

Land South of Turnpike Lane, Ickleford
Archaeological Desk-Based Assessment
July 2025

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Report

Archaeological Desk-Based Assessment

Site

Land South of Turnpike Lane, Ickleford

Client

Hawridge Strategic Land Limited

Date

July 2025

Planning Authority

North Hertfordshire District Council

Site Centred At

TL 18040 31240

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Timescales Used in This Report

Prehistoric

Palaeolithic	450,000 -12,000 BC
Mesolithic	12,000 - 4,000 BC
Neolithic	4,000 - 2,200 BC
Bronze Age	2,200 - 700 BC
Iron Age	700 - AD 43

Historic

Roman	43 - 410AD
Saxon/Early Medieval	410 - 1066AD
Medieval	1066 - 1485AD
Post Medieval	1486 - 1901AD
Modern	1901 - Present Day

Executive Summary

This archaeological desk-based assessment considers land to the south of Turnpike Lane, Ickleford, Hertfordshire (hereinafter referred to as the “Study Site”). In accordance with government policy (National Planning Policy Framework 2024), this assessment draws together the available archaeological, historic, topographic and land-use information in order to clarify the archaeological potential of the study site. The assessment will accompany a planning application for the re-development of the study site for housing.

There are no designated archaeological heritage assets (Scheduled Ancient Monuments, Registered Battlefields or World Heritage Sites) within the study site or the wider 1km study area.

A review of the available evidence has confirmed that the study site has a low potential to contain archaeological finds and features dating from the prehistoric, Roman and Saxon periods, and a moderate potential for the medieval, post-medieval and modern periods. A recent geophysical survey of the site recorded traces of former ridge and furrow cultivation across the site, along with the probable remains of a modern structure to the south of Turnpike Lane. Any archaeological remains which may have been present on the site are likely to have survived, although these are likely to be of local significance only. The groundworks associated with the proposed development have the potential to disturb or destroy any archaeological remains which might be present on the site.

It is possible that archaeological fieldwork, in the form of an evaluation, may be required in respect of the development. If this is the case, it is expected that the fieldwork could be implemented by way of an appropriately worded planning condition attached to any consent granted.

1.0 Introduction

- 1.1** This archaeological desk-based assessment considers Land South of Turnpike Lane, Ickleford, Hertfordshire (Figure 1). It has been researched and prepared by Orion Heritage on behalf of Hawridge Strategic Land Limited. The site (hereinafter referred to as the “Study Site”) is centred on grid reference TL 18040 31240. It has been prepared to support a planning application in respect of a new housing development on the study site (Figure 15).
- 1.2** In accordance with the Standard and Guidance for Archaeological Desk-Based Assessment (Chartered Institute for Archaeologists 2020), the assessment draws together available information on designated and non-designated heritage assets, topographic and land-use information so as to establish the potential for non-designated archaeological assets within the study site. The assessment includes the results of a site survey, an examination of published and unpublished records, and charts historic land-use through a map regression exercise. The assessment also considers the setting of archaeological heritage assets, and provides an assessment of how their settings contribute to their significance. A separate report will consider built heritage assets.
- 1.3** The assessment enables relevant parties to assess the significance of archaeological assets on and close to the study site and considers the potential for hitherto undiscovered archaeological assets, thus enabling potential impacts on assets to be identified along with the need for design, civil engineering or archaeological solutions. It also provides an understanding of any constraints to development of the study site due to the presence of nearby archaeological heritage assets, and provides an assessment of the potential impact Development would have on the significance of heritage assets and also provides design responses that would serve to reduce that impact in line with local and national policy.
- 1.4** The study area used in this assessment is a 1km buffer radius from the red line boundary of the study site (Figures 2, 3 and 4).
- 1.5** A site visit was carried out by Orion Heritage on 7th April 2025, at which time it was clear and sunny and the visibility good.

Location, Topography and Geology

- 1.6** The study site is located immediately to the south-west of the historic core of Ickleford, Hertfordshire, and consists of a several irregular shaped fields, measuring a total of c. 7.5 ha in size. Several parts of the site are covered by woodland, and the rest of the site is currently used for grazing horses. There are several timber stable buildings within the study site, particularly in the western part.
- 1.7** The site is bounded to the north by Turnpike Lane, Ickleford Manor and a modern housing estate, to the east by residential and industrial buildings, to the south-east by industrial buildings and the River Oughton, to the south by residential buildings, and to the east by Bedford Road. Despite its name,

Ickleford Manor is actually an early 20th century building that first appears on the 1922 Ordnance Survey as 'The Bungalow'.

- 1.8** The site is relatively flat, although there is a gentle slope down towards the east and the ground drops off close to the southern boundary which is formed by the River Oughton. According to the British Geological Survey, the underlying geology of the site consists of undifferentiated Glaciofluvial Deposits (chalky sand and gravel), although there may be some Alluvial deposits associated with the River Oughton along the southern boundary (BGS 1995).



Plate 1: General view of the south-west part of the Study Site looking South-east.



Plate 2: General view of the southern part of the Study Site looking East.



Plate 3: General view of the Study Site looking North-west.



Plate 4: General view of the Study Site looking North-east.



Plate 5: General view of the Study Site looking South-west from the eastern boundary.

2.0 Aims, Objectives & Methodology

2.1 The principal aims of the desk-based assessment are to:

- Gain an understanding of the archaeological potential of the study site;
- Identify any archaeological constraints to the development of the study site; and to
- Assess the likely impact of the proposed development as defined in the introduction.

2.2 The results of the archaeological desk-based assessment will inform an archaeological strategy for further on-site assessment and formulation of a mitigation strategy, as appropriate to the archaeological potential of the study site.

2.3 This desk-based assessment conforms to the requirements of current national and local planning policy (including *National Planning Policy Framework 2024*) and it has been designed in accordance with current best archaeological practice, and the appropriate national and local standards and guidelines, including:

- Management of Recording Projects in the Historic Environment: MORPHE (English Heritage 2006);
- Code of Conduct (Chartered Institute for Archaeologists [CIfA] [revised edition] 2022); and
- Standard and Guidance for Historic Environment Desk-Based Assessment (CIfA January 2020).

2.4 It is noted that the Chartered Institute for Archaeologists defines desk-based assessment as:

“a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.”

2.5 The Chartered Institute for Archaeologists Standard for desk-based assessment states that:

“Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated

aims of the project, and which comply with the Code of conduct and other relevant regulations of ClfA. In a development context desk-based assessment will establish the impact of the proposed development on the significance of the historic environment (or will identify the need for further evaluation to do so) and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention that impact.”

Methodology

2.6 The following sources will be consulted for the whole study area:

- Hertfordshire Historic Environment Record (HHER).
- National Heritage List for England held by Historic England.
- Historic mapping.
- Previous archaeological evaluation and excavation records relating to sites in and immediately adjacent to the study area.
- Such other published works, reports and other information relevant to the desk-based assessment.
- Online aerial photography including Google Earth.
- An assessment of any Lidar holdings held by the Environment Agency for the study area.

2.7 When the planning application is submitted, a digital copy of the report will be provided to the Hertfordshire HER (hard copies will be provided on request) and a copy will also be uploaded as part of the ADS OASIS database record.

2.8 Lidar provides topographic data and is particularly useful in the detection and identification of heritage assets that survive as earthworks. The Environment Agency (EA) regularly collects Lidar data for England and makes these data available for public use through their online portal. Digital Terrain Models (DTM) are routinely used for heritage purposes as this model shows the ground surface with buildings and trees filtered out to create a ‘bare earth’ effect. The Environmental Agency collected Lidar data that covers the study site and much of the surrounding 1km study area in 2020.

3.0 Planning Background and Development Plan Framework

Ancient Monuments & Archaeological Areas Act 1979

- 3.1** The Ancient Monuments & Archaeological Areas Act 1979 (as amended) protects the fabric of Scheduled Monuments but does not afford statutory protection to their settings.

National Planning Policy Framework (NPPF) & National Planning Practice Guidance (NPPG)

- 3.2** Government policy in relation to the historic environment is outlined in Section 16 of the National Planning Policy Framework (NPPF 2024), entitled 'Conserving and Enhancing the Historic Environment'. This provides guidance for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 16 of the NPPF can be summarised as seeking the:

- Delivery of sustainable development;
- Understanding the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment;
- Conservation of England's heritage assets in a manner appropriate to their significance; and
- Recognition of the contribution that heritage assets make to our knowledge and understanding of the past.

- 3.3** Section 16 of the NPPF recognises that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term. The NPPF is supported by the National Planning Policy Guidance (NPPG). In relation to the historic environment, paragraph 002 of the NPPG (Reference ID: 18a-002-20190723) states that:

Conservation is an active process of maintenance and managing change. It requires a flexible and thoughtful approach to get the best out of assets as diverse as listed buildings in every day use and as yet undiscovered, undesignated buried remains of archaeological interest.

- 3.4** Paragraph 207 of the NPPF states that planning decisions should be based on the significance of the heritage asset, and that the level of detail supplied by an applicant should be proportionate to the importance of the asset and should be no more than sufficient to understand the potential impact of the proposal upon the significance of that asset.

Designated Heritage Assets

- 3.5** A key aspect of NPPF paragraphs 212-215 is whether a proposed development will result in substantial harm or less than substantial harm to a designated asset. However, substantial harm is not defined in the NPPF. Paragraph 018 (Reference ID: 18a-018-20190723) of the NPPG provides additional guidance

on substantial harm. The following quote refers to listed buildings but the same principles applies to archaeological designated heritage assets. It states:

“Proposed development affecting a heritage asset may have no impact on its significance or may enhance its significance and therefore cause no harm to the heritage asset. Where potential harm to designated heritage assets is identified, it needs to be categorised as either less than substantial harm or substantial harm (which includes total loss) in order to identify which policies in the National Planning Policy Framework (paragraphs 194-196 now para 212-215 in the 2024 NPPF) apply.”

Within each category of harm (which category applies should be explicitly identified), the extent of the harm may vary and should be clearly articulated.

*Whether a proposal causes substantial harm will be a judgment for the decision-maker, having regard to the circumstances of the case and the policy in the National Planning Policy Framework. In general terms, substantial harm is a high test, so it may not arise in many cases. For example, in determining whether works to a listed building constitute substantial harm, an important consideration would be whether the adverse impact seriously affects a key element of its special architectural or historic interest. **It is the degree of harm to the asset’s significance rather than the scale of the development that is to be assessed.** The harm may arise from works to the asset or from development within its setting. (emphasis added).*

- 3.6** Paragraph 215 of the NPPF outlines that where a proposed development results in less than substantial harm to the significance of a heritage asset, the harm arising should be weighed against the public benefits accruing from the proposed development. Paragraph 020 of the NPPG (Reference ID: 18a-020-20190723) outlines what is meant by public benefits:

“Public benefits may follow from many developments and could be anything that delivers economic, social or environmental objectives as described in the National Planning Policy Framework (paragraph 8). Public benefits should flow from the proposed development. They should be of a nature or scale to be of benefit to the public at large and not just be a private benefit. However, benefits do not always have to be visible or accessible to the public in order to be genuine public benefits, for example, works to a listed private dwelling which secure its future as a designated heritage asset could be a public benefit.”

- 3.7** No harm occurs where a proposed development will have no direct physical effects on heritage assets and/or where a proposed development is outside of the setting of a designated heritage asset. In such instances, there will be no adverse effects on the significance of designated heritage assets.

Non-Designated Heritage Assets

- 3.8** Paragraph 216 of the NPPF requires the decision-maker to take into account the effect on the significance of non-designated heritage assets and to take a

balanced judgement having regard to the scale of harm or loss and the significance of the asset(s) potentially affected.

NPPF Definitions

- 3.9** *Heritage Assets* are defined in Annex 2 as a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing).
- 3.10** *Archaeological Interest* is defined as a heritage asset which holds, or potentially could hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.
- 3.11** *Designated Heritage Assets* comprise: A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Parks and Garden, Registered Battlefield or Conservation Areas designated under the relevant legislation.
- 3.12** *Significance* is defined as the value of a heritage asset to this and future generations because of its heritage interest. This interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
- 3.13** *Setting* is defined as the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.

Local Planning Policy

- 3.14** The North Hertfordshire Local Plan 2011-2031 was adopted in November 2022, and contains the following policies which may be relevant in respect of the proposed development.

Policy HE1: Designated heritage assets

Planning applications relating to Designated heritage Assets or their setting shall be accompanied by a Heritage Assessment/Justification Statement that:

- i. Assesses the significance of heritage assets, including their setting;*
- ii. Justifies and details the impacts of any proposal upon the significance of the designated heritage asset(s); and*
- iii. Informs any necessary measures to minimise or mitigate against any identified harms.*

Planning permission for development proposals affecting Designated Heritage Assets or their setting will be granted where they (as applicable):

- a) Enable the heritage asset to be used in a manner that secures its conservation and preserves its significance;*
- b) Incorporate a palette of materials that make a positive contribution to local character or distinctiveness, where it is appropriate and justified; and*
- c) Will lead to less than substantial harm to the significance of the designated heritage asset, and this harm is outweighed by the public benefits of the development, including securing the asset's optimum viable use.*

Where substantial harm to, or loss of significance, of a designated heritage asset is proposed the Council shall refuse consent unless it can be demonstrated that the scheme is necessary to deliver considerable public benefits that outweigh the harm or loss.

Policy HE2: Heritage at risk

Planning permission will be granted for proposals that seek to conserve or provide new uses for designated heritage assets identified on the national register, or the Council's 'At Risk' register maintained by the Council, that are justified and appropriate to the significance of the asset to return a heritage asset to beneficial use.

Proposals that harm the significance of heritage assets included on national and local registers will be resisted unless the need for, and the benefits of, the development in that location clearly outweigh that harm, taking account of the asset's significance and importance, and all feasible solutions to avoid and mitigate that harm have been fully assessed.

Policy HE3: Non-designated heritage assets

Permission for a proposal that would result in harm to, or the loss of, a non-designated heritage asset will only be granted provided that a balanced judgement has been made that assesses the scale of harm to, or loss of significance of the non-designated asset and, where the proposal results in the loss of a non-designated heritage asset:

- a) The replacement building contributes to preserving the local character and distinctiveness of the area; and*
- b) Where the asset is located in a conservation area a continuous contract for the demolition and redevelopment of the site has been secured, unless there are justifiable grounds for not developing the site.*

Policy HE4: Archaeology

Permission for development proposals affecting heritage assets with archaeological interest will be granted provided that:

- a) Developers submit an appropriate desk-based assessment and, where justified, an archaeological field evaluation.*
- b) It is demonstrated how archaeological remains will be preserved and incorporated into the layout of that development, if in situ preservation of important archaeological remains is considered preferable; and*
- c) Where the loss of the whole or a material part of important archaeological remains is justified, appropriate conditions are applied to ensure that the archaeological recording, reporting, publication and archiving of the results of such archaeological work is undertaken before it is damaged or lost.*

Where archaeological sites have been assessed to meet the criteria for inclusion on adopted registers or maps of locally important heritage assets these shall be treated in the same way as archaeology areas and areas of archaeological significance.

Areas of as yet, unknown archaeology may be identified during research, or through the planning or plan making process. These sites or areas should be treated in the same way as archaeology areas and areas of archaeological significance.

Guidance

Historic Environment Good Practice Advice In Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (Historic England 2015)

3.15 The purpose of this document is to provide information to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing historic environment policy in the NPPF and NPPG. It outlines a six-stage process to the assembly and analysis of relevant information relating to heritage assets potentially affected by a proposed development:

- Understand the significance of the affected assets;
- Understand the impact of the proposal on that significance;
- Avoid, minimise and mitigate impact in a way that meets the objectives of the NPPF;
- Look for opportunities to better reveal or enhance significance;
- Justify any harmful impacts in terms of the sustainable development objective of conserving significance and the need for change; and
- Offset negative impacts on aspects of significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.

4.0 Archaeological and Historic Baseline

Archaeological Heritage Assets

- 4.1** The heritage assets under consideration have been identified by means of a review of the following resources:
- Hertfordshire Historic Environment Record (HHER) Data;
 - The National Heritage List for England (NHLE) held by Historic England;
 - Historic England Archive;
 - Pastscape;
 - Local studies and record office research; and
 - Review of historic mapping.
- 4.2** These resources will be used to provide an understanding of the heritage assets which may be affected by the proposed development. This chapter will describe the archaeological heritage assets which may be affected and assess their significance. Built heritage assets will be discussed in more detail in a separate Heritage Statement but may be mentioned in this report where relevant.
- 4.3** The location of heritage assets mentioned in the text are shown on Figures 2, 3 and 4.

Designated Archaeological Heritage Assets

- 4.4** No designated archaeological heritage assets are located within the study site, and there are none within the 1km study area.

Online Satellite and Aerial Imagery

- 4.5** Google Earth holds a collection of historic aerial photographs covering the study site, including images taken between 1985 and 2024. The image from 1985 is too blurred to make out the site clearly, but the photographs from 2000 onwards show that the site has changed very little in the last twenty-five years. The northern fields within the site appear to have been utilised for arable farming in 2000 and 2003, but subsequent images suggest that they have been used for grazing horses since then. Nothing of obvious archaeological interest is visible on any of the available aerial images.

Environment Agency Lidar Data

- 4.6** The Environment Agency National Lidar Programme collected data in 2020 which covers the study site and the wider 1km buffer study area (Plate 6). The image shows the various ponds or quarry pits within the area of woodland to the south of Ickleford Manor, along with some of the former field boundaries within the site. Linear anomalies visible in those parts of the site which are not presently covered in woodland could represent modern agricultural practices, or traces of former ridge and furrow cultivation.

