



**Land at Wickham Hall Estate
Bishop's Stortford
Essex**

Heritage Assessment



Report prepared for:
Endurance Energy

CA Project: MK0685

CA Report: MK0685_1

February 2024



Land at Wickham Hall Estate Bishop's Stortford Essex

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notes	NPPF updates
date	February 2024
issue	1.3

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SUMMARY

Project Name: Land at Wickham Hall Estate

Location: Bishop's Stortford, Essex

NGR: 546862, 223240

In February 2023 Cotswold Archaeology was commissioned by Endurance Energy to provide a Heritage Assessment in respect of Land at Wickham Hall Estate to the north of Bishop's Stortford. The development proposals comprise the erection of solar panel renewable energy system across the Site. The Assessment draws on both the previous desk-based work and a recent geophysical survey, and comments on the known archaeological baseline, the contribution that the Site makes to the significance of nearby heritage assets, and the impact of the proposed development.

The geophysical survey within the Site has identified a number of archaeological remains. This includes a possible prehistoric/Roman enclosure and two possible prehistoric barrows which hold evidential value. Additional identified remains within the Site include remnants of infilled furrows and medieval or post-medieval field boundaries. These features are common within the archaeological record and are of insufficient evidential or historic value to be deemed as 'non-designated heritage assets'.

The proposed locations of the sub-stations, storage container, power station, battery and battery storage do not lie within the footprint of any of the identified archaeological remains. There is, however, a potential that presently unknown remains may be present within this footprint and thus be subject to truncation as a result of the proposed development. A proportionate scheme of investigation for the mitigation of this impact can be agreed through formal consultation and a Written Scheme of Investigation (WSI), though the client is open to discussions on scheme design in order to minimise impacts to potential archaeological features.

The insertion of the piles for solar panel modules would result in minimal impacts to the potential archaeological resource, resulting in only minor adverse effects upon most classes of archaeological features. However, the proposed development presents an opportunity to restrict further damage to the archaeological resource by removing the Site from arable use and therefore the effects of modern ploughing. The client acknowledges the archaeological potential present and is open to discussion on mitigation by design.

The north and north-eastern boundary of the Site are shown on the 1839 tithe map and thus meet the criteria for designation as 'important hedgerows'. These are thus considered non-designated heritage assets of low value. These hedgerows are retained within the proposed development which will result in no impact.

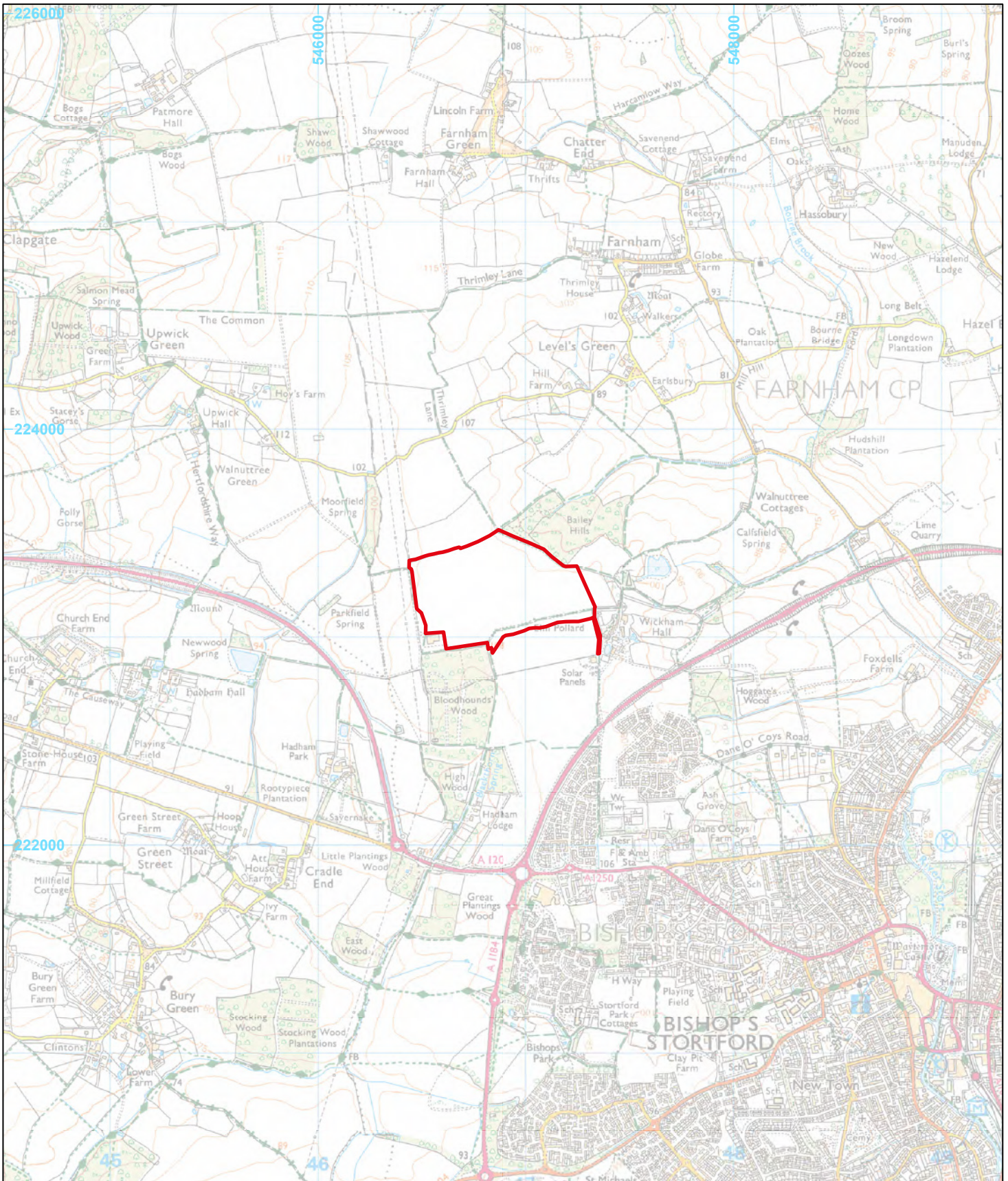
The setting of the Listed Buildings at Wickham Hall was assessed as part of this report. The assessment identified that the heritage significance of the designated heritage assets (namely their historic and architectural values) was best experienced from within the associated complex. Although the Site forms a part of the setting of these assets, and makes a small contribution to their significance, it was concluded that the proposed development results in no harm to that significance. The proposed development retains the agricultural character and the key elements that contribute to the experience and heritage significance of the buildings will not be altered.

1. INTRODUCTION

- 1.1. In February 2023 Cotswold Archaeology was commissioned by Endurance Estates to produce a Heritage Assessment in respect of Land at Wickham Hall Estate, Bishop's Stortford, Essex (hereafter referred to as 'the Site').
- 1.2. The Site, c. 34ha in extent, lies within the County of Essex, but immediately borders the neighbouring County of Hertfordshire. The Site comprises part of a large, irregular shaped field, with an un-named road included in the south-eastern edge of the boundary to allow for access. The Site is presently in use as arable land (Photo 1) and crossed by an access track in an east/west orientation. To the south of the Site is the course of the Bishop's Stortford A120 northern bypass, to the west and north of Bishop's Stortford. The A120 Hadham Bypass is located to the west of the Site and to the Site's north, north-east and north-west is open arable land (NGR: 546862, 223240; Fig. 1).
- 1.3. The proposed development will comprise the installation of a solar panel renewable energy system within the Site. Solar arrays are proposed over the majority of the Site with a small buffer proposed for the eastern extent of the Site. Access points and boundary landscaping are also incorporated in the development proposals.



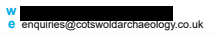
Photo 1: Image from the northern boundary looking south over the Site



 Site



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PROJECT TITLE
**Land at Wickham Hall Estate
 Bishop's Stortford**

FIGURE TITLE
Site Location Plan



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Project History

- 1.4. A previous Historic Environment Desk-Based Assessment (Cotswold Archaeology 2021) was prepared in 2021 which included both the Site, and additional land to the north-west and south-west. This previous assessment identified a potential for prehistoric and Roman period buried archaeological remains as well as remains associated with medieval and post-medieval agricultural activity. Accordingly, a geophysical survey (SUMO 2023; Appendix 4) was undertaken within the Site to provide further insight into this potential. The area subject to the geophysical survey includes the Site and additional land to the west.
- 1.5. An application is being prepared for the erection of a Solar Photovoltaic Farm within the Site with supporting infrastructure and battery storage, inverters and transformers, fencing and landscaping works. Accordingly, this Assessment, which draws on both the previous desk-based work (Cotswold Archaeology 2021) and the geophysical survey (SUMO 2023), was prepared to support this application. The Assessment comments on the known archaeological baseline, the contribution that the Site makes to the significance of nearby heritage assets, and the impact of the proposed development.

Objectives and professional standards

- 1.6. The composition and development of the historic environment within the Site and wider landscape are discussed in this report. A determination of the significance of any heritage assets located within the Site, and any heritage assets beyond the Site boundary that may potentially be affected by the development proposals, is presented. Any potential development effects upon the significance of these heritage assets (both adverse and/or beneficial) are then described.
- 1.7. Cotswold Archaeology is a Registered Organisation with the Chartered Institute for Archaeologists (CIfA). This report has been prepared in accordance with appropriate standards and guidance, including the 'Standard and Guidance for Historic Environment Desk-Based Assessment' published by CIfA in 2014 and most recently updated in 2020. This states that, insofar as they relate to the determination of planning applications, heritage desk-based assessments should:

'...enable reasoned proposals and decisions to be made [as to] whether to mitigate, offset or accept without further intervention [any identified heritage] impact' (CIfA 2020, 4).

-
- 1.8. The ‘Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment’ (Historic England 2015), further clarifies that a desk-based assessment should:

‘...determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area, and the impact of the proposed development on the significance of the historic environment, or will identify the need for further evaluation’ (Historic England 2015, 3).

Statute, policy and guidance context

- 1.9. The Site is located in the local authority of Uttlesford District. The Local Plan for Uttlesford District was adopted in 2005; Policy ENV2 (Development affecting Listed Buildings), ENV4 (Ancient Monuments and Sites of Archaeological Importance), and ENV8 (Historic Landscapes) provide the key up to date development policies with regard to the historic environment for the district, as set out in Chapter 5 of the Plan (Uttlesford District Council 2005). At present a new local plan is being prepared and a programme of works and timetable outlining the steps to deliver a new Local Plan by summer 2024 is being developed.
- 1.10. The Historic England guidance note on commercial renewable energy (February 2021), which informs renewable energy projects and potential issues concerning the historic environment, was consulted during the preparation of this assessment.
- 1.11. This assessment has been undertaken within the key statute, policy and guidance context presented within Table 1.1. The applicable provisions contained within these statute, policy and guidance documents are referred to, and discussed, as relevant, throughout the text. Fuller detail is provided in Appendix 1.

Consultation

- 1.12. No formal consultation has been carried out with the Local Planning Authority during the production of this report. As part of the previous planning application (Uttlesford Planning Ref: UTT/21/3108/FUL; East Hertfordshire Planning Ref: 3/21/2601/FUL) which included the Site and land to the east within East Hertfordshire, consultee comments were received from Place Services, the heritage advisors for Essex County. Initial correspondence in December 2021 in regard to conservation, identified that the Listed Buildings at Wickham Hall and the Hadham Hall Estate are sensitive

to development. Following further information, the Historic Environment Team recommended in March 2022 and noted that they had no objects to the application.

- 1.13. In regard to Archaeology, the Historic Environment Team at Place Services objected to the scheme and recommended that geophysical survey, aerial photographic rectification, and targeted trial trenches are undertaken. Only the western part of the application (within East Hertfordshire Council) was taken forward and was subject to geophysical survey. Following this additional survey, the Historic Environment Advisor for East Hertfordshire commented that further trial trenching was required but noted that this could be undertaken post-consent.

Statute	Description
Ancient Monuments and Archaeological Areas Act (1979)	Act of Parliament providing for the maintenance of a schedule of archaeological remains of the highest significance, affording them statutory protection.
Planning (Listed Buildings and Conservation Areas) Act (1990)	Act of Parliament placing a duty upon the Local Planning Authority (or, as the case may be, the Secretary of State) to afford due consideration to the preservation of Listed Buildings and their settings (under Section 66(1)), and Conservation Areas (under Section 72(2)), in determining planning applications.
National Heritage Act 1983 (amended 2002)	One of four Acts of Parliament providing for the protection and management of the historic environment, including the establishment of the Historic Monuments & Buildings Commission, now Historic England.
Conservation Principles (Historic England 2008)	Guidance for assessing heritage significance, with reference to contributing heritage values, in particular: <i>evidential</i> (archaeological), <i>historical</i> (illustrative and associative), <i>aesthetic</i> , and <i>communal</i> .
National Planning Policy Framework (2023)	Provides the English government's national planning policies and describes how these are expected to be applied within the planning system. Heritage is subject of Chapter 16 (page 57).
Levelling-up and Regeneration Act 2023	Sets out duties of regard to certain heritage assets (comprising Scheduled Monuments, Registered parks and Gardens, Protected Wrecks, and World Heritage Sites) where development may affect a relevant heritage asset or its setting.
National Planning Practice Guidance (updated July 2019)	Guidance supporting the National Planning Policy Framework.
Good Practice Advice in Planning: Note 2 (GPA2): Managing Significance in Decision-Taking in the Historic Environment (Historic England, 2015)	Provides useful information on assessing the significance of heritage assets, using appropriate expertise, historic environment records, recording and furthering understanding, neglect and unauthorised works, marketing and design and distinctiveness.

Statute	Description
Good Practice Advice in Planning: Note 3 (GPA3): The Setting of Heritage Assets, Second Edition (Historic England, 2017)	Provides guidance on managing change within the settings of heritage assets, including archaeological remains and historic buildings, sites, areas, and landscapes.
Historic England guidance note: Commercial renewable energy development and the historic environment (February 2021)	Guidance note relating to the relationship between large-scale renewable energy development and the historic environment. Proposed timescale for formal adoption was not known at the time of writing.
Uttlesford Local Plan (2005)	Comprises the local development plan (local plan), as required to be compiled, published and maintained by the local authority, consistent with the requirements of the NPPF (2023). Intended to be the primary planning policy document against which planning proposals within that local authority jurisdiction are assessed. Where the development plan is found to be inadequate, primacy reverts to the NPPF (2023).
Hedgerows Regulations (1997)	Provides protection for 'important' hedgerows within the countryside, controlling their alteration and removal by means of a system of statutory notification.

Table 1.1 Key statute, policy and guidance

2. METHODOLOGY

Data collection, analysis and presentation

- 2.1. This assessment has been informed by a proportionate level of information sufficient to understand the archaeological potential of the Site, the significance of identified heritage assets, and any potential development effects. This approach is in accordance with the provisions of the NPPF (2023) and the guidance issued by ClfA (2020). The data has been collected from a wide variety of sources, summarised in Table 2.1.
- 2.2. In particular, this assessment has also been informed by the previous Historic Environment Desk-Based Assessment (Cotswold Archaeology 2021) and the recent geophysical survey (SUMO 2023; Appendix 4).

Source	Data
National Heritage List for England (NHLE)	Current information relating to designated heritage assets, and heritage assets considered to be 'at risk'.
Hertfordshire Historic Environment Record (HER)	Heritage sites and events records, Historic Landscape Characterisation (HLC) data, and other spatial data supplied in digital format (shapefiles) and hardcopy.
Hertfordshire Archives and Local Studies Library & Essex Record Office	Historic mapping, historic documentation, and relevant published and grey literature.
Defra Data Services Platform (environment.data.gov.uk)	LiDAR imagery and point cloud data, available from the Defra Data Services Platform
Genealogist, Envirocheck, National Library of Scotland & other cartographic websites	Historic (Ordnance Survey and Tithe) mapping in digital format.
British Geological Survey (BGS) website	UK geological mapping (bedrock & superficial deposits) & borehole data.
Cotswold Archaeology 2021 Historic Environment Desk-Based Assessment	Previous desk-based assessment of the Site and additional land to the west
SUMO 2023 Geophysical Survey	Geophysical Survey of the Site and land to the immediate west

Table 2.1 Key data sources

- 2.3. Prior to obtaining data from these sources, an initial analysis was undertaken in order to identify a relevant and proportionate study area. This analysis utilised industry-

standard GIS software, and primarily entailed a review of recorded heritage assets in the immediate and wider landscape, using available datasets.

2.4. On this basis a 1km study area, measured from the boundaries of the Site, was considered sufficient to capture the relevant HER data, and provide the necessary context for understanding archaeological potential and heritage significance in respect of the Site. All of the spatial data held by the HER – the primary historic data repository – for the land within the study area, was requested. The records were analysed and further refined in order to narrow the research focus onto those of relevance to the present assessment. Not all HER records are therefore referred to, discussed or illustrated further within the body of this report, only those that are relevant. These are listed in a cross-referenced gazetteer provided at the end of this report (Appendix 2) and are illustrated on the figures accompanying this report.

2.5. A site visit was also undertaken as part of this assessment. The primary objectives of the site visit were to assess the Site's historic landscape context, including its association with any known or potential heritage assets, and to identify any evidence for previous truncation of the on-site stratigraphy. The site visit also allowed for the identification of any previously unknown heritage assets within the Site, and assessment of their nature, condition, significance and potential susceptibility to impact. The wider landscape was examined, as relevant, from accessible public rights of way. The site visit was carried out on 9th March 2021 in clear and dry weather conditions.

Geophysical Survey

2.6. A geophysical survey (Appendix 4) was undertaken for the Site and land to the immediate west in March and April 2023. A magnetometer survey was chosen as the most effective survey method for the site and a Bartington Cart System was employed with 1m traverse intervals and 0.125m sample intervals. More details on the survey methodology can be found in Appendix 4.

Assessment of heritage significance

2.7. The significance of known and potential heritage assets within the Site, and any beyond the Site which may be affected by the proposed development, has been assessed and described, in accordance with paragraph 194 of the NPPF (2023), the guidance issued by ClfA (2020), Historic Environment Good Practice Advice in Planning Note 2 (HE 2015) and Advice Note 12: Statements of Heritage Significance:

Analysing Significance in Heritage Assets (Historic England 2019). Determination of significance has been undertaken according to the industry-standard guidance on assessing heritage value provided within Conservation Principles (English Heritage 2008). This approach considers heritage significance to derive from a combination of discrete heritage values, principal amongst which are: i) evidential (archaeological) value, ii) historic (illustrative and associative) value, iii) aesthetic value, iv) communal value, amongst others. Further detail of this approach, including the detailed definition of those aforementioned values, as set out, and advocated, by Historic England, is provided in Appendix 1 of this report.

Assessment of potential development effects (benefit and harm)

- 2.8. The present report sets out, in detail, the ways in which identified susceptible heritage assets might be affected by the proposals, as well as the anticipated extent of any such effects. Both physical effects, i.e. resulting from the direct truncation of archaeological remains, and non-physical effects, i.e. resulting from changes to the setting of heritage assets, have been assessed. With regard to non-physical effects or ‘settings assessment’, the five-step assessment methodology advocated by Historic England, and set out in the Second Edition of GPA3 (Historic England, 2017), has been adhered to (presented in greater detail in Appendix 1).
- 2.9. Identified effects upon heritage assets have been defined within broad ‘level of effect’ categories (Table 2.2 below). These are consistent with key national heritage policy and guidance terminology, particularly that of the NPPF (2023). This has been done in order to improve the intelligibility of the assessment results for purposes of quick reference and ready comprehension. These broad determinations of level of effect should be viewed within the context of the qualifying discussions of significance and impact presented in this report.
- 2.10. It should be noted that the overall effect of development proposals upon designated heritage assets are judged, bearing in mind both any specific harms or benefits (an approach consistent with the Court of Appeal judgement *Palmer v. Herefordshire Council & ANR* Neutral Citation Number [2016] EWCA Civ 1061).
- 2.11. In relation to non-designated heritage assets, the key applicable policy is paragraph 209 of the NPPF (2023), which states that:

‘The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In

weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset [our emphasis].’

2.12. Thus, with regard to non-designated heritage assets, this report seeks to identify the significance of the heritage asset(s) which may be affected, and the scale of any harm or loss to that significance.

Level of effect	Description	Applicable statute & policy
Heritage benefit	The proposals would better enhance or reveal the heritage significance of the heritage asset.	Enhancing or better revealing the significance of a heritage asset is a desirable development outcome in respect of heritage. It is consistent with key policy and guidance, including the NPPF paragraphs 196 and 212.
No harm	The proposals would preserve the significance of the heritage asset.	Preserving a Listed building and its setting is consistent with s66 of the Planning (Listed Buildings and Conservation Areas) Act (1990). Preserving or enhancing the character or appearance of a Conservation Area is consistent with s72 of the Act. Sustaining the significance of a heritage asset is consistent with paragraph 196 of the NPPF, and should be at the core of any material local planning policies in respect of heritage.
Less than substantial harm (lower end)	The proposals would be anticipated to result in a restricted level of harm to the significance of the heritage asset, such that the asset's contributing heritage values would be largely preserved.	In determining an application, this level of harm should be weighed against the public benefits of the proposals, as per paragraph 208 of the NPPF.
Less than substantial harm (upper end)	The proposals would lead to a notable level of harm to the significance of the heritage asset. A reduced, but appreciable, degree of its heritage significance would remain.	Proposals involving change to a Listed building or its setting, or any features of special architectural or historic interest which it possesses, or change to the character or appearance of Conservation Areas, must also be considered within the context of Sections 7, 66(1) and 72(2) of the 1990 Act. <i>The provisions of the Act do not apply to the setting of Conservation Areas.</i> Proposals with the potential to physically affect a Scheduled Monument (including the ground beneath that monument) will be subject to the provisions of the Ancient Monuments and Archaeological Areas Act (1979); <i>these provisions do not apply to</i>

Level of effect	Description	Applicable statute & policy
		<p><i>proposals involving changes to the setting of Scheduled Monuments.</i></p> <p>With regard to non-designated heritage assets, the scale of harm or loss should be weighed against the significance of the asset, in accordance with paragraph 209 of the NPPF.</p>
Substantial harm	<p>The proposals would very much reduce the heritage asset's significance or vitiate that significance altogether.</p>	<p>Paragraphs 205 - 208 of the NPPF would apply. Sections 7, 66(1) and 72(2) of the Planning Act (1990), and the Ancient Monuments and Archaeological Areas Act (1979), may also apply.</p> <p>In relation to non-designated heritage assets, the scale of harm or loss should be weighed against the significance of the asset, in accordance with paragraph 209 of the NPPF.</p>

Table 2.2 Summary of level of effect categories (benefit and harm) referred to in this report in relation to heritage assets, and the applicable statute and policy.

Limitations of the assessment

- 2.13. This assessment has utilised secondary information derived from a variety of sources, only some of which have been directly examined for the purpose of this assessment. The assumption is made that this data, as well as that derived from secondary sources, is reasonably accurate. The records held by HER are not a record of all surviving heritage assets, but a record of the discovery of a wide range of archaeological and historical components of the historic environment. The information held within these repositories is not complete and does not preclude the subsequent discovery of further elements of the historic environment that are, at present, unknown. The HER data was obtained for the 2021 Assessment in February and March 2021. Accordingly, any additional remains which have been since added to the HER database have not been included within this Assessment.
- 2.14. As part of the 2021 Assessment the records at the Historic England Archive or local archives and libraries were not available due to circumstances resulting from the COVID-19 pandemic. In lieu of this, consultation of publicly available aerial photography, from the Britain from Above website [\[redacted\]](#) and Google Earth was undertaken. It was considered that these sources, along with available historic mapping available provided sufficient detail to inform this assessment. The sources at Historic England were not consulted as part of this Assessment, and thus any records held within the archive are not included within the

baseline discussion. A review of Historic England's online aerial photograph viewer was undertaken in May 2023; however, this did not identify any photography of the study area.

- 2.15. A walkover survey was conducted within the Site on 9th March 2021, which was undertaken in dry and clear weather conditions. Access was afforded within the Site, although such observations are limited since archaeological remains can survive below-ground with no visible surface indications of their presence. There was also sufficient access to heritage assets to assess likely impacts upon the significance of the assets due to changes to their setting.

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Landscape context

- 3.1. The Site, c. 34ha in extent, lies within the County of Essex, but immediately borders the neighbouring County of Hertfordshire. The Site comprises part of a large, irregular shaped, arable field (Photo 1), with an un-named road included in the south-eastern edge of the boundary to allow for access. The Site itself is relatively flat, with the eastern and western extents located at 102m above Ordnance Datum (aOD), rising gently to 105m aOD in the centre of the Site. This forms part of higher ground overlooking the course of the Bourne Brook to the east, the Bury Green Brook (Cradle End Brook) to the south, and the course of the River Ash to the west of the Site. The nearest waterway to the Site is the Bury Green Brook which lies c.300m to the west. The Site is situated in agricultural land at the periphery of Bishop's Stortford's north-westernmost settlement; the A120 northern bypass delineates the extent of the urban form.

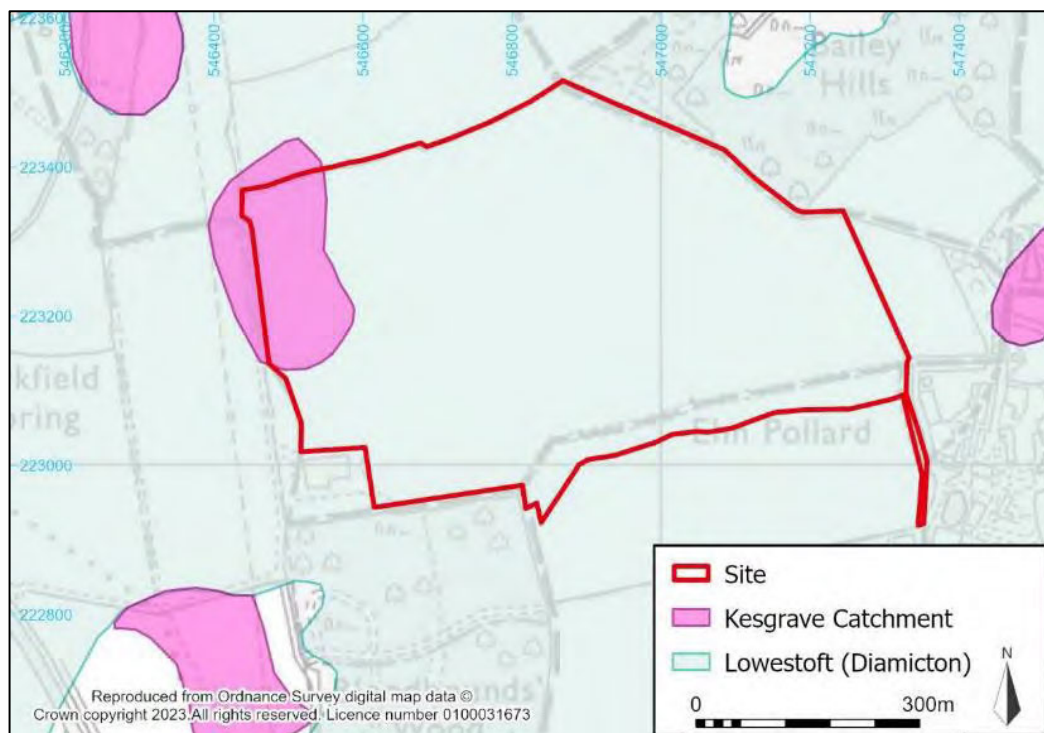


Fig. 2: Superficial deposits within the Site

- 3.2. The bedrock geology of the Site is comprised of London Clay Formation, a sedimentary bedrock formed between 56 and 47.8 million years ago during the Palaeogene period (BGS 2023). The superficial geology within the Site comprises Lowestoft (Diamicton) formed of a chalky till outwash of sands and gravels, silts and

clays. Lenses of Kesgrave Catchment (sand and gravel) are present within north-western extent of the Site (Fig. 2). Both geologies formed about 2-3 million years ago when the local environment was dominated by rivers and ice age conditions (BGS 2023). Overall, the Site has a lime-rich soil with high fertility, although its makeup of clay impedes drainage.

Designated heritage assets

- 3.3. No designated heritage assets are recorded within the Site. Within the study area there are several Listed Buildings. Wickham Hall (WH), to the immediate east of the Site comprises six Grade II Listed Buildings, which focus on Wickham Farmhouse (Fig. 4, **WH1-6**). A further four Grade II Listed Buildings lie just along the extent of the study area (Fig. 4). These assets are discussed where relevant throughout the report.

