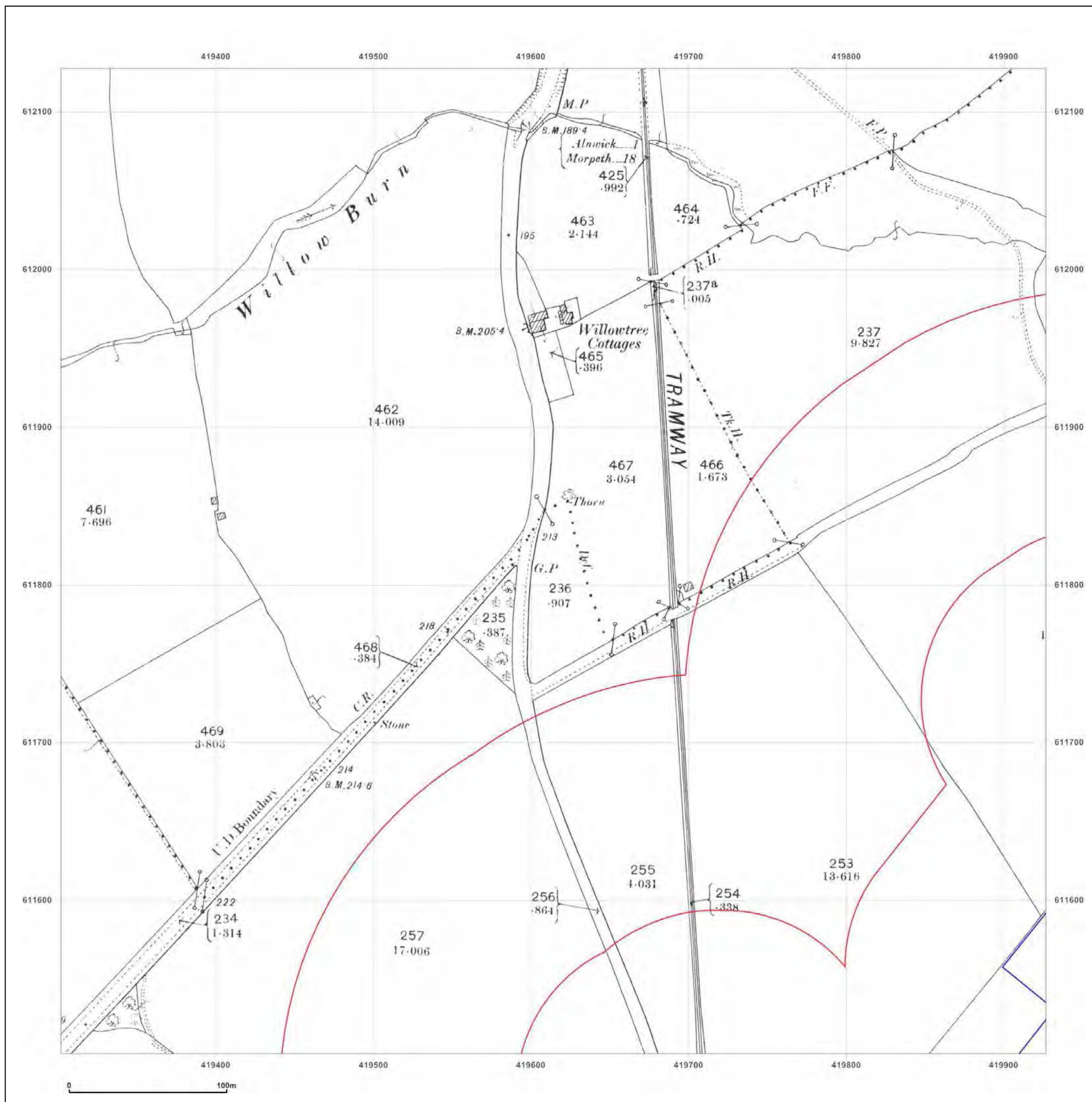


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Site Details:

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Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_2
Grid Ref: 419614, 611815

Map Name: County Series

Map date: 1923

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1923
Revised 1923
Edition N/A
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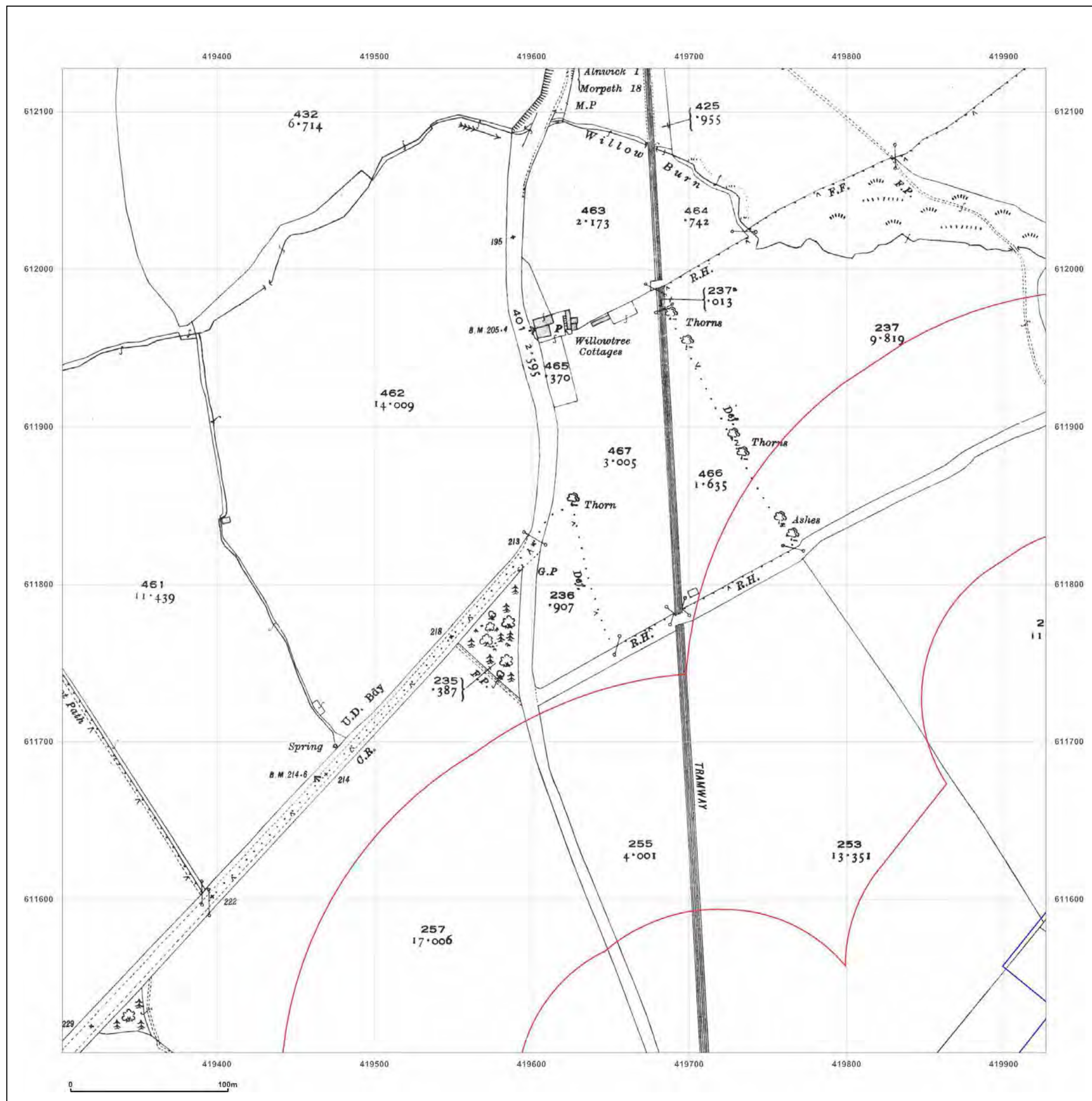


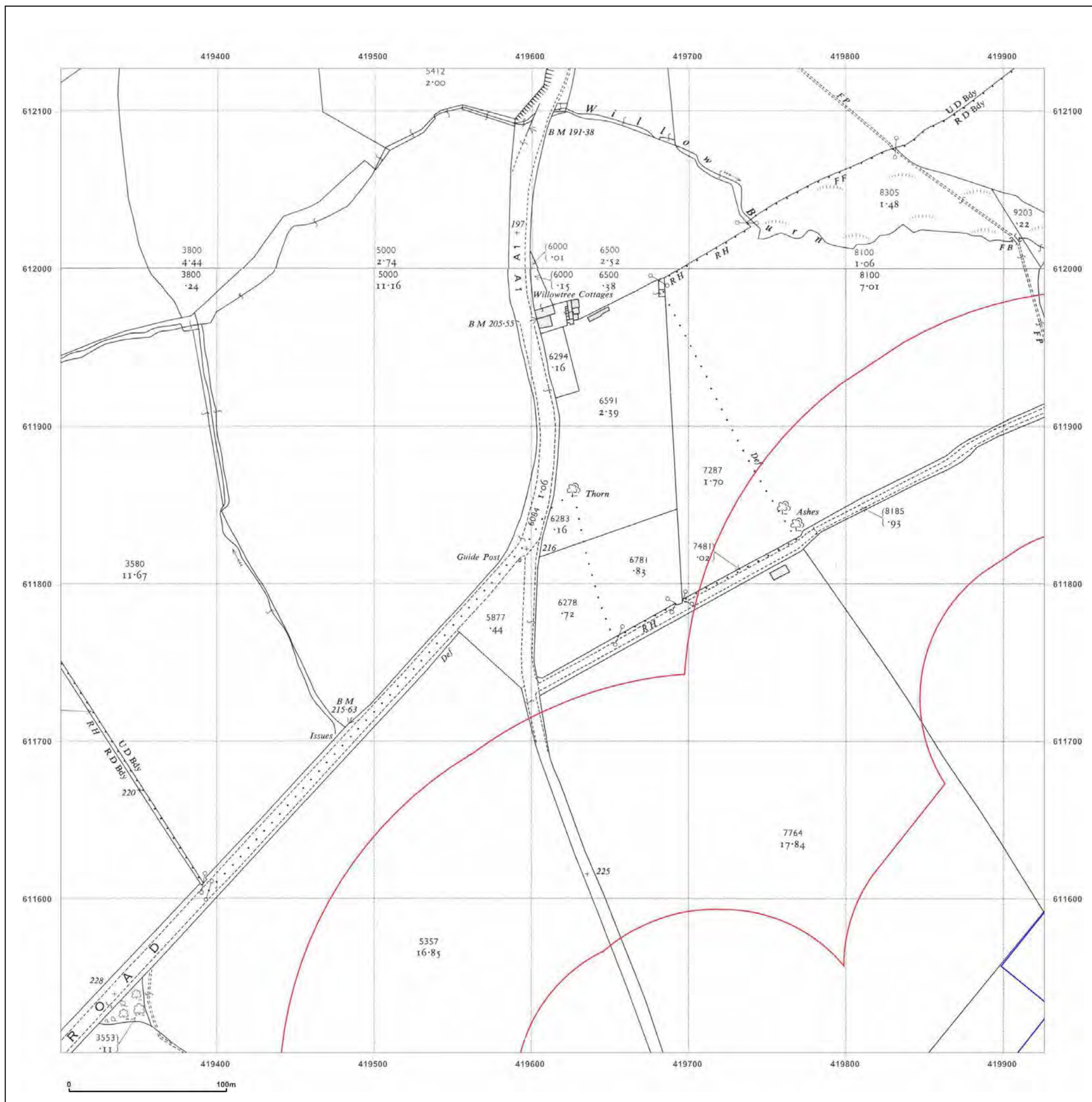
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Site Details:

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Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_2
Grid Ref: 419614, 611815

Map Name: National Grid

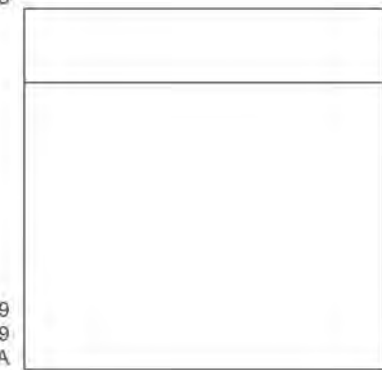
Map date: 1959

Scale: 1:2,500

Printed at: 1:2,500



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Surveyed 1959
Revised 1959
Edition N/A
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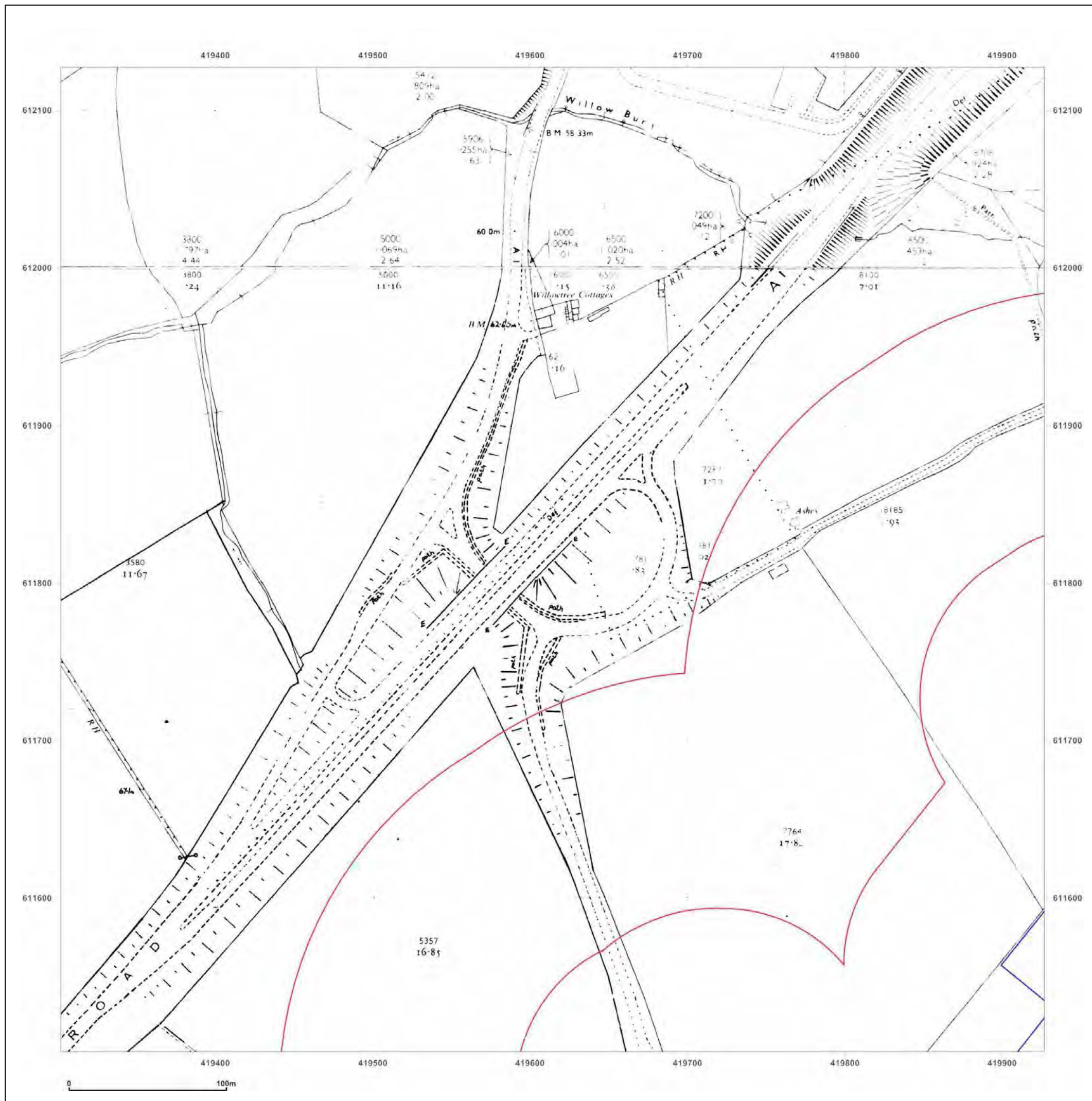


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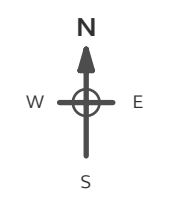
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Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_2
Grid Ref: 419614, 611815

Map Name: National Grid

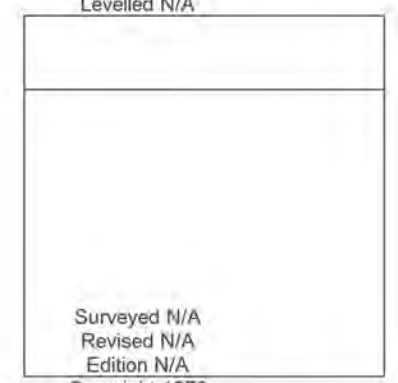
Map date: 1974-1978

Scale: 1:2,500

Printed at: 1:2,500



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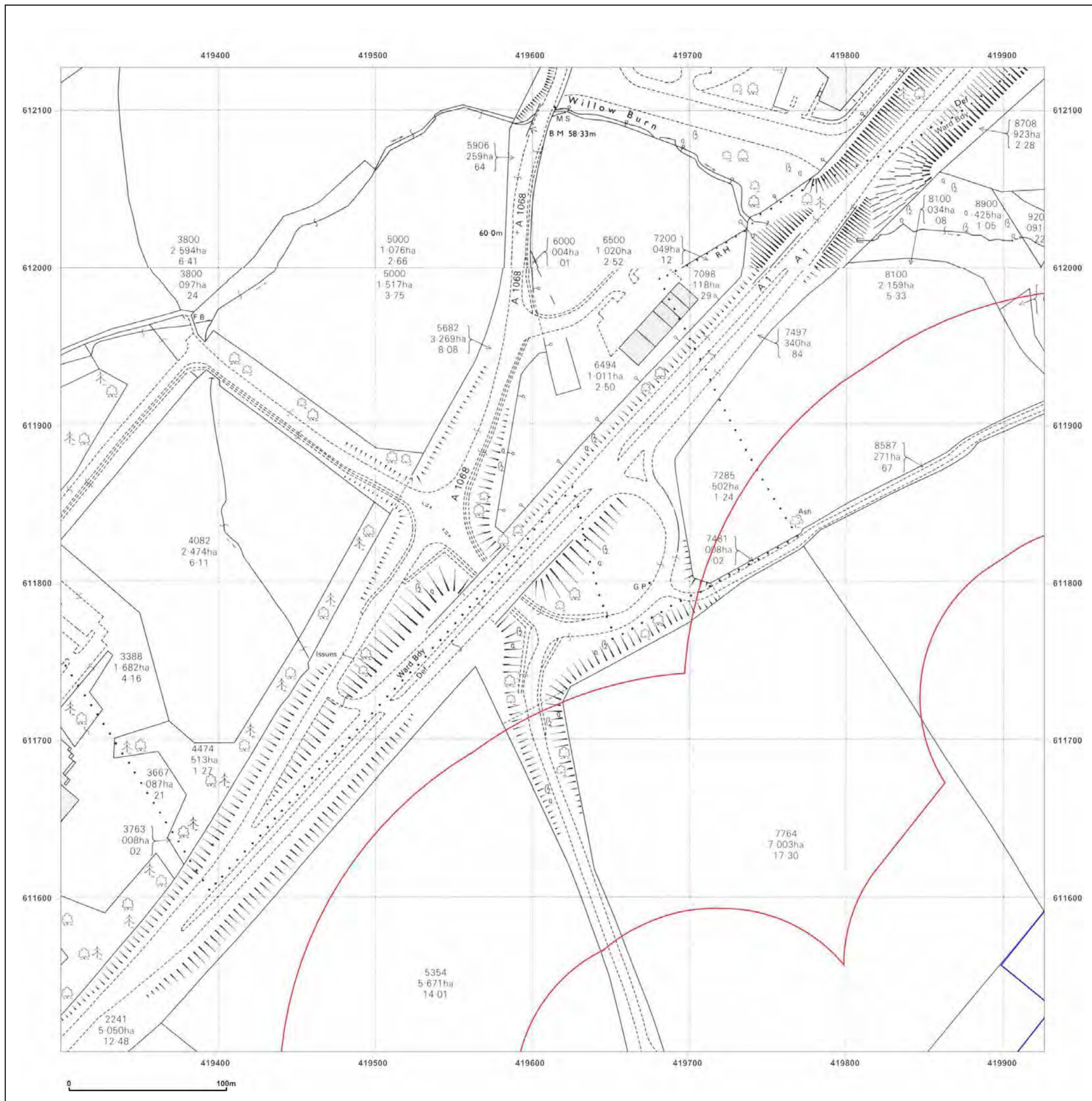


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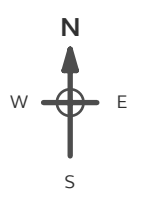
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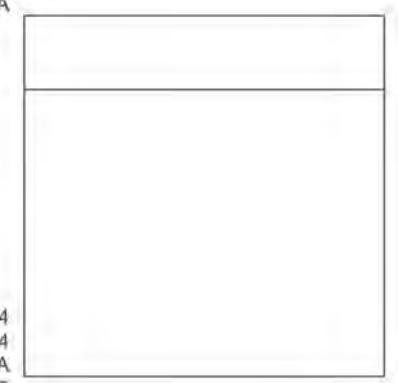
Site Details:
 Lionheart Business Park, NE66 2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_2
Grid Ref: 419614, 611815

Map Name: National Grid
Map date: 1982-1984
Scale: 1:2,500
Printed at: 1:2,500



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 Edition N/A
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Surveyed 1984
 Revised 1984
 Edition N/A
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Site Details:

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2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_1_2
Grid Ref: 419614, 611815

Map Name: National Grid

Map date: 1992-1994

Scale: 1:2,500

Printed at: 1:2,500



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Revised N/A
Edition N/A
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Surveyed 1968
Revised 1984
Edition N/A
Copyright 1992
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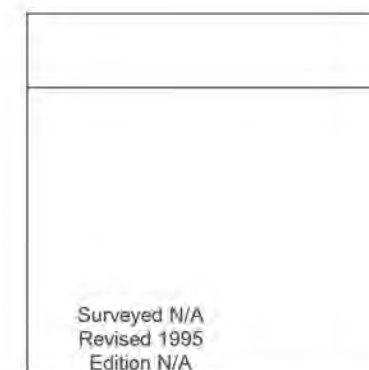
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Map Name: National Grid

