



QinetiQ Enclave, Fort Halstead, Sevenoaks District Council, Kent

Archaeological Desk-Based Assessment

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Waterman Infrastructure & Environment Limited

Merchants House, Wapping Road, Bristol, BS1 4RW
www.watermangroup.com

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Issue	Date	Prepared by	Checked by	Approved by
First	May 2021	Sarah Generalski-Sparling Senior Heritage Consultant 	Sally Hales Technical Director 	Sally Hales Technical Director 
Final	May 2021	Sarah Generalski-Sparling Senior Heritage Consultant 	Sally Hales Technical Director 	Sally Hales Technical Director 

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1. Introduction

Waterman Infrastructure & Environment Ltd ('Waterman') has been commissioned by Carter Jonas ('the Client') to provide an Archaeological Desk-Based Assessment (ADBA) to determine the potential impacts upon the archaeological resource arising from the proposed re-development ('the Development') at the QinetiQ Enclave, Fort Halstead, Sevenoaks District Council (SDC), Kent ('the Site').

This assessment follows best practice guidance produced by the Chartered Institute for Archaeologists (CIfA) and Historic England and is intended to meet the requirements of national heritage planning policy contained within the National Planning Policy Framework (NPPF) as far as practicable. Relevant legislation, policy and guidance is outlined in **Section 3** and **Appendix D**.

This ADBA addresses archaeology only. Built heritage considerations will be assessed in a separate Built Heritage Assessment.

The Site's location is shown on **Figure 1** below.



Figure 1: Site Location Plan

(Source: OS Data @ Crown Copyright and Database Right 2021 (Accessed via ArcGIS on 4th May 2021¹)

1.1 Site Location

The Site comprises c. 15.8 hectares (ha) and forms part of the existing Fort Halstead Defence Science and Technology Laboratory (DSTL) located approximately 4km north-east of Sevenoaks. It is bordered by Crow Drive to the north, access roads to the east and west and fields to the south of the existing QinetiQ Enclave to the south.

The Site is centred on National Grid Reference (NGR) TQ 49686 59094.

¹ ArcGIS Online, accessible via <https://www.arcgis.com/index.html> [accessed on 4th May 2021]

1.2 The Proposed Development

The proposed Development entails the following:

“Works to the proposed QinetiQ enclave comprising the erection of perimeter security fence, erection of a new reception building, creation of a new main site entrance along Crow Road, refurbishment of existing buildings including plant installation, creation of a new surface level car park and access, installation of two new explosive magazine stores and surrounding pendine block walls, demolition of existing buildings, installation of 6no. storage containers, installation of new site utilities, landscaping and ecological works.”

1.3 Scope of the Report

The aims of this ADBA are:

- To identify the known archaeological resource present within the Site and study area;
- To determine the potential for as yet unknown archaeological remains within the Site;
- To assess the significance of archaeological assets that could be affected by the Development;
- To determine the likely impacts of the Development upon known archaeological assets and potential as yet unknown archaeological remains, including consideration of changes to their setting (where applicable);
- To make recommendations for further assessment and/or field investigations, as appropriate.

2. Methodology

Data was sought from the following sources:

- Historic England's *The National Heritage List for England* (NHLE) online database² for designated heritage assets within the Site and a 2km study area;
- The Kent Historic Environment Record (KHER)³ for non-designated heritage assets within the Site and a 2km study area;
- Available secondary sources including a Groundsure Envirocheck report included in **Appendix F**, and a 2019 ADBA ('2019 ADBA') also produced by Waterman covering the wider Fort Halstead site which supported a hybrid planning application awaiting decision (reference: 19/05000/HYB).

A list of references consulted can be found in **Section 9**.

Consultations with Heritage Conservation, archaeological advisor to SDC, were initiated in April 2021 to discuss the scope of this ADBA, however, no response was received at the time of writing. As such, considering that the 2019 ADBA covered a 2km study area, the same study area was applied for the purpose of this ADBA to adhere to previous guidance received by Heritage Conservation.

Heritage assets considered in this assessment include:

Designated Heritage Assets

- World Heritage Sites
- Scheduled Monuments
- Listed Buildings
- Conservations Areas
- Registered Parks and Gardens
- Registered Battlefields

Non-Designated Heritage Assets

- Monuments (including archaeological sites)
- Locally listed or non-designated buildings
- Findspots

Built heritage assets, such as Listed Buildings and Conservation Areas, are discussed in this assessment where they may inform on archaeological potential within the Site should it be possible that associated archaeological remains may extend into the Site.

As findspots are indicative of human activity, although they would have been removed from its/their original context by this stage, they are considered in this assessment within an evidential context.

A gazetteer of all known designated and non-designated assets discussed in this assessment is presented in **Appendix B** and a brief summary can be found in **Section 4**. Assets are referenced by their official NHLE number (seven-digit number) for designated assets or KHER reference (prefixed with 'MKE') for non-designated assets.

² Historic England, *The National Heritage List for England* (NHLE), accessible via [Search the List - Find listed buildings, monuments, battlefields and more | Historic England](#)

³ Data received on 28th April 2021

2.1 Significance Criteria

The NPPF defines ‘significance’ in the context of heritage policy as:

“The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting”⁴.

This assessment ascribes a value to heritage assets (see **Table 1**) to provide an initial framework for determining the significance of individual heritage assets and then combines this with guidance from Historic England⁵ which recommends making assessments under the categories of ‘Evidential’, ‘Historical’, ‘Aesthetic’ and ‘Communal’ value (see **Table 2**). This is applied using professional judgement against the current known condition of each asset to provide an overall statement of significance.

Table 1: Overview of Generic Statutory Value of Heritage Assets

Value	Type of Heritage Asset
Very High	World Heritage Sites (including nominated sites).
	Scheduled Monuments (including non-designated heritage assets of schedulable quality).
	Grade I Listed Building.
	Grade I Registered Parks and Gardens.
	Protected Wrecks.
High	Heritage assets of national or international importance (these could be designated, non-designated or as yet undesignated heritage assets of such importance).
	Grade II* and II Listed Buildings.
	Conservation Areas.
	Grade II* and II Registered Parks and Gardens.
	Registered Battlefields.
Medium	Protected heritage landscapes (ancient woodlands or historic hedgerows).
	Heritage assets of regional or county importance (these could be designated, non-designated or as yet undesignated heritage assets of such importance).
Low	Locally listed buildings.
Very Low	Heritage assets with a district value or interest (these could include non-designated or as yet undesignated heritage assets).
Unknown	Heritage assets (whether non-designated or as yet undesignated) with a local (e.g. parish) value or interest.
	Historic environment resource with no significant value or interest.
	Heritage assets for which current level of understanding is insufficient to allow significance to be determined.

⁴ Ministry of Housing, Communities & Local Government, 2019. *National Planning Policy Framework*, p. 71, accessible via https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf

⁵ English Heritage, 2008. *Conservation Principles, Policies and Guidance for the sustainable management of the historic environment*, accessible via <https://historicengland.org.uk/images-books/publications/conservation-principles-sustainable-management-historic-environment/conservationprinciplespoliciesandguidanceapril08web/>

Table 2: Significance of Heritage Values

Heritage Values	Definition
Evidential	Evidential value derives from the potential of a place to yield evidence about past human activity.
Historical	Historical value derives from the ways in which past people, events and aspects of life can be connected through a place to the present. It tends to be illustrative or associative.
Aesthetic	Aesthetic value derives from the ways in which people draw sensory and intellectual stimulation from a place.
Communal	Communal value derives from the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory. Communal values are closely bound up with historical (particularly associative) and aesthetic values but tend to have additional and specific aspects.

3. Legislation, Policy & Guidance

This assessment has been produced within the context of relevant legislation, as well as local and national planning policy and considers policies laid out in the NPPF and the local planning policy of SDC.

Additionally, guidance produced by the ClfA and Historic England have also been taken into account as far as practicable and where relevant to this assessment. Relevant legislation, policy and guidance is listed below, and further detail can be found in **Appendix D**.

3.1.1 Legislation

- Ancient Monuments and Archaeological Areas Act 1979⁶
- Planning (Listed Buildings and Conservation Areas Act) 1990⁷

3.1.2 Policy

- NPPF, updated February 2019, see Section 16 'Conserving and enhancing the historic environment'⁸
- Planning Practice Guidance (PPG), updated 2019, see 'Section 18 Conserving and enhancing the historic environment'⁹
- Sevenoaks District Council, Core Strategy, 2011, see 'Policy SP1'¹⁰
- Sevenoaks District Council, Allocations and Development Management Plan, 2015, see 'Policy EN4' and 'Policy EMP3'¹¹
- Sevenoaks District Council, Local List Supplementary Planning Document, 2017¹²

It must be noted that SDC is currently preparing the new Local Plan (2015-2035). Although the policies outlined in the draft cannot be given full weight at present, relevant policies include:

- Policy HEN1 Historic Environment
- Policy HEN2 Heritage Assets

3.1.3 Other

- Kent Downs, Kent Downs Area of Outstanding Natural Beauty Management Plan, 2014, see 'Policy HCH1', 'Policy HCH2', 'Policy HCH3', 'Policy HCH4', 'Policy HCH5'¹³

3.1.4 Guidance

The Chartered Institute for Archaeologists

- Standard and guidance for historic environment desk-based assessment, revised 2020¹⁴

⁶ Her Majesty's Stationery Office (HMSO), *Ancient Monuments and Archaeological Areas Act*. 1979, accessible via <https://www.legislation.gov.uk/ukpga/1979/46>

⁷ Her Majesty's Stationery Office (HMSO), *Planning (Listed Buildings and Conservation Areas) Act*. 1990, accessible via <https://www.legislation.gov.uk/ukpga/1990/9/contents>

⁸ Ministry of Housing, Communities & Local Government, 2019. *National Planning Policy Framework*

⁹ Ministry of Housing, Communities and Local Government, 2019. *Planning Practice Guidance*, accessible via <https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment>

¹⁰ Sevenoaks District Council, 2011. *Core Strategy, Local Development Framework*, accessible via https://www.sevenoaks.gov.uk/downloads/file/356/core_strategy_adopted_version_february_2011

¹¹ Sevenoaks District Council, 2015. *Allocations and Development Management Plan*, accessible via [Policies, strategies and plans | Sevenoaks District Council](#)

¹² Sevenoaks District Council, 2017. *Local List Supplementary Planning Document*, accessible via [Local List Supplementary Planning Document | Sevenoaks District Council](#)

¹³ Kent Downs, 2014. Kent Downs Area of Outstanding Natural Beauty Management Plan, accessible via [KDAONB-Management-Plan.pdf](#)

¹⁴ Chartered Institute for Archaeologists, (rev) 2020. *Standard and Guidance for Historic Environment Desk Based Assessments*, accessible via https://www.archaeologists.net/sites/default/files/ClfAS%26GDBA_3.pdf

4. Baseline

4.1 Site Conditions

The Site is divided into 3 areas. The main part of the Site comprises the QinetiQ Enclave to the west of the Scheduled Monument, and the other 2 are existing magazine stores, one of which is located inside of the Scheduled Monument, and the other is located to the east of the Scheduled Monument (c. 200m east of the main part of the Site).

Within the wider Fort Halstead DSTL complex, the Site is located immediately to the west of the Scheduled Monument of Fort Halstead [1004214], a late 19th century mobilisation centre heavily modified from the 1930s onwards and currently used for research.

Immediately outside of Fort Halstead to the north/north-east of the Site, residential properties are located along Crow Drive and Star Hill Road (c. 360m north/north-east). Immediately surrounding the Site, existing buildings comprise of either active or redundant buildings in use by DSTL and QinetiQ.

A group of trees separates the buildings within the southern extent of the Site from a field which is partly included in the redline boundary of the application.

Within the wider landscape, the Site is located within an area dominated by farmland and scattered villages, such as Halstead, Knockholt and Knockholt Pound which are all to the north/north-west of the Site. Larger settlements, such as Sevenoaks, are located to the south/south-east of the Site.

4.2 Geology and Topography

The underlying geology of the Site comprises the Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newham Chalk Formation, while superficial deposits consist of Clay-with-flints Formation (clay, silt, sand and gravel)¹⁹.

Topsoil coverage across the Site is estimated to be between 0.1 to 0.8m in thickness and, according to a previous 2015 archaeological desk-based assessment (Waterman), consists of dark brown silt with medium to coarse gravel and cobbles of flint²⁰.

Topographically, the Site sits on a chalk escarpment ridge that extends in a south-west to north-east direction and is elevated above much of the surrounding area. Overall, the Site ranges between c. 214m Above Ordnance Datum (AOD) within the southern extent of the Site to c. 218m AOD within the approximate centre which forms the highest point within the Site.

4.3 Designated Heritage Assets

There are no World Heritage Sites or Registered Battlefields within the Site or study area.

Designated heritage assets present within the Site and study area are shown on **Figure 2**.

4.3.1 Within the Site

Scheduled Monument

The scheduled Fort Halstead [1004214] is a post-medieval to modern defensive and research structure which partially falls within the main Site's eastern boundary where the scheduled boundary slightly crosses the access path to the east of the Site into the QinetiQ Enclave.

The fort, which is polygonal in plan, is surrounded by earthen ramparts and a deep external moat which is

¹⁹ British Geological Survey, *Geology of Britain Viewer* online resource, accessible via [Geology Of Britain 3D \(bgs.ac.uk\)](http://geologyofbritain3d.bgs.ac.uk)

²⁰ Waterman, 2015. *Buried Heritage Desk-Based Assessment, Fort Halstead*, Kent, p. 3

partially covered by car parking at its south-western corner.

A magazine store located within the Scheduled Monument will be moved into the main part of the Site (i.e., the QinetiQ Enclave) as part of the proposed works.

4.3.2 Within the Study Area

Listed Building

There are 34 Listed Buildings within the study area. The majority of these are scattered across the study area, however, three Listed Buildings are located within the Fort Halstead complex. Two are associated with the Scheduled Monument (c. 60-120m east of the Site) [1412292, 1412293], and another is located off Crow Drive (c. 120m north-east of the Site) [1396578].

Due to their distance to the Site, it is unlikely that buried archaeological remains associated with Listed Buildings might extend into the Site. As such, Listed Buildings are not assessed further in this ADBA.

Conservation Area

There are two Conservation Areas within the study area. Halstead Conservation Area overlaps with the northern extent of the study area (c. 1.9km north of the Site), while Chevening Conservation Area falls within the south-western extent of the study area (c. 1.2km south-west of the Site).

Similar to the Listed Buildings, due to their distance to the Site, it is not considered that associated buried archaeological remains might extend into the Site. As such, the Conservation Areas are not considered further in this assessment.

Registered Park and Garden

The Grade II* listed Chevening Registered Park and Garden [1000258] is located within the most south-western extent of the study area, c. 880m south-west of the Site.

Due to the park's distance to the Site and the fact that the Site has no direct association with the park or formed part of the park, it is considered that it does not contribute to the understanding of the archaeological resource within the Site and is therefore not considered further.

4.4 Non-Designated Heritage Assets

4.4.1 Within the Site

Similar to the Scheduled Monument, the non-designated boundary associated with the Scheduled Monument also slightly falls within the eastern boundary of the Site [MKE61].

4.4.2 Within the Study Area

There are 344 non-designated heritage assets within the study area. Thirty-eight of these are directly associated with the designated heritage assets discussed above (e.g., Scheduled Monument, Registered Park and Garden and Listed Buildings), and will therefore not be discussed here.

The known assets broadly provide evidence of prehistoric, Roman, medieval and post-medieval activity within the study area which primarily appears to focus within the eastern and south-eastern extents of the study area to the west of the River Darent. Overall, early medieval evidence appears to be scarce with the exception of an Anglo-Saxon cemetery found at Polhill (c. 450m east of the Site).

The above are further discussed in **Section 5** and the locations of non-designated heritage assets are

presented on **Figure 3**.

4.5 Historic Landscape

Based on the Kent Historic Landscape Characterisation produced in 2001, the Site is placed within the Western North Downs Historic Landscape Character Area (HLCA) which, due to its homogeneity, has been described as being “difficult to characterise summarily”²¹. The HLCA is predominately dominated by regular field types (some of which have been categorised as capturing post 1801 settlement), woodland and fields bounded by paths and tracks.

According to the Historic Landscape Character (HLC) data provided by the KHER, the following HLC types are present within the Site:

- Replanted pre-1810 woodland (within the north-eastern extent of the Site);
- Other pre-1810 woodland (within the approximate centre and north-western extent of the Site);
- Downland (within the southern extent of the Site which currently comprises the field to the south of the Site).

The above indicates that the Site likely historically formed part of woodland, and woodland cover within the Site is further discussed in **Section 5.2**.

The study area is sited within the Kent Downs Area of Outstanding Natural Beauty (AONB) which is noted for its distinctive chalk downland, steep scarps and woodlands. The scarp slope of the escarpment faces both south, across the Kent Weald, and east across, the Darent Valley. As previously mentioned, the Site is located on the top of the chalk escarpment ridge on relatively flat land on the upper part of the ‘dip slope’ of the escarpment.

While early 20th century activity, in particular in regard to military and research activity, has greatly impacted the Site, and indeed the wider Fort Halstead complex, it is not captured by the current HLC dataset as its own character area.

The existing data, and historic maps discussed in **Section 5.2**, show that prior to the late 19th century development of Fort Halstead, the Site and its immediate surroundings would have still been dominated by woodland. The remnants of Dutchmore Wood (within which the Site was located) and Anisbirches Wood likely form part of the ancient woodland within the Fort Halstead complex formerly known as Beaumont Wood which would have bordered the scarp of the chalk ridge until later farming and military and research developments lead to some loss of this woodland.

4.6 Previous Investigations

4.6.1 Within the Site

Aside from three archaeological desk-based assessments in 2008 [EKE14610] and 2009 [EKE11324, EKE11321] which either partially or fully covered the Site, there have been no previous investigations within the Site.

4.6.2 Within the Study Area

There have been 23 previous archaeological investigations within the study area comprising evaluation, excavation, desk-based assessments, a geophysical survey and watching briefs. These are mainly located within the eastern extent of the study area, either close to the River Darent, to roads, such as London Road or the M25, or at Twitton (to the east of the Site).

²¹ Oxford Archaeological Unit, 2001. *Kent Historic Landscape Characterisation*, on behalf of English Heritage and Kent County Council, p.3-3

Archaeological works resulting in positive results include:

- Excavations at Polhill [EKE5931, EKE4685], approximately 450m to the east of the Site, which recorded an Anglo-Saxon cemetery (found in the late 1950s and 1960s).
- At Twitton (within the eastern extent of the study area, c 1.6km east of the Site) a series of excavations [EKE3789, EKE3788] and evaluations [EKE9252] undertaken between 1967 to 2006 uncovered probable Roman buildings, a cemetery and various undated features including pits or post holes. Roman pottery [EKE3786] was also noted.
- Trial trenching at Frog Farm [EKE17403] in 2005 (located c 1.9km east of the Site) recovered Pleistocene deposits, a prehistoric to Romano-British subsoil, a Romano-British boundary ditch and 43 cremation burials of the same age.

The two watching briefs at Twitton [EKE9735, EKE9879] did not uncover any archaeological features.

A gazetteer of all previous investigations can be found in **Appendix C**.

5. Historic and archaeological background

The following section includes a summary of the historic and archaeological background presented in Waterman's 2019 ADBA.

5.1 Overview

Prehistoric (500,000 BC to AD 43)

Although worked flints and both human and animal remains dating from the Lower Palaeolithic have been discovered within the North Downs area, it is thought that human activity at this time coincided with intermittent warm phases during the last glacial period, and that continuous occupation did not occur until after the glaciation when the climate warmed²².

In the North Downs area there is substantial evidence of Neolithic activity which is well represented by the sarsen long barrows concentrated in the Medway valley (c.25km east of the Site). The prominent position of the study area on the North Downs is likely to have attracted activity as settlements were generally formed in sheltered valleys and along the spring line at the foot of the scarp slope.

To the north of the Site (c. 350m north) the course of a suspected prehistoric trackway referred to as Pilgrims' Way (North Downs Way) [MKE44049] has been captured by the KHER. Although the trackway has not yet been investigated, it may have originated in the prehistoric period as a trackway across a wooded area and was later formalised in the medieval period.

Within the study area the KHER records numerous finds of prehistoric date including a Palaeolithic ovate handaxe [MKE112], a likely Mesolithic flint scatter [MKE79883], a copper alloy awl, tentatively dated to the Bronze Age [MKE79874], and a number of Iron Age copper alloy coins, brooches and cosmetic mortar [MKE72037, MKE72286, MKE72370, MKE72661, MKE72849, MKE72883, MKE79849]. It must be noted that none of these were seemingly associated with features and represent isolated chance finds.

Prehistoric activity within the study appears to largely be concentrated within the eastern extent of the study area seemingly following the line of the River Darent from Shoreham to Dunton Green with the highest concentration to the north-west of Otford (just outside the western extent of the study area).

Aside from a ditch containing pottery [MKE369] uncovered to the north of the M26 c.1.6km south of the Site, there is no further evidence of potential settlement or land management features. Although there is clear evidence of prehistoric activity within the study area, most of which is represented by isolated finds and the trackway, there is considered to be low potential for prehistoric remains within the Site itself.

Romano-British (AD 43 to AD 410)

While the KHER records a wealth of Roman remains within the study area, none are located directly within the Site or within its immediate environs and instead focus on an area within the eastern extent of the study area.

Known Roman activity appears to be concentrated at Frog Farm [MKE306, MKE333] where a cremation cemetery has been found (located close to the eastern boundary of the study area). The cemetery has been the subject to several evaluations which have confirmed it to have been in use between the 1st to 4th centuries AD.

According to Ward²³ *"in the absence of any known east-west Roman road through Kent south of Watling Street, it may be assumed that the Pilgrims' Way formed a part of the main communications network of*

²² Tuson, D, 2007. *The Kent Downs*, Stroud

²³ Ward, C.P, 1990. *The Romano-British Cremation Cemetery at Frog Farm, Otford, Kent, in the context of contemporary funerary practices in South-East England*

southern Britain" in the Romano-British period.

Further Roman evidence within the study area comprises floor and roof tiles indicative of a further Roman building were also found at Halstead [MKE110] to the north of the Site, however, no further associated settlement evidence was recovered at the same location.

Roman findspots within the study comprised copper alloy coins, silver coins, lead alloy coins and lead alloy weights, spindle whorls, brooches, hob nails, mounts, nail cleaners, rings, bracelets and medical implements. The majority of these were once again recovered around Frog Farm between the north-western extent of Otford and the River Darent, corroborating that Roman activity appeared to focus on the area to the west of the River Darent.

Similar to the prehistoric period, although there is clear evidence of Roman activity within the eastern and south-eastern extent of the study area the potential for encountering as yet unknown buried remains of Romano-British date within the Site is considered to be low.

Early medieval (AD 410 to AD 1066)

In comparison to the preceding periods, the early medieval period is not very well represented within the study area based on known records.

The Anglo-Saxon cemetery at Polhill [H40], c. 450m east of the Site, is one of the only known early medieval activity areas within the study area. The cemetery, which has now been entirely excavated, was located beyond the North Downs Business Park until it was removed by the former Dunton Green Lime Works and the constructions of the A224 and M25. Scattered burials were discovered by chance between 1839 and 1964 and in total 162 inhumations were recovered over time.

Although up to 14 barrows were present within the cemetery, it was noteworthy for the absence of high status or warrior graves. It may be that the practice of including high status items, such as weapons and personal ornaments, with inhumations had reached an end, with a transition to a more Christianised burial regime²⁴. However, it may also suggest that the cemetery catered for a middle ranking population only, or at least the lower and middle ranking parts of the overall population. No settlement evidence of such a population has as yet been identified within the study area.

Other than at the cemetery, a further 2 concentrations of finds are noted to overlap with previous Roman sites at Sepham Farm (to the north of Frog Farm) and Frog Farm respectively. The finds mainly include copper alloy objects (such as strap fittings, brooches and horse trappings) but also iron horseshoes and silver coins. These are indicative of at least some level of continued use of these areas during the Romano-British to early medieval transition period.

Although early medieval settlement evidence is generally rare, the survival of the cemetery indicates that there would have likely been a settlement within the study area, however, its location is currently unknown or may even lie just beyond the study area. Similar to the preceding periods, the potential for as yet unknown early medieval remains within the Site is considered to be low.

Medieval (AD 1066 to AD 1540)

Medieval activity within the study area is well represented and, as with preceding periods, once again appears to focus on the eastern and south-eastern extent of the study area.

A medieval feature, called the 'Danes Trench' [MKE320] is located within the study area. It comprises a linear bank and ditch on a broadly north-south alignment along the east side of the A224 and is located approximately 730m north-east of the Site. The earliest documentary reference to this feature dates from 1406, although, the exact reasons behind its construction are unknown. It was likely created to restrict

²⁴ Waterman Energy Environment and Design Ltd, 2008. *Fort Halstead – Kent: Archaeological Assessment*

access from the pastoral lands of the river valley on to the wooded hillside. Excavation of the extant earthwork showed that a steep-sided 'V-shaped' ditch had been cut into the natural chalk slope, with the rubble piled on the lower slope to make a bank.

Many of the identified medieval records comprise isolated findspots largely concentrated in the 2 areas of known previous occupation sites, such as at Sepham Farm and Frog Farm, and consist of copper alloy objects (e.g. spindle whorl, harness pendants, hooks, studs, rings), iron objects (horseshoes, keys) and silver coins.

Although it appears as though medieval activity started to reach further westwards that the previous prehistoric to early medieval activity areas, it is likely that the Site would have remained wooded at that time and would have unlikely been a place for settlement. As such, there is considered to be low potential for encountering as yet buried remains of medieval remains within the Site.