Previous archaeological investigations

- 3.4. In March-April 2023 a geophysical survey was undertaken for land within the Site and the field to the immediate west (SUMO 2023; Appendix 4). The survey identified a number of features within the Site, including a large sub-rectangular enclosure (Fig. 3, **3**), two circular/oval anomalies which may represent Bronze Age barrows (Fig. 3, **4** and **5**), discrete ditch like responses (Fig. 3, **6**), and pit-like anomalies (Fig. 3, **7**). These features had not previously been recorded and thus the geophysical survey within the Site has increased our understanding of the archaeological resource.

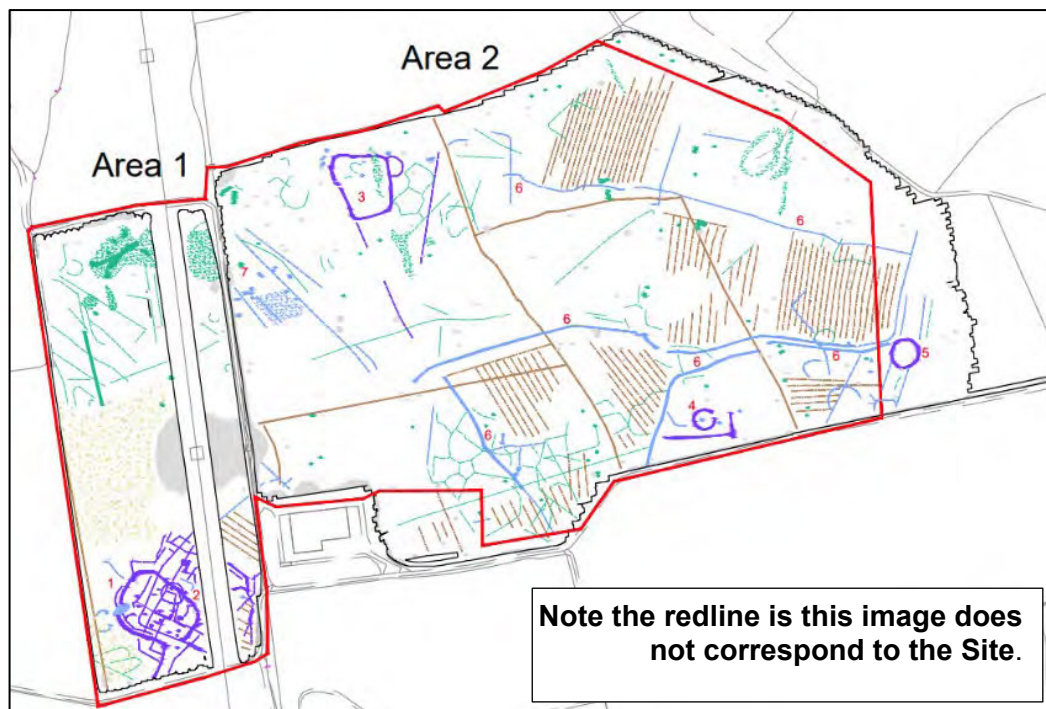
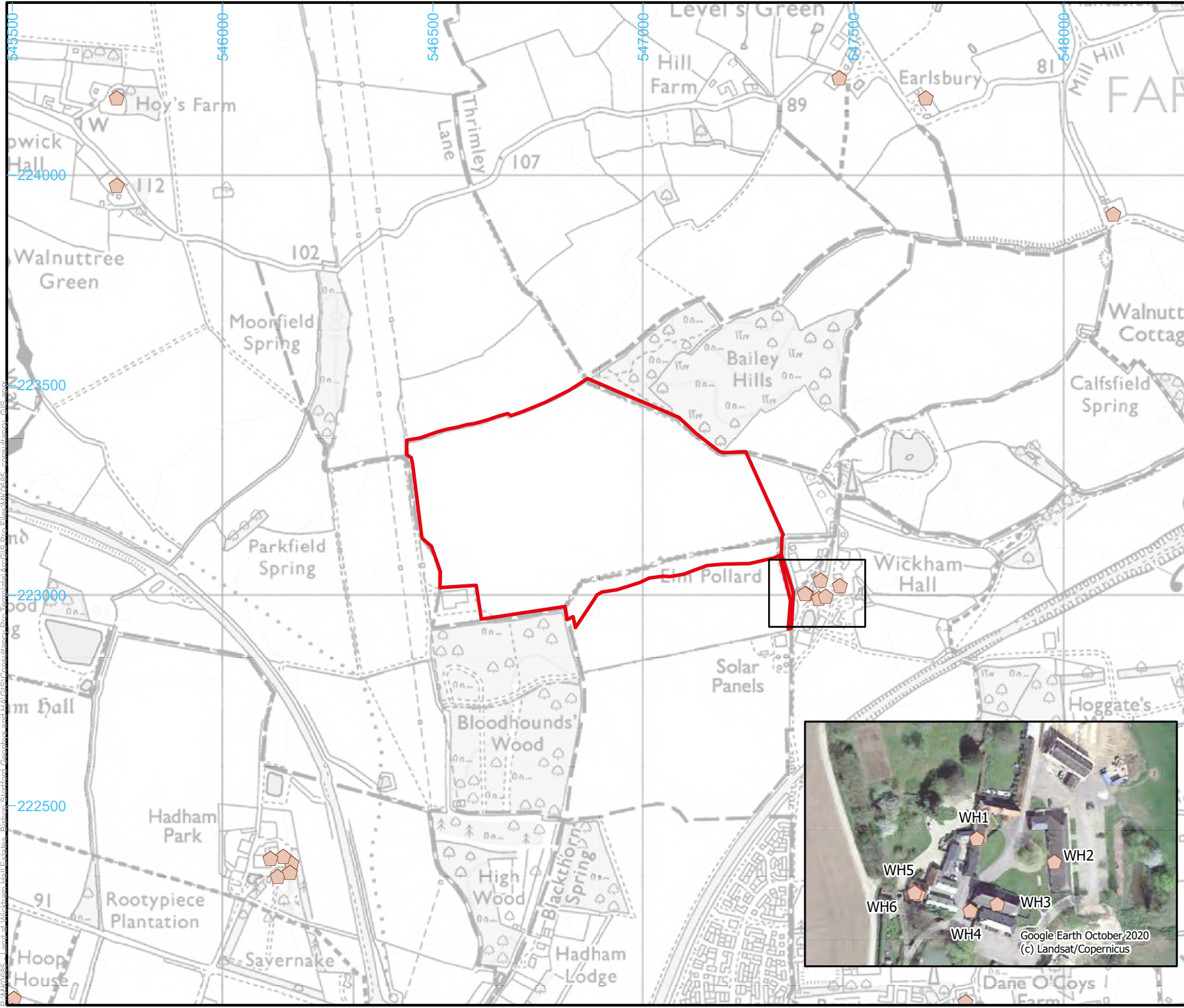


Fig. 3: Extract from geophysical survey (SUMO 2023)



- Site
- ▲ Grade I Listed Building
- Grade II* Listed Building
- ▱ Grade II Listed Building



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Data courtesy of Historic England

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PROJECT TITLE
Land at Wickham Hall Estate
Bishop's Stortford

FIGURE TITLE
Designated Heritage Assets



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3.5. The survey also identified anomalies which are representative of the below ground remnants of ridge and furrow, infilled ditches of medieval or more likely since-removed post medieval field boundaries. The results are shown on Fig. 3 and discussed below where relevant. The full report can be found in appendix 4.

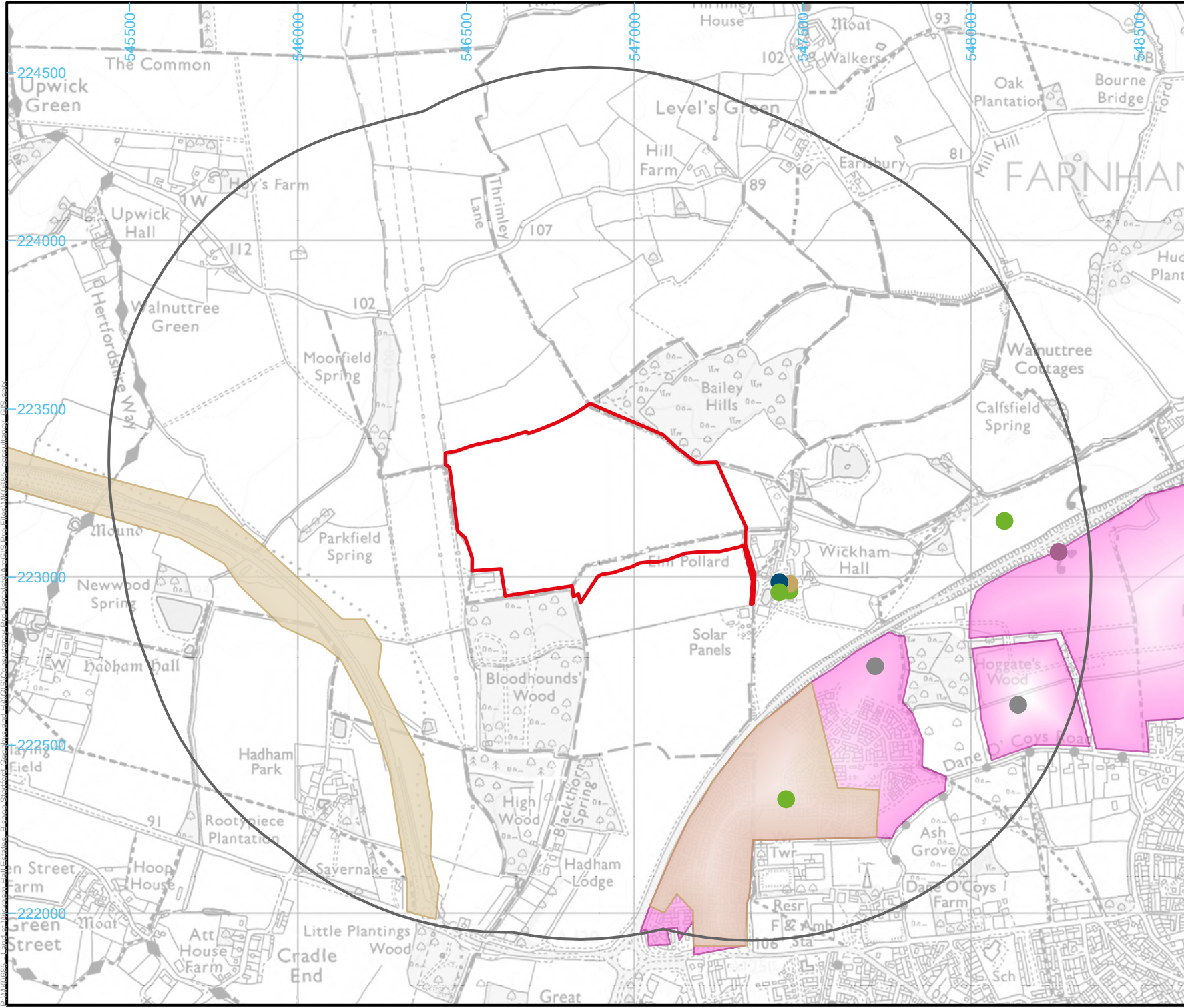
3.6. Programmes of archaeological fieldwork have also been carried out within the study area (Fig. 5). These comprise the works associated with the A120 Hadham Bypass, geophysical surveys and evaluations focused along the northern extent of Bishop's Stortford prior to the construction of the residential areas, and works associated with Wickham Hall, and Hadham Hall (Fig. 5). The results of these investigations are discussed, where relevant, within the text below.

Areas of Archaeological Significance (AAS)

3.7. The Hertfordshire HER has recorded several Areas of Archaeological Significance (AAS) within the study area, none of which extent within the Site. AASs are defined in the East Herts District Plan as, 'places within the District that are deemed to be of moderate to high archaeological potential' (East Herts District Council 2018). The archaeology of the AAS's are discussed where relevant throughout the report and identified in Appendix 2.

Prehistoric and Roman

3.8. To the north and west of Bishop's Stortford, there is evidence of land use from the Neolithic period onwards. Archaeological investigations (Albion Archaeology 2014) along the northern perimeter of Bishop's Stortford, c.300m to the south-east of the Site at its nearest point, identified an area of multi-phased settlement activity, now recorded as an AAS (Fig. 6, 8). Pits containing Neolithic and Bronze Age pottery sherds as well as evidence of a Bronze Age hearth, un-urned cremation burials and remains of post-built structures were identified as the initial phase of occupation. Iron Age round houses and cremation burial enclosed by boundary ditches, and ditches containing both Iron Age and Roman pottery sherds were identified during the archaeological works. Further Roman activity, including cultivation evidence was also recorded. This area lies to the immediate north of the A120 Hadham Road, which follows the route of the former Stane Street Roman Road (Fig. 6, 9), suggesting an Iron Age and later rural and roadside settlement.



- Site
- Study Area
- Excavation
- Geophysical Survey
- Excavation
- Archaeological evaluation
- Test pits
- Walkover
- Watching brief



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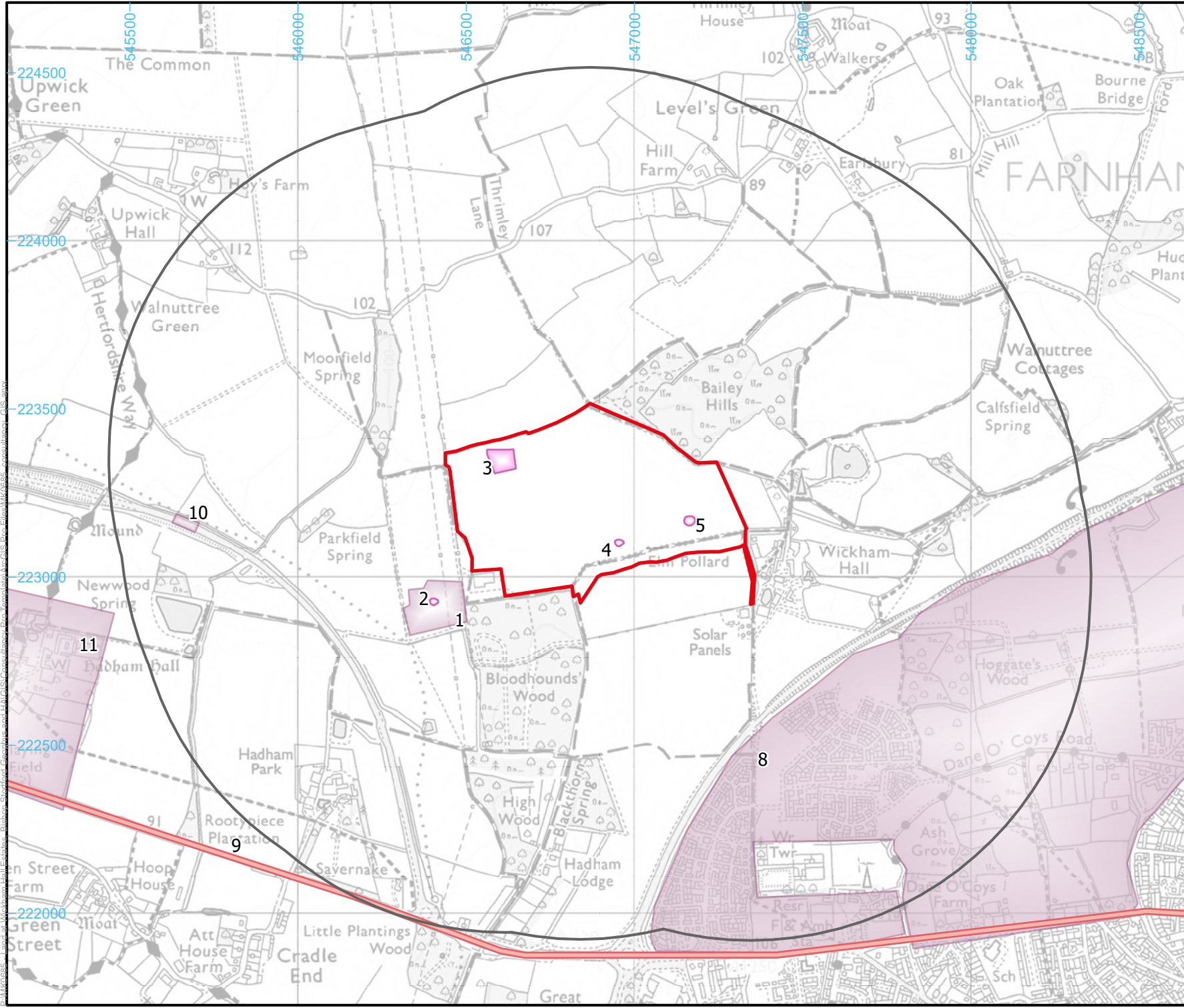
PROJECT TITLE
Land at Wickham Hall Estate
Bishop's Stortford

FIGURE TITLE
Previous Investigations

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- 3.9. The archaeological investigations along the A120 Hadham Bypass corridor identified the remains of a later prehistoric and Roman rural occupation site, c. 800m west of the Site (Fig. 6, **10**; Thomas 2014; Cotswold Archaeology 2016; Cotswold Archaeology 2020). The evidence comprises remains of Iron Age round houses enclosed by boundary ditches with domestic waste and finds including, animal bone, shell, ceramic building material, fired clay, worked bone and a jet bracelet fragment. Two cremation burials were also identified during the investigations and dated to the later prehistoric period (Cotswold Archaeology 2020). Additional remains dating to the late prehistoric and Roman periods which lie beyond the extent of the study area have been identified as part of the A120 Bypass investigations. These include additional Bronze Age cremations, multiphase settlements, and a Roman cemetery (Cotswolds Archaeology 2020).
- 3.10. Further settlement evidence is also recorded along Stane Street Roman Road, c. 1.1km to the south-west of the Site at its nearest point. This evidence comprises a further multi-phased settlement (Fig. 6, **11**). The key phases of settlement were dated to the Iron Age and Roman periods and comprised a farmstead (roadside settlement within a rural landscape), including evidence of a roundhouse and Roman enclosures as well as a Roman tile kiln (Walker 1994).
- 3.11. The known evidence indicates an extensively used landscape within the later prehistoric and Roman periods around the environs of the Site. The geophysical survey (SUMO 2023; Appendix 4), has identified that this activity potentially also extended into the Site. An area of likely later prehistoric and/or Roman settlement activity is identified to the immediate south-west of the Site (Figs. 3 and 6, **1**). This included a well-defined oval enclosure with a possible associated trackway around its south-western side. A number of pit-like features and rectilinear ditches have been noted within and around the oval enclosure, which likely represent a separate phase of activity. Also within the oval enclosure, a circular anomaly (Figs. 3 and 6, **2**) has been identified. This may represent a round barrow, again indicating a separate phase of activity, as area of settlement were normally sited away from round barrows. It is not possible with the information from the geophysical survey to chronologically date these features, however, it is feasible that the possible round barrow represents the earliest phase of activity which was lost within the landscape over time before becoming the site of a later multi-phase settlement.



Site
 Study Area
 Prehistoric
 Multiphase
 Roman



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PROJECT TITLE
**Land at Wickham Hall Estate
 Bishop's Stortford**

FIGURE TITLE
**Prehistoric and Roman
 Archaeological Remains**

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- 3.12. From the results of the geophysical survey, the settlement activity does not appear to extend into the Site (Fig. 3), however a sub-rectangular enclosure has been identified in proximity to the northern boundary (Figs. 3 and 6, **3**). There are breaks in the northern and western ditches which could indicate entrances and there are pit-like anomalies inside, which may suggest activity associated with settlement rather than agricultural use. There are also hints of a possible oval enclosure attached to the north-east, but this may be a geological feature.
- 3.13. Two circular responses have also been identified along the southern boundary of the Site (Figs. 3 and 6, **4** and **5**). Feature **4** has a break in the ditch to the east which may indicate an entrance, however, both features have been interpreted as possible round barrows. These barrows appear to be on a similar linear alignment to the one west of the Site (**2**) and thus they are likely contemporary, forming part of a wider funerary landscape.
- 3.14. The anomalies detected in the geophysical survey (**3**, **4**, and **5**) likely represent buried archaeological remains relating to the management of the landscape in during the prehistoric and Roman period and possibly even relate to contemporary settlement or funerary remains.
- 3.15. Poorly preserved buried remains and some specific types of archaeological features are not easily detected by geophysical survey. Therefore, further, as yet unknown remains (associated with those identified already) may survive within the site. Both the known remains, and those that could reasonably predicted, based on the evidence available, would have some evidential (archaeological) value.

Early medieval and medieval

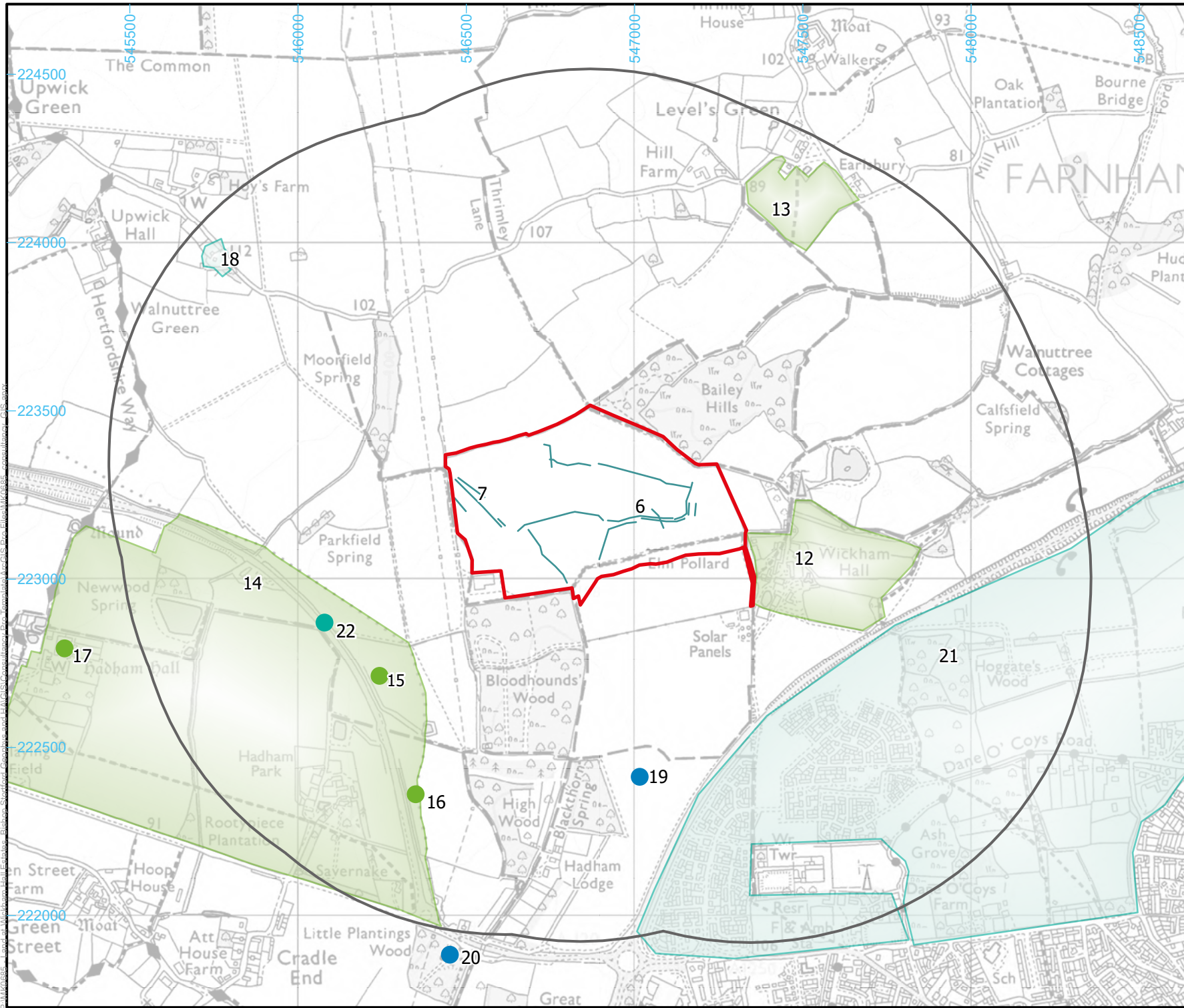
- 3.16. In the region, many early medieval settlements were focused around earlier patterns of movement and occupation, such as Roman sites and routes of communication (Medlycott 2011). There is no recorded archaeological evidence of early medieval (Anglo-Saxon) activity within the Site or study area. However, archaeological works along the northern extent of Bishop's Stortford, to the east of the study area, identified the remains of a ditch associated with the early medieval period (Fletcher 2013).
- 3.17. The Domesday survey of 1086 records Wickham Hall as the location of a settlement with a population of 24 households. The records suggest that Wickham Hall had fewer households than that of Bishop's Stortford, both of which were located within the Hundred of Braughing and under the ownership of the Bishop of St Paul's, London

(Powell-Smith 2023). The established size of the settlement of Bishop's Stortford in 1086 suggests it had earlier origins although as noted above no early medieval remains have been identified to date. Placename evidence, however, could suggest that the origins of the settlement at Wickham Hall date back to the Roman period. The use of the prefix 'wick' is often indicative of Roman settlement, and indeed Roman occupation has been identified in the environs of the settlement (Fig. 6).

- 3.18. At Wickham Hall (Fig. 7, **12**) fragmented earthwork remains have been identified, which could form the remains of the documented early phases of occupation at Wickham Hall, prior to the 16th and 17th century buildings now present. This may represent a shrunken or displaced settlement. These are located to the east of the current buildings and have been identified through LiDAR analysis and included within the Wickham Hall AAS.
- 3.19. Elsewhere within the study area, there is evidence of a possible deserted medieval settlement or isolated farmstead. The remains of a possible building platform and boundaries, interpreted from aerial imagery, are located c.670m to the north-east of the Site and to the north of Wickham Hall (Fig. 7, **13**).
- 3.20. Located beyond the study area is the site of Little Hadham which is recorded as the residence of the Baud family within the medieval period (Minet 1910). A deer park was established during the 13th century by William Baud and its identified extents, as recorded by the Hertfordshire HER through historic mapping, are shown on Fig. 7 (**14**). The Little Hadham estate passed to the Capel family in the early 16th century. The family built Hadham Hall (Fig. 7, **17**) in the 1570s and the medieval deer park was incorporated into a parkland for the new hall. The Hadham Hall parkland was extended (in 1635) east towards Wickham Hall estate (Fig. 7, **12**), at which point it became Hadham New Park.
- 3.21. In 1669 the Hadham Hall parkland was disparked (Cantor 1983; Rowe 2009); and by the late 17th century, the deer were moved to Epping Forest and Bagshot Park, and by the 18th century the parkland was divided into three farmsteads (Hadham Hall, Hadham Park, and Wickham Hall). The former 18th century parkland limits, as identified through historic mapping, are still visible within the modern landscape and form established boundaries. The former southern boundary aligned with the route of Hadham Road (formerly the Stane Street Roman Road), and the western side is

boundary by the parish boundary. It is likely that the former parkland boundary, already a well-defined boundary, then became the parish boundary.

- 3.22. A number of cropmarks have been identified within the former deer park at Hadham through aerial photographs Hall (Fig. 7, **15**, **16**). These features are suggestive of possible ditched enclosures and boundaries. Feature **16**, which represents a straight linear cropmark, appears to follow the eastern boundary of the identified extent of the park and thus may represent a medieval park pale. Feature **15** has been identified by the HER as likely being of post-medieval date, however this is not confirmed, and an earlier origin may be possible. Investigations along the course of the A120 did not provide any clarity on these features.
- 3.23. The documentary evidence, therefore, is suggestive of a rural landscape with a number of dispersed medieval settlements (**12** and **13**). The Site itself appears to lie in the periphery of these settlements and likely formed part of the agricultural hinterland which contained areas of woodland and wasteland as indicated by the tithe maps discussed below. During the medieval period, settlements were typically surrounded by the great open arable fields (which formed the basis of the ‘three-field’ system). Under the open-field system, each manor or village had two or three large fields, usually several hundred acres each, which were divided into many narrow strips of land. The strips, or selions, were cultivated by members of the community. The results of the geophysical survey have identified evidence of below ground remnants of ridge and furrow (Fig. 3), some of which are more sinuous in nature of may represent medieval agricultural practices, confirming that the Site lay within the agricultural hinterland in this period.
- 3.24. The geophysical survey also identified a number of discrete ditch-like responses (Figs. 3 and 7, **6**) which appear to respect the ridge and furrow areas, indicating a possible medieval date for these features. Additional ditches and pits (Figs. 3 and 7, **7**) have been identified which are of uncertain origin. These may be geological in nature, however, correspond to cropmarks noted within the Site and thus an archaeological origin cannot be discounted.