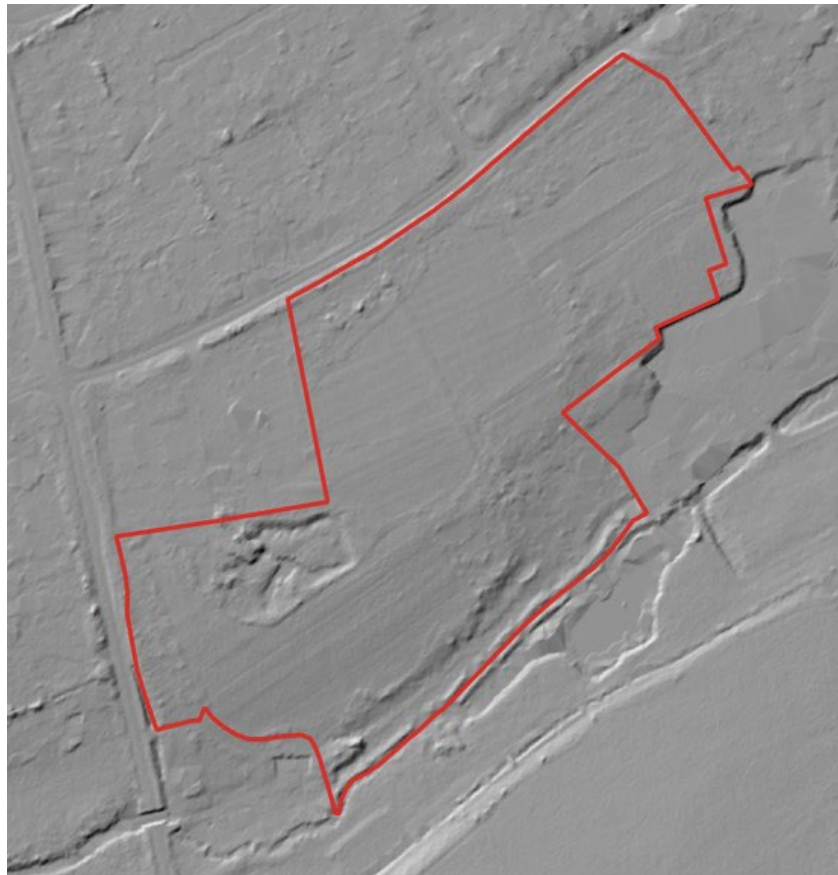


Plate 6: Lidar image covering the entire study site (DTM 2020 1m NLP Lidar data – Multidirectional Hillshade).

Previous archaeological investigations

- 4.7** A geophysical survey of the study site was carried out in June 2025 to provide further information for this assessment. The survey covered most of those areas of the site that were not covered in trees, although it was not possible to survey the far eastern end of the site due to the length of the grass in this area. The results are shown on Figure 16, and the full geophysics report is included as Appendix B (Sumo 2025). In summary, no magnetic responses relating to definite archaeological features were recorded on the site, apart from traces of former ridge and furrow cultivation. Former field boundaries and electric fences were also detected, along with the route of a service pipe. A group of ferrous responses forming a rectangular shape was recorded in the northern part of the site, and these probably mark the foundations of a relatively modern structure. No buildings are visible on the available maps and aerial photographs, but the landowner has mentioned that the site was used as a cricket pitch after the Second World War until the late 1960s. It is therefore possible that the foundations may relate to a no demolished cricket pavilion.
- 4.8** The HHER contains numerous entries in respect of archaeological ‘events’ within the 1km study area. These cover a wide range of projects from desk-based assessments to intrusive archaeological investigations (Appendix A; Figure 4).

- 4.9** According to the HHER, there have been no known archaeological investigations carried out on the study site in the past.
- 4.10** An evaluation was carried out immediately to the east of the Study Site in 2022 (EHT9076). This recorded a number of linear features which were interpreted as relating to agricultural activity during the medieval and post-medieval periods. There were very few finds indicating that the site lay some distance from any associated settlement.
- 4.11** No significant archaeological finds or features were recorded during a 2016 evaluation at the Green Man public house, c. 135m north-east of the Study Site (EHT8136 and EHT8516).
- 4.12** The watching brief (EHT1297) and evaluation (EHT7197) carried out at St Katherine's Church, c. 200m north-east of the Study Site, did not record any significant archaeological finds or features.
- 4.13** A medieval ditch (MHT13274) was recorded during an evaluation at Arlesey Road, c. 140m east of the Study Site (EHT4801), along with a number of post-medieval features (MHT10865).
- 4.14** A number of undated linear anomalies were recorded during a geophysical survey in respect of a proposed new burial ground c. 450m north of the Study Site (EHT5669).
- 4.15** The HHER contains an entry in respect of a geophysical survey that was undertaken to the east of the Study Site in 2008 (EHT5653). According to the HHER entry, nothing of note was identified within those areas surveyed within the study area.
- 4.16** Traces of former ridge and furrow cultivation, dating from the medieval or post-medieval period, were recorded during an archaeological evaluation to the west of the Study Site in 2022 (EHT9037). The HHER contains an entry in respect of an excavation that was undertaken in 2023 further west, but no details of the results have been provided to the HHER yet (EHT9129).
- 4.17** Two of the HHER 'event' entries actually relate to ring ditches, probably dating from the prehistoric period, that have been identified from aerial photographs to the north (EHT1841) and north-east (EHT2570) of the Study Site.

Archaeological Notification Areas

- 4.18** The Ickleford Village Archaeology Area covers a large area to the north, north-east and east of the Study Site (Figure 2). It includes the historic core of the village which lies within the Ickleford Conservation Area, but also covers a significant number of archaeological sites and features.

Prehistoric

- 4.19** Two of the HHER entries relate to four Palaeolithic handaxes (MHT313) and 'six flint scrappers and several Achelian flints' (MHT314) that have been found in Ickleford. Although these are plotted immediately to the south of the Study

Site, the NGRs given in the HHER entries are clearly arbitrary. An appropriate NGR is also recorded in respect of a number of Palaeolithic flint implements that have been found further to the south (MHT1192). Another HHER entry relates to 'an acutely pointed flint implement found at Bearton Green, Hitchin', which has also been plotted far to the south of the Study Area (MHT1231).

- 4.20** The Icknield Way is an ancient route which runs along the Chiltern Ridge (MHT4182). Its origins are unclear, although it is unlikely to have been a continuous prehistoric route from Wiltshire to East Anglia, as suggested by 18th century and later antiquarians. The feature is plotted immediately to the north of the Study Site along Turnpike Lane. Within the study area it continues south-westwards along Westmill Lane, while to the north-east of the Study Site it is believed to be marked by a footpath.
- 4.21** Cropmarks relating to a mass of pits around a small ring ditch have been recorded from aerial photographs c. 725m north of the Study Site, along with a curvilinear ditch (MHT17908). The features are thought to date from either the Late Neolithic or Early Bronze Age periods, and could be associated with another cluster of pits recorded c. 500m north of the Study Site (MHT17907). Another possible ring ditch has been recorded as a cropmark c. 470m north of the Study Site (MHT2553). The ring ditches are believed to represent ploughed out round barrows dating from the Late Neolithic or Early Bronze Age periods.
- 4.22** Two further ring ditches are recorded in the HHER as 'archaeological events' to the north (EHT1841) and north-east (EHT2570) of the Study Site. Once again, these features have been recorded as cropmarks from aerial photographs.
- 4.23** A Neolithic polished flint axe was found in Bury Mead, Hitchin, along with a flint knife which may date from the Bronze Age (MHT2086). Another HHER entry relates to 'three supposed flint figure stones', possibly dating from the Neolithic period (MHT295). The NGRs given in the entries may be approximate, but the finds are recorded c. 850m south-east of the Study Site.
- 4.24** It is possible that some of the cremation burials recorded in 1877 during the construction of a new sewage farm at Bury Mead could date from the Late Iron Age (MHT1207). The cemetery is recorded c. 790m south-east of the Study Site, although the NGR given in the entry is probably approximate.
- 4.25** Whilst some evidence of prehistoric activity has been recorded within the study area, very little is recorded in close proximity to the Study Site itself. The Icknield Way runs close to the northern boundary of the Study Site, but there is no definite evidence that this route is prehistoric in origin. As a result, the potential for the Study Site to contain archaeological finds and features dating from the prehistoric period is deemed to be low. Any such remains which might be present on the Study Site are likely to be of local significance only.

- 4.26** The Icknield Way is an ancient route which runs along the Chiltern Ridge (MHT4182). Its origins are unclear, although parts of it are certainly believed to be Roman in date, perhaps utilising an earlier prehistoric route. The feature is plotted immediately to the north of the Study Site along Turnpike Lane. Within the study area it continues south-westwards along Westmill Lane, while to the north-east of the Study Site it is believed to be marked by a footpath.
- 4.27** An early Roman cremation cemetery was recorded during the construction of a new sewage farm at Bury Mead in 1877 (MHT1207). There are additional HHER entries in respect of two quern stones (MHT1209) and some later Roman coins (MHT1208) that were found in the same field. Another HHER entry relates to a Roman jug that was found at the sewage works in 1930 (MHT1205). These discoveries are all recorded c. 800m south-east of the Study Site.
- 4.28** There is a HHER entry relating to the discovery of some Roman pottery to the east of the Study Site, close to the River Hiz (MHT1190). However, the entry contains no further details of what exactly was found, and the NGR given is approximate. Roman finds are also recorded along the length of the River Oughton immediately to the south (MHT1234), and c. 775m south-west (MHT1230) of the Study Site. Once again, the HHER notes that the NGRs given are approximate.
- 4.29** It is possible that the line of the Icknield Way which is recorded along Turnpike Lane, immediately to the north of the Study Site, could have originated during the Roman period or even earlier. However, there is very little evidence of Roman activity in close proximity to the Study Site and, apart from stray finds of Roman objects, the only Roman site within the study area is the cremation cemetery that was recorded c. 800m to the south-east in 1877. As a result, the potential for the study site to contain archaeological finds and features dating from the Roman period is deemed to be low. Any such remains which may be present on the site are likely to be of local significance only.

Saxon

- 4.30** The Study Site lies south-west of the historic core of Ickleford. The settlement possibly developed during the late Saxon period, although Ickleford is not recorded as a separate manor in the Domesday Book (1086) and was probably part of Pirton parish at the time. The place-name is first mentioned in a document dating from the 12th century as *Ikelineford*, and is believed to be derived from the Old English personal name *Ice* and the words *ing* and *ford*, meaning 'ford associated with a man called Ice' (Mills 1993). It is not clear which ford the place-name refers to, but the later parish was bounded to the east and south by the Rivers Hix and Oughton respectively. The fact that the Icknield Way runs through the settlement is not thought to have any bearing on the place-name, and it is merely a coincidence that they both start with 'Ick'.

- 4.31** The only HHER entry specifically relating to the Saxon period is in respect of three spearheads that were found in Ickleford (MHT1616). However, the NGR given for these finds, immediately to the south of the Study Site, is arbitrary. Another undated spearhead or dagger recorded to the west of the Study Site, close to the River Oughton, could possibly be Saxon in date (MHT1189).
- 4.32** There is very little evidence of Saxon activity within the study area, and it is possible that any traces of the original Saxon settlement lie beneath the present village, to the north-east of the Study Site. The Study Site is likely to have lay within the agricultural hinterland of Ickleford at the time. As a result, the potential for the study site to contain archaeological finds and features dating from the Saxon period is deemed to be low. Any such remains which may be present on the site are likely to be of local significance only.

Medieval

- 4.33** It is likely that the Study Site continued to lie within the agricultural hinterland of Ickleford during the medieval period, just south-west of the historic core of the village (MHT4426). It was probably included in the manor of Pirton at the time of the Domesday survey, and is first mentioned in a document dating from the 12th century. The village was quite compact and centred on a double green, with several farms being located within the settlement itself. It was bounded to the east by the River Hiz, and to the south by the River Oughton, the latter of which also forms part of the southern boundary of the Study Site.
- 4.34** The parish church, dedicated to St Katherine, is a Grade I Listed Building with elements dating from the 12th, 13th and 15th centuries, although extensively restored in the mid-19th century (NHLE 1295821 / MHT4306).
- 4.35** The recent geophysical survey of the study site revealed a few anomalies indicative of former ridge and furrow cultivation (Figure 16).
- 4.36** Traces of former ridge and furrow cultivation, probably dating from the medieval or early post-medieval periods, have also been identified in two areas to the north of the Study Site (MHT17905 and MHT17906). Further evidence of agricultural activity during these periods was recorded during the recent evaluations to the east (EHT9076) and west (EHT9037) of the Study Site. The Lidar image of the Study Site (Plate 6) indicates that some traces of ridge and furrow may survive on the site itself.
- 4.37** The HHER contains an entry in respect of a medieval moated site that was recorded c. 400m north-east of the Study Site (MHT1228). It was shown on the 1884 Ordnance Survey as a well preserved sub-rectangular moat, fed at its north-east corner by a channel running from the River Hiz. Very little was found during a small archaeological excavation in 1965, and it was built over in about 1968. Medieval pottery and ironworking debris has been found to the south of the moated site (MHT1229).

- 4.38** A medieval ditch (MHT13274) was recorded during an evaluation at Arlesey Road, c. 140m east of the Study Site (EHT4801). The Old George public house on Arlesey Road was built in the late medieval period as an open hall house, and is a Grade II Listed Building (NHLE 1347090 / MHT17377).
- 4.39** Although the present building dates from the early 19th and 20th centuries, it is possible that Bowman's Mill on the River Oughton, c. 75m south-east of the Study Site, may have medieval origins (MHT5796).
- 4.40** Whilst there is some evidence of medieval activity within the study area, it is likely that the Study Site lay within the agricultural hinterland of Ickleford during this period, just south-west of the core of the village. Features relating to medieval or early post-medieval agricultural activity have been recorded during archaeological work to the east and west of the Study Site, and it is possible that traces of ridge and furrow may survive on the site itself. As a result, the potential for the study site to contain archaeological finds and features dating from the medieval period is deemed to be moderate. Any such remains which may be present on the site are likely to be of local significance only.

Post Medieval and Modern

- 4.41** One of the earliest available maps to show the study area is Christopher Saxton's survey of Hertfordshire from 1579 (Figure 5). This map clearly depicts Ickleford (*Hicklingford*) to the east of the River Hix, along with nearby settlements including Hitchin and Pirton. Nothing of interest is shown in the area of the Study Site itself on this map, and the River Oughton is not depicted.
- 4.42** The 1766 map of Hertfordshire by Andrew Dury and John Andrews shows the area in more detail, including the emerging road network (Figure 6). The village of Ickleford is clearly depicted, including the parish church and the High Street. Bedford Road is shown as a main route to the west of the Study Site, while Turnpike Lane is depicted as a minor road or track. The map also shows the River Oughton, and the mill shown is probably Bowman's Mill (MHT5796), which is believed to have medieval origins. Nothing of interest is shown on the Study Site itself.
- 4.43** A drawing for the Ordnance Survey from 1804 shows the study area more accurately than any of the earlier available maps (Figure 7). The River Oughton is shown in more detail along with Bedford Road and Turnpike Lane. The area within the Study Site appears to be split into three separate fields, although this may be schematic. It is possible that the dots shown in the eastern field could suggest that it was an orchard at the time, while the area closest to the river may have been used for pasture. The Study Site is not depicted on the Ickleford Parish Tithe Map from 1840 (not illustrated)
- 4.44** The First Edition Ordnance Survey from 1881 shows the area more accurately and in more detail than any of the earlier available maps (Figure 8). Turnpike Lane is labelled as 'Icknield Way (Roman Road)' on the map, and appears to be lined with trees along its southern side, some of which lie within the Study Site

itself. The north-west part of the site was occupied by allotment gardens, while the southern area consists of a field (plot 177) and woodland running along the north bank of the River Oughton. The eastern part of the site comprised part of a large field (plot 185) and a smaller enclosure (plot 183). Various trees are depicted in the eastern half of the site.

- 4.45** By the time the 1898 Ordnance Survey was published (Figure 9), the small enclosure (plot 183 on the 1881 map) had been removed from the eastern part of the Study Site. The allotment gardens in the western part of the site are no longer labelled as such, and a line of trees is shown running along the western boundary of the site, next to Bedford Road.
- 4.46** There had been a few changes within the Study Site by the time the 1922 Ordnance Survey was produced (Figure 10). The field boundary in the south-west part of the site had been removed between 1898 and 1922 to create one large field, and the line of trees along the western boundary was extended to the north and south. A small building is shown within the woodland in the southern part of the site. There are a number of small square features depicted within the site which may represent fenced off saplings. Immediately to the north-west of the site a new building called 'The Bungalow' was built between 1898 and 1922, and numerous new houses are shown along the north side of Turnpike Lane.
- 4.47** The 1939 Ordnance Survey (Figure 11) shows that the large house immediately to the north-west of the Study Site changed its name to Ickleford Manor between 1922 and 1939. A new track is shown running southwards from the house towards the River Oughton, and part of it lies within the Study Site. Part of the field boundary in the central part of the site appears to have been removed, and several new enclosures are shown in the north-east corner of the site, along with a small building.
- 4.48** There had been quite a few changes to the Study Site by the time the 1978-84 Ordnance Survey was produced (Figure 12). New areas of woodland are depicted along the western boundary, to the south of Ickleford Manor, and in the north-east corner of the site. The area to the south of Ickleford Manor is interesting as there are a series of small ponds or former quarry pits within the woodland. These 'pits' are not depicted on any historic maps and cannot be seen on the aerial images of the site. However, they are clearly visible on the Lidar image of the site (Plate 6). The woodland in the southern part of the site also appears to have been extended westwards and northwards. A new building and associated enclosure are shown in the northern part of the site, to the north-east of Ickleford Manor. The remaining land within the Study Site not occupied by woodland is shown within four irregular shaped fields.
- 4.49** No changes to the Study Site are evident on the 1999 Ordnance Survey (Figure 13), but the modern Ordnance Survey (Figure 14) shows that the western part of the site was subdivided into five smaller plots between 1999 and 2024, and several new stable buildings constructed. A couple of new fences are shown elsewhere on the site, and the woodland to the south of Ickleford Manor appears to have been joined up with the woodland along the

southern part of the site. The building first shown on the 1978-84 Ordnance Survey (Figure 12) in the northern part of the site appears to have been demolished.