Post-medieval (AD 1540 to AD 1901)

In general, it is not until the post-medieval period that a distinct rise in settlements and agricultural activity can be noted within the study area. This is further discussed in **Section 5.2** which presents available post-medieval cartographic material.

The construction of the Scheduled Monument in the late 19th century was the first intervention which initiated the change of use of the land immediately to the east of the Site which, at that time, still consisted of woodland.

The scheduled fort [1004214] comprises the remains of a defensive structure which formed part of a line of similar fortifications designed along the North Downs to defend London from invasion from France and Russia. It was planned that the line of defence would stretch for 72 miles, which would allow interception of forces prior to their arrival in London due to them blocking strategic transport routes. The defensive structures constructed would combine prepared defensive positions with ammunition storehouses for artillery and a reserve of tools needed to build additional entrenched positions for the infantry²⁵.

As such the defensive positions were not necessarily 'forts', but rather rallying points where troops and labourers could gather the material required to defend the line. The fort comprises a polygonal place of arms, or assembly point and store, together with a concrete revetted moat, with vaulted barracks on the western side of the interior and a magazine on the eastern side. If mobilisation was required, forces would muster at the fort to collect arms and munitions to defend London. The rampart of the monument is divided by several traverses, while the fort itself is divided in two by a central traverse. These traverses would have contained magazines for artillery rounds and casemates, where entrenching tools were stored²⁶. Similar to other forts, positions were also provided on the rampart for mounting machine guns, while internal stables were also provided for the horses that were required to pull the field guns²⁷.

The forts constructed as part of the line became largely obsolete by the turn of the 20th century which saw an increased focus on building and developing the naval forces.

As previously referred to, the post-medieval saw a rise in agricultural and settlement activity, and this has been captured by a wealth of farmsteads, and associated buildings within the study area. Those nearest to Site, and with potential connections to the history and use of the woodland within the Site are:

- Parkside [MKE83576], approximately 810m north-west of the Site;
- the Meadows [MKE83572], approximately 940m north-west of the Site;
- the outfarm adjacent to Beaumont Wood [MKE83623], 410m north of the Site;

²⁵ Saunders, A & Smith, V. 2001. *Kent's Defence Heritage*, Maidstone

²⁶ Ibid

²⁷ Ibid

- the outfarm outside the Knockholt Pound village [MKE88786, MKE83573, MKE83574, MKE83575], approximately 510m north to 700m north of the Site;
- the outfarm West of Stockholme Villa [MKE88782], approximately 1.2km north-east of the Site;
- Sepham Farm [MKE88785], approximately 1.5km north-east of the Site;
- Danes Hollow Farm [MKE88642], approximately 1.2km east of the Site;
- Morants Court Farm [MKE83621], approximately 530m south of the Site;
- Turvin's Farm [MKE83620], approximately 830m south of the Site.

These records are indicative of the widespread farming activity in the study area during the post-medieval period. Based on the results of the historic mapping which has shown that the Site was still covered by woodland at the turn of the century, there is considered to be low to medium potential for as yet buried archaeological remains to survive within the Site, however, these would likely be restricted to construction evidence related to the Scheduled Monument.

Modern (AD 1901 to Present)

The modern period saw a rise in research experiments and testing at Fort Halstead which led to the facilities that are currently present within the Site.

The fort was used as an ammunition store as part of the London Defence Positions Scheme in 1915 and it is known that it was owned by the War Office until 1922, when it was sold to a Colonel Bradshaw, who lived inside the 1915 ammunitions laboratory until it was later purchased by the government in 1937 to house a facility researching the development of large cordite charges. During the 1930s the Projectile Development Establishment (PDE) was established on Site. The research focused on developing rockets for anti-aircraft defence, long range attack, air combat and assisted take off²⁸.

In 1947 research developed by Dr William Penney into the country's first atomic bomb, specifically, the trigger / detonation mechanism started at the Site. The increase in research marked the start of a new development phase at the Site as further buildings were required. The work was named 'High Explosives Research (HER)' to mask the true nature of the experiments. The HER research came to an end 1955 when the unit was transferred to Berkshire.

Nevertheless, the research use of Fort Halstead continued which led to another growth in additional development. Aside from explosive testing, the Mirfac computer language was developed at Fort Halstead in the 1950s and the Royal Armament Research and Development Establishment (RARDE) operated until the 1980s.

An openly accessible satellite imagery platform presents the Site and study area in 1945 and shows that the fort formed the core of the research facility with only a small portion of Anisbirches Wood (to the north of the fort) and Dutchmore Wood (to the west of the fort where the Site is located) developed. Crow Drive appears to have stopped just at the north-western corner of the fort. The image also suggests that there was relatively sparse tree cover surrounding and inside the fort which indicates that there may have historically been some visibility of the fort, albeit limited, from at least Starhill Road and possibly even from the most northern extent of Dunton Green. English Heritage (now Historic England) identified a total of 4 oblique and 157 vertical aerial photographs showing the Site and its immediate environs within their collections held in Swindon.

The available aerial photography record spans the period from 1946 to 2003 and was consulted in 2008 as part of a desk based assessment produced by Waterman. Vertical aerial photographs taken in 1946,

²⁸ Cocroft, W D, 2010. *Fort Halstead, Dunton Green, Sevenoaks, Kent – A brief assessment of the role of Fort Halstead in Britain's early rocket programmes and the atomic bomb project*, English Heritage, Research Department Report Series no. 49-2010

1952 and 1961 clearly show a linear cropmark [MKE71] to the south-west of the Site which shows up as a kinked linear cropmark within an arable field and appears to diverge from Old London Road, before heading in a more south-west to north-east direction.

With the exception of this feature, the aerial photographs do not provide evidence for the presence of any as yet unknown archaeological remains within the Site, however, they do show continued use of the area surrounding the Site from WWII onwards.

An aerial photograph (dated May 1961) clearly shows the development of land further north/north-west across the Site. It also shows a clear intensification of development close to the Scheduled Monument, with obvious expansion noted along the Crow Road / Crow Drive axis. In contrast, the area south-west of the fort is shown to have remained relatively sparsely developed, which possibly reflects the nature of the activities undertaken in this area.

Furthermore, it shows that the fort was still not densely planted with trees in its core, although more trees can be noted along its perimeter. Later photographs, spanning the 1970s, 1980s and 1990s show only a relatively modest expansion in the building stock, although redevelopment within the core area is evident throughout.

While the fort appears to still be in generally good condition today, with some elements of the original fabric behind concrete screeds to protect them from the activities carried out within its confines, one arm of the encircling moat is now not visible, having been sealed beneath a tarmac car park.

According to Cocroft “past experience of filled hollows in research establishments has shown that they were often convenient dumping grounds for discarded objects, which may now be of historic interest.”²⁹ Anecdotal evidence gathered for the previous 2015 Waterman assessment (resulting out of a discussion with a Site employee at Fort Halstead) indicates that the moat surrounding the monument was partially infilled post WWII.

Based on the known modern developments within the Site which saw Fort Halstead and its associated research and laboratory there is considered to be medium to high potential for encountering as yet unknown buried modern archaeological remains within the Site. These would likely consist of former building platforms and associated earthworks (if present), however, it is possible that further development (e.g., for services, more modern uses etc.) may have impacted such remains.

Historic impacts and likely impacts to known and unknown archaeological assets are discussed in **Section 7**.

5.2 Map Regression

A review of historic maps was undertaken to further understand the development of the Site and the study area over time. This helps to highlight previous changes to land use and its development that may influence the conditions or the preservation of earlier archaeological remains, if present. Archaeological features such as field boundaries, orchard plots or building foundations for example may be linked directly to specific map editions and provide a *terminus ad quem* date (the point at which something ends or finishes).

The historic maps were viewed through either freely available online mapping sources (links to the maps are provided where relevant) or via a Groundsure Envirocheck report (see **Appendix F**) containing the OS maps referred to in this section.

An approximate redline boundary is included on some of the maps for identification purposes where the outline of the Site is not easily identifiable.

²⁹ Ibid

Symonson's 1596 Map³⁰

This map (see **Plate 1**) broadly shows the locations of settlements that surround the Site towards the end of the 16th century which include Shoreham, Otford, Sevenoaks, Morants Court, Chevening, Knockholt and Halstead. The map also clearly depicts the escarpment on which the Site is situated which appears to be covered by woodland. Although the extent of this cover cannot accurately be determined based on this map, it is considered that it might have been extensive.



Plate 1: Extract of Symonson's 1596 map

Pink's 1798 Map³¹

This map (see **Plate 2**) provides further indication of the level of woodland cover within the Site and its immediate environs. The Site was covered by Beaumont's Wood which to the south (down the escarpment) is surrounding by agricultural fields.

Otford Tithe Map 1844

This map was originally accessed from Kent Archives as part of the 2015 assessment. The map demonstrates that the Site and surrounding area comprised a mixture of woodland, heath and mixed arable and pastoral agricultural land in the mid-19th century.

Although not individually listed as such on the map, the Site would have comprised Anis Birchets and Great Stockhams Woods, together with the Golden Grove, Broadhams, Russets and Broadham fir plantations which were under the ownership of the Polhill family. The field names listed in the tithe awards do not provide any evidence for the presence of archaeological remains on the Site and neither are any archaeological features of note depicted.

³⁰ British Library, Symonson 1596 "A New Description of Kent Divided into the five Lathes", accessible via [A New Description of Kent Divided into the fyve Lathes \(bl.uk\)](#)

³¹ British Library, Pink's map of 1798, accessible via [Sevenoaks \(Kent\) 16 \(bl.uk\)](#)



Plate 2: Extract of Pink's 1798 Map³²

1896 OS Map

This map shows that the woodland was still in existence at this time (with wooded areas named as Beaumont, Anisbirches, Old Grove and Dutchmore Wood north to south), with only relatively small areas of open land along the southern and western fringes, for instance around Morants Court Hill.

An unknown boundary separates Beaumont Wood, Anisbirches Wood and Dutchmore Wood within the Site and extends both northwards and southwards from where it borders all three woods. The nature of it is marked as 'undefined' ('Und') on the map, however, it is likely that it was created to separate the woodlands which formerly was known as Beaumont Wood.

1909 OS Map

This map is one of the first maps produced after the construction of the fort [1004214] in 1894 and shows that the Site is still covered by woodland at the time.

While it provides an indication of the position of the fort, it is left virtually blank with only a contour line and two small buildings of an unknown function shown in the north-east corner.

The known former post-medieval outfarm [MKE83622] to the north of the fort is described by the KHER as "an outfarm or field barn group consisting of two detached buildings". This is roughly at the location of Buildings A13 and A14 within the Site which are thought to have been the original caretaker's cottage and store building catering to Fort Halstead. If an outfarm did exist at that location before it was replaced by the caretaker's cottage and storage building it would have only been in existence between c. 1844-1898.

³² British Library, Pink, 1798 "Sevenoaks (Kent) 16", accessible via [Sevenoaks \(Kent\) 16 \(bl.uk\)](#)

However, it is more likely that the KHER record refers to the original caretaker's cottage and store building itself, meaning that there was unlikely outfarm.

Furthermore, a chalk pit and lime kilns are depicted immediately adjacent to the south-east of the Site [MKE17041] which are thought to later became the Dunton Green Lime Works that existed within the same area until the 1970s.

1961 OS Map

Although little other changes can be noted within the landscape surrounding the Site, the 1961 OS map shows the internal divisions of the fort which are thought to originate from the late 1930s. It is considered that the casements and magazines were altered and that additional buildings, including a filing shed for cordite rocket motors, were constructed within the boundary of the fort.

5.3 2019 Site Visit Observations of the Site

A site visit was initially undertaken by Waterman on 4th June 2019 to support the 2019 application. As it is unlikely that site conditions had changed since then, observations of the Site based on the 2019 visit are included here. A selection of photographs pertinent to the Site are presented in **Appendix G**.

The site visit did not reveal any potential as yet unknown archaeological remains, neither was it possible to successfully note the presence of the prehistoric trackway which is located to the north of the Site.

In regard to the Scheduled Monument, it was noted that the moat surrounding the fort is densely populated with trees and shrubs which restricts visibility of the embankments and into the monument. The presence of the shrubs did not facilitate for measurements of the ditches to be taken but it is estimated that the moat is approximately 10m in depth (in relation to Crow Drive), while the embankment appears to be c. 6m higher to Crow Drive.

Various levels were noted across the Site with buildings generally lying lower or at the same level than Crow Drive (especially to the north of the road) by approximately 2m to the north of the Site (north-east of Dutchmore Wood).

Within the Site, substantial gullies for drainage and pipes were noted alongside building foundations and small buildings, mostly adjacent to Crow Drive. Furthermore, no evidence of basements, either of existing buildings or previous buildings (where platforms are still evident) was noted across the Site.

Overall, the walkover survey confirmed that there are limited areas which have not been landscaped and/or disturbed, however, areas where material was built up for landscaping purposes, as opposed to those requiring excavation, may still contain potential for archaeological remains.

6. Statement of Significance

The significance of heritage assets within the Site that could be affected by future development is assessed below using the criteria set out in **Tables 1** and **2** and through applied professional judgement (see **Section 2**).

This excludes any heritage assets considered to be of negligible interest or which are unlikely to be present.

6.1.1 As yet unknown remains (prehistoric to post-medieval, not including the fort development)

Evidential

While there is considered to be a low potential for the presence of archaeological remains pre-dating the construction of the fort, due to the woodland cover, should such archaeological remains be recovered within the Site they would be considered to be of low to high evidential value depending on their survival, condition and type.

Historical

The historical value of such remains would be considered to be low to medium as they would likely be important due to their local and possibly regional links.

Aesthetic

The aesthetic value of such remains is likely to be negligible given they would be buried and likely truncated.

Communal

The communal value of such remains would be considered to be low considering the development of the fort during the 19th and 20th century would have removed any former associations with earlier land-use.

6.1.2 As yet unknown remains potentially associated with post-medieval development of Fort Halstead Scheduled Monument

Evidential

The Scheduled Monument is a heritage asset of national significance, and therefore of high evidential value. Such value would similarly be ascribed to as yet buried archaeological remains which are directly associated with the monument. Saunders and Smith note that "...use of the magazines and casemates for testing and experimental purposes has resulted in some damage to, and alteration of, their structure"³³, however, there is potential for as yet unknown surviving archaeological remains to extend into the Site (especially the main part of the Site) considering the small overlap with the monument and the fact that one of the magazines to be relocated is located within its extent. This could, for example, include any material or debris that may have been buried or discarded or construction evidence.

Historical

The historical value of the Scheduled Monument and potential associated remains is considered to be

³³ Saunders, A & Smith, V 2001. *Kent's Defence Heritage*, Maidstone

high. Saunders and Smith classify the monument as being of the highest grade of historic importance and extent of survival as "...an exemplar of design practice in the final phase of permanent fortification for land fronts in the UK."³⁴ The historical value of the asset is thus linked to its role in the defence of London from the late 1890s to the end of WWII, and its subsequent development as a research facility throughout the 20th century which continues to this day.

Aesthetic

The aesthetic value of such remains is likely to be negligible given they will be buried and likely truncated.

Communal

Due to its status as a Scheduled Monument and its continued use as a research facility and place of employment since the end of the 19th century, the communal value of the fort is considered to be medium to high.

6.1.3 As yet unknown remains (modern military and research associated remains)

Evidential

The Site has potential to contain surviving remains of modern phases of the Site's research development, including as yet unknown structures and building foundations previously removed. Evidence of such development changes, particularly associated with the RARDE research period (if present) would be considered of medium value.

Historical

The historical value of such remains would be considered to be low to medium given the former use of the Site is well recorded and understood.

Aesthetic

The aesthetic value of such remains is considered to be low as these would likely be buried foundations and structural remains that would provide little aesthetic and limited intellectual interest.

Communal

The communal value of such remains would be considered to be medium as they would add to the wider understanding of the military and research developments which was present on the Site from the late post-medieval period onwards. As the Site is currently still in use as a research facility, the history of the Site as such is still present in living memory which strengthens its communal value.

³⁴ Ibid

7. Potential Impacts from the Development

7.1 Types of Impact

Developments have the potential to cause direct physical and settings impacts on heritage assets, which can be temporary or permanent in nature.

Physical impacts during construction related works such as excavation of foundations and service trenching can partially or wholly remove known and as yet unknown buried archaeological remains, while settings impacts can cause loss of character and integrity of assets by the loss of their surroundings in which a heritage asset is experienced.

7.2 Historic Impacts Within the Site

This assessment has shown that the Site was still covered by woodland belonging to Dutchmore Wood until at least the 1980s to 1990s when the existing buildings within the Site were likely constructed. Based on the OS maps showing the woodland, it is possible that evidence of former paths predating modern development linking areas in Dutchmore Wood might still be present within the Site.

At present, the level of disturbance caused during the construction of the buildings within the Site is not understood, however, considering that there were no basements within the Site, there is potential, albeit low, for surviving archaeological remains pre-dating the modern period.

7.3 Potential Impacts to Known Heritage Assets

While there is a slight overlap with the boundary of the Scheduled Monument and one of the magazine stores will need to be located from within the monument into the main part of the Site, it is understood that only the erection of the perimeter fence might physically impact the most western boundary of the scheduled fort.

It is understood that in previous consultations with Historic England it was agreed that there was no requirement for Scheduled Monument Consent (SMC) in regard to magazine storage relocation. As such, it is considered that SMC might also not be required to support this application.

7.4 Potential Impacts to Unknown Archaeological Remains

While many buildings within the Site will be retained, the construction of new buildings (such as the new reception building) and perimeter fences will require groundworks. As such, there is potential for as yet unknown surviving archaeological remains to be present within the Site.

In light of the low potential for archaeological remains yet the unknown levels of disturbance caused, it is likely that there will be a requirement for a programme of archaeological monitoring during groundworks. The scope of such works should be agreed with the Heritage Conservation in advance of construction and would be subject to an approved Written Scheme of Investigation (WSI).

8. Conclusion and Recommendations

This assessment has shown that the Site remained as woodland belonging to Dutchmore Wood until at least the 1980s to 1990s. The construction of the current buildings within the Site could have revealed and/or disturbed archaeological remains, however, the levels of disturbance are currently not understood.

Overall, it is considered that the Site has low potential for archaeological remains, however, it must be noted that there is a slight overlap with the boundary of the scheduled Fort Halstead along the main Site's eastern boundary, and that one of the magazine stores to be relocated is currently within the Scheduled Monument. It is understood that previous consultations with Historic England confirmed that there was no requirement for SMC in regard to the relocation of the magazine store. As such, it is considered that SMC might also not be required to support this application, especially considering that likely minimal impact of the perimeter fences.

Furthermore, in light of the low potential for archaeological remains yet the unknown levels of disturbance caused, it is likely that there will be a requirement for a programme of archaeological monitoring during groundworks. The scope of such works should be agreed with the Heritage Conservation in advance of construction and would be subject to an approved WSI.

9. References

- ArcGIS Online, accessible via <https://www.arcgis.com/index.html>
- British Geological Survey, *Geology of Britain* viewer, accessible via <http://mapapps.bgs.ac.uk/geologyofbritain3d/>
- Chartered Institute for Archaeologists, (rev) 2020. *Standard and Guidance for Historic Environment Desk Based Assessments*, accessible via https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_3.pdf
- Cocroft, W D, 2010. *Fort Halstead, Dunton Green, Sevenoaks, Kent – A brief assessment of the role of Fort Halstead in Britain's early rocket programmes and the atomic bomb project*, English Heritage, Research Department Report Series no. 49-2010
- English Heritage, 2008. *Conservation Principles, Policies and Guidance for the sustainable management of the historic environment*, accessible via <https://historicengland.org.uk/images-books/publications/conservation-principles-sustainable-management-historic-environment/conservationprinciplespoliciesandguidanceapril08web/>
- Her Majesty's Stationery Office (HMSO), *Ancient Monuments and Archaeological Areas Act*. 1979, accessible via <https://www.legislation.gov.uk/ukpga/1979/46>
- Her Majesty's Stationery Office (HMSO), *Planning (Listed Buildings and Conservation Areas) Act*. 1990, accessible via www.legislation.gov.uk/ukpga/1990/9/contents
- Historic England, *The National Heritage List for England*, accessible via <https://historicengland.org.uk/listing/the-list>
- Historic England, 2015. *Managing Significance in Decision Taking in the Historic Environment Historic Environment Good Practice Advice in Planning Note 2*, accessible via <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/gpa2/>
- Historic England, 2017. *Historic Environment Good Practice Advice in Planning Note 3 (2nd edition) (GPA 3) – The Setting of Heritage Assets*, accessible via <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/heag180-gpa3-setting-heritage-assets/>
- Kent Downs, 2014. *Kent Downs Area of Outstanding Natural Beauty Management Plan*, accessible via [KDAONB-Management-Plan.pdf](#)
- Ministry of Housing, Communities & Local Government, 2019. *National Planning Policy Framework*, accessible via https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740441/National_Planning_Policy_Framework_web_accessible_version.pdf
- Saunders, A & Smith, V 2001. *Kent's Defence Heritage*, Maidstone
- Sevenoaks District Council, 2011. *Core Strategy, Local Development Framework*, accessible via https://www.sevenoaks.gov.uk/downloads/file/356/core_strategy_adopted_version_february_2011
- Sevenoaks District Council, 2015. *Allocations and Development Management Plan*, accessible via [Policies, strategies and plans | Sevenoaks District Council](#)
- Sevenoaks District Council, 2017. *Local List Supplementary Planning Document*, accessible via [Local List Supplementary Planning Document | Sevenoaks District Council](#)

The Rural Settlement of Roman Britain: an online resource, available via
<https://archaeologydataservice.ac.uk/archives/view/romangl/map.html>

Tuson, D, 2007. *The Kent Downs*, Stroud

Ward, C.P, 1990. *The Romano-British Cremation Cemetery at Frog Farm, Otford, Kent, in the context of contemporary funerary practices in South-East England*

Waterman Energy Environment and Design Ltd, 2008. *Fort Halstead – Kent: Archaeological Assessment*

Waterman, 2015. *Buried Heritage Desk-Based Assessment, Fort Halstead, Kent*

APPENDICES

A. Heritage Constraints Figures

Figure 2: Designated Heritage Assets

Figure 3: Non-Designated Heritage Assets

Figure 4: Historic Landscape Character Areas

Figure 5: Previous Investigations and Studies

B. Gazetteer of Heritage Assets

Reference	Type	Description	Period
1004214	Scheduled Monument	Fort Halstead	Post-medieval
1085853	Listed Building	CHEVENING HOUSE	Post-medieval
1085854	Listed Building	ORNAMENTAL URN IN CENTRE OF PARTERRE	Post-medieval
1085855	Listed Building	THE CHATHAM VASE ON EAST SIDE OF LAKE NEAR ITS SOUTH END	Post-medieval
1085856	Listed Building	1, CHEVENING ROAD	Post-medieval
1085857	Listed Building	6-8, CHEVENING ROAD	Post-medieval
1085858	Listed Building	10-12, CHEVENING ROAD	Post-medieval
1085927	Listed Building	BROUGHTON LODGE	Post-medieval
1243730	Listed Building	5 AND 6, TWITTON LANE	Post-medieval
1243842	Listed Building	SEPHAM COURT	Medieval to post-medieval
1244220	Listed Building	THE WALLED GARDEN AT CHEVENING INCLUDING POTTING RANGE	Post-medieval
1244221	Listed Building	BEE HOUSE IN WALLED GARDEN	Post-medieval
1244244	Listed Building	GARDEN COTTAGE	Post-medieval
1244245	Listed Building	WELL HEAD IN CENTRE OF THE WALLED GARDEN	Post-medieval
1244250	Listed Building	K6 TELEPHONE KIOSK OPPOSITE ST BOTOLPH'S CHURCH	Post-medieval
1252330	Listed Building	LENNARD LODGE	Post-medieval
1252332	Listed Building	MIDDLE HOUSE MORANTS COURT	Medieval to post-medieval
1253947	Listed Building	DONNINGTON MANOR RESTAURANT, EMMA HOTEL	Medieval to post-medieval
1253962	Listed Building	BROUGHTON HOUSE	Post-medieval
1253964	Listed Building	THE DUKE'S HEAD PUBLIC HOUSE	Post-medieval
1258575	Listed Building	CASTLE HOUSE	Post-medieval
1258577	Listed Building	CHINE FARMHOUSE	Post-medieval
1258578	Listed Building	IVY FARMHOUSE (NOW PART OF A DES ESTABLISHMENT)	Post-medieval
1258579	Listed Building	PARK FARMHOUSE	Post-medieval
1258580	Listed Building	BARN TO SOUTH WEST OF PARK FARMHOUSE	Post-medieval
1262342	Listed Building	9, CHEVENING ROAD	Post-medieval
1272468	Listed Building	APPLE STORE TO SOUTH OF WALLED GARDEN	Post-medieval
1273385	Listed Building	THE GRANGE	Post-medieval
1336443	Listed Building	WROUGHT IRON SCREEN AND GATES TO NORTH OF ENTRANCE COURTYARD OF	Post-medieval