- ▭ Site
- Study Area
- Medieval
- Post-medieval
- Linear features of unconfirmed date
- Medieval
- Post-medieval
- Modern



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PROJECT TITLE
Land at Wickham Hall Estate
Bishop's Stortford

FIGURE TITLE
Medieval, Post-medieval, and Modern
Archaeological Remains

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Post-medieval and modern

- 3.25. During the 17th century the boundary Hadham Park is documented to have extended eastward towards the Wickham Hall estate. Two parallel lines of tree-throw holes were identified within the post-medieval parkland as part of the investigations for the A120 (Cotswold Archaeology 2020; Fig. 7, **22**). It is possible that they defined part of a route that linked Hadham Hall and Wickham Hall.
- 3.26. The geophysical survey within the Site did not identify any features which are obviously associated with parkland. Instead, it identified remains indicative of agricultural land use within the Site within this period. This is consistent with the general land use within the study area. Following the Inclosure Acts in the 17th century, the surrounding land was gradually subject to enclosure, which resulted in a landscape characterised by small irregular shaped fields under individual land ownership. This in turn led to the creation of multiple farmstead and outbuildings. The nearest historic farmstead to the Site includes the Walnut Tree Green Farmstead (Fig. 7, **18**) c. 830m north-west of the Site.
- 3.27. This agricultural land use largely continued into the 20th and 21st century within the study area. However, during the later 19th and early 20th century, an ammunitions store and rifle training range were constructed to the south and east of the Site (Fig. 7, **19, 20**).
- 3.28. The settlement of Bishops Stortford expanded during the 19th and 20th centuries. Evidence of post-medieval agricultural activity comprising boundary ditches is located c.1km to the east of the Site (Fig. 7, **21**) which now lies within the boundaries of the town. The A120 is located within the south-east and south-west of the study area and defines the limit of modern encroachment into the study area. The remainder of the study area still comprises arable and pastoral fields with interspersed areas of woodland.

Map regression

- 3.29. The Site covers two historic parishes, with the parish of Albury incorporating the south-eastern part of the Site, and the parish of Farnham incorporating the north and western extends of the Site (Fig. 8). Figure 8 shows both the 1839 Farnham Parish tithe map and the 1842 Albury Parish tithe map. The plot numbers for Albury Parish are shown in red and the plot numbers for Farnham parish are shown in green.

- 3.30. The land which formed part of Albury parish comprised three small fields (plots 247, 248, and 249). The names of these plots are recorded as ‘Part of Levery Wood’, ‘Part of Nine Acre Wood’, and ‘Part of Twelve Acre Wood’, respectively. However, at the time of the survey in 1842, these fields were recorded as in arable land use at the time of the survey.
- 3.31. The land within Farnham parish included two fields (plots 345 and 348). Plot 345 is small in size and names ‘Part of Levery Wood Field’ and plot 348 was large and irregular in size, which is represented by its name ‘Great Field’. Both plots were arable in nature. All five plots within the Site were under the ownership of The Earl of Essex and occupied by William Stacey.

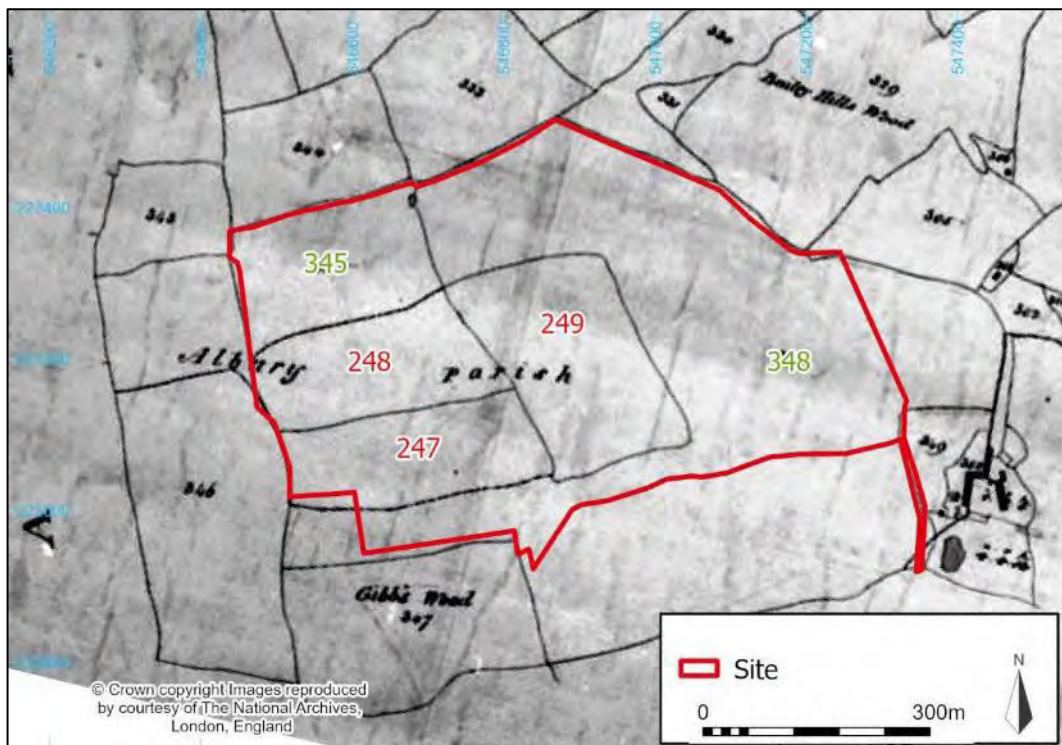


Fig. 8: 1839 Farnham Tithe Map

- 3.32. The first edition Ordnance Survey Map surveyed in 1899 (Appendix 3) depicts no change to the field boundaries within the Site, although the trackway which runs in an east/west orientation through the Site is depicted. By the 1923 Survey (Fig. 9) the Site had been amalgamated into one large field. The only further change shown within the cartographic record is the alteration of the track in the 1982 survey (Appendix 3). No further changes have occurred within the Site. 3

- 3.33. Of most noticeable change within the Site's environs, is the construction of the barn to the immediate south-west. This was constructed between 2013 and 2014.
- 3.34. The north and north-eastern boundary of the Site are shown on the 1839 tithe map (Fig. 8) and thus boundaries comprise 'important' hedgerows under the criteria for archaeology and history of The Hedgerows Regulations 1997.
- 3.35. The 1997 Regulations state several different criteria for important hedgerows. In this case, the hedgerows within the Site meet criterion 5 which states that '...[the hedgerow] is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure Acts'. The criteria then reference the 1896 Short Titles Act, inferring that the Inclosure Act in question is the Act of 1845. This is pertinent, as it sets a date of 1845 as a benchmark test. Accordingly, tithe maps, which often pre-date 1845, are a reliable indicator for the status of a hedgerow as 'important' under the criteria for archaeology and history. These hedgerows are normally considered 'non-designated heritage assets' of limited historic value.

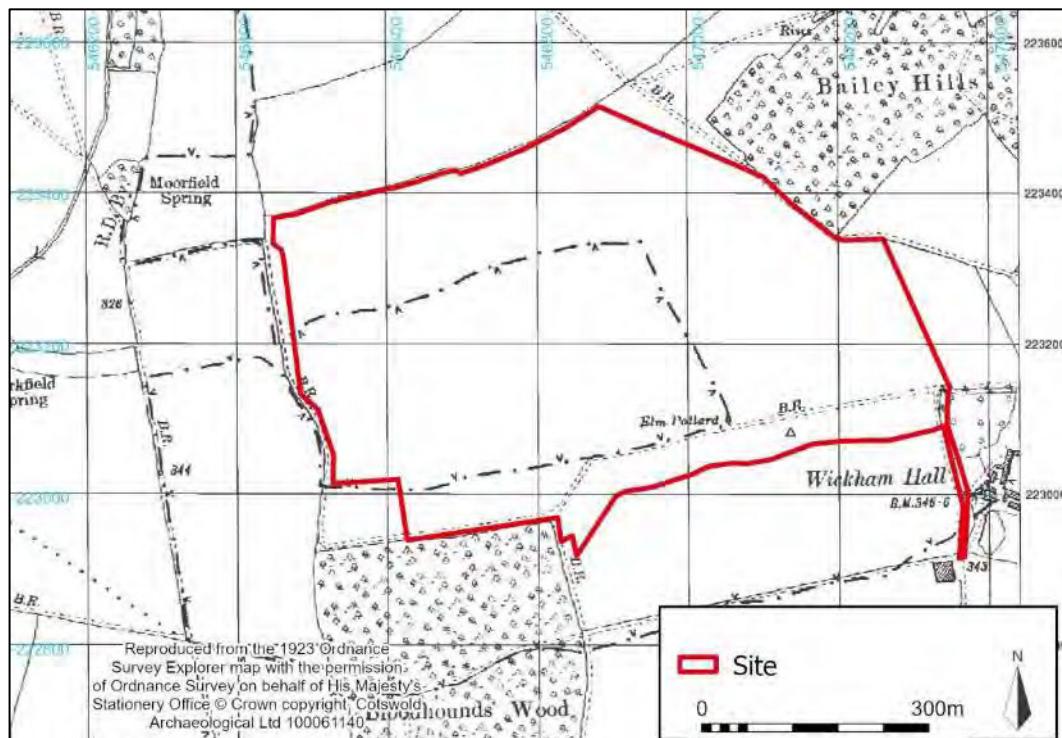


Fig. 9: 1923 Ordnance Survey Map

4. ARCHAEOLOGICAL SIGNIFICANCE & POTENTIAL EFFECTS

The significance of known and potential archaeological remains within the Site

- 4.1. This assessment has identified that no designated archaeological remains are located within the Site; no designated archaeological remains will therefore be adversely physically affected by development within the Site.
- 4.2. There are however a number of features within the Site that have been identified by the geophysical survey (Appendix 4). These include the following:
- Possible prehistoric/Roman enclosure (3)
 - Possible barrows (4 and 5)
 - Ditches of possible agricultural origin (6)
 - Ditches and pits of an unknown origin (7)
 - Historic field boundaries and ridge and furrow
- 4.3. The possible prehistoric/Roman enclosure and prehistoric round barrows located within the Site hold high evidential value. Should these features be prehistoric or Roman in date they will contribute in some degree to regional research objectives as set out in the Regional Research Framework (Medlycott 2011).
- 4.4. Additional identified remains within the Site include remnants of infilled furrows and medieval or post-medieval field boundaries. These features are common within the archaeological record and provide limited additional information to our understanding of the historic land use. Thus, these features are of insufficient evidential or historic value to be deemed as ‘non-designated heritage assets’.
- 4.5. A number of ditches and pits of unknown origin have been identified within the north-west of the Site. These may be of natural origin (Sumo 2023); however, this is not confirmed.
- 4.6. Further, as yet unknown remains (associated with those identified already) may survive within the site. Both the known remains, and those that could reasonably be predicted, based on the evidence available, would have some evidential (archaeological) value.
- 4.7. The north and north-eastern boundary of the Site are shown on the 1839 tithe map (Fig. 8) and thus meet the criteria for designation as ‘important hedgerows’. These are thus considered non-designated heritage assets of limited historic value.

Previous impacts

- 4.8. The Site has remained as agricultural land (under plough) for the majority of its known history. Accordingly, principal previous impacts are most likely associated with post-medieval and modern agricultural regimes, such as ploughing, harrowing and field division. Whilst these previous activities may have impacted partially on any remains situated within the plough soil, there is expected to be a good degree of survival for the identified remains.

Potential development effects

- 4.9. Any truncation (physical development effects) upon archaeological remains would primarily result from groundworks associated with the construction of the proposed solar farm. Such groundworks might include:

- Installation of solar panel modules;
- Installation of perimeter fencing;
- Excavation of service trenches and foundations for any buildings (inverter/substation);
- Stripping associated with the construction of access track and temporary works compounds; and
- Excavation of drainage trenches/swales.

- 4.10. Ground works undertaken in relation to the proposed development, particularly the excavation of cable trenches, access routes, foundations of the substations, and footings, have the potential to result in the damage to or loss of any buried archaeological remains which may be present within their footprint.

- 4.11. The proposed locations of the sub-stations, storage container, power station, battery and battery storage do not lie within the footprint of any of the identified archaeological remains. There is, however, a potential that presently unknown remains may be present within this footprint and thus be subject to truncation as a result of the proposed development. A proportionate scheme of investigation for the mitigation of this impact can be agreed through formal consultation and a Written Scheme of Investigation (WSI). Alternatively, a condition to agree the final construction methodologies prior to any ground-breaking works.

- 4.12. It should be noted, however, that the construction methodology of the scheme will entail the installation of minimally intrusive piles in order to mount the panel frames.

Overall, the footprint of the development – piling, topsoil stripping and excavations of the trenches and foundations – is anticipated to be very limited in area (typically a fraction of a percent of any given solar park), resulting in only minor adverse effects upon most classes of archaeological features. With regard to piling, the quantity of displaced archaeological remains in the case of the identified ring ditches (4 and 5) and prehistoric/Roman enclosure (3) would be insignificant compared to that left undisturbed. For discrete or less robust buried features such as pits, post holes or stake holes, the probability that piles would be aligned in such a way that any more than a small percentage of the features would be affected is very low, and complete avoidance is the most likely outcome.

- 4.13. The proposed development presents an opportunity to restrict further damage to the archaeological resource by removing the Site from arable use and therefore the effects of modern ploughing. The already limited and localised impact of the development on surviving archaeological remains would be minimal compared with the potential risks posed by modern agricultural methods, which could lead to the continued degradation of any underlying features.
- 4.14. The scope and timing of any further investigation required to mitigate the harm resulting from the construction of the access track, battery storage and other ancillary features can be agreed with the Archaeological Advisors to the Council. However, it is considered that this can be implemented as a condition. Indeed, this approach has been recommended for the adjacent Wickham Hall solar farm in East Hertfordshire, which has a comparable archaeological baseline.
- 4.15. The client is open to discussions on scheme alterations in order to minimise impacts to the potential archaeological resource.
- 4.16. The Important hedgerows along the north and north-eastern borders are retained within the proposed development which will result in no impact as there will be no change to these remains.

5. THE SETTING OF HERITAGE ASSETS

5.1. This section considers potential non-physical effects upon the significance of susceptible heritage assets within the Site environs. Non-physical effects are those that derive from changes to the setting of heritage assets as a result of new development. All heritage assets included within the settings assessment are summarised in the gazetteer in Appendix 2 and shown on Figure 4. Those assets identified as potentially susceptible to non-physical impact, and thus subject to more detailed assessment, are discussed in greater detail within the remainder of this section.

Step 1: Identification of heritage assets potentially affected

5.2. Step 1 of the Second Edition of Historic England's 2017 'Good Practice Advice in Planning: Note 3' (GPA3) is to 'identify which heritage assets and their settings are affected' (see Appendix 1). GPA3 notes that Step 1 should identify the heritage assets which are likely to be affected as a result of any change to their experience, as a result of the development proposal (GPA3, page 9).

5.3. A number of heritage assets were identified as part of Step 1, as potentially susceptible to impact as a result of changes to their setting. These included a number of Grade II Listed Buildings within the Wickham Hall complex (Fig. 3, **WH1-WH6**). These assets have been identified using a combination of GIS analysis and field examination, which has considered, amongst other factors, the surrounding topographic and environmental conditions, built form, vegetation cover, and lines of sight, within the context of the assets' heritage significance.

5.4. The site visit, and study area walkover, identified that there would be no non-physical impact upon the significance of any other heritage assets as a result of changes to the use and/or appearance of the Site. These unaffected assets comprise three Grade II Listed Buildings c. 1km to the north-east of the Site and the Grade II Listed Buildings at Hadham Park over 1km to the south-west of the Site on the opposite side of the A120.

5.5. The settings of the Listed Buildings to the north-east of the Site comprise their associated garden plots from which the assets themselves are best experienced. The adjacent road and the surrounding rural landscape provide their wider context. The Site forms a part of the wider landscape which lies beyond the Bailey Hills Wood and

makes no contribution to the significance of these buildings and does not form a part of their setting.

5.6. The Grade II Listed Buildings associated with Hadham Park derive their significance from their associations with Hadham Hall, the house having formed one of the three lodges for the Hadham deer park. The significance of these buildings is primarily derived from the Hadham Park complex. Due to the modern development in the proximity of these Listed Buildings, including modern commercial warehouses and structures, the historic setting of the Listed Buildings is no longer readily perceptible. The route of the A120 Hadham Bypass lies to the north-west of these Listed Buildings and creates a visual barrier between the Listed Buildings and the wider landscape to the north. The Site, which lies over 1km to the north-east, does not form a part of this setting and makes no contribution to these Listed Buildings.

5.7. As such, the proposals will not change any aspect of the heritage significance of these buildings or how their significance can be experienced, and they have not been assessed in any further detail.

5.8. All heritage assets assessed as part of Step 1, but which were *not* progressed to Steps 2 – 3, are included in the gazetteer in Appendix 2 of this report.

Steps 2 – 3: Assessment of setting and potential effects of the development

5.9. This section presents the results of Steps 2 to 3 of the settings assessment, which have been undertaken with regard to those potentially susceptible heritage assets identified in Step 1. Step 2 considers the contribution that setting makes to the significance of potentially susceptible heritage assets. Step 3 then considers how, if at all, and to what extent any anticipated changes to the setting of those assets, as a result of development within the Site, might affect their significance.

Wickham Hall complex

5.10. The Grade II Listed Buildings at Wickham Hall comprise (Fig. 3):

- Wickham Hall Farmhouse (**WH1**)
- Wickham Hall Barn (1) (to the east of Wickham Hall Farmhouse) (**WH2**)
- Wickham Hall Barn (2) (to the south-east of Wickham Hall Farmhouse) (**WH3**)
- Wickham Hall Outbuilding (to the south-south-east of Wickham Hall Farmhouse) (**WH4**)
- Wickham Hall Cottage (**WH5**)

-
- Former Dovecote approximately 30 metres to the south of Wickham Hall (**WH6**)

- 5.11. Wickham Hall Farmhouse (Fig. 3, **WH1**; Photo 5) serves as the key building within the complex. Its heritage significance, and the heritage significance of the associated buildings, derives from the historic, evidential and aesthetic values. Wickham Hall was first documented in 1487, although, the Domesday Survey records a settlement at the location during the 11th century. The present buildings on site are no earlier than 16th century in origin. The house has 16th century origins, but includes alterations carried out during the 19th century. It is a two-storey (jettied) timber-framed building designed in an L-shaped plan with a red tile roof. Historically, Wickham Hall Farmhouse and the associated buildings were owned by the Earl of Essex, who also owned all of the land within the Site (as of 183). However, this historic association is no longer discernible.
- 5.12. The two barns form part of the surroundings of Wickham Hall Farmhouse (Fig. 3, **WH2, WH3**; Photo 6). They are 17th century in origin and are timber framed. Both barns have thatched roofs and are formed of multiple bays with aisled halls. The outbuilding (Fig. 3, **WH4**) is attached to barn 2 and comprises a thatched roof with weatherboarding.
- 5.13. Wickham Hall Cottage (Fig. 3, **WH5**) was constructed during the 17th century in red brick. It originally started as a pigeon house but was subsequently converted into a residential dwelling. Associated with the cottage is the Listed dovecote (Fig. 3, **WH6**), which has 17th to 18th century origins. Similarly, to Wickham Hall Cottage, the dovecote was also converted into a residential dwelling.

Physical Surrounds – ‘What Matters and Why’

- 5.14. The Wickham Hall complex is situated within agricultural land, which is bounded to the south-east by the A120 northern bypass (Fig. 3). Beyond that is the expanding residential development of Bishop’s Stortford. Wickham Hall is bounded by vegetation, which acts as an enclosure around the buildings and a definitive boundary between the complex and open expanse of agricultural land (Photo 1). This boundary acts as a physical disconnect between the agricultural land and the historic buildings at Wickham Hall (Fig. 3).
- 5.15. Despite the retention of the historic buildings and wider surrounds of Wickham Hall, there is no doubt that the buildings lie within a modern (20th / 21st century) landscape;

modern development within Wickham Hall attest to this. Pylons cross the landscape to the west of Wickham Hall (Photo 2) and a substantial grey metal grain storage system is present to the south of the complex with solar panels on its roof and two small arrays in its grounds. The degree of change over time is marked, most certainly by the introduction of modern hardstanding, new built form, car parking facilities (Fig. 3) and the use of most of the buildings as commercial centres within the Wickham Hall complex (Photo 3). For example, barn 1 now forms a sofa and accessory sales centre and studio; its use is no longer associated with its historic purpose.

- 5.16. Wickham Hall Farmhouse is situated along a private gently curving driveway. The east facing façade of the house is oriented towards barn 1. Barn 2 and Wickham Hall Outbuilding are situated to the south of the house and barn 1; collectively forming a broad courtyard, which comprises hardstanding used as access routes and green space (Fig. 3). To the south of the barns are modern built form, which emulate some of the key historic aspects of the barns.



Photo 2: Agricultural land to the west of Wickham Hall Farmhouse



Photo 3: Entrance point towards Wickham Hall commercial centre

- 5.17. The physical association between the barns and Wickham Hall Farmhouse contributes to the history of the complex and promotes group value. To the south of Wickham Hall Farmhouse are further buildings associated with the agricultural land use, such as the Farm Office. At the south-western extent of the complex are the dovecote and Wickham Hall Cottage. These buildings are orientated towards the north and west; towards the driveway entrance/exit (Fig. 3).
- 5.18. The landscape to the east of Wickham Hall Farmhouse does contribute to the heritage significance of the Listed Buildings; this landscape retains historic elements, namely the deserted medieval earthworks (Fig. 3).

Experience – ‘What Matters and Why’

- 5.19. The key elements contributing to the significance of Wickham Hall Farmhouse are best experienced from within proximity; when located facing the building or within it (Fig. 3). Wickham Hall Farmhouse is approached from the south along an access route that passes through the north-west Bishop’s Stortford residential development. The access route then passes the large metal grey grain store that sits prominently within the agricultural landscape. Once passed the grain store, the expanse of agricultural land (including the land within the Site) becomes a prevalent feature of

the landscape. However, it is not until entering the private gravelled driveway that the house is discernible (Photo 4). The west facing façade of the house is clearly sitting within a domestic surrounding; the crisp gravel driveway and landscaped topiary in the centre, which acts as focal point and functional turning circle for visitors is most certainly juxtaposed with the wider expanse of ploughed agricultural land that lies just to the west of the house (Photo 2). The house, however, is all but shrouded from the agricultural land by swathes of vegetation that bounds the house's western most extent of greens space (Photo 5; Fig. 3). The house, therefore, is not a prominent feature within the landscape, but can be glimpsed from along the entrance point of its driveway. On a clear day, the silhouette of the roof is clearly visible, set against the backdrop of a clear sky (Photo 4). However, the dovecote and cottage are easily missed and do not form focal points within their surroundings.

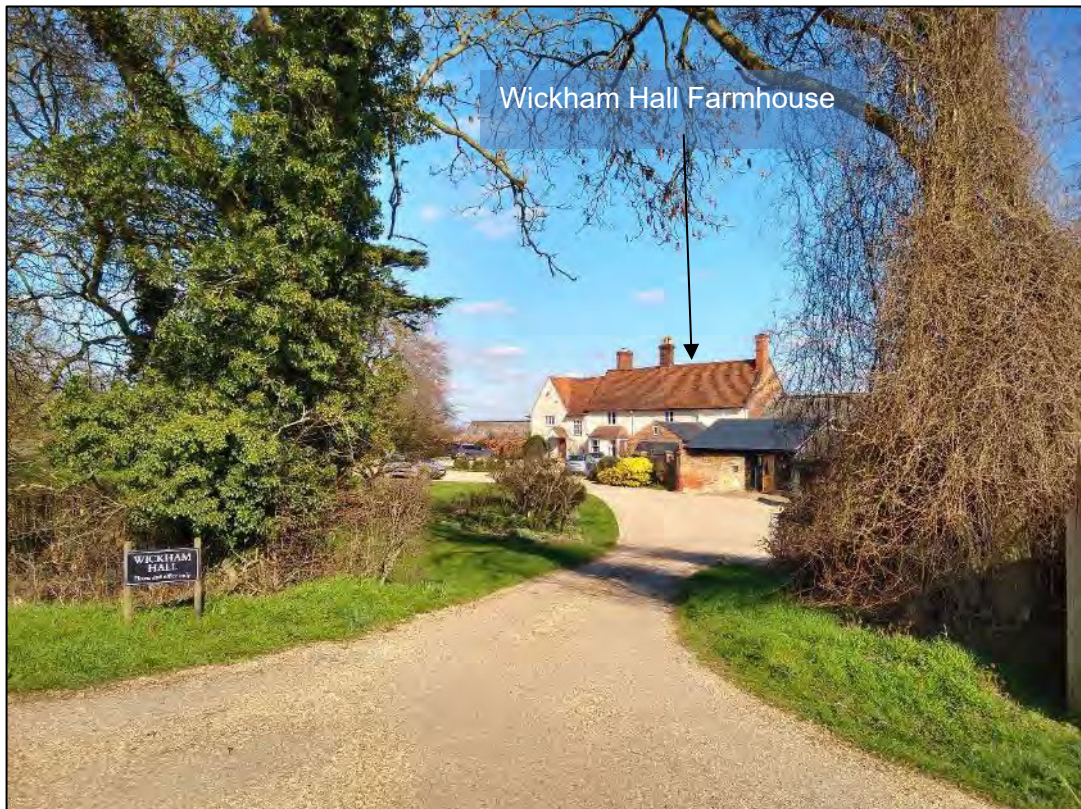


Photo 4: Wickham Hall Farmhouse (west facing façade) viewed from along a permitted access route



Photo 5: Wickham Hall Farmhouse vegetation boundary

- 5.20. At present, the Wickham Hall complex is probably most commonly experienced when it is approached from the south/south-east (Fig. 3). The complex is predominantly commercial, and the focal point of the complex is the café, which serves beverages to the many passing walkers throughout the day. The café building lies immediately to the south of barn 2. It is not until one passes the café and the bustle and chatter of groups of people that the historic Wickham Hall complex becomes a prominent feature and the courtyard (created by the positioning of the barns and house) becomes discernible (Photo 6).
- 5.21. Within the wider expanse of agricultural land to the west of Wickham Hall, the silhouettes of the buildings are partially obscured by deciduous trees and vegetation (Photo 7). The key contributing elements to the heritage significance of the buildings cannot be experienced and no meaningful association with the agricultural character of the land is readily observable. Moreover, the use of barn 1 as a commercial centre and introduction of modern built form and materials has eroded the historic association between the agricultural character of the buildings and the surrounding agricultural landscape.

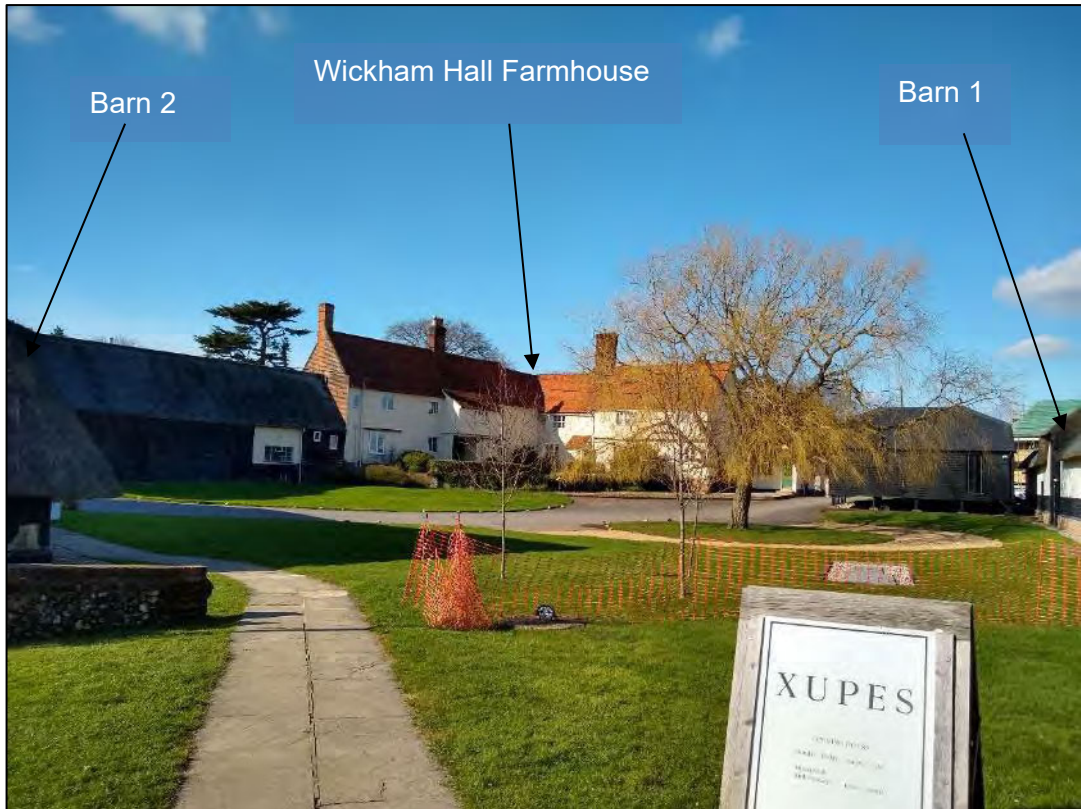


Photo 6: Wickham Hall historic courtyard, looking north-west



Photo 7: View towards Wickham Hall from the track within the south of the Site

Contribution of the Site

5.22. The Site does form a part of the setting of the Listed Buildings at Wickham Hall and contributes to their experience. The Site forms part of the main viewshed on approach from south, with the view opening open directly onto the Site once past the grain

shed. However, this experience does not enable appreciation of the Listed Buildings themselves and thus only provides a very limited contribution to the significance of these assets, evidencing their wider agricultural or context. The main experience of these assets is from within the Wickham Hall complex which is bounded by vegetation and thus distinctly separate from any experience of the Site.