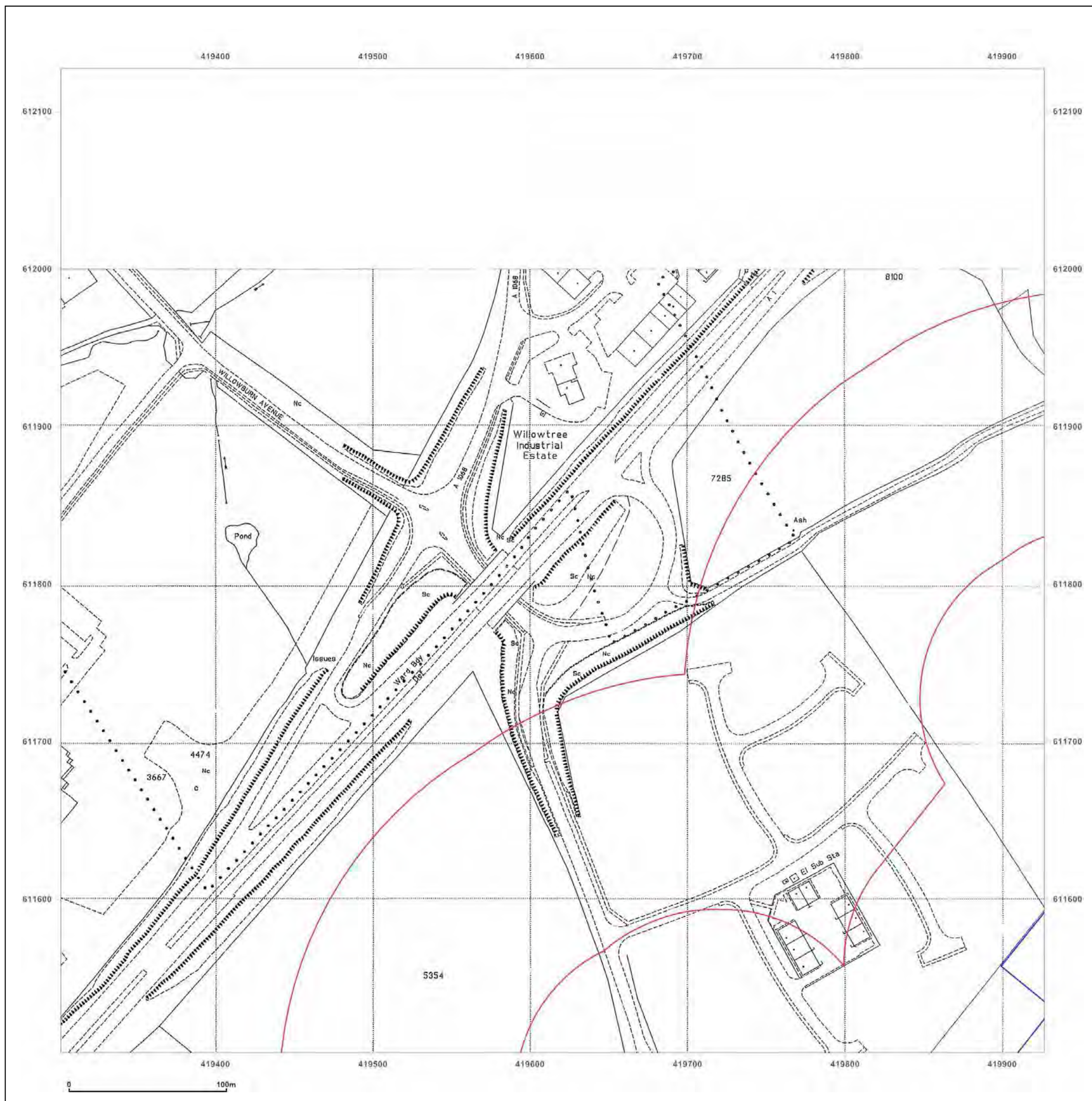
Map date: 1995

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised 1995
Edition N/A
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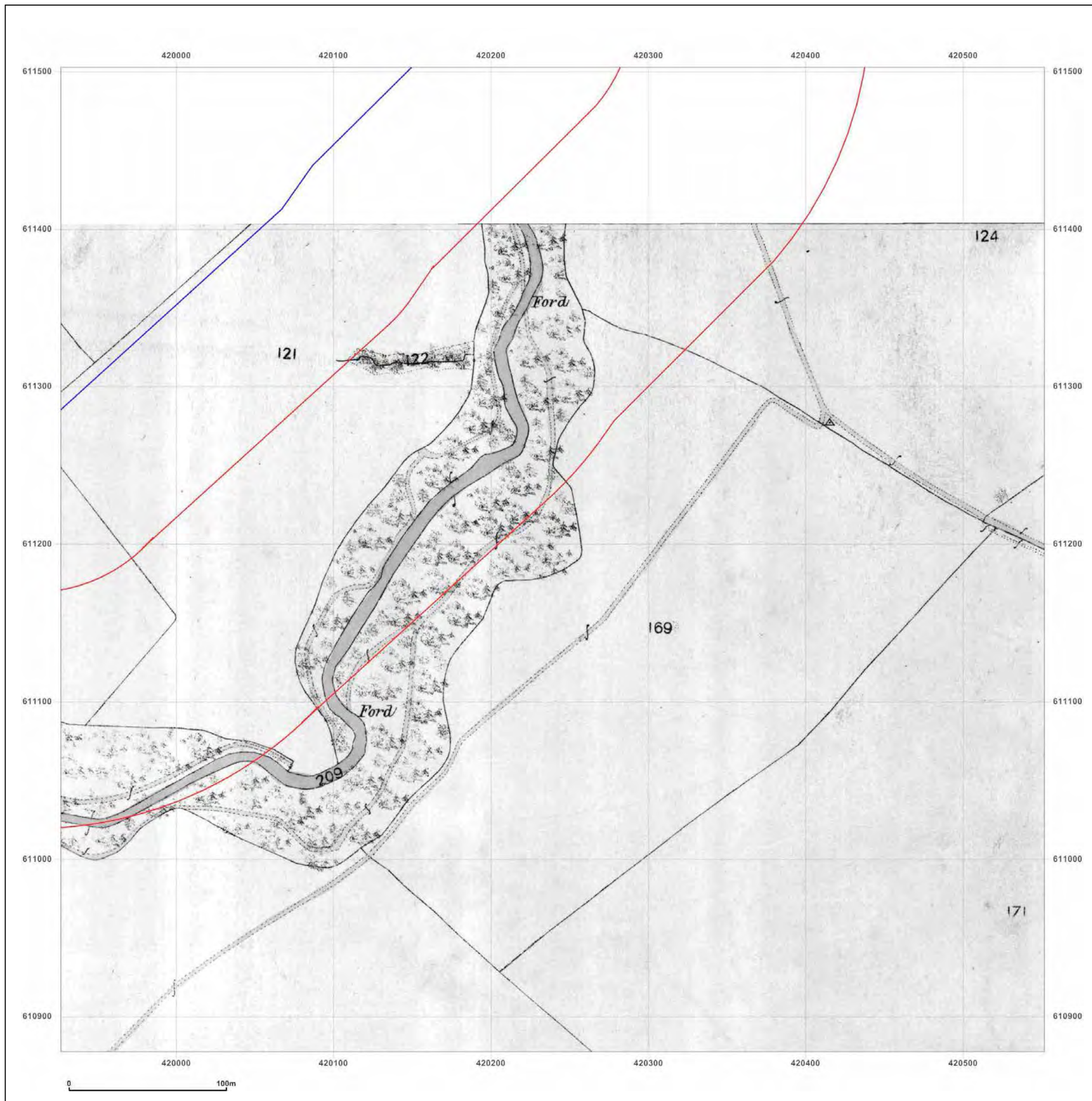


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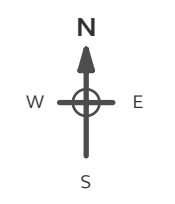
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Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_2_1
Grid Ref: 420239, 611190

Map Name: County Series

Map date: 1855

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1855
Revised 1855
Edition N/A
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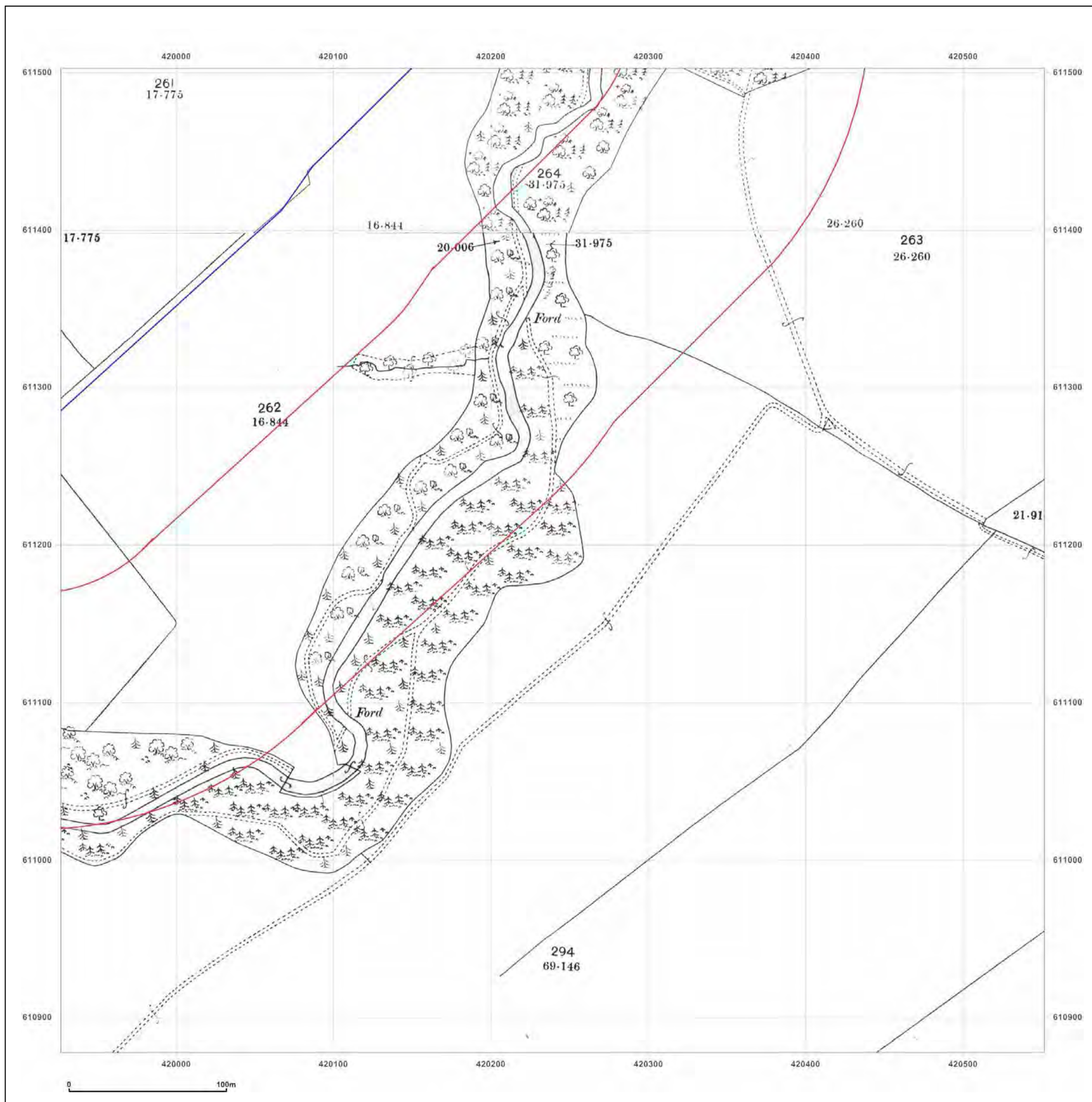


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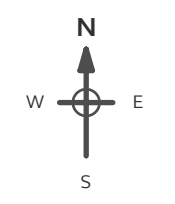
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Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_2_1
Grid Ref: 420239, 611190

Map Name: County Series

Map date: 1897

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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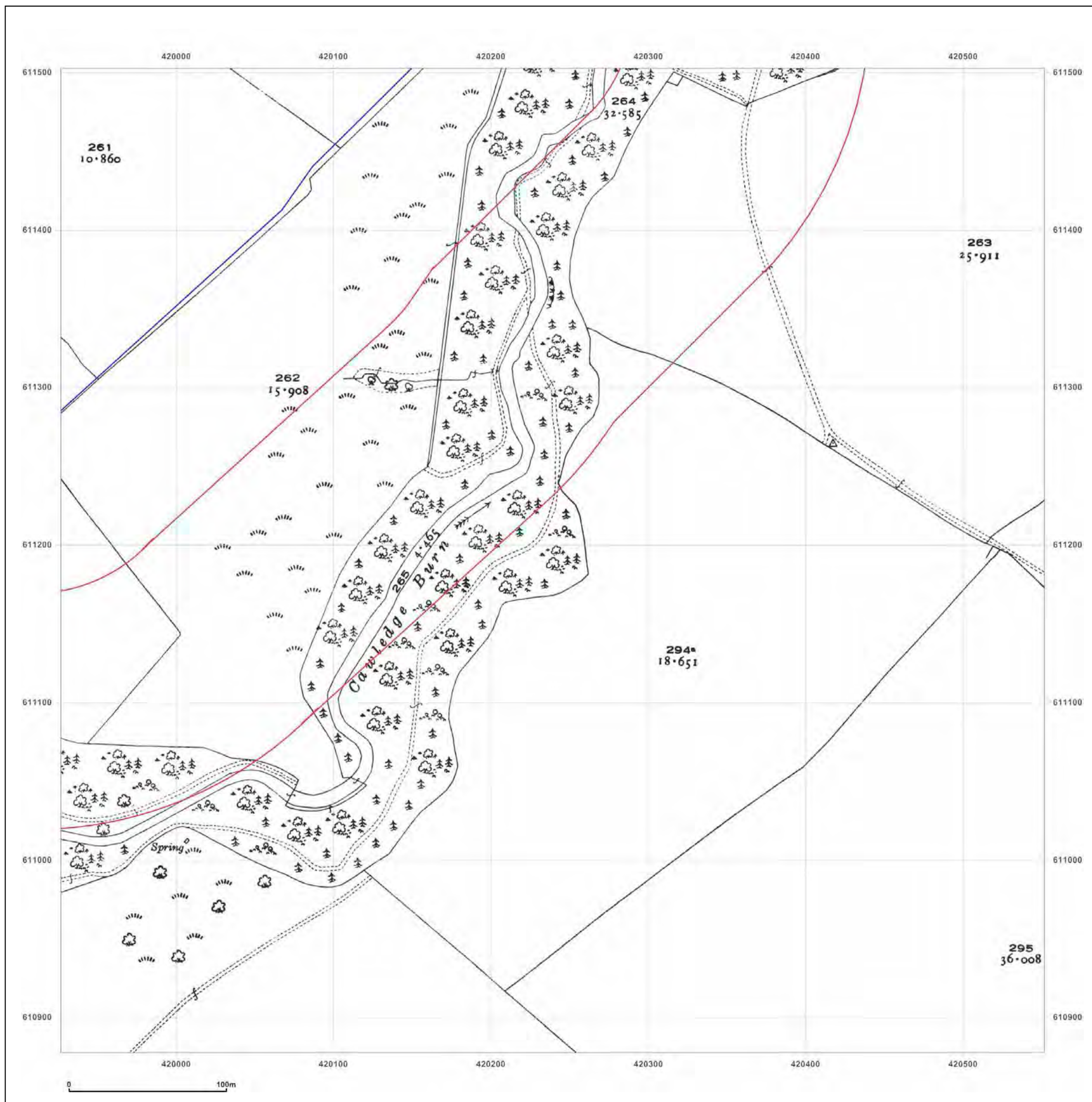


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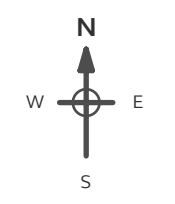
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Map Name: County Series

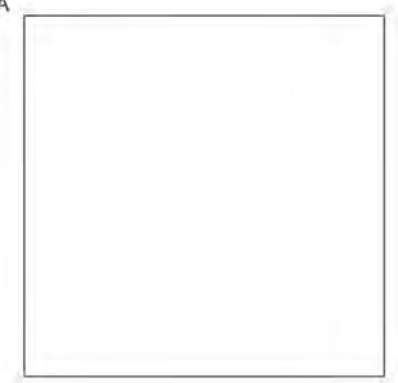
Map date: 1923

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1923
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Edition N/A
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Site Details:

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Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_2_1
Grid Ref: 420239, 611190

Map Name: National Grid

Map date: 1959

Scale: 1:2,500

Printed at: 1:2,500



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Revised 1959
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Revised 1959
Edition N/A
Copyright 1960
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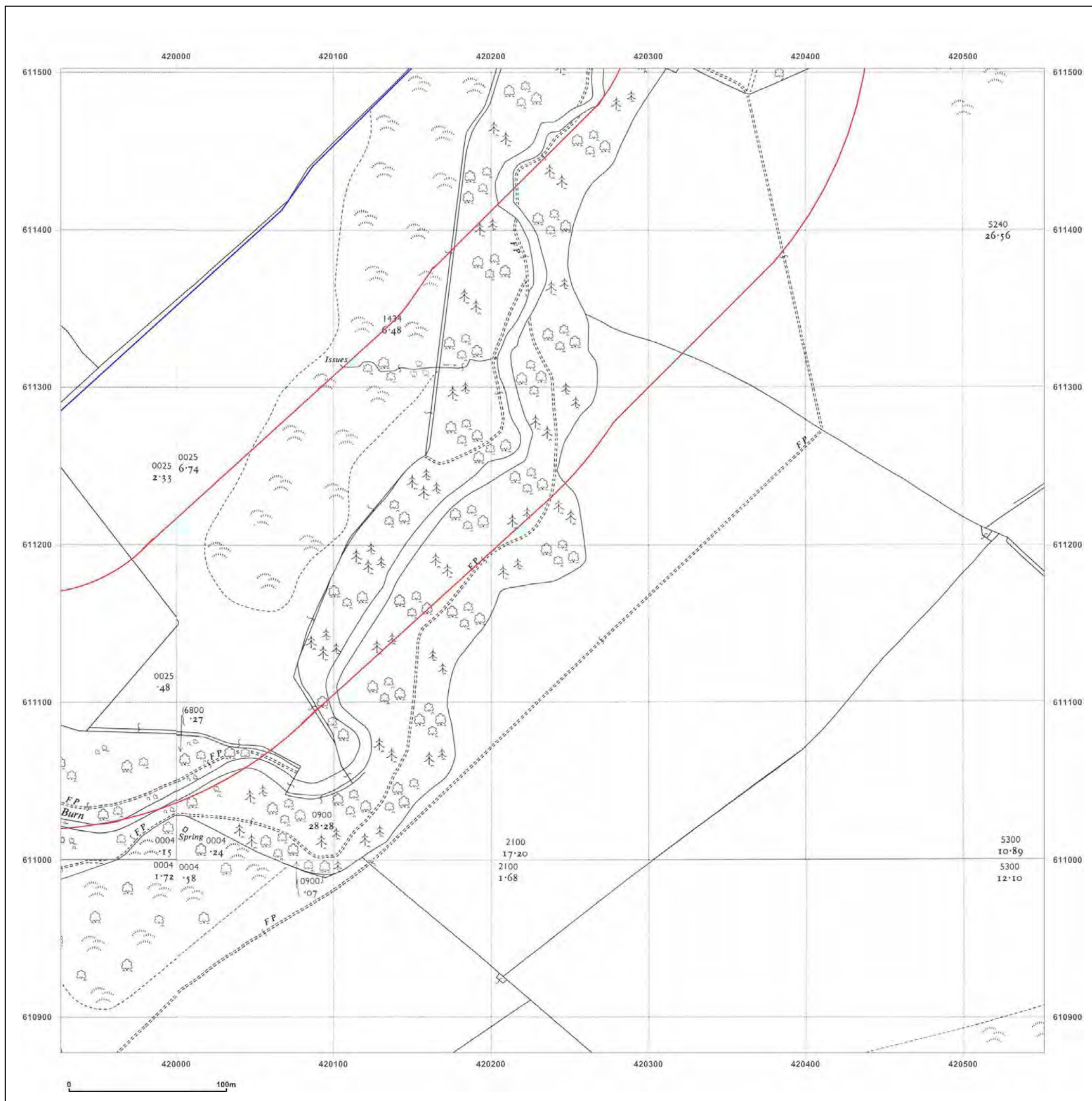


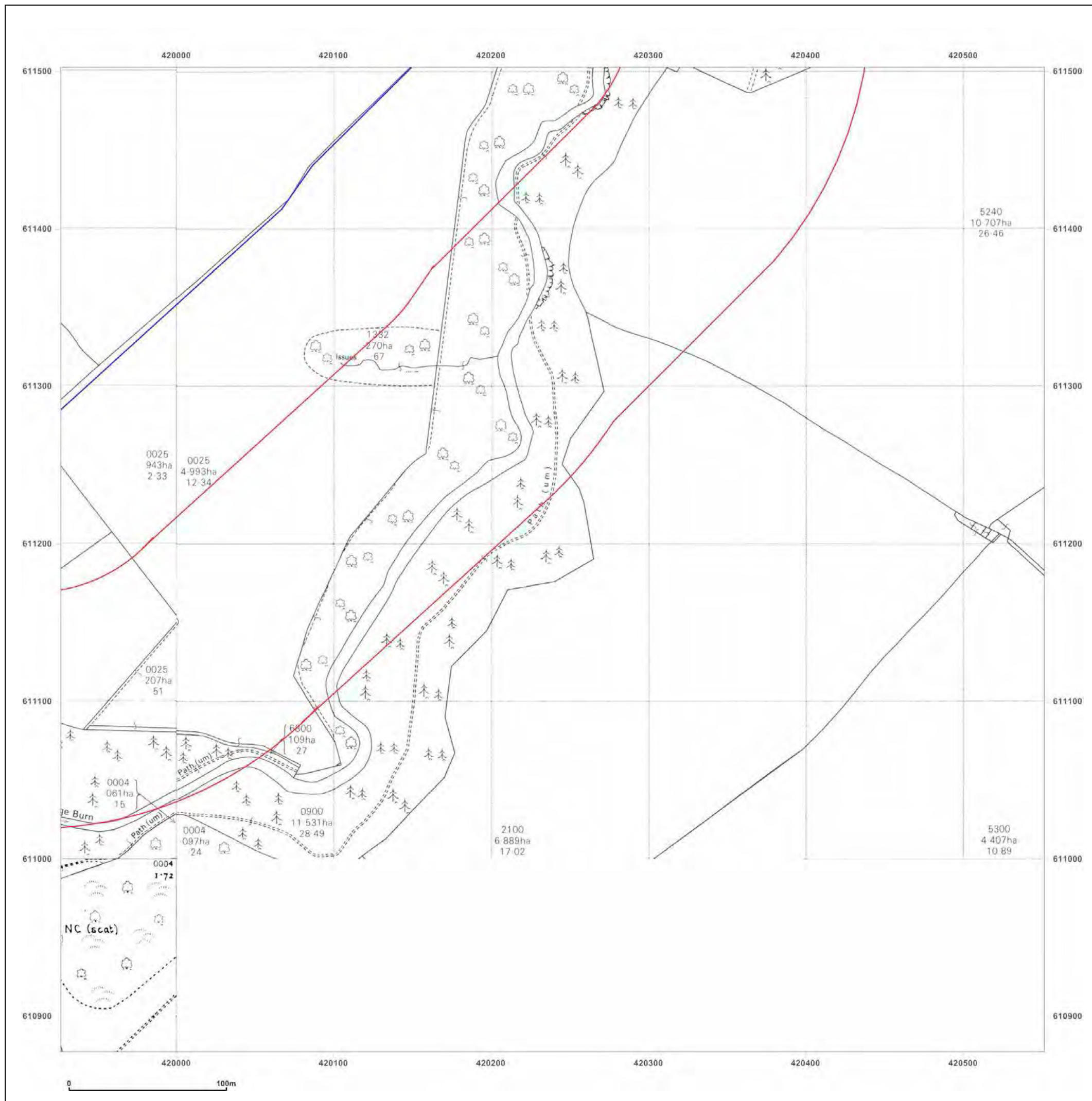
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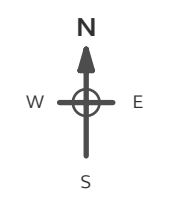
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Grid Ref: 420239, 611190

Map Name: National Grid

Map date: 1984-1987

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

Lionheart Business Park, NE66
2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_2_1
Grid Ref: 420239, 611190

Map Name: National Grid

Map date: 1992-1994

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
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Edition N/A
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Levelled 1968

Surveyed 1994
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Surveyed 1994
Revised N/A
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Copyright 1994
Levelled N/A



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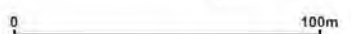
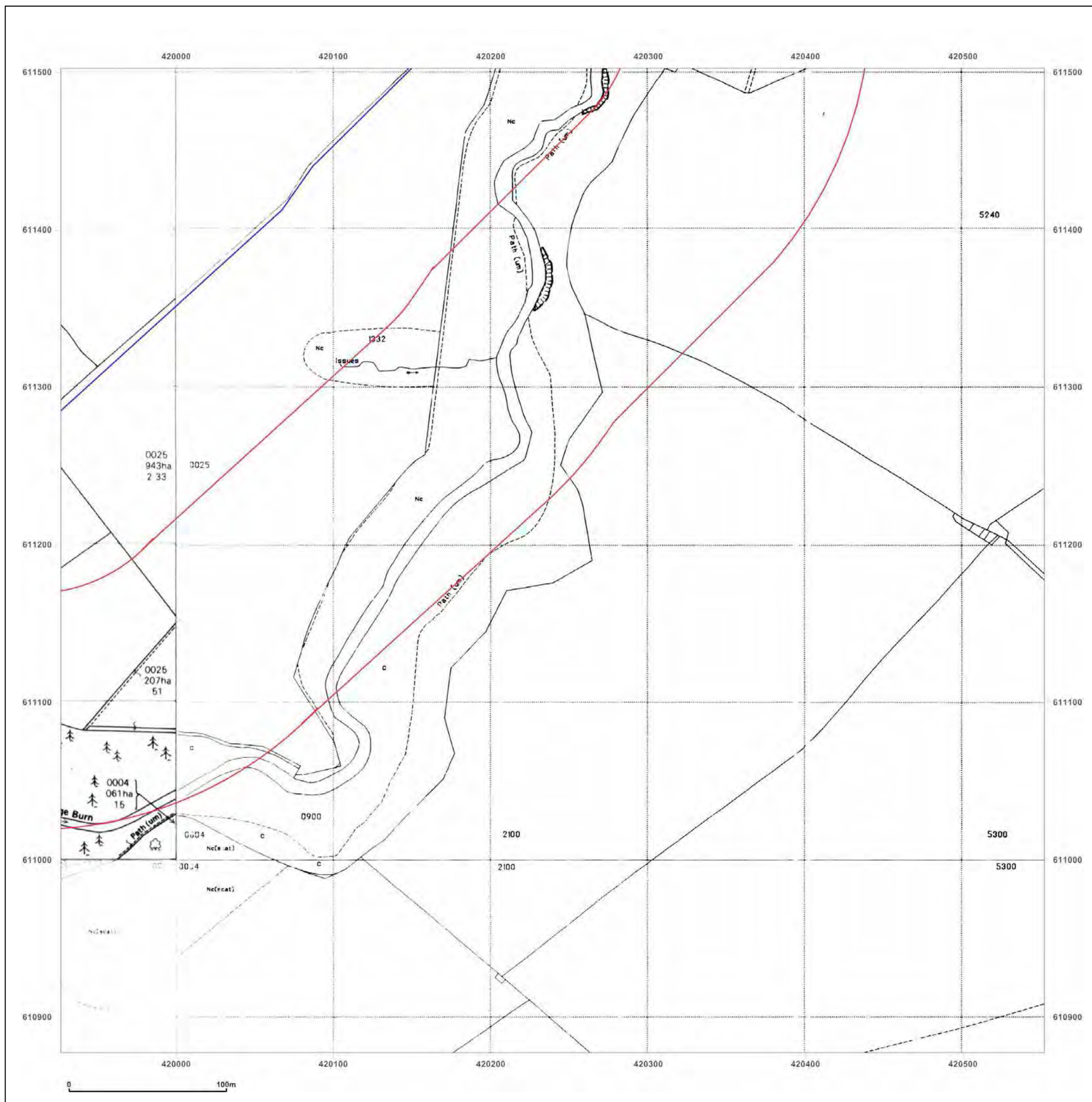


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Site Details:

Lionheart Business Park, NE66
2EU

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Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_2_2
Grid Ref: 420239, 611815