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Reference	Type	Description	Period
		CHEVENING HOUSE	
1336444	Listed Building	GARDEN WALL TO EAST OF CHEVENING EXTENDING FROM HOUSE THROUGH VILLAGE	Post-medieval
1336445	Listed Building	2-5, CHEVENING ROAD	Post-medieval
1336446	Listed Building	CHURCH OF ST BOTOLPH	Medieval to post- medieval
1412292	Listed Building	Fort Halstead: Building F11	Modern
1412293	Listed Building	Fort Halstead: Buildings F16 and F17	Modern
1396578	Listed Building	BUILDING Q14, FORT HALSTEAD	Modern
N/A	Conservation Area	Chevening Conservation Area	N/A
N/A	Conservation Area	Halstead Conservation Area	N/A
1000258	Registered Park and Garden	Chevening	Post-medieval
DKE19621	Historic park and garden	Ringfield, Knockholt	Post-medieval
DKE19790	Historic park and garden	Chevening Park, Sevenoaks	Post-medieval
DKE22452	Historic park and garden	Knockholt House historic garden	Post-medieval
DKE22453	Historic park and garden	Morants Court historic park and garden	Post-medieval
MKE100281	Non-designated building	Bethel Free Church, London Road, Dunton Green	Post-medieval to Modern
MKE100335	Non-designated building	Former Otford Lane Mission Church, Halstead	Post-medieval to Modern
MKE100363	Non-designated building	Evangelical Church, Old London Road, Knockholt Pound	Post-medieval to Modern
MKE100364	Non-designated monument	Site of former Chapel, Main Road, Knockholt Pound	Post-medieval to Modern
MKE100452	Non-designated building	Former Twitton Mission Church, Twitton Lane, Otford	Post-medieval to Modern
MKE110	Non-designated monument	Possible site of Roman Building	Romano-British
MKE110434	Findspot	Post Medieval iron cannon ball	Post-medieval
MKE110446	Findspot	Early Medieval copper alloy strap end	Early medieval
MKE110531	Findspot	Medieval copper alloy spindle whorl	Medieval
MKE110933	Non-designated monument	Knockholt Mill	Post-medieval
MKE111157	Non-designated monument	Knockholt Mill	Post-medieval
MKE111885	Non-designated monument	Site of National School, Main Road, Knockholt, Sevenoaks	Unknown
MKE112	Findspot	Palaeolithic ovate, Shoreham	Palaeolithic

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Reference	Type	Description	Period
MKE112112	Non-designated building	Former National School, London Road, Dunton Green, Sevenoaks	Post-medieval to Modern
MKE114712	Non-designated monument	Possible Roman occupation site, Twitton Brook	Romano-British
MKE114713	Non-designated monument	Possible late iron age / early Roman votive site, Otford	Late Iron Age to Romano-British
MKE114721	Non-designated monument	Second World War radio station, Ivy Farm, Knockholt Pound	Modern
MKE115407	Non-designated monument	Second World War Air Raid Shelter on the green in Fort Road.	Modern
MKE115452	Non-designated monument	Unusual hexagonal Second World War tower observation post at Fort Halstead.	Modern
MKE115603	Non-designated monument	Possible archaeological features, Lympe Field B, Twitton	Neolithic to Modern
MKE16303	Non-designated building	Ice house, Cheveing Park, Sevenoaks	Post-medieval
MKE17041	Non-designated monument	Dunton green lime works	Post-medieval
MKE30515	Associated with Listed Building	CHEVENING HOUSE	Post-medieval to Modern
MKE30516	Associated with Listed Building	ORNAMENTAL URN IN CENTRE OF PARTERRE	Post-medieval to Modern
MKE30517	Associated with Listed Building	THE CHATHAM VASE ON EAST SIDE OF LAKE NEAR ITS SOUTH END	Post-medieval to Modern
MKE30518	Associated with Listed Building	1 CHEVENING ROAD	Post-medieval to Modern
MKE30519	Associated with Listed Building	6-8 CHEVENING ROAD	Post-medieval to Modern
MKE30520	Associated with Listed Building	10-12 CHEVENING ROAD	Post-medieval to Modern
MKE30590	Associated with Listed Building	BROUGHTON LODGE	Post-medieval to Modern
MKE30591	Non-designated building	CHURCH OF ST JOHN THE DIVINE	Post-medieval to Modern
MKE306	Non-designated monument	Probable Roman building; cremation	Romano-British
MKE30904	Associated with Listed Building	LENNARD LODGE	Post-medieval
MKE30905	Associated with Listed Building	MIDDLE HOUSE	Medieval to Modern
MKE30945	Associated with Listed Building	DONNINGTON MANOR RESTAURANT, EMMA HOTEL	Medieval to Modern
MKE30946	Associated with Listed Building	BROUGHTON HOUSE, Dunton Green, Sevenoaks	Post-medieval to Modern
MKE30947	Associated with Listed Building	THE DUKE'S HEAD PUBLIC HOUSE	Post-medieval

Appendices

Reference	Type	Description	Period
MKE31028	Associated with Listed Building	CASTLE HOUSE	Post-medieval
MKE31030	Associated with Listed Building	CHINE FARMHOUSE	Post-medieval
MKE31031	Associated with Listed Building	IVY FARMHOUSE (NOW PART OF A DES ESTABLISHMENT)	Post-medieval to Modern
MKE31032	Associated with Listed Building	PARK FARMHOUSE	Post-medieval to Modern
MKE31033	Associated with Listed Building	BARN TO SOUTH WEST OF PARK FARMHOUSE	Post-medieval
MKE31288	Associated with Listed Building	5 AND 6 TWITTON LANE	Post-medieval
MKE31333	Associated with Listed Building	SEPHAM COURT	Medieval to Post-medieval
MKE31502	Associated with Listed Building	THE WALLED GARDEN AT CHEVENING INCLUDING POTTING RANGE	Post-medieval
MKE31503	Associated with Listed Building	BEE HOUSE IN WALLED GARDEN	Post-medieval
MKE31515	Associated with Listed Building	GARDEN COTTAGE	Post-medieval
MKE31516	Associated with Listed Building	WELL HEAD IN CENTRE OF THE WALLED GARDEN	Post-medieval
MKE31521	Associated with Listed Building	K6 TELEPHONE KIOSK (SEVENOAKS 453913) OPPOSITE ST BOTOLPH'S CHURCH	Modern
MKE31578	Associated with Listed Building	APPLE STORE TO SOUTH OF WALLED GARDEN	Post-medieval
MKE31695	Non-designated building	STABLE BUILDING TO SOUTH OF SEPHAM COURT	Post-medieval
MKE31830	Associated with Listed Building	THE GRANGE	Post-medieval
MKE31884	Associated with Listed Building	9 CHEVENING ROAD	Post-medieval
MKE319	Non-designated monument	Anglo-Saxon Cemetery at Polhill, Near Sevenoaks	Early Medieval
MKE320	Non-designated monument	Boundary bank and ditch	Medieval
MKE32029	Non-designated monument	LABURNUM COTTAGE	Post-medieval
MKE32071	Associated with Listed Building	WROUGHT IRON SCREEN AND GATES TO NORTH OF ENTRANCE COURTYARD OF CHEVENING HOUSE	Post-medieval
MKE32072	Associated with Listed Building	GARDEN WALL TO EAST OF CHEVENING EXTENDING FROM HOUSE THROUGH VILLAGE	Post-medieval
MKE32073	Associated with Listed Building	2-5 CHEVENING ROAD	Post-medieval

Appendices

Reference	Type	Description	Period
MKE32074	Associated with Listed Building	CHURCH OF ST BOTOLPH	Medieval to Modern
MKE329	Findspot	Bronze Age Axe findspot	Bronze Age
MKE333	Non-designated monument	Romano-British cemetery, C1st to C4th (?), Frog Farm, Otford, Sevenoaks	Late Iron Age to Romano-British
MKE349	Findspot	Iron Age Coin/Potin	Late Iron Age to Romano-British
MKE369	Non-designated monument	Ditch containing possible Iron Age pottery	Iron Age
MKE44049	Non-designated monument	PILGRIM's WAY / NORTH DOWNS WAY	Mesolithic to Modern
MKE44116	Non-designated monument	Chevening Park, Sevenoaks	Post-medieval to Modern
MKE44165	Non-designated monument	Ringfield	Modern
MKE44249	Non-designated monument	Tonbridge Main Line	Post-medieval to Modern
MKE44250	Non-designated monument	WESTERHAM VALLEY BRANCH RAILWAY	Post-medieval to Modern
MKE54723	Associated with Listed Building	BUILDING Q14, FORT HALSTEAD	Modern
MKE61	Non-designated monument	Fort Halstead, Dunton Green	Post-medieval to Modern
MKE68	Non-designated monument	Linear cropmarks, possibly removed field boundaries	Medieval to Modern
MKE71	Non-designated monument	Cropmark of a linear feature	Post-medieval
MKE72037	Findspot	Iron Age copper alloy bow brooch	Late Iron Age to Romano-British
MKE72274	Findspot	Early Medieval lead strap fitting	Early Medieval
MKE72275	Findspot	Early Medieval copper alloy strap fitting	Early Medieval
MKE72276	Findspot	Early Medieval copper alloy strap fitting	Early Medieval
MKE72277	Findspot	Medieval copper alloy harness pendant	Medieval
MKE72282	Findspot	Roman copper alloy brooch	Romano-British
MKE72283	Findspot	Medieval copper alloy harness pendant	Medieval
MKE72285	Findspot	Roman gold finger ring	Romano-British
MKE72286	Findspot	Iron Age copper alloy cosmetic mortar	Late Iron Age to Romano-British
MKE72287	Findspot	Roman copper alloy coin	Romano-British
MKE72288	Findspot	Medieval lead seal matrix	Medieval
MKE72289	Findspot	Medieval copper alloy harness pendant	Medieval
MKE72290	Findspot	Medieval copper alloy harness pendant	Medieval
MKE72292	Findspot	Medieval copper alloy stud	Medieval

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Reference	Type	Description	Period
MKE72293	Findspot	Roman copper alloy brooch	Romano-British
MKE72294	Findspot	Roman copper alloy bow brooch	Romano-British
MKE72295	Findspot	Medieval copper alloy hook	Medieval to Post-medieval
MKE72296	Findspot	Early Medieval copper alloy horse trapping	Early Medieval
MKE72298	Findspot	Medieval copper alloy purse	Medieval
MKE72299	Findspot	Medieval metal thimble	Medieval
MKE72300	Findspot	Medieval metal thimble	Medieval
MKE72301	Findspot	Medieval copper alloy finger ring	Medieval
MKE72302	Findspot	Medieval copper alloy seal matrix	Medieval
MKE72303	Findspot	Roman copper alloy brooch	Romano-British
MKE72304	Findspot	Medieval iron buckle	Medieval
MKE72305	Findspot	Medieval copper alloy buckle	Post-medieval
MKE72306	Findspot	Medieval copper alloy buckle	Post-medieval
MKE72307	Findspot	Roman copper alloy coin	Romano-British
MKE72308	Findspot	Early Medieval silver coin	Early Medieval
MKE72319	Findspot	Medieval silver coin	Medieval
MKE72320	Findspot	Medieval silver coin	Medieval
MKE72321	Findspot	Medieval silver coin	Medieval
MKE72322	Findspot	Medieval silver coin	Medieval
MKE72323	Findspot	Post Medieval copper alloy harness mount	Post-medieval
MKE72324	Findspot	Post Medieval copper alloy dress hook	Post-medieval
MKE72325	Findspot	Medieval copper alloy thimble	Medieval
MKE72326	Findspot	Medieval copper alloy buckle	Medieval to Post-medieval
MKE72345	Findspot	Early Medieval copper alloy strap fitting	Early Medieval
MKE72350	Findspot	Medieval silver coin	Medieval
MKE72351	Findspot	Medieval silver coin	Medieval
MKE72352	Findspot	Medieval silver coin	Medieval
MKE72355	Findspot	Medieval silver coin	Medieval
MKE72356	Findspot	Medieval silver coin	Medieval
MKE72357	Findspot	Roman copper alloy harness fitting	Romano-British
MKE72358	Findspot	Roman base silver coin	Romano-British
MKE72359	Findspot	Unknown copper alloy unidentified object	Unknown
MKE72370	Findspot	Iron Age copper alloy coin	Iron Age
MKE72371	Findspot	Post Medieval copper alloy pilgrim badge	Post-medieval
MKE72386	Findspot	Roman copper alloy unidentified object	Romano-British to Early Medieval
MKE72425	Findspot	Roman copper alloy coin	Romano-British

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Reference	Type	Description	Period
MKE72426	Findspot	copper alloy dress fastener (dress)	Medieval to Post-medieval
MKE72427	Findspot	Roman copper alloy bracelet	Romano-British
MKE72546	Findspot	Early Medieval silver pin	Early Medieval
MKE72563	Findspot	Medieval copper alloy handle	Medieval
MKE72575	Findspot	Early Medieval silver coin	Early Medieval
MKE72591	Findspot	Roman white metal unidentified object	Romano-British
MKE72611	Findspot	Early Medieval copper alloy brooch	Early Medieval
MKE72621	Findspot	Roman copper alloy coin	Romano-British
MKE72622	Findspot	Roman copper alloy coin	Romano-British
MKE72623	Findspot	Roman copper alloy coin	Roman
MKE72624	Findspot	Medieval silver coin	Medieval
MKE72625	Findspot	Roman silver coin	Romano-British
MKE72626	Findspot	Roman copper alloy coin	Romano-British
MKE72627	Findspot	Early Medieval silver coin	Early Medieval
MKE72631	Findspot	Roman copper alloy coin	Romano-British
MKE72632	Findspot	Roman copper alloy coin	Romano-British
MKE72633	Findspot	Post Medieval copper alloy finger ring	Post-medieval
MKE72634	Findspot	Roman silver coin	Romano-British
MKE72635	Findspot	Roman copper alloy coin	Romano-British
MKE72636	Findspot	Roman copper alloy coin	Romano-British
MKE72637	Findspot	Roman copper alloy coin	Romano-British
MKE72640	Findspot	Post Medieval lead alloy token	Medieval to Post-medieval
MKE72641	Findspot	Roman copper alloy coin	Romano-British
MKE72642	Findspot	Roman copper alloy coin	Romano-British
MKE72643	Findspot	Roman copper alloy coin	Romano-British
MKE72644	Findspot	Post Medieval copper alloy buckle	Post-medieval
MKE72645	Findspot	Post Medieval silver coin	Post-medieval
MKE72646	Findspot	Roman copper alloy coin	Romano-British
MKE72647	Findspot	Roman copper alloy coin	Romano-British
MKE72648	Findspot	Medieval copper alloy buckle	Medieval
MKE72649	Findspot	Post Medieval copper alloy buckle	Post-medieval
MKE72650	Findspot	Roman copper alloy jewellery	Romano-British
MKE72651	Findspot	Roman copper alloy coin	Romano-British
MKE72652	Findspot	Roman copper alloy coin	Romano-British
MKE72653	Findspot	Medieval iron horseshoe	Medieval to Post-medieval
MKE72654	Findspot	Unknown lead alloy spindle whorl	Unknown

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Reference	Type	Description	Period
MKE72655	Findspot	Unknown lead alloy pot mend	Unknown
MKE72656	Findspot	Medieval iron horseshoe	Early Medieval
MKE72659	Findspot	Post Medieval silver coin	Post-medieval
MKE72660	Findspot	Roman copper alloy brooch	Romano-British
MKE72661	Findspot	Iron Age copper alloy coin	Iron Age
MKE72662	Findspot	Roman copper alloy coin	Romano-British
MKE72663	Findspot	Roman copper alloy coin	Romano-British
MKE72664	Findspot	Roman copper alloy medical implement	Romano-British
MKE72665	Findspot	Early Medieval iron horseshoe	Early Medieval
MKE72666	Findspot	Roman copper alloy brooch	Romano-British
MKE72667	Findspot	Post Medieval copper alloy weight	Post-medieval
MKE72668	Findspot	Roman copper alloy coin	Romano-British
MKE72669	Findspot	Roman copper alloy coin	Romano-British
MKE72670	Findspot	Roman copper alloy coin	Romano-British
MKE72671	Findspot	Roman copper alloy coin	Romano-British
MKE72672	Findspot	Roman copper alloy coin	Romano-British
MKE72679	Findspot	Roman copper alloy coin	Romano-British
MKE72681	Findspot	Roman silver coin	Romano-British
MKE72683	Findspot	Roman copper alloy coin	Romano-British
MKE72685	Findspot	Post Medieval silver buckle	Post-medieval
MKE72686	Findspot	Roman copper alloy nail cleaner	Romano-British
MKE72687	Findspot	Roman copper alloy coin	Romano-British
MKE72688	Findspot	Roman silver coin	Romano-British
MKE72689	Findspot	Roman copper alloy coin	Romano-British
MKE72690	Findspot	Roman copper alloy coin	Romano-British
MKE72691	Findspot	Roman copper alloy jewellery	Romano-British
MKE72696	Findspot	Roman copper alloy coin	Romano-British
MKE72699	Findspot	Roman copper alloy coin	Romano-British
MKE72700	Findspot	Roman copper alloy coin	Romano-British
MKE72714	Findspot	Post Medieval lead alloy token	Medieval to Post-medieval
MKE72849	Findspot	Iron Age copper alloy coin	Iron Age
MKE72883	Findspot	Iron Age copper alloy coin	Iron Age
MKE72898	Findspot	Roman copper alloy coin	Romano-British
MKE72900	Findspot	copper alloy coin	Romano-British
MKE72901	Findspot	Roman copper alloy coin	Romano-British
MKE72913	Findspot	Post Medieval iron horseshoe	Medieval to Post-medieval

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Reference	Type	Description	Period
MKE72918	Findspot	Post Medieval iron horseshoe	Post-medieval
MKE72919	Findspot	Post Medieval iron horseshoe	Post-medieval
MKE72922	Findspot	Medieval iron horseshoe	Medieval
MKE72923	Findspot	Medieval iron horseshoe	Medieval
MKE72924	Findspot	Medieval iron horseshoe	Medieval
MKE72931	Findspot	Post Medieval copper alloy crotal	Post-medieval
MKE72932	Findspot	Medieval copper alloy buckle	Medieval
MKE72933	Findspot	Unknown lead alloy weight	Unknown
MKE72938	Findspot	Post Medieval copper alloy buckle	Post-medieval
MKE73019	Findspot	Roman silver coin	Romano-British
MKE756	Findspot	Medieval Pottery	Medieval
MKE77304	Non-designated monument	Roman pits, Lympe Field	Romano-British
MKE77375	Non-designated monument	Cropmark of a rectilinear enclosure to the north of Twitton	Unknown
MKE78059	Non-designated building	Milestone	Post-medieval to Modern
MKE79816	Findspot	Post Medieval iron horseshoe	Post-medieval
MKE79820	Findspot	Post Medieval iron horseshoe	Post-medieval
MKE79821	Findspot	Post Medieval iron horseshoe	Post-medieval
MKE79822	Findspot	Roman copper alloy brooch	Romano-British
MKE79823	Findspot	Post Medieval lead alloy token	Post-medieval
MKE79828	Findspot	Post Medieval lead alloy token	Medieval to Post-medieval
MKE79829	Findspot	Roman copper alloy unidentified object	Unknown
MKE79830	Findspot	Medieval iron horseshoe	Medieval
MKE79831	Findspot	Medieval iron key (locking)	Medieval to Post-medieval
MKE79832	Findspot	Roman copper alloy coin	Romano-British
MKE79833	Findspot	Post Medieval silver clasp	Post-medieval to Modern
MKE79834	Findspot	Medieval iron key (locking)	Medieval to Post-medieval
MKE79835	Findspot	Roman copper alloy mount	Romano-British
MKE79836	Findspot	Roman lead alloy weight	Romano-British to Post-medieval
MKE79837	Findspot	Post Medieval copper alloy furniture fitting	Post-medieval
MKE79838	Findspot	Roman copper alloy coin	Romano-British
MKE79839	Findspot	Medieval copper alloy harness ring	Medieval to Post-medieval
MKE79840	Findspot	copper alloy harness ring	Medieval to Post-

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Reference	Type	Description	Period
			medieval
MKE79841	Findspot	Roman copper alloy harness fitting	Roman to Post-medieval
MKE79842	Findspot	Roman copper alloy coin	Romano-British
MKE79843	Findspot	Roman base silver coin	Romano-British
MKE79844	Findspot	Roman copper alloy brooch	Romano-British
MKE79845	Findspot	Roman copper alloy brooch	Romano-British
MKE79846	Findspot	Roman copper alloy coin	Romano-British
MKE79847	Findspot	Roman copper alloy coin	Romano-British
MKE79848	Findspot	Medieval copper alloy unidentified object	Medieval to Post-medieval
MKE79849	Findspot	Iron Age copper alloy brooch	Iron Age to Romano-British
MKE79850	Findspot	Post Medieval lead alloy token	Medieval to Post-medieval
MKE79851	Findspot	Roman silver coin	Romano-British
MKE79852	Findspot	Roman copper alloy coin	Romano-British
MKE79853	Findspot	Roman copper alloy coin	Romano-British
MKE79855	Findspot	copper alloy spur	Post-medieval
MKE79856	Findspot	Post Medieval iron horseshoe	Post-medieval
MKE79862	Findspot	Post Medieval lead alloy token	Medieval to Post-medieval
MKE79863	Findspot	Roman silver coin	Romano-British
MKE79864	Findspot	Roman copper alloy coin	Romano-British
MKE79865	Findspot	Roman copper alloy coin	Romano-British
MKE79866	Findspot	Roman copper alloy coin	Romano-British
MKE79867	Findspot	copper alloy ring	Romano-British to Early Medieval
MKE79868	Findspot	Roman copper alloy brooch	Romano-British
MKE79869	Findspot	Roman copper alloy coin	Romano-British
MKE79870	Findspot	copper alloy coin	Romano-British
MKE79871	Findspot	copper alloy coin	Romano-British
MKE79872	Findspot	copper alloy coin	Romano-British
MKE79873	Findspot	copper alloy coin	Romano-British
MKE79874	Findspot	copper alloy awl	Bronze Age to Early Medieval
MKE79875	Findspot	Roman lead alloy weight	Romano-British to Post-medieval
MKE79876	Findspot	copper alloy coin	Romano-British
MKE79877	Findspot	Post Medieval tin or tin alloy button	Post-medieval
MKE79878	Findspot	Medieval copper alloy buckle	Medieval

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Reference	Type	Description	Period
MKE79879	Findspot	Roman lead alloy weight	Romano-British to Post-medieval
MKE79880	Findspot	Medieval copper alloy strap end	Medieval
MKE79881	Findspot	Post Medieval iron horseshoe	Post-medieval
MKE79882	Findspot	Roman lead alloy spindle whorl	Romano-British to Post-medieval
MKE79883	Findspot	Neolithic flint lithic implement	Mesolithic to Iron Age
MKE8308	Non-designated monument	Former Chevening halt	Post-medieval to Modern
MKE83542	Non-designated monument	Home Farm	Post-medieval
MKE83544	Non-designated monument	Farmstead north north east of Sundridge Hill	Post-medieval
MKE83545	Non-designated monument	Chine Farm (Shine Farm)	Post-medieval
MKE83546	Non-designated monument	The Grange	Post-medieval
MKE83547	Non-designated monument	Blueberry Farm	Post-medieval
MKE83548	Non-designated monument	Farmstead at Single's Cross	Post-medieval
MKE83549	Non-designated monument	Outfarm in Knockholt Pound	Post-medieval
MKE83550	Non-designated monument	New Stables Farm	Post-medieval
MKE83551	Non-designated monument	Park Farm	Post-medieval
MKE83558	Non-designated monument	Outfarm north north west of Curry Farm	Post-medieval
MKE83559	Non-designated monument	Outfarm north north west of Curry Farm	Post-medieval
MKE83560	Non-designated monument	Outfarm south east of Woodvale	Post-medieval
MKE83561	Non-designated monument	Outfarm south west of Hazel Cottages	Post-medieval
MKE83562	Non-designated monument	Outfarm south west of Hazel Cottages	Post-medieval
MKE83563	Non-designated monument	Outfarm south west of Hazel Cottages	Post-medieval
MKE83564	Non-designated monument	Outfarm north west of Curry Farm	Post-medieval
MKE83565	Non-designated monument	Outfarm south south west of Woodvale	Post-medieval
MKE83566	Non-designated monument	Outfarm south south west of Woodvale	Post-medieval

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Reference	Type	Description	Period
MKE83567	Non-designated monument	Outfarm south east of Woodvale	Post-medieval
MKE83568	Non-designated monument	Curry Farm	Post-medieval
MKE83569	Non-designated monument	Outfarm north west of Curry Farm	Post-medieval
MKE83570	Non-designated monument	Outfarm north west of Curry Farm	Post-medieval
MKE83571	Non-designated monument	Outfarm in Knockholt Pound	Post-medieval
MKE83572	Non-designated monument	The Meadows	Post-medieval
MKE83573	Non-designated monument	Outfarm east of Knockholt Pound village	Post-medieval
MKE83574	Non-designated monument	Outfarm east of Knockholt Pound village	Post-medieval
MKE83575	Non-designated monument	Outfarm east of Knockholt Pound village	Post-medieval
MKE83576	Non-designated monument	Parkside	Post-medieval
MKE83577	Non-designated monument	Park House	Post-medieval
MKE83578	Non-designated monument	Farmstead north east of Chevening House	Post-medieval
MKE83579	Non-designated monument	Outfarm south east of Chevening House	Post-medieval
MKE83580	Non-designated monument	Yard in Chevening	Post-medieval
MKE83581	Non-designated monument	Rose Cottage	Post-medieval
MKE83618	Non-designated monument	Outfarm north east of Chevening Lodge	Post-medieval
MKE83619	Non-designated monument	Outfarm south of Morants Court	Post-medieval
MKE83620	Non-designated monument	Turvin's Farm	Post-medieval
MKE83621	Non-designated monument	Morants Court Farm	Post-medieval
MKE83622	Non-designated monument	Outfarm north west of Dunton Green Lime Works	Post-medieval
MKE83623	Non-designated monument	Outfarm adjacent to Beaumont Wood	Post-medieval
MKE83624	Non-designated monument	Farmstead south east of Brandon House	Post-medieval
MKE83625	Non-designated monument	Brandon House	Post-medieval