- 5.23. The Site's agricultural character does form a positive element within the setting of Wickham Hall's Listed Buildings. However, the key elements that contribute to the heritage significance of the Listed Buildings comprise their architectural design, historic fabric and materials and the relationship between the historic buildings at Wickham Hall. This visual distinction between the Site and the Wickham Hall complex result in a dissociation between the Site and the Listed Buildings. This limits the contribution that the Site makes to the significance assets.

Summary of development effects

- 5.24. The proposed development is to erect solar panels throughout the Site, orientated broadly south. A buffer of c. 100m proposed on the eastern edge of the development. This development would certainly contribute to some degree of change within the wider surroundings and setting of the historic buildings at Wickham Hall. The development would change the character of the Site. However, the broad agricultural character would be retained, with managed or grazed grassland within Site, compared to present arable farming.. The limited height of the proposed development will not restrict views within the wider landscape and will not result in any change to the current field layout of the Site. Thus, the change will be aesthetic only and in no way harmful.
- 5.25. The agricultural land to the east of the Wickham Hall complex, which is of greatest importance due to its surviving medieval earthworks, will not be impacted by the proposed development, and nor will the fields to the immediate west of the complex. Thus, the wider rural landscape context of the Listed Buildings on approach will still be appreciable. Likewise, the proposed development will not result in any change to the Wickham Hall complex itself, from which the associated Listed Buildings derive most of their significance.
- 5.26. The proposed development lies c.100m north-west of the Wickham Hall Farmhouse (the nearest Listed Building at Wickham Hall). Available views from the upper storey levels of the house towards the Site would change as a result of the development.

However, these views do not contribute to the heritage significance of the house and as such are not heritage consideration.

5.27. The development will be prominent within the landscape, although it neither detracts from the experience of the Listed Buildings nor the key elements that contribute to their heritage significance. This change within their setting does not necessitate harm to the heritage significance of the Listed Buildings and will instead only result in an aesthetic change in views on approach. The key elements that contribute to the heritage significance of the buildings will be retained and the way in which the buildings are currently appreciated will not be altered. As such, it is anticipated that the development will not harm the heritage significance of the Listed Buildings at Wickham Hall.

6. CONCLUSIONS

6.1. This assessment has included a review of a comprehensive range of available sources, in accordance with key industry guidance, in order to identify known and potential heritage assets located within the Site and its environs which may be affected by the proposals. The significance of the identified known and potential heritage assets has been determined, as far as possible, on the basis of available evidence. The potential effects of the proposals on the significance of identified heritage assets, including any potential physical effects upon buried archaeological remains, and potential non-physical effects resulting from the anticipated changes to the settings of heritage assets, have been assessed. Any physical or non-physical effects of the proposals upon the significance of the heritage resource will be a material consideration in the determination of the planning application for the proposal.

Physical effects

6.2. The geophysical survey within the Site has identified a number of archaeological remains. This includes a possible prehistoric/Roman enclosure and two possible prehistoric barrows which hold evidential value. Additional identified remains within the Site include remnants of infilled furrows and medieval or post-medieval field boundaries. These features are common within the archaeological record and are of insufficient evidential or historic value to be deemed as 'non-designated heritage assets'.

6.3. Further, as yet unknown remains (associated with those identified already) may survive within the site. Both the known remains, and those that could reasonably be predicted, based on the evidence available, would have some evidential (archaeological) value.

6.4. The north and north-eastern boundary of the Site are shown on the 1839 tithe map and thus meet the criteria for designation as 'important hedgerows'. These are thus considered non-designated heritage assets of limited historic value.

6.5. The proposed locations of the sub-stations, storage container, power station, battery and battery storage do not lie within the footprint of any of the identified archaeological remains. There is, however, a potential that presently unknown remains may be present within this footprint and thus be subject to truncation as a result of the proposed development.

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- 6.6. The insertion of the piles for solar panel modules would result in minimal impacts to the potential archaeological resource, resulting in only minor adverse effects upon most classes of archaeological features. However, the proposed development presents an opportunity to restrict further damage to the archaeological resource by removing the Site from arable use and therefore the effects of modern ploughing.
- 6.7. A proportionate scheme of investigation for the mitigation of this impact can be agreed through formal consultation and a Written Scheme of Investigation (WSI), though the client would be open to discussions on mitigating impacts through scheme alterations.
- 6.8. The Important hedgerows along the north and north-eastern borders are retained within the proposed development which will result in no impact as there will be no change to these remains.

Non-physical effects

- 6.9. The setting of the Listed Buildings at Wickham Hall was assessed as part of this report. The assessment identified that the heritage significance of the designated heritage assets (namely their historic, evidential, and aesthetic values) was best experienced from within the associated complex. Although the Site forms a part of the setting of these assets, and makes a small contribution to their significance, it was concluded that the proposed development results in no harm to that significance. The proposed development retains the agricultural character and the key elements that contribute to the experience and heritage significance of the buildings will not be altered.

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APPENDIX 1: HERITAGE STATUTE POLICY & GUIDANCE

Heritage Statute: Scheduled Monuments

Scheduled Monuments are subject to the provisions of the Ancient Monuments and Archaeological Areas Act 1979. The Act sets out the controls of works affecting Scheduled Monuments and other related matters. Contrary to the requirements of the Planning Act 1990 regarding Listed buildings, the 1979 Act does not include provision for the 'setting' of Scheduled Monuments.

Heritage Statute: Listed Buildings

Listed buildings are buildings of 'special architectural or historic interest' and are subject to the provisions of the Planning (Listed Buildings and Conservation Areas) Act 1990 ('the Act'). Under Section 7 of the Act 'no person shall execute or cause to be executed any works for the demolition of a listed building or for its alteration or extension in any manner which would affect its character as a building of special architectural or historic interest, unless the works are authorised.' Such works are authorised under Listed Building Consent. Under Section 66 of the Act 'In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any feature of special architectural or historic interest which it possesses'.

Note on the extent of a Listed Building

Under Section 1(5) of the Act, a structure may be deemed part of a Listed Building if it is:

- (a) fixed to the building, or
- (b) within the curtilage of the building, which, although not fixed to the building, forms part of the land and has done so since before 1st July 1948

The inclusion of a structure deemed to be within the 'curtilage' of a building thus means that it is subject to the same statutory controls as the principal Listed Building. Inclusion within this duty is not, however, an automatic indicator of 'heritage significance' both as defined within the NPPF (2023) and within Conservation Principles (see Section 2 above). In such cases, the significance of the structure needs to be assessed both in its own right and in the contribution it makes to the significance and character of the principal Listed Building. The practical effect of the inclusion in the listing of ancillary structures is limited by the requirement that Listed Building Consent is only needed for works to the 'Listed Building' (to include the building in the list and all the ancillary items) where they affect the special character of the Listed building as a whole.

Guidance is provided by Historic England on '[Listed Buildings and Curtilage: Historic England Advice Note 10](#)' (Historic England 2018).

Heritage Statue: Conservation Areas

Conservation Areas are designated by the local planning authority under Section 69(1)(a) of the Planning (Listed Buildings and Conservation Areas) Act 1990 ('the Act'), which requires that '*Every local planning authority shall from time to time determine which parts of their area are areas of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance*'. Section 72 of the Act requires that '*special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area*'.

The requirements of the Act only apply to land within a Conservation Area; not to land outside it. This has been clarified in various Appeal Decisions (for example APP/F1610/A/14/2213318 Land south of Cirencester Road, Fairford, Paragraph 65: '*The Section 72 duty only applies to buildings or land in a Conservation Area, and so does not apply in this case as the site lies outside the Conservation Area.*').

The NPPF (2023) also clarifies in [Paragraph 213](#) that '*Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance*'. Thus land or buildings may be a part of a Conservation Area, but may not necessarily be of architectural or historical significance. Similarly, not all elements of the setting of a Conservation Area will necessarily contribute to its significance, or to an equal degree.

National heritage policy: the National Planning Policy Framework

Heritage assets and heritage significance

Heritage assets comprise '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' (the NPPF (2023), Annex 2). Designated heritage assets include World Heritage Sites, Scheduled Monuments, Listed Buildings, Protected Wreck Sites, Registered Parks and Gardens, Registered Battlefields and Conservation Areas (designated under the relevant legislation; NPPF (2023), Annex 2). The NPPF (2023), Annex 2, states that the significance of a heritage asset may be archaeological, architectural, artistic or historic. Historic England's 'Conservation Principles' looks at significance as a series of 'values' which include 'evidential', 'historical', 'aesthetic' and 'communal'.

The July 2019 revision of the Planning Practice Guidance (PPG) expanded on the definition of non-designated heritage assets. It states *that 'Non-designated heritage assets are buildings, monuments, sites, places, areas or landscapes identified by plan-making bodies as*

having a degree of heritage significance meriting consideration in planning decisions, but which do not meet the criteria for designated heritage assets.’ It goes on to refer to local/neighbourhood plans, conservation area appraisals/reviews, and importantly, the local Historic Environment Record (HER) as examples of where these assets may be identified, but specifically notes that such identification should be *made ‘based on sound evidence’*, with this information *‘accessible to the public to provide greater clarity and certainly for developers and decision makers’*.

This defines *non-designated heritage assets* as those which have been specially defined as such through the local HER or other source made accessible to the public by the plan-making body. Where HERs or equivalent lists do not specifically refer to an asset as a *non-designated heritage asset*, it is assumed that it has not met criteria for the plan-making body to define it as such, and will be referred to as a *heritage asset* for the purpose of this report.

The assessment of *non-designated heritage assets* and *heritage assets* will be equivalent in this report, in line with industry standards and guidance on assessing significance and impact. They may not, however, carry equivalent weight in planning as set out within the provisions of the NPPF, should there be any effect to significance.

The setting of heritage assets

The ‘setting’ of a heritage asset comprises ‘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’ (NPPF (2023), Annex 2). Thus it is important to note that ‘setting’ is not a heritage asset: it may contribute to the value of a heritage asset.

Guidance on assessing the effects of change upon the setting and significance of heritage assets is provided in ‘Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets’, which has been utilised for the present assessment (see below).

Levels of information to support planning applications

Paragraph 200 of the NPPF (2021) identifies that ‘In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets’ importance and no more than is sufficient to understand the potential impact of the proposal on their significance’.

Designated heritage assets

Paragraph 195 of the NPPF (2021) explains that heritage assets 'are an irreplaceable resource and should be conserved in a manner appropriate to their significance'. Paragraph 199 notes that 'when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance'. Paragraph 200 goes on to note that 'substantial harm to or loss of a grade II listed building...should be exceptional and substantial harm to or loss of designated heritage assets of the highest significance (notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites)...should be wholly exceptional'.

Paragraph 202 clarifies that 'Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including, where appropriate, securing its optimum viable use'.

Development Plan

Uttlesford Local Plan

Policy ENV2: Development affecting Listed Buildings

Development affecting a listed building should be in keeping with its scale, character and surroundings. Demolition of a listed building, or development proposals that adversely affect the setting, and alterations that impair the special characteristics of a listed building will not be permitted. In cases where planning permission might not normally be granted for the conversion of listed buildings to alternative uses, favourable consideration may be accorded to schemes which incorporate works that represent the most practical way of preserving the building and its architectural and historic characteristics and its setting.

Policy ENV4: Ancient Monuments and Sites of Archaeological Importance

Where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by proposed development there will be a presumption in favour of their physical preservation in situ. The preservation in situ of locally important archaeological remains will be sought unless the need for the development outweighs the importance of the archaeology. In situations where there are grounds for believing that sites, monuments or their

settings would be affected developers will be required to arrange for an archaeological field assessment to be carried out before the planning application can be determined thus enabling an informed and reasonable planning decision to be made. In circumstances where preservation is not possible or feasible, then development will not be permitted until satisfactory provision has been made for a programme of archaeological investigation and recording prior to commencement of the development.

Policy ENV8: Historic Landscapes

Development proposals likely to harm significant local historic landscapes, historic parks and gardens and protected lanes as defined on the proposals map will not be permitted unless the need for the development outweighs the historic significance of the site.

Good Practice Advice 1-3

Historic England has issued three Good Practice Advice notes ('GPA1-3') which support the NPPF. The GPAs note that they do not constitute a statement of Government policy, nor do they seek to prescribe a single methodology: their purpose is to assist local authorities, planners, heritage consultants, and other stakeholders in the implementation of policy set out in the NPPF. This report has been produced in the context of this advice, particularly 'GPA2 – Managing Significance in Decision-Taking in the Historic Environment' and 'GPA3 – The Setting of Heritage Assets'.

GPA2 - Managing Significance in Decision-Taking in the Historic Environment

GPA2 sets out the requirement for assessing 'heritage significance' as part of the application process. Paragraph 8 notes 'understanding the nature of the significance is important to understanding the need for and best means of conservation.' This includes assessing the extent and level of significance, including the contribution made by its 'setting' (see GPA3 below). GPA2 notes that 'a 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, and the impact of the proposed development on the significance of the historic environment, or will identify the need for further evaluation to do so' (Page 3).

GPA3 – The Setting of Heritage Assets

The NPPF (Annex 2: Glossary) defines the setting of a heritage asset as 'the surroundings in which a heritage asset is experienced...'. Step 1 of the settings assessment requires heritage assets which may be affected by development to be identified. Historic England notes that for the purposes of Step 1 this process will comprise heritage assets 'where that experience is capable of being affected by a proposed development (in any way)...'.

Step 2 of the settings process ‘assess[es] the degree to which these settings and views make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated’, with regard to its physical surrounds; relationship with its surroundings and patterns of use; experiential effects such as noises or smells; and the way views allow the significance of the asset to be appreciated. Step 3 requires ‘assessing the effect of the proposed development on the significance of the asset(s)’ – specifically to ‘assess the effects of the proposed development, whether beneficial or harmful, on the significance or on the ability to appreciate it’, with regard to the location and siting of the development, its form and appearance, its permanence, and wider effects.

Step 4 of GPA3 provides commentary on ‘ways to maximise enhancement and avoid or minimise harm’. It notes (Paragraph 37) that ‘Maximum advantage can be secured if any effects on the significance of a heritage asset arising from development liable to affect its setting are considered from the project’s inception.’ It goes on to note (Paragraph 39) that ‘good design may reduce or remove the harm, or provide enhancement’.

Heritage significance

Discussion of heritage significance within this assessment report makes reference to several key documents. With regard to Listed buildings and Conservation Areas it primarily discusses ‘architectural and historic interest’, which comprises the special interest for which they are designated.

The NPPF provides a definition of ‘significance’ for heritage policy (Annex 2). This states that heritage significance comprises ‘The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic’. This also clarifies that for World Heritage Sites ‘the cultural value described within each site’s Statement of Outstanding Universal Value forms part of its significance’.

Regarding ‘levels’ of significance the NPPF (2023) provides a distinction between: designated heritage assets of the highest significance; designated heritage assets not of the highest significance; and non-designated heritage assets.

Historic England’s ‘Conservation Principles’ expresses ‘heritage significance’ as comprising a combination of one or more of: evidential value; historical value; aesthetic value; and communal value:

Evidential value – the elements of a historic asset that can provide evidence about past human activity, including physical remains, historic fabric, documentary/pictorial records. This

evidence can provide information on the origin of the asset, what it was used for, and how it changed over time.

Historical value (illustrative) – how a historic asset may illustrate its past life, including changing uses of the asset over time.

Historical value (associative) – how a historic asset may be associated with a notable family, person, event, or moment, including changing uses of the asset over time.

Aesthetic value – the way in which people draw sensory and intellectual stimulation from a historic asset. This may include its form, external appearance, and its setting, and may change over time.

Communal value – the meaning of a historic asset to the people who relate to it. This may be a collective experience, or a memory, and can be commemorative or symbolic to individuals or groups, such as memorable events, attitudes, and periods of history. This includes social values, which relates to the role of the historic asset as a place of social interactive, distinctiveness, coherence, economic, or spiritual / religious value.

Effects upon heritage assets

Heritage benefit

The NPPF clarifies that change in the setting of heritage assets may lead to heritage benefit. Paragraph 212 of the NPPF (2023) notes that ‘Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably’.

GPA3 notes that ‘good design may reduce or remove the harm, or provide enhancement’ (Paragraph 28). Historic England’s ‘Conservation Principles’ states that ‘Change to a significant place is inevitable, if only as a result of the passage of time, but can be neutral or beneficial in its effects on heritage values. It is only harmful if (and to the extent that) significance is reduced’ (Paragraph 84).

Specific heritage benefits may be presented through activities such as repair or restoration, as set out in Conservation Principles.

Heritage harm to designated heritage assets

The NPPF (2023) does not define what constitutes ‘substantial harm’. The High Court of Justice does provide a definition of this level of harm, as set out by Mr Justice Jay in *Bedford Borough Council v SoS for CLG and Nuon UK Ltd*. Paragraph 25 clarifies that, with regard to

‘substantial harm’: ‘Plainly in the context of physical harm, this would apply in the case of demolition or destruction, being a case of total loss. It would also apply to a case of serious damage to the structure of the building. In the context of non-physical or indirect harm, the yardstick was effectively the same. One was looking for an impact which would have such a serious impact on the significance of the asset that its significance was either vitiated altogether or very much reduced’.

Effects upon non-designated heritage assets

The NPPF (2023) [paragraph 209](#) guides that ‘The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgment will be required having regard to the scale of any harm or loss and the significance of the heritage asset’.

Hedgerow Regulations, 1997

The 1997 Hedgerow Regulations were made under section 97 of the Environment Act 1995, and introduced arrangements for Local Planning Authorities to protect ‘important’ hedgerows in the countryside, by controlling their removal through a system of notification. The DEFRA publication ‘The Hedgerows Regulations 1997: A Guide to the Law and Good Practice’ is a useful guide in this respect. The Regulations provide criteria for assessing whether a hedgerow is ‘important’ for the purposes of the Regulations. To qualify as ‘important’ a hedgerow must have existed for 30 years or more and following this must fulfil at least one of the criteria in the Schedule 1 criteria. Those for ‘archaeology and history’ comprise Part II, namely:

1. The hedgerow marks the boundary, or part of the boundary, of at least one historic parish or township; and for this purpose “historic” means existing before 1850.
2. The hedgerow incorporates an archaeological feature which is-
 - (a) included in the schedule of monuments compiled by the Secretary of State under section 1 (schedule of monuments) of the Ancient Monuments and Scheduled Areas Act 1979(g); or
 - (b) recorded at the relevant date in a Sites and Monuments Record [Historic Environment Records have largely replaced Sites and Monuments Records].
3. The hedgerow-

-
- (a) is situated wholly or partly within an archaeological site included or recorded as mentioned in paragraph 2 or on land adjacent to and associated with such a site; and
 - (b) is associated with any monument or feature on that site.

4. The hedgerow-

- (a) marks the boundary of a pre-1600 AD estate or manor recorded at the relevant date in a sites and Monuments Record or on a document held at that date at a Record Office; or
- (b) is visibly related to any building or feature of such an estate or manor.

5. The hedgerow-

- (a) is recorded in a document held at the relevant date at a Record Office as an integral part of a field system pre-dating the Inclosure acts(a); or
- (b) is part of, or visibly related to, any building or other feature associated with such a system, and that system-
 - (i) is substantially complete; or
 - (ii) is of a pattern which is recorded in a document prepared before the relevant date by a local planning authority, within the meaning of the 1990 Act(b), for the purposes of development control within the authority's area, as a key landscape characteristic

The criterion of point five is the subject of debate and differing interpretation. Some heritage professionals interpret the criterion referring to the individual Inclosure Act for the parish in which a site is located, and numerous Acts were made in the 18th century (including the 1773 Inclosure Act). However, the criterion references the Short Titles Act of 1896, and it is commonly interpreted by LPAs and heritage professionals that it thus refers to the Inclosure Act of 1845, and subsequent Acts up to the Commonable Rights Compensation Act of 1882. This latter interpretation sets a date of 1845 as the benchmark test.

'Important' hedgerows are not designated heritage assets (as defined in NPPF Annex 2). The Regulations are essentially a notification mechanism. Thus an applicant needs to notify the LPA prior to the removal, either entirely or in part, of an 'important' hedgerow. There is a prescribed form of notice set out in Schedule 4 to the Regulations, although the form an LPA uses does not have to follow this. The requirement is for sufficient information to be given to the LPA for them to consider the proposed removal.

APPENDIX 2: GAZETTEER OF SELECTED RECORDED HERITAGE ASSETS

Designated Heritage assets

Ref	Description	Grade/Period	HE ref. HER ref. NHLE ref.
WH1	<u>Wickham Hall Farmhouse</u> Listed 1949. 16th/17th century timber framed farmhouse with 19th century alterations and additions. The farmhouse forms part of an aesthetically pleasing groups of buildings.	Grade II Listed	1308087
WH2	<u>Wickham Hall Barn (1) (to the east of Wickham Hall Farmhouse)</u> 17th century timber-framed barn with later 19th century alterations.	Grade II Listed	1101609
WH3	Wickham Hall Barn (2) (to the south-east of Wickham Hall Farmhouse)	Grade II Listed	1347845
WH4	Wickham Hall Outbuilding (to the south-south-east of Wickham Hall Farmhouse)	Grade II Listed	160919
WH5	Wickham Hall Cottage	Grade II Listed	1101610
WH6	Former Dovecote approximately 30 metres to the south of Wickham Hall	Grade II Listed	1273668

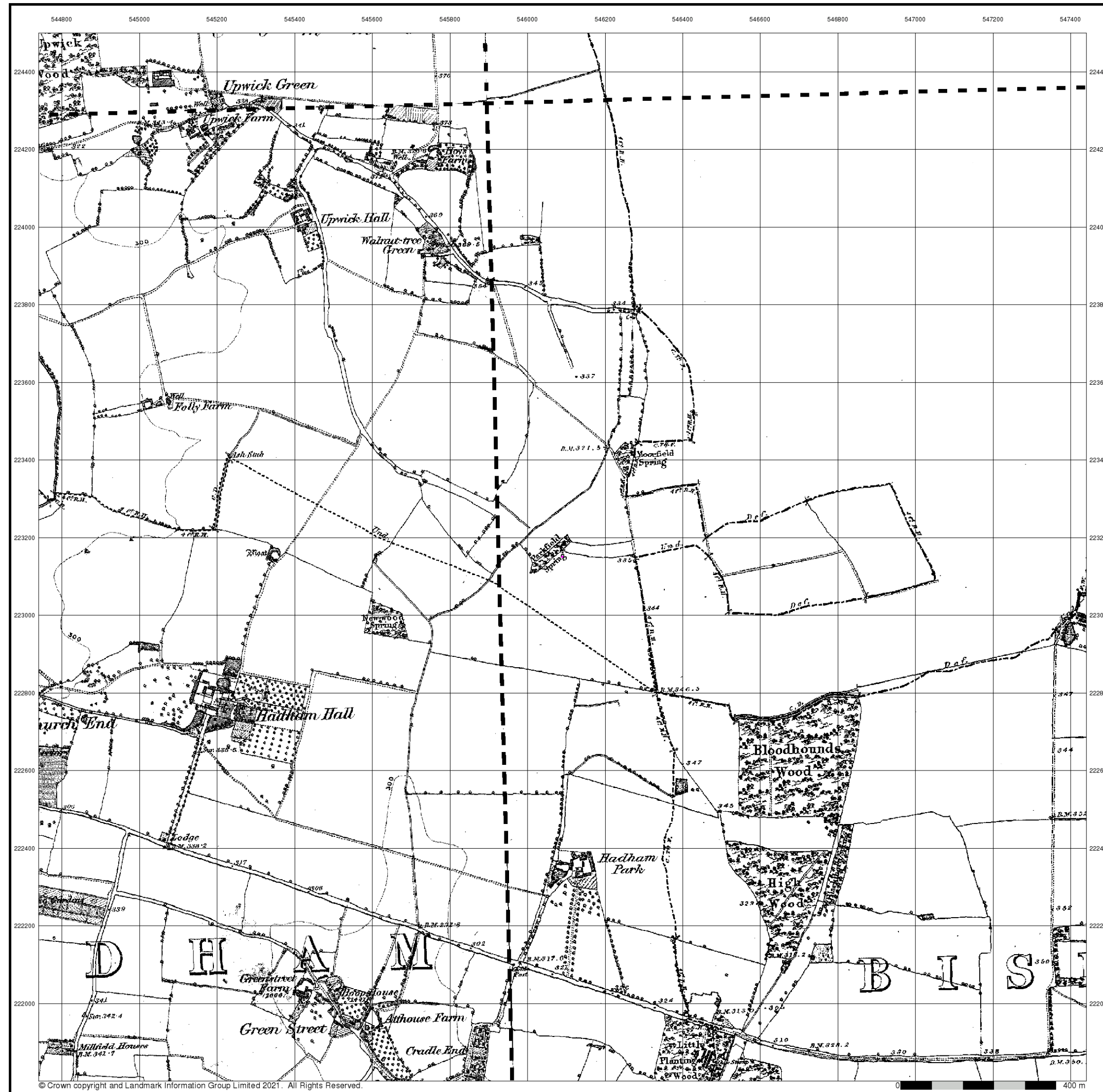
Non-designated heritage assets

Ref	Description	Grade/Period	Herts HER ref. Essex HER ref. Other ref.
1	Oval enclosure and multiphase settlement identified during geophysical survey (SUMO 2023)	Prehistoric – Roman	-
2	Possible round barrow identified during geophysical survey (SUMO 2023)	Prehistoric	-
3	Sub-rectangular enclosure identified during geophysical survey (SUMO 2023)	Prehistoric – Roman	-
4	Possible round barrow identified during geophysical survey (SUMO 2023)	Prehistoric	-
5	Possible round barrow identified during geophysical survey (SUMO 2023)	Prehistoric	-
6	Ditches identified during geophysical survey (SUMO 2023)	Unknown	-
7	Ditches and pits identified during geophysical survey (SUMO 2023)	Unknown	-
8	AAS (EH245): Pits containing Neolithic flint-gritted pottery ware (possible residual) sherds and Bronze Age pottery sherds. Late Bronze Age pits, a hearth and post holes containing pottery sherds and three un-urned cremations and enclosure. A circular enclosure of possible Iron Age date or earlier and an Iron	Prehistoric - Roman	MHT30302 MHT30415 MHT30298 MHT30300 MHT30788 MHT30299 MHT17569

Ref	Description	Grade/Period	Herts HER ref. Essex HER ref. Other ref.
	Age enclosure to the south of Wickham Hall with evidence of a round house and domestic use, a ditch containing Iron Age and Roman pottery, roman tile fragments and animal bone. A late Iron Age (pre-Roman) cremation within an enclosure defined by ditches. Evidence of Roman cultivation ditches.		MHT17995 MHT30301 MHT30786 MHT30416
9	The route of the former Stane Street Roman road, now the A120 Hadham Road.	Roman	MHT4680
10	Archaeological investigations prior to the construction of the A120 Hadham Bypass identified the remains of ditches indicative of a prehistoric settlement. The remains have been interpreted as a small rural farmstead dating from the Late Iron Age and Roman periods. Round houses encircled by boundary ditches with two cremation burials were identified. The finds include domestic waste and personal items such as animal bone, jet bracelet fragment, pottery, shell, worked bone and stone. Other finds include ceramic building material, copper alloy, industrial waste and burnt clay.	Prehistoric - Roman	<i>Thomas 2014</i> <i>CA 2016</i> <i>CA 2020</i>
11	AAS (EH278): Neolithic ditch and residual artefacts, A findspot of a Bronze Age arrowhead and pit. An Iron Age/Roman farmstead (roadside settlement) with a round house and enclosures. The location of a Roman tile kiln.	Prehistoric - Roman	MHT10790 MHT13150 MHT30909 MHT30910 MHT2838 MHT4046 <i>Walker 1994</i>
12	AAS (EH159): Wickham Hall estate.	Medieval - post-medieval	Hertfordshire HER
13	The location of a possible deserted settlement and earthwork remains of a house platform.	Medieval	MEX1034059
14	The former deer park associated with the Hadham Hall estate	Medieval – post-medieval	MHT9967
15	Cropmarks suggestive of ditched enclosures	Post-medieval (undated)	MHT12077
16	Cropmarks of boundary ditches and enclosures	Modern (undated)	MHT16753
17	Hadham Hall (Hadham Hall School Hertfordshire County)	Post-medieval	<i>1211099</i>
18	AAS (new): Walnut Tree Green and farmstead, identified from the Tithe Map	Post-medieval - modern	Hertfordshire HER
19	The location of a World War I rifle training range	Modern	MHT18708
20	The location of a possible ammunition store (19th century)	Modern	MHT13279