Map Name: County Series

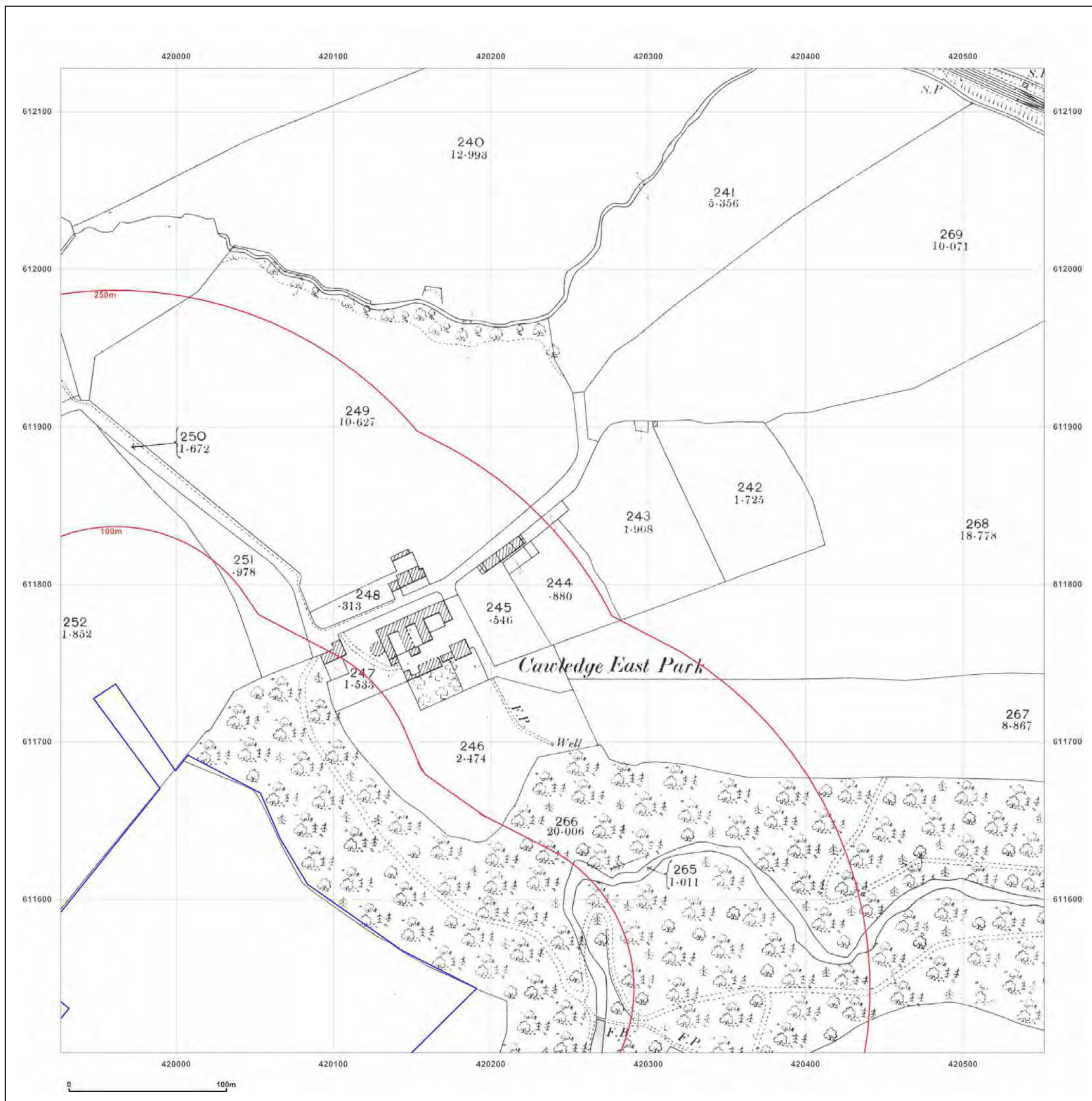
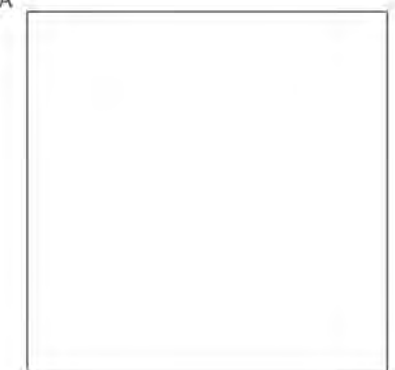
Map date: 1897

Scale: 1:2,500

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Surveyed 1897
Revised 1897
Edition N/A
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Site Details:

Lionheart Business Park, NE66
2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_2_2
Grid Ref: 420239, 611815

Map Name: County Series

Map date: 1923

Scale: 1:2,500

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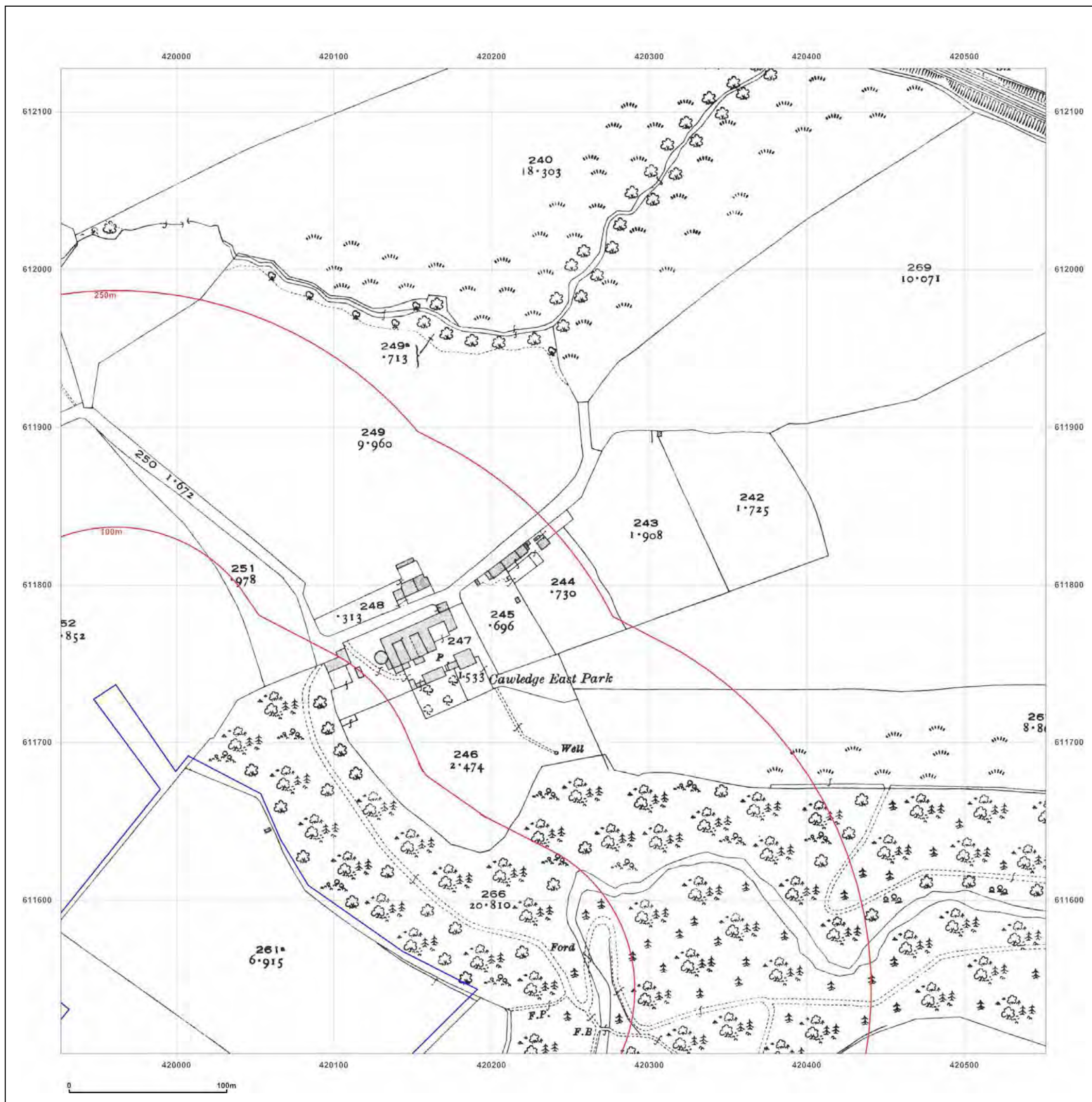


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Client Ref: 4281
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Grid Ref: 420239, 611815

Map Name: National Grid

Map date: 1959

Scale: 1:2,500

Printed at: 1:2,500



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Revised 1959
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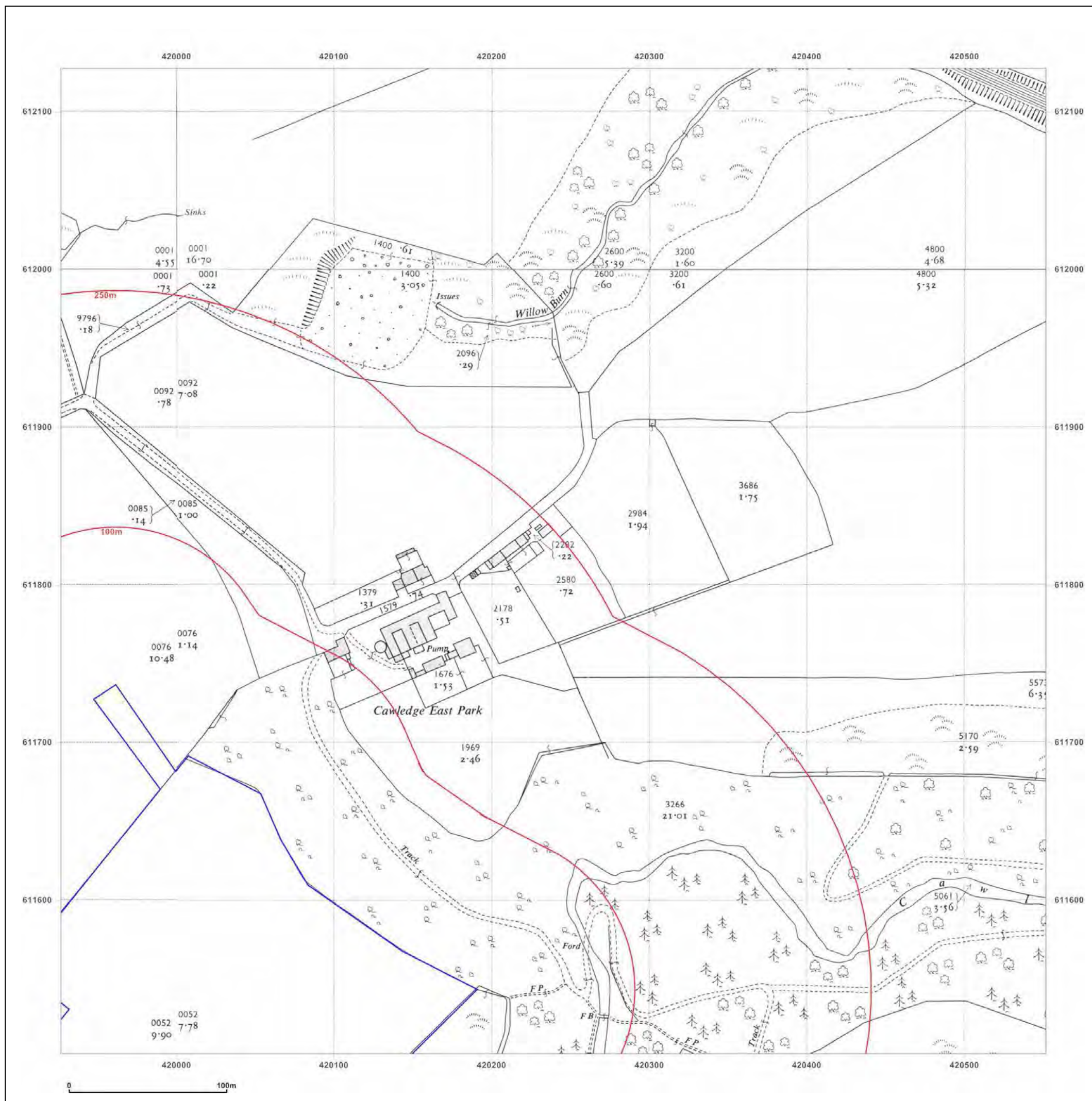


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Site Details:

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2EU

Client Ref: 4281
Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_2_2
Grid Ref: 420239, 611815

Map Name: National Grid

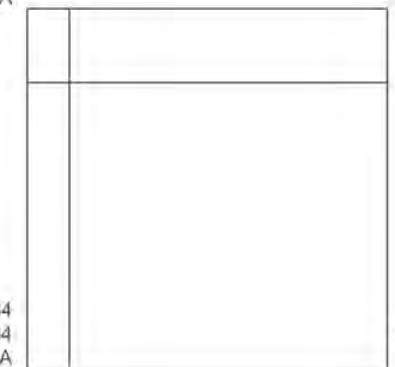
Map date: 1982-1984

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Edition N/A
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Surveyed 1984
Revised 1984
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Copyright 1985
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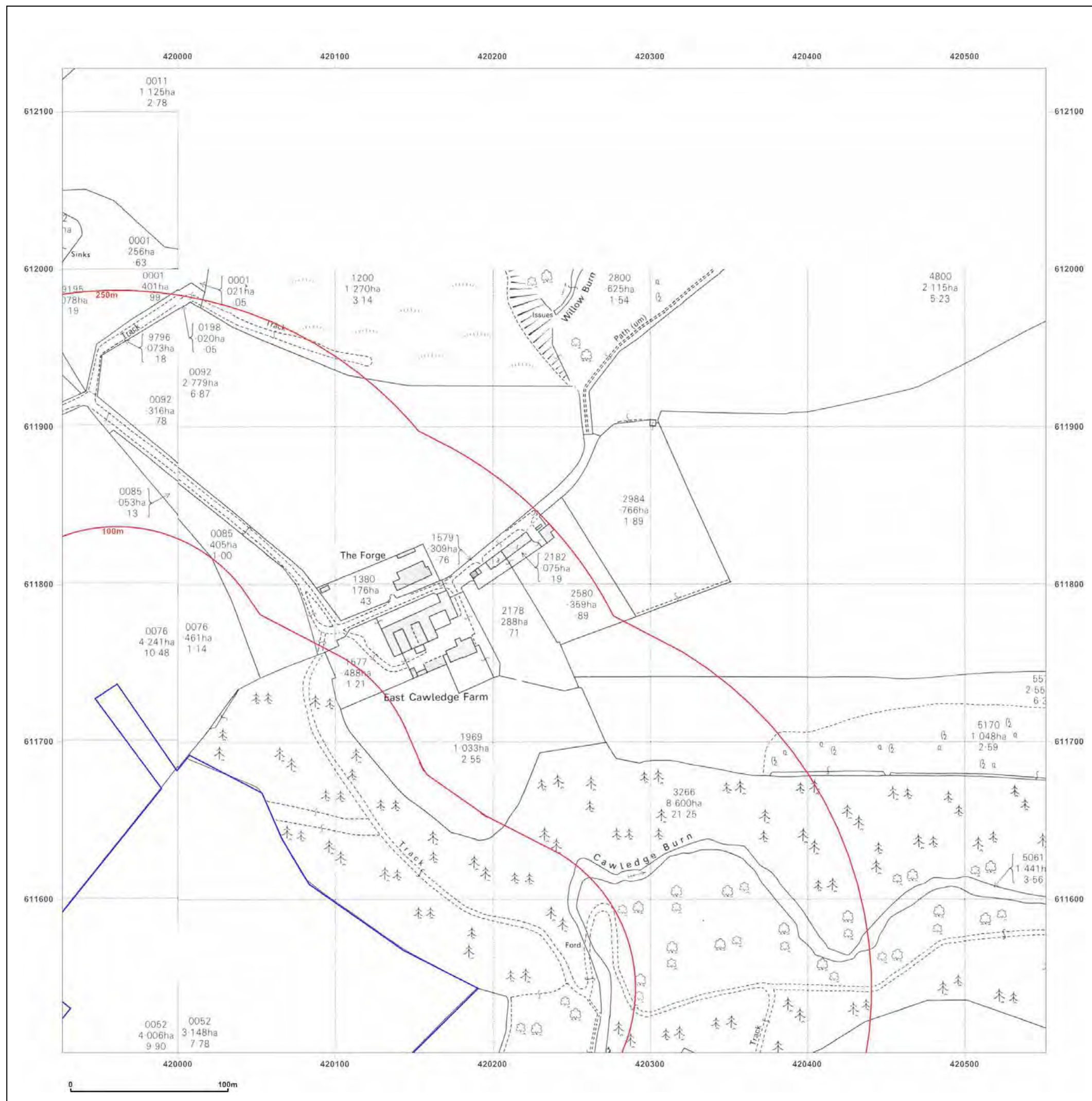


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Site Details:

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Report Ref: CMAPS-CM-574230-4281-071116HIS_LS_2_2
Grid Ref: 420239, 611815

Map Name: National Grid

Map date: 1992-1994

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A

Surveyed 1968
Revised 1984
Edition N/A
Copyright 1992
Levelled 1968

Surveyed 1994
Revised N/A
Edition N/A
Copyright 1994
Levelled N/A



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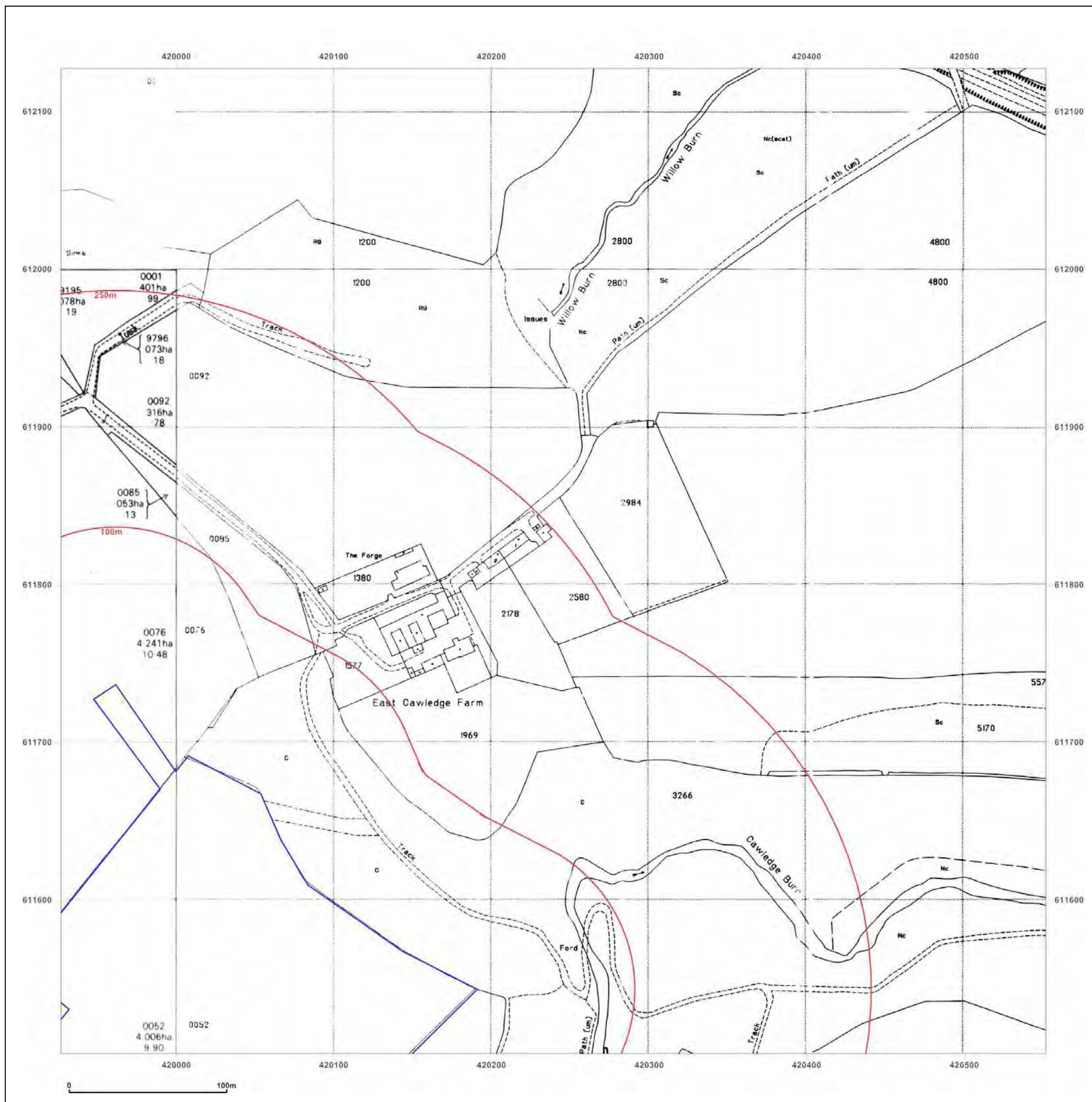


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Production date: 07 November 2016

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APPENDIX C

COAL AUTHORITY REPORT



The Coal
Authority

Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

LIONHEART BUSINESS PARK
ALNWICK
NORTHUMBERLAND
NE66 2EU

Date of enquiry: 09 November 2016
Date enquiry received: 09 November 2016
Issue date: 09 November 2016

Our reference: 51001296133001
Your reference: 2497



CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

Shadbolt Environmental

Enquiry address

LIONHEART BUSINESS PARK, ALNWICK,
NORTHUMBERLAND, NE66 2EU


How to contact us


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

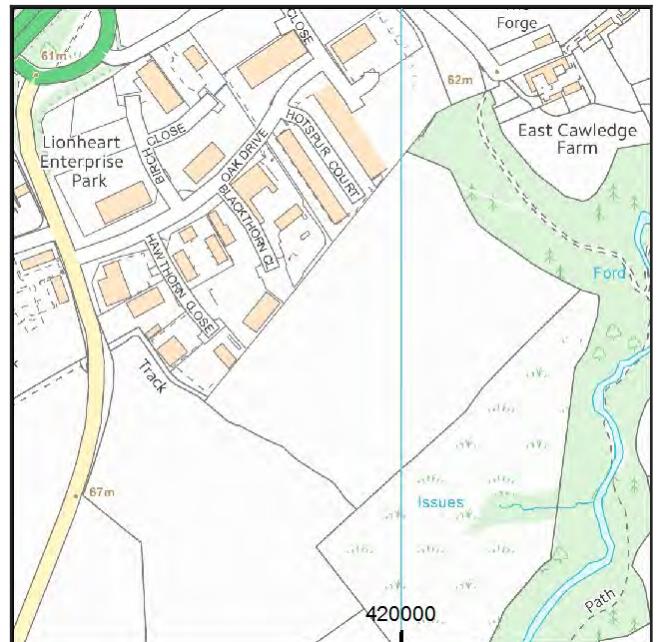
200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

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 /thecoalauthority

 /coalauthority



Approximate position of property



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Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	No
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	No
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	No
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is not within a surface area that could be affected by past underground mining.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

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

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

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

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

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

10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

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

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

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

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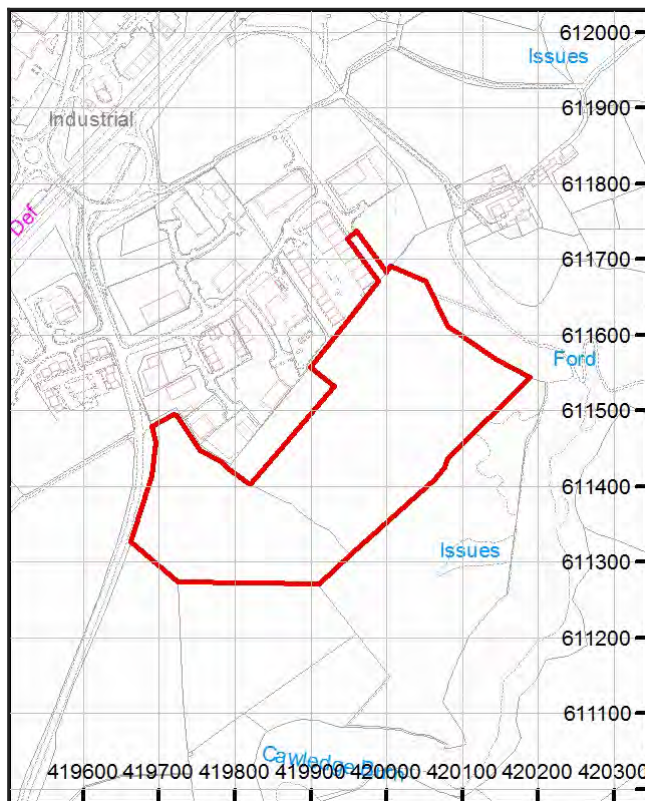
Alternative formats

If you would like this report in an alternative format, please contact our communications team.

Enquiry boundary

Key

Approximate position of enquiry boundary shown




How to contact us

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Mansfield
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NG18 4RG

www.groundstability.com

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VAT receipt

Issued by	The Coal Authority 200 Lichfield Lane Mansfield Nottinghamshire NG18 4RG
Tax point date	09 November 2016
Issued to	SHADBOLT ENVIRONMENTAL 18 BEWICK ROAD GATESHEAD TYNE AND WEAR NE8 4DP
Property search for	LIONHEART BUSINESS PARK ALNWICK NORTHUMBERLAND NE66 2EU
Reference number	51001296133001
Date of issue	09 November 2016
Cost	£77.00
VAT @ 20%	£15.40
Total received	£92.40
VAT registration	598 5850 68

APPENDIX D

GROUNDSURE REPORT

GEO-INSIGHT



CENTREMAPS

Open Space, Upper Interfields,
Worcester, WR14 1UT

Report Reference: CMAPS-CM-574230-4281-071116GEO

Your Reference: 4281

Report Date 7 Nov 2016

Report Delivery Method: Email - pdf

Groundsure Geo Insight

Address: Lionheart Business Park, NE66 2EU

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 01886 832972 quoting the above CENTREMAPS reference number.