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Reference	Type	Description	Period
MKE83626	Non-designated monument	Outfarm north west of Stockholme Villa	Post-medieval
MKE83627	Non-designated monument	Outfarm north west of Stockholme Villa	Post-medieval
MKE83628	Non-designated monument	Outfarm south of Polhill Arms public house	Post-medieval
MKE83629	Non-designated monument	Outfarm south east of Lamberhurst Cottages	Post-medieval
MKE83630	Non-designated monument	Outfarm south east of Lamberhurst Cottages	Post-medieval
MKE83702	Non-designated monument	Newbarns	Post-medieval
MKE88630	Non-designated monument	Great Dunton Farm	Post-medieval
MKE88642	Non-designated monument	Danes Hollow Farm	Post-medieval
MKE88644	Non-designated monument	Ivy Farm	Post-medieval
MKE88768	Non-designated monument	Outfarm south west of New Stables Farm	Post-medieval
MKE88775	Non-designated monument	Outfarm adjacent to Kangles Farm	Post-medieval
MKE88776	Non-designated monument	Outfarm north west of Hazel Cottages	Post-medieval
MKE88777	Non-designated monument	Brooks Grove	Post-medieval
MKE88778	Non-designated monument	Outfarm north north west of Hazel Cottages	Post-medieval
MKE88780	Non-designated monument	Outfarm east of Brandon House	Post-medieval
MKE88781	Non-designated monument	Outfarm south south east of Brandon House	Post-medieval
MKE88782	Non-designated monument	Outfarm west of Stockholme Villa	Post-medieval
MKE88783	Non-designated monument	Outfarm north east of Oak Tree Farm	Post-medieval
MKE88785	Non-designated monument	Sepharn Farm	Post-medieval
MKE88786	Non-designated monument	Outfarm east of Knockholt Pound	Post-medieval
MKE89279	Non-designated building	Smallholding south west of stockholme villa, Halstead	Post-medieval to Modern
MKE89281	Non-designated monument	Former site of hop pickers huts south west of Lower Barn, Otford.	Post-medieval to Modern
MKE89487	Non-designated monument	Former site of hop pickers' huts north of Lamberhurst Farm	Post-medieval to Modern

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Reference	Type	Description	Period
MKE89605	Non-designated building	Building F14, Fort Halstead	Modern
MKE89606	Non-designated building	Building F18, Fort Halstead	Modern
MKE89607	Associated with Listed Building	Fort Halstead: Building F11	Modern
MKE89608	Associated with Listed Building	Fort Halstead: Buildings F16 and F17	Modern
MKE92579	Non-designated monument	Knockholt House community woodland	Post-medieval to Unknown
MKE92582	Non-designated monument	Morants Court historic garden	Modern to Unknown
MKE96348	Findspot	Medieval Copper alloy vessel	Medieval
MKE96422	Findspot	Post Medieval Copper alloy jetton	Post-medieval
MKE96423	Findspot	Roman Copper alloy coin	Romano-British
MKE96424	Findspot	Roman Copper alloy coin	Romano-British
MKE96425	Findspot	Unknown Copper alloy unidentified object	Unknown
MKE96426	Findspot	Roman Copper alloy coin	Romano-British
MKE96427	Findspot	Roman Copper alloy coin	Romano-British

Appendices

C. Gazetteer of Previous Investigations

Reference	Type	Description
EKE11321	Desk Based Assessment	Desk based assessment for Fort Halstead
EKE11324	Desk Based Assessment	Desk based assessment on Fort Halstead
EKE11325	Field observation	Field observation of Fort Halstead
EKE11439	Desk Based Assessment	Desk based assessment from the widening of M25 junctions 5 - 7
EKE14610	Desk Based Assessment	Desk-based Archaeological Assessment: Fort Halstead, Kent
EKE14863	Desk Based Assessment	Archaeological Desk Based Assessment: Dunton Green Primary School, Kent
EKE15636	Desk Based Assessment	Broughton House, Sevenoaks Heritage Assessment
EKE17403	Evaluation	Trial trenching evaluation, Frog Farm, Otford, 2005
EKE20047	Geophysical Survey	Geophysical investigation of Lympe Field B, Twitton, Kent
EKE20407	Desk Based Assessment	Oak Tree Farm, Halstead, Kent, Desk-based Archaeological Assessment, 2013
EKE3782	Excavation	POLHILL
EKE3783	Excavation	Excavation of Saxon Cemetery POLHILL
EKE3784	Excavation	Excavation at Polhill Anglo-Saxon Cemetery
EKE3785	Excavation	Excavation at Polhill Anglo- Saxon Cemetery
EKE3786	Evaluation	FROG FARM,TWITTON
EKE3788	Evaluation	FROG FARM,TWITTON
EKE3789	Evaluation	FROG FARM,TWITTON
EKE4685	Excavation	Excavation at Polhill Anglo-Saxon Cemetery
EKE5758	Excavation	Excavation at Polhill Anglo-Saxon Cemetery, Polhill
EKE5931	Excavation	Excavation at Polhill Saxon Cemetery, Polhill
EKE9252	Evaluation	Trial trenching evaluation at Frog Farm Barns. Otford
EKE9735	Watching Brief	Watching Brief at Frog Farm Barns, Otford, Sevenoaks
EKE9879	Watching Brief	Watching brief at 4 Wickham Field, Otford, 1994

Appendices

D. Legislation, Policy and Guidance

Legislation, Policy & Guidance	Document	Section/Policy
Legislation	Ancient Monuments and Archaeological Areas Act 1979	Under the Ancient Monuments and Archaeological Areas Act 1979, the Secretary of State (Department of Culture, Media and Sport (DCMS)) can schedule any site which appears to be of national importance because of its historic, architectural, traditional, artistic or archaeological interest. Additional controls are placed upon works affecting Scheduled Monuments and Areas of Archaeological Importance under the Act. The consent of the DCMS, as advised by Historic England, is required for certain works affecting Scheduled Monuments.
Legislation	Planning (Listed Buildings and Conservation Areas Act) 1990	In England, under Section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990, the Secretary of State (Department of Culture, Media and Sport (DCMS)) is required to compile lists of buildings of special architectural or historic interest, on advice from Historic England. Works affecting Listed Buildings are subject to additional planning controls administered by Local Planning Authorities. Historic England are a statutory consultee in certain works affecting Listed Buildings. Under certain circumstances, Listed Building Consent is required for works affecting Listed Buildings.
National Planning Policy	Ministry of Housing, Communities & Local Government, National Planning Policy Framework, 2019	Section 16 of the National Planning Policy Framework (NPPF) sets out the Core Planning Principles of which 'Conserving and Enhancing the Historic Environment' is one. NPPF determines that heritage assets should be afforded proportionate weight to their significance when determining acceptable impacts on the asset or its setting. Developments affecting heritage assets are required to submit a statement describing the significance and any contribution of the assets setting. Any impact on a heritage asset should be weighed against public benefits of the proposal.
National Planning Policy	Ministry of Housing, Communities & Local Government, Planning Practice Guidance, 2019	The Planning Practice Guidance (PPG) Section 18 Conserving and enhancing the historic environment provides additional guidance which supports NPPF.
Local Plan (Policy)	Sevenoaks District Council, Core Strategy, 2011	<u>Policy SP1 Design of New Development and Conservation</u> All new development should be designed to a high quality and should respond to the distinctive local character of the area in which it is situated. Account should be taken of guidance adopted by the Council in the form of Kent Design, local Character Area Assessments, Conservation Area Appraisals and Management Plans, Village Design Statements and Parish Plans. In rural areas account should be taken of guidance in the Countryside Assessment and AONB Management Plans. In areas where the local environment lacks positive features new

Appendices

Legislation, Policy & Guidance	Document	Section/Policy
		<p>development should contribute to an improvement in the quality of the environment. New development should create safe, inclusive and attractive environments that meet the needs of users, incorporate principles of sustainable development and maintain and enhanced biodiversity.</p> <p>The District's heritage assets and their settings, including listed buildings, conservation areas, archaeological remains, ancient monuments, historic parks and gardens, historic buildings, landscapes and outstanding views will be protected and enhanced.</p>
Local Plan (Policy)	Sevenoaks District Council, Allocations and Development Management Plan, 2015	<p><u>Policy EN4 Heritage Assets</u></p> <p>Proposals that affect a Heritage Asset, or its setting, will be permitted where the development conserves or enhances the character, appearance and setting of the asset. Applications will be assessed with reference to the following:</p> <ul style="list-style-type: none"> a) the historic and/or architectural significance of the asset; b) the prominence of its location and setting; and c) the historic and/or architectural significance of any elements to be lost or replaced. Where the application is located within, or would affect, an area or suspected area of archaeological importance an archaeological assessment must be provided to ensure that provision is made for the preservation of important archaeological remains/findings. Preference will be given to preservation in situ unless it can be shown that recording of remains, assessment, analysis report and deposition of archive is more appropriate. <p><u>Policy EMP3 Redevelopment of Fort Halstead</u> Redevelopment proposals would be expected to: [...]</p> <p>Protect and integrate the Scheduled Ancient Monument and listed buildings into the development with improved access and setting [...]</p>
Local Plan (Policy)	Sevenoaks District Council, 2017, Local List Supplementary Planning Document	<p>The document was produced to raise awareness and enhance protection of unlisted (i.e. non-designated heritage assets) and outlines a selection criteria to determine local interest value of an asset.</p>
Local Plan (Policy) – Draft	Sevenoaks District Council, 2018, Proposed Submission Version of the Local Plan	<p><u>Policy HEN1 Historic Environment</u></p> <p>Proposals for development will be required to reflect the local distinctiveness, condition and sensitivity to change of the historic environment as defined in the following guidance:</p> <p>Local Plan policies relating to design, heritage assets and landscape character;</p> <p>Other relevant principles in the hierarchy of local guidance including the Kent Design SPD, Kent Historic Environment Record (HER) and the Local List SPD.</p> <p>Findings as set out in the Sevenoaks District Historic Environment</p>

Appendices

Legislation, Policy & Guidance	Document	Section/Policy
		<p>Review, Conservation Area Appraisals, Sevenoaks Landscape Character Assessment.</p> <p>All new development should demonstrate an awareness and commitment to the overall protection and, where possible, enhancement of the historic environment of the District by making positive reference to the themes in the Historic Environment Review and demonstrating the following in Planning Statements or Design and Access Statements:</p> <p>A) Clear consideration of the relationship with the historic evolution of the District and local area;</p> <p>B) A broad appreciation of the historic character of the local area including current conditions;</p> <p>C) An understanding of the presence of heritage assets and their associated significance, vulnerabilities and opportunities.</p> <p><u>Policy HEN2 Heritage Assets</u></p> <p>Proposals that affect a designated or non-designated Heritage Asset, or its setting, will be permitted where the development sustains or enhances the heritage interest of the asset.</p> <p>Applications will be assessed with reference to the following:</p> <p>A) The significance of the asset and its setting;</p> <p>B) The significance of any elements to be lost. Any development that might affect the significance of a listed or locally listed building, conservation area, registered park of gardens, scheduled monument, historic landscape or an archaeological site will be required to submit a Heritage Statement with any Planning and/or Listed Building Consent Application.</p> <p>This includes development affecting their setting. The assessment of proposals should make reference to the Sevenoaks District Historic Environment Review and relevant guidance.</p> <p>Where an application is located within, or would affect an area of Archaeological Potential or suspected area of archaeological importance an archaeological assessment must be provided to ensure that provision is made for the preservation of important archaeological remains/findings.</p> <p>Preference will be given to preservation in situ unless it can be shown that recording of remains, assessment, analysis report and deposition of archive is more appropriate.</p>
Guidance	Kent Downs, Kent Downs Area of Outstanding Natural Beauty Management Plan 2014-2019	<p><u>HCH1</u> The protection, conservation and enhancement of the historic character and features of the Kent Downs landscape will be pursued and heritage-led economic activity encouraged.</p> <p><u>HCH2</u> A wider understanding of the cultural, scientific and artistic importance of the Kent Downs landscape and its historic character</p>

Appendices

Legislation, Policy & Guidance	Document	Section/Policy
		<p>will be supported in part to inform the interpretation and management of the AONB.</p> <p><u>HCH3</u> The preparation and use of best practice guidance for adapting the historic and cultural environment to climate change will be supported.</p> <p><u>HCH4</u> Opportunities to develop contemporary artistic, historic, cultural and scientific interpretation and celebration of the landscape and people of the Kent Downs will be pursued.</p> <p><u>HCH5</u> The application of high standards of design sympathetic to cultural heritage within the AONB, identified in guidance including the AONB Landscape Design Handbook, Kent Downs Farmstead Guidance and any relevant Village Design Statements and Neighbourhood Plans, will be pursued</p>
Guidance	Chartered Institute for Archaeologists, (rev) 2020. Standard and guidance for historic environment desk-based assessment	The guidance defines good practice for the execution and reporting of desk-based assessments in line with regulations of the Chartered Institute for Archaeologists (CIfA).
Guidance	English Heritage, 2008. Conservation Principles, Policies and Guidance for the sustainable Management of the Historic Environment	English Heritage (now Historic England) sets out a logical approach to making decisions and offering guidance about all aspects of England's historic environment.
Guidance	Historic England, 2015. Historic Environment Good Practice Advice in Planning Note 2 (GPA 2) – Managing Significance in Decision-Taking	<p>The document provides information to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing policy outlined in NPPF and PPG including; 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.</p> <p>The SPD forms part of Havering's Local Development Framework (LDP).</p>
Guidance	Historic England, 2017. Historic Environment Good Practice Advice in Planning Note 3 (2 nd edition) (GPA 3) – The Setting of Heritage Assets	The documents sets out guidance against the backdrop of NPPF and Planning Practice Guidance (PPG) on managing change within the settings of heritage assets, including archaeological remains and historic buildings, sites, areas and landscapes.
Guidance (Regional Research	South East Research Framework (SERF), draft 2019	The South East Historic Environment Research Framework (SERF) aims to identify what we know about the South East's historic environment and what aspects we want to know more about in the

Appendices

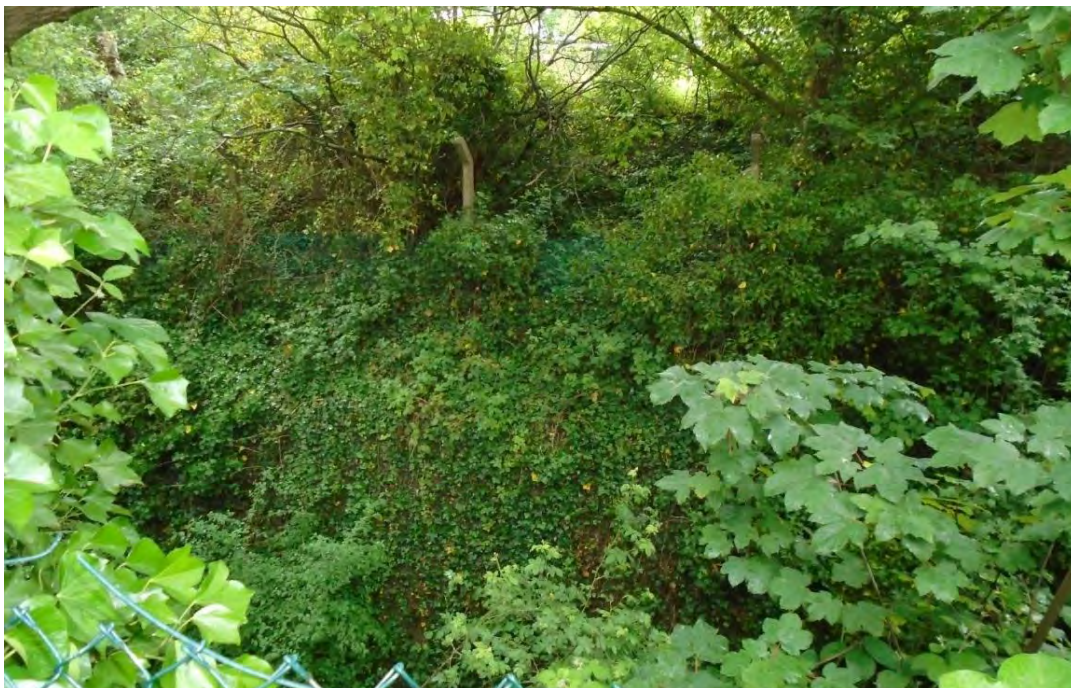
Legislation, Policy & Guidance	Document	Section/Policy
Framework)		future. It provides an overview of current understanding (the Resource Assessment) and a set of key research questions to guide future work (the Research Agenda).

Appendices

E. Site Visit Photographs



Photograph 1: Entrance to Fort Halstead facing Crow Drive



Photograph 2: View of overgrown moat surrounding Scheduled Monument

Appendices



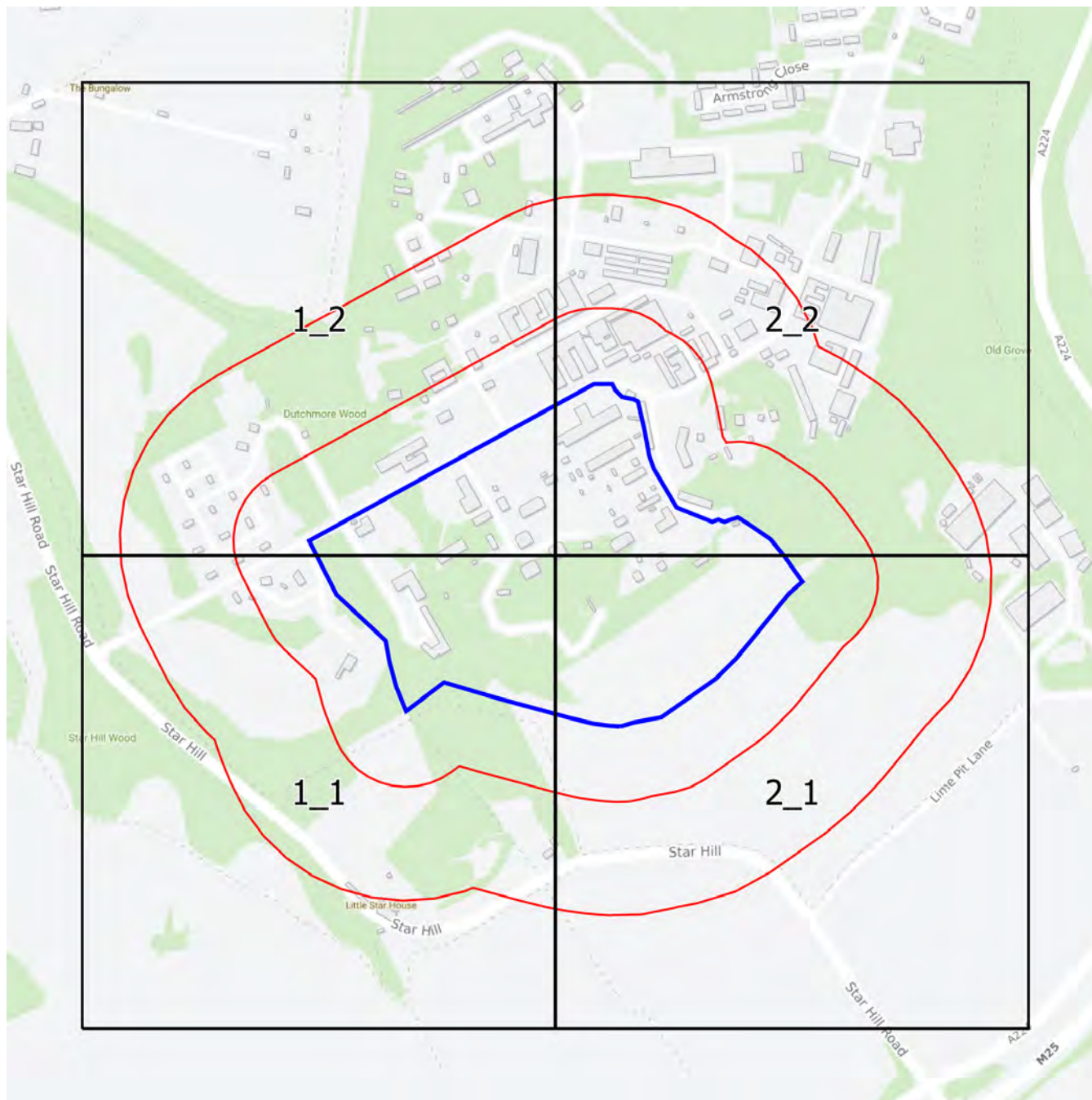
Photograph 3: View of building foundations on Crow Drive (within the Site)

Appendices

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WIE18326-100
WIE18326-100-R-1-2-1-ADBA

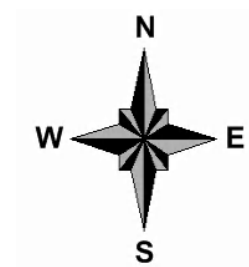
F. Groundsure Envirocheck Report

Appendices



Groundsure
INSIGHTS

1:2,500 Scale Grid Index





Site Details:

FORT HALSTEAD, TN14 7BS

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Grid Ref: 549358, 158677

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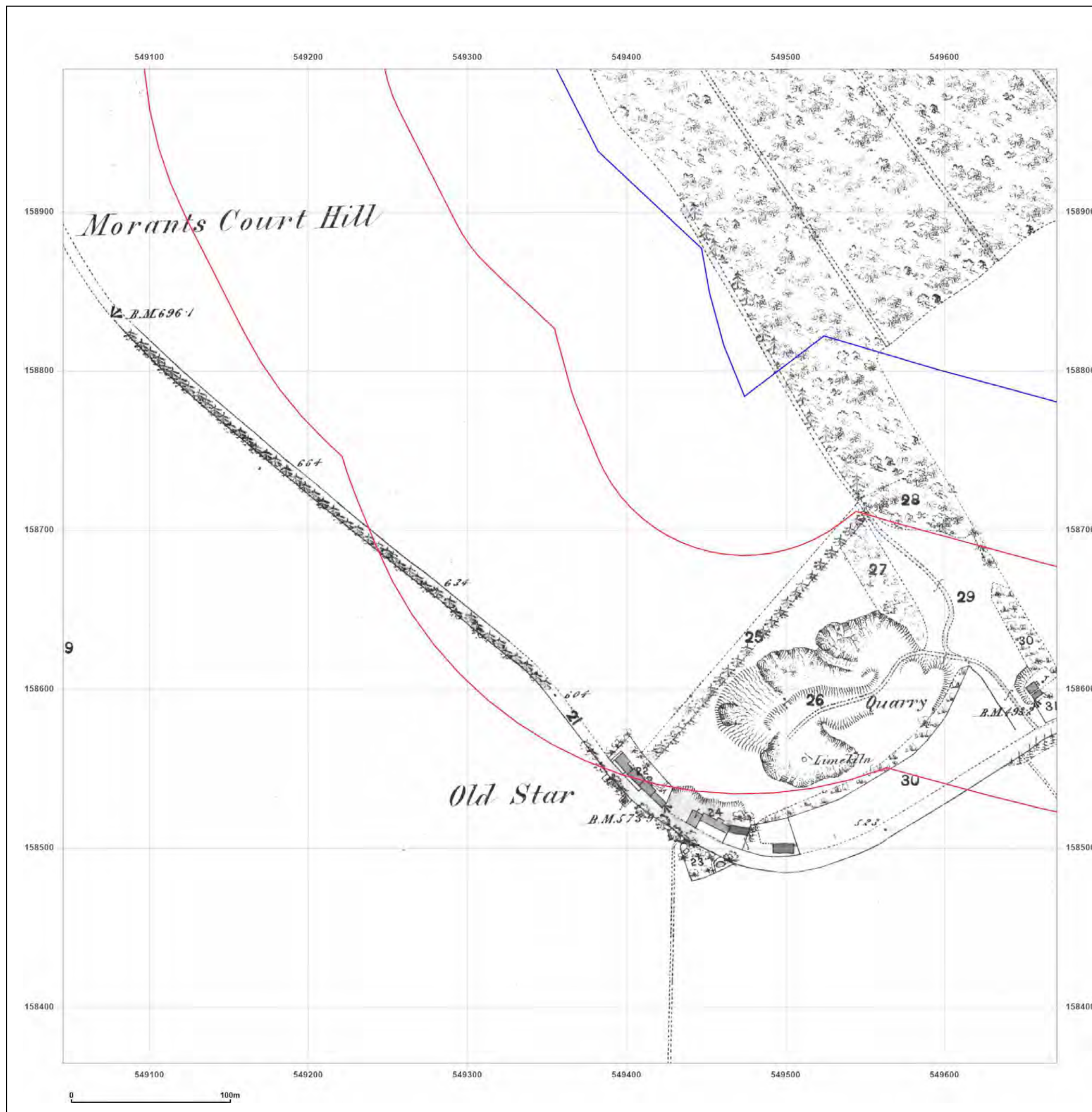