Ref	Description	Grade/Period	Herts HER ref. Essex HER ref. Other ref.
21	AAS (EH245): remains of activity identified during archaeological works along the northern extent of Bishop's Stortford. The activity includes a medieval pits and ditches with pottery, and post-medieval boundary ditches. Activity associated with World War II is also present in this location.	Medieval - modern	MHT17641 MHT30417 MHT17570

APPENDIX 3: HISTORIC ORDNANCE SURVEY MAPPING



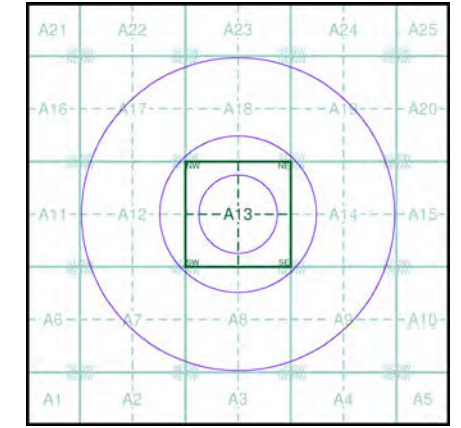
Hertfordshire
Published 1883
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

01400 1883 1:10,560	01500 1883 1:10,560
02200 1883 1:10,560	02300 1883 1:10,560

Historical Map - Slice A

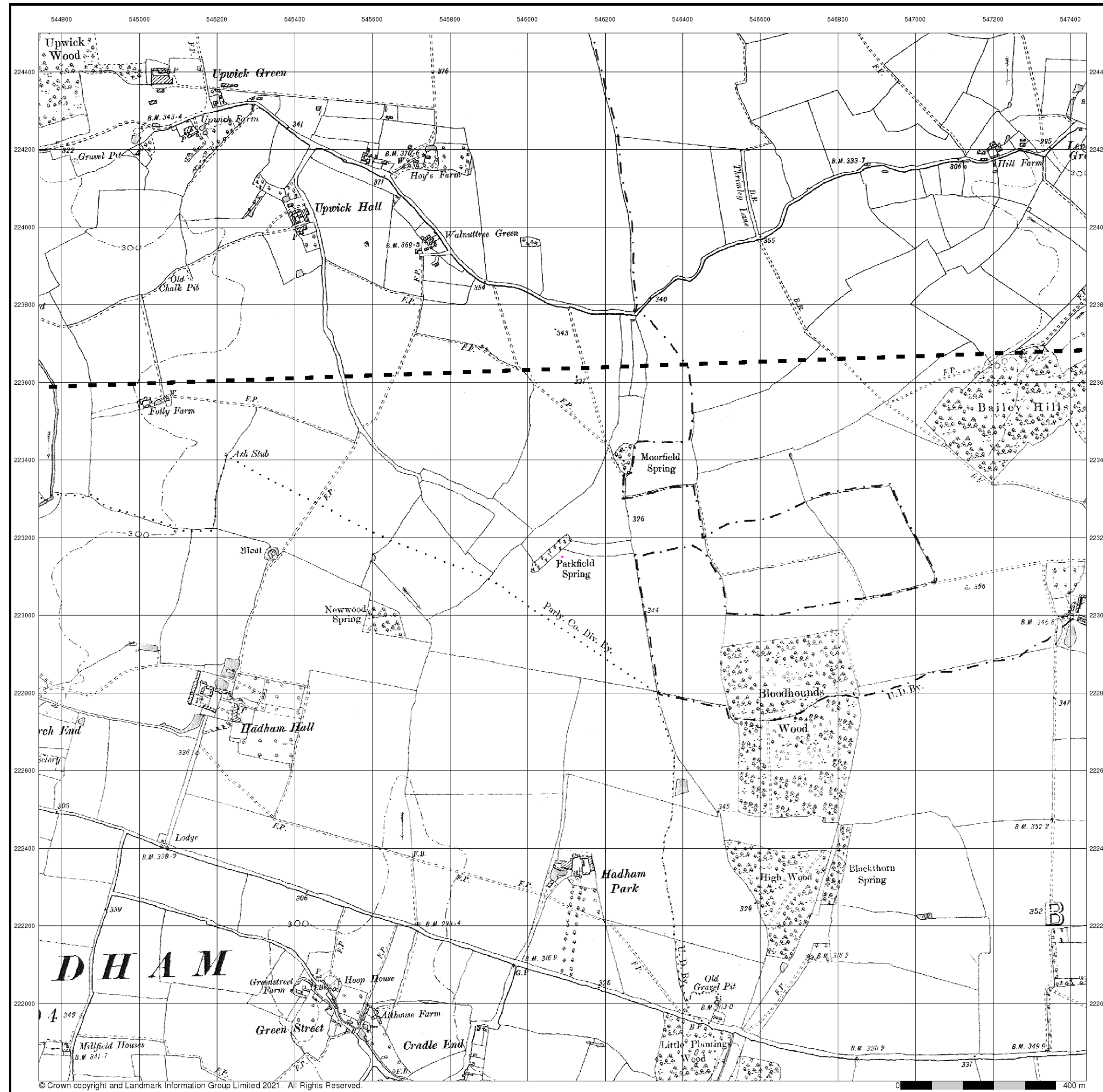


Order Details

Order Number: 274237951_1_1
 Customer Ref: MK0417
 National Grid Reference: 546090, 223150
 Slice: A
 Site Area (Ha): 0.01
 Search Buffer (m): 1000

Site Details

Site at 546090, 223150

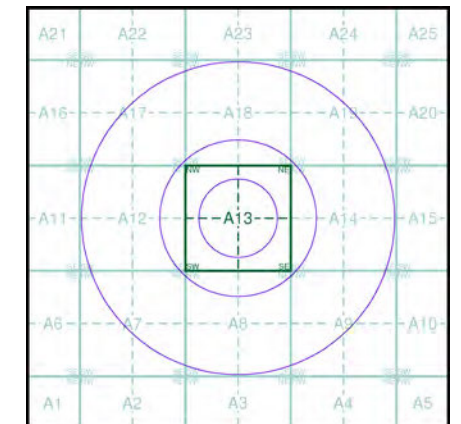


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

022NW	1898	1:10,560
022SW	1899	1:10,560

Historical Map - Slice A

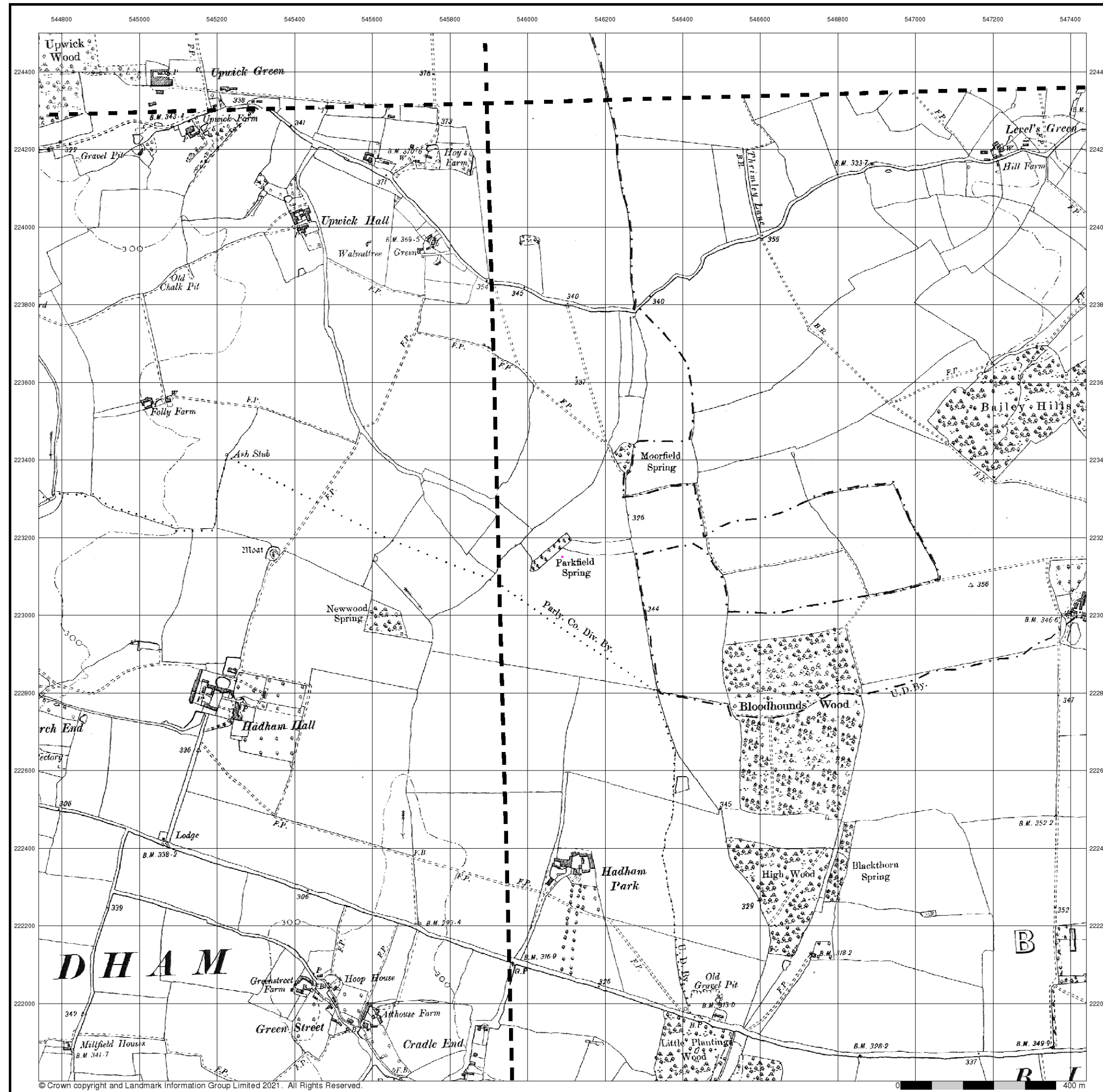


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Site Details

Site at 546090, 223150

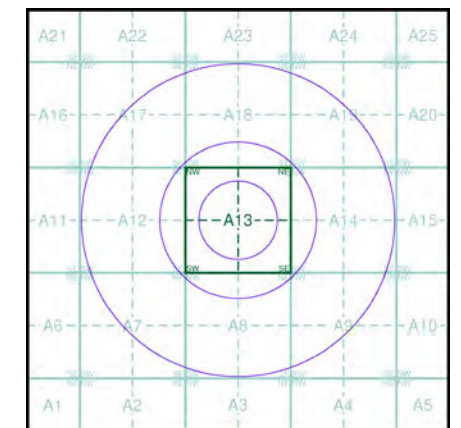


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

014SE 1899 1:10,560	015SW 1899 1:10,560
022NE 1899 1:10,560	023NW 1899 1:10,560

Historical Map - Slice A



Order Details

Order Number: 274237951_1_1
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Site Details

Site at 546090, 223150



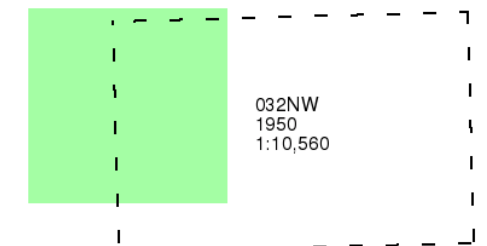
Essex

Published 1950

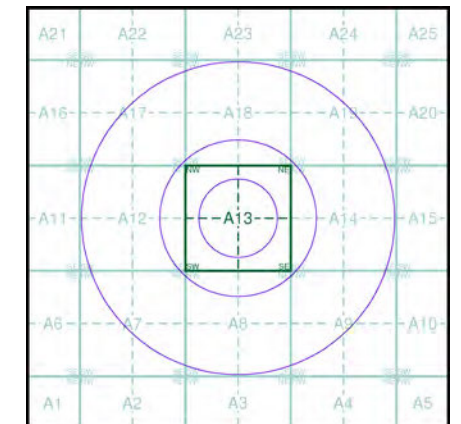
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

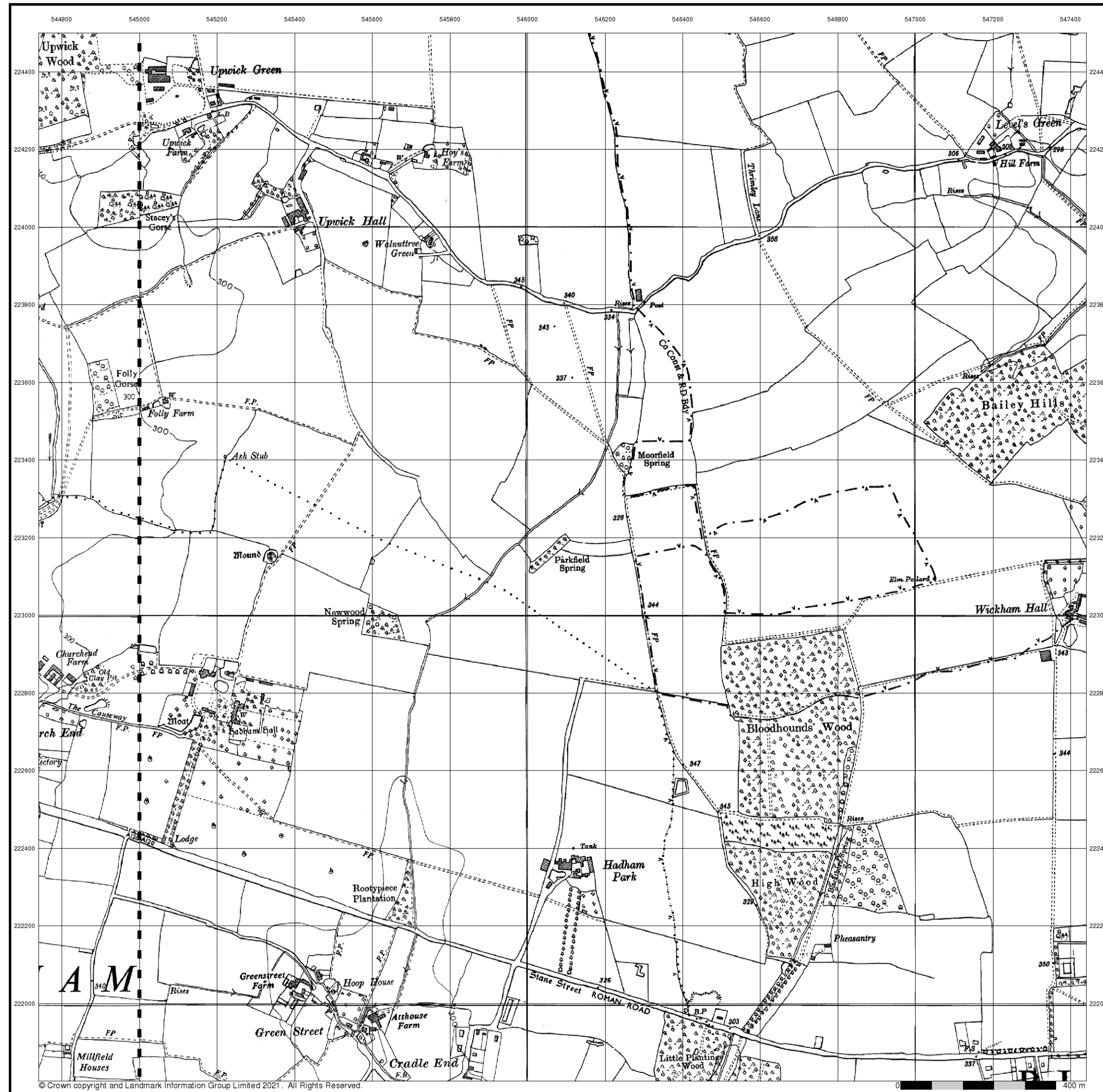


Order Details

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 National Grid Reference: 546090, 223150
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 Search Buffer (m): 1000

Site Details

Site at 546090, 223150



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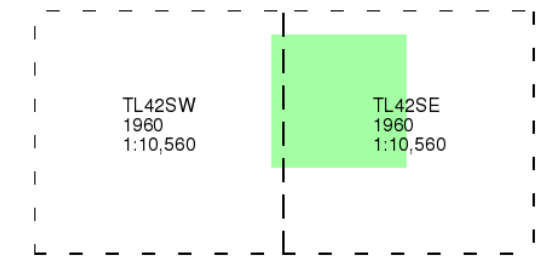
Ordnance Survey Plan

Published 1960

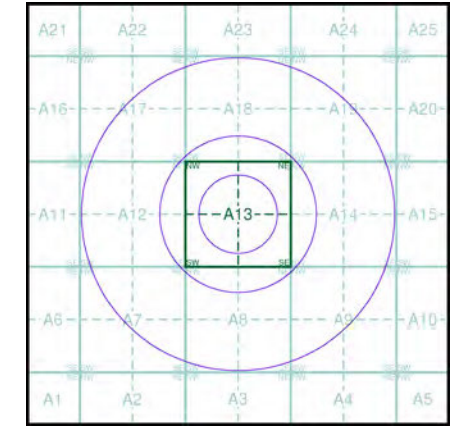
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



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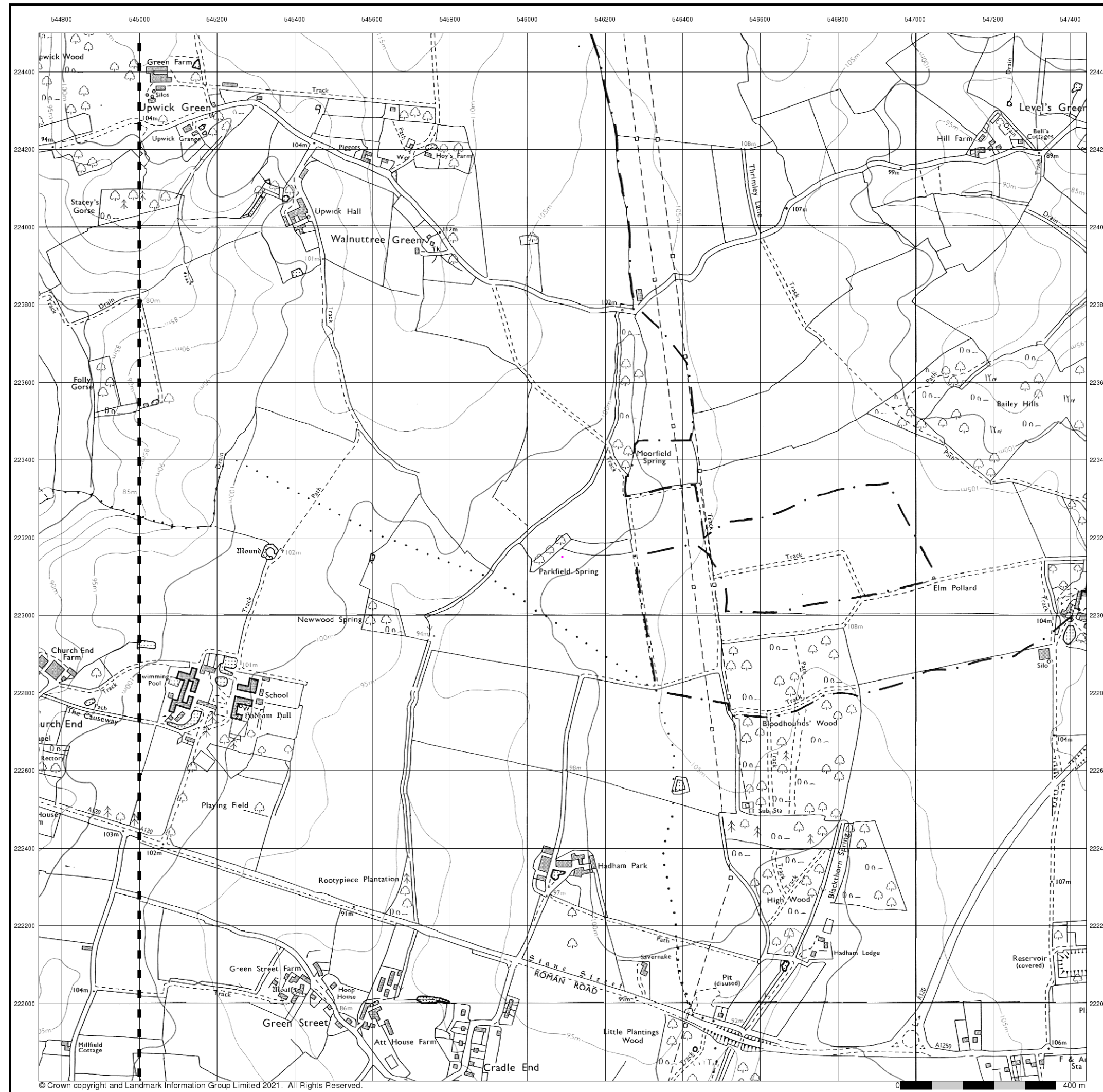


Order Details

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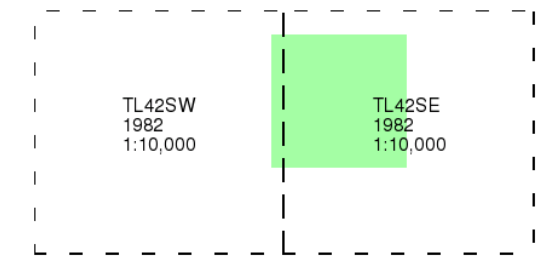
Site at 546090, 223150



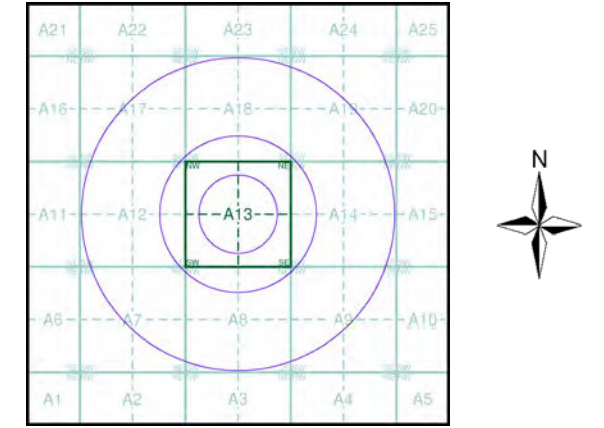
Ordnance Survey Plan Published 1982 Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

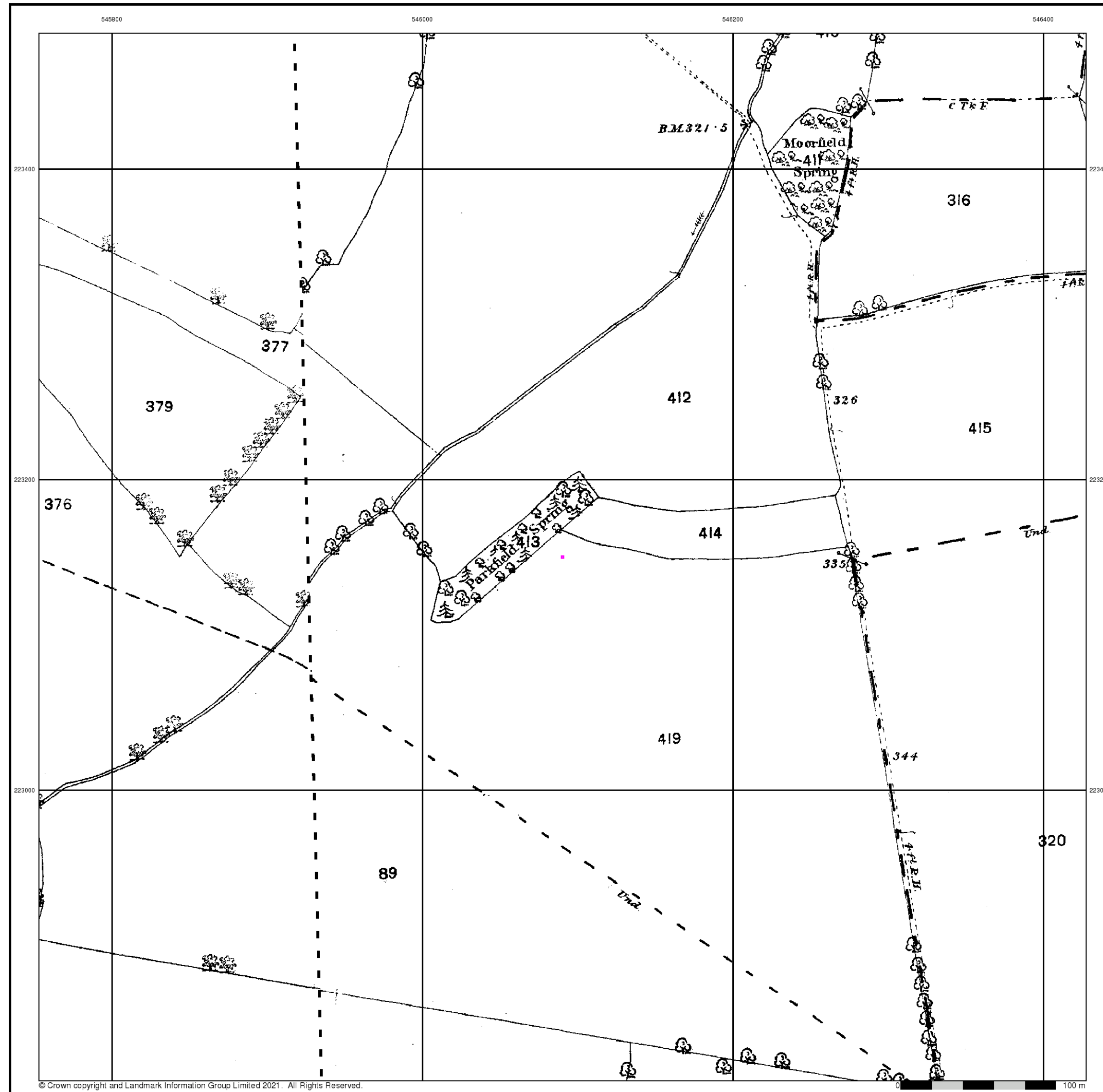


Historical Map - Slice A



Order Details
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 Customer Ref: MK0417
 National Grid Reference: 546090, 223150
 Slice: A
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Site Details
 Site at 546090, 223150



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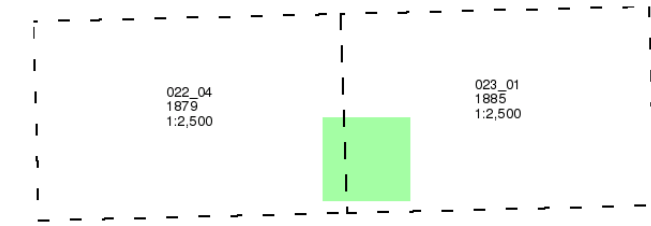
Hertfordshire

Published 1879 - 1885

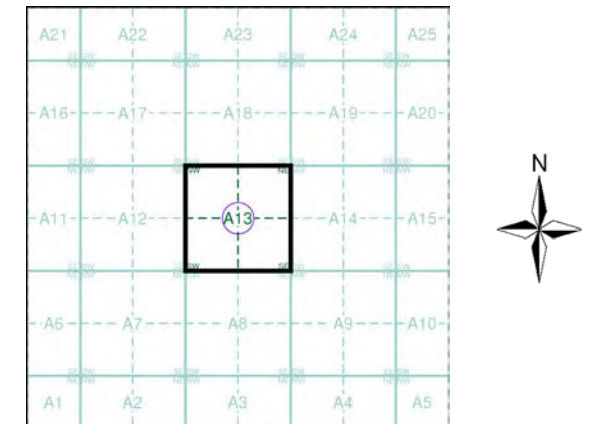
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