Yours faithfully,

CENTREMAPS

Enc.
Groundsure Geoinsight

Groundsure Geo Insight

Address: Lionheart Business Park, NE66 2EU
Date: 7 Nov 2016
Reference: CMAPS-CM-574230-4281-071116GEO
Client: CENTREMAPS



Aerial Photograph Capture date: 11-Sep-2007
Grid Reference: 419926,611503
Site Size: 10.09ha

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Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1:Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	Yes
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is in a Radon Affected Area, as between 5 and 10% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	Basic radon protective measures are necessary

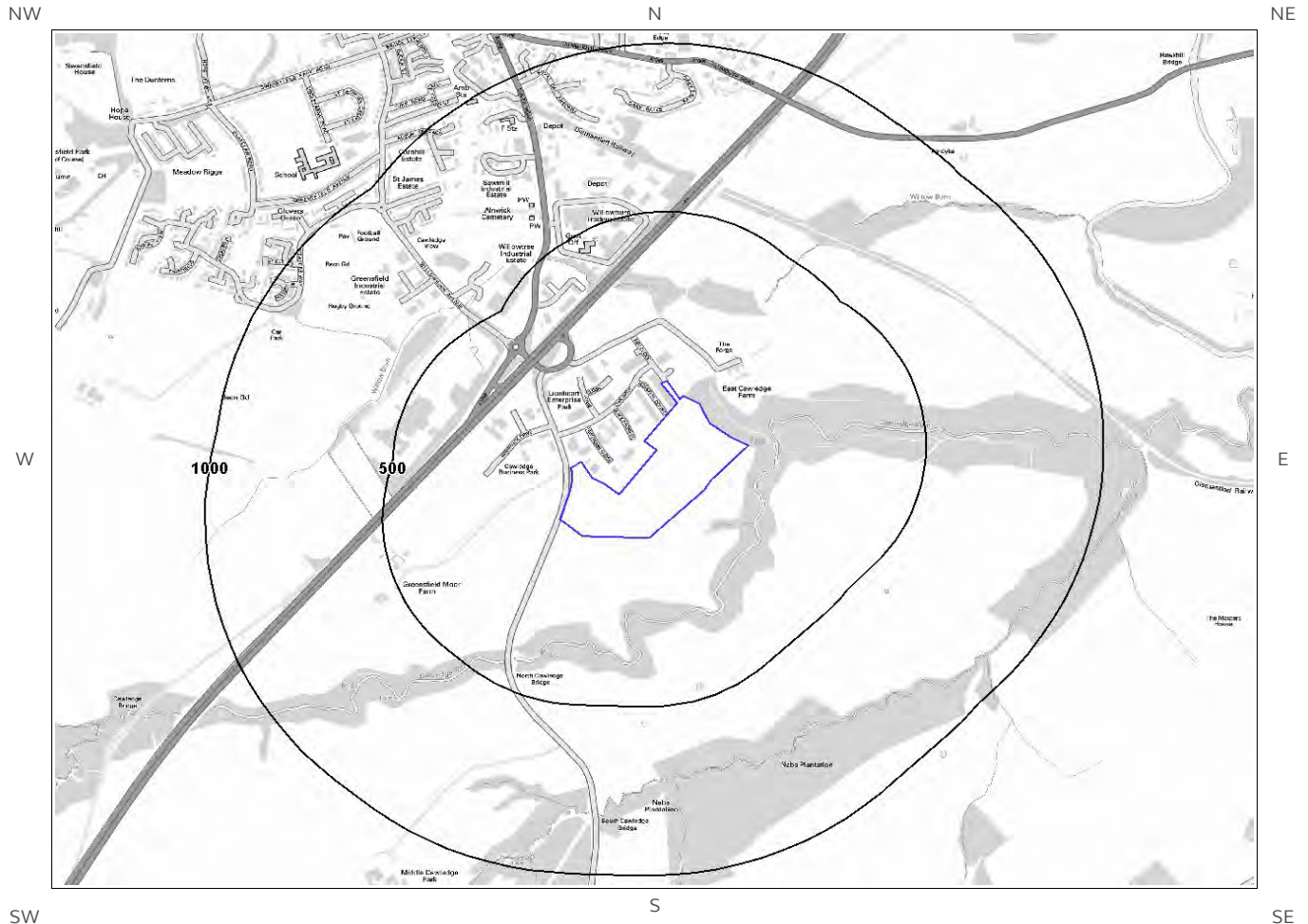
Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	2	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	0	1	1

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	1	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	2	0	0	0	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0
Section 4: Natural Ground Subsidence	On-site				
4.1 Shrink Swell Clay	Low				
4.2 Landslides	Very Low				
4.3 Ground Dissolution of Soluble Rocks	Low				
4.4 Compressible Deposits	Negligible				
4.5 Collapsible Deposits	Very Low				
4.6 Running Sand	Very Low				
Section 5: Borehole Records	On-site	0-50m	51-250		
5 BGS Recorded Boreholes	0	0	0		
Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
6 Records of Background Soil Chemistry	21	1	19		
Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500	
7.1 Tunnels	0	0	0	Not Searched	
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
7.3 Historical Railways	2	0	0	Not Searched	
7.4 Active Railways	0	0	0	Not Searched	

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

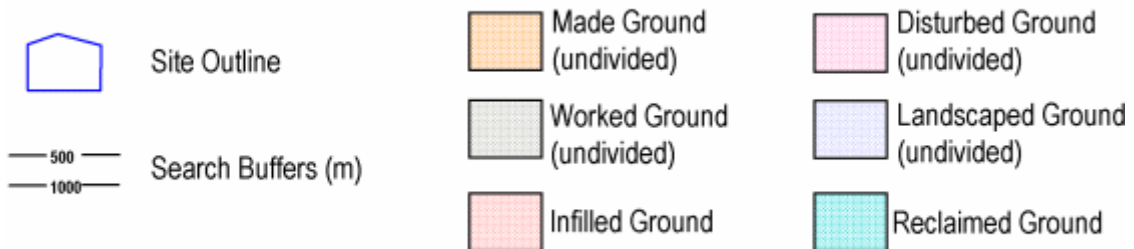
1 Geology

1.1 Artificial Ground Map



Artificial Ground Legend

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1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:006

Are there any records of Artificial/Made Ground within 500m of the study site boundary? No

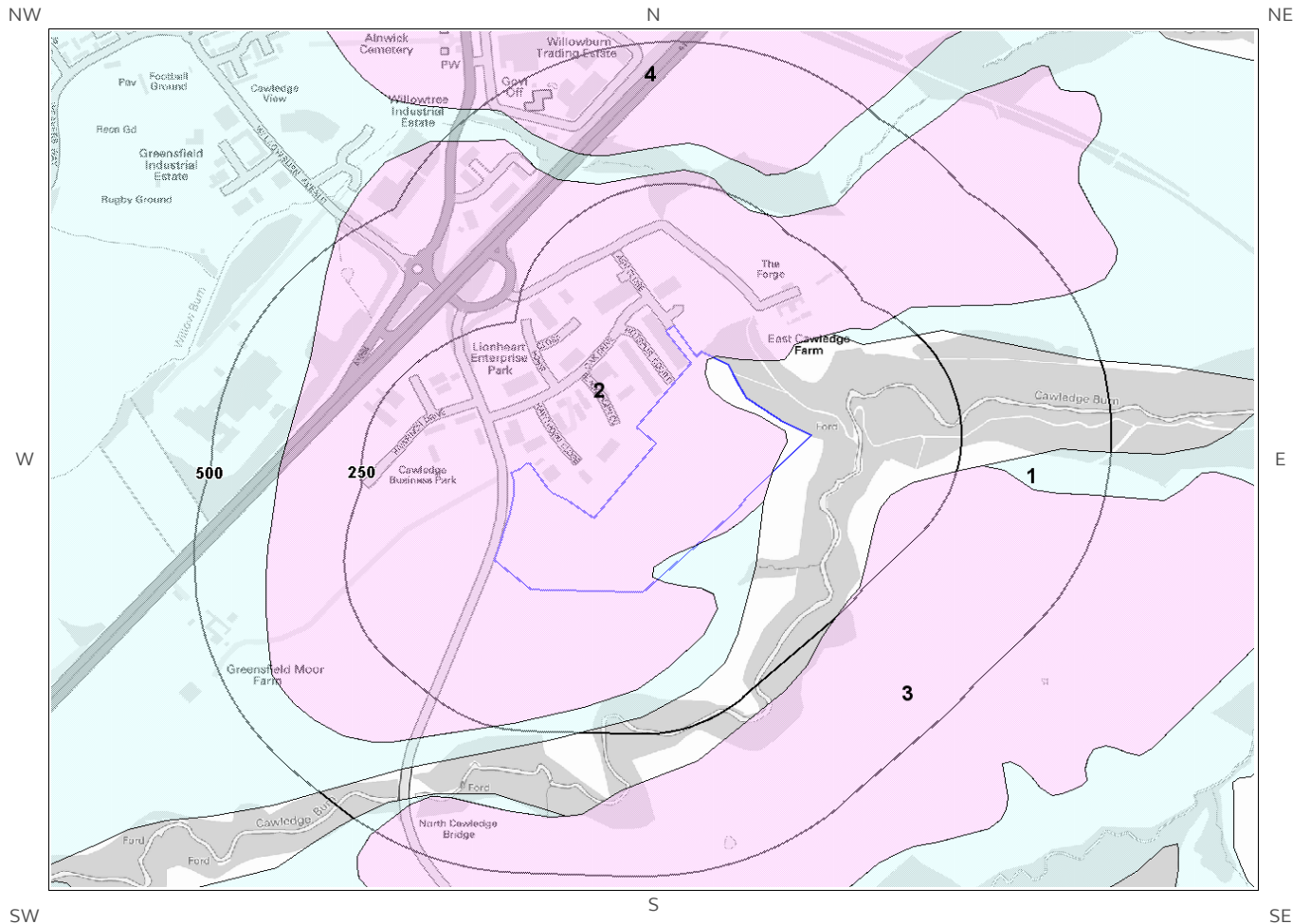
Database searched and no data found.

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No




Database searched and no data found.

1.2 Superficial Deposits and Landslips Map



Superficial Deposits and Landslips Legend

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-  Site Outline
-  500
-  1000 Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TILLD	TILL, DEVENSIAN	DIAMICTON
2	0.0	On Site	GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
3	168.0	SE	GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
4	305.0	NE	GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	High	Low
0.0	On Site	Mixed	High	Low
0.0	On Site	Intergranular	Very High	High
0.0	On Site	Intergranular	Very High	High

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

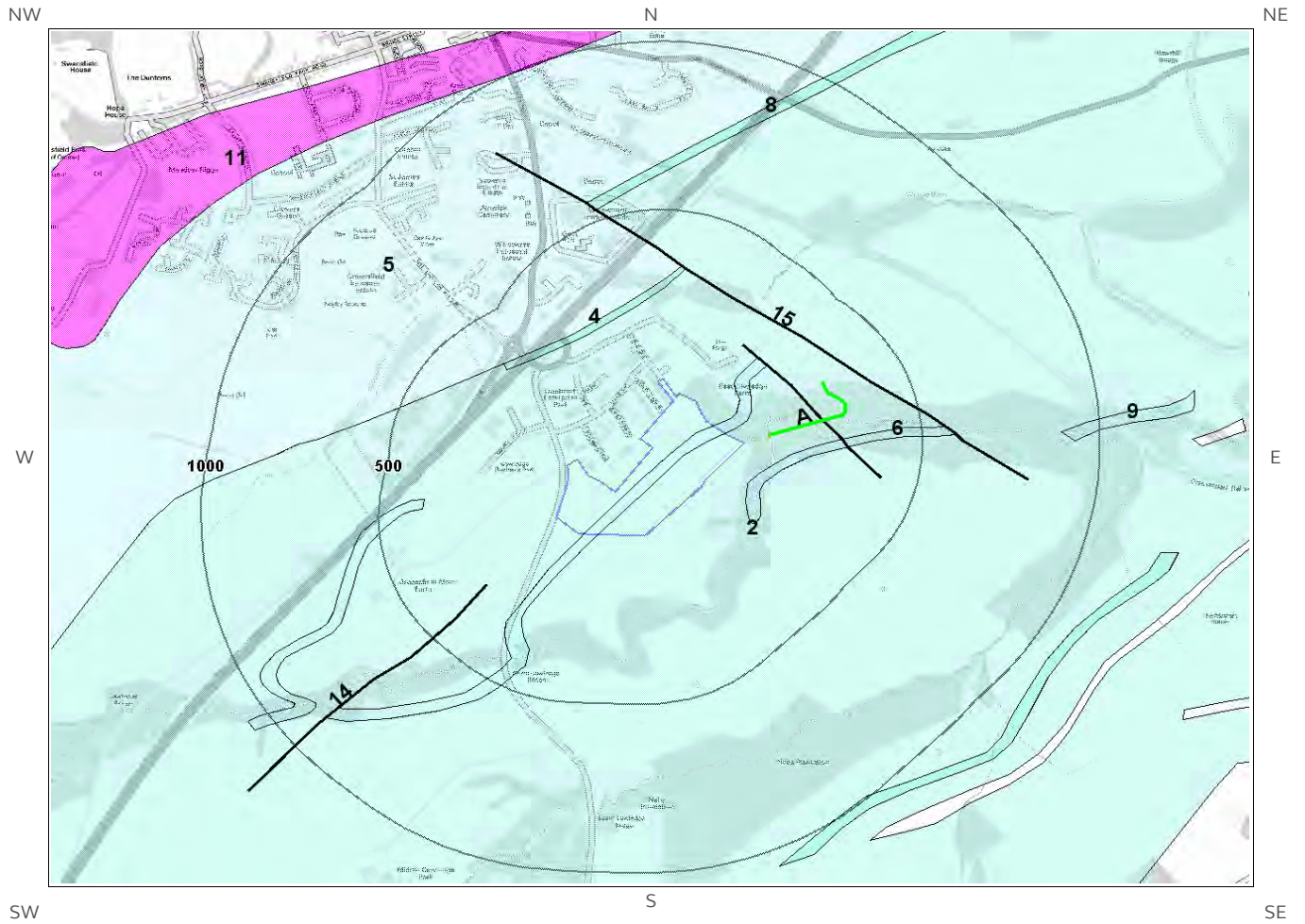
1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site** boundary? No

Database searched and no data found.


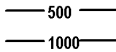
* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map



Bedrock and Faults Legend

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-  Site Outline
-  Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:006

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	AG-LMST	Alston Formation - Limestone	Pendleian / Asbian
2	0.0	On Site	AG-LSSM	Alston Formation - Limestone, Sandstone, Siltstone And Mudstone	Pendleian / Asbian
3	89.0	SE	AG-LMST	Alston Formation - Limestone	Pendleian / Asbian
4	222.0	NW	OXL-LMST	Oxford Limestone Member - Limestone	Brigantian
5	244.0	NW	TLA-LSSM	Tyne Limestone Formation And Alston Formation (undifferentiated) - Limestone, Sandstone, Siltstone And Mudstone	Brigantian / Holkerian
6	273.0	E	AG-LMST	Alston Formation - Limestone	Pendleian / Asbian
7	377.0	W	AG-LMST	Alston Formation - Limestone	Pendleian / Asbian

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site* boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	High	Low
0.0	On Site	Fracture	High	Low
0.0	On Site	Fracture	Very High	High
0.0	On Site	Fracture	Very High	High

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	Category Description	Feature Description
12A	70.0	E	ROCK	Coal seam, inferred
13A	211.0	NE	FAULT	Fault, inferred, displacement unknown
14	281.0	SW	FAULT	Fault, inferred, displacement unknown
15	307.0	NE	FAULT	Fault, inferred, displacement unknown

* This includes an automatically generated 50m buffer zone around the site

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.4 Radon Data

1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 5 and 10% of properties are above the Action Level

1.4.2 Radon Protection




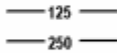

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? Basic radon protective measures are necessary

2 Ground Workings Map



Ground Workings Legend

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-  Site Outline
-  Historic Surface Ground Workings
-  Historic Underground Workings
-  Search Buffers (m)
-  Current Ground Workings

2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

The following Historical Surface Ground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
1A	226.0	NW	419603 611721	Cuttings	1975
2A	226.0	NW	419603 611721	Cuttings	1990

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

2.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

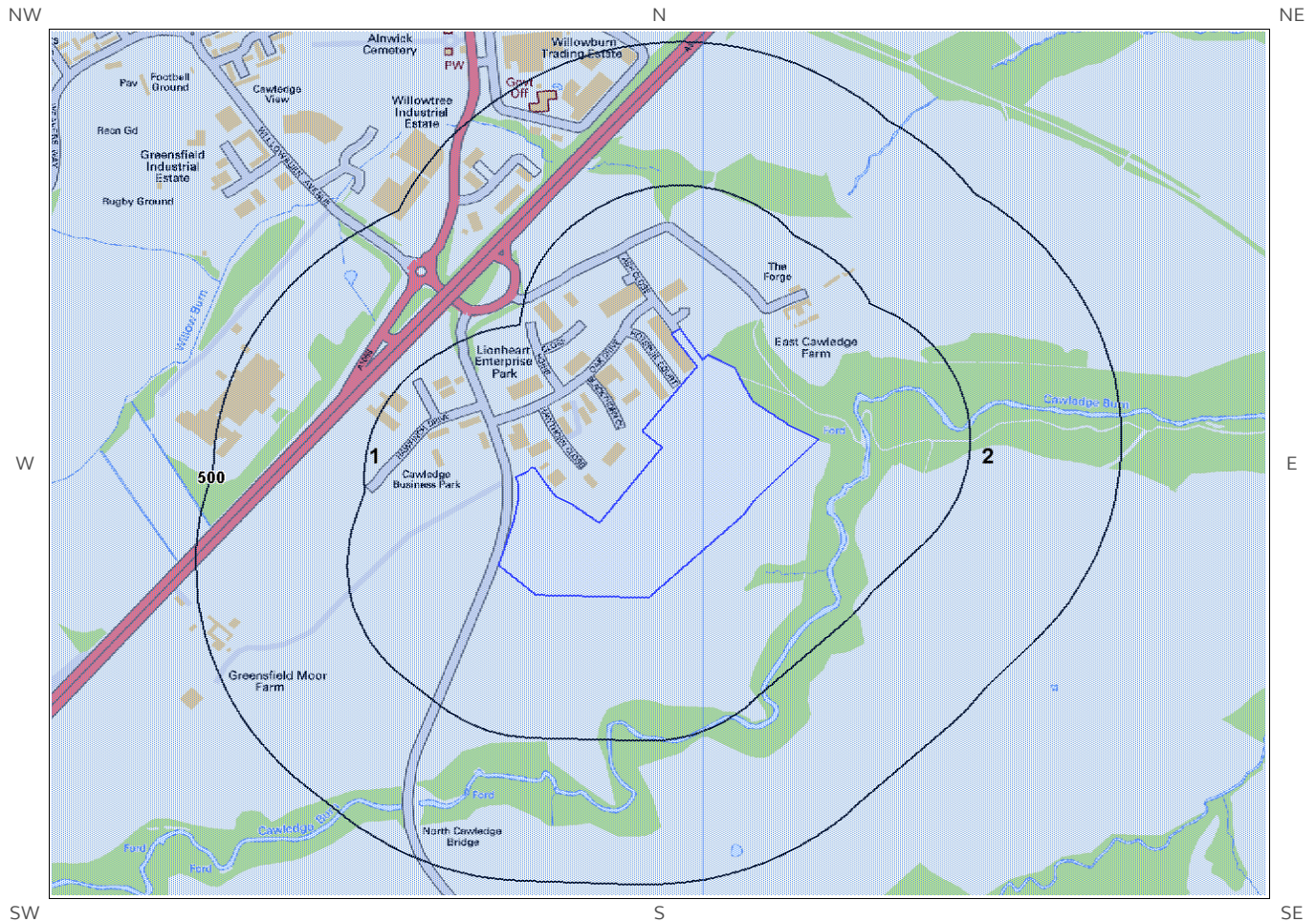
Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	361.0	SW	419570 610947	Limestone	Greensfield Moorhouse	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	601.0	SW	419249 610888	Sandstone	Cawledge Bridge	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Vein Mineral	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	0.0	On Site	Not available	Vein Mineral	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

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled “Review of mining instability in Great Britain, 1990” PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

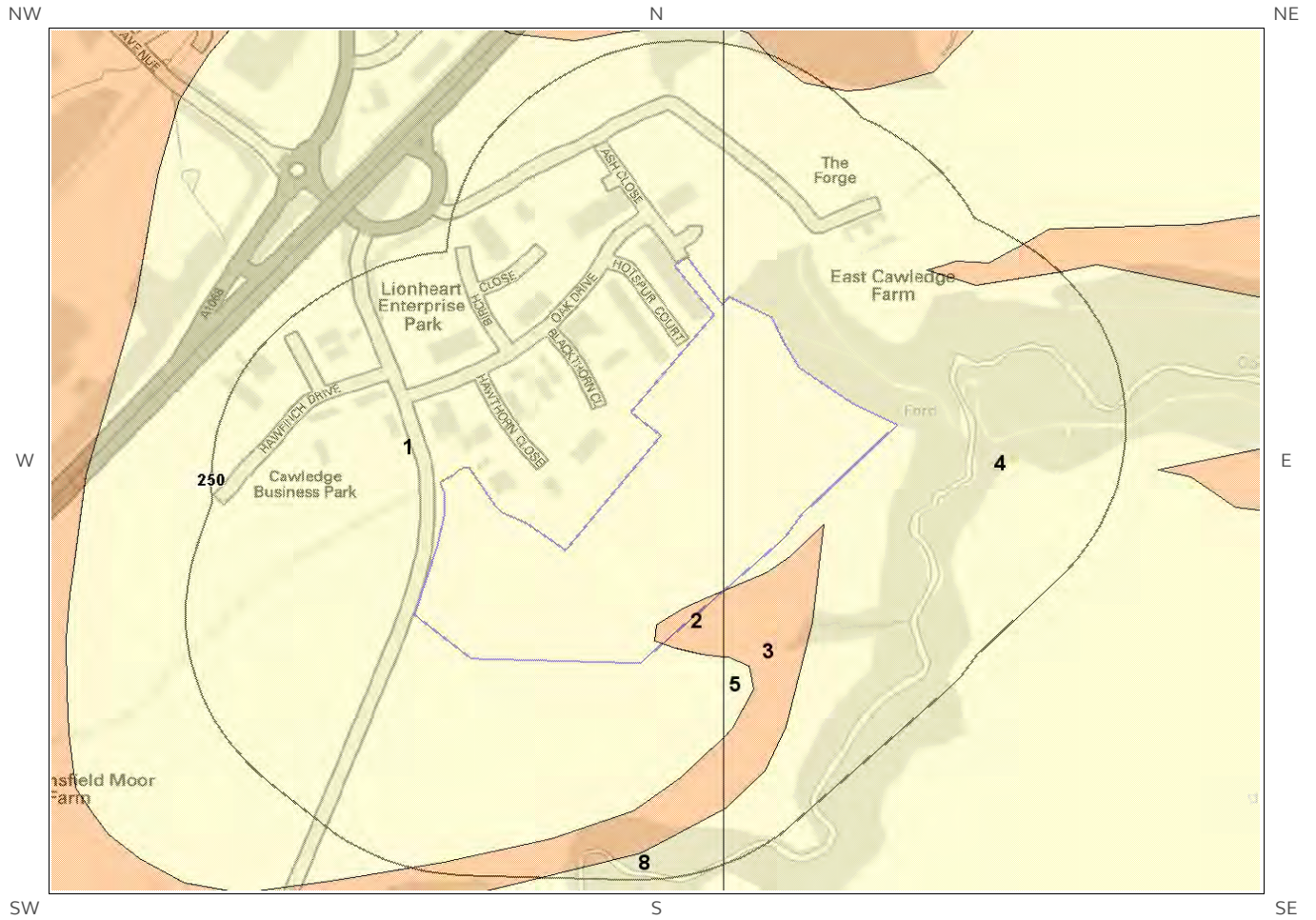
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