- 4.50** Traces of former ridge and furrow cultivation, probably dating from the medieval or early post-medieval periods, have been identified in two areas to the north of the Study Site (MHT17905 and MHT17906). Further evidence of agricultural activity during these periods was recorded during the recent evaluations to the east (EHT9076) and west (EHT9037) of the Study Site. The Lidar image of the Study Site (Plate 6) indicates that some traces of ridge and furrow may survive on the site itself, and this was confirmed during the recent geophysical survey (Figure 16).
- 4.51** Archaeological features dating from the post-medieval period were recorded during an evaluation at Arlesey Road, c. 140m east of the Study Site (EHT4801 and MHT10865).
- 4.52** One of the HHER entries relates to Bowman's Mill on the River Oughton, c. 75m south-east of the Study Site (MHT5796). The present buildings date from the early 19th and 20th centuries, although the mill may have been established as far back as the medieval period. Other industrial sites listed in the HHER include Hyde Mill on the River Hix (MHT11415), West Mill on the River Oughton (MHT5794), a limeworks in the south-east part of the study area (MHT11417) and brickfields to the south (MHT12632). Some of these sites no longer exist.
- 4.53** The site of Pound Farm is recorded in the HHER within Ickleford village, and this site was built over in the late 1960s (MHT17376). Other historic farmsteads listed in the HHER include Westmill Farm, to the south-west of the Study Site (MHT30276 and MHT30277), and Arnolds Farm to the north (MHT31042).
- 4.54** There are several entries in respect of a former railway line which once ran to the east of the Study Site (MHT5611, MHT13313 and MHT18548). The line ran between Hitchin and Bedford and was opened by the Midland Railway in 1857. The line was closed and dismantled during the 1960s.
- 4.55** Some of the HHER entries relate to historic buildings which are recorded within the study area, most of which have been demolished or significantly altered. Ickleford House (MHT15978) is of particular interest as it once stood to the north-east of the Study Site, and it is likely that much of the area within the site formed part of the house's parkland. It is shown on many of the historic maps (Figures 6-11) although the former manor house was mostly destroyed by fire in 1911. Most of the buildings within the complex appear to have been demolished after the Second World War, although some elements are still standing, including the 17th century gatehouse. The Green Man public house within the village probably dated to at least the 18th century, but was rebuilt in about 1970 (MHT31190). Ickleford Gate was stood at a toll bar on Bedford Road, but was removed after the Second World War to increase visibility at the road junction (MHT31527). A late 16th century house, later known as The Laurels, once stood on Arlesley Road to the east of the Study Site, but was demolished in c. 1968 (MHT4517).

- 4.56** A pillbox (MHT6909) and Spigot mortar base (MHT6911) dating from the Second World War are recorded in the HHER to the south-east and south of the Study Site respectively.
- 4.57** One of the intriguing features recorded in the northern part of the site during the recent geophysical survey was a group of ferrous responses forming a rectangular shape (Figure 16). It seems likely that these mark the foundations of a relatively modern structure. The landowner has mentioned that this part of the site was used as a cricket pitch from the end of the Second World War until the late 1960s, and the foundations could therefore relate to a now demolished cricket pavilion. This short-lived structure does not appear on any of the available historic maps of aerial photographs.
- 4.58** Features relating to medieval or early post-medieval agricultural activity have been recorded during archaeological work to the east and west of the Study Site, and it is possible that traces of ridge and furrow may survive on the site itself. Historic maps suggest that much of the site was either farmland, woodland or parkland associated with Ickleford House to the north-east until relatively recently. The maps show that the site has had various changes to its field boundaries over the years, and that there have been a number of structures built on the site which no longer exist. The remains of a structure, not shown on any of the available maps, was recorded in the northern part of the site during the recent geophysical survey, and this may represent the footings of a short-lived cricket pavilion. As a result, the potential for the study site to contain archaeological finds and features dating from the post-medieval and modern periods is deemed to be moderate. Any such remains which may be present on the site are likely to be of local significance only.

Summary of Archaeological Potential and Assessment of Significance

- 4.59** The Study Site contains no designated archaeological heritage assets, and there are none within the 1km study area.
- 4.60** Very few archaeological features have been recorded in the study area, and evidence for activity in the prehistoric and Roman periods largely comes from stray finds of artefacts. It is possible that the lack of archaeological discoveries may merely reflect the paucity of fieldwork projects within the study area.
- 4.61** Historic maps indicate that the study site has been utilised as either agricultural land, woodland or parkland since at least the late 18th century, and there have been various changes to the field boundaries within the site over the years. Lidar images suggest that traces of former ridge and furrow cultivation may be present on the Study Site, and evidence of medieval and post-medieval agriculture has been recorded to the east and west of the site.
- 4.62** A review of the available evidence has confirmed that the Study Site has a low potential to contain archaeological finds and features from the prehistoric, Roman, and Saxon periods. The potential for the site to contain archaeological features dating from the medieval, post-medieval and modern periods is deemed to be moderate. These features are likely to consist of former field

boundaries, along with traces of ridge and furrow cultivation and modern buildings. Any such remains which might be present are likely to be of local significance only.

5.0 Proposed Development and Potential Impact on Archaeological Heritage Assets

Site Conditions

- 5.1 The Study Site consists of an irregular shaped plot of land located to the south-west of the historic core of Ickleford, Hertfordshire. Those areas of the site not covered in woodland are currently used for grazing horses.

The Proposed Development

- 5.2 It is proposed to re-develop the Study Site for housing, and a concept masterplan of the development is shown on Figure 15.

Potential Archaeological Impacts and Mitigation Measures

- 5.3 The proposed development will have no impact upon any designated archaeological heritage assets.
- 5.4 A review of the available evidence has confirmed that the study site has the following potential:
- A low potential to contain finds and features relating to the prehistoric, Roman and Saxon periods.
 - A moderate potential to contain finds and features relating to the medieval, post-medieval and modern periods.
- 5.5 Historic maps indicate that the Study Site has been either farmland, woodland or parkland from at least the late 18th century. As a result, any archaeological remains which might have been present on the site are likely to have survived. Any such remains are likely to be of local significance only.
- 5.6 The groundworks associated with the construction of the proposed development have the potential to impact on any previously unrecorded archaeological remains which may survive on the site as sub-surface features.
- 5.7 Impacts upon archaeological deposits can be mitigated for in advance of, or during construction works. It is possible that some form of archaeological work will be required in respect of the proposed development in due course. The exact scope and timing of any such work will need to be discussed between the appellant and the LPA's archaeological advisor.

6.0 Summary and Conclusions

- 6.1** This archaeological desk-based assessment considers Land South of Turnpike Lane, Ickleford, Hertfordshire, which is proposed for a new housing development (Figure 15).
- 6.2** The proposed development will have no impact upon the significance of any designated archaeological heritage assets in the surrounding area.
- 6.3** A review of the available evidence has confirmed that the study site has the following potential:
- A low potential to contain finds and features relating to the prehistoric, Roman and Saxon periods.
 - A moderate potential to contain finds and features relating to the medieval, post-medieval and modern periods.
- 6.4** Historic maps indicate that the Study Site has been utilised as either farmland, woodland or parkland from at least the late 18th century. Those areas not covered in woodland are currently used for grazing horses. As a result, any archaeological remains which might have been present on the site are likely to have survived.
- 6.5** Any archaeological remains which may have been present on the site are likely to be of local significance only.
- 6.6** The groundworks associated with the proposed development have the potential to disturb or destroy any archaeological remains which might be present on the site.
- 6.7** Impacts upon archaeological deposits can be mitigated for in advance of, or during construction works. It is possible that some form of archaeological work will be required in respect of the proposed development in due course. The exact scope and timing of any such work will need to be discussed between the appellant and the LPA's archaeological advisor.

Sources

General

British Library

The National Archives

Hertfordshire Historic Environment Record

Cartographic

1579	Saxton's Map of Hertfordshire
1766	Dury and Andrew's Map of Hertfordshire
1804	Drawing for the Ordnance Survey
1840	Ickleford Parish Tithe Map
1881	Ordnance Survey 1:2500 Map
1898	Ordnance Survey 1:2500 Map
1922	Ordnance Survey 1:2500 Map
1939	Ordnance Survey 1:2500 Map
1978-84	Ordnance Survey 1:2500 Map
1999	Ordnance Survey 1:10000 Map
2006	Ordnance Survey 1:10000 Map
2024	Ordnance Survey 1:10000 Map

Websites

Archaeological Data Service – www.ads.ahds.ac.uk

British History Online – <http://www.british-history.ac.uk/>

British Geological Society Geology of Britain Viewer -
<http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>

Historic England National Heritage List for England -
<https://www.historicengland.org.uk/listing/the-list/>

Heritage Gateway - www.heritagegateway.org.uk

MAGIC - www.magic.gov.uk

Open Domesday – www.opendomesday.org

Pastscape - www.pastscape.org.uk

Bibliographic

BGS, 1995, *British Geological Survey*, Sheet **221**, 1:50000, Solid and Drift Edition, Keyworth.

DCMS, 2013. Scheduled Monuments & nationally important but non-scheduled monuments. DCMS.

Department of Communities and Local Government, 2019. Planning Practice Guidance.

Department for Communities and Local Government, 2024. National Planning Policy Framework DCLG.

Historic England, 2015. Historic Environment Good Practice Advice in Planning: 2 – Managing Significance in Decision-Taking in the Historic Environment.

Historic England, 2017. Historic Environment Good Practice Advice in Planning Note 3 – The Setting of Heritage Assets.

Mills, A D, 1993, *English Place-names*, Oxford.

Sumo, 2025, 'Geophysical Survey Report – Ickleford Manor, Ickleford, Hertfordshire', unpublished report by Sumo Services Ltd, **SUMO-22628**

APPENDIX A – GAZETTEERS

GAZETTEER OF ARCHAEOLOGICAL ASSETS

In order to understand the nature and extent of the surrounding archaeological resource, a study area of a 1km radius from the centre of the study site was adopted. The following gazetteer represents all of the entries from the Hertfordshire Historic Environment Record.

Abbreviations

HHER: Hertfordshire Historic Environment Record
PrefRef: HHER monument identification reference number

PrefRef	Name	Period
MHT1192	PALAEOLITHIC FLINT IMPLEMENT(S), BRAMPTON PARK ROAD, HITCHIN	PALAEOLITHIC
MHT1231	?PALAEOLITHIC HANDAXE, BEARTON GREEN, HITCHIN	PALAEOLITHIC
MHT313	FOUR PALAEOLITHIC HANDAXES, ICKLEFORD	PALAEOLITHIC
MHT314	ACHEULIAN FLINTS AND SIX SCRAPERS, ICKLEFORD	PALAEOLITHIC
MHT2086	FLINT KNIFE AND NEOLITHIC FLINT AXE, BURY MEAD, HITCHIN	NEOLITHIC
MHT295	NEOLITHIC FLINT 'FIGURE STONES', BURY MEAD SEWAGE FARM, HITCHIN	NEOLITHIC
MHT4182	THE ICKNIELD WAY	EARLY NEOLITHIC TO LATE ROMAN
MHT17908	CROPMARKS OF RING DITCH, CURVILINEAR DITCH AND PITS, NORTH OF ARNOLDS FARM, ICKLEFORD	LATE NEOLITHIC TO EARLIER BRONZE AGE
MHT2553	CROPMARK OF RING DITCH, ICKLEFORD	LATE NEOLITHIC TO EARLIER BRONZE AGE
MHT1207	ROMANO-BRITISH CREMATION CEMETERY, BURY MEAD, HITCHIN	LATE IRON AGE TO EARLY ROMAN
MHT1190	ROMAN POTTERY, HYDE MILL, HITCHIN/ICKLEFORD	ROMAN
MHT1205	ROMANO-BRITISH POT, BURY MEAD, HITCHIN	ROMAN
MHT1209	TWO ROMANO-BRITISH QUERNS, BURY MEAD, HITCHIN	ROMAN
MHT1230	ROMAN COINS, WEST MILL, ICKLEFORD	ROMAN
MHT1234	ROMAN COINS AND POTTERY, ICKLEFORD	ROMAN
MHT1208	ROMAN COINS, BURY MEAD, HITCHIN	LATE ROMAN

MHT1616	THREE ?ANGLO-SAXON SPEARHEADS, ICKLEFORD	EARLY MEDIEVAL
MHT1228	SITE OF MOAT, POUND FARM, UPPER GREEN, ICKLEFORD	MEDIEVAL
MHT1229	MEDIEVAL POTTERY, IRONWORKING DEBRIS AND IRON OBJECTS, SOUTH OF POUND FARM, ICKLEFORD	MEDIEVAL
MHT13274	MEDIEVAL DITCH, DUNCOT CLOSE, ICKLEFORD	MEDIEVAL
MHT4306	CHURCH OF ST KATHERINE, ICKLEFORD	MEDIEVAL
MHT17377	THE OLD GEORGE PH, 41 ARLESEY ROAD, ICKLEFORD	MEDIEVAL TO POST MEDIEVAL
MHT17905	RIDGE & FURROW, BEDFORD ROAD, ICKLEFORD	MEDIEVAL TO POST MEDIEVAL
MHT17906	RIDGE & FURROW, ICKLEFORD	MEDIEVAL TO POST MEDIEVAL
MHT4426	ICKLEFORD VILLAGE	MEDIEVAL TO POST MEDIEVAL
MHT5796	BOWMAN'S MILL, OLD HALF WAY, ICKLEFORD	MEDIEVAL TO POST MEDIEVAL
MHT10865	POST-MEDIEVAL FEATURES AT 34 ARLESEY ROAD (DUNCOT CLOSE), ICKLEFORD	POST MEDIEVAL
MHT11415	SITE OF HYDE MILL, ICKLEFORD	POST MEDIEVAL
MHT11417	SITE OF GREYSTONE LIME WORKS, CADWELL LANE, HITCHIN	POST MEDIEVAL
MHT12632	SITE OF BRICKFIELDS, BEARTON GREEN, HITCHIN	POST MEDIEVAL
MHT13313	REMAINS OF MIDLAND RAILWAY LINE, CADWELL LANE, HITCHIN	POST MEDIEVAL
MHT15978	ICKLEFORD HOUSE, ICKLEFORD	POST MEDIEVAL
MHT17376	SITE OF POUND FARM, UPPER GREEN, ICKLEFORD	POST MEDIEVAL
MHT30276	OLD WESTMILL FARMHOUSE, WESTMILL LANE, ICKLEFORD	POST MEDIEVAL
MHT30277	WESTMILL FARM, WESTMILL LANE, ICKLEFORD	POST MEDIEVAL
MHT31042	ARNOLDS FARM, UPPER GREEN, ICKLEFORD	POST MEDIEVAL
MHT31527	SITE OF ICKLEFORD GATE, ICKNIELD WAY, ICKLEFORD	POST MEDIEVAL
MHT4517	SITE OF LATE 16TH CENTURY HOUSE (THE LAURELS), ARLESEY ROAD, ICKLEFORD	POST MEDIEVAL
MHT5611	SITE OF RAILWAY BRIDGE, ICKLEFORD	POST MEDIEVAL
MHT5794	REMAINS OF WEST MILL, WESTMILL LANE, ICKLEFORD	POST MEDIEVAL

MHT18548	COURSE OF MIDLAND RAILWAY (BEDFORD & HITCHIN BRANCH), BEDFORD ROAD, ICKLEFORD	POST MEDIEVAL
MHT31190	THE GREEN MAN PH, ARLESEY ROAD, ICKLEFORD	POST MEDIEVAL TO TWENTIETH CENTURY
MHT6909	PILLBOX, OLD HALE WAY, ICKLEFORD	WORLD WAR II
MHT6911	SPIGOT MORTAR BASE, BEDFORD ROAD, HITCHIN	WORLD WAR II
MHT1189	UNDATED IRON SPEARHEAD/DAGGER, WEST MILL, HITCHIN	UNKNOWN
MHT17907	CROPMARKS OF PITS, NORTH OF ARNOLDS FARM, ICKLEFORD	UNKNOWN

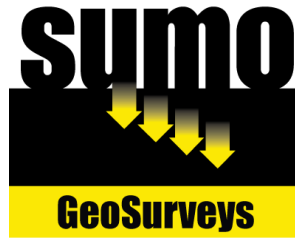
GAZETTEER OF ARCHAEOLOGICAL EVENTS

The following gazetteer represents all events recorded by the HHER within the 1km study area.

Abbreviations

Event ID: HHER event identification reference number

Event ID	Name	Organisation
EHT1297	OBSERVATION OF WORKS AT ST KATHERINE'S CHURCH, ICKLEFORD, 2007	ALBION ARCHAEOLOGY
EHT1841	AIR PHOTO SHOWING A CROPMARK OF A RING DITCH, ICKLEFORD	HCC PLANNING DEPT AIR PHOTOS(+HUNTINGS ORIG VERTI)
EHT2570	AIR PHOTO SHOWING A RING DITCH, HITCHIN	HERTS COUNTY COUNCIL 25" VERTICAL PHOTOMAPS
EHT4801	EVALUATION AT 34 ARLESEY ROAD, ICKLEFORD, 1996-97	THE HERITAGE NETWORK
EHT5653	GEOPHYSICAL SURVEY FOR EAST COAST MAIN LINE (ECML) HITCHIN GRADE SEPARATION, 2008	GSB PROSPECTION
EHT5669	GEOPHYSICAL SURVEY OF PROPOSED NEW BURIAL GROUND, ALLEYFIELD, NORTH OF ARNOLD'S FARM, ICKLEFORD, 2006	STRATASCAN
EHT7197	EVALUATION AT ST KATHERINE'S CHURCH, ICKLEFORD, 2011	THE HERITAGE NETWORK
EHT8136	ASSESSMENT OF THE GREEN MAN, ARLESEY ROAD, ICKLEFORD, 2016	HERITAGE NETWORK
EHT8516	EVALUATION AT THE GREEN MAN, ICKLEFORD, 2016	HERITAGE NETWORK
EHT9037	EVALUATION AT BURFORD GRANGE BEDFORD ROAD ICKLEFORD, 2022	COTSWOLD ARCHAEOLOGY
EHT9076	EVALUATION AT LAND AT TURNPIKE LANE AND ADJACENT TO 4 MANOR CLOSE ICKLEFORD, 2022	MINERVA ARCHAEOLOGY LTD
EHT9129	STRIP MAP AND RECORD AT LAND WEST OF BEDFORD ROAD AND REAR OF BURFORD GRANGE BEDFORD ROAD ICKLEFORD, 2023	COTSWOLD ARCHAEOLOGY



GEOPHYSICAL SURVEY REPORT

Ickleford Manor, Ickleford, Hertfordshire

Client

Orion Heritage Ltd

For

Hawridge Strategic Land Limited

Survey Report

SUMO-22628

OASIS Ref. No.

sumogeop1-534766

Date

07 July 2025



Survey Report SUMO-22628: Ickleford Manor, Ickleford, Hertfordshire

Survey dates	25 June 2025
Field co-ordinator	Mia Long BA MSc
Field Team	Morgan Potter
Report Date	07 July 2025
CAD Illustrations	Thomas Cockcroft MSc MCIfA
Report Author	Thomas Cockcroft MSc MCIfA
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SUMO GeoSurveys is a trading name of SUMO Geophysics Ltd.