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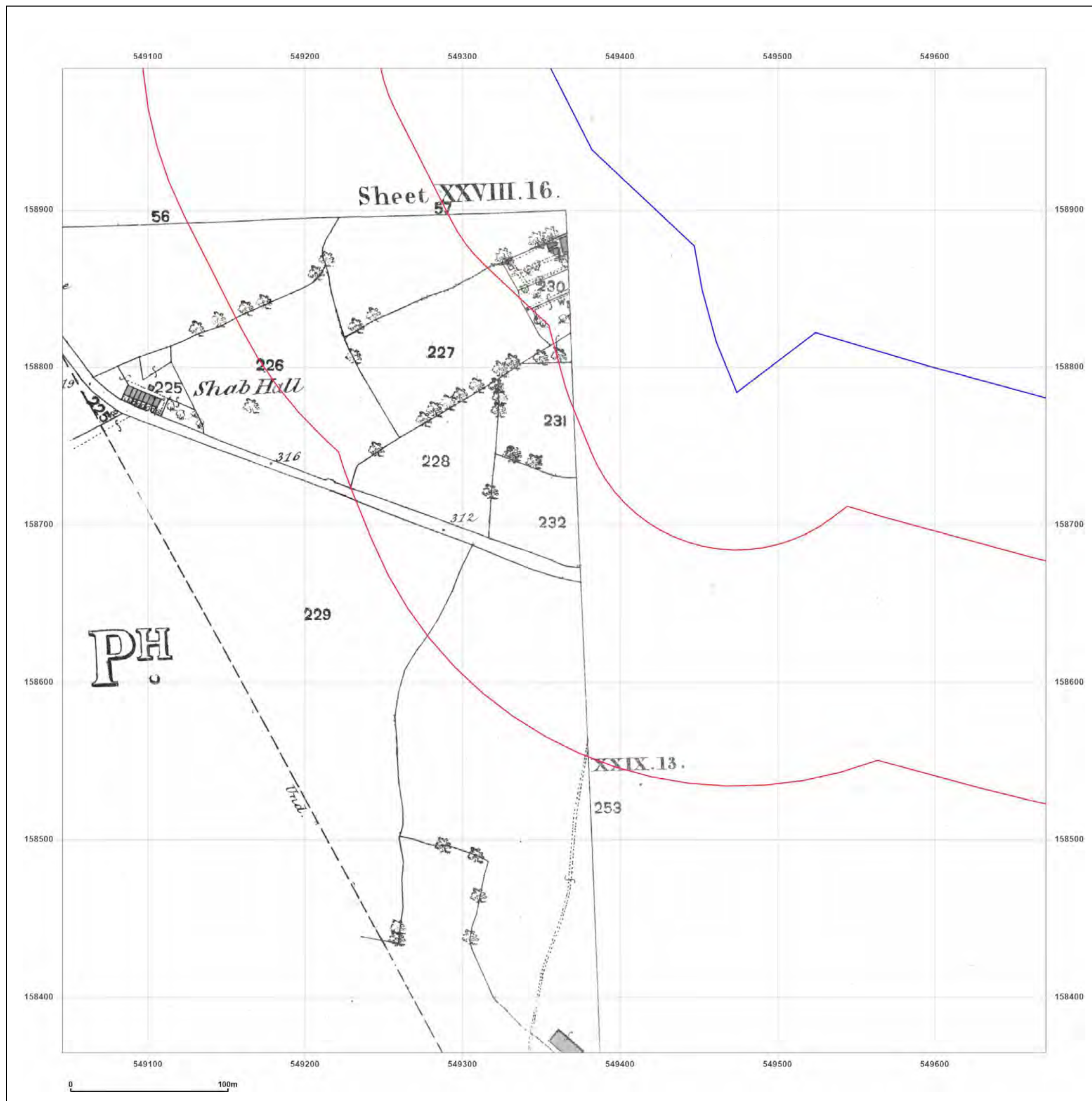


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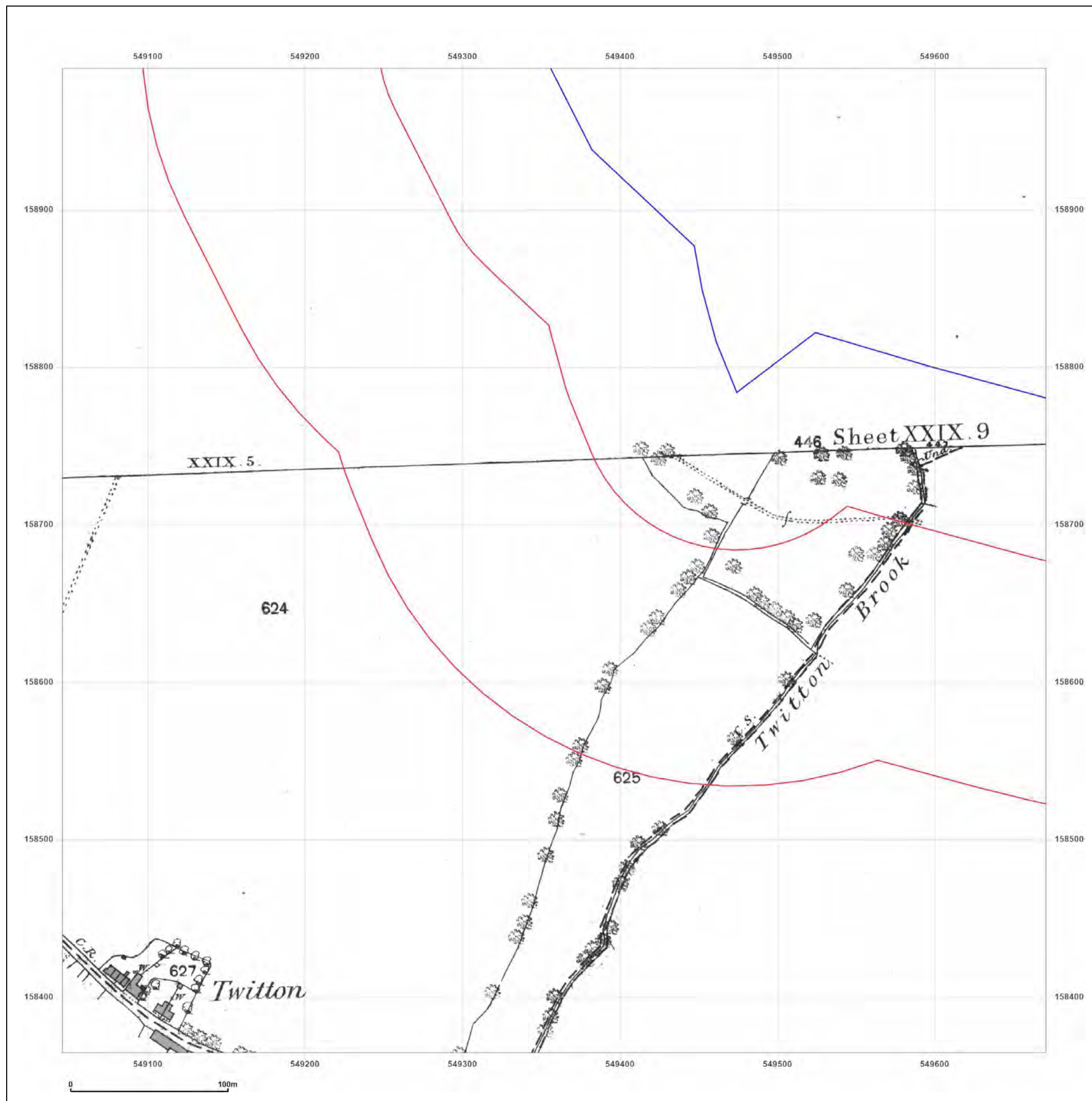
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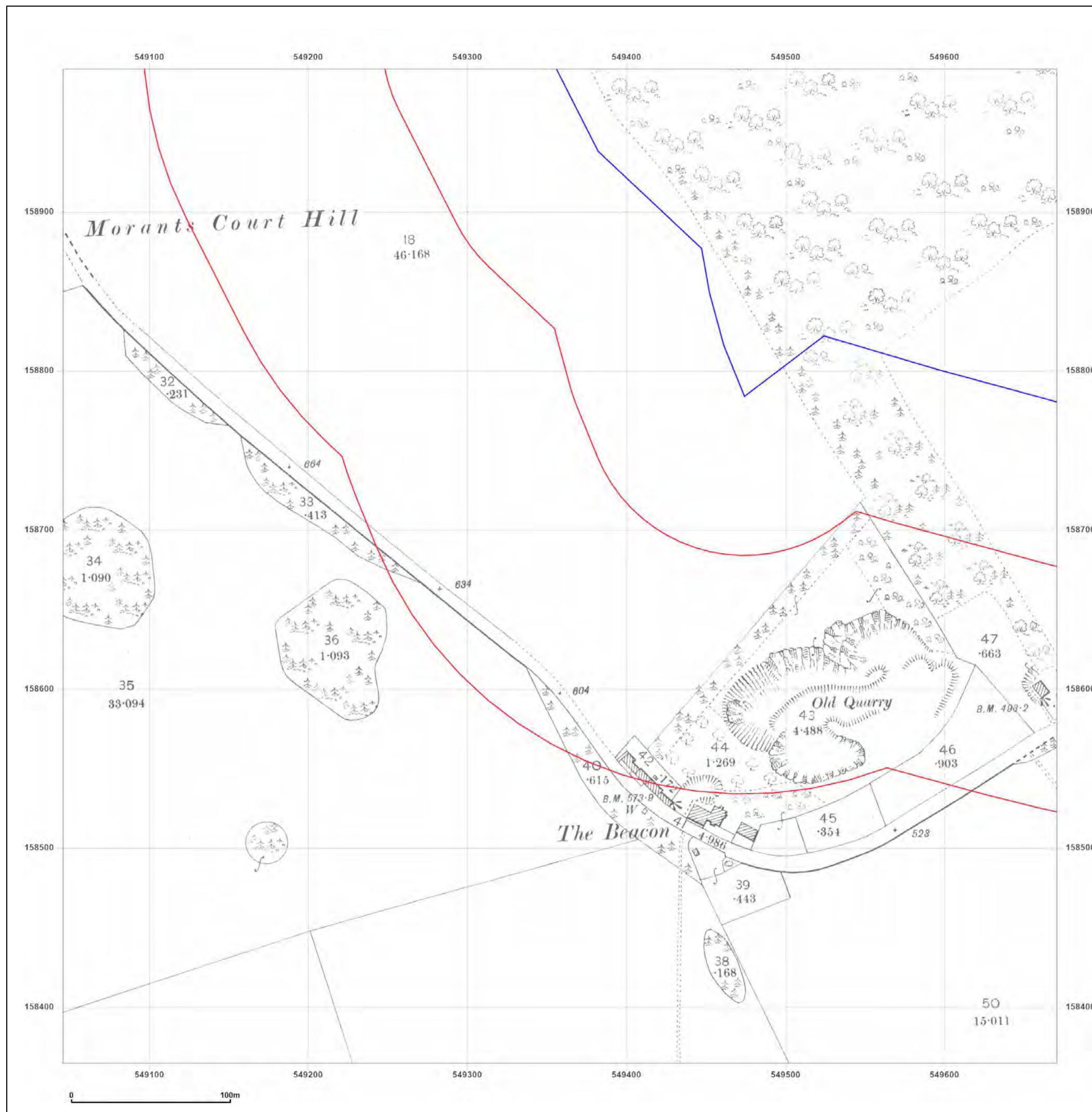
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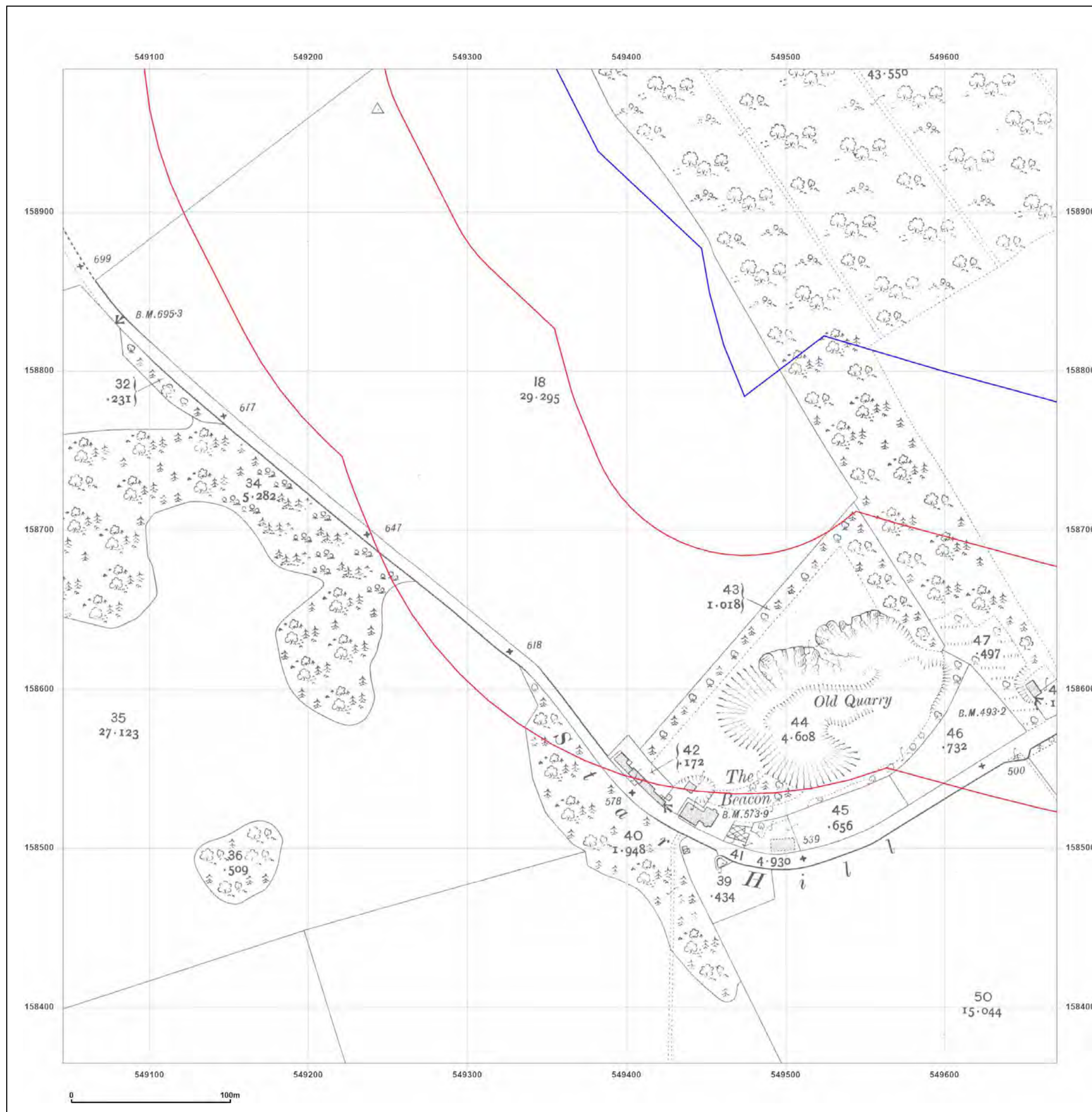
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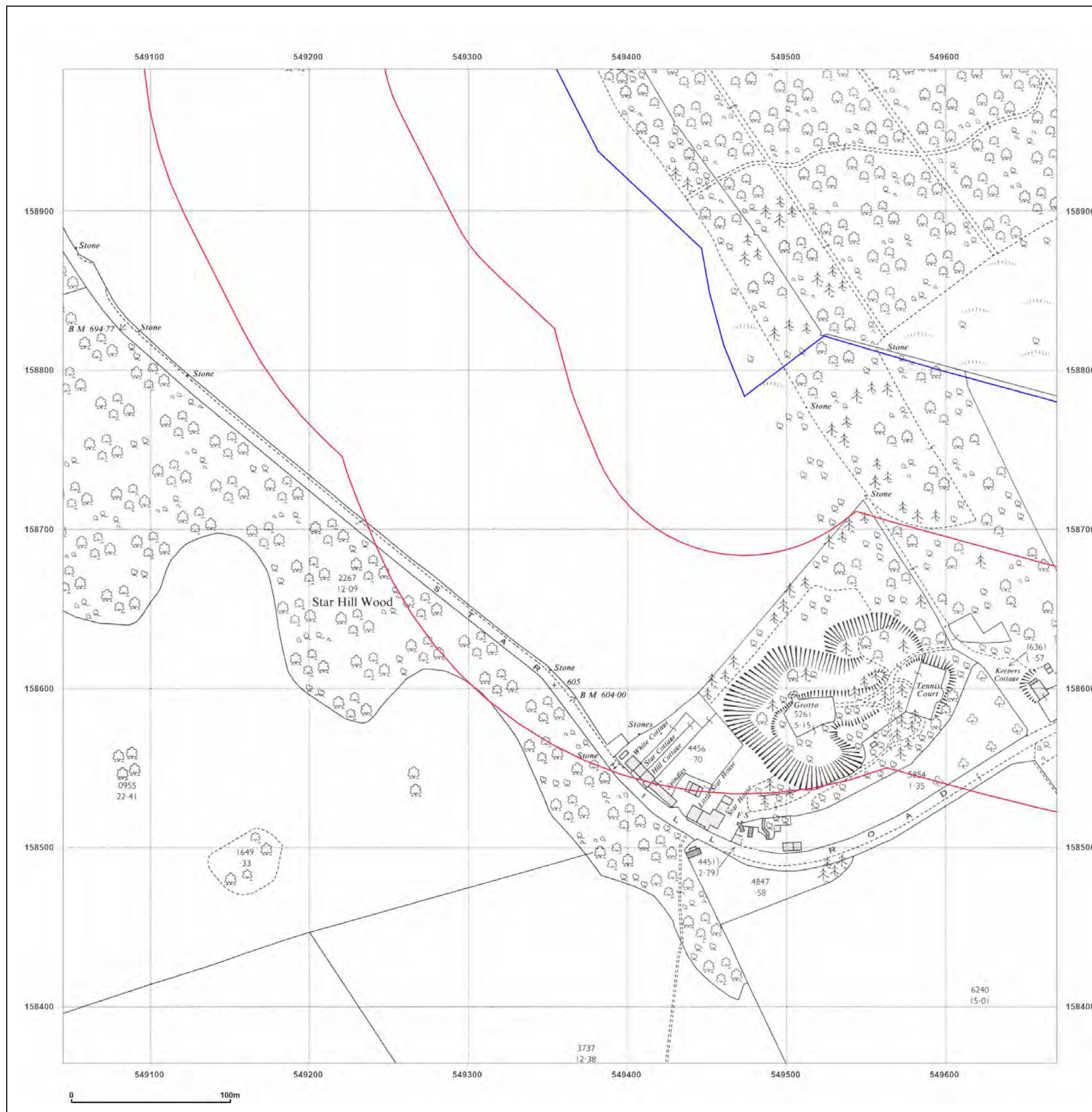
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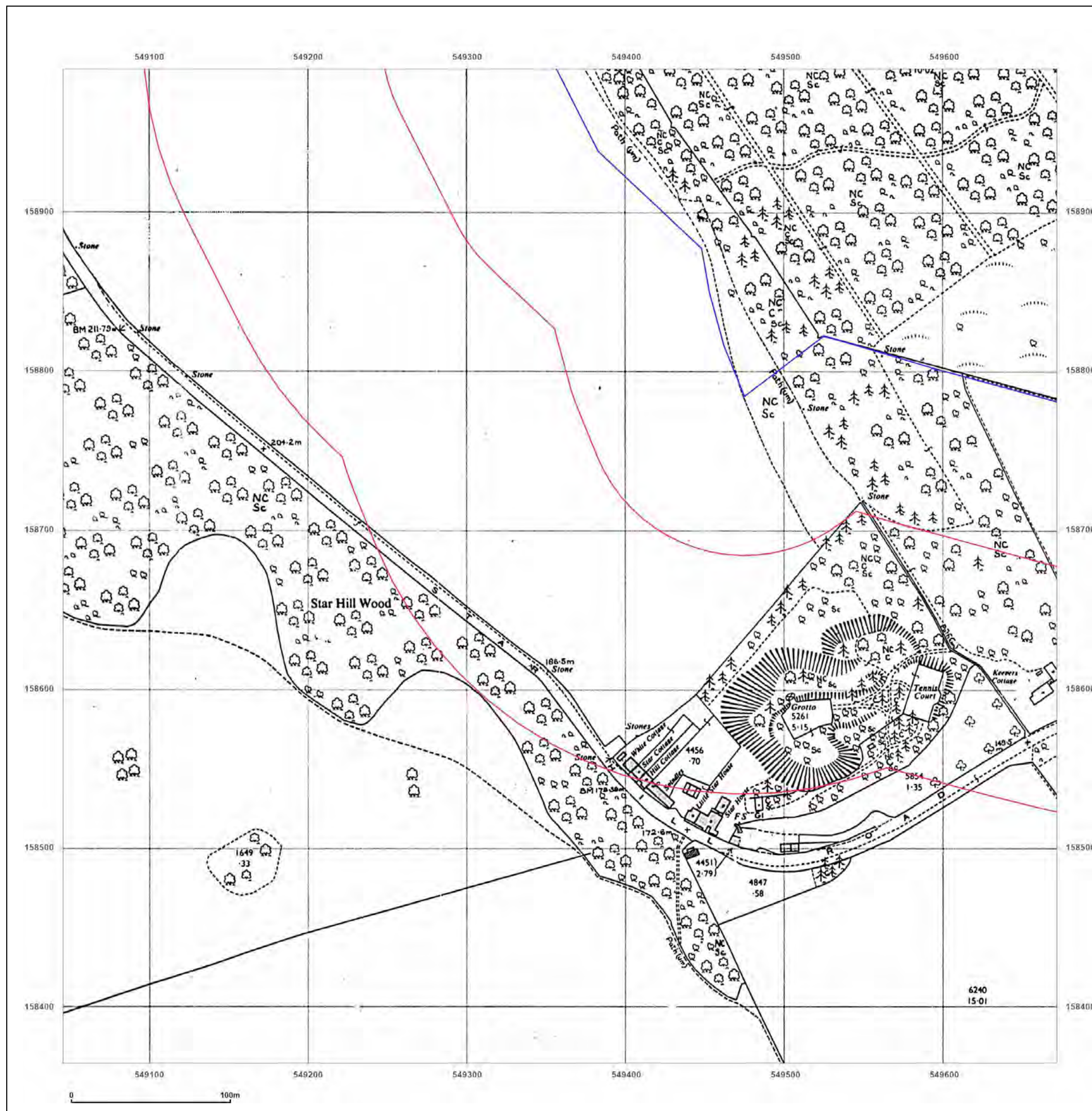
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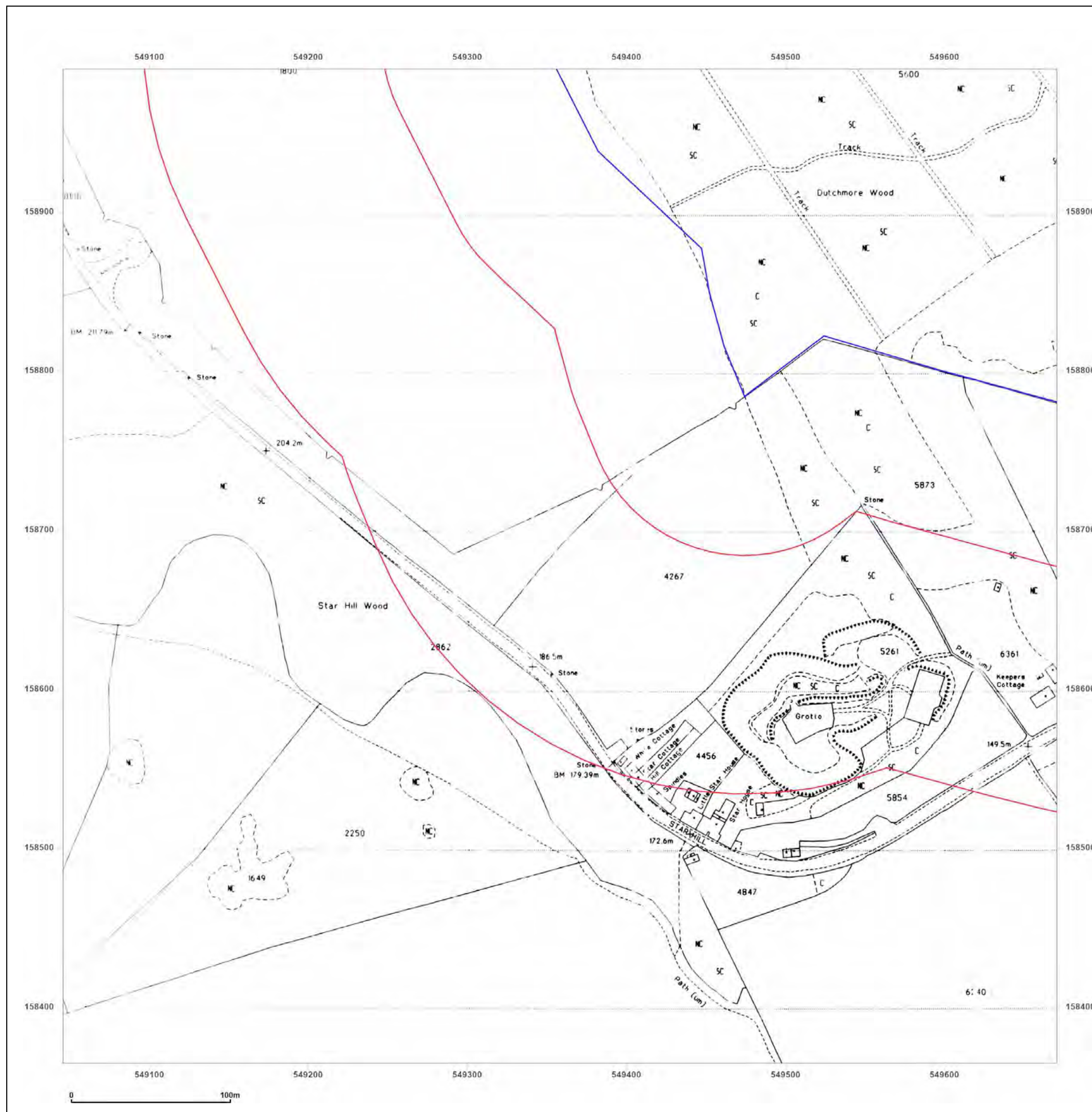