4 Natural Ground Subsidence

4.1 Shrink-Swell Clay Map

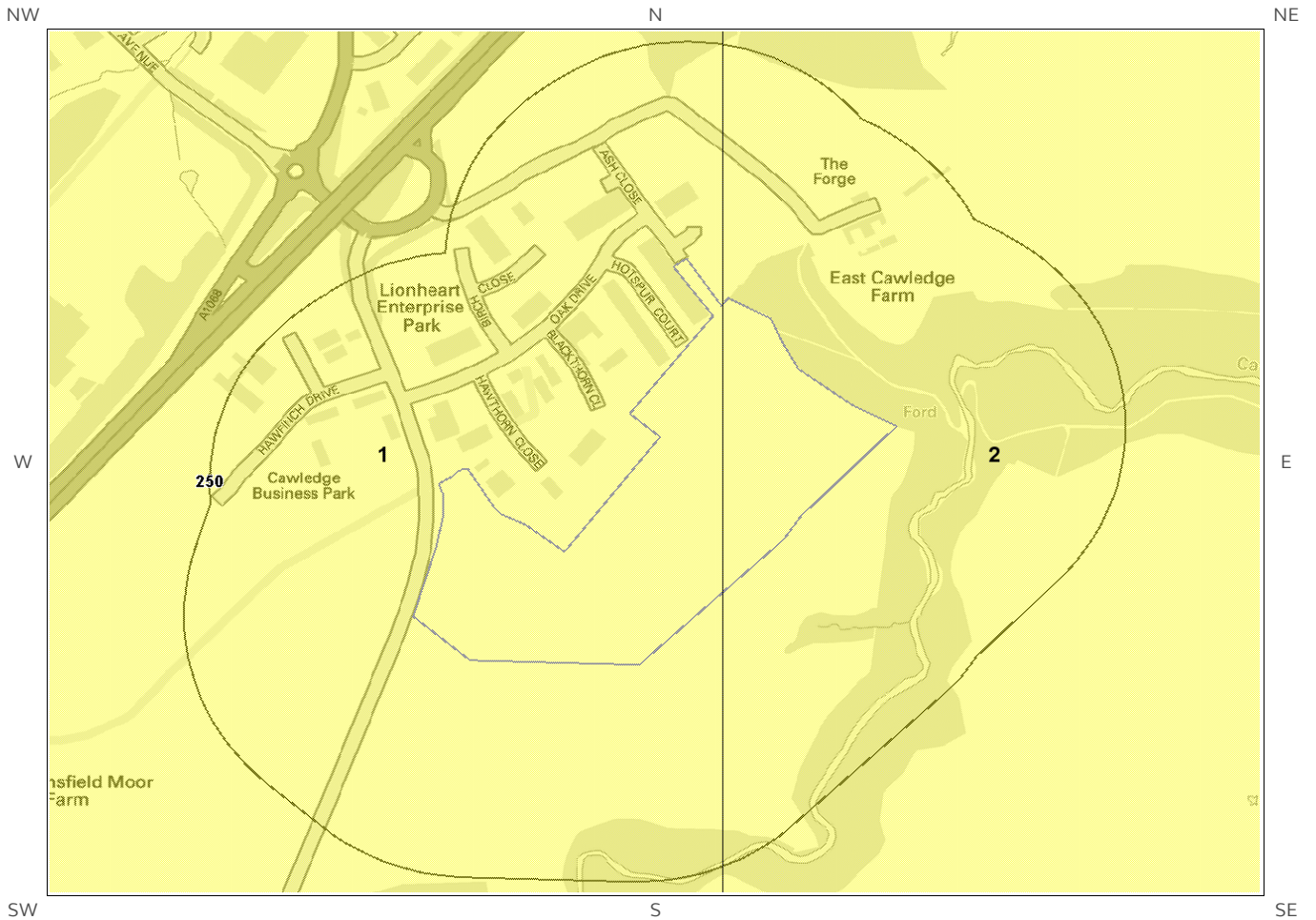


Shrink Swell Clay Legend

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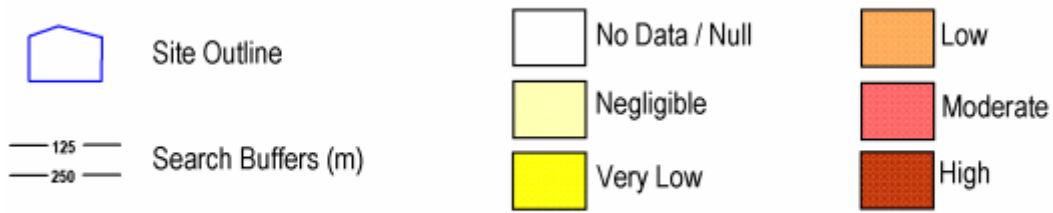


4.2 Landslides Map

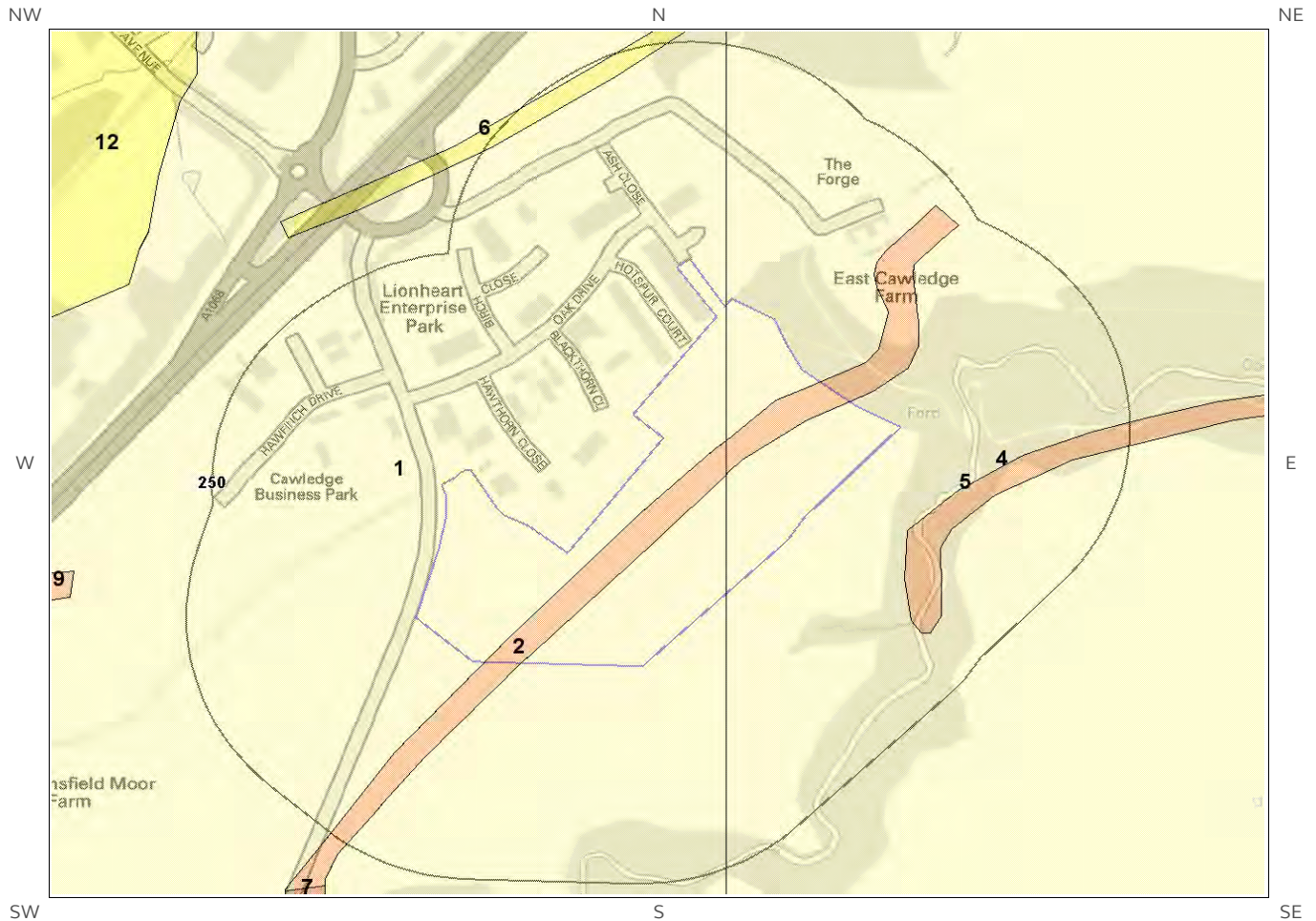


Landslides Legend

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4.3 Ground Dissolution Soluble Rocks Map

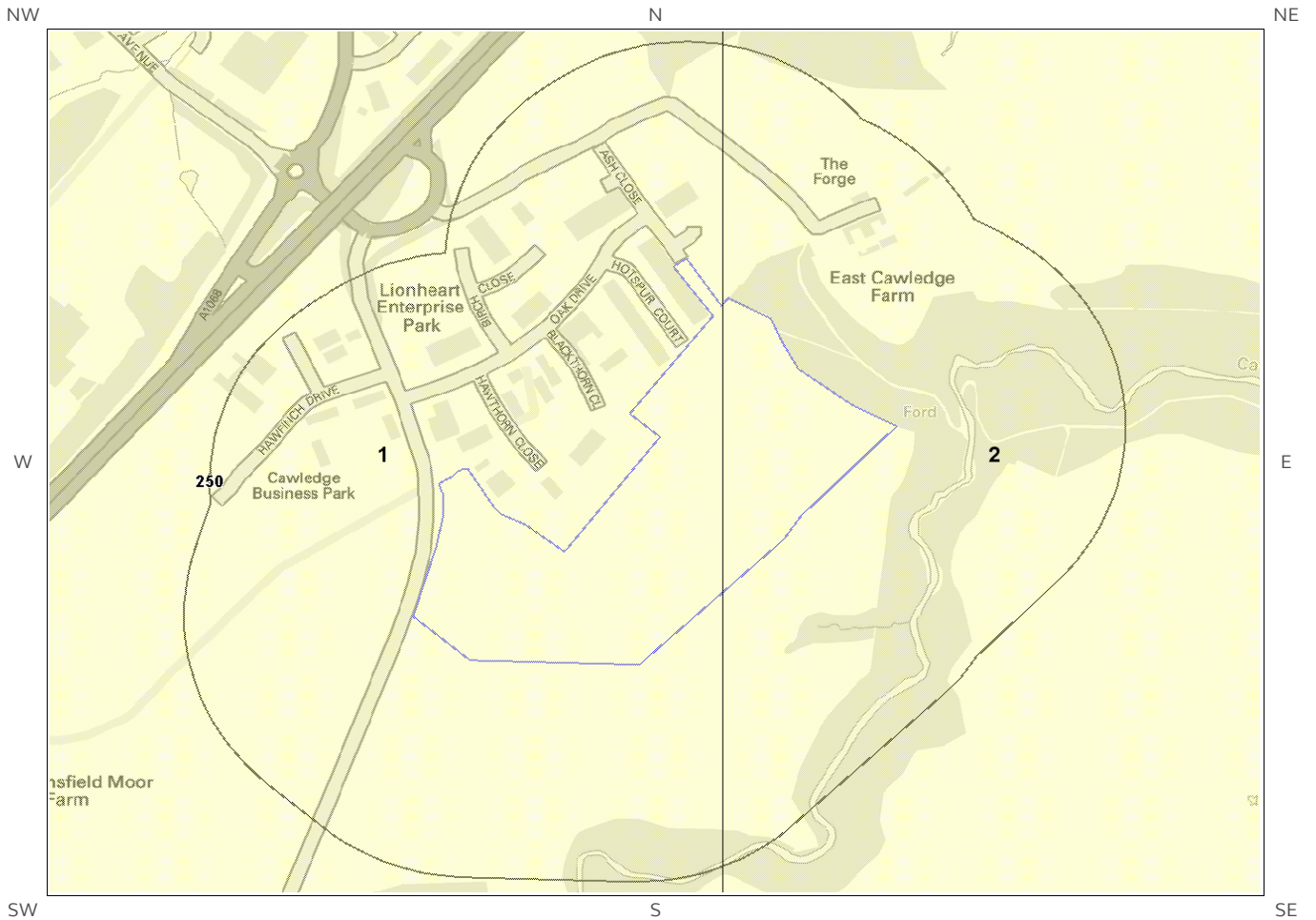


Ground Dissolution Soluble Rocks Legend

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4.4 Compressible Deposits Map

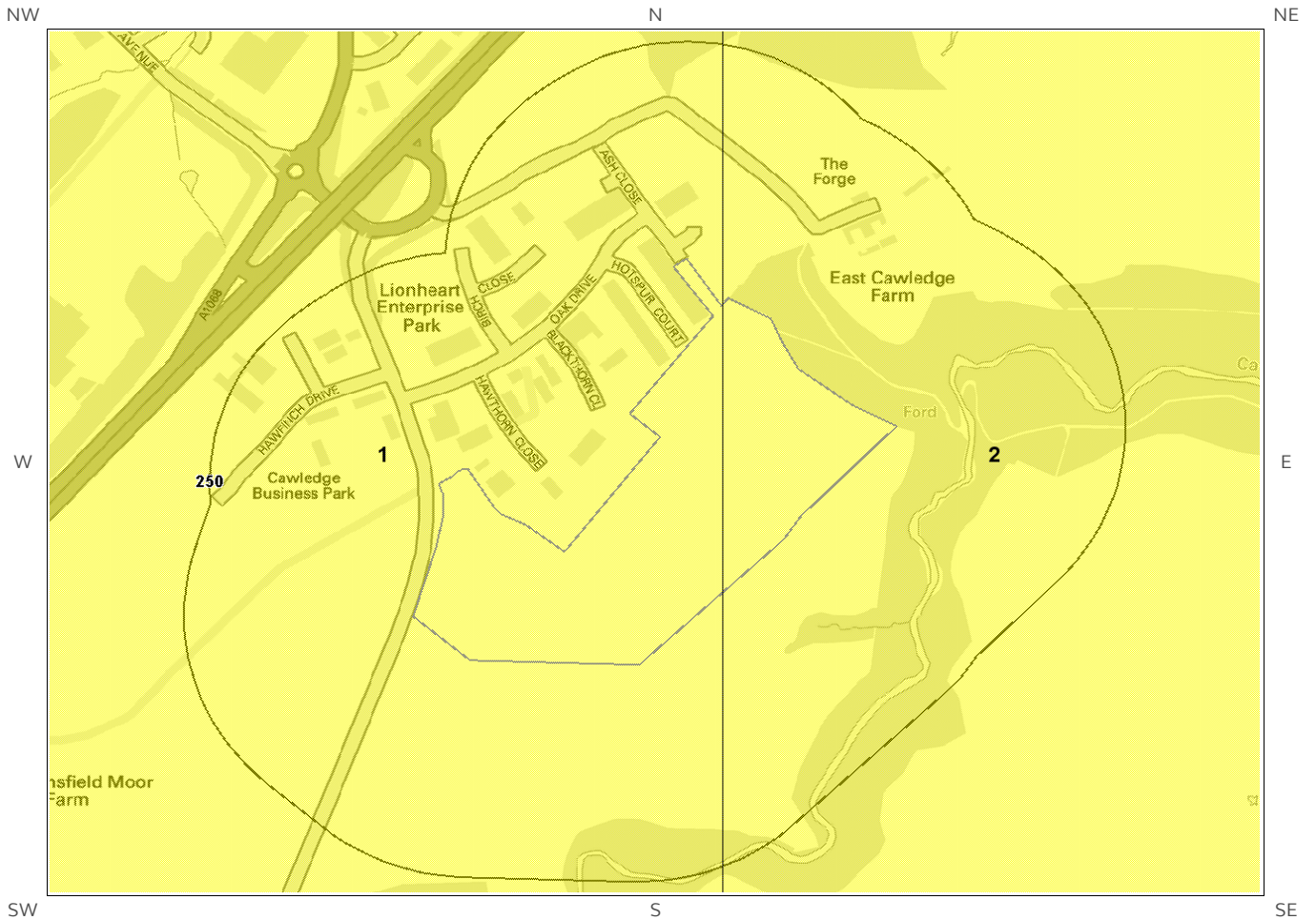


Compressible Deposits Legend

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4.5 Collapsible Deposits Map

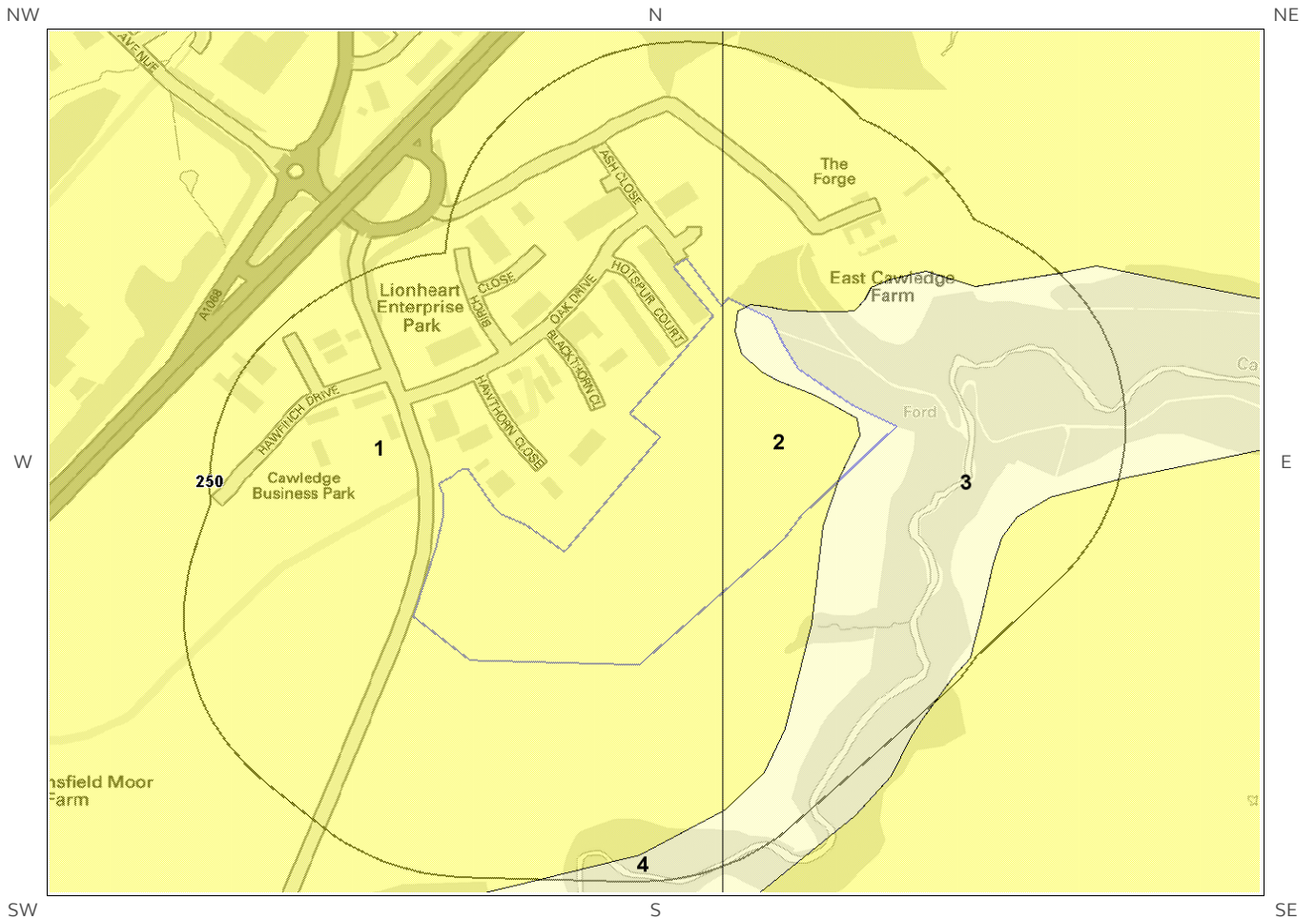


Collapsible Deposits Legend

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4.6 Running Sand Map



Running Sand Legend

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4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site** boundary? Low

4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
2	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.
3	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.
4	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

ID	Distance (m)	Direction	Hazard Rating	Details
2	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.
2	0.0	On Site	Low	Significant soluble rocks are present. Low possibility of subsidence occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow. Consider implications for stability when changes to drainage or new construction are planned. For new build, site investigation should consider potential for dissolution problems on the site and its surroundings. Care should be taken with local drainage into the bedrock. Some possibility groundwater pollution. For existing property, possible increase in insurance risk due to soluble rocks.
3	0.0	On Site	Low	Significant soluble rocks are present. Low possibility of subsidence occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow. Consider implications for stability when changes to drainage or new construction are planned. For new build, site investigation should consider potential for dissolution problems on the site and its surroundings. Care should be taken with local drainage into the bedrock. Some possibility groundwater pollution. For existing property, possible increase in insurance risk due to soluble rocks.
4	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible ground identified. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.
2	0.0	On Site	Negligible	No indicators for compressible ground identified. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.

4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:



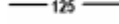

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
3	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

5 Borehole Records Map



Borehole Records Legend

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-  Site Outline
 -  Borehole Locations
 -  125
 -  250
- Search Buffers (m)

5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

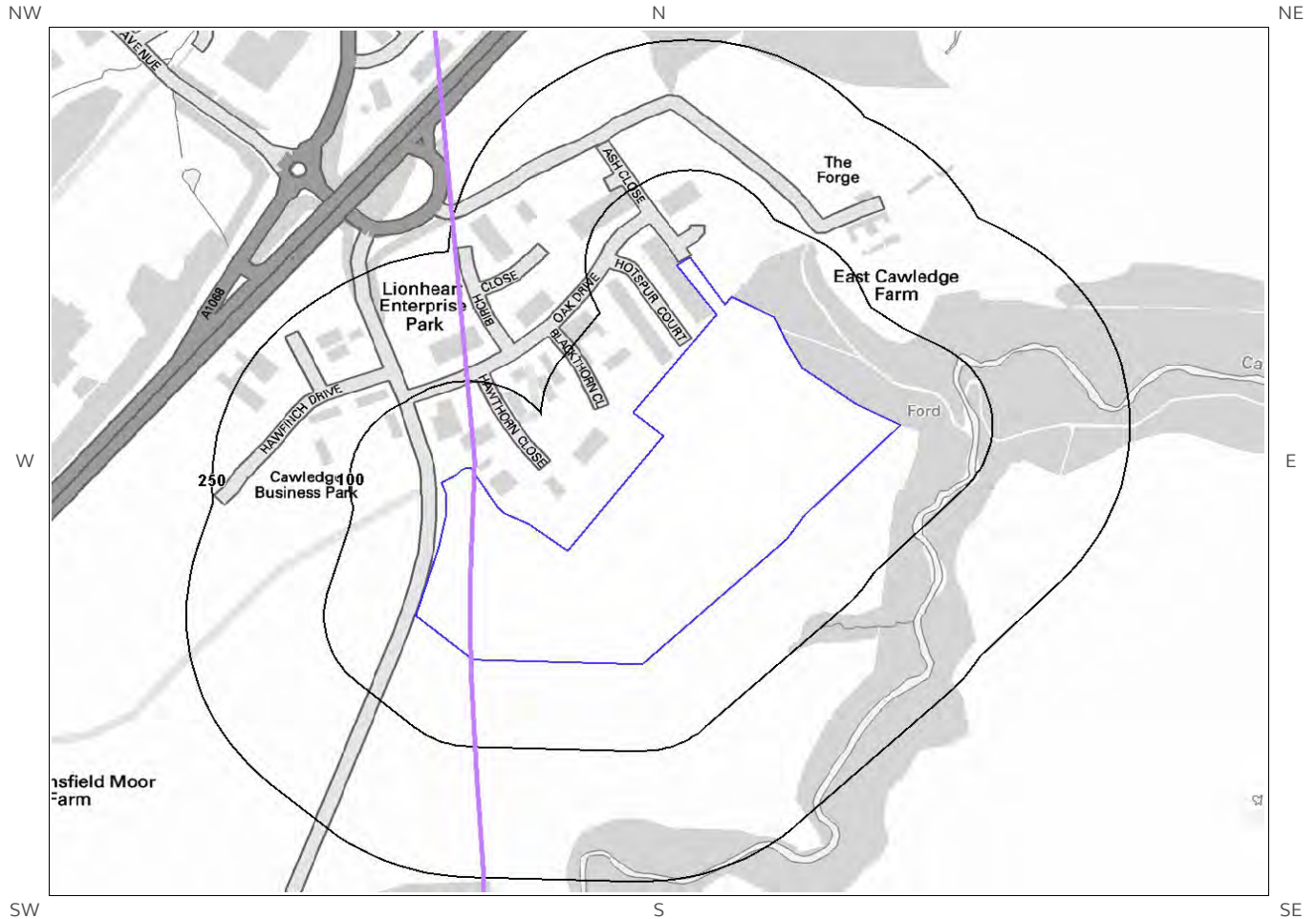
Records of boreholes within 250m of the study site boundary: 0

Database searched and no data found.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
239.0	NE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
244.0	NW	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg

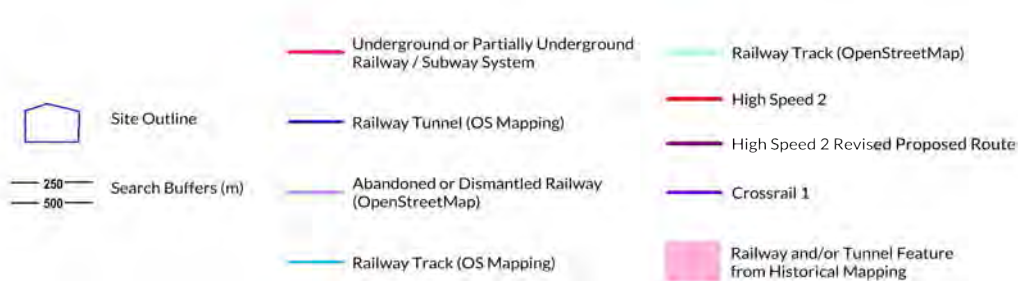
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

7 Railways and Tunnels Map



Railways and Tunnels Legend

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7 Railways and Tunnels

7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary?	Yes
Have any historical railway lines been identified within 250m of the study site boundary?	Yes

Distance (m)	Direction	Status
0	On Site	Abandoned
0	On Site	Abandoned

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary?	No
Have any active railway lines been identified within 250m of the study site boundary?	No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project?	No
Is the study site within 5km of the proposed alternative route of the High Speed 2 rail project?	No
Is the study site within 500m of the route of the Crossrail 1 rail project?	No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Contact Details



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Web: www.bgs.ac.uk

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Standard Terms and Conditions

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<https://www.groundsure.com/terms-and-conditions-sept-2016/>

APPENDIX E

GROUNDSURE REPORT

ENVIRO-INSIGHT



CENTREMAPS

Open Space, Upper Interfields,
Worcester, WR14 1UT

Groundsure Reference: CMAPS-CM-574230-4281-071116EDR

Your Reference: 4281

Report Date 7 Nov 2016

Report Delivery Method: Email - pdf

Groundsure Enviro Insight

Address: Lionheart Business Park, NE66 2EU

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 01886 832972 quoting the above CENTREMAPS reference number.