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Appendix A	Technical Information: Magnetometer Survey Methods, Processing and Presentation
Appendix B	Technical Information: Magnetic Theory
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3 SURVEY TECHNIQUE

- 3.1 Detailed magnetic survey (magnetometry) was chosen as the most efficient and effective method of locating the type of archaeological anomalies which might be expected at this site. All survey techniques followed the guidance set out by ClfA (2020) and the European Archaeology Council (EAC) (2016).

MACS Cart System (Foerster) Traverse Interval 1.0m Sample Interval 0.125m

The only processes performed on data are the following unless specifically stated otherwise:

Zero Mean Traverse	This process sets the background mean of each traverse to zero. The operation removes instrument striping effects and edge discontinuities over the whole of the data set.
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4 EXECUTIVE SUMMARY OF RESULTS

- 4.1 A magnetometer survey of land at Ickleford Manor, Ickleford, Hertfordshire has not recorded any magnetic responses that could be interpreted as being of definite archaeological interest, except for ridge and furrow cultivation. Uncertain anomalies are likely to have been caused by a combination of natural variations, agricultural processes, or buried ferrous. Former field boundaries and electric fences have been detected in the survey along with the route of a service pipe. A group of ferrous responses forming a rectangular shape in the north of Area 8 probably mark the foundations of a relatively modern structure. While others in Areas 6 and 7 are likely to have been caused by buried debris. A zone of magnetic disturbance in Area 4 is due to spreads of spoil.

5 INTRODUCTION

- 5.1 **SUMO GeoSurveys** was commissioned to undertake a geophysical survey of an area outlined for development. This survey forms part of an archaeological investigation being undertaken by **Orion Heritage Ltd** on behalf of **Hawridge Strategic Land Limited**.

5.2 Site Details

NGR / Postcode	TL 17984 31255 / SG5 3XB
Location	The site is located 3.5 km west of Letchworth Garden City and on the northern outskirts of Hitchin. The survey area is bounded to the north by Turnpike Lane, to the west by Bedford Road and to the south by the River Oughton.
HER	Hertfordshire HER
OASIS Ref. No.	sumogeop1-534766
District	North Hertfordshire District
Parish	Ickleford Civil Parish
Topography	Flat
Land Use	Pasture / arable
Geology	Bedrock: Gault Formation – Mudstone
(BGS 2025)	Superficial: Glaciofluvial Deposits, Mid Pleistocene - Sand and gravel Alluvium - Clay, silt, sand and gravel.
Soils (CU 2025)	Soilscape 8: Slightly acid loamy and clayey soils with impeded drainage Soilscape 20: Loamy and clayey floodplain soils with naturally high groundwater
Survey Methods	Magnetometer survey (fluxgate gradiometer)
Study Area	3.75 ha (1 ha unsurveyable)

5.3 **Archaeological Background** (OH 2025)

- 5.3.1 Whilst some evidence of prehistoric activity has been recorded within the study area, very little is in close proximity to the Study Site itself. As a result, the potential for the Study Site to contain archaeological finds and features dating from the prehistoric period is deemed to be low.
- 5.3.2 It is possible that the line of the Icknield Way which is recorded along Turnpike Lane, immediately to the north of the Study Site, could have originated during the Roman period or even earlier. However, apart from stray finds of Roman objects, the only Roman site within the study area is the cremation cemetery that was recorded c. 800m to the south-east in 1877. As

a result, the potential for the study site to contain archaeological finds and features dating from the Roman period is deemed to be low.

- 5.3.3 There is very little evidence of Saxon activity within the study area, and It is possible that any traces of the original Saxon settlement lie beneath the present village, to the north-east of the Study Site. As a result, the potential for the study site to contain archaeological finds and features dating from the Saxon period is deemed to be low.
- 5.3.4 Features relating to medieval or early post-medieval agricultural activity have been recorded during archaeological work to the east and west of the Study Site, and it is possible that traces of ridge and furrow may survive on the site itself. As a result, the potential for the study site to contain archaeological finds and features dating from the medieval period is deemed to be moderate.
- 5.3.5 Historic maps suggest that much of the site was either farmland, woodland or parkland associated with Ickleford House to the north-east until relatively recently. The maps show that the site has had various changes to its field boundaries over the years, and that there have been a number of structures built on the site which no longer exist. As a result, the potential for the study site to contain archaeological finds and features dating from the post-medieval and modern periods is deemed to be moderate.

5.4 ***Aims and Objectives***

- 5.4.1 To locate and characterise any anomalies of possible archaeological interest within the study area.

6 **RESULTS**

- 6.1 *The survey has been divided into nine survey areas (Areas 1-9) and specific anomalies have been given numerical labels [1] [2] which appear in the text below, as well as on the Interpretation Figure(s).*

6.2 ***Probable / Probable Archaeology***

- 6.2.1 No magnetic responses have been recorded that could be interpreted as being of definite archaeological interest, expect for ridge and furrow cultivation (see 6.3).

6.3 ***Ridge and Furrow***

- 6.3.1 Broad, widely spaced and parallel linear anomalies in Areas 2, 3 and 4 have been caused by historic ridge and furrow cultivation; they are also visible in these areas on the LiDAR data plot (see Figure 06).

6.4 ***Uncertain***

- 6.4.1 Several trends and discrete anomalies have been recorded in the survey which have been assigned to the category of *Uncertain origin*. They are magnetically weak and lack the defined morphology of anomalies that would normally warrant an archaeological interpretation. They have probably been caused by a combination of underlying natural variations, agricultural processes, or buried ferrous debris.

6.5 ***Former Field Boundary – Corroborated***

- 6.5.1 Linear anomalies of varying magnetic strength have been marked in Areas 6, 7 and 8 which correspond with the alignment of former field boundary that are visible in historic mapping (see Figure 05).

6.6 **Temporary Electric Fencing**

- 6.6.1 Lines of closely spaced discrete circular anomalies have been detected in Areas 5, 7 and 8 which have been caused by temporary electric fences. Some of the fences are visible on 2025 aerial imagery (see Figure 06).

6.7 **Service**

- 6.7.1 A strong dipolar linear ferrous anomaly in the north of Area 8 marks the route of an underground service.

6.8 **Ferrous / Magnetic Disturbance**

- 6.8.1 In the north of Area 8 a group of positive ferrous anomalies [1] have been detected which form a rectangular shape measuring 29 m by 14 m. The responses may have been caused by metal tips (originally attached to wooden posts) or iron rods being left in the ground; as such they probably have modern origins and may mark the location of a former post-built structure or a temporary small compound, though nothing is visible on old mapping. Similar responses [2] have also been detected in Areas 6 and 7, again, these are likely to have modern origins. In this instance they correspond with the location of a former allotment garden and are due to buried ferrous debris (see Figure 05).
- 6.8.2 A zone of magnetic disturbance [3] is visible in Area 4. It corresponds with groundworks that are visible on 2018 aerial imagery and its likely to have been caused by spreads of debris or spoil (see Figure 05).
- 6.8.3 Other ferrous responses close to boundaries are due to adjacent roads, buildings, fences and gates. Smaller scale ferrous anomalies ("iron spikes") are present throughout the data and are characteristic of small pieces of ferrous debris (or brick / tile) in the topsoil; they are commonly assigned a modern origin. Only the most prominent of these are highlighted on the interpretation diagram.

7 **DATA APPRAISAL & CONFIDENCE ASSESSMENT**

- 7.1 Historic England Table 4 (EH 2008) states that the typical magnetic response on the local soils / geology is variable. The results from this survey indicate the presence of ridge and furrow cultivation; consequently, there is no *a priori* reason why archaeological features would not have been detected.

8 **CONCLUSION**

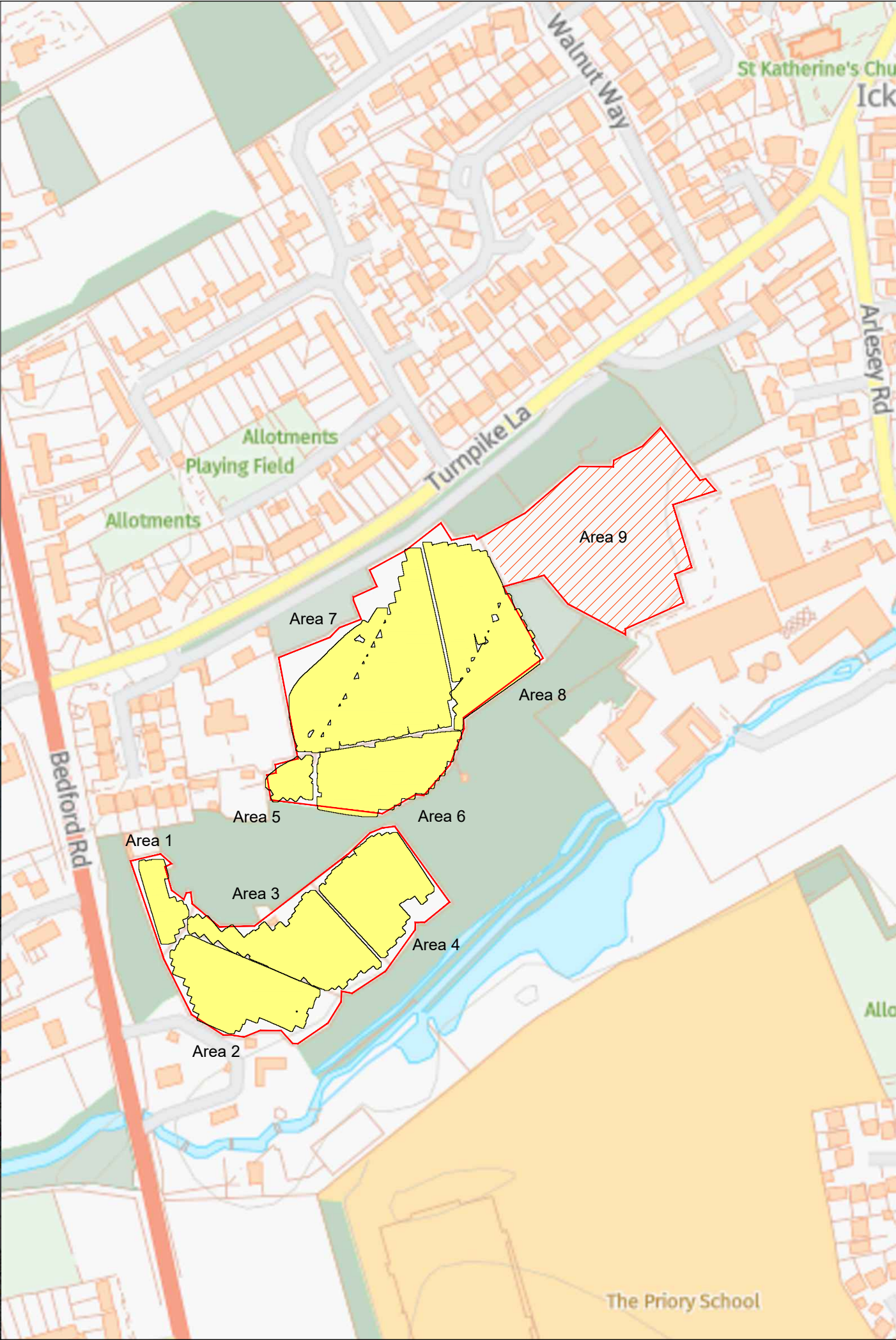
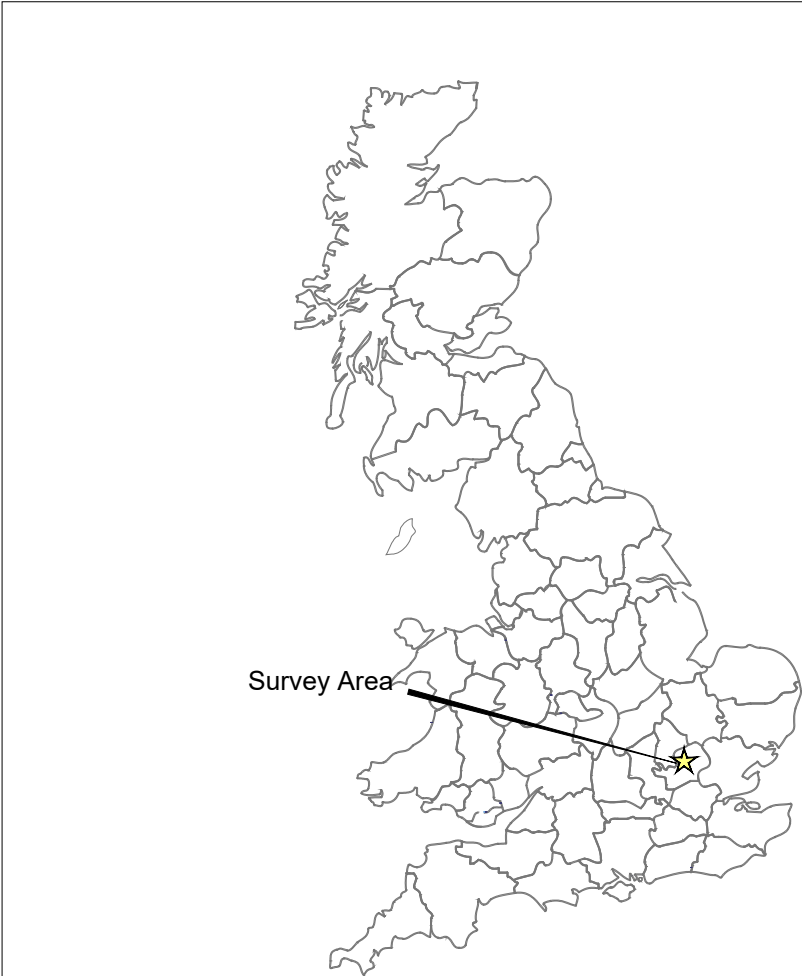
- 8.1 The magnetometer survey has not recorded any magnetic responses that could be interpreted as being of definite archaeological interest, except for ridge and furrow cultivation, which is visible in Areas 2, 3 and 4. A number of uncertain anomalies in the survey are likely to have been caused by a combination of natural variations, agricultural processes, or buried ferrous debris. Former field boundaries and electric fences have been detected in the survey along with the route of a service pipe. A group of ferrous responses forming a rectangular shape in the north of Area 8 probably mark the foundations of a relatively modern structure. Other ferrous like responses in Areas 6 and 7 are likely to have been caused by buried debris. A zone of magnetic disturbance in Area 4 is due to spreads of spoil.

9 REFERENCES

- BGS 2025 *Geology of Britain Viewer*, British Geological Survey, website:
(<http://www.bgs.ac.uk/opengeoscience/home.html?Accordion1=1#maps>)
- ClfA 2020 *Standard and Guidance for Archaeological Geophysical Survey*. 2014 amended 2020. ClfA Guidance note. Chartered Institute for Archaeologists, Reading
https://www.archaeologists.net/sites/default/files/ClfAS%26GGeophysics_3.pdf
- CU 2025 *The Soils Guide*. www.landis.org.uk. Cranfield University, UK. website:
<http://mapapps2.bgs.ac.uk/ukso/home.html>
- EAC 2016 *EAC Guidelines for the Use of Geophysics in Archaeology*, European Archaeological Council, Guidelines 2.
- EH 2008 *Geophysical Survey in Archaeological Field Evaluation*. English Heritage, Swindon (now withdrawn, but used for evaluating suitability of soil types)
- OH 2025 *Ickleford Manor, Ickleford, Hertfordshire Archaeological Desk-Based Assessment*. Orion Heritage Ltd, London

10 ARCHIVE

- 10.1 The minimally processed data, data images, XY traces and a copy of this report are stored in **SUMO GeoSurveys'** digital archive, on an internal RAID configured NAS drive in the Midlands Office. These data are also backed up to the Cloud for off-site storage.
- 10.2 The Grey Literature will be archived with OASIS and the relevant HER within a period of 12 months.