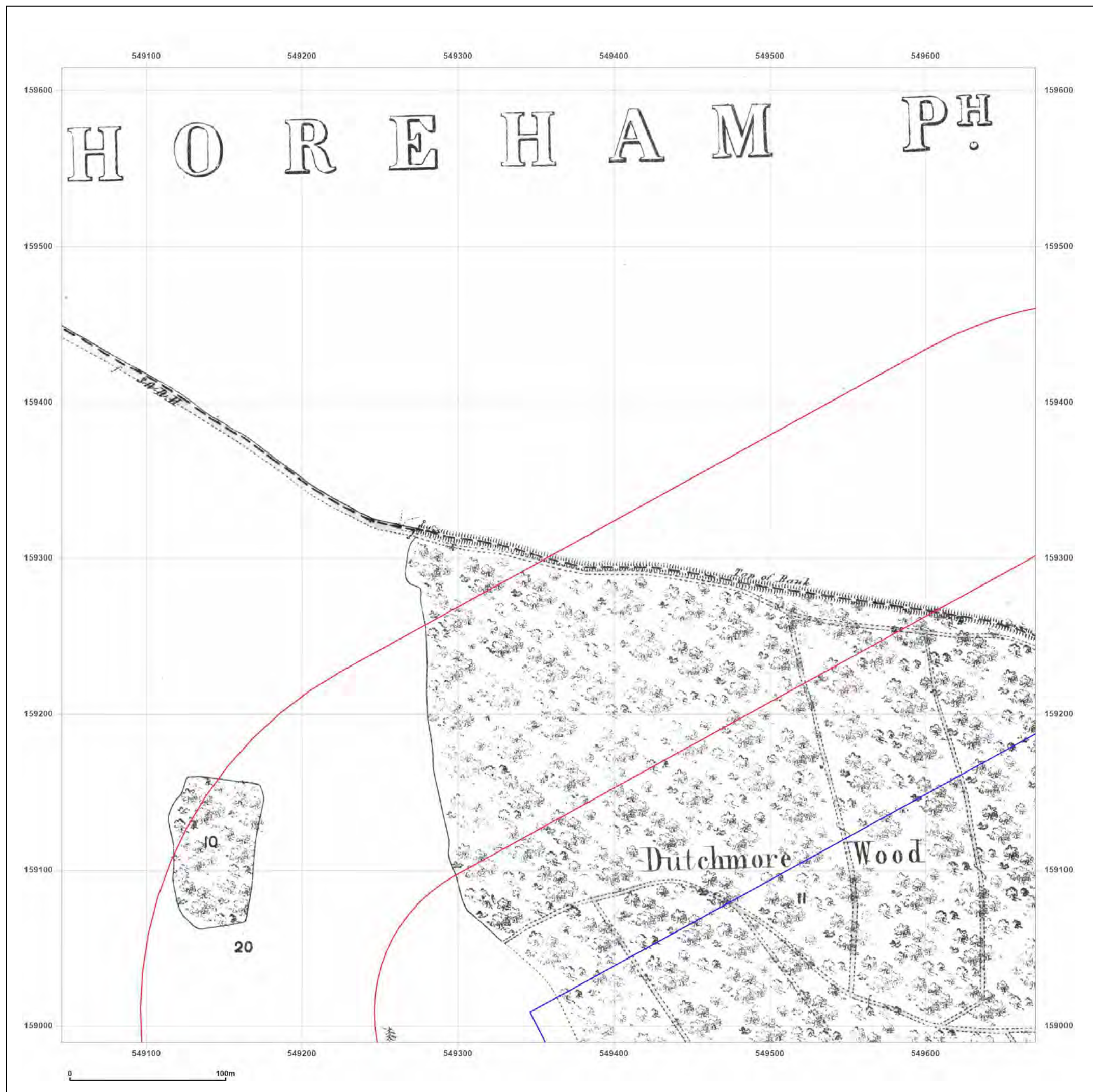
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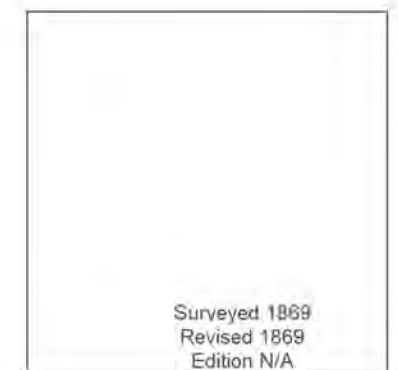
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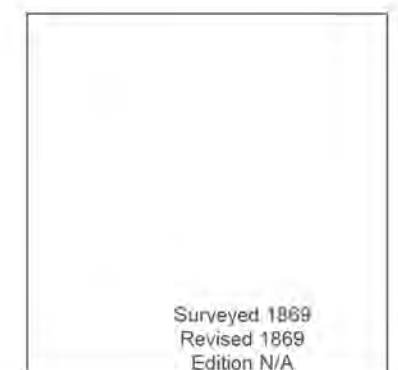
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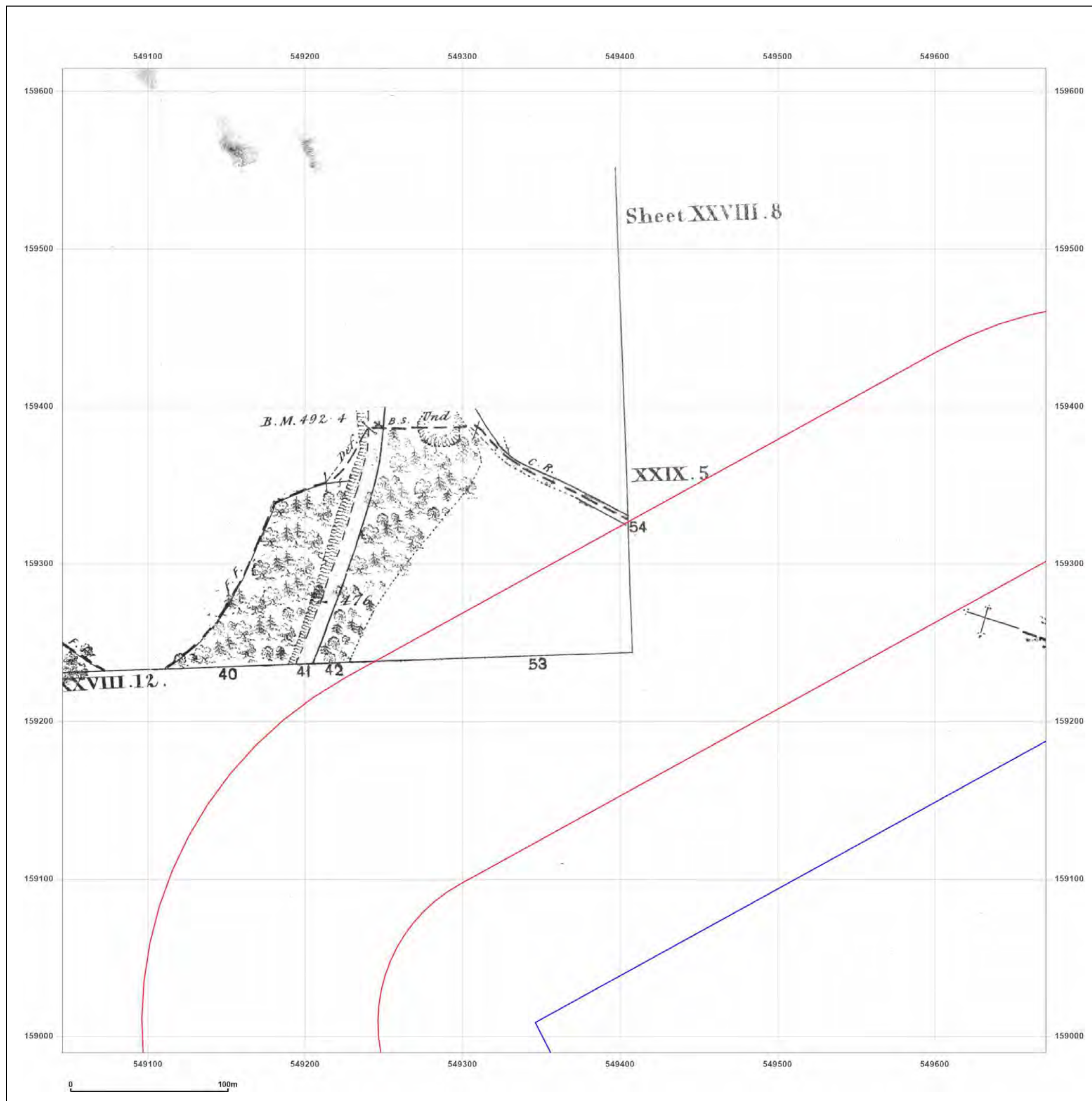


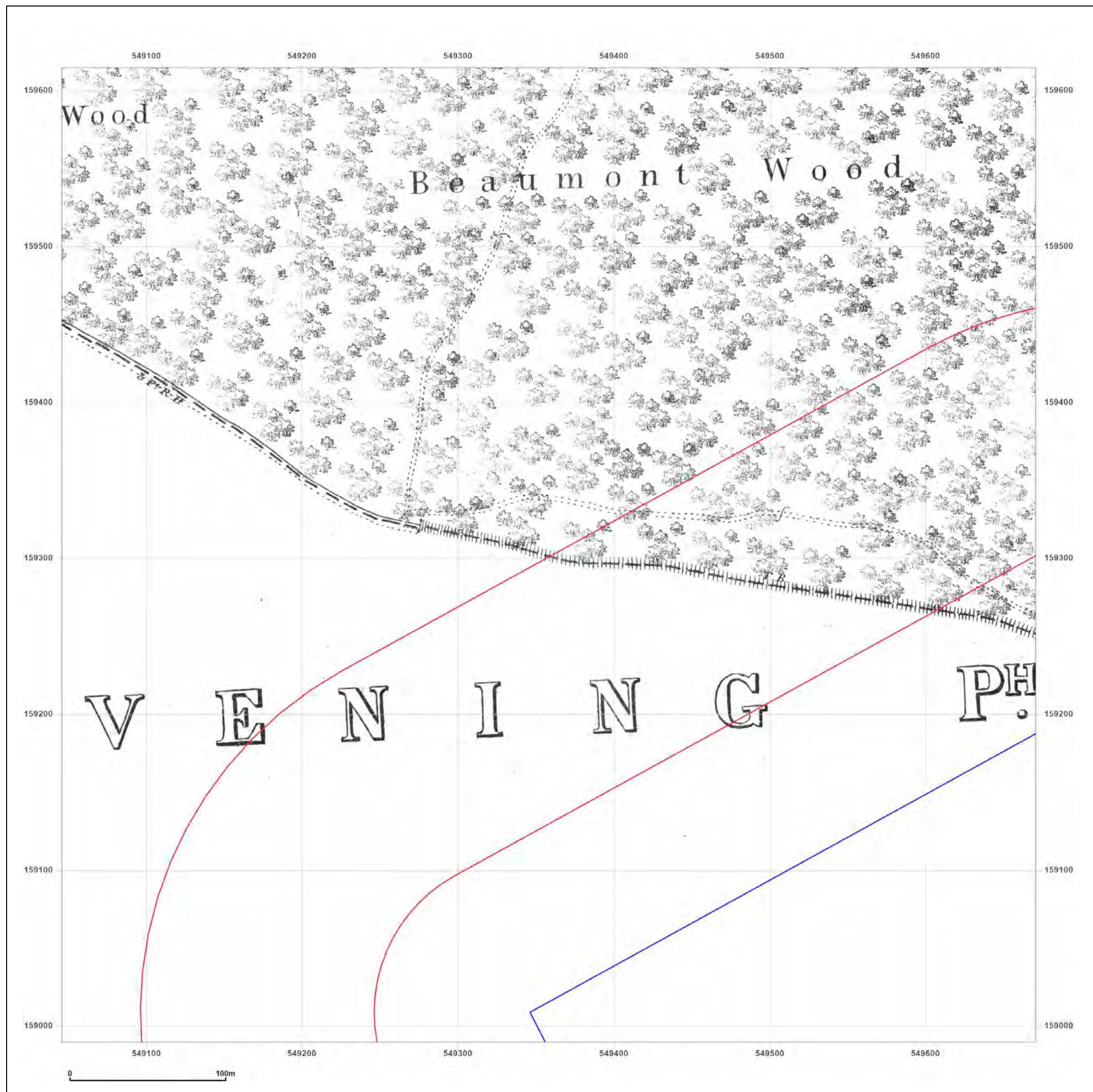
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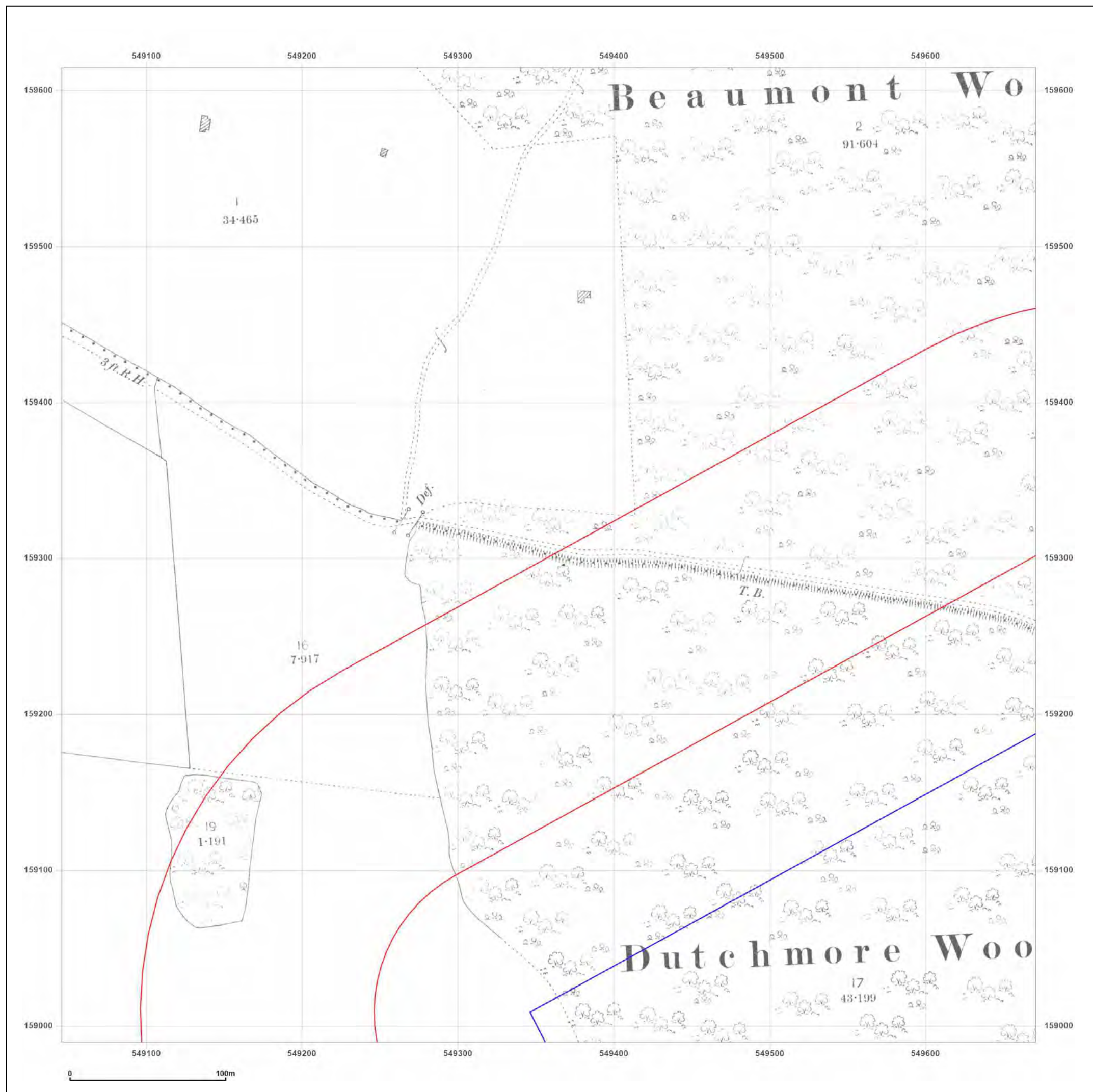


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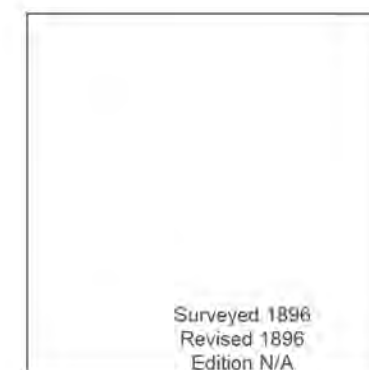
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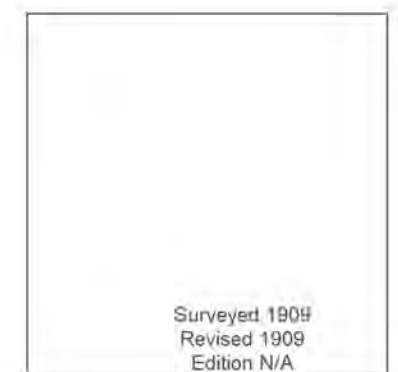
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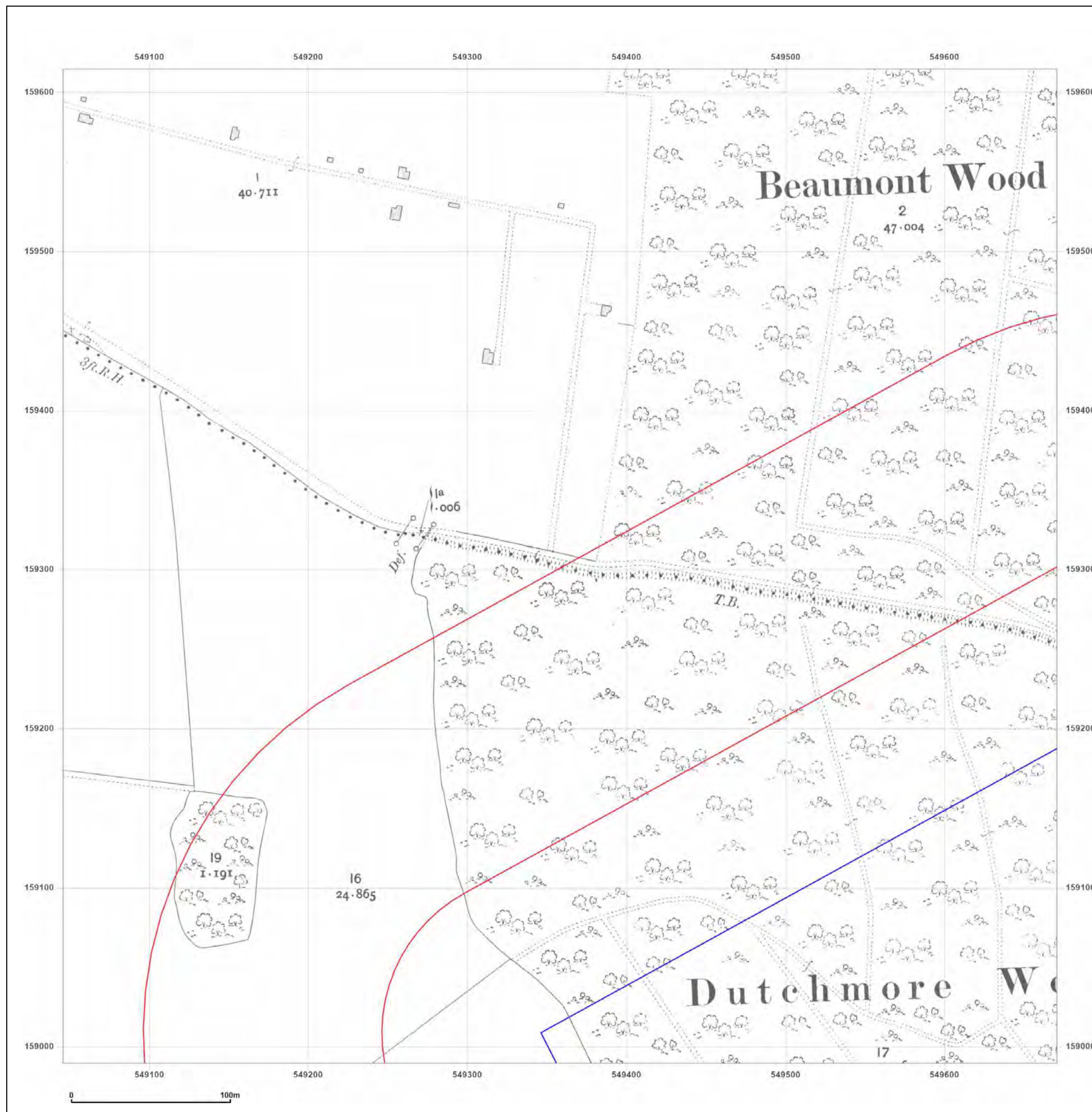


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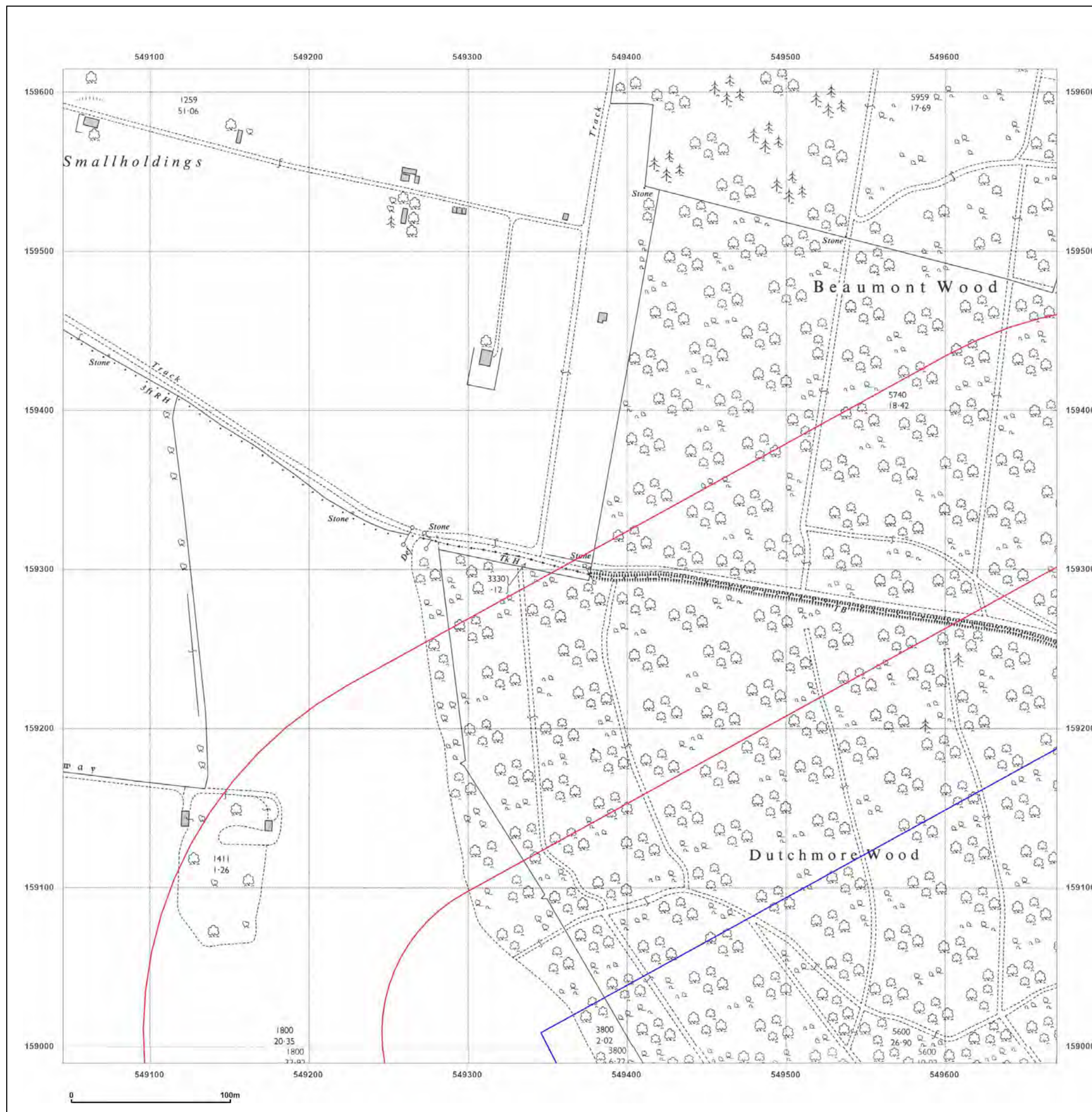