Yours faithfully,

CENTREMAPS

Enc.
Groundsure Enviroinsight

Groundsure Enviro Insight

Address: Lionheart Business Park, NE66 2EU
Date: 7 Nov 2016
Reference: CMAPS-CM-574230-4281-071116EDR
Client: CENTREMAPS



Aerial Photograph Capture date: 11-Sep-2007
Grid Reference: 419926,611503
Site Size: 10.09ha

Report Reference: CMAPS-CM-574230-4281-071116EDR
Client Reference: 4281

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	3	19
1.2 Additional Information – Historical Tank Database	0	0	1	4
1.3 Additional Information – Historical Energy Features Database	0	0	2	0
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Potentially Infilled Land	0	0	2	14

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	1	4
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	15
2.1.8 Records of Licensed Discharge Consents	0	1	0	4
2.1.9 Records of Water Industry Referrals	0	0	0	1
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	0
2.3.2 National Incidents Recording System, List 1	0	0	0	1
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency Historic Landfill Sites	0	0	1	0	1	1
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	1	0	0
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	1	0	0	Not searched	Not searched
3.2.2 Environment Agency Licensed Waste Sites	0	0	3	0	3	4

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	2	12	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	1	1
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	2	0	4	2	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000-1500

Section 6: Hydrogeology and Hydrology

0-500m

6.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
6.10 Detailed River Network entries within 500m of the site	0	0	3	10	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes
7.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site	Yes
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low
7.4 Are there any Flood Defences within 250m of the study site?	No
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Not Prone
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Not Applicable

Section 8: Designated Environmentally Sensitive Sites

On-site 0-50m 51-250 251-500 501-1000 1000-2000

8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
8.14 Records of Green Belt land	0	0	0	0	0	0

Section 9: Natural Hazards

9.1 What is the maximum risk of natural ground subsidence?

Low

9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?

Low

9.1.2 What is the maximum Landslides hazard rating identified on the study site?

Very Low

9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?

Low

9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?

Negligible

9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?

Very Low

9.1.6 What is the maximum Running Sand hazard rating identified on the study site?

Very Low

9.2 Radon

9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is in a Radon Affected Area, as between 5 and 10% of properties are above the Action Level.

9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?

Basic radon protective measures are necessary.

Section 10: Mining

10.1 Are there any coal mining areas within 75m of the study site?

Yes

10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?

Yes

10.3 Are there any brine affected areas within 75m of the study site?

No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

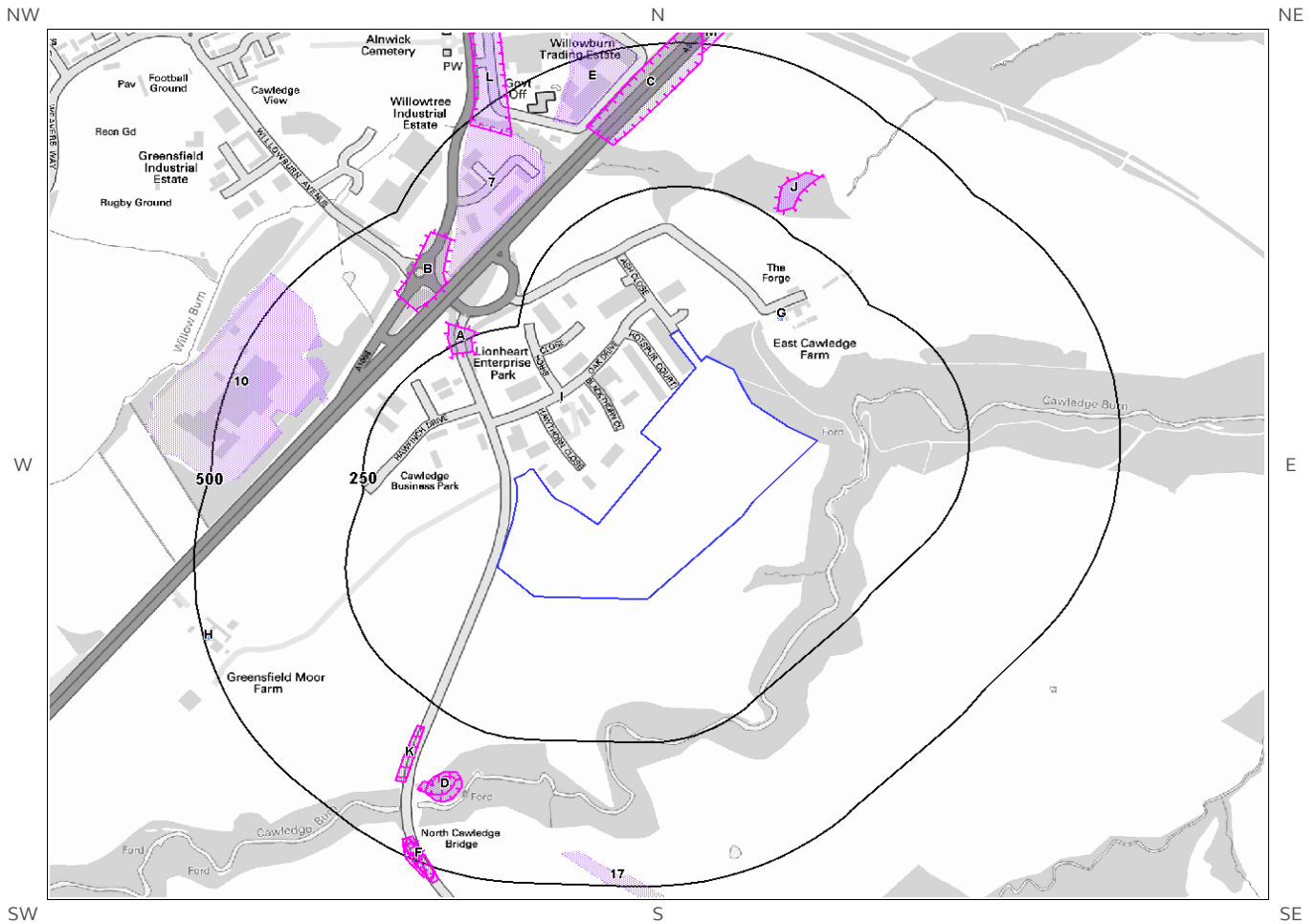
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 22

ID	Distance [m]	Direction	Use	Date
1G	116	NE	Unspecified Tank	1975
2A	226	NW	Cuttings	1975
3A	226	NW	Cuttings	1990
4J	265	NE	Refuse Heap	1975
5K	293	SW	Cuttings	1864
6D	333	SW	Unspecified Old Quarry	1896
7	334	NW	Industrial Estate	1990
8B	335	NW	Cuttings	1975
9B	335	NW	Cuttings	1990
10	337	NW	Unspecified Factory	1990
11C	340	N	Cuttings	1990
12C	340	N	Cuttings	1975
13D	343	SW	Unspecified Quarry	1864
14E	391	NW	Unspecified Works	1975
15E	395	NW	Unspecified Works	1990
16L	434	NW	Cemetery	1864
17	443	S	Tramway Sidings	1926
18F	464	SW	Cuttings	1952
19F	470	SW	Cuttings	1864
20F	473	SW	Cuttings	1926
21M	482	N	Cuttings	1975
22F	485	S	Cuttings	1926

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary: 5

ID	Distance (m)	Direction	Use	Date
23G	113	NE	Unspecified Tank	1923

24H	489	W	Unspecified Tank	1923
25H	490	W	Unspecified Tank	1959
26H	490	W	Unspecified Tank	1855
27H	490	W	Unspecified Tank	1897

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 2

ID	Distance (m)	Direction	Use	Date
28I	125	N	Electricity Substation	1995
29I	125	N	Electricity Substation	1995

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

1.6 Potentially Infilled Land

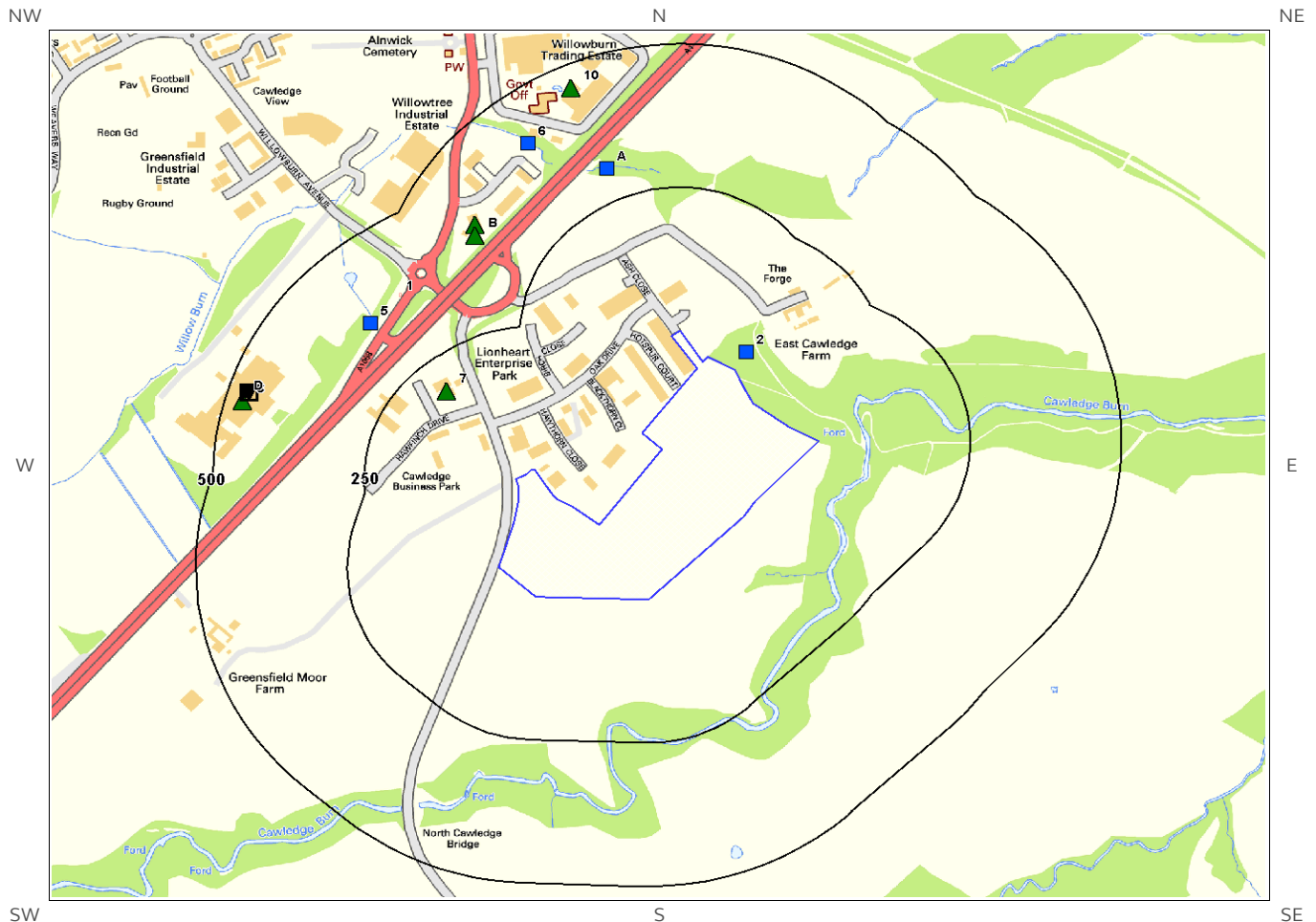
Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 16

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
30A	226	NW	Cuttings	1990
31A	226	NW	Cuttings	1975

32J	265	NE	Refuse Heap	1975
33K	293	SW	Cuttings	1864
34D	333	SW	Unspecified Old Quarry	1896
35B	335	NW	Cuttings	1975
36B	335	NW	Cuttings	1990
37C	340	N	Cuttings	1975
38C	340	N	Cuttings	1990
39D	343	SW	Unspecified Quarry	1864
40L	434	NW	Cemetery	1864
41F	464	SW	Cuttings	1952
42F	470	SW	Cuttings	1864
43F	473	SW	Cuttings	1926
44M	482	N	Cuttings	1975
45F	485	S	Cuttings	1926

2. Environmental Permits, Incidents and Registers Map



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- | | | |
|--|---|--|
| Site Outline | Recorded Pollution Incident | RAS 3 & 4 Authorisations |
| Dangerous Substances (List 1) | Dangerous Substances (List 2) | Part A(1) Authorised Processes and Historic IPC Authorisations |
| Licenced Discharge Consents | Water Industry Referrals | Part A(2) and Part B Authorised Processes |
| Red List Discharge Consents | COMAH / NIHHS Sites | Sites Determined as Contaminated Land |
| Search Buffers (m)
— 250 —
— 500 — | Hazardous Substance Consents and Enforcements | |

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

5

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
7	189	NW	419575 611628	Address: Alnwick Motorway Services, Hawfinch Drive, Cawledge Business Park, Alnwick, Northumberland, NE66 2GD Process: Unloading of Petrol into Storage at Service Stations Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
8B	367	NW	419623 611900	Address: Ord's Of Willowtree, Willowtree Ind Est, Alnwick, NE66 2HA Process: Petrol Vapour Recovery Process Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
9B	376	NW	419623 611918	Address: Willowtree Service Station, Willowtree Trading Estate, Alnwick, Northumberland, NE66 2HA Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: Enforcement Notice Date of Enforcement: 29/03/2011 Comment: failure to pay annual subsistence fee
10	456	NW	419780 612156	Address: Diffusion Textiles, Willowburn Trading Estate, Alnwick, Northumberland, NE66 2PG Process: Coating Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
11C	470	W	419239 611611	Address: Sterling Research Group, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH Process: Clinical Waste Incineration <1T Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

15

The following RAS Licence (3 or 4) records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Address	Operator	Type	Permisio n Number	Dates	Status
28D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AD3952	Date of Approval:24/5/2006 Effective from:24/5/2006 Last date of update:2015-01-01	Revoked/cancelled

ID	Distance (m)	Direction	NGR	Address	Operator	Type	Permission Number	Dates	Status
29D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AD3952	Date of Approval:21/9/1999 Effective from:21/9/1999 Last date of update:2015-01-01	Superseded By Variation
30D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AD3952	Date of Approval:17/4/2001 Effective from:23/4/2001 Last date of update:2015-01-01	Superseded By Variation
31D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AD3952	Date of Approval:31/3/1991 Effective from:31/3/1991 Last date of update:2015-01-01	Superseded By Variation
32D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AD3952	Date of Approval:5/3/1992 Effective from:2/4/1992 Last date of update:2015-01-01	Superseded By Variation
33D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AD3952	Date of Approval:8/12/1997 Effective from:10/12/1997 Last date of update:2015-01-01	Superseded By Variation
34D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AD3952	Date of Approval:1/12/2003 Effective from:1/1/2004 Last date of update:2015-01-01	Superseded By Variation
35D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	A19761	Date of Approval:21/4/2006 Effective from:21/4/2006 Last date of update:2015-01-01	Revoked/cancelled
36D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	A19761	Date of Approval:29/3/2001 Effective from:29/3/2001 Last date of update:2015-01-01	Superseded By Variation

ID	Distance (m)	Direction	NGR	Address	Operator	Type	Permission Number	Dates	Status
37D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AD3952	Date of Approval:3/4/1997 Effective from:4/4/1997 Last date of update:2015-01-01	Superseded By Variation
38D	466	W	419250 611630	Sanofi-synthelabo Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Sanofi-synthelabo Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	AD3952	Date of Approval:15/3/1994 Effective from:15/3/1994 Last date of update:2015-01-01	Superseded By Variation
39D	466	W	419250 611630	Aventis Pharma Ltd, Sanofi-aventis,willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Aventis Pharma Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	CB1109	Date of Approval:15/3/2007 Effective from:15/3/2007 Last date of update:2015-01-01	Superseded By Variation
40D	466	W	419250 611630	Aventis Pharma Ltd, Sanofi-aventis,willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Aventis Pharma Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	CB1109	Date of Approval:1/5/2010 Effective from:1/5/2010 Last date of update:2015-01-01	Revoked/cancelled
41D	466	W	419250 611630	Aventis Pharma Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Aventis Pharma Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	CB1125	Date of Approval:3/9/2007 Effective from:3/9/2007 Last date of update:2015-01-01	Superseded By Variation
42D	466	W	419250 611630	Aventis Pharma Ltd, Sanofi-aventis, Willowburn Avenue, Alnwick, Northumberland, NE66 2JH	Aventis Pharma Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	CB1125	Date of Approval:1/5/2010 Effective from:1/5/2010 Last date of update:2015-01-01	Revoked/cancelled

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

5

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
2	36	NE	420070 611700	Address: RAMSEY D MR, THE FORGE, EAST CAWLEDGE, ALNWICK, NORTHUMBERLAND, NE66 2HB Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 222/0841 Permit Version: 1	Receiving Water: AN UNNAMED TRIBUTARY OF THE C Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 24/11/1998 Effective Date: 24-Nov-1998 Revocation Date: -
3A	308	NW	419840 612020	Address: CAWLEDGE EAST PARK PUMPING STATION, SHILBOTTLE ROAD, ALNWICK, NORTHUMBERLAND Effluent Type: UNSPECIFIED Permit Number: 222/0826 Permit Version: 1	Receiving Water: WILLOW BURN Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 24/11/1994 Effective Date: 24-Nov-1994 Revocation Date: 30/03/1999
4A	308	NW	419840 612020	Address: CAWLEDGE EAST PARK PUMPING STATION, SHILBOTTLE ROAD, ALNWICK, NORTHUMBERLAND Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: 222/0826 Permit Version: 2	Receiving Water: WILLOW BURN Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 24/11/1994 Effective Date: 31-Mar-1999 Revocation Date: -
5	363	NW	419450 611750	Address: GREENSFIELD MOOR, ALNWICK, NORTHUMBERLAND, NE66 2HH Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 222/0852 Permit Version: 1	Receiving Water: UNNAMED TRIB OF WILLOW BURN Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 17/11/2003 Effective Date: 17-Nov-2003 Revocation Date: -
6	411	NW	419710 612064	Address: GILCHRISTS CONFECTIONARY LTD, WILLOWTREE INDUSTRIAL ESTATE, ., ALNWICK, NORTHUMBERLAND, NE66 2HA Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NPSWQD002161 Permit Version: 1	Receiving Water: WILLOW BURN Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 07/08/2008 Effective Date: 06-Aug-2008 Revocation Date: -

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

1

The following Water Industry Referral records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	Address	Permission reference	Local Authority	First Date Received	Last Date Received	Status
43D	466	W	STERLING RESEARCH GROUP, SANOFI-AVENTIS, WILLOWBURN AVENUE, ALNWICK, NORTHUMBERLAND, NE66 2JH	AF5093	ALNWICK DISTRICT COUNCIL	01-Jun-2001	08-Oct-2016	DEAD (APPLICATION)

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

0

Database searched and no data found.

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

1

The following NIRS List 1 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance(m)	Direction	NGR	Details
1	374	NW		Incident Date: 09-Dec-1999 Incident Identification: 7793.0 Catchments Name: ALN AND TRIBS Water Description: NOT APPLICABLE Water Course: NON-WATER Incident Substantiated: Yes Priority Description: Three Days Waste Description: Not Available Water Impact: No Impact Land Impact: No Impact Air Impact: Significant Impact Action Taken: Not Available

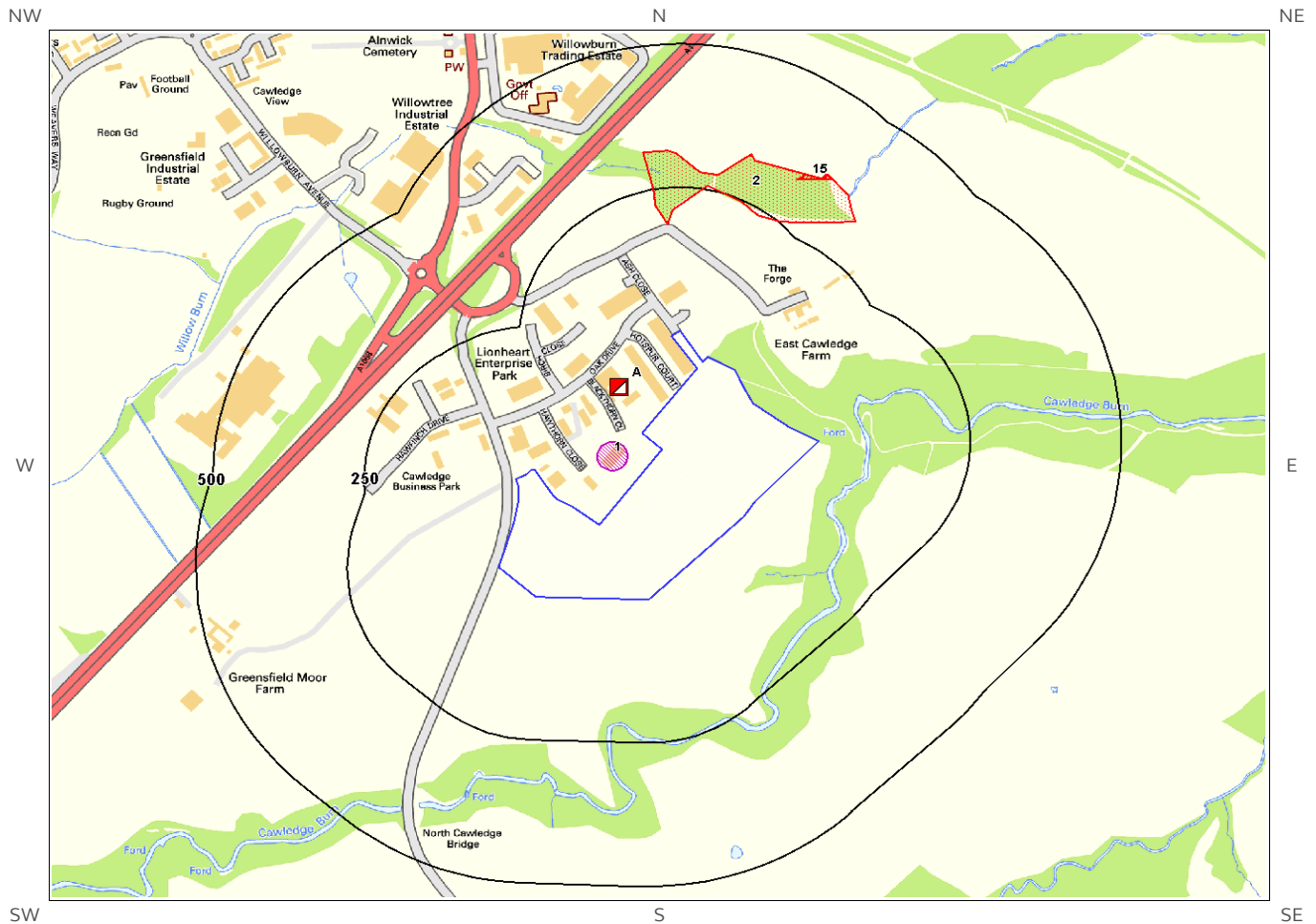
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

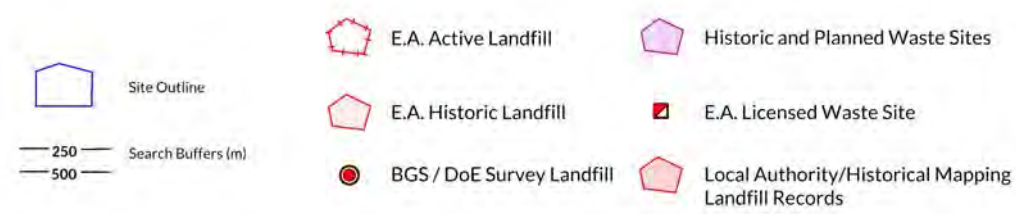
0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

3

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
2	186	N	420000 611900	Site Address: East Cawledge, Alnwick, Northumberland Waste Licence: - Site Reference: PA 001 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: Denwick Parish Council Licence Holder: - First Recorded: 31-Dec-1927 Last Recorded: 31-Dec-1972
Not shown	698	N	419700 612400	Site Address: Alnwick Depot, South Road, Alnwick, Northumberland Waste Licence: Yes Site Reference: NBL/059, NBL/124 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: NBL/L/BRI003	Licence Issue: 17-Oct-1983 Licence Surrendered: 19-Jan-1993 Licence Holder Address: PO Box 21, Cramlington, Northumberland Operator: - Licence Holder: British Gas Northern First Recorded: 08-Aug-1984 Last Recorded: 15-Jan-1993
Not shown	1467	N	420500 613100	Site Address: Alnwick Sewage Works, Alnwick, Northumberland Waste Licence: Yes Site Reference: NBL/046 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: NBL/L/NOR019	Licence Issue: 28-Jun-1982 Licence Surrendered: 16-Mar-1993 Licence Holder Address: - Operator: - Licence Holder: Greenwich Hospital Estates First Recorded: 08-Aug-1982 Last Recorded: 23-Dec-1983

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

1

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
15	327	NE	420184 612005	Refuse Tip	1971 mapping	Polygon