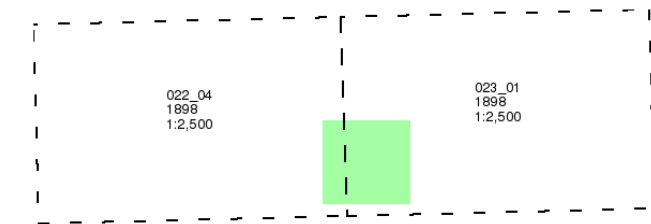
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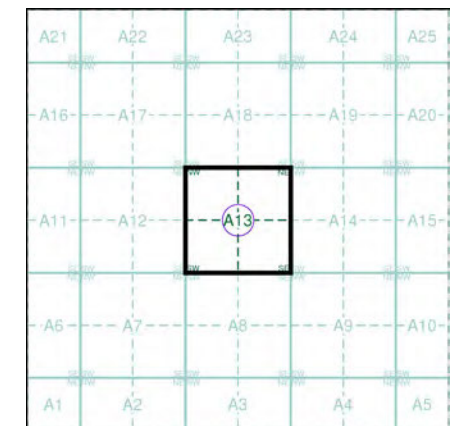
Site at 546090, 223150

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

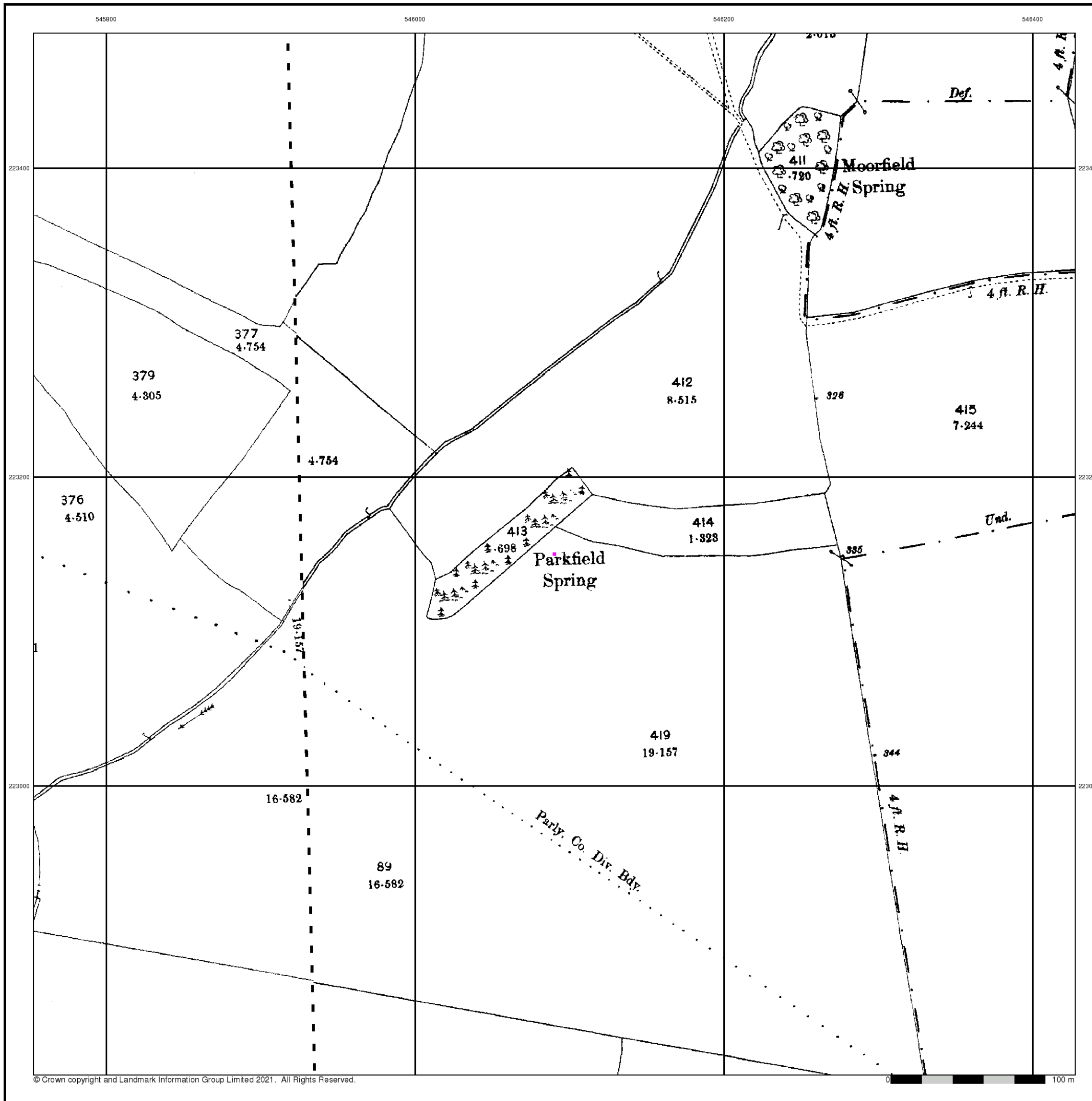


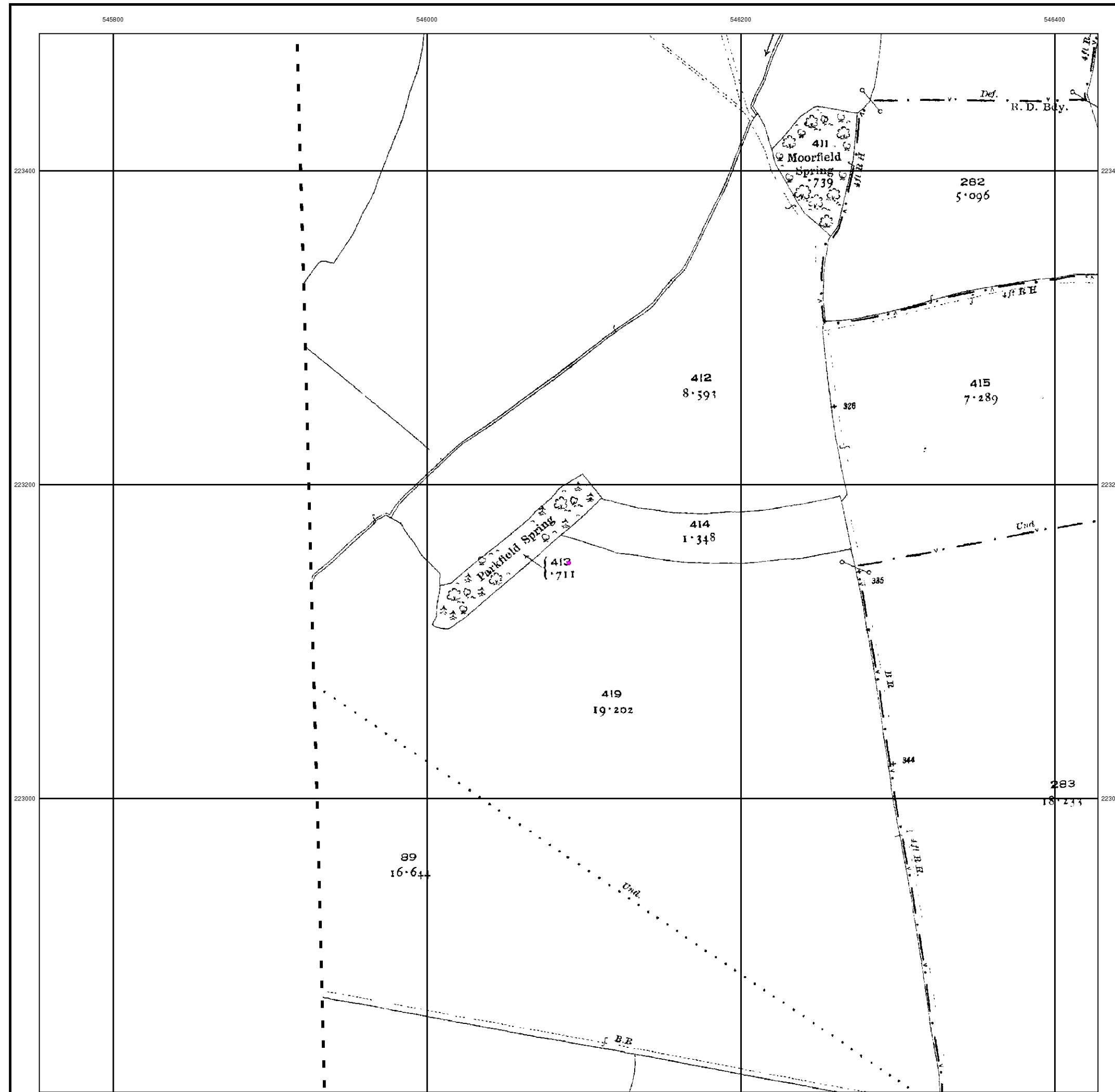
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Site Details

Site at 546090, 223150





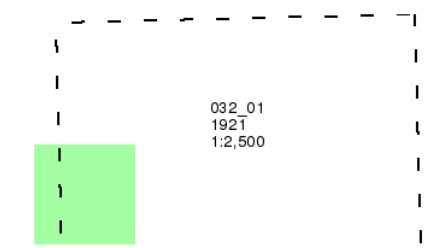
Essex

Published 1921

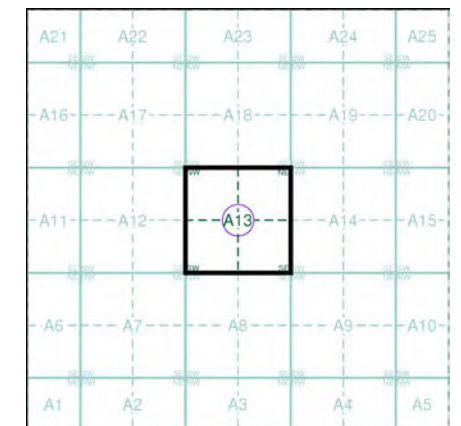
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

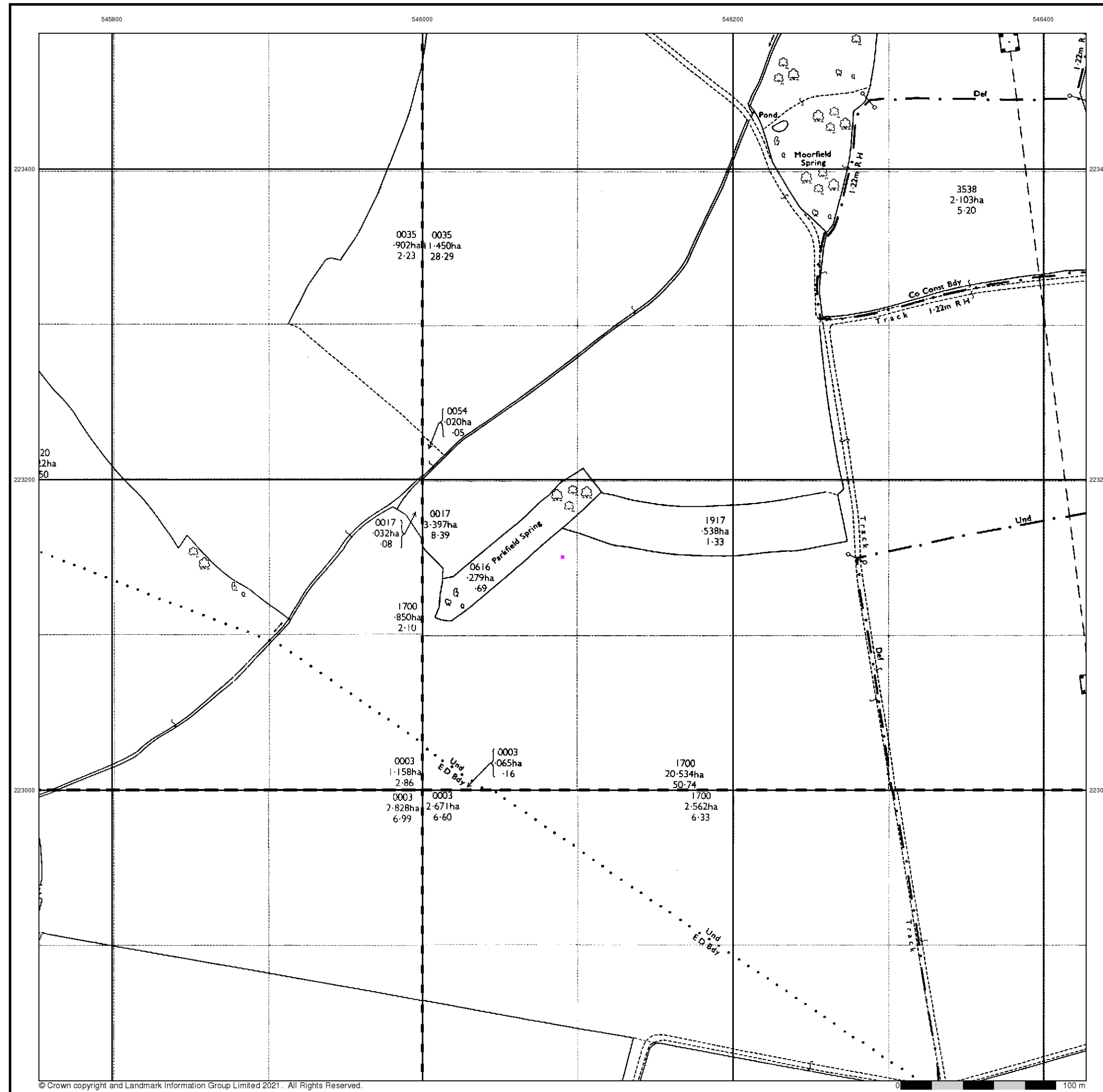


Order Details

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 National Grid Reference: 546090, 223150
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 Site Area (Ha): 0.01
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Site Details

Site at 546090, 223150



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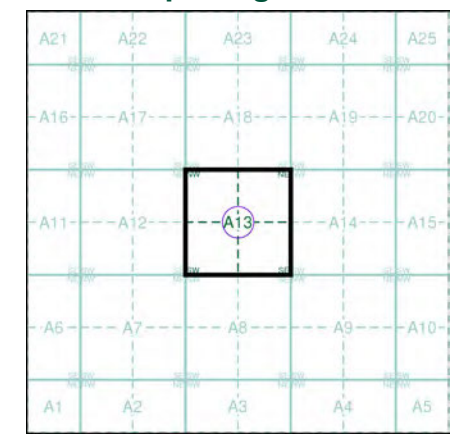
Ordnance Survey Plan Published 1976 Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

TL4523 1976 1:2,500	TL4623 1976 1:2,500
TL4522 1976 1:2,500	TL4622 1976 1:2,500

Historical Map - Segment A13

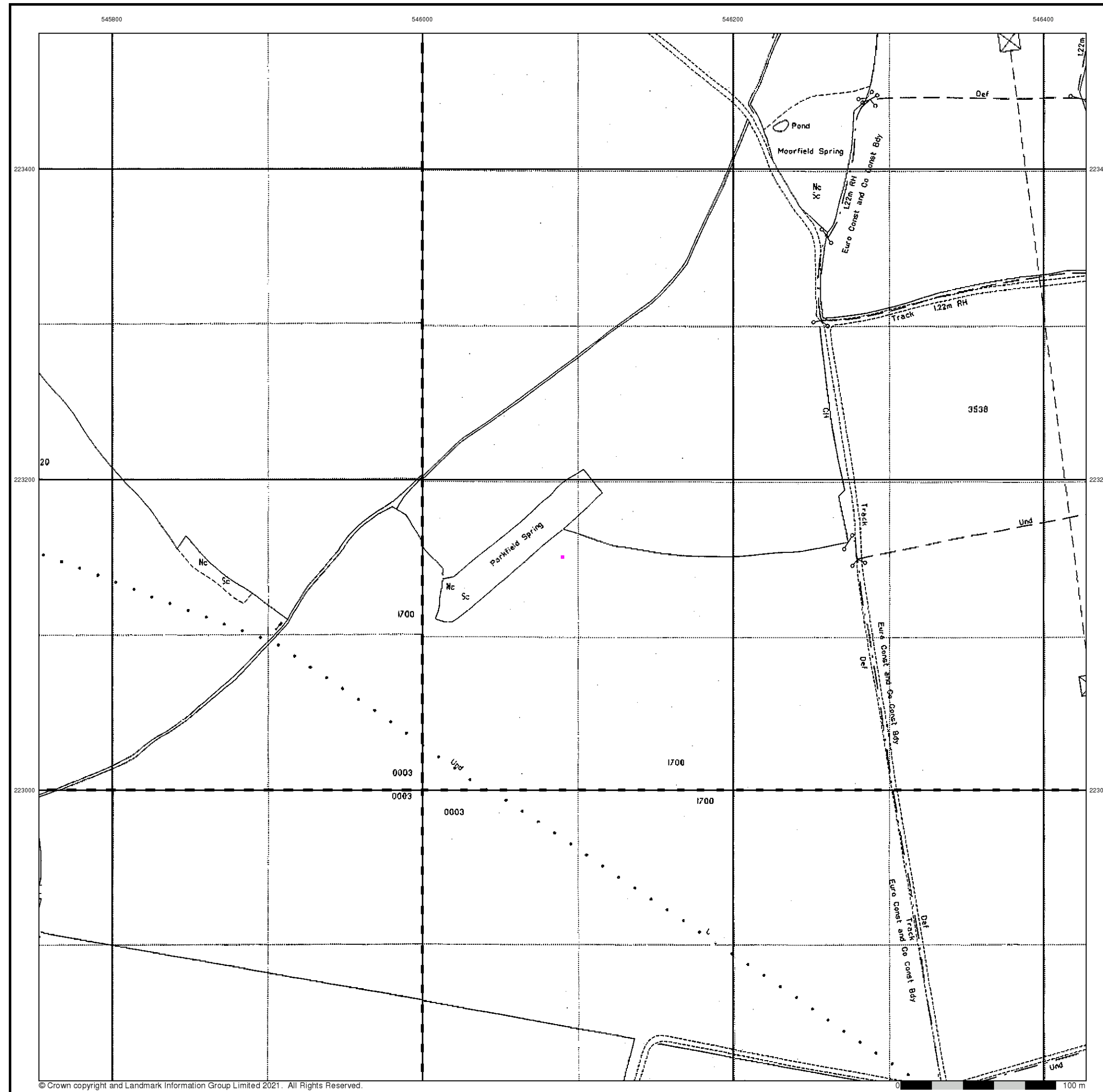


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Site Details

Site at 546090, 223150



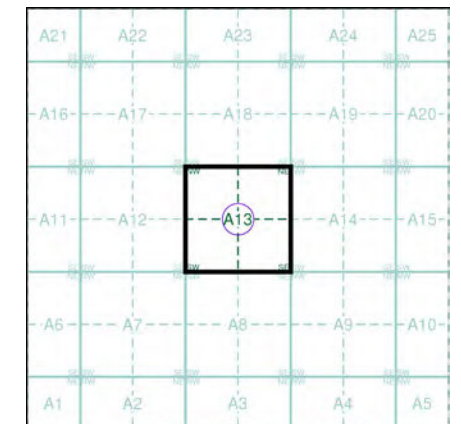
Large-Scale National Grid Data Published 1993 Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

TL4523 1993 1:2,500	TL4623 1993 1:2,500
TL4522 1993 1:2,500	TL4622 1993 1:2,500

Historical Map - Segment A13



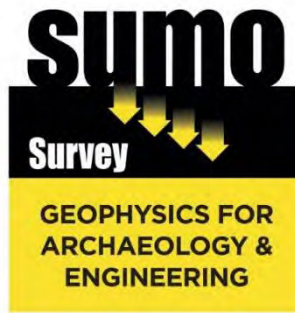
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 Slice: A
 Site Area (Ha): 0.01
 Search Buffer (m): 100

Site Details

Site at 546090, 223150

APPENDIX 4: GEOPHYSICAL SURVEY (SUMO 2023)



GEOPHYSICAL SURVEY REPORT

Land at Wickham Hall, Uttlesford District, Essex

Client

Cotswold Archaeology

For

Endurance Energy Limited

Survey Report

03129-2

OASIS Ref. No.

sumogeop1-513367

HER Site Code

WHBS23

Date

02 June 2023



Survey Report 03129-2: Land at Wickham Hall, Uttlesford District, Essex

Survey dates 21-22 April 2022 (Area 1)
14-15 March 2023 (Area 2)

Field co-ordinator [REDACTED]

Field Team [REDACTED]

Report Date 02 June 2023

CAD Illustrations [REDACTED]

Report Author [REDACTED]

Project Manager [REDACTED]

Report approved [REDACTED]

SUMO Geophysics Ltd
Vineyard House
Upper Hook Road
Upton upon Severn
Worcestershire
WR8 0SA

T: 01684 592266

[REDACTED]

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Appendix C	OASIS Data Collection Sheet

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 CIFA (2014, updated 2020), Historic England (2008), and the European Archaeology Council (EAC) (2016).

Bartington Cart System 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 within each grid to zero. The operation removes instrument striping effects and edge discontinuities over the whole of the data set.
--------------------	---

4 SUMMARY OF RESULTS

- 4.1 A magnetometer survey of 36 hectares of land at Wickham Hall, Uttlesford District has recorded numerous magnetic responses that have been interpreted as being of archaeological interest. The survey area is larger than the planning application which only covers the eastern field (Area 2). Three probable barrows, multiple enclosures, trackways, ditches, pits and a zone of increased response have been recorded which have been interpreted as being of probable and possible archaeological interest dependent on the anomaly's magnetic strengths. They appear to show multiple phases of occupation across the site. Numerous uncertain responses have also been detected; while archaeological origins for some of them cannot be ruled out, the majority are likely to be due to underlying geological variations or agricultural processes. Former field boundaries, land drains plus ridge and furrow ploughing are also visible in the survey. In Area 1 weak amorphous zones of increased magnetic response have been detected which are due to variations / weathering in the underlying geology. Small zones of magnetic disturbance on the periphery of Area 1 are likely to have been caused by spreads of modern debris.

5 INTRODUCTION

- 5.1 **SUMO Geophysics Ltd** were commissioned to undertake a geophysical survey of an area outlined for development. This survey forms part of an archaeological investigation being undertaken by **Cotswold Archaeology** on behalf of **Endurance Energy Limited**.

5.2 Site Details

NGR / Postcode	TL 46540 23033 / CM23 1JH
Location	The site is located 2 km north-west of Bishop's Stortford and 2.5km north-east of Little Hadham. The survey area is bounded to the south by Bloodhounds' Wood, to the east by Wickham Hall and to the north-east by Bailey Hills wood.
HER	Essex HER
HER Site Code	WHBS23
OASIS Ref. No.	sumogeop1-513367
District	Uttlesford District
Parish	Farnham Civil Parish
Topography	Generally flat
Land Use	Arable agriculture
Geology (BGS 2023)	Bedrock: London Clay Formation - Clay, silt and sand Superficial: Lowestoft Formation - Diamicton Kesgrave Catchment Subgroup - Sand and gravel
Soils (CU 2023)	Soilscape 9: Lime-rich loamy and clayey soils with impeded drainage
Survey Methods	Magnetometer survey (fluxgate gradiometer)
Study Area	36 ha

5.3 *Archaeological Background*

- 5.3.1 A desk-based assessment carried out by Cotswold Archaeology (CA 2021) states no heritage assets are recorded within the survey area. Recent archaeological investigations, carried out prior to the construction of the A120 Hadham Bypass (500m west of the survey area), identified the remains of an Iron Age and Roman occupation site. To the south and east of the Site are the locations of former medieval estates and the associated estate deer park. It is also likely that the remains of the Site's historic use as agricultural land occur within the Site. Such

evidence would likely comprise the remains of field boundaries or the ploughed out remains of medieval/post-medieval ridge and furrow.

- 5.3.2 A geophysical survey was undertaken in 2022 by SUMO Geophysics Ltd (SGL 2022) to the west of the site (and included Area 1), recorded numerous responses of archaeological interest. Four concentrations of archaeological anomalies were visible in the magnetic data; these included several enclosures, ditches, pits, ring-ditches and a possible round barrow. Linear trends and areas of increased response were assigned to the category of uncertain. Former field boundaries, ploughing, land drains plus ridge and furrow ploughing were also visible in the magnetic data.

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 two survey areas (Areas 1-2) and specific anomalies have been given numerical labels [1] [2] which appear in the text below, as well as on the Interpretation Figure(s). Area 1 was surveyed in 2022 as part of an earlier programme of works (SGL 2022). A gap in the data in Area 1 is due to overhead powerlines which caused the sensors to malfunction and rendered the area unsurveyable.*

6.2 **Probable / Possible Archaeology**

- 6.2.1 In Area 1 A well-defined oval enclosure [1], 80m by 60m, appears to form the focus of archaeological activity; in places it is double ditched, perhaps including a possible trackway around its south-western side. Numerous pit-like features and rectilinear ditches are also visible, both within and beyond the enclosure, suggesting differing phases of activity. Unfortunately, the overhead power cables have meant there is a gap in the data collection, though it is presumed that the magnetic responses to the east are also part of the same complex. A circular anomaly [2], some 20m in diameter, could mark the location of a round barrow. It should be noted that it is not possible to say which features are earlier in date based on the apparent arrangement of the magnetic anomalies.
- 6.2.2 . A large sub-rectangular enclosure [3] is visible in the north-west of Area 2 area which measures 67m by 60m, there are breaks in the northern and western ditches which could indicate entrances and there are pit-like anomalies inside. There are hints of a possible oval enclosure attached to the north-east, but this may be a geological feature (see 6.3.1).
- 6.2.3 Two circular / oval anomalies have been recorded which measure 20m [4] and 27m [5] in diameter; they could mark the location of two further barrows, in addition to that [2] located in Area 1. One of the 'barrows' [4] has a break in the ditch to the east which may suggest a different interpretation other than barrow would be appropriate; however, this may have been caused by later truncation. It may be coincidental but the three possible 'barrows' [2, 4 & 5] are located on the same alignment.
- 6.2.4 Other discrete ditch-like responses [6] have been recorded throughout Area 2 and form widescale land divisions and a ditched trackway; in places they are weak and 'washed out'. The ridge and furrow cultivation (see 6.6.1) appears to respect a number of these land divisions which could suggest Medieval origins.
- 6.2.5 In the north-west of Area 2 a zone of increased response, linear trends and some pit-like anomalies have been recorded [7]; they are magnetically weak and ill-defined. Ordinarily they would have been categorised as uncertain; however, they correspond with a number of crop

marks that are visible on aerial imagery (see figure 13) hence the possible archaeology interpretation.

6.3 ***Uncertain***

- 6.3.1 Numerous weak linear and curvilinear trends have been recorded throughout the survey which have been assigned to the category of *Uncertain* in places some of the responses appear to form 'enclosures' many of which are pentagonal in shape. Ordinarily these would have been attributed to a naturally weathered bedrock, especially if the geology was limestone. Given that the survey has been carried out over London clay formation the responses could be due to shrinkage and compaction, but archaeological origins for some of the anomalies cannot be totally ruled out. Many of the results could also be due to agricultural effects.

6.4 ***Former Field Boundary – Corroborated***

- 6.4.1 Several linear anomalies of varying magnetic strengths have been detected in Area 2 which correspond to the locations of former field boundaries that are visible on 1892 – 1914 Ordnance Survey mapping (see Figure 12).

6.5 ***Agricultural – Ridge and Furrow / Land Drains***

- 6.5.1 Broad widely spaced parallel linear anomalies have been recorded throughout the survey areas on varying alignments, they are evidence of historic ridge and furrow agricultural regimes.
- 6.5.2 In the north-east of Area 1 a weak linear dipolar response is visible in the magnetic data which marks the route of a land drain.

6.6 ***Natural / Geological / Pedological***

- 6.6.1 Zones of increased responses have been detected in Area 1 which are due to variations and/or weathering of the underlying geology.

6.7 ***Ferrous / Magnetic Disturbance***

- 6.7.1 Zones of magnetic disturbance are visible on the periphery of Area 1 which are likely to have been caused by spreads of modern debris, possibly associated with the trackways surrounding the area.
- 6.7.2 Ferrous responses close to boundaries are due to adjacent 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 guidelines (EH 2008) Table 4 states that the typical magnetic response on the local soils / geology is generally poor. The results from this survey indicate the presence of enclosures, barrows, pits and ditches; as a consequence, the survey is deemed to have worked well.

8 **CONCLUSION**

- 8.1 The magnetometer survey has recorded numerous magnetic responses that have been interpreted as being of archaeological interest. Three round barrows; an oval and a sub-rectangular enclosure; land divisions; ditched trackways; pits; and zones of increased responses have all been recorded in the survey and interpreted as being of archaeological interest. The anomalies have been characterised as either being of possible archaeological or

probable archaeological interest based on their magnetic strengths and morphologies. Numerous responses have been assigned to the category of uncertain. While archaeological origins for some of the anomalies cannot be ruled out, the majority are likely to be due to underlying geological variations or agricultural processes.