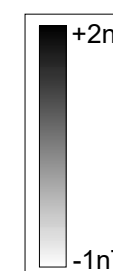


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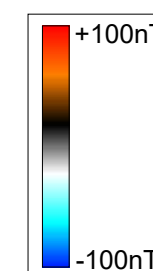
	Survey Areas
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Title:	Site Location	
Client:	Orion Heritage Ltd	
Project:	SUMO-22628: Ickleford Manor, Ickleford, Hertfordshire	
Scale:	NOT TO SCALE	Fig No: 01



Title: Magnetometer Survey - Greyscale Plots	
Client: Orion Heritage Ltd	
Project: SUMO-22628: Ickleford Manor, Ickleford, Hertfordshire	
Scale: 0 75 metres 1:1500 @ A3	Fig No: 02



Title: Magnetometer Survey - Colour Plots	
Client: Orion Heritage Ltd	
Project: SUMO-22628: Ickleford Manor, Ickleford, Hertfordshire	
Scale: 0 75 metres 1:1500 @ A3	Fig No: 03

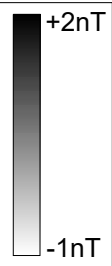
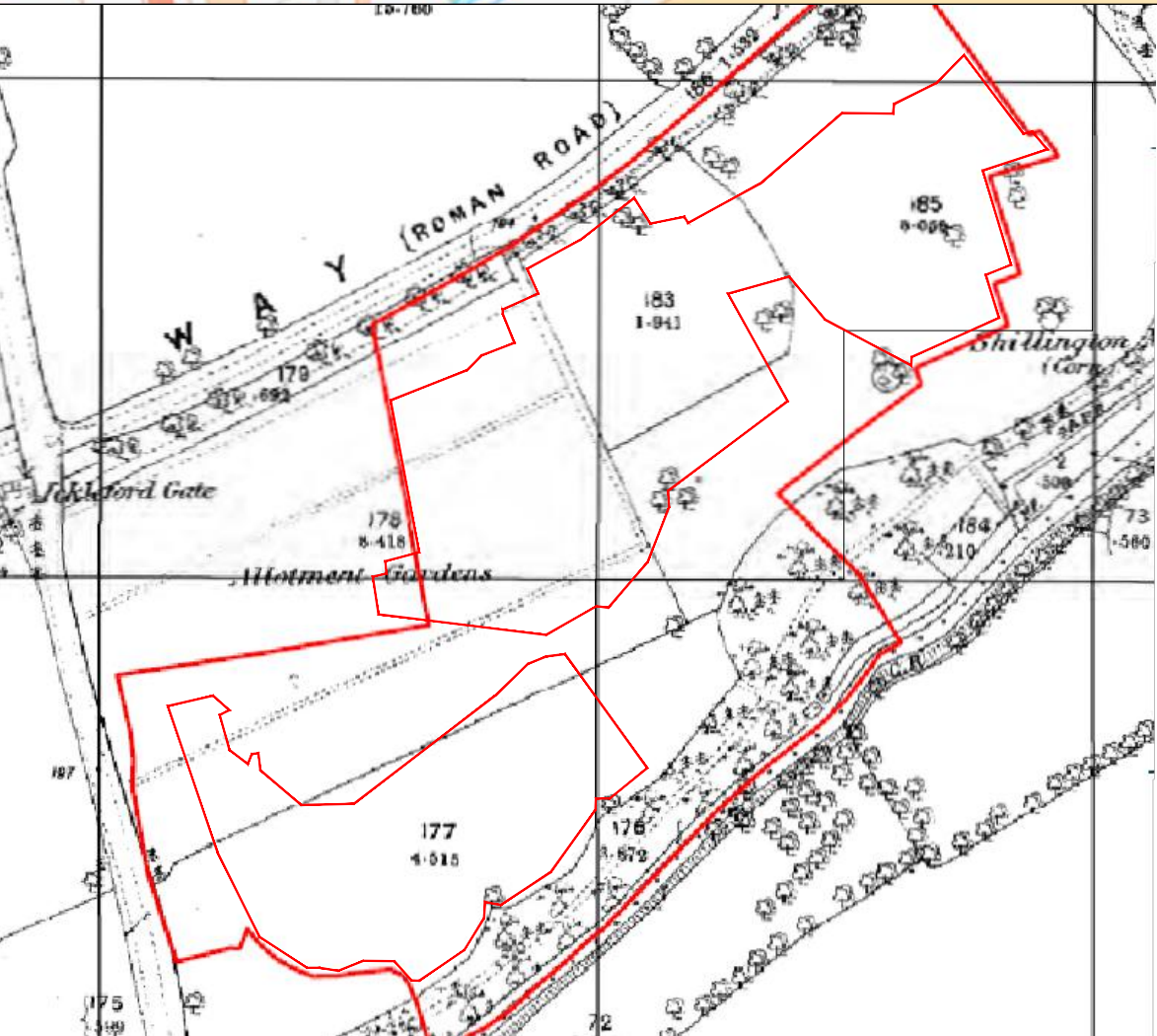


KEY

	Ridge and furrow
	Uncertain Origin (discrete anomaly / trend / increased response)
	Former field boundary (corroborated)
	Temporary electric fencing
	Magnetic disturbance
	Service
	Ferrous (positive response)
	Ferrous



Title: Magnetometer Survey - Interpretation	
Client: Orion Heritage Ltd	
Project: SUMO-22628: Ickleford Manor, Ickleford, Hertfordshire	
Scale: 0 75 metres 1:1500 @ A3	Fig No: 04

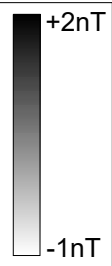
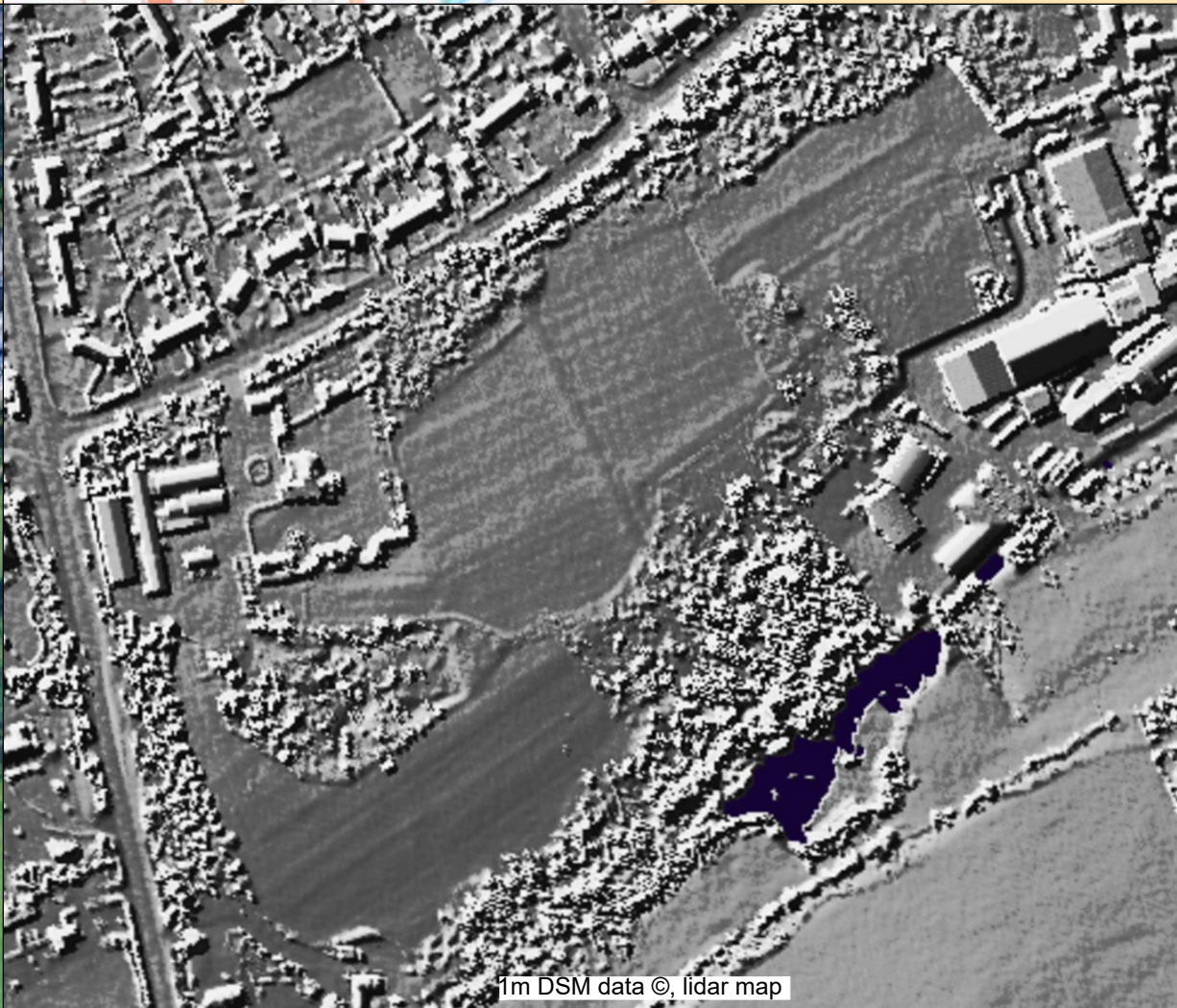


KEY

	Ridge and furrow
	Uncertain Origin (discrete anomaly / trend / increased response)
	Former field boundary (corroborated)
	Temporary electric fencing
	Magnetic disturbance
	Service
	Ferrous (positive response)
	Ferrous



Title: Greyscale Plots / Interpretation / 1881 Ordnance Survey Map (OH 2025) / 2018 Aerial Image	
Client: Orion Heritage Ltd	
Project: SUMO-22628: Ickleford Manor, Ickleford, Hertfordshire	
Scale: NOT TO SCALE	Fig No: 05

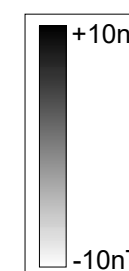


KEY

	Ridge and furrow
	Uncertain Origin (discrete anomaly / trend / increased response)
	Former field boundary (corroborated)
	Temporary electric fencing
	Magnetic disturbance
	Service
	Ferrous (positive response)
	Ferrous



Title: Greyscale Plots / Interpretation / 2025 Aerial Image / LiDAR Data Plot	
Client: Orion Heritage Ltd	
Project: SUMO-22628: Ickleford Manor, Ickleford, Hertfordshire	
Scale: NOT TO SCALE	Fig No: 06



Title: Minimally Processed Data - Greyscale Plots	
Client: Orion Heritage Ltd	
Project: SUMO-22628: Ickleford Manor, Ickleford, Hertfordshire	
Scale: 0 75 metres 1:1500 @ A3	Fig No: 07



Title: XY Trace Plots (clipped at +/-15nT)	
Client: Orion Heritage Ltd	
Project: SUMO-22628: Ickleford Manor, Ickleford, Hertfordshire	
Scale: 0 metres 75 1:1500 @ A3	Fig No: 08

Appendix A - Technical Information: Magnetometer Survey Method

Grid Positioning

For hand held gradiometers the location of the survey grids has been plotted together with the referencing information. Grids were set out using a Trimble R8 Real Time Kinematic (RTK) VRS Now GNSS GPS system.

An RTK GPS (Real-time Kinematic Global Positioning System) can locate a point on the ground to a far greater accuracy than a standard GPS unit. A standard GPS suffers from errors created by satellite orbit errors, clock errors and atmospheric interference, resulting in an accuracy of 5m-10m. An RTK system uses a single base station receiver and a number of mobile units. The base station re-broadcasts the phase of the carrier it measured, and the mobile units compare their own phase measurements with those they received from the base station. This results in an accuracy of around 0.01m.

Technique	Instrument	Traverse Interval	Sample Interval
Magnetometer	Bartington Grad 601-2	1.0m	0.25m
Magnetometer	Bartington Cart System	1.0m	0.125m
Magnetometer	MACS Cart System (Foerster)	1.0m	0.125m

Instrumentation:

Bartington instruments operate in a gradiometer configuration which comprises fluxgate sensors mounted horizontally, set 1.0m apart. The fluxgate gradiometer suppresses any diurnal or regional effects. The instruments are carried, or cart mounted, with the bottom sensor approximately 0.1-0.3m from the ground surface. At each survey station, the difference in the magnetic field between the two fluxgates is measured in nanoTesla (nT). The sensitivity of the instrument can be adjusted; for most archaeological surveys the most sensitive range (0.1nT) is used. Generally, features up to 1m deep may be detected by this method, though strongly magnetic objects may be visible at greater depths.

Bartington Grad 601-2

Hand-Held: Data will be collected using a Bartington Grad 601-2. The instrument consists of two paired sensors and readings are logged at 0.25m centres along traverses 1.0m apart across 30m grids. The collection of data at 0.25m centres provides an appropriate methodology balancing cost and time with resolution as per Historic England guidelines

Bartington Cart System

Data will be collected using a cart carrying four paired Bartington magnetic sensors. Each data point is geographically referenced using an on-board Trimble RTK survey grade GPS system. Readings will be taken at 0.125m centres along traverses 1.0m apart.

MACS Cart System (Foerster)

A multi-sensor array cart system (MACS) utilising 4 Foerster 4.032 Ferex CON 650 gradiometers, spaced at 1m intervals, with a control unit and data logger was used for the magnetic survey. Each data point is geographically referenced using an on-board RTK GNSS system. Readings will be taken at 0.125m centres along traverses 1.0m apart.

Data Processing

Zero Mean	This process sets the background mean of each traverse within each grid to zero.
Traverse	The operation removes striping effects and edge discontinuities over the whole of the data set.
Step Correction (De-stagger)	When gradiometer data are collected in 'zig-zag' fashion, stepping errors can sometimes arise. These occur because of a slight difference in the speed of walking on the forward and reverse traverses. The result is a staggered effect in the data, which is particularly noticeable on linear anomalies. This process corrects these errors.

Display

Greyscale/
Colourscale Plot

This format divides a given range of readings into a set number of classes. Each class is represented by a specific shade of grey, the intensity increasing with value. All values above the given range are allocated the same shade (maximum intensity); similarly, all values below the given range are represented by the minimum intensity shade. Similar plots can be produced in colour, either using a wide range of colours or by selecting two or three colours to represent positive and negative values. The assigned range (plotting levels) can be adjusted to emphasise different anomalies in the data-set.

Interpretation Categories

In certain circumstances (usually when there is corroborative evidence from desk-based or excavation data) very specific interpretations can be assigned to magnetic anomalies (for example, *Roman Road, Wall*, etc.) and where appropriate, such interpretations will be applied. The list below outlines the generic categories commonly used in the interpretation of the results.

<i>Archaeology / Probable Archaeology</i>	This term is used when the form, nature and pattern of the responses are clearly or very probably archaeological and /or if corroborative evidence is available. These anomalies, whilst considered anthropogenic, could be of any age.
<i>Possible Archaeology</i>	These anomalies exhibit either weak signal strength and / or poor definition, or form incomplete archaeological patterns, thereby reducing the level of confidence in the interpretation. Although the archaeological interpretation is favoured, they may be the result of variable soil depth, plough damage or even aliasing as a result of data collection orientation.
<i>Industrial / Burnt-Fired</i>	Strong magnetic anomalies that, due to their shape and form or the context in which they are found, suggest the presence of kilns, ovens, corn dryers, metal-working areas or hearths. It should be noted that in many instances modern ferrous material can produce similar magnetic anomalies.
<i>Former Field Boundary (probable & possible)</i>	Anomalies that correspond to former boundaries indicated on historic mapping, or which are clearly a continuation of existing land divisions. Possible denotes less confidence where the anomaly may not be shown on historic mapping but nevertheless the anomaly displays all the characteristics of a field boundary.
<i>Ridge & Furrow</i>	Parallel linear anomalies whose broad spacing suggests ridge and furrow cultivation. In some cases, the response may be the result of more recent agricultural activity.
<i>Agriculture (ploughing)</i>	Parallel linear anomalies or trends with a narrower spacing, sometimes aligned with existing boundaries, indicating more recent cultivation regimes.
<i>Land Drain</i>	Weakly magnetic linear anomalies, quite often appearing in series forming parallel and herringbone patterns. Smaller drains may lead and empty into larger diameter pipes, which in turn usually lead to local streams and ponds. These are indicative of clay fired land drains.
<i>Natural</i>	These responses form clear patterns in geographical zones where natural variations are known to produce significant magnetic distortions.
<i>Magnetic Disturbance</i>	Broad zones of strong dipolar anomalies, commonly found in places where modern ferrous or fired materials (e.g. brick rubble) are present.
<i>Service</i>	Magnetically strong anomalies, usually forming linear features are indicative of ferrous pipes/cables. Sometimes other materials (e.g. pvc) or the fill of the trench can cause weaker magnetic responses which can be identified from their uniform linearity.
<i>Ferrous</i>	This type of response is associated with ferrous material and may result from small items in the topsoil, larger buried objects such as pipes, or above ground features such as fence lines or pylons. Ferrous responses are usually regarded as modern.

Individual burnt stones, fired bricks or igneous rocks can produce responses similar to ferrous material.

Uncertain Origin

Anomalies which stand out from the background magnetic variation, yet whose form and lack of patterning gives little clue as to their origin. Often the characteristics and distribution of the responses straddle the categories of *Possible Archaeology / Natural* or (in the case of linear responses) *Possible Archaeology / Agriculture*; occasionally they are simply of an unusual form.

Where appropriate some anomalies will be further classified according to their form (positive or negative) and relative strength and coherence (trend: weak and poorly defined).

Appendix B - Technical Information: Magnetic Theory

Detailed magnetic survey can be used to effectively define areas of past human activity by mapping spatial variation and contrast in the magnetic properties of soil, subsoil and bedrock. Although the changes in the magnetic field resulting from differing features in the soil are usually weak, changes as small as 0.1 nanoTeslas (nT) in an overall field strength of 48,000 (nT), can be accurately detected.

Weakly magnetic iron minerals are always present within the soil and areas of enhancement relate to increases in *magnetic susceptibility* and permanently magnetised *thermoremanent* material.

Magnetic susceptibility relates to the induced magnetism of a material when in the presence of a magnetic field. This magnetism can be considered as effectively permanent as it exists within the Earth's magnetic field. Magnetic susceptibility can become enhanced due to burning and complex biological or fermentation processes.

Thermoremanence is a permanent magnetism acquired by iron minerals that, after heating to a specific temperature known as the Curie Point, are effectively demagnetised followed by re-magnetisation by the Earth's magnetic field on cooling. Thermoremanent archaeological features can include hearths and kilns; material such as brick and tile may be magnetised through the same process.

Silting and deliberate infilling of ditches and pits with magnetically enhanced soil creates a relative contrast against the much lower levels of magnetism within the subsoil into which the feature is cut. Systematic mapping of magnetic anomalies will produce linear and discrete areas of enhancement allowing assessment and characterisation of subsurface features. Material such as subsoil and non-magnetic bedrock used to create former earthworks and walls may be mapped as areas of lower enhancement compared to surrounding soils.

Magnetic survey is carried out using a fluxgate gradiometer which is a passive instrument consisting of two sensors mounted vertically 1m apart. The instrument is carried about 30cm above the ground surface and the top sensor measures the Earth's magnetic field whilst the lower sensor measures the same field but is also more affected by any localised buried feature. The difference between the two sensors will relate to the strength of a magnetic field created by this feature, if no field is present the difference will be close to zero as the magnetic field measured by both sensors will be the same.

Factors affecting the magnetic survey may include soil type, local geology, previous human activity and disturbance from modern services.