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

1

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
1	32	NW	419849 611518	Type of Site: Waste Transfer Station Site Address: Alnwick Waste Transfer Station, Alnwick Waste Transfer Station, Lionheart Enterprise Park, ALNWICK, Northumberland, NE66 2HT	Planning Application Reference: N/A Date: 26/08/2003
				Further Details: Scheme comprises new transfer station. Works comprises the design and construction of the waste transfer station and recovery centre, comprising reinforced concrete foundations, ground floor slab and internal walls with structure steel frame and profiled galvanised mild steel walls and roof including mechanical and electrical services, drainage and landscaping. Construction - steel cladding walls; steel cladding roof; reinforced concrete foundations; steel frame; road drainage site works. Works have commenced on site. Data Source: Historic Planning Application Data Type: Point	

3.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

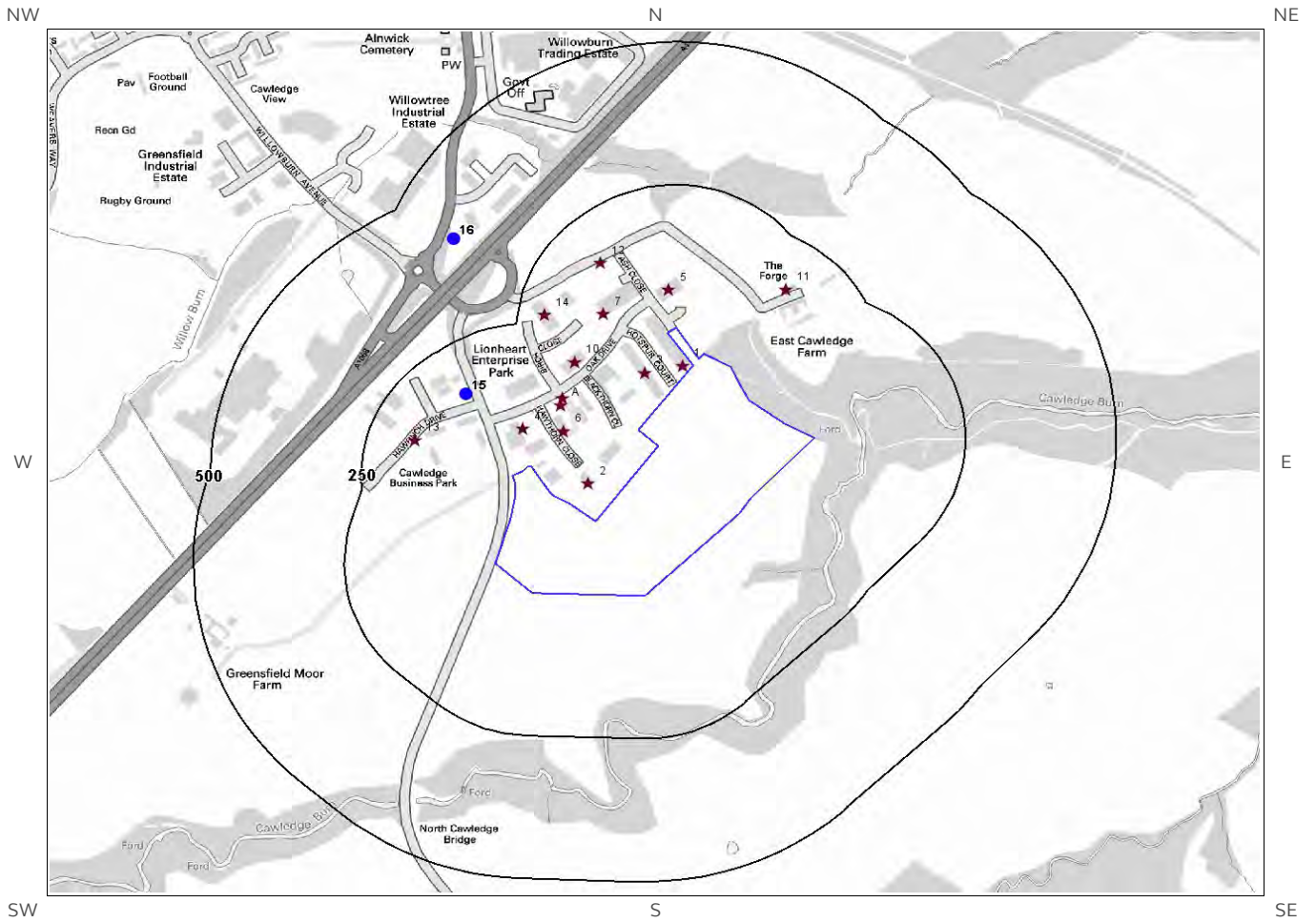
10

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
5A	82	NW	419860 611640	<p>Site Address: Alnwick Transfer Station, Plot B, Lionheart Enterprise Park, Alnwick, Northumberland, NE66 2HT Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT009 EPR reference: EA/EPR/PP3694ZS/V003 Operator: Sita North East Ltd Waste Management licence No: 64061 Annual Tonnage: 24999.0</p> <p>Issue Date: 30/06/2003 Effective Date: - Modified: 01/05/2015 Surrendered Date: 0 Expiry Date: - Cancelled Date: - Status: Modified Site Name: Alnwick Transfer Station Correspondence Address: -</p>
6A	82	NW	419860 611640	<p>Site Address: Alnwick Transfer Station, Plot B, Lionheart Enterprise Park, Alnwick, Northumberland, NE66 2HT Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT009 EPR reference: EA/EPR/PP3694ZS/V004 Operator: Suez Recycling And Recovery North East Ltd Waste Management licence No: 64061 Annual Tonnage: 24999.0</p> <p>Issue Date: 30/06/2003 Effective Date: - Modified: 30/06/2016 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Alnwick Transfer Station Correspondence Address: -</p>
7A	82	NW	419860 611640	<p>Site Address: Alnwick Transfer Station, Plot B, Lionheart Enterprise Park, Alnwick, Northumberland, NE66 2HT Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIT009 EPR reference: EA/EPR/PP3694ZS/V002 Operator: Sita North East Limited Waste Management licence No: 64061 Annual Tonnage: 24999.0</p> <p>Issue Date: 30/06/2003 Effective Date: - Modified: 12/09/2013 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Alnwick Transfer Station Correspondence Address: -</p>
Not shown	755	NW	419600 612400	<p>Site Address: South Road, Alnwick, Northumberland, NE66 2PD Type: Landfill taking other wastes Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: BRI003 EPR reference: - Operator: British Gas Northern Waste Management licence No: 67317 Annual Tonnage: 0.0</p> <p>Issue Date: 17/10/1983 Effective Date: - Modified: - Surrendered Date: 19/01/1993 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Alnwick Depot Correspondence Address: P O Box 21, Cramlington, Northumberland, NE23 9LY</p>
Not shown	755	NW	419600 612400	<p>Site Address: South Road, Alnwick, Northumberland, NE66 2PD Type: Landfill taking other wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRI003 EPR reference: EA/EPR/PP3597ZX/S002 Operator: British Gas Northern Waste Management licence No: 67317 Annual Tonnage: 100000.0</p> <p>Issue Date: 17/10/1983 Effective Date: - Modified: - Surrendered Date: 19/01/1993 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Alnwick Depot Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	755	NW	419600 612400	<p>Site Address: Alnwick Depot, South Road, Alnwick, Northumberland</p> <p>Type: Transfer Station taking Non-Biodegradable Wastes</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: BRI005</p> <p>EPR reference: EA/EPR/XP3297ZK/S004</p> <p>Operator: B G Plc</p> <p>Waste Management licence No: 67380</p> <p>Annual Tonnage: 434.0</p>	<p>Issue Date: 04/03/1993</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 12/12/2000</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Alnwick Depot</p> <p>Correspondence Address: -</p>
Not shown	1205	S	420200 610100	<p>Site Address: Shilbottle, Alnwick, Northumberland</p> <p>Type: Landfill taking other wastes</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: PUR002</p> <p>EPR reference: EA/EPR/LP3497ZP/S002</p> <p>Operator: K W Purvis & Son</p> <p>Waste Management licence No: 67349</p> <p>Annual Tonnage: 100000.0</p>	<p>Issue Date: 15/10/1990</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 29/04/1994</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Longdyke Farm</p> <p>Correspondence Address: -</p>
Not shown	1205	S	420200 610100	<p>Site Address: Shilbottle, Alnwick, Northumberland</p> <p>Type: Landfill taking other wastes</p> <p>Size: Unknown</p> <p>Environmental Permitting Regulations (Waste) Licence Number: PUR002</p> <p>EPR reference: -</p> <p>Operator: K W Purvis & Son</p> <p>Waste Management licence No: 67349</p> <p>Annual Tonnage: 0.0</p>	<p>Issue Date: 15/10/1990</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 29/04/1994</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Longdyke Farm</p> <p>Correspondence Address: 59, Chapel Lands, Alnwick, Northumberland, NE66</p>
Not shown	1432	N	420400 613100	<p>Site Address: Alnwick, Northumberland</p> <p>Type: Landfill taking other wastes</p> <p>Size: Unknown</p> <p>Environmental Permitting Regulations (Waste) Licence Number: NOR019</p> <p>EPR reference: -</p> <p>Operator: Northumbrian Water Ltd</p> <p>Waste Management licence No: 67305</p> <p>Annual Tonnage: 0.0</p>	<p>Issue Date: 28/06/1982</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 16/03/1993</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Alnwick Sewage Treatment Works</p> <p>Correspondence Address: Cowley Road, Blyth Industrial Estate, Blyth, Northumberland, NE24 5TF</p>
Not shown	1432	N	420400 613100	<p>Site Address: Alnwick, Northumberland</p> <p>Type: Landfill taking other wastes</p> <p>Size: < 25000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: NOR019</p> <p>EPR reference: EA/EPR/QP3091ZT/S002</p> <p>Operator: Northumbrian Water Ltd</p> <p>Waste Management licence No: 67305</p> <p>Annual Tonnage: 100000.0</p>	<p>Issue Date: 28/06/1982</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 16/03/1993</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Alnwick Sewage Treatment Works</p> <p>Correspondence Address: -</p>

4. Current Land Use Map



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-  Site Outline
-  Current Industrial Sites
-  Electricity Transmission Cables
-  Search Buffers (m)
-  Petrol & Fuel Sites
-  Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

14

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	14	SW	H L Hutchisons	419972 611671	17, Oak Drive, Lionheart Enterprise Park, Alnwick, NE66 2EU	Agricultural Contractors	Contract Services
2	47	NE	Rothbury Motors Ltd	419815 611466	Hawthorn Close, Lionheart Enterprise Park, Alnwick, NE66 2HT	Vehicle Hire and Rental	Hire Services
3	56	NW	Tustain Motors Automotive Bodyshop	419909 611659	Unit 5 Hotspur Court, Lionheart Enterprise Park, Alnwick, NE66 2EU	Vehicle Repair, Testing and Servicing	Repair and Servicing
4	68	N	Lionheart Enterprise Park	419707 611561	NE66	Business Parks and Industrial Estates	Industrial Features
5	69	N	Mole Country Stores	419948 611804	6, Chestnut Close, Lionheart Enterprise Park, Alnwick, NE66 2EX	Agricultural Machinery and Goods	Industrial Products
6	82	NE	S M J Tyre Services Ltd	419773 611557	Unit 1, Elm Square, Lionheart Enterprise Park, Alnwick, NE66 2ES	Vehicle Parts and Accessories	Motoring
7	112	W	William Hackett Chains Ltd	419840 611761	Oak Drive, Lionheart Enterprise Park, Alnwick, NE66 2EU	Lifting and Handling Equipment	Industrial Products
8A	119	NE	Lionheart Garage	419769 611603	Unit 3-4, Elm Square, Lionheart Enterprise Park, Alnwick, NE66 2ES	Vehicle Repair, Testing and Servicing	Repair and Servicing
9A	131	NE	Electricity Sub Station	419773 611615	NE66	Electrical Features	Infrastructure and Facilities
10	158	NW	Thomas Sherriff & Co Ltd	419793 611678	Hawthorn Close, Lionheart Enterprise Park, Alnwick, NE66 2HT	Agricultural Contractors	Contract Services
11	164	NE	G A Smith	420142 611805	East Cawledge Park, Alnwick, NE66 2HB	Distribution and Haulage	Transport, Storage and Delivery
12	166	NW	Electricity Sub Station	419836 611851	NE66	Electrical Features	Infrastructure and Facilities
13	173	W	Electricity Sub Station	419529 611542	NE66	Electrical Features	Infrastructure and Facilities
14	207	W	Blackshaws	419742 611760	Birch Close, Lionheart Enterprise Park, Alnwick, NE66 2EP	New Vehicles	Motoring

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

2

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
15	162	NW	419613 611621	BP	Rss Alnwick Services, Hawfinch Drive, Cawledge Business Park, Alnwick, Northumberland, NE66 2GD	No	Open
16	390	NW	419593 611892	Unbranded	Co-Op Alnwick, A1068, Willowtree Industrial Estate, Alnwick, Northumberland, NE66 2HA	No	Open

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
TILLD	TILL, DEVENSIAN	DIAMICTON
GFDUD	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

5.3 Bedrock and Solid Geology

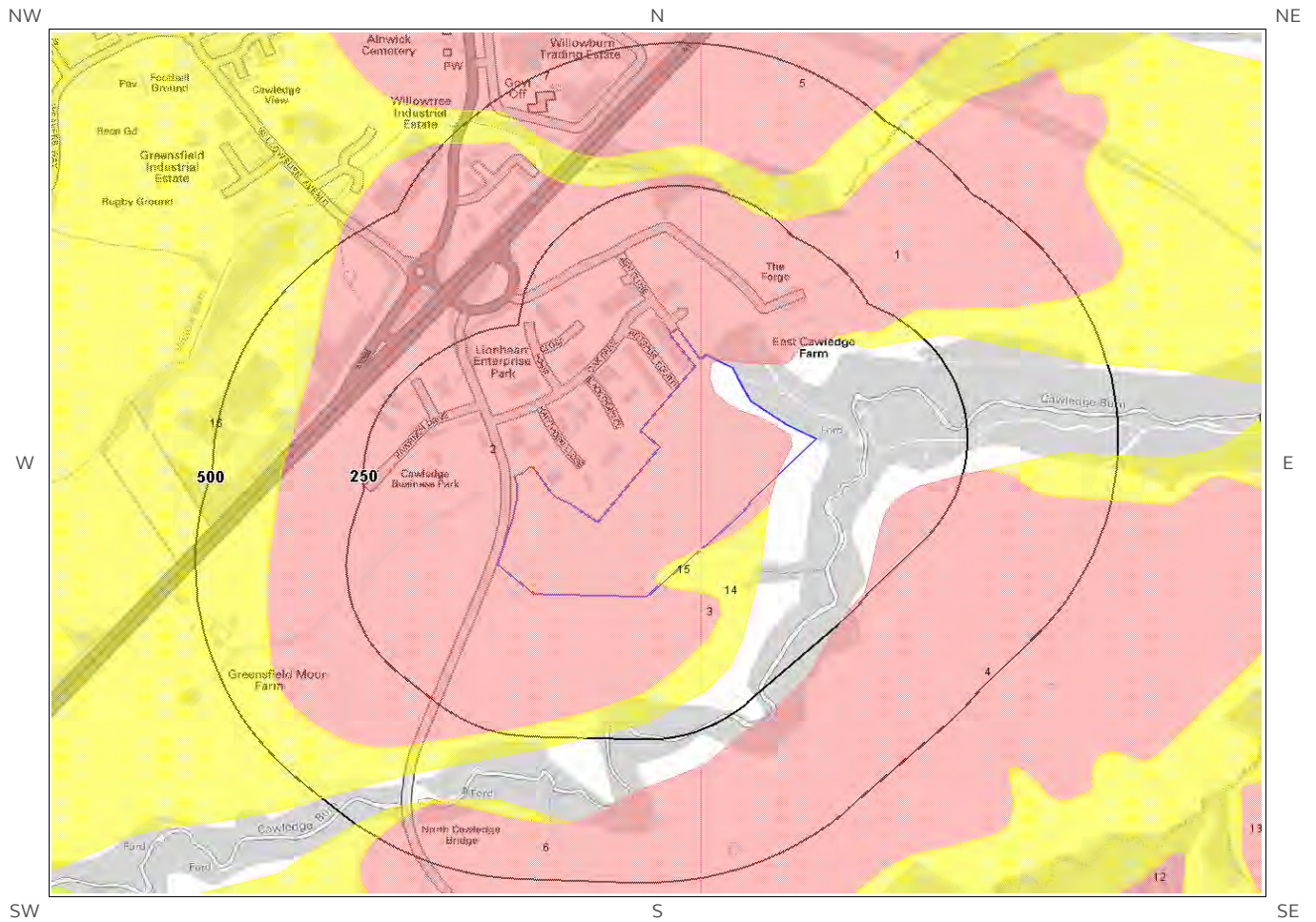
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
AG-LMST	ALSTON FORMATION	LIMESTONE
AG-LSSM	ALSTON FORMATION	LIMESTONE, SANDSTONE, SILTSTONE AND MUDSTONE

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

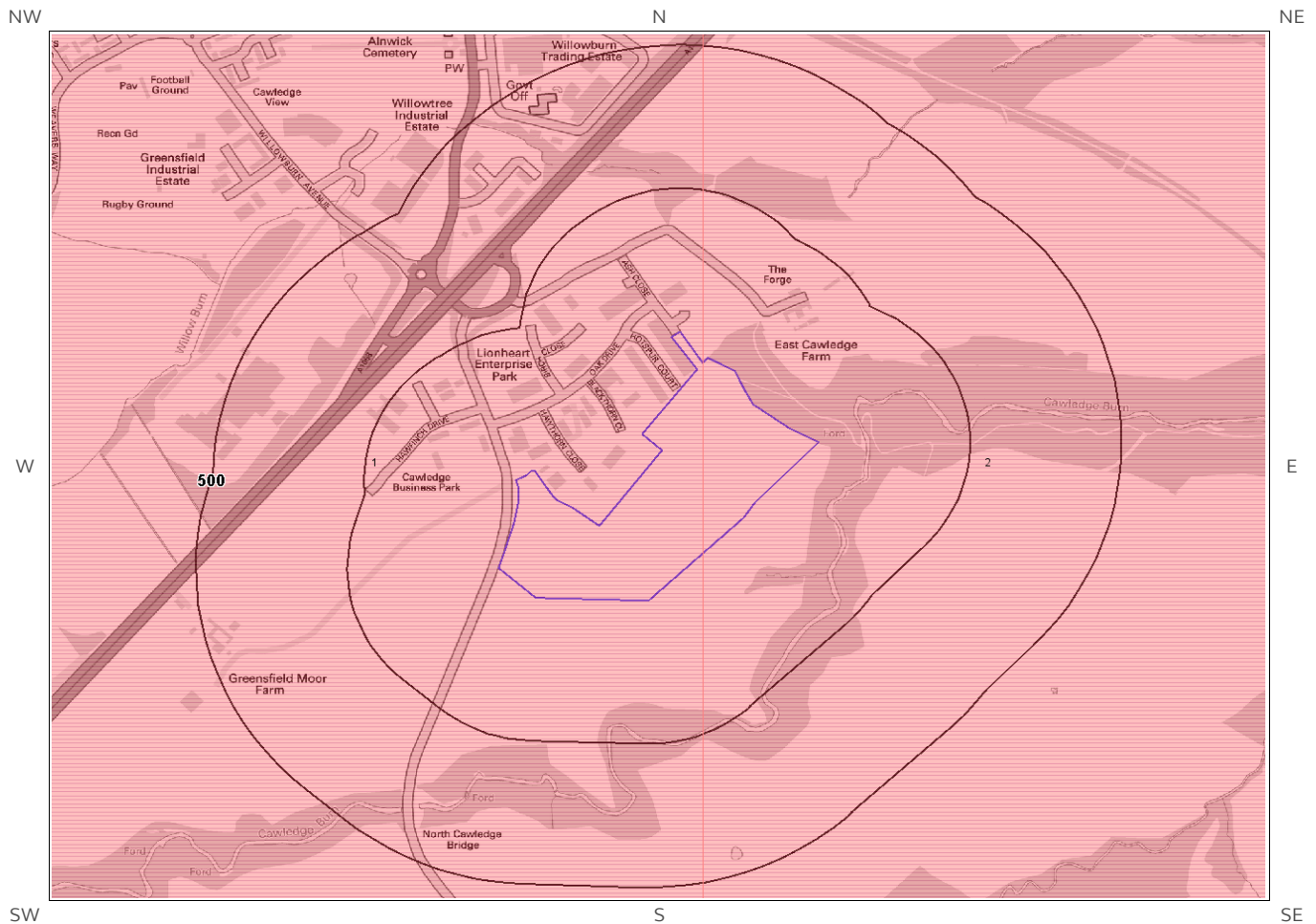
6a. Aquifer Within Superficial Geology



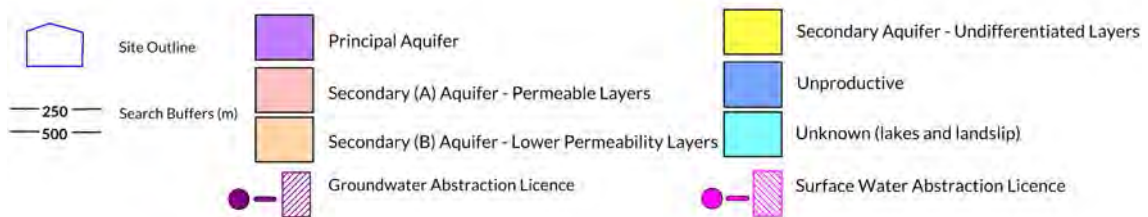
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6b. Aquifer Within Bedrock Geology and Abstraction Licenses

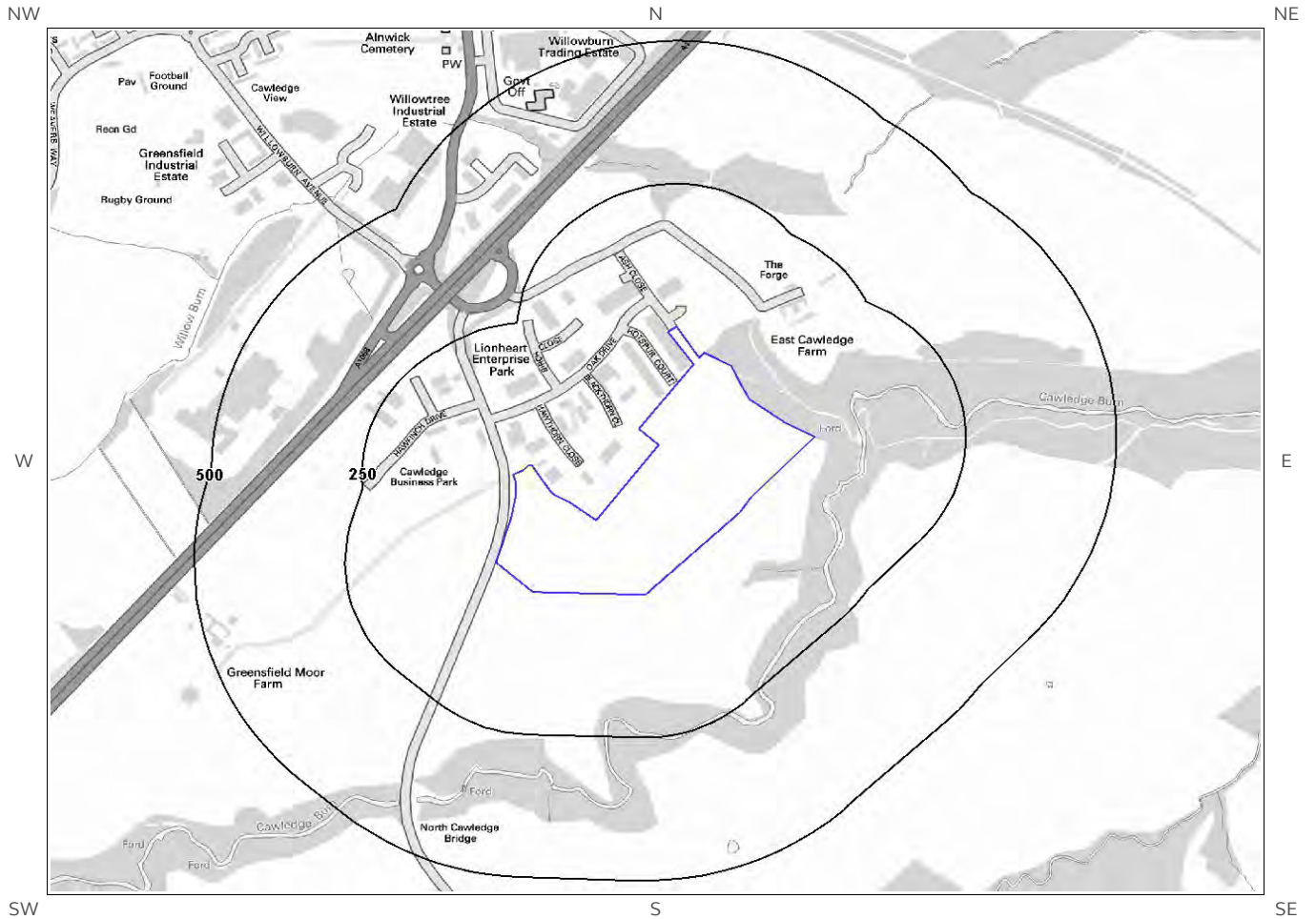


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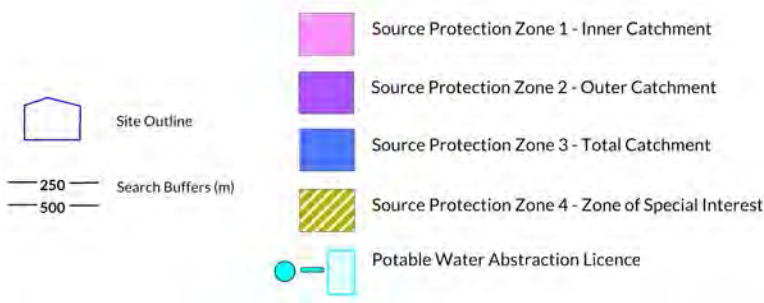