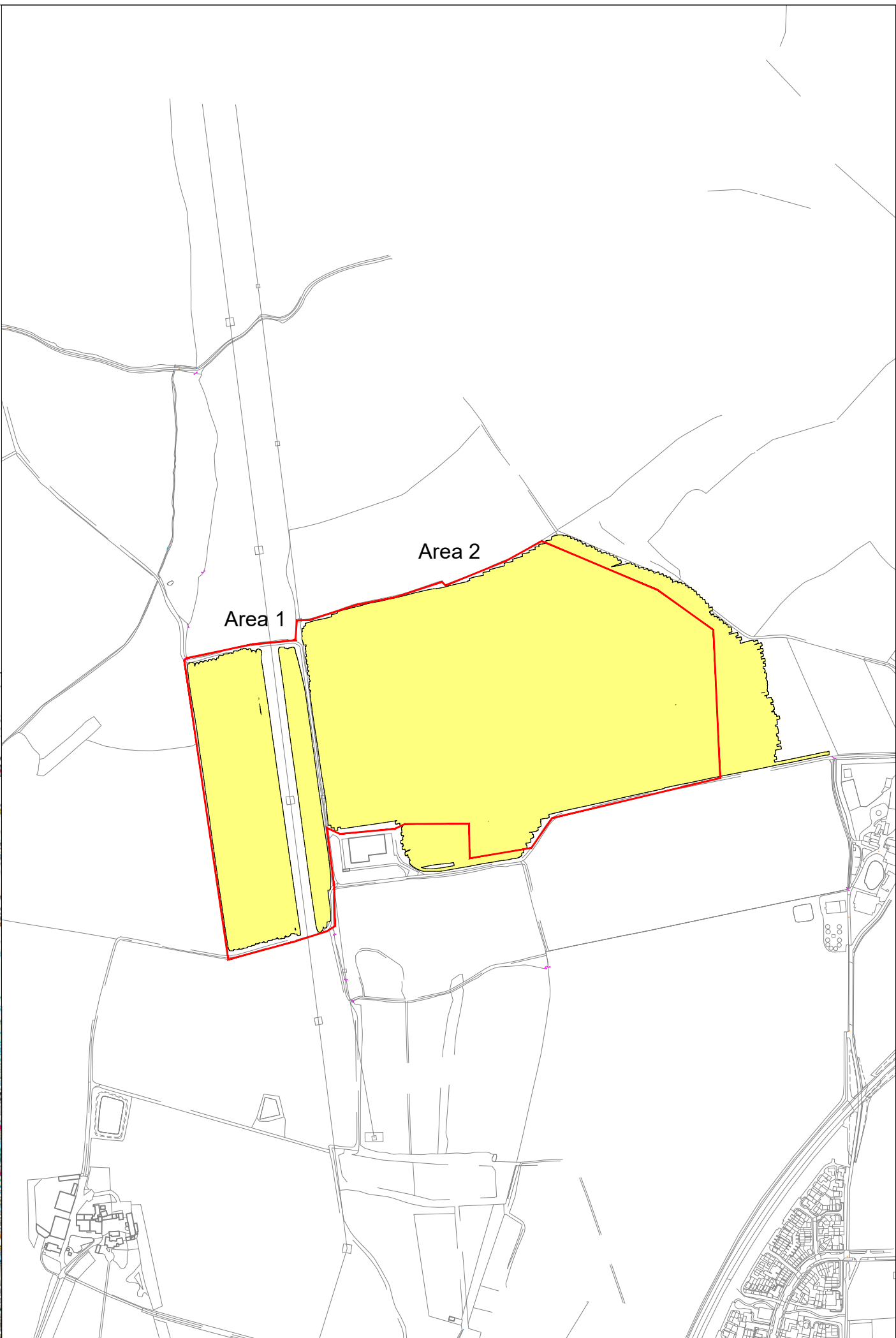
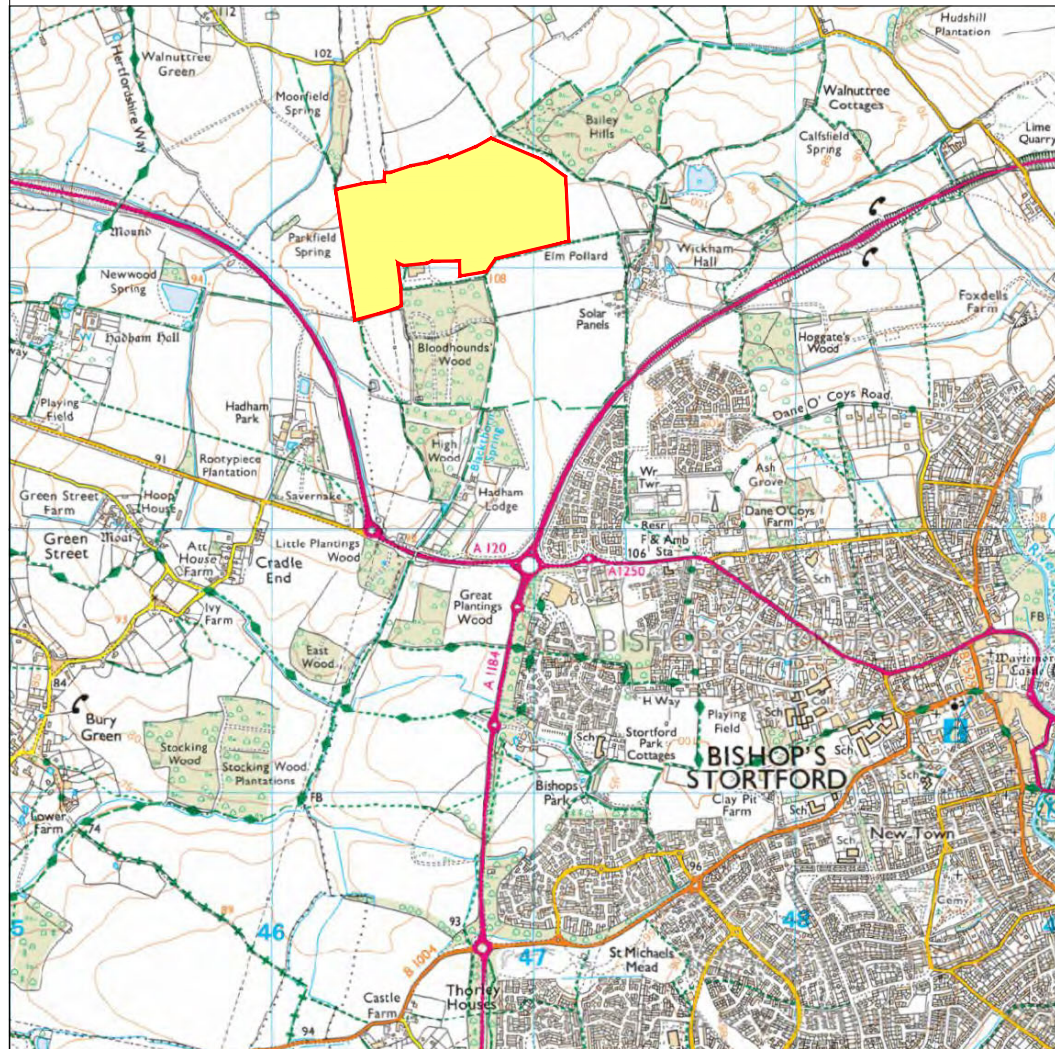
- 8.2 Four former field boundaries have been plotted in Area 2 which correspond to field divisions which are visible on historic mapping. The route of a land drain has been marked in Area 2 plus historic ridge and furrow cultivation regimes have been detected throughout the magnetic data. In Area 1 weak amorphous zones of increased magnetic response have been detected which are due to variations / weathering on the underlying geology. Small zones of magnetic disturbance are likely to have been caused by modern debris.

9 REFERENCES



- BGS 2023 British Geological Survey, Geology of Britain viewer [accessed 30/03/2023] *website:*
[REDACTED]
- CA 2021 *Land at Wickham Hall Estate, Bishop's Stortford, Hertfordshire. Historic Environment Desk-Based Assessment.* Cotswold Archaeology, Cirencester
- ClfA 2014 *Standard and Guidance for Archaeological Geophysical Survey. Amended 2020.*
Amended ClfA Guidance note. Chartered Institute for Archaeologists, Reading
2020 [REDACTED]
- CU 2023 The Soils Guide. Available: www.landis.org.uk. Cranfield University, UK. [accessed 30/03/2023] *website:* [REDACTED]!
- 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)
- SGL 2022 *Land at Wickham Hall Estate, Bishop's Stortford, Hertfordshire / Essex Geophysical Survey Report.* SUMO Geophysics Ltd, Upton-upon-Severn

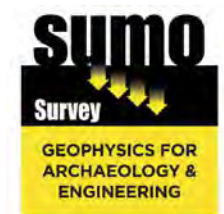
10 ARCHIVE

- 10.1 The minimally processed data, data images, XY traces and a copy of this report are stored in **SUMO Geophysics Ltd.'s** 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.

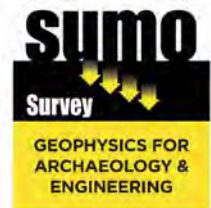
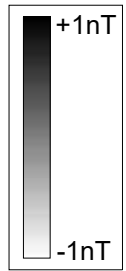


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	Survey Areas	N 
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Client:	Cotswold Archaeology	
Project:	03129-2 - Land at Wickham Hall, Uttlesford District, Essex	
Scale:	NOT TO SCALE	Fig No: 01



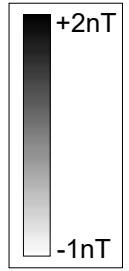
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Client: Cotswold Archaeology

Project: 03129-2 - Land at Wickham Hall, Uttlesford District, Essex

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Fig No: 02



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Client: Cotswold Archaeology

Project: 03129-2 - Land at Wickham Hall, Uttlesford District, Essex

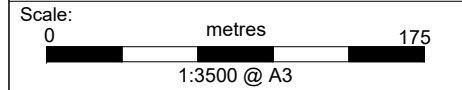
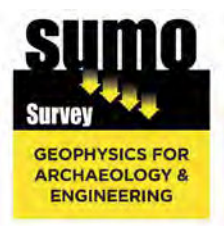
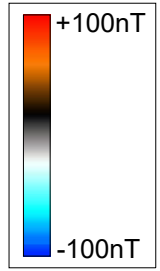


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Client: Cotswold Archaeology

Project: 03129-2 - Land at Wickham Hall, Uttlesford District, Essex

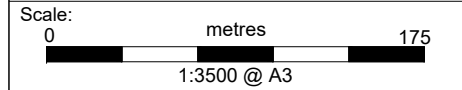


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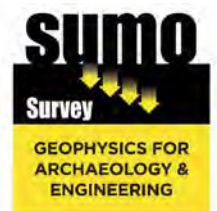


Area 2

Area 1

KEY

	Probable archaeology (discrete anomaly / trend / increased response)
	Possible archaeology (discrete anomaly / trend / increased response)
	Uncertain Origin (discrete anomaly / trend / increased response)
	Former field boundary (corroborated)
	Agriculture (ridge and furrow)
	Land drain
	Natural (e.g. geological / pedological)
	Magnetic disturbance
	Ferrous



Title: Magnetometer Survey - Interpretation

Client: Cotswold Archaeology

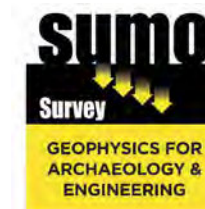
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Fig No: 05

Area 1

Area 1



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(Area 1 at 1nT to -1nT & 2nT to -1nT)

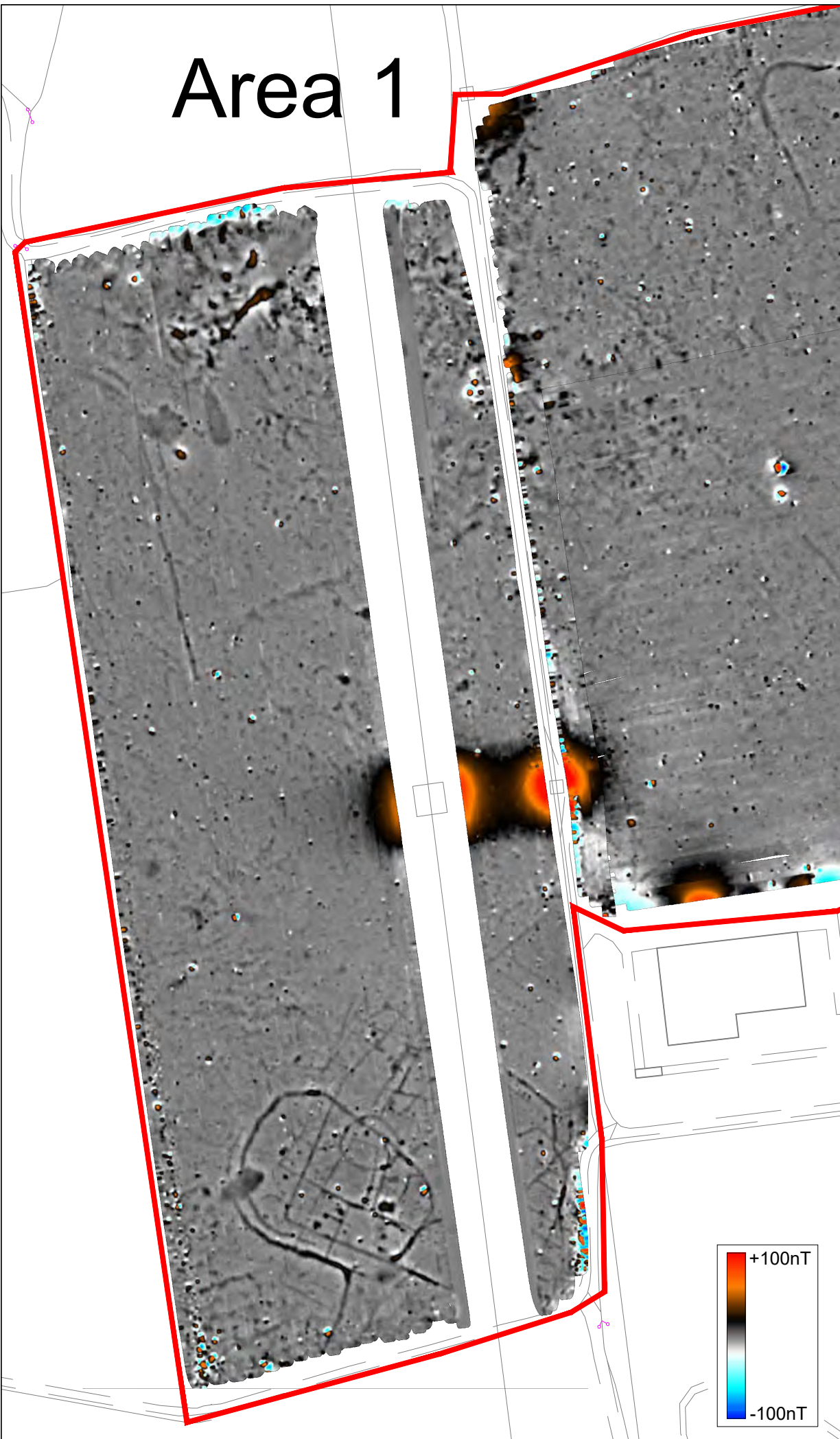
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Project: 03129-2 - Land at Wickham Hall, Uttlesford
District, Essex

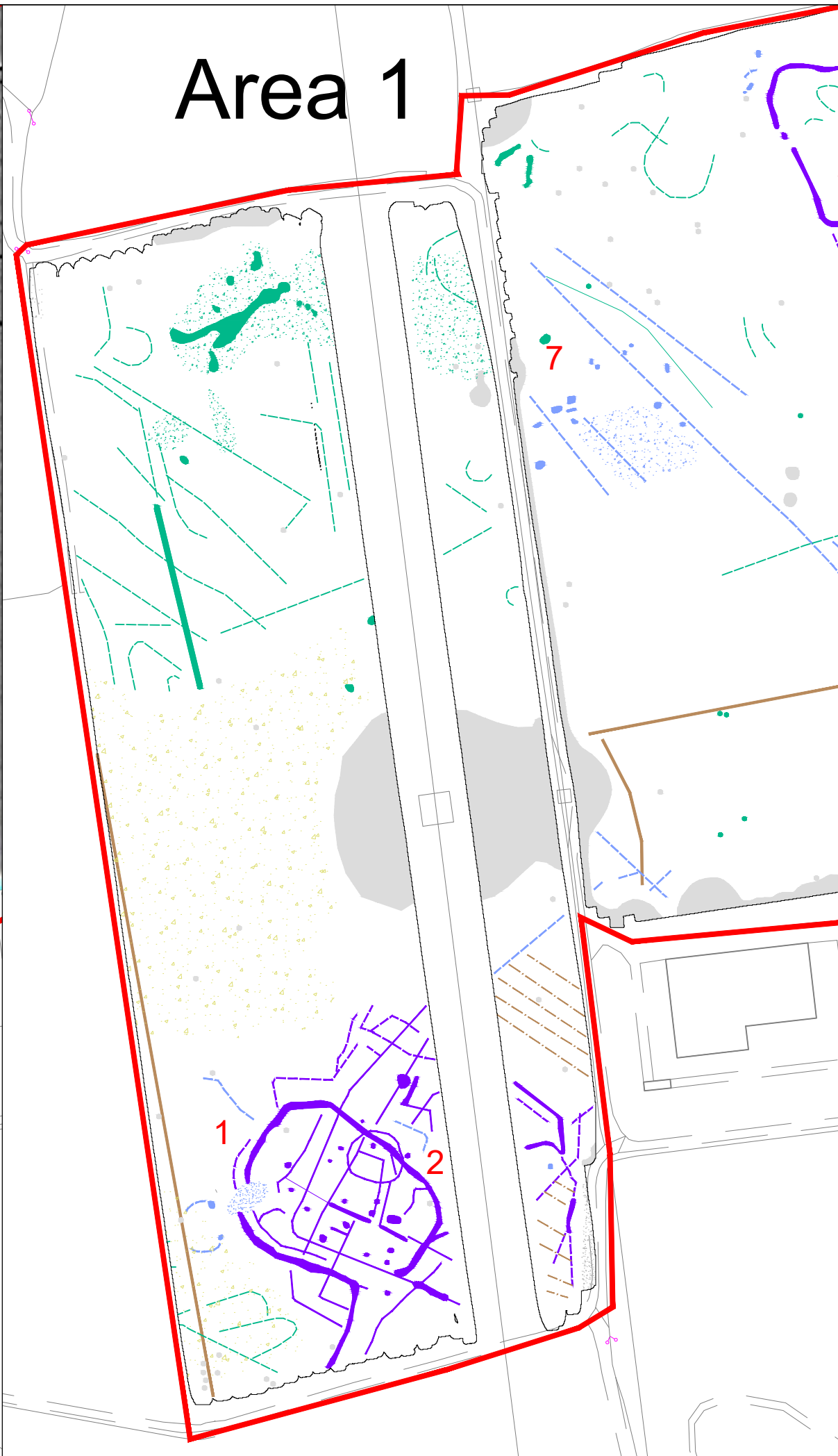
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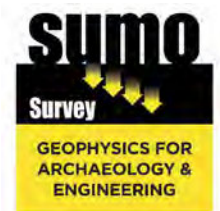


Area 1



KEY

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	Uncertain Origin (discrete anomaly / trend / increased response)
	Former field boundary (corroborated)
	Agriculture (ridge and furrow)
	Land drain
	Natural (e.g. geological / pedological)
	Magnetic disturbance
	Ferrous



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Client: Cotswold Archaeology

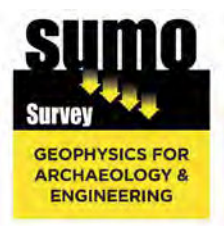
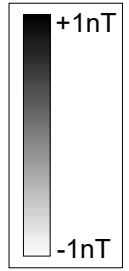
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Fig No: 07



Area 2



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Client: Cotswold Archaeology

Project: 03129-2 - Land at Wickham Hall, Uttlesford
District, Essex

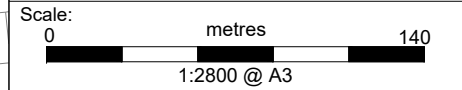
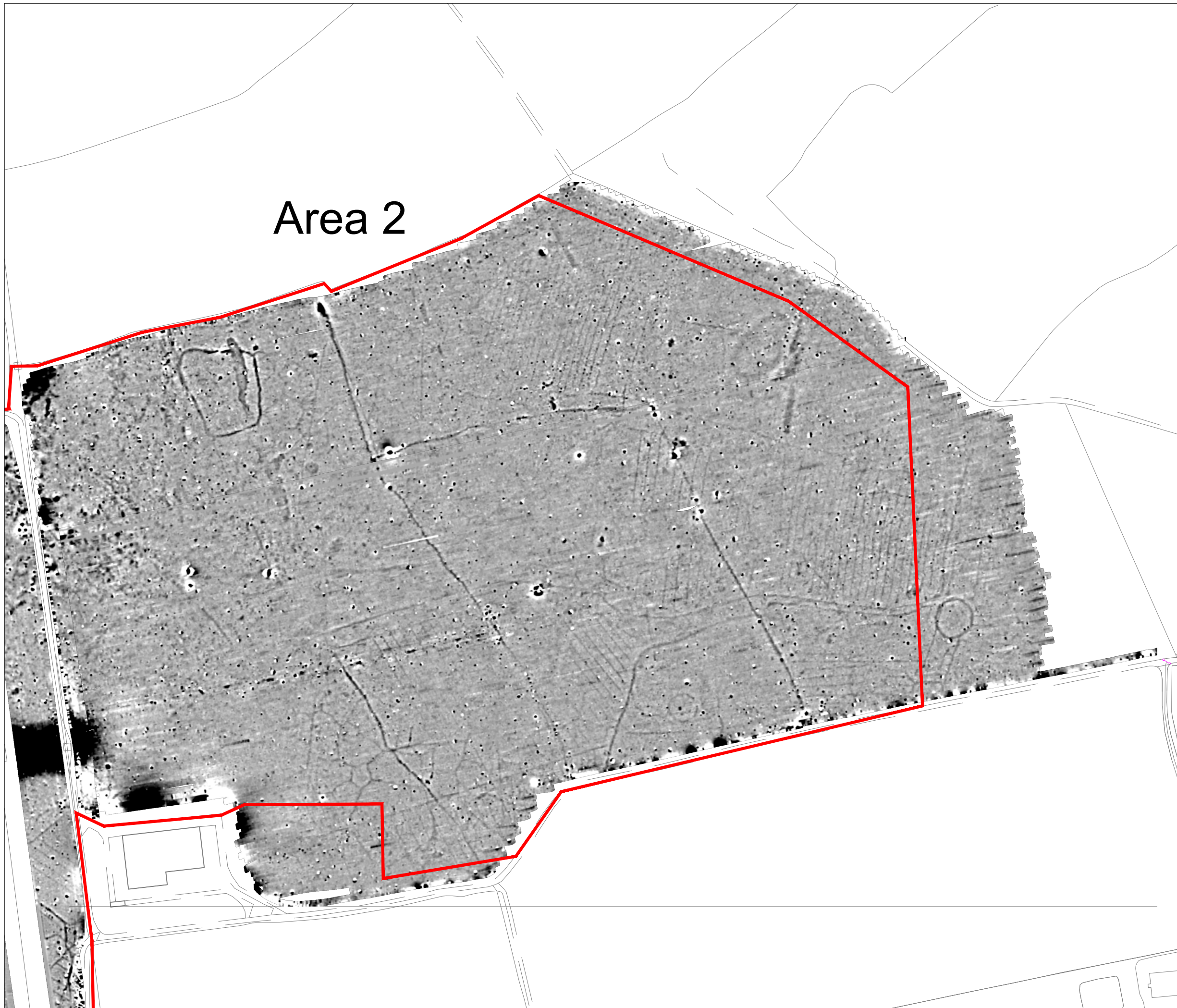
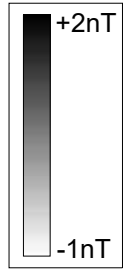


Fig No: 08



Area 2



Title: Magnetometer Survey - Greyscale Plot
(Area 2 at 2nT to -1nT)

Client: Cotswold Archaeology

Project: 03129-2 - Land at Wickham Hall, Uttlesford
District, Essex

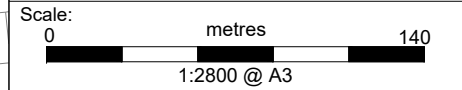
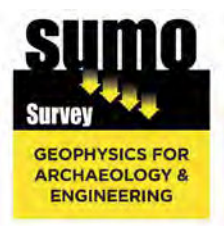
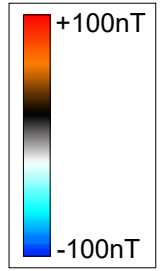


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Area 2



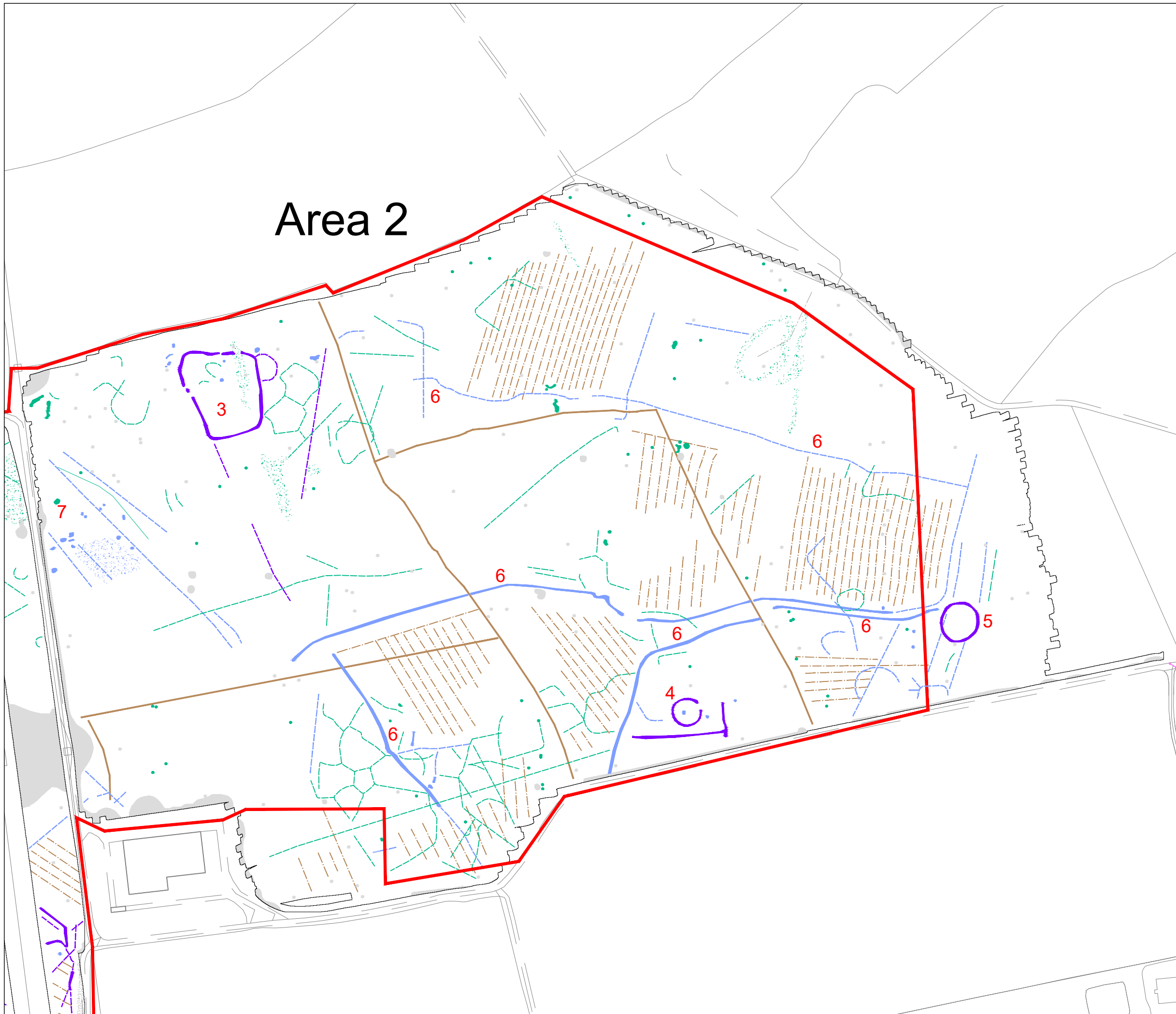
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Client:
Cotswold Archaeology

Project:
03129-2 - Land at Wickham Hall, Uttlesford
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Fig No:
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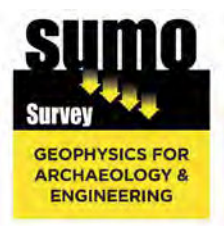


Area 2



KEY

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	Uncertain Origin (discrete anomaly / trend / increased response)
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	Agriculture (ridge and furrow)
	Land drain
	Natural (e.g. geological / pedological)
	Magnetic disturbance
	Ferrous