Appendix C - OASIS Summary

OASIS ID (UID)	sumogeop1-534766
Project Name	Geophysical Survey at Ickleford Manor, Ickleford, Hertfordshire
Sitename	Ickleford Manor, Ickleford, Hertfordshire
Sitecode	SUMO-22628
Project Identifier(s)	SUMO-22628
Activity type	Geophysical Survey, MAGNETOMETRY SURVEY
Planning Id	
Reason For Investigation	Planning requirement
Organisation Responsible for work	SUMO Geophysics Ltd.
Project Dates	25-Jun-2025 - 25-Jun-2025
Location	Ickleford Manor, Ickleford, Hertfordshire NGR: TL 17922 31108 LL: 51.9659466766927, -0.284986663962525 12 Fig: 517922,231108 NGR: TL 18047 31297 LL: 51.9676207873662, -0.283109147197547 12 Fig: 518047,231297
Administrative Areas	Country: England County/Local Authority: Hertfordshire Local Authority District: North Hertfordshire Parish: Ickleford
Project Methodology	Data was collected using a cart carrying four paired Bartington magnetic sensors. Four sensors mounted 1m horizontally apart and very accurately aligned to nullify the effects of the earth's magnetic field. Readings relate to the difference in localised magnetic anomalies compared with the general magnetic background. Each data point is geographically referenced using an on-board Trimble RTK survey grade GPS system. Readings were taken at 0.125m centres along traverses 1.0m apart. Readings relate to the difference in localised magnetic anomalies compared with the general magnetic background.
Project Results	The magnetometer survey has not recorded any magnetic responses that could be interpreted as being of definite archaeological interest, except for ridge and furrow cultivation, which is visible in Areas 2, 3 and 4. A number of uncertain anomalies in the survey are likely to have been caused by a combination of natural variations, agricultural processes, or buried ferrous debris. Former field boundaries and electric fences have been detected in the survey along with the route of a service pipe. A group of ferrous responses forming a rectangular shape

	in the north of Area 8 probably mark the foundations of a relatively modern structure. Other ferrous like responses in Areas 6 and 7 are likely to have been caused by buried debris. A zone of magnetic disturbance in Area 4 is due to spreads of spoil.
Keywords	Ridge And Furrow - MEDIEVAL - FISH Thesaurus of Monument Types Field Boundary - POST MEDIEVAL - FISH Thesaurus of Monument Types Fence - 20TH CENTURY - FISH Thesaurus of Monument Types Pipeline - 20TH CENTURY - FISH Thesaurus of Monument Types
Funder	Private or public corporation Orion Heritage Ltd
HER	Hertfordshire HER - unRev - STANDARD
Person Responsible for work	Thomas Cockcroft
HER Identifiers	
Archives	

Report generated on: 07-07-2025:0934

Appendix D – Data Management Plan & Archive Selection Strategy

Data Management Plan

Project ID / OASIS ID

SUMO-22628 / sumogeop1-534766

Project Name

Ickleford Manor

Project Description

Detailed magnetic survey over approx. 3.75ha

Client

Orion Heritage

Project Manager

Thomas Cockcroft

Field Leader

Mia Long

Date DMP created

23.06.2025

Date DMP last updated

07.07.2025

Version

2

Technique - data

Detailed magnetic survey.

Manual – cart - other

Cart mounted magnetometers.

Documentation and metadata

All documentation and data produced are stored on SUMO servers in a specific job file.

Data storage, access and back-up

- SUMO Secure server during the project life set up in a RAID configuration (a RAID configuration incorporates a level of data redundancy meaning if a single hard drive in fails data can still be restored).

- Snap shots of the data will be made at several intervals during the day to allow data to be restored for up to 30 days if changed / deleted.
- Once the final report has been completed data will be moved onto NAS drive set up in a RAID configuration.
- All data is backed up to an off-site location (Cloud storage).

Archive Selection Strategy

Digital Data

Selection

It is proposed that only the final version of all born digital documents (reports, images and CAD files) will be selected for inclusion in the Preserved Archive. All raw and processed survey data will be included in the preserved archive. Below is what will constitute the selected archive:

- Raw data in XYZ format .csv and .png plus .pgw world file
- Processed data as .png plus .pgw world file
- Final survey report .pdf
- CAD and Vector graphics (interpretations) in .dwg format

De-selected digital data

The de-selected material will be retained on the SUMO Secure server and Cloud storage.

Documents

Not applicable – no archive

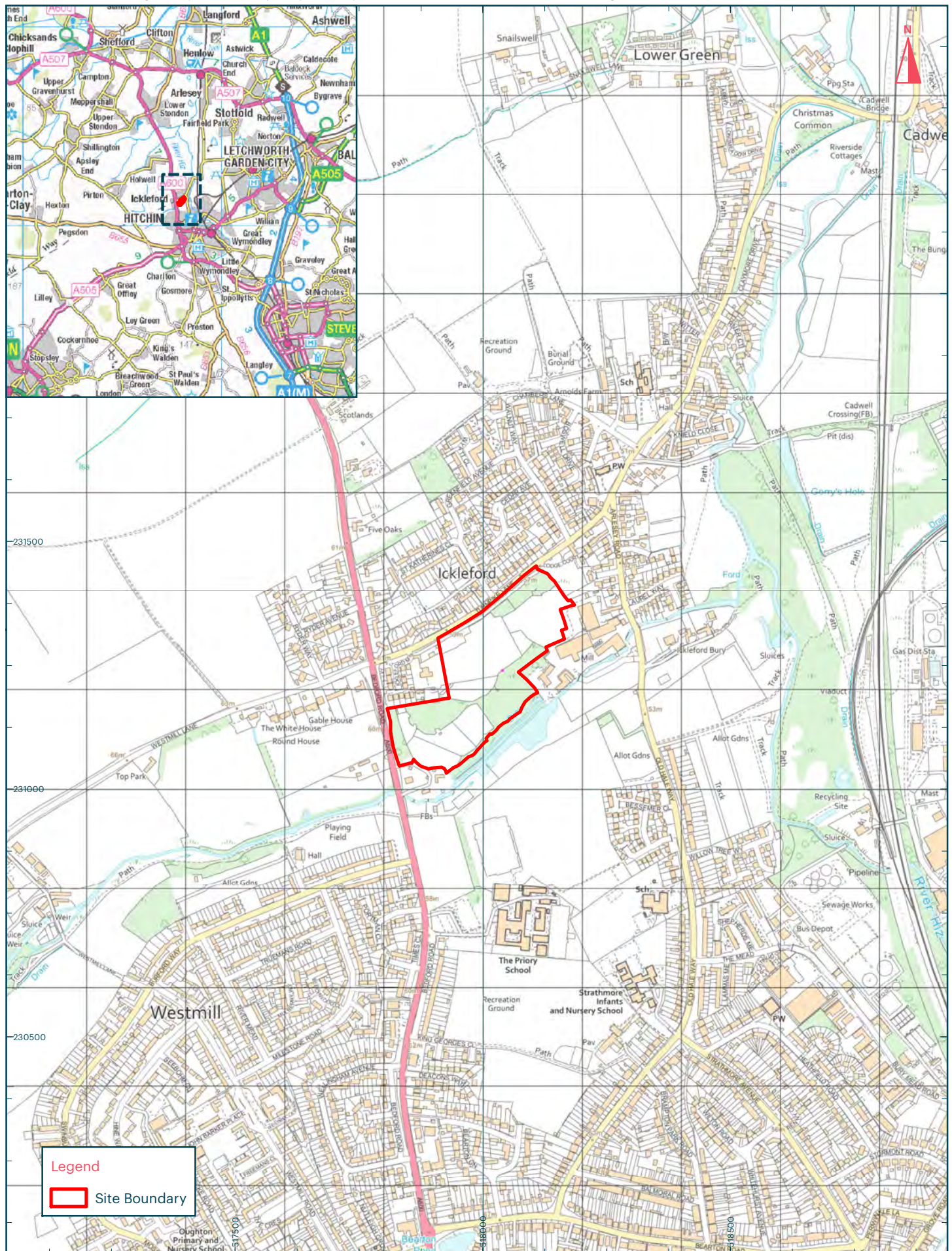
Materials

Not applicable – no archive



- Archaeological Geophysics
- Engineering Geophysics
- Measured Building Services
- Utility and Topographic Services
- Aerial Surveys
- Rail Surveys

SUMO GeoSurveys is a trading name of SUMO Geophysics Ltd.
SUMO Services Ltd, incorporated under the laws of England and Wales,
Company Registration No.4275993.
Registered Office Unit 8 Hayward Business Centre, New Lane, Havant, Hampshire, PO9 2NL

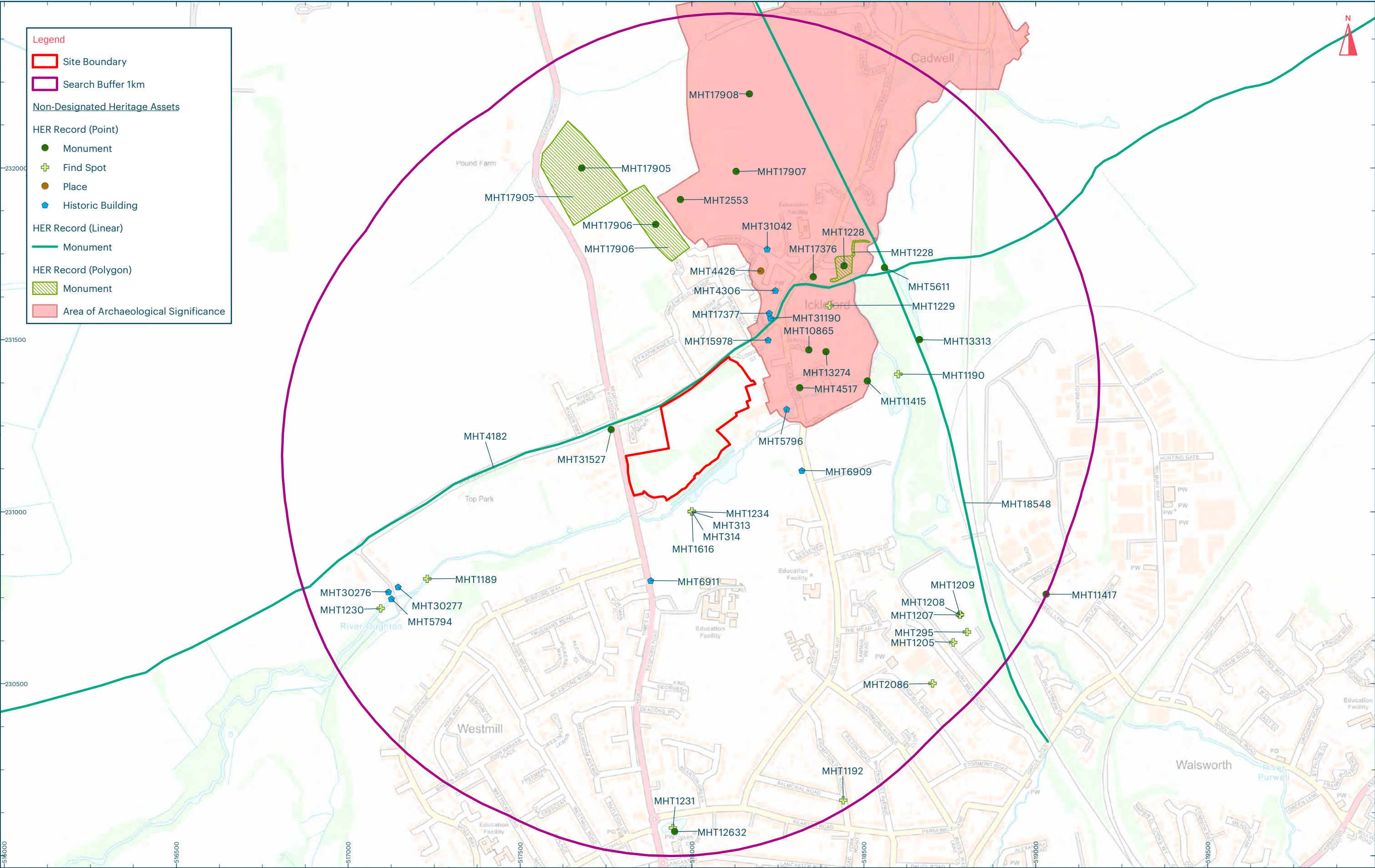


Title:
Figure 1: Site Location
Address:
Land South of Turnpike Lane, Ickleford

Scale at A4: 1:10,000

0 250m

orion.



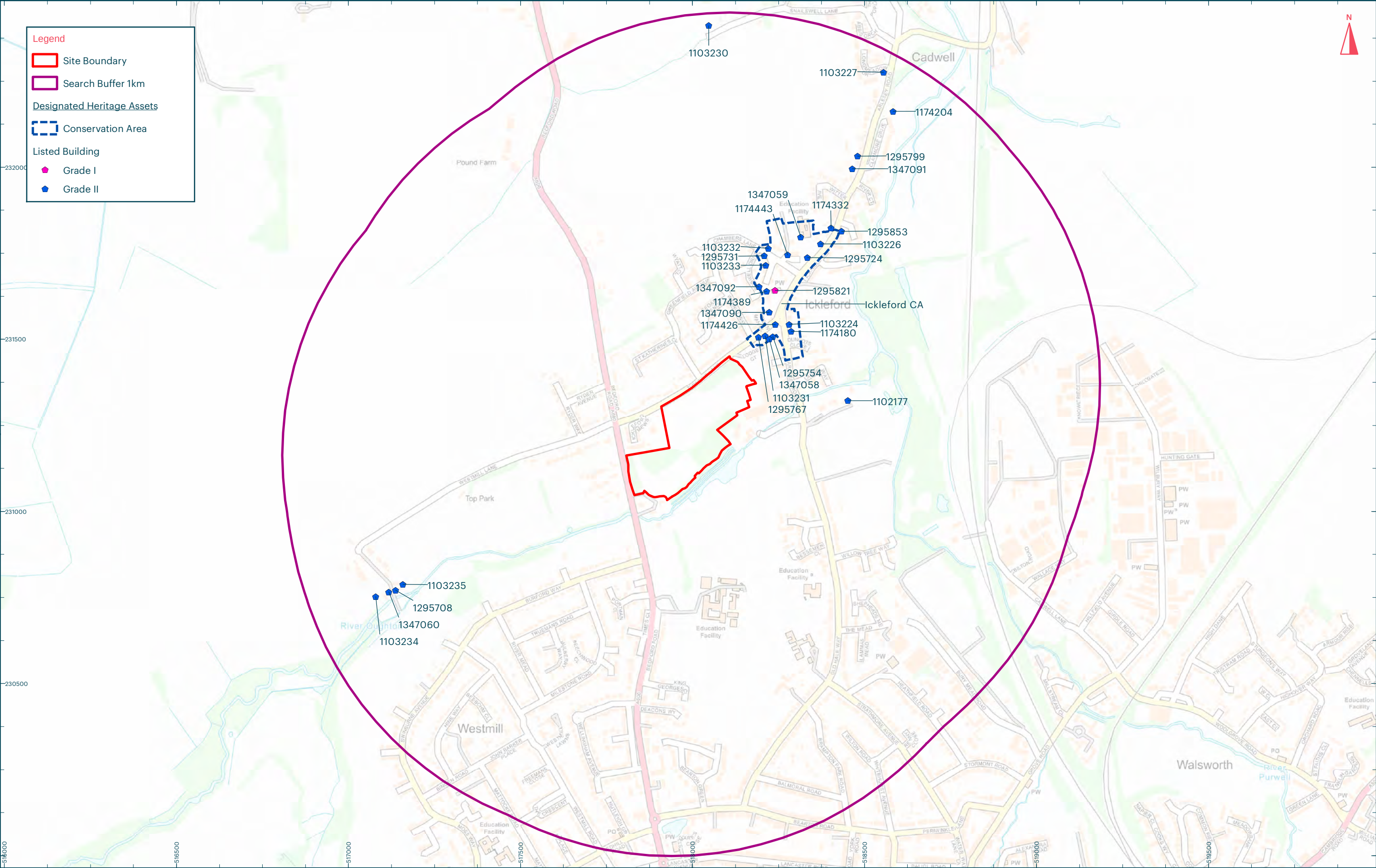
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Figure 2: HER Monuments Data

Address:
Land South of Turnpike Lane, Ickleford

Scale at A3: 1:10,000

0 250m





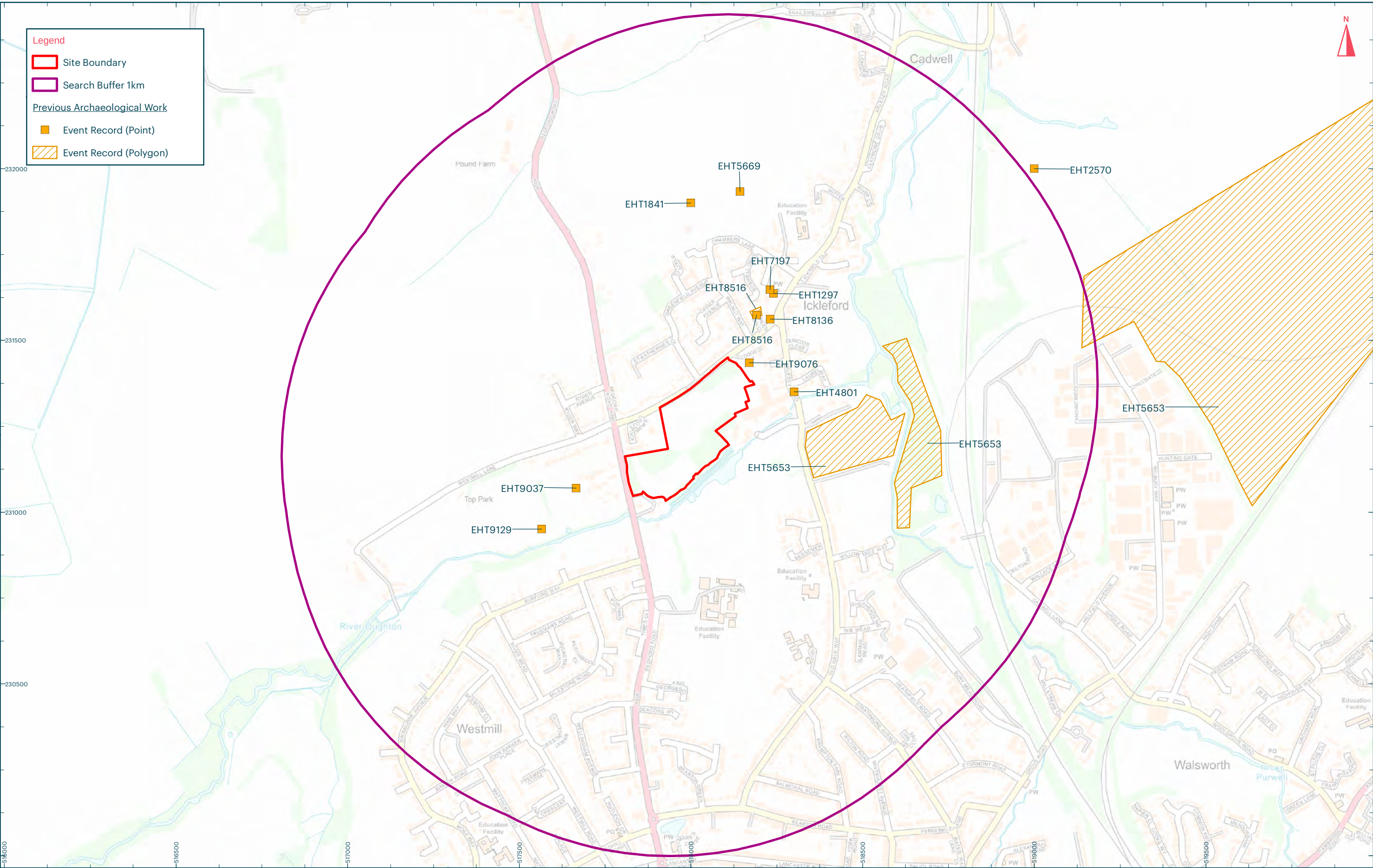
Title:
Figure 3: Designated Heritage Assets