6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses

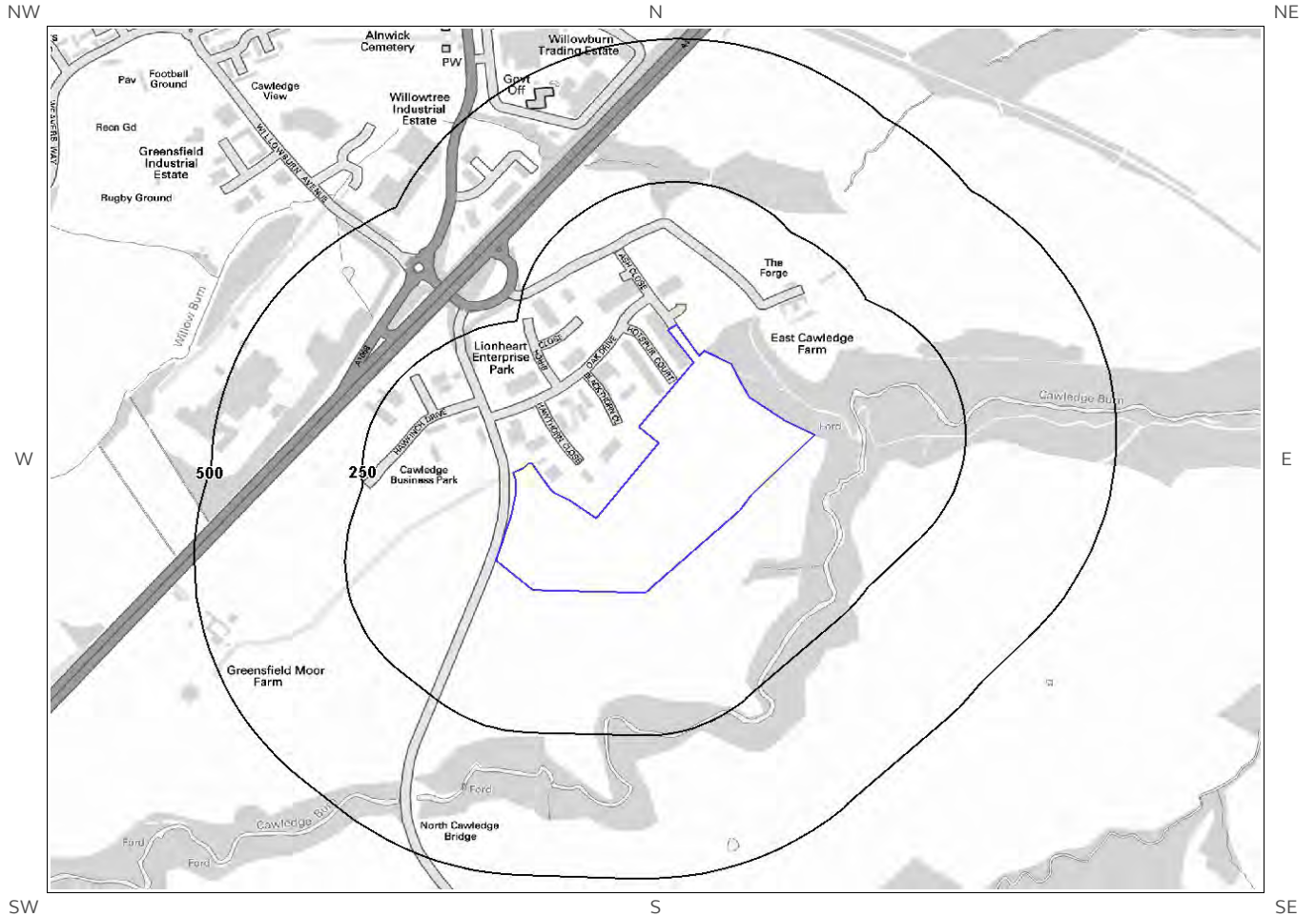


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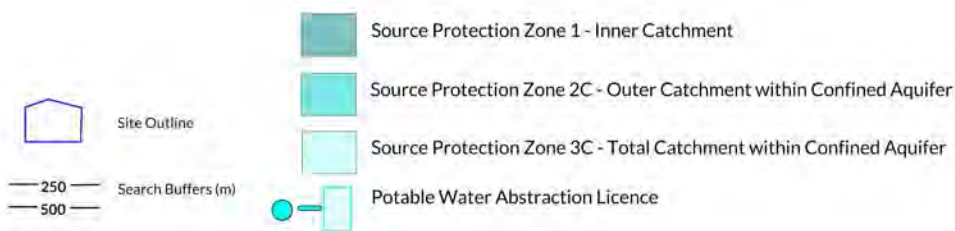




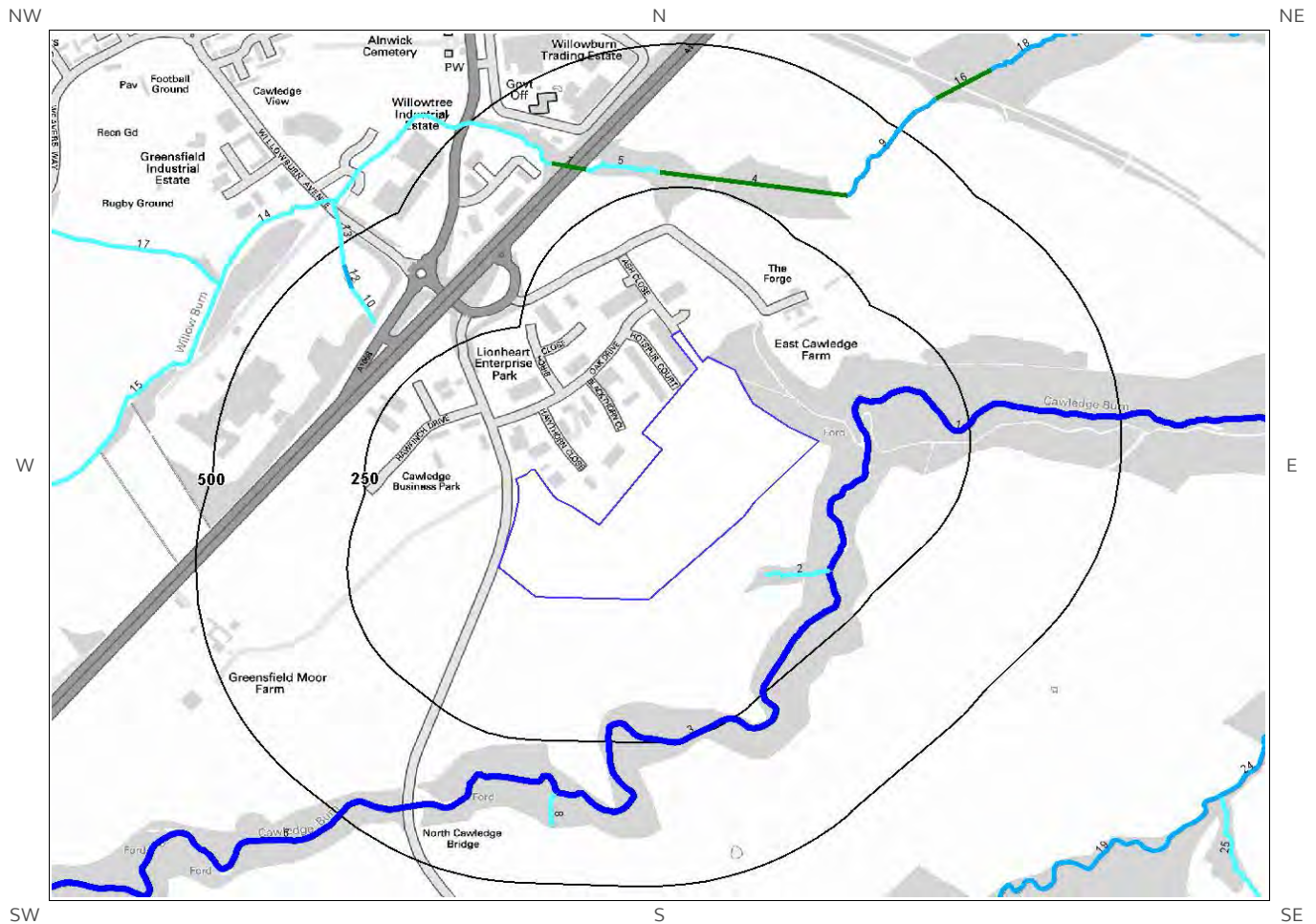
6d. Hydrogeology – Source Protection Zones within confined aquifer



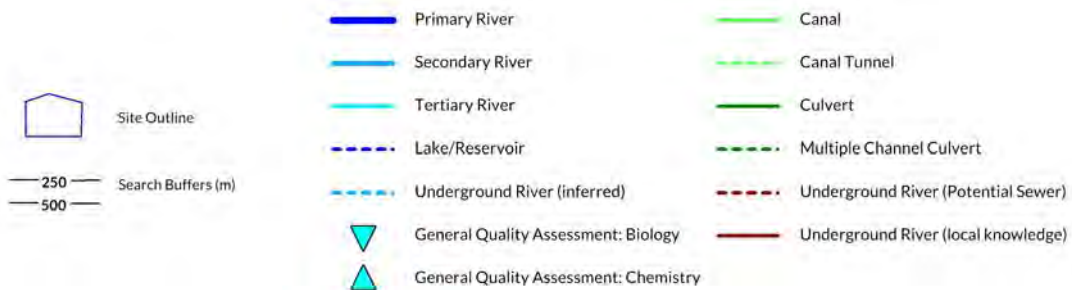
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6e. Hydrology – Detailed River Network and River Quality



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6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property?
Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
14	0	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
15	0	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
3	56	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
16	125	SE	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
4	168	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
17	173	NE	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
5	305	NE	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
6	310	S	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
7	314	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

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? No

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site? No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
0	On Site	Minor Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.
57	NE	Minor Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.
98	S	Minor Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.
230	NW	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.
248	SE	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
258	N	Minor Aquifer/Intermediate Leaching Potential	I1	Soils which can possibly transmit a wide range of pollutants.
309	S	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.

Is there any Environment Agency information on river quality within 1500m of the study site? No

6.9.1 Biological Quality:

Database searched and no data found.

6.9.2 Chemical Quality:

Database searched and no data found.

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details
1	75	E	River Name: Cawledge Burn Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
2	98	SE	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
3	170	SE	River Name: Cawledge Burn Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
4	269	N	River Name: Willow Burn Welsh River Name: - Alternative Name: - River Type: Culvert Main River Status: Currently Undefined
5	278	N	River Name: Willow Burn Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
6	312	S	River Name: Cawledge Burn Welsh River Name: - Alternative Name: - River Type: Primary River Main River Status: Currently Undefined
7	321	NW	River Name: Willow Burn Welsh River Name: - Alternative Name: - River Type: Culvert Main River Status: Currently Undefined
8	339	S	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined
9	356	NE	River Name: Willow Burn Welsh River Name: - Alternative Name: - River Type: Secondary River Main River Status: Currently Undefined
10	358	NW	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined

ID	Distance (m)	Direction	Details	
11	359	NW	River Name: Willow Burn Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined
12	429	NW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Secondary River Main River Status: Currently Undefined
13	468	NW	River Name: - Welsh River Name: - Alternative Name: -	River Type: Tertiary River Main River Status: Currently Undefined

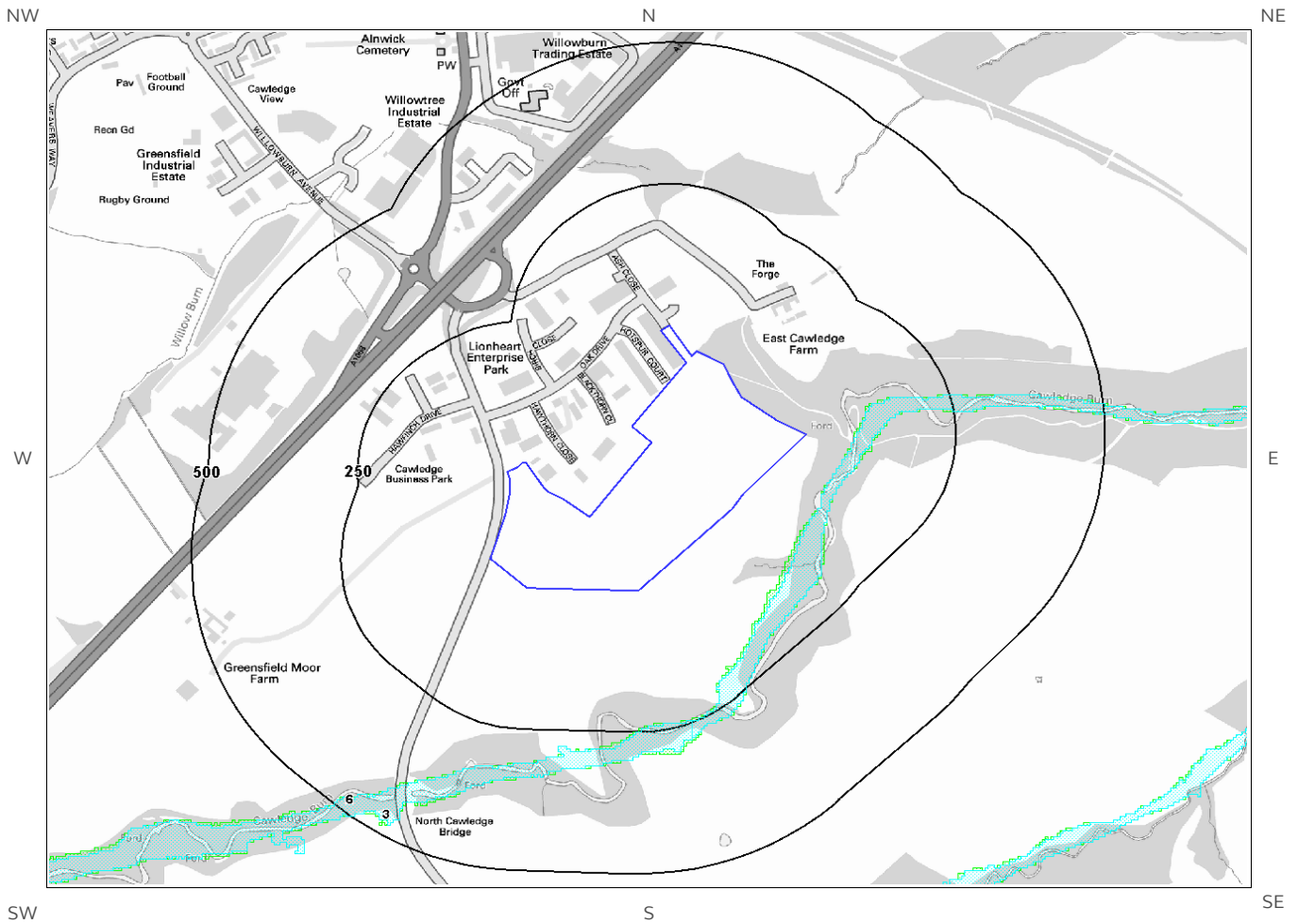
6.11 Surface Water Features

Are there any surface water features within 250m of the study site? Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
73	E
77	NE
98	SE
215	S

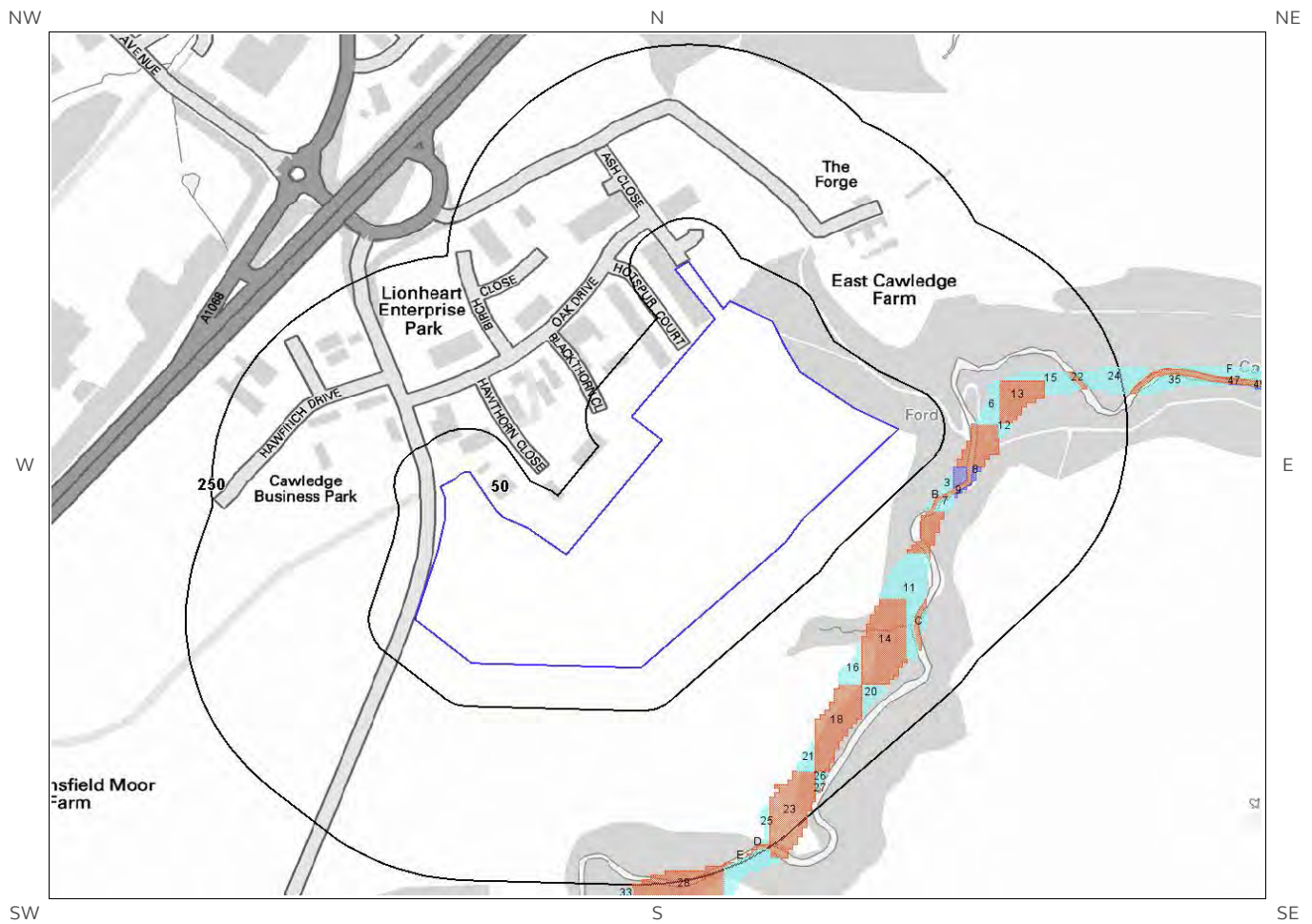
7a. Environment Agency Flood Map for Planning (from rivers and the sea)



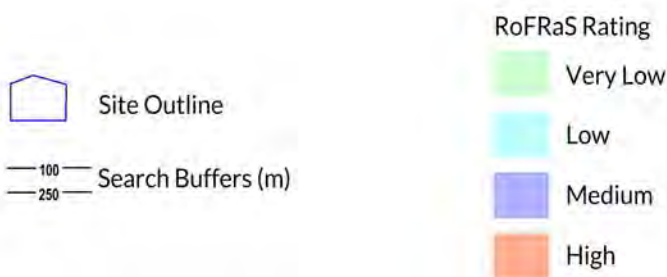
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7b. Environment Agency Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency Zone 2 floodplain? Yes

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1	72	SE	09-Sep-2016	Zone 2 - (Fluvial/Tidal Models)
2	235	S	09-Sep-2016	Zone 2 - (Fluvial/Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency Zone 3 floodplain? Yes

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1	74	SE	09-Sep-2016	Zone 3 - (Fluvial Models)
2	238	S	09-Sep-2016	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite? Very Low

The Environment Agency RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site? No
Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? No

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

The area is not considered to be prone to groundwater flooding based on rock type. Not Prone

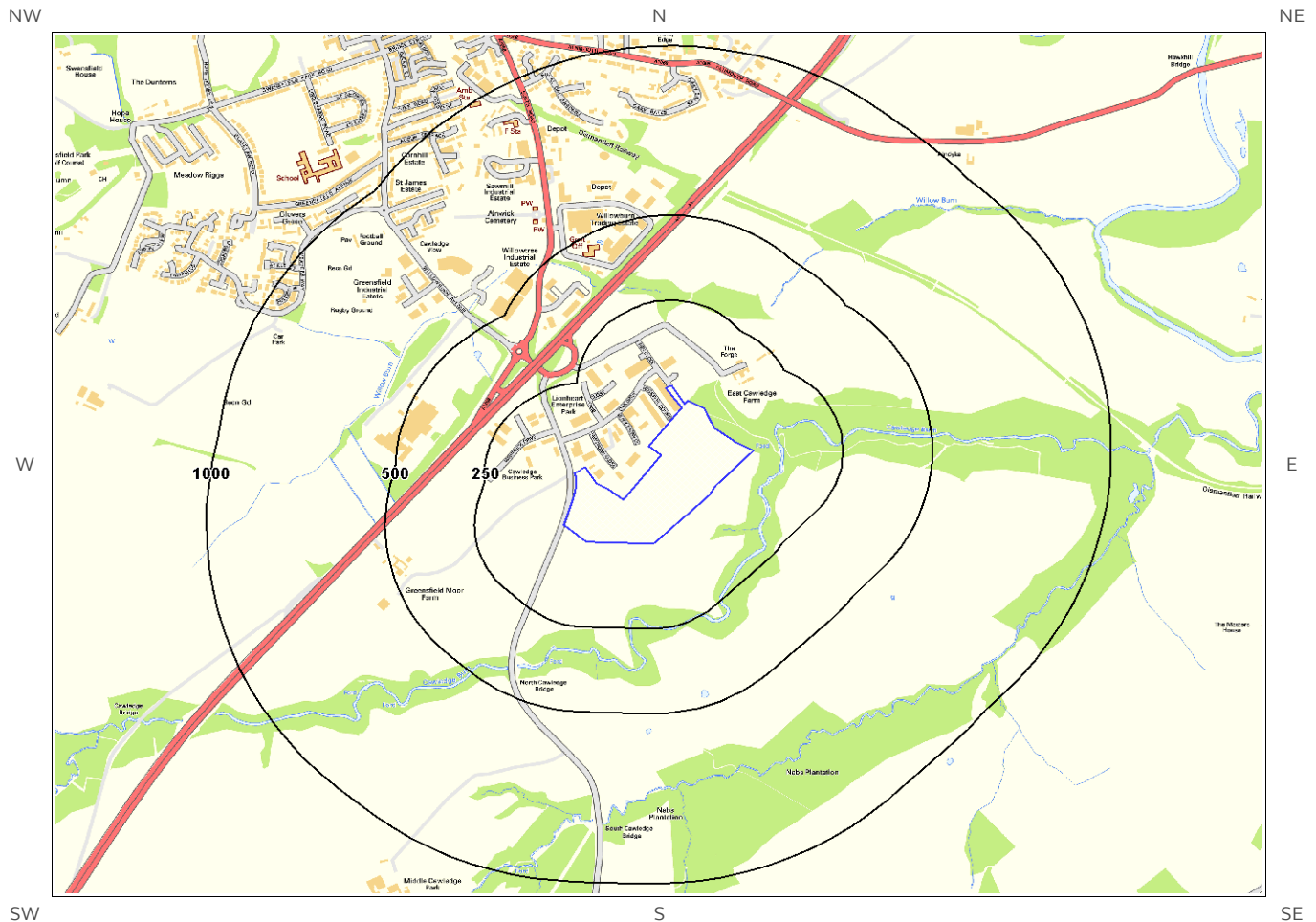
7.8 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? Not Applicable

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? No

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

Database searched and no data found.

0

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

Database searched and no data found.

0

8.8 Records of World Heritage Sites within 2000m of the study site:

Database searched and no data found.

0

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

Database searched and no data found.

0

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

Database searched and no data found.

0

8.11 Records of National Parks (NP) within 2000m of the study site:

Database searched and no data found.

0

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

Database searched and no data found.

0

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.

8.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from our [website](#). The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Significant soluble rocks are present. Low possibility of subsidence occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow. Consider implications for stability when changes to drainage or new construction are planned. For new build site investigation should consider potential for dissolution problems on the site and its surroundings. Care should be taken with local drainage into the bedrock. Some possibility groundwater pollution. For existing property possible increase in insurance risk due to soluble rocks.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is in a Radon Affected Area, as between 5 and 10% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.



Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? Basic radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? Yes

The following coal mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Not available	Vein Mineral	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
0.0	On Site	Not available	Vein Mineral	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

Past underground mine workings may occur. The rock types present in these areas are such that small mineral veins may be present on which it is possible that small scale mining has been undertaken and/or it is possible that limited underground extraction of other materials may have occurred. All such occurrences are likely to be of minor localised extent and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No
Guidance: No Guidance Required.

Contact Details

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**The Coal
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Local Authority

Authority: Northumberland Council
Phone: 0845 600 6400
Web: <http://www.northumberland.gov.uk/>
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Groundsure

LOCATION INTELLIGENCE



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