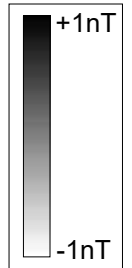
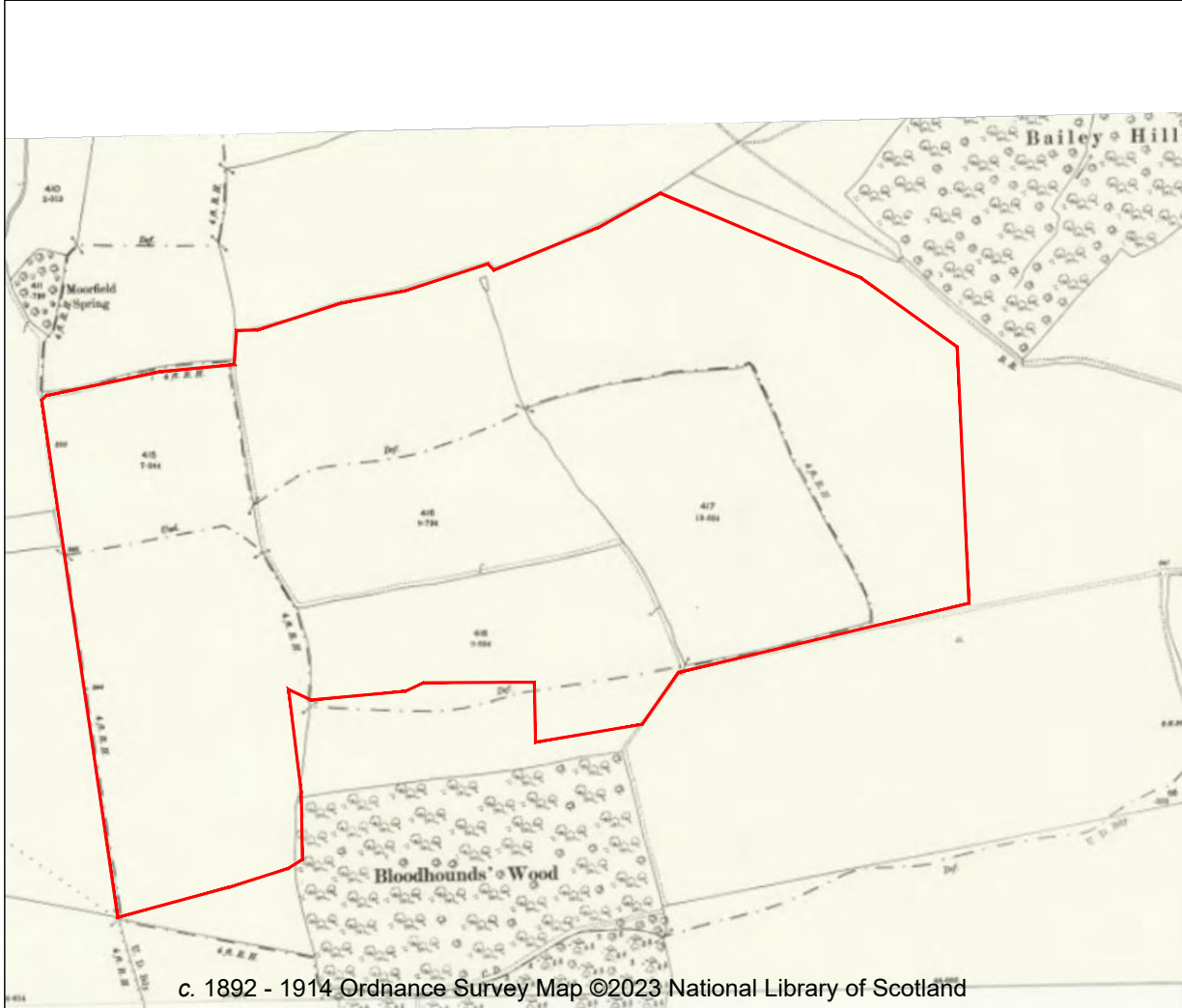
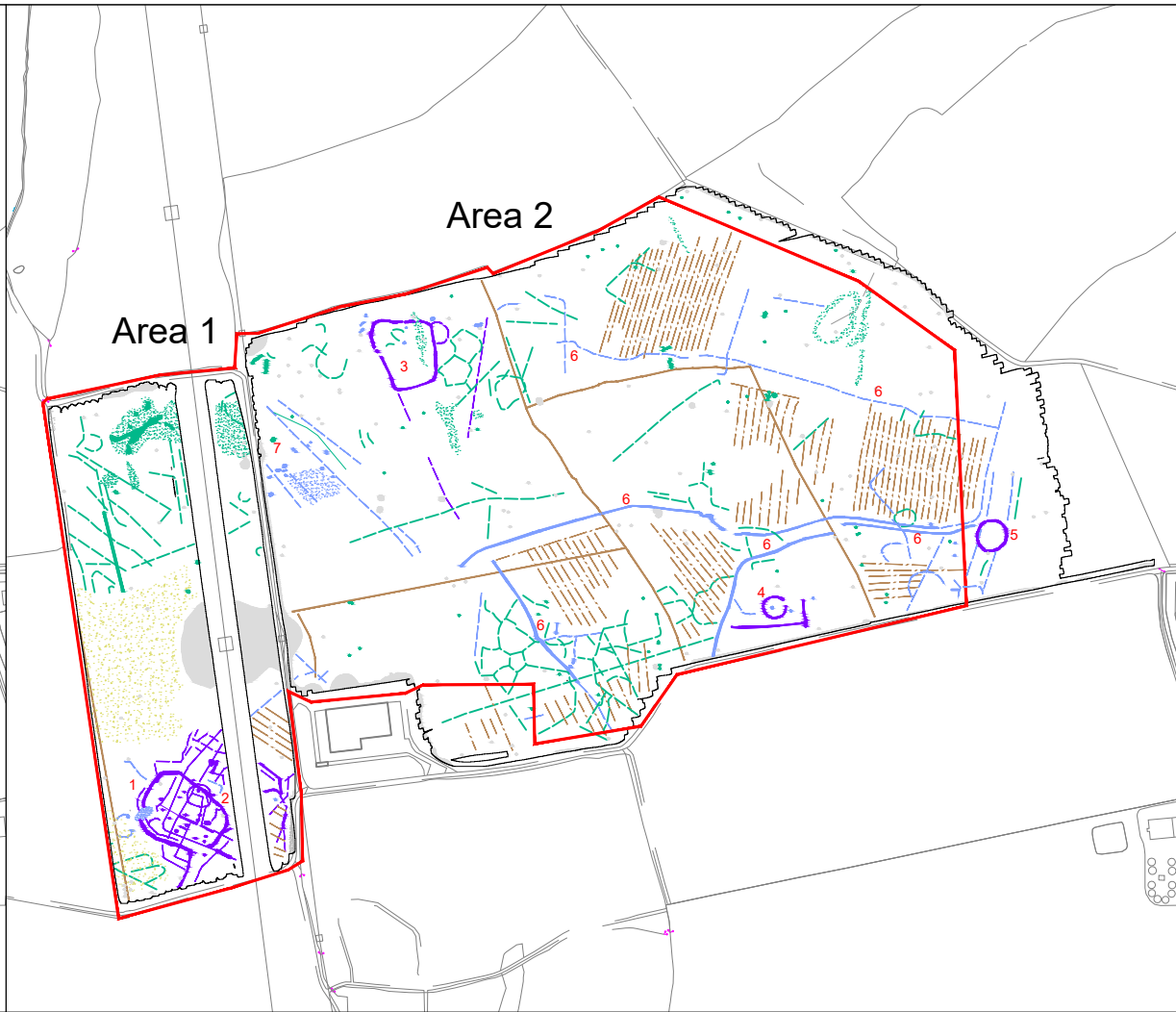
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Client:
Cotswold Archaeology

Project:
03129-2 - Land at Wickham Hall, Uttlesford District, Essex

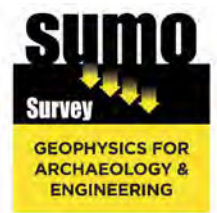
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Fig No:
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	Uncertain Origin (discrete anomaly / trend / increased response)
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	Agriculture (ridge and furrow)
	Land drain
	Natural (e.g. geological / pedological)
	Magnetic disturbance
	Ferrous



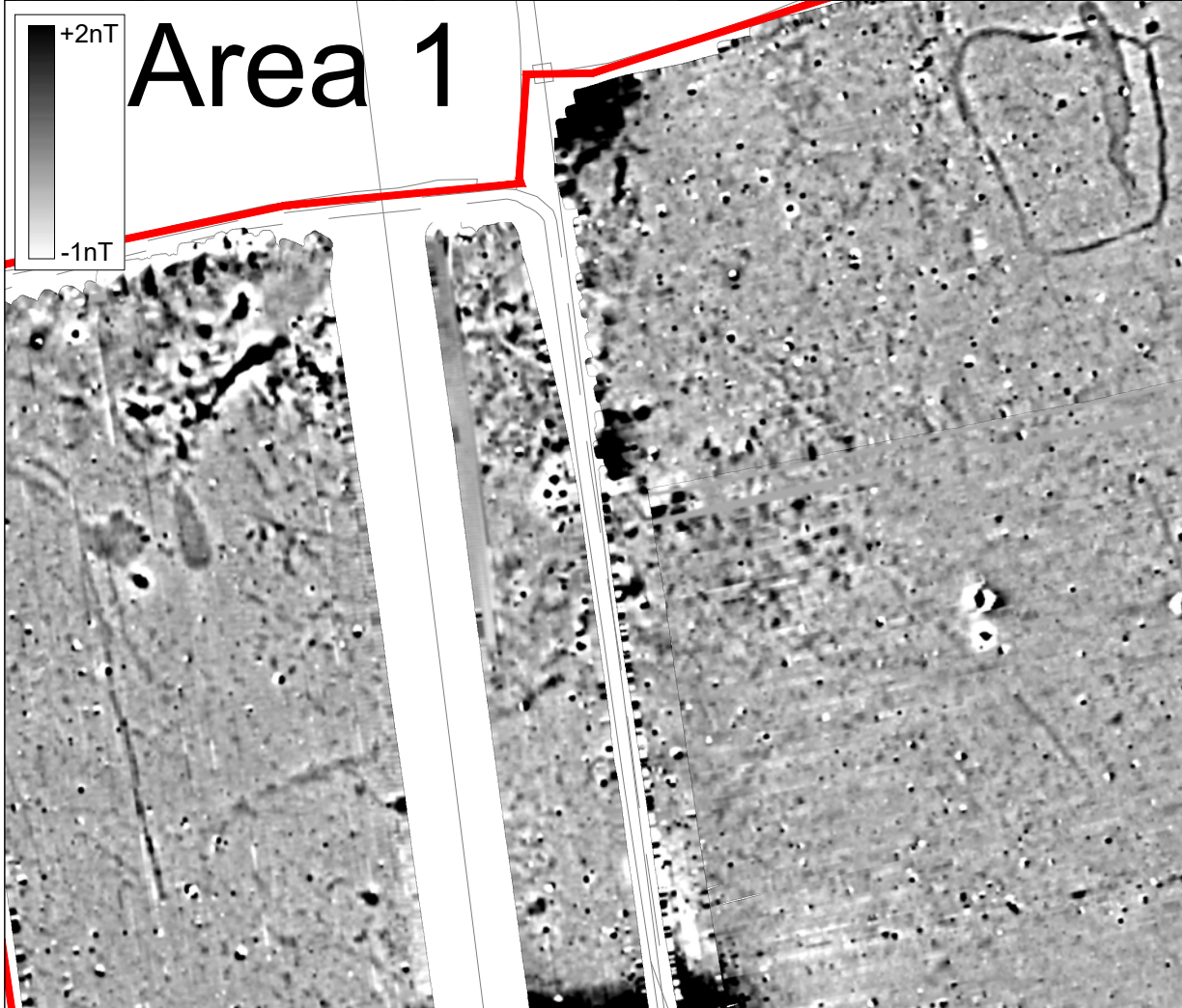
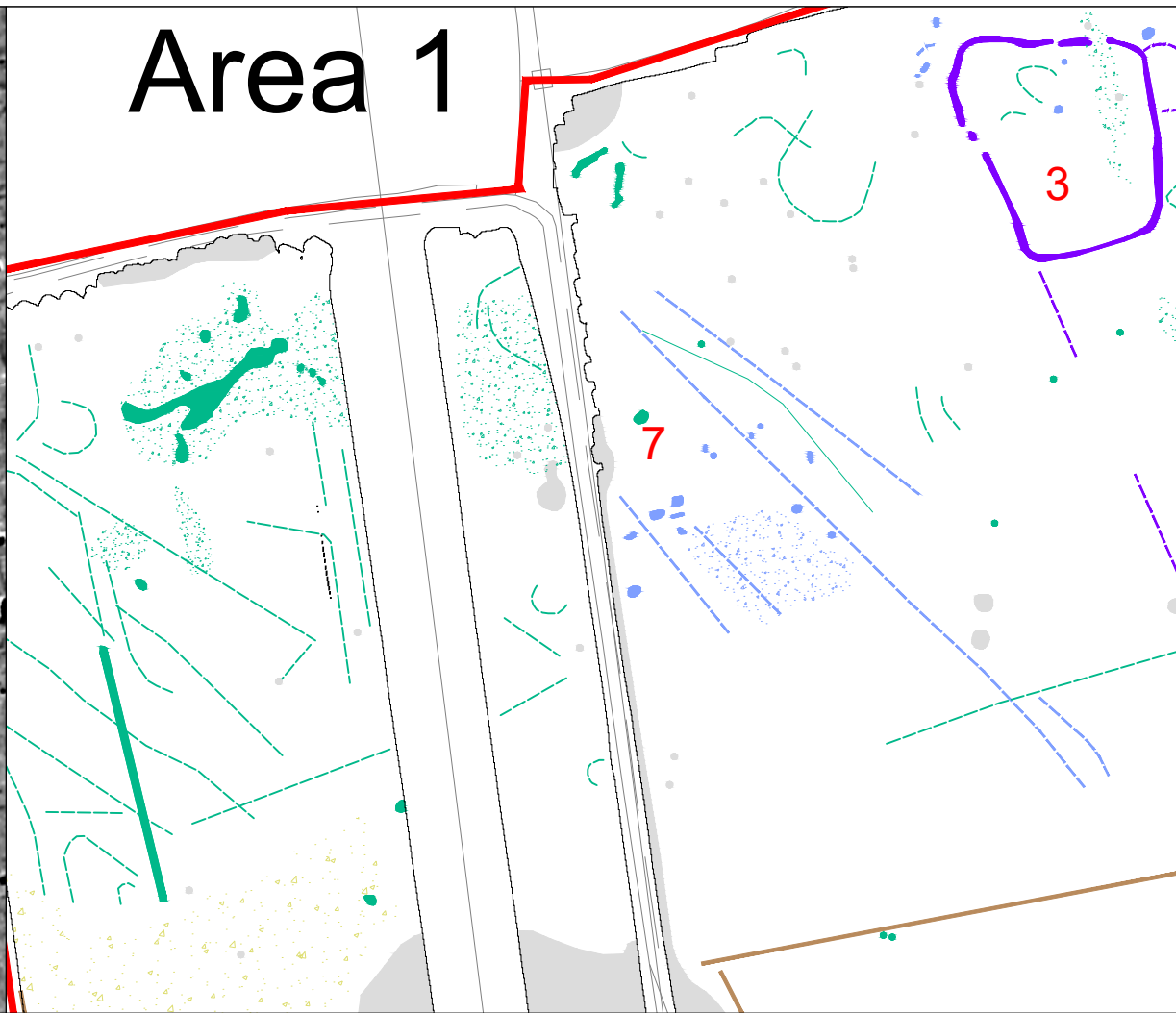
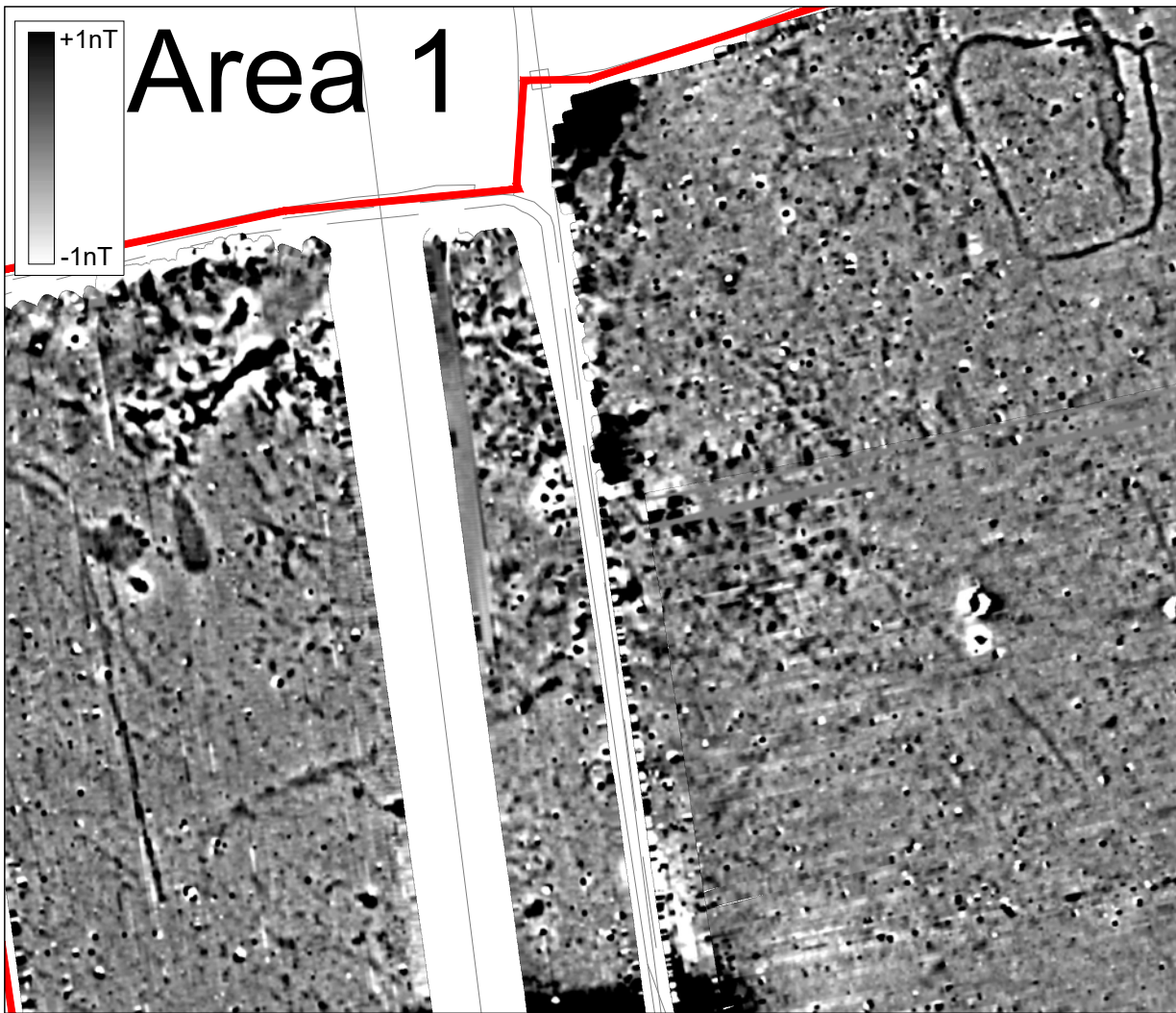
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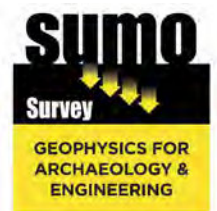
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KEY

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	Former field boundary (corroborated)
	Agriculture (ridge and furrow)
	Land drain
	Natural (e.g. geological / pedological)
	Magnetic disturbance
	Ferrous



Title: Greyscale Plots (1nT to -1nT & 2nT to -1nT) / Interpretation / 2018 Aerial Image

Client: Cotswold Archaeology

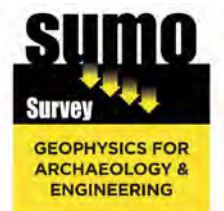
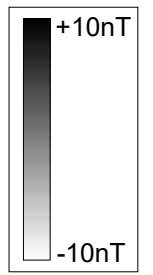
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Scale: NOT TO SCALE Fig No: 13



Area 2

Area 1



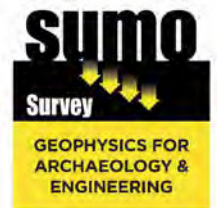
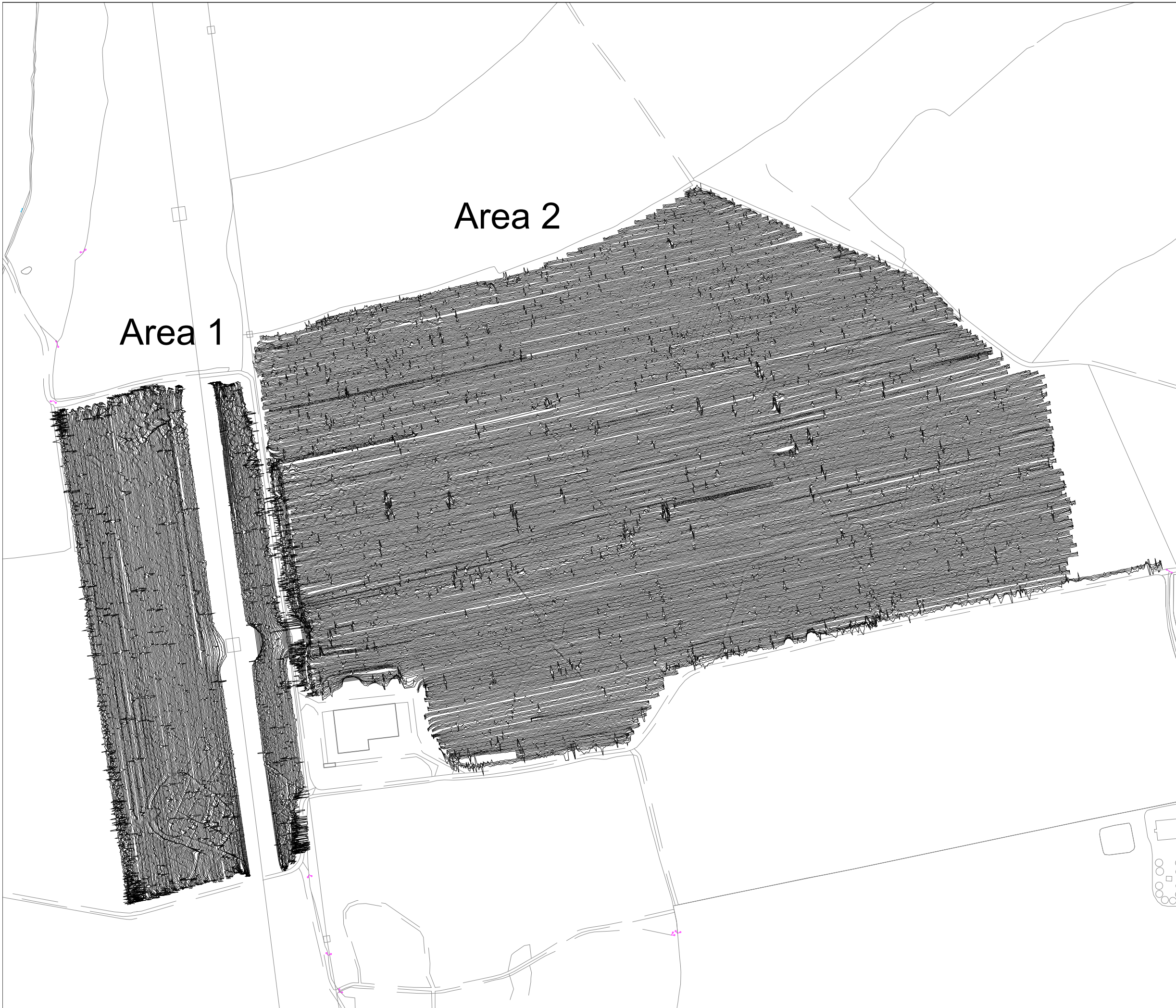
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Minimally Processed Data - Greyscale Plots

Client:
Cotswold Archaeology

Project:
03129-2 - Land at Wickham Hall, Uttlesford
District, Essex

Scale:
0 metres 175
1:3500 @ A3

Fig No:
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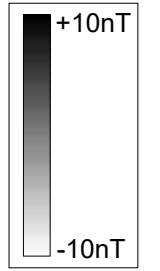
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Project: 03129-2 - Land at Wickham Hall, Uttlesford District, Essex

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Fig No: 15

Area 2



Title: Minimally Processed Data - Control Data (Area 2)

Client: Cotswold Archaeology

Project: 03129-2 - Land at Wickham Hall, Uttlesford District, Essex

Scale: NOT TO SCALE

Fig No: 16

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

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.

Data Processing

Zero Mean Traverse	This process sets the background mean of each traverse within each grid to zero. 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.
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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.
<i>Uncertain Origin</i>	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 <i>Possible Archaeology / Natural</i> or (in the case of linear responses) <i>Possible Archaeology / Agriculture</i> ; 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.

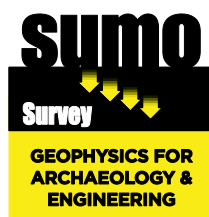
Magnetic survey is carried out using a fluxgate gradiometer which is a passive instrument consisting of two sensors mounted vertically 1m apart. The instrument is carried about 30cm above the ground surface and the top sensor measures the Earth's magnetic field whilst the lower sensor measures the same 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.

Summary for sumogeop1-513367

OASIS ID (UID)	sumogeop1-513367
Project Name	Magnetometry Survey, Geophysical Survey at Land at Wickham Hall, Uttlesford District, Essex
Sitename	Land at Wickham Hall, Uttlesford District, Essex
Activity type	Magnetometry Survey, Geophysical Survey, MAGNETOMETRY SURVEY
Project Identifier(s)	SUMO-03129-2 Wickham Hall, Bishops Stortford
Planning Id	
Reason For Investigation	Planning requirement
Organisation Responsible for work	SUMO Geophysics Ltd.
Project Dates	21-Apr-2022 - 15-Mar-2023
Location	Land at Wickham Hall, Uttlesford District, Essex NGR : TL 46675 23175 LL : 51.887837229651154, 0.129875551598815 12 Fig : 546675,223175
Administrative Areas	Country : England County : Essex County : Hertfordshire Area : Maritime
Project Methodology	A temporary grid system was established over the site and marked out using canes. The location of the grid was set out using an RTK GPS system theoretically accurate to some 0.01m and referenced to OS co-ordinates. 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 recorded numerous magnetic responses that have been interpreted as being of archaeological interest. Three round barrows; an oval and a sub-rectangular enclosure; land divisions; ditched trackways; pits; and zones of increased responses have all been recorded in the survey and interpreted as being of archaeological interest. The anomalies have been characterised as either being of possible archaeological or probable archaeological interest based on their magnetic strengths and morphologies. Numerous responses have been assigned to the category of uncertain. While archaeological origins for some of the anomalies cannot be ruled out, the majority are likely to be due to underlying geological variations or agricultural processes. Four former field boundaries have been plotted in Area 2 which correspond to field divisions which are visible on historic mapping. The route of a land drain has been marked in Area 2 plus historic ridge and furrow cultivation regimes have been detected throughout the magnetic data. In Area 1 weak amorphous zones of increased magnetic response have been detected which are due to variations / weathering on the underlying geology. Small zones of magnetic disturbance are likely to have been caused by modern debris.

Keywords	<p>Round Barrow - BRONZE AGE - FISH Thesaurus of Monument Types</p> <p>Oval Enclosure - UNCERTAIN - FISH Thesaurus of Monument Types</p> <p>Subrectangular Enclosure - UNCERTAIN - FISH Thesaurus of Monument Types</p> <p>Ditch - UNCERTAIN - FISH Thesaurus of Monument Types</p> <p>Pit - UNCERTAIN - FISH Thesaurus of Monument Types</p> <p>Coaxial Field System - UNCERTAIN - FISH Thesaurus of Monument Types</p> <p>Field System - UNCERTAIN - FISH Thesaurus of Monument Types</p> <p>Trackway - UNCERTAIN - FISH Thesaurus of Monument Types</p> <p>Field Boundary - POST MEDIEVAL - FISH Thesaurus of Monument Types</p> <p>Ridge And Furrow - MEDIEVAL - FISH Thesaurus of Monument Types</p> <p>Drain - 20TH CENTURY - FISH Thesaurus of Monument Types</p>
Funder	
HER	Essex HER - unRev - STANDARD
Person Responsible for work	Thomas, Cockcroft
HER Identifiers	HER Event No - WHBS23
Archives	



- Archaeological
- Geophysical
- Laser Scanning
- Measured Building
- Topographic
- Utility Mapping

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