Address:
Land South of Turnpike Lane, Ickleford

Scale at A3: 1:10,000

0 250m





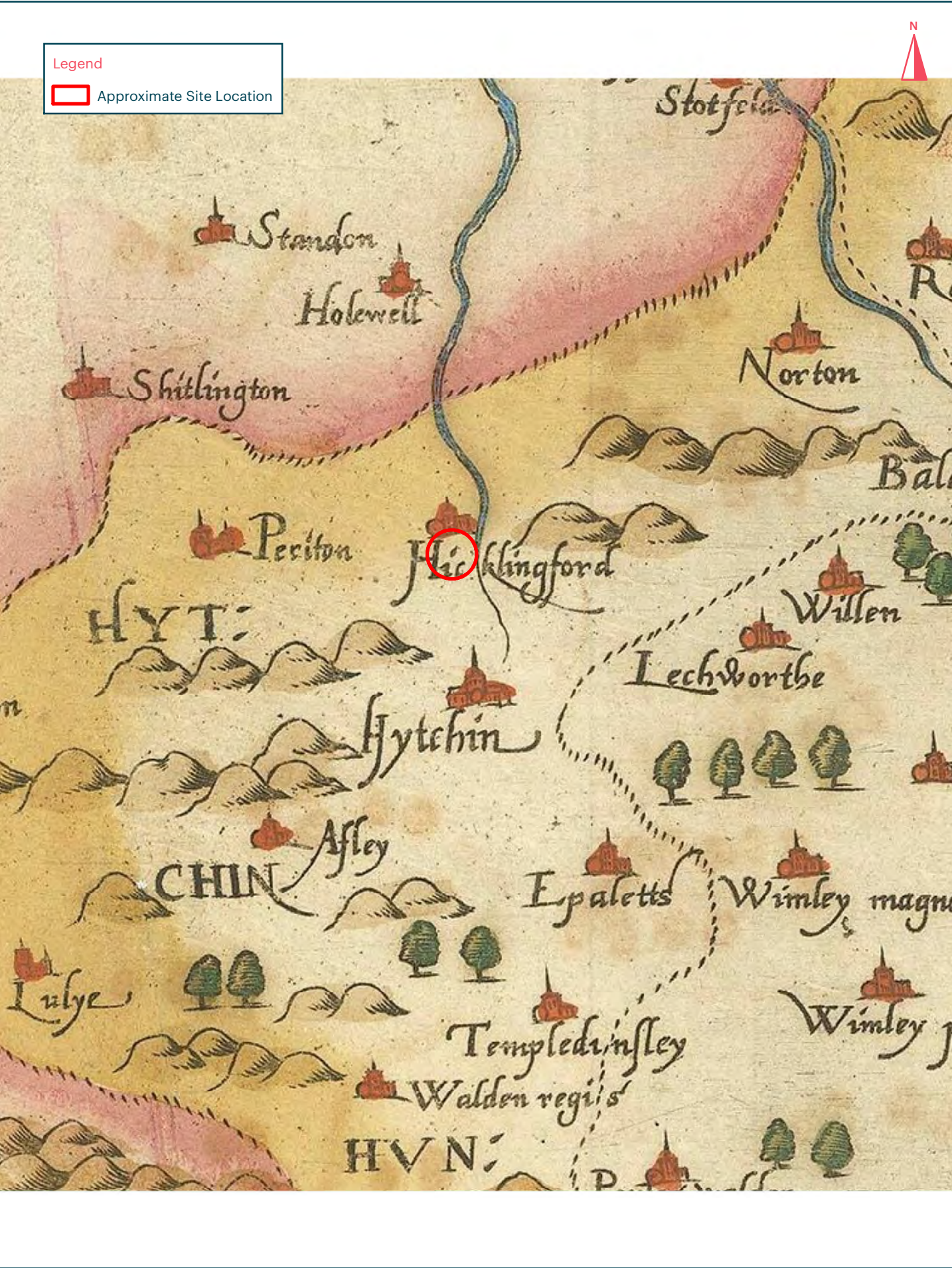
Title:
Figure 4: HER Events Data

Address:
Land South of Turnpike Lane, Ickleford

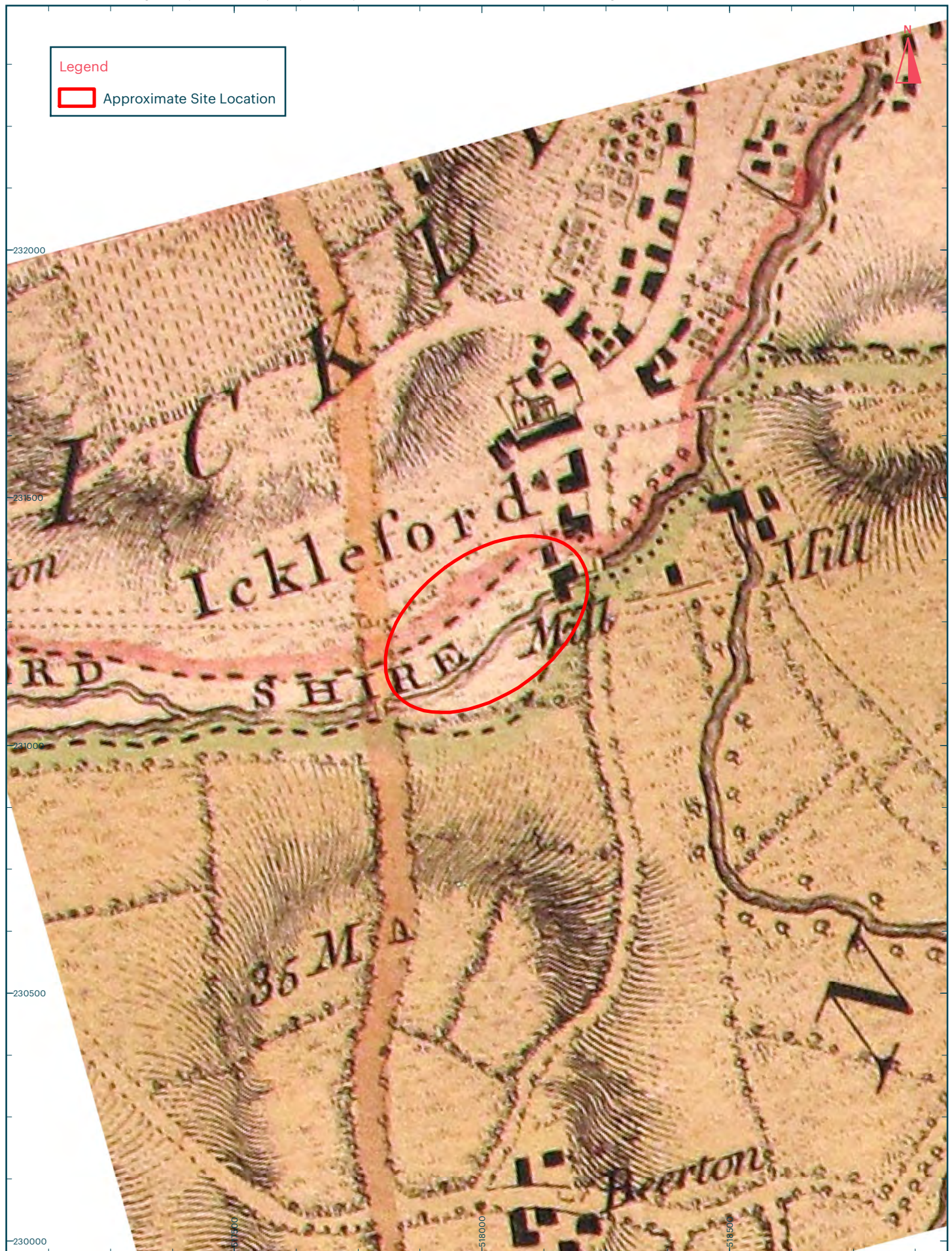
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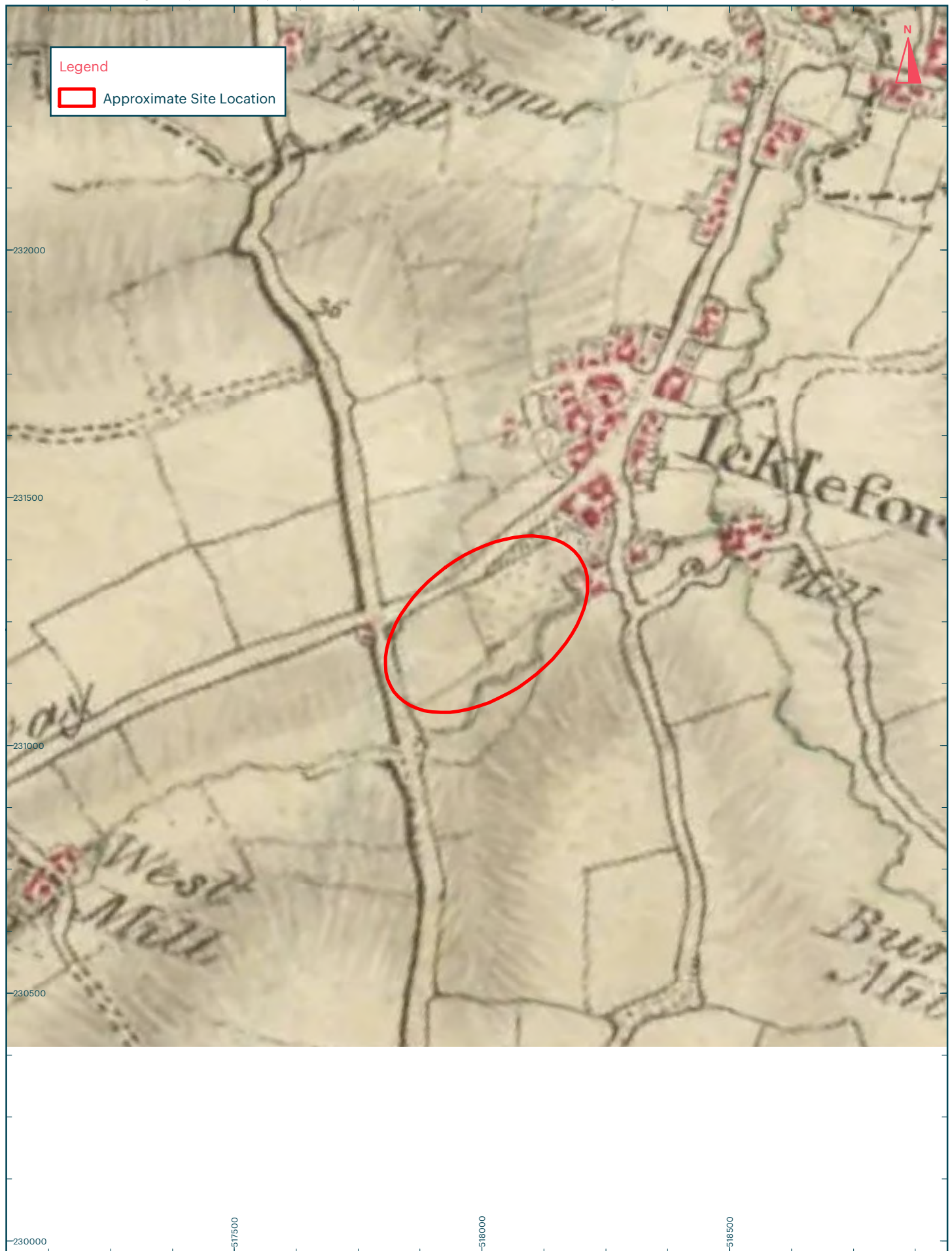
0 250m





Title: Figure 5: 1579 Saxton's Map of Hertfordshire Address: Land South of Turnpike Lane, Ickleford	Not to Scale: Illustration Only	
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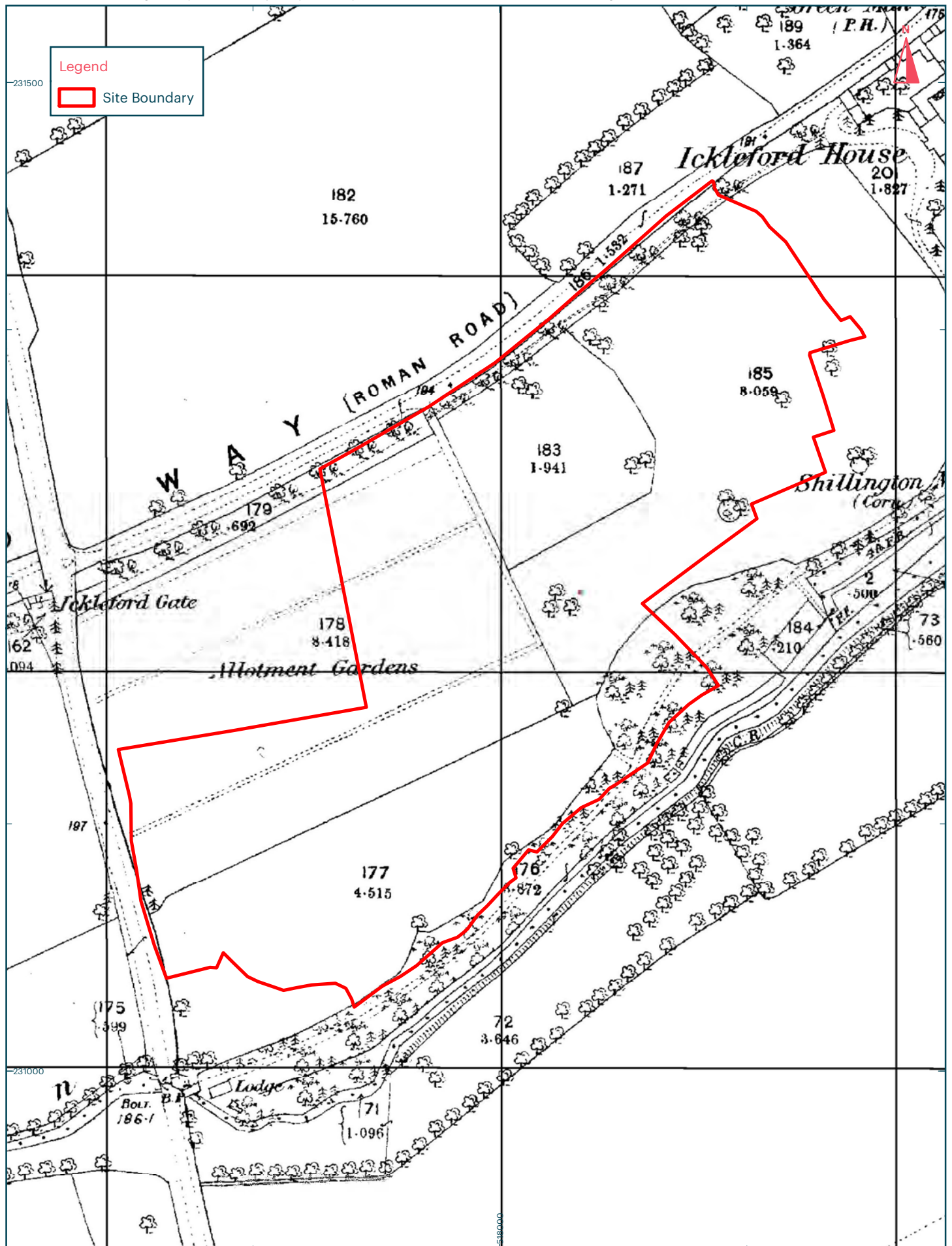


Title:
Figure 7: 1804 Ordnance Survey Drawing
Address:
Land South of Turnpike Lane, Ickleford

Scale at A4: 1:10,000

0 250m

orion.

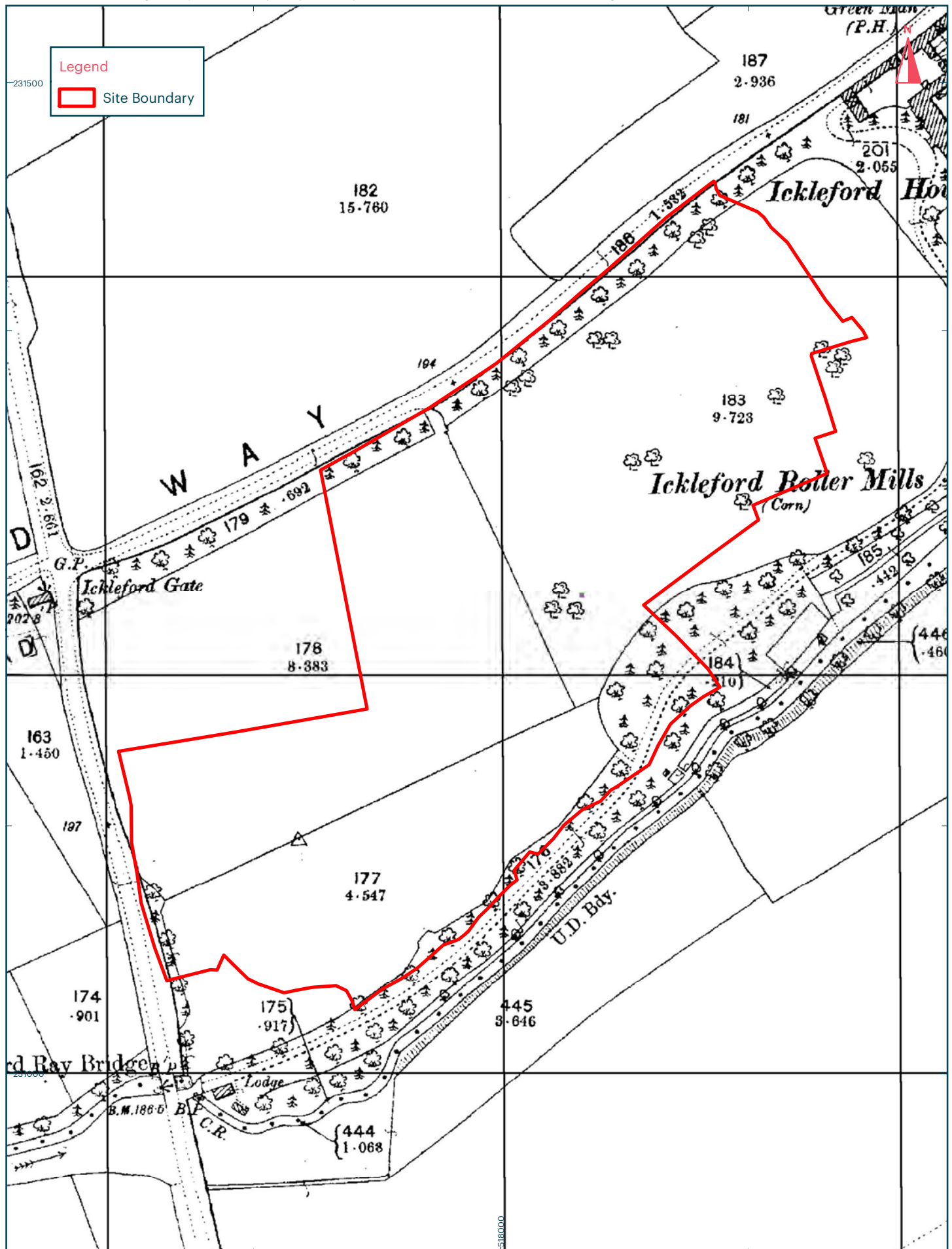


Title:
Figure 8: 1881 First Edition Ordnance Survey 1:2500 Map
Address:
Land South of Turnpike Lane, Ickleford

Scale at A4: 1:2,500

0 50m

orion.

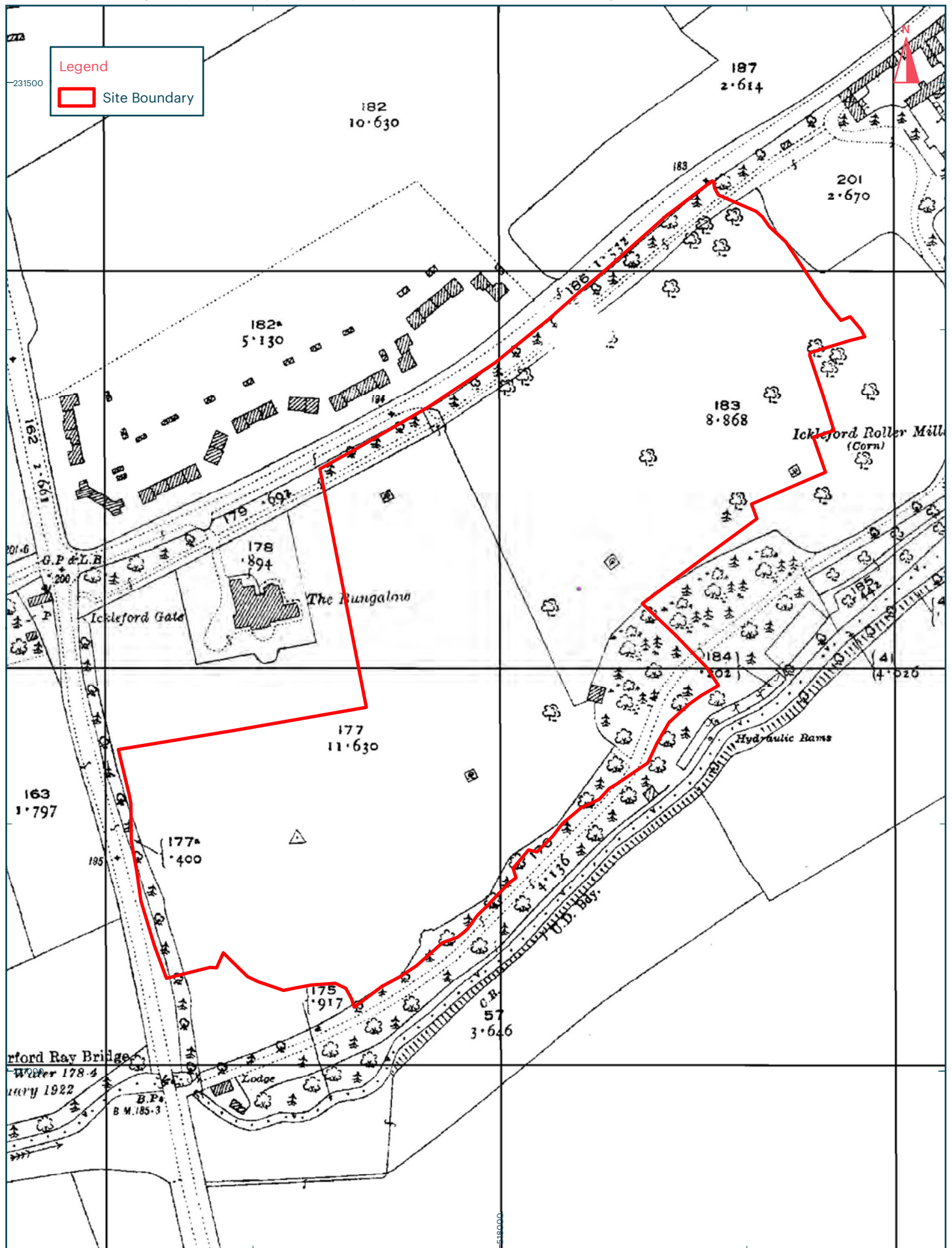


Title:
Figure 9: 1898 Ordnance Survey 1:2500 Map
Address:
Land South of Turnpike Lane, Ickleford

Scale at A4: 1:2,500

0 50m

orion.



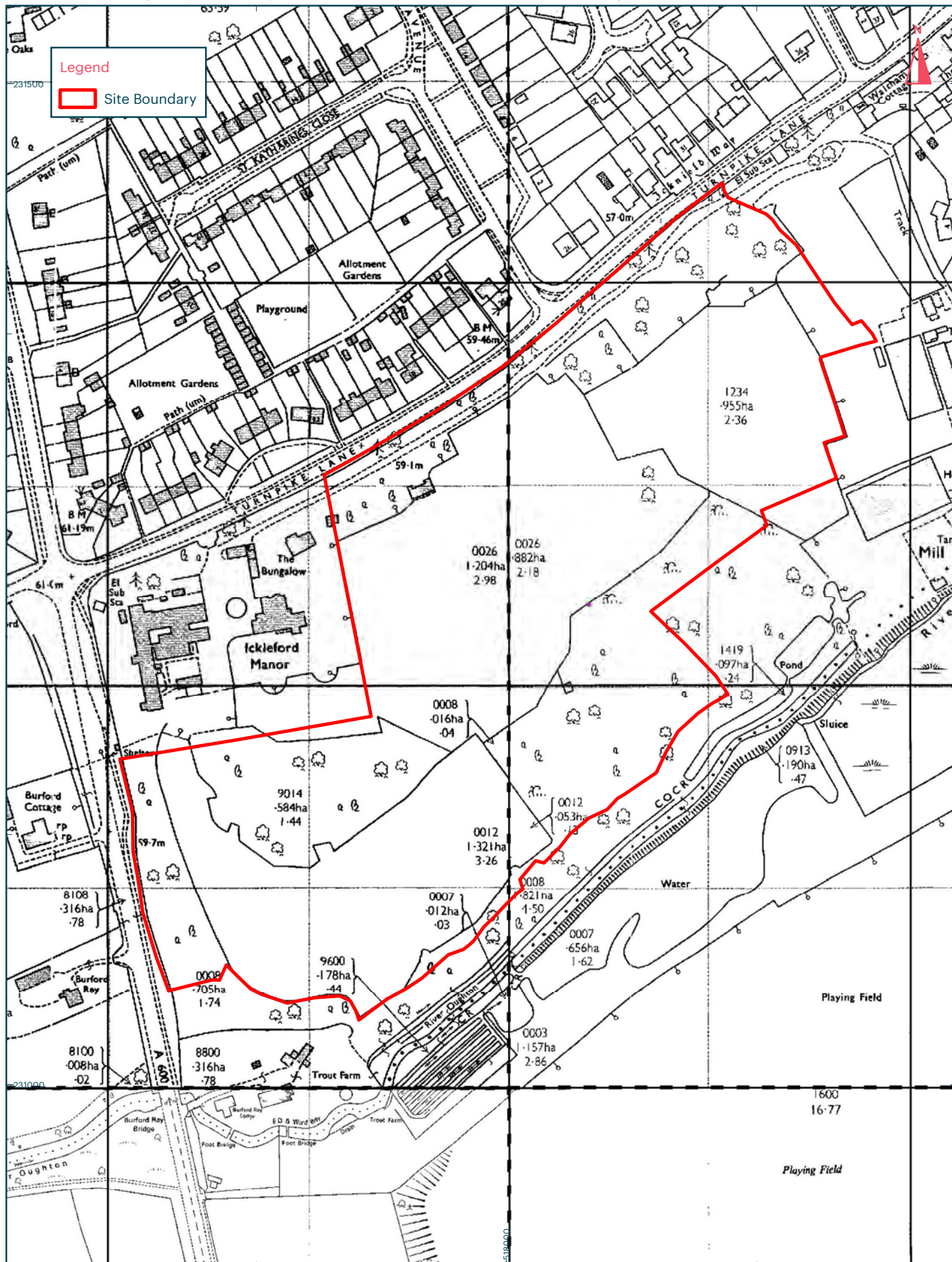
Title:
Figure 10: 1922 Ordnance Survey 1:2500 Map
Address:
Land South of Turnpike Lane, Ickleford

Scale at A4: 1:2,500



orion.





Title:

Figure 12: 1978-84 Ordnance Survey 1:2500 Map

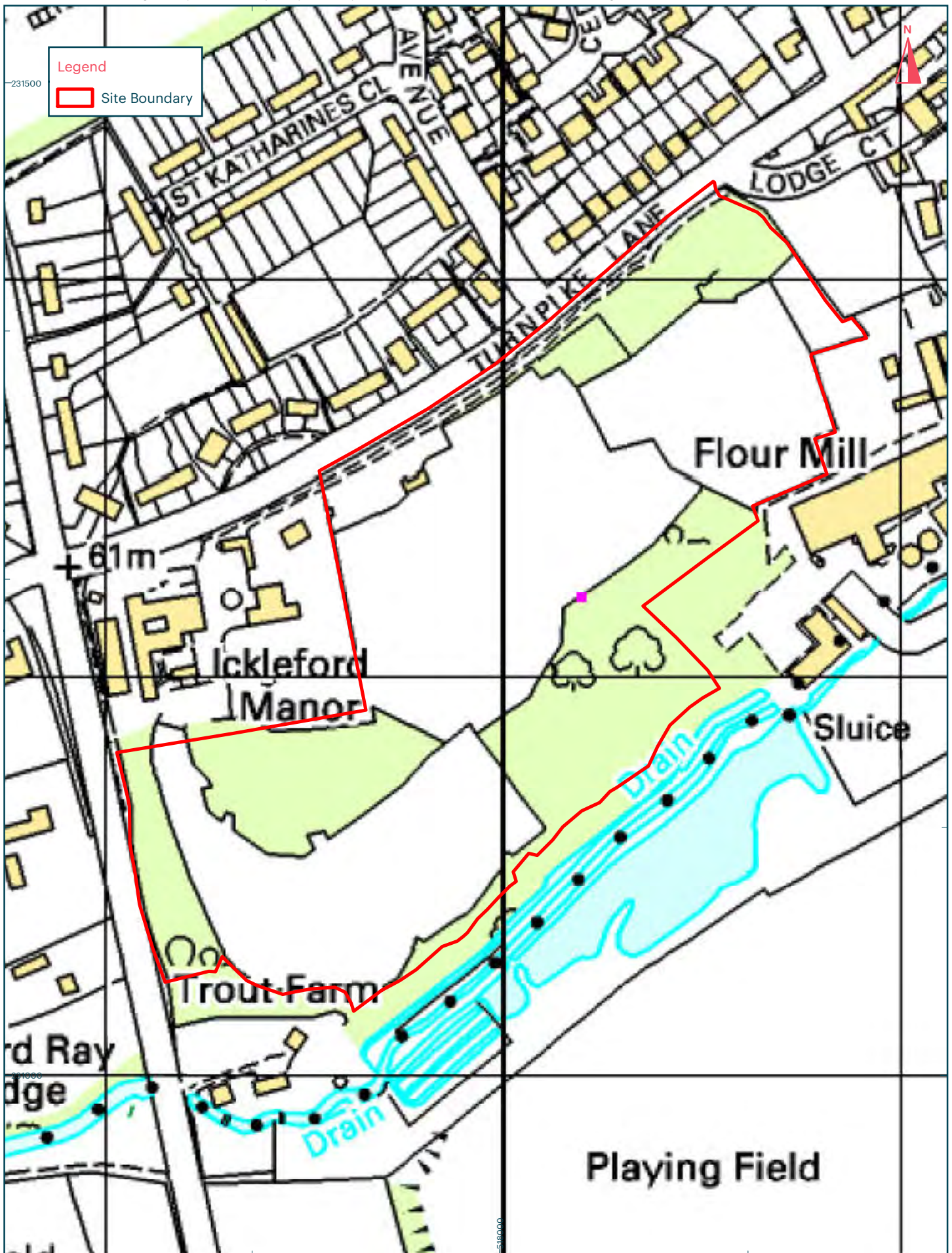
Address:

Land South of Turnpike Lane, Ickleford

Scale at A4: 1:2,500



orion.



Title:
Figure 13: 1999 Ordnance Survey 1:10000 Map
Address:
Land South of Turnpike Lane, Ickleford

Scale at A4: 1:2,500



orion.



Title:
Figure 14: 2024 Ordnance Survey 1:10000 Map
Address:
Land South of Turnpike Lane, Ickleford

Scale at A4: 1:2,500

0 50m

orion.



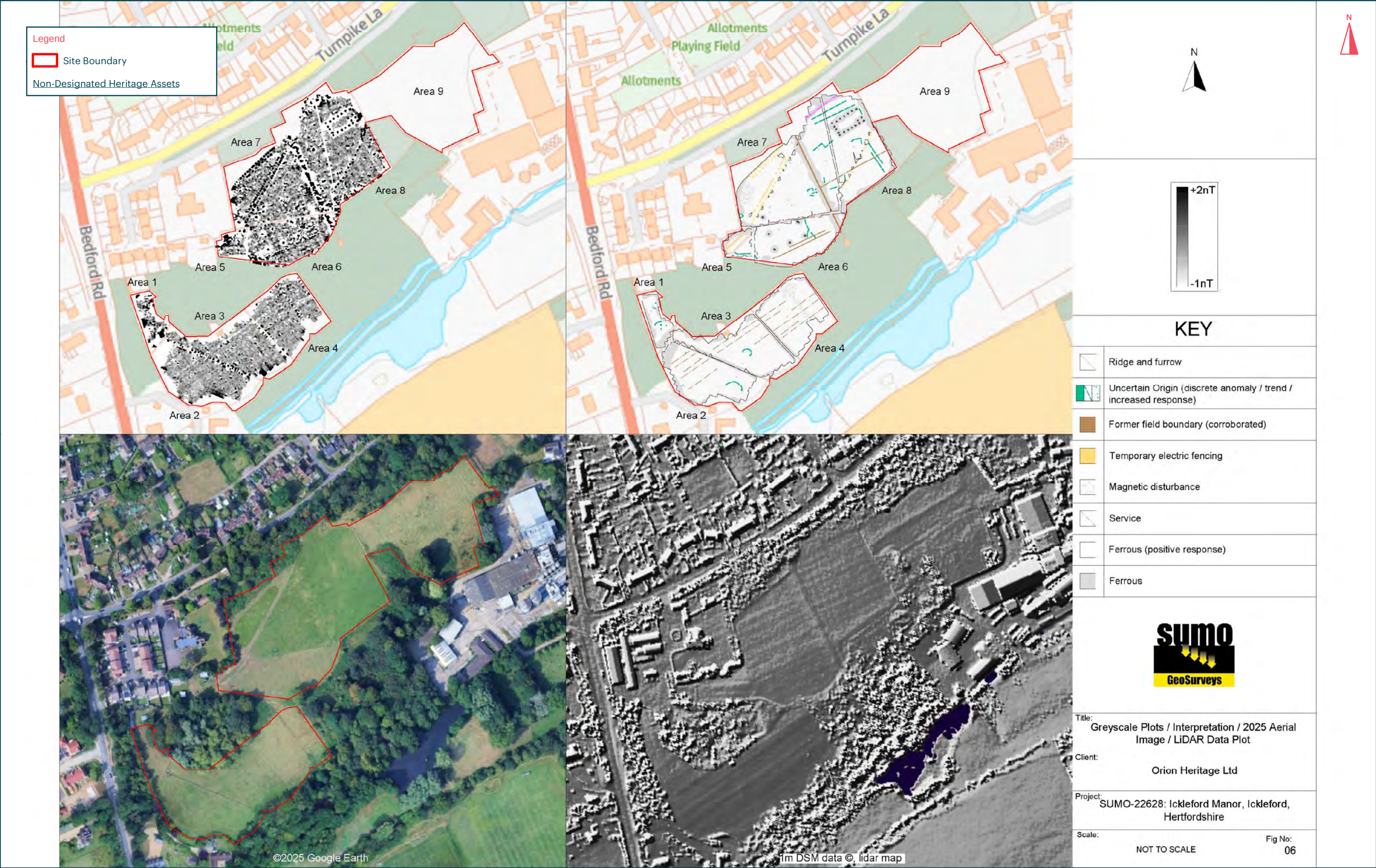
Title:
Figure 15: Concept Masterplan of the Proposed Development

Address:
Land South of Turnpike Lane, Ickleford

Scale at A4: 1:2,500

0 50m

orion.



Title:
Figure 16: Results of Geophysical Survey
Address:
Land South of Turnpike Lane, Ickleford

Not to Scale:
Illustration Only