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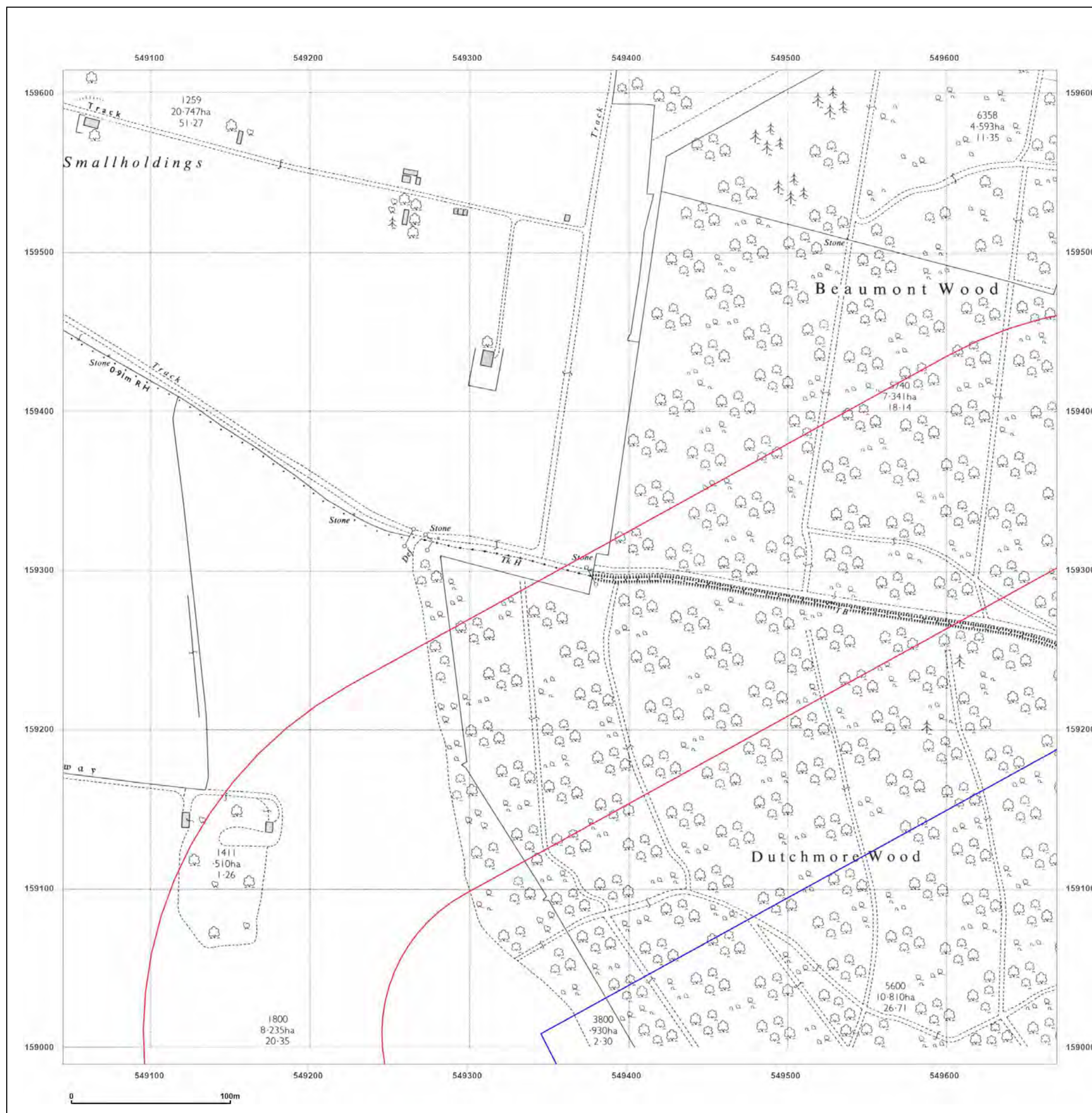


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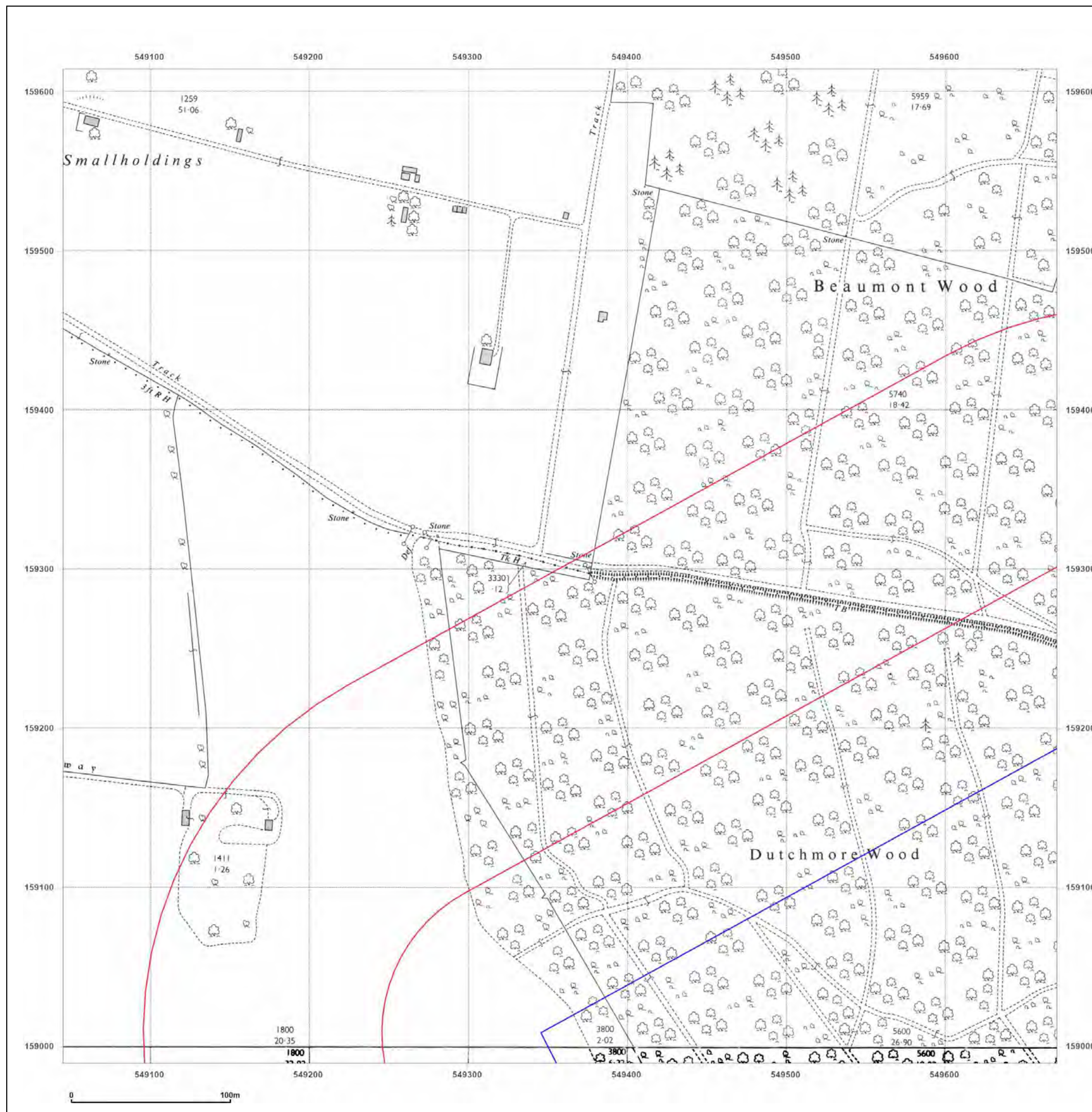


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Site Details:

FORT HALSTEAD, TN14 7BS

Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_1_2
Grid Ref: 549358, 159302

Map Name: National Grid

Map date: 1969

Scale: 1:2,500

Printed at: 1:2,500



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

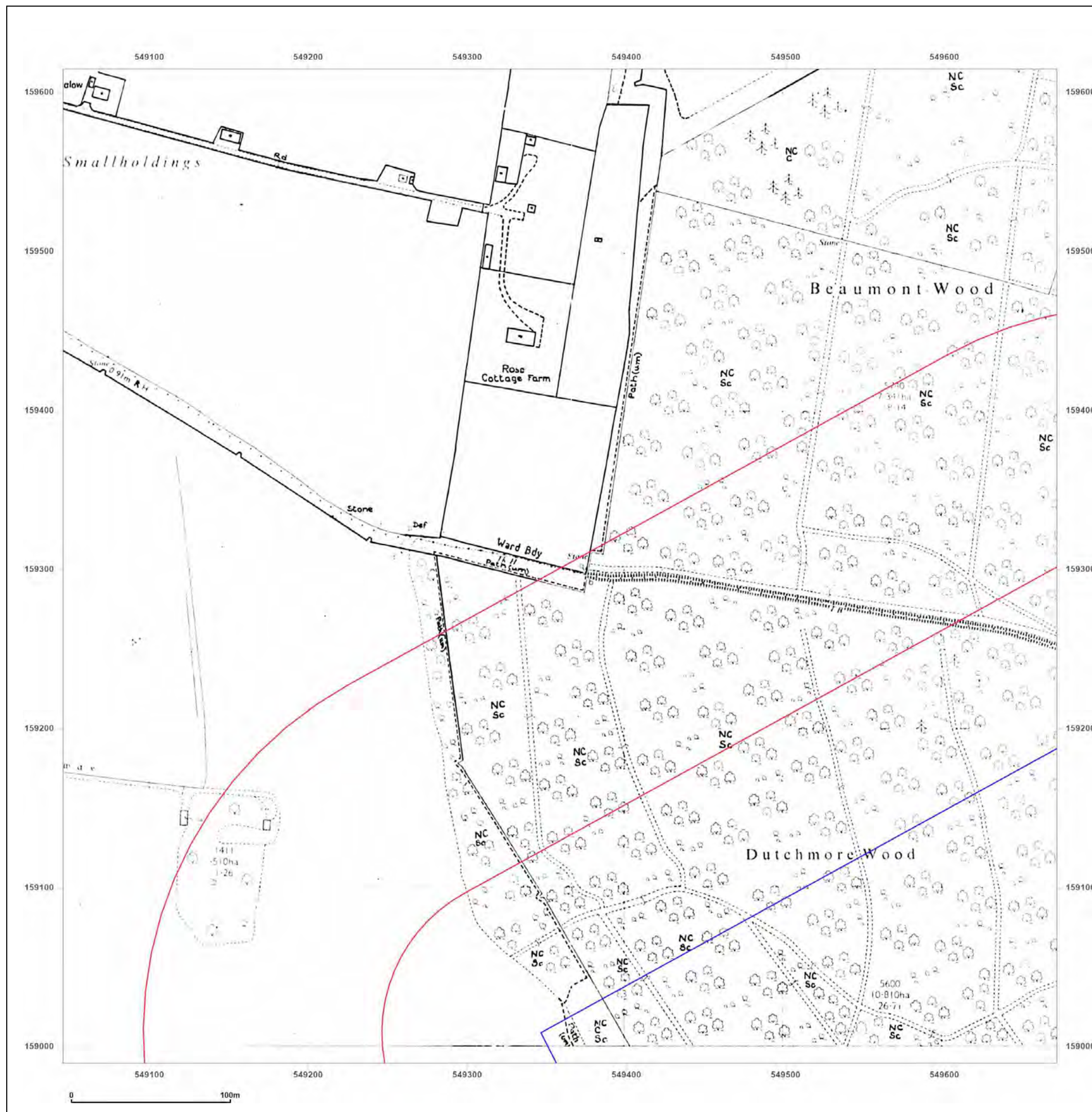


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Site Details:

FORT HALSTEAD, TN14 7BS

Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_1_2
Grid Ref: 549358, 159302

Map Name: National Grid

Map date: 1988-1992

Scale: 1:2,500

Printed at: 1:2,500



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

Surveyed 1987
Revised 1988
Edition N/A
Copyright 1988
Levelled 1987

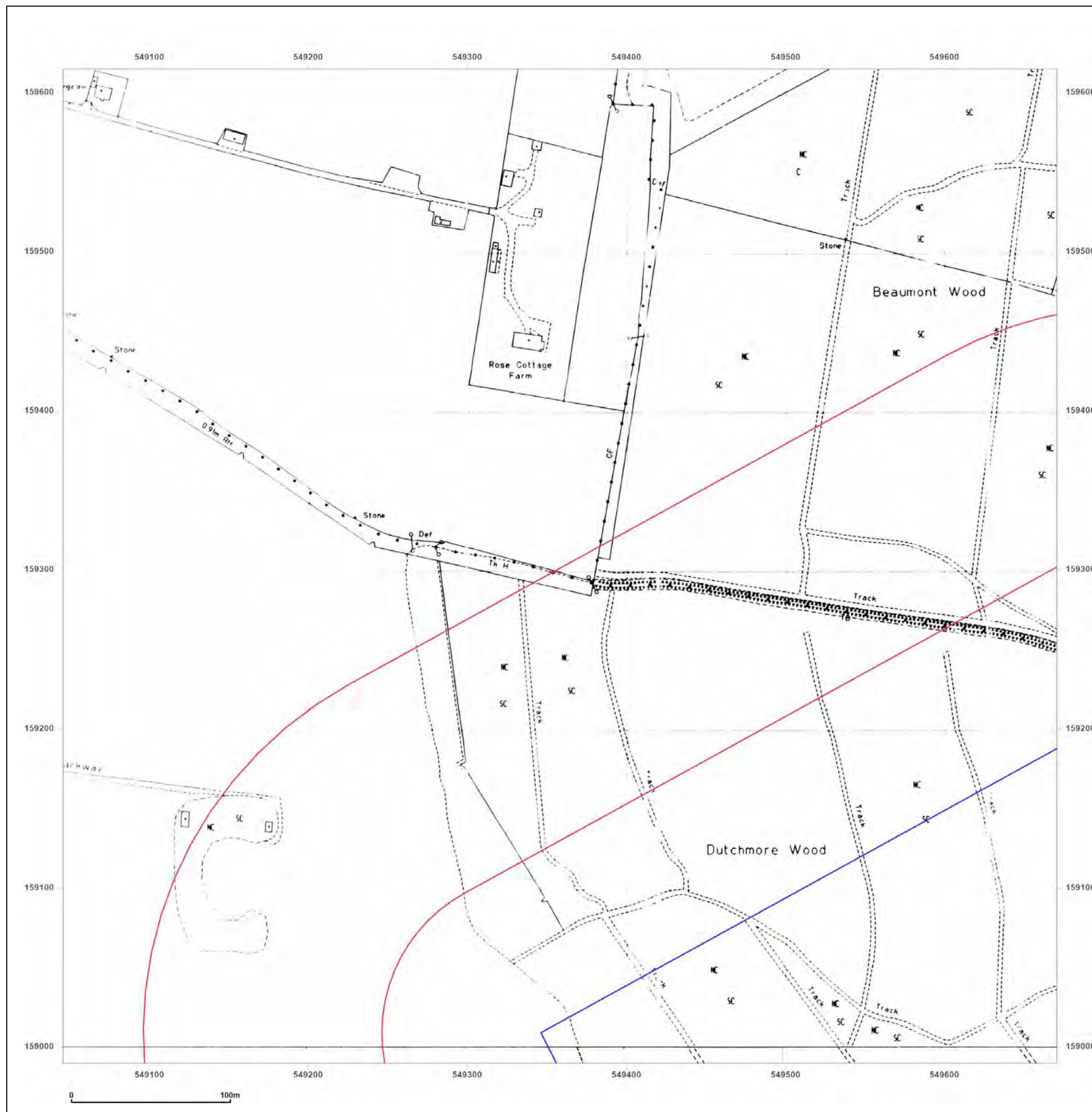


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Site Details:

FORT HALSTEAD, TN14 7BS

Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_1
Grid Ref: 549983, 158677

Map Name: County Series

Map date: 1869

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1869
Revised 1869
Edition N/A
Copyright N/A
Levelled N/A

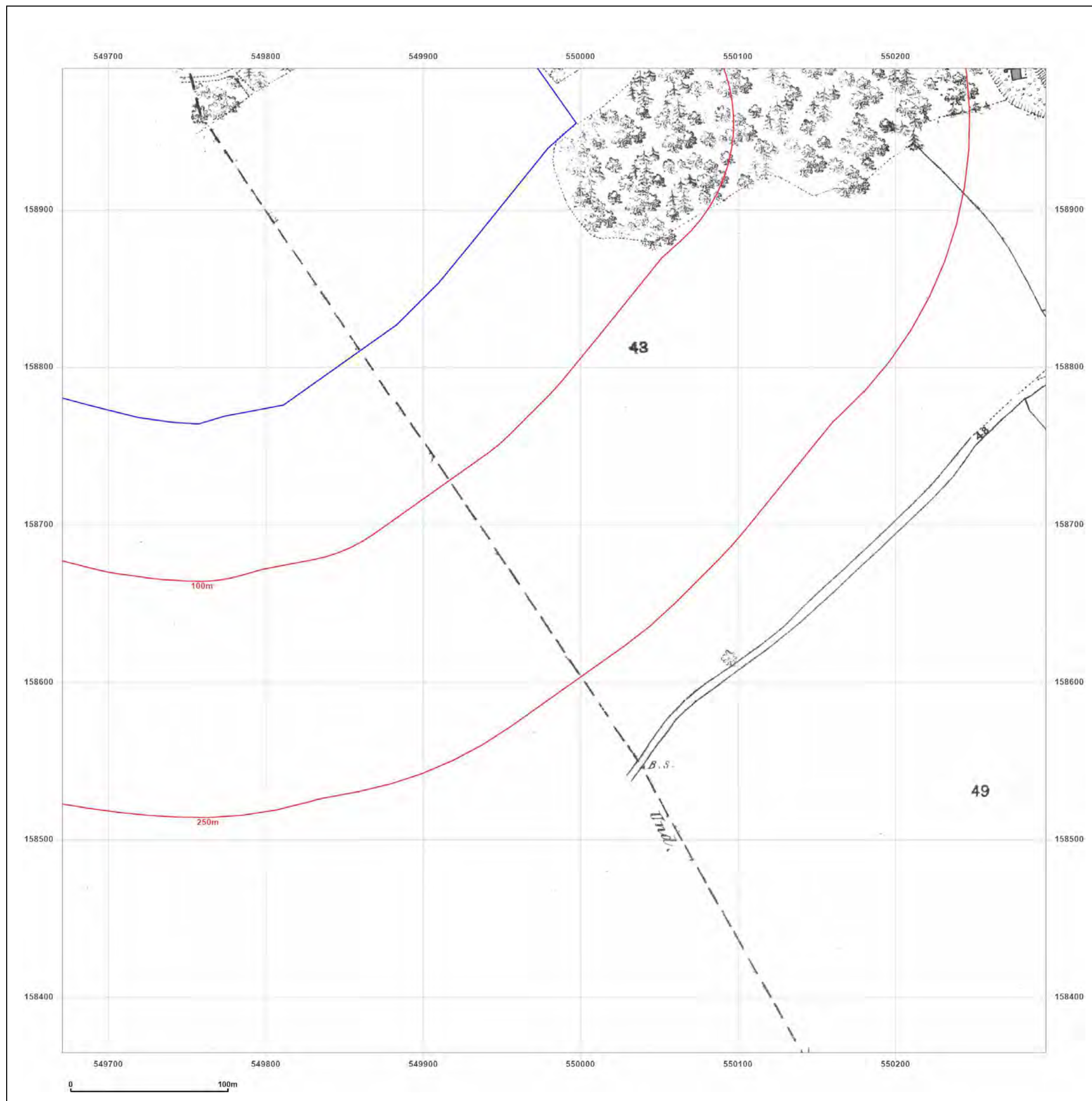


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Site Details:

FORT HALSTEAD, TN14 7BS

Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_1
Grid Ref: 549983, 158677

Map Name: County Series

Map date: 1869

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1869
Revised 1869
Edition N/A
Copyright N/A
Levelled N/A

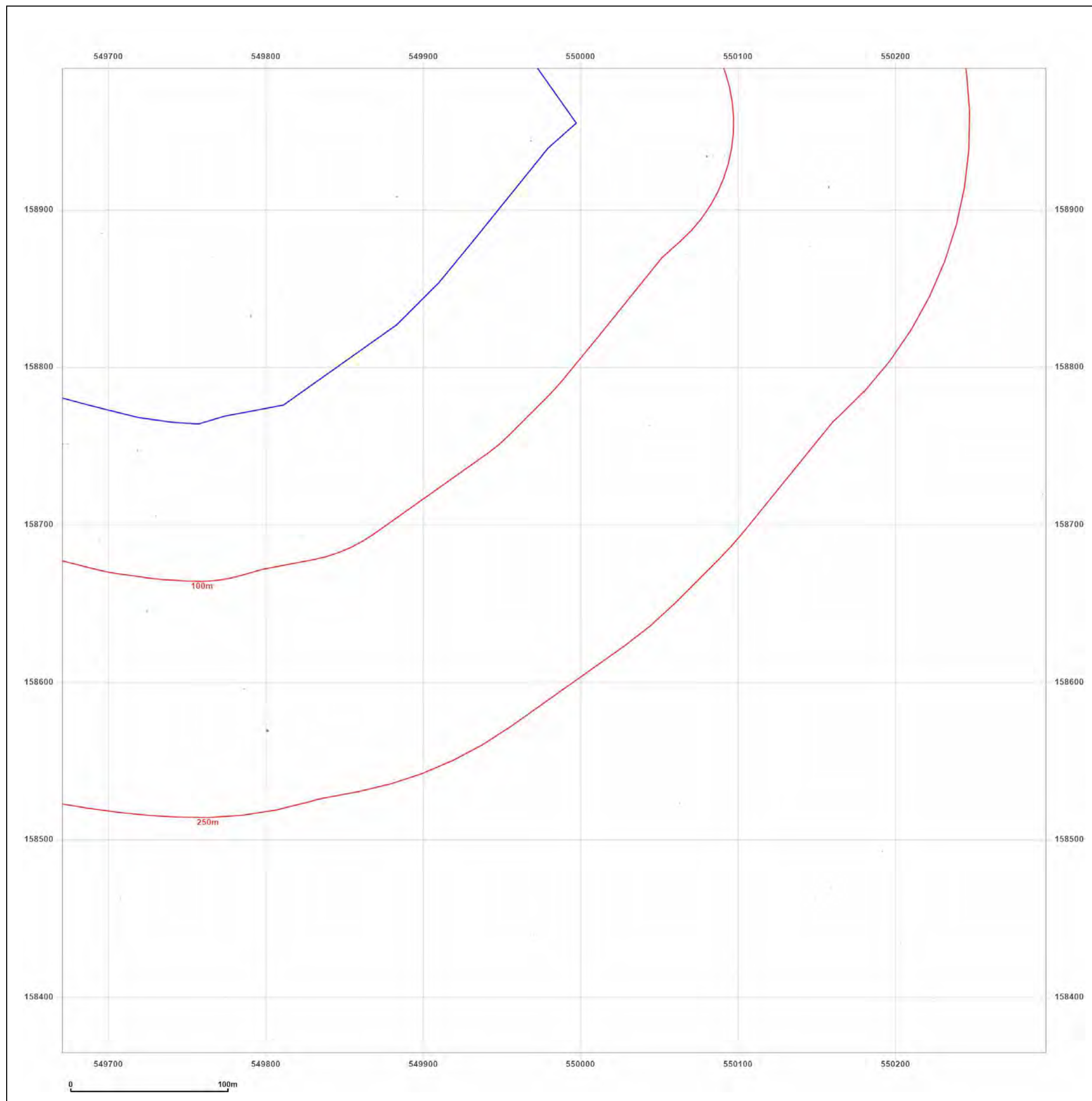


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Site Details:

FORT HALSTEAD, TN14 7BS

Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_1
Grid Ref: 549983, 158677

Map Name: County Series

Map date: 1896

Scale: 1:2,500

Printed at: 1:2,500



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



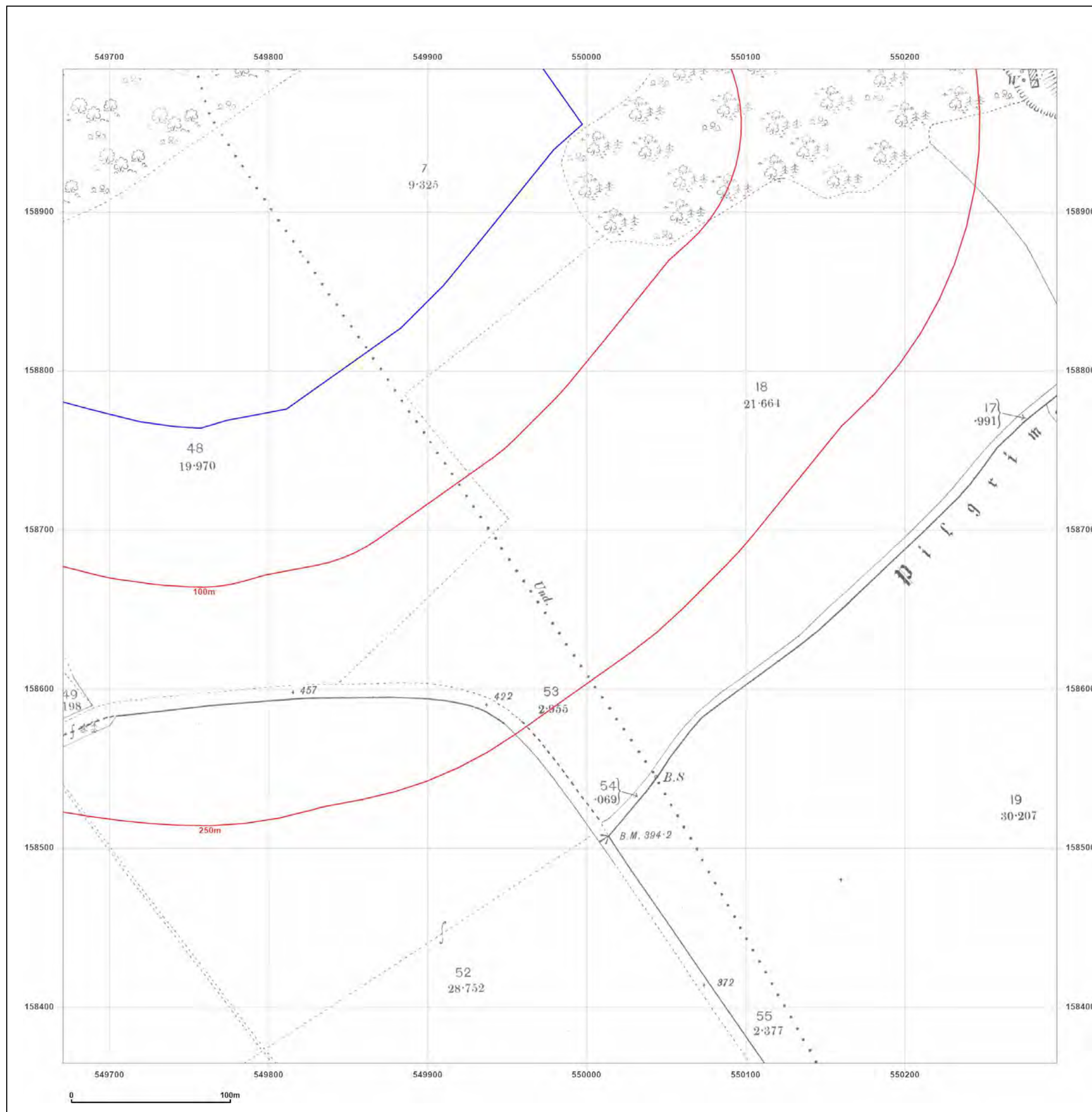
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Site Details:

FORT HALSTEAD, TN14 7BS

Client Ref: WIE18326-100_REQ109304

Report Ref: WTM1-7796077_LS_2_1

Grid Ref: 549983, 158677

Map Name: County Series

Map date: 1909

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1909
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

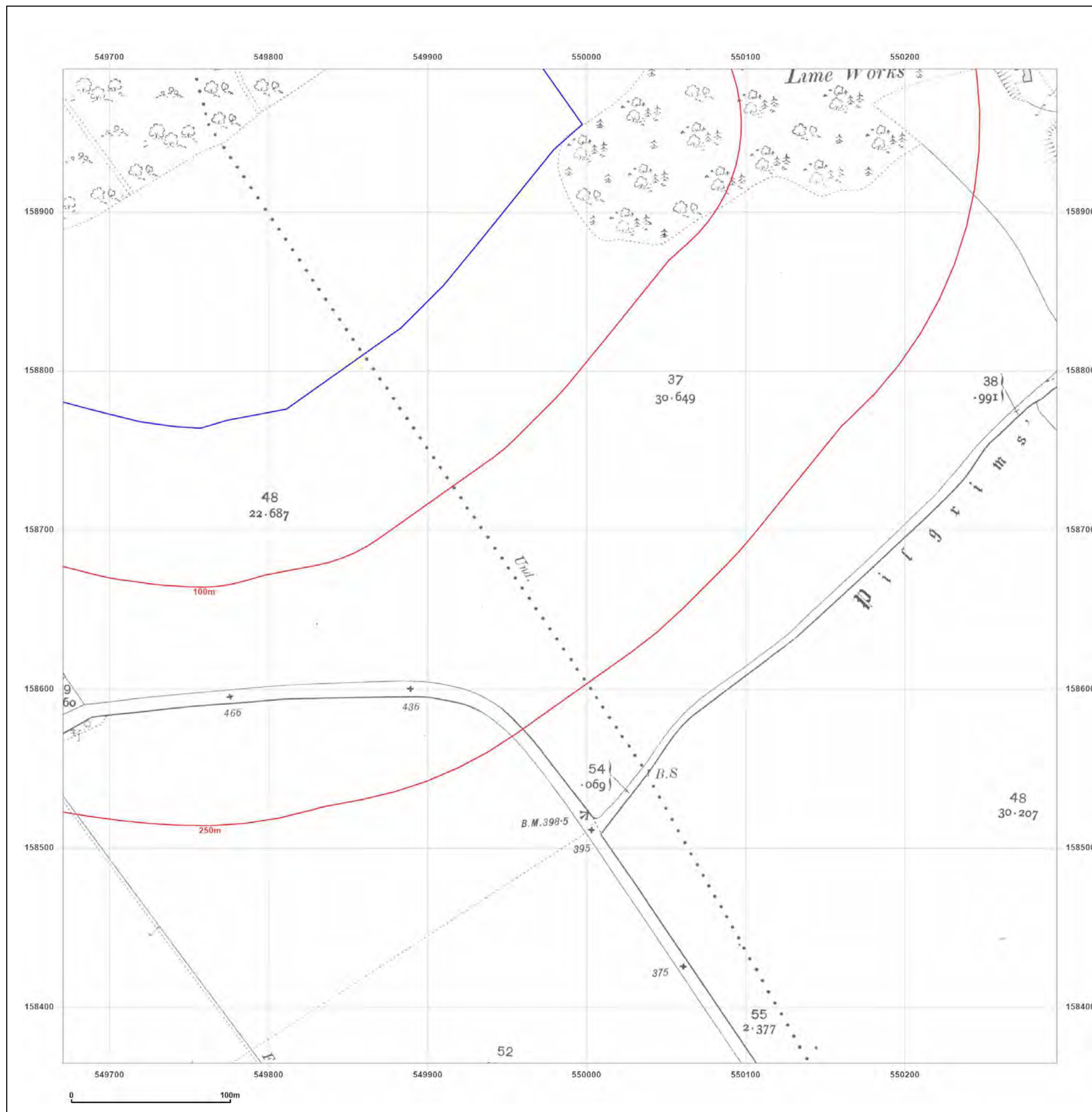


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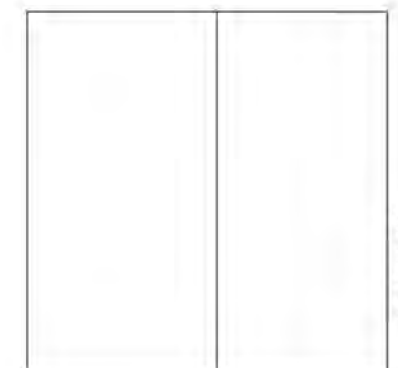
Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_1
Grid Ref: 549983, 158677

Map Name: National Grid

Map date: 1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
Revised 1968
Edition N/A
Copyright 1969
Levelled 1957

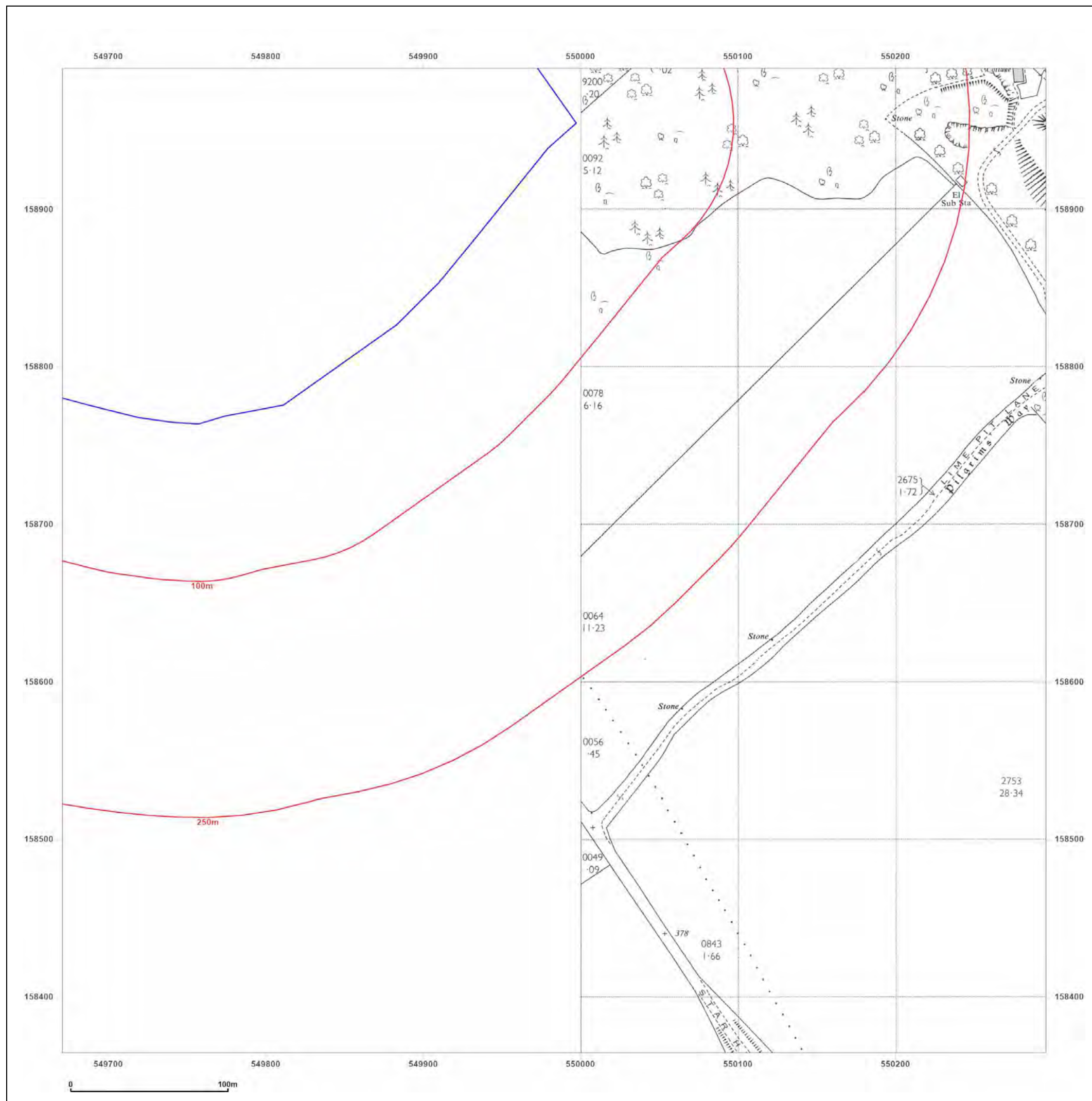


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Site Details:

FORT HALSTEAD, TN14 7BS

Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_1
Grid Ref: 549983, 158677

Map Name: National Grid

Map date: 1982

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1969
 Revised 1982
 Edition N/A
 Copyright 1982
 Levelled 1969

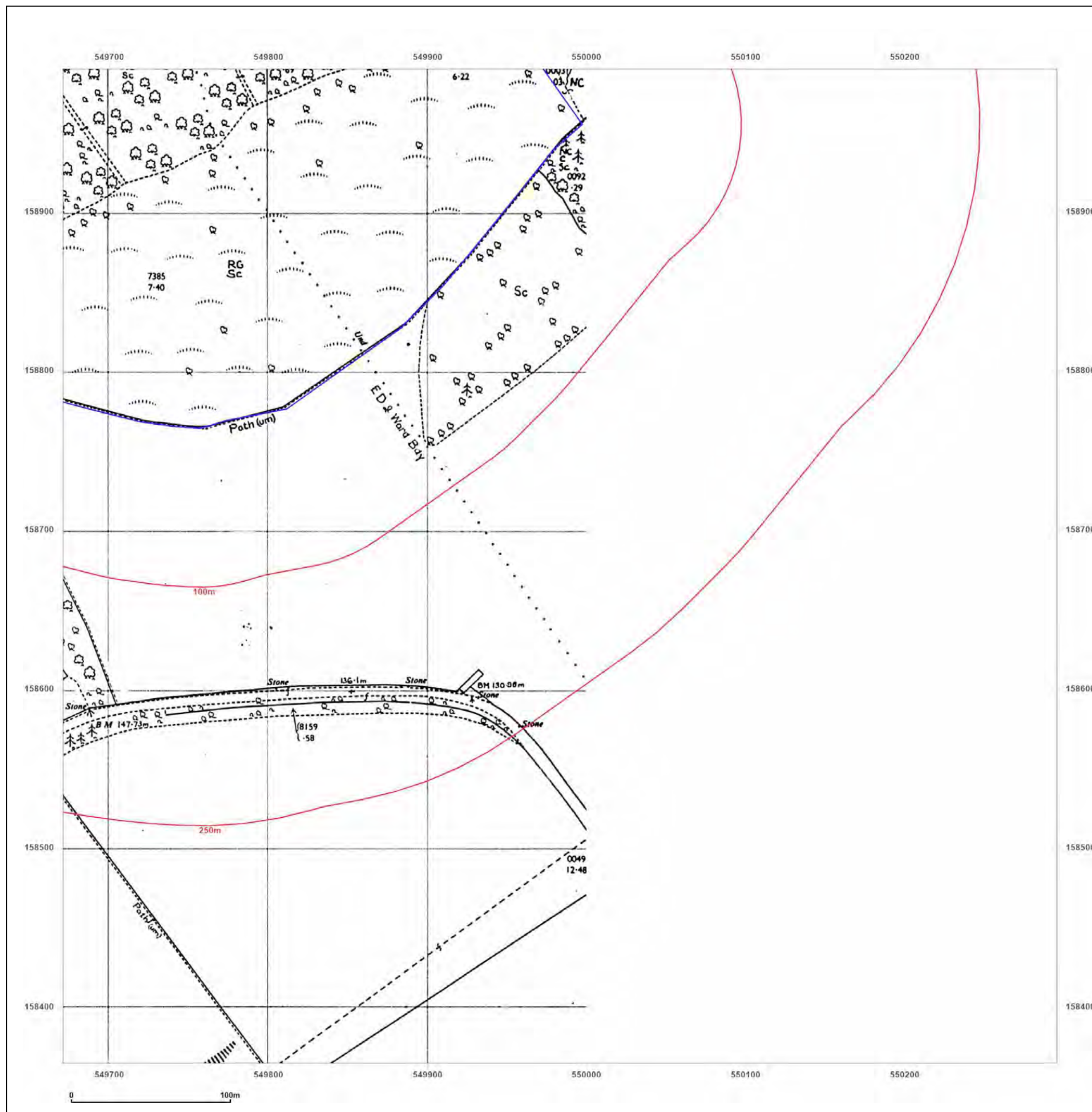


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Site Details:

FORT HALSTEAD, TN14 7BS

Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_1
Grid Ref: 549983, 158677

Map Name: National Grid

Map date: 1988

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1987
Revised 1988
Edition N/A
Copyright 1988
Levelled 1987

Surveyed 1983
Revised 1988
Edition N/A
Copyright 1988
Levelled 1983

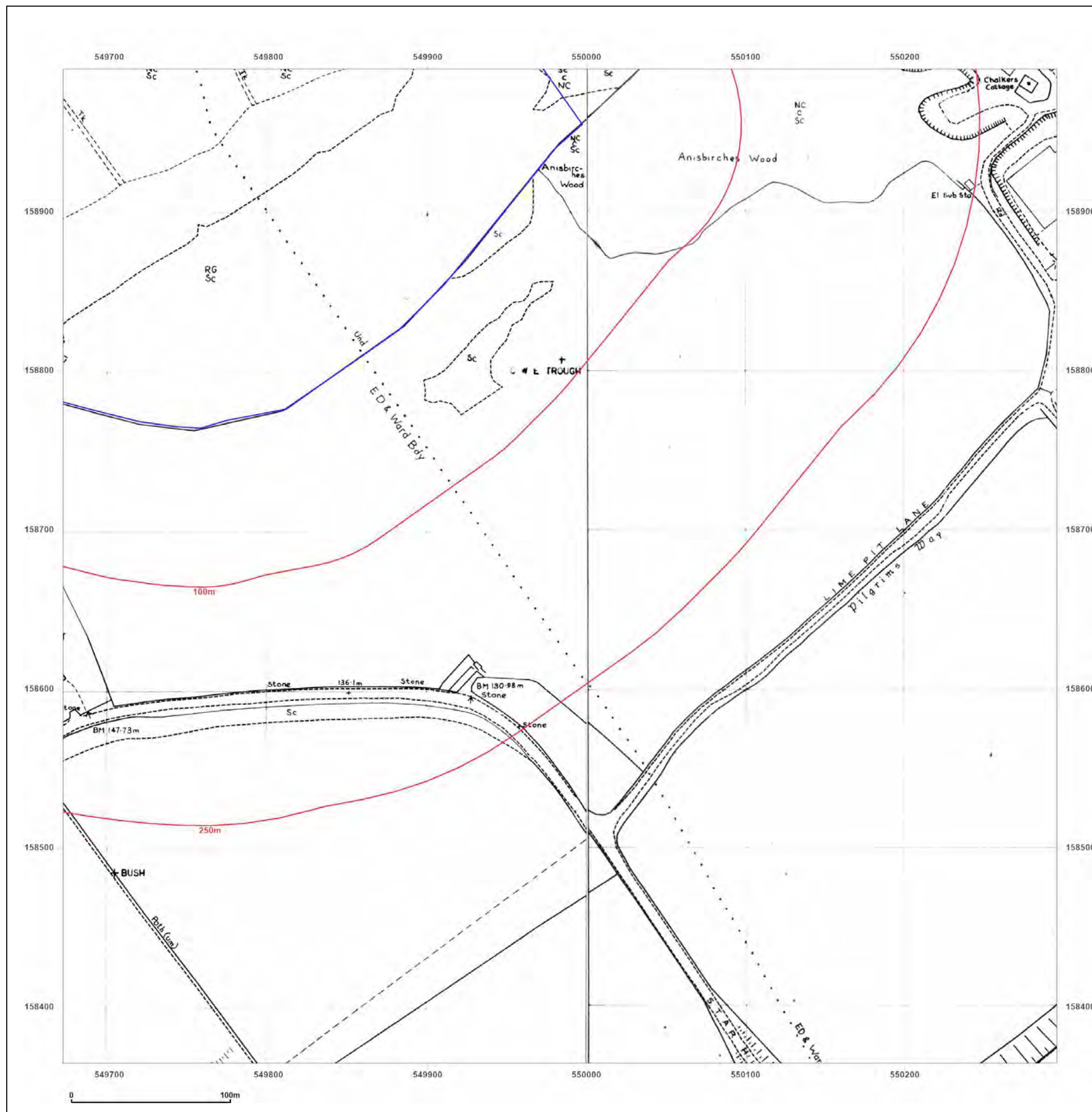


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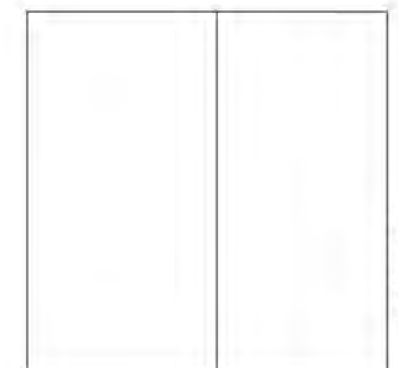
Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_1
Grid Ref: 549983, 158677

Map Name: National Grid

Map date: 1992

Scale: 1:2,500

Printed at: 1:2,500



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

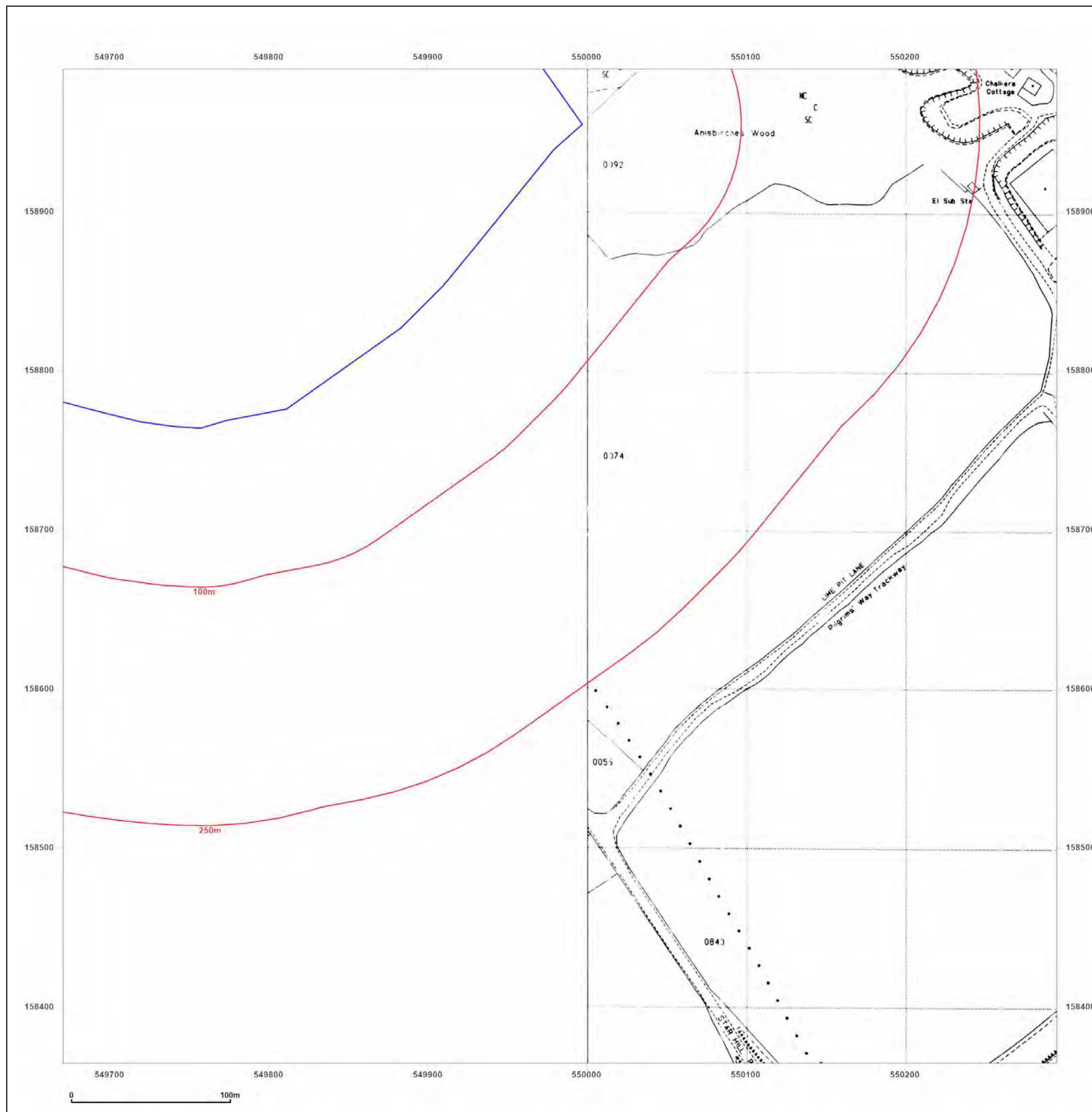


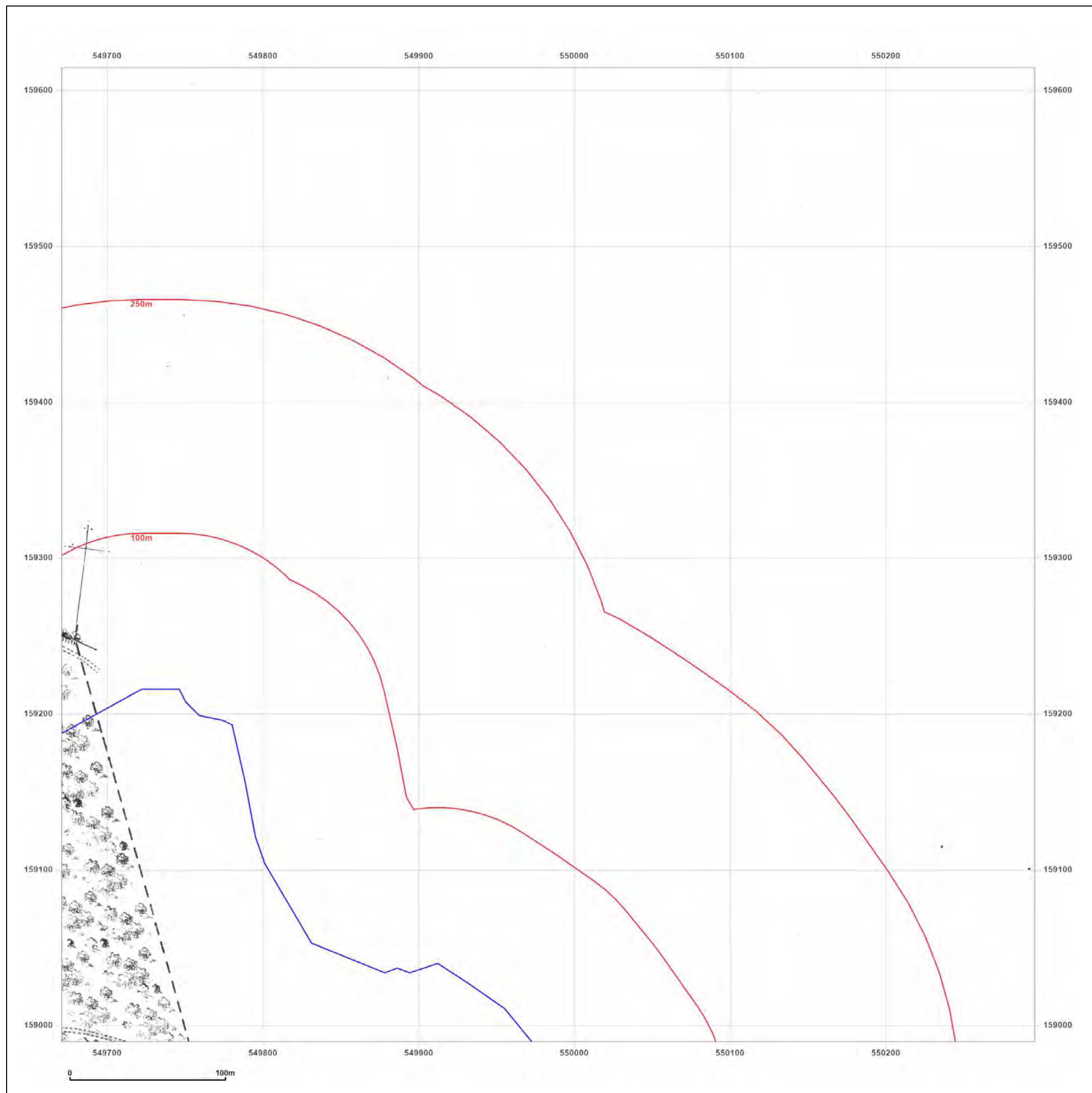
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Site Details:

FORT HALSTEAD, TN14 7BS

Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: County Series

Map date: 1869

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1869
Revised 1869
Edition N/A
Copyright N/A
Levelled N/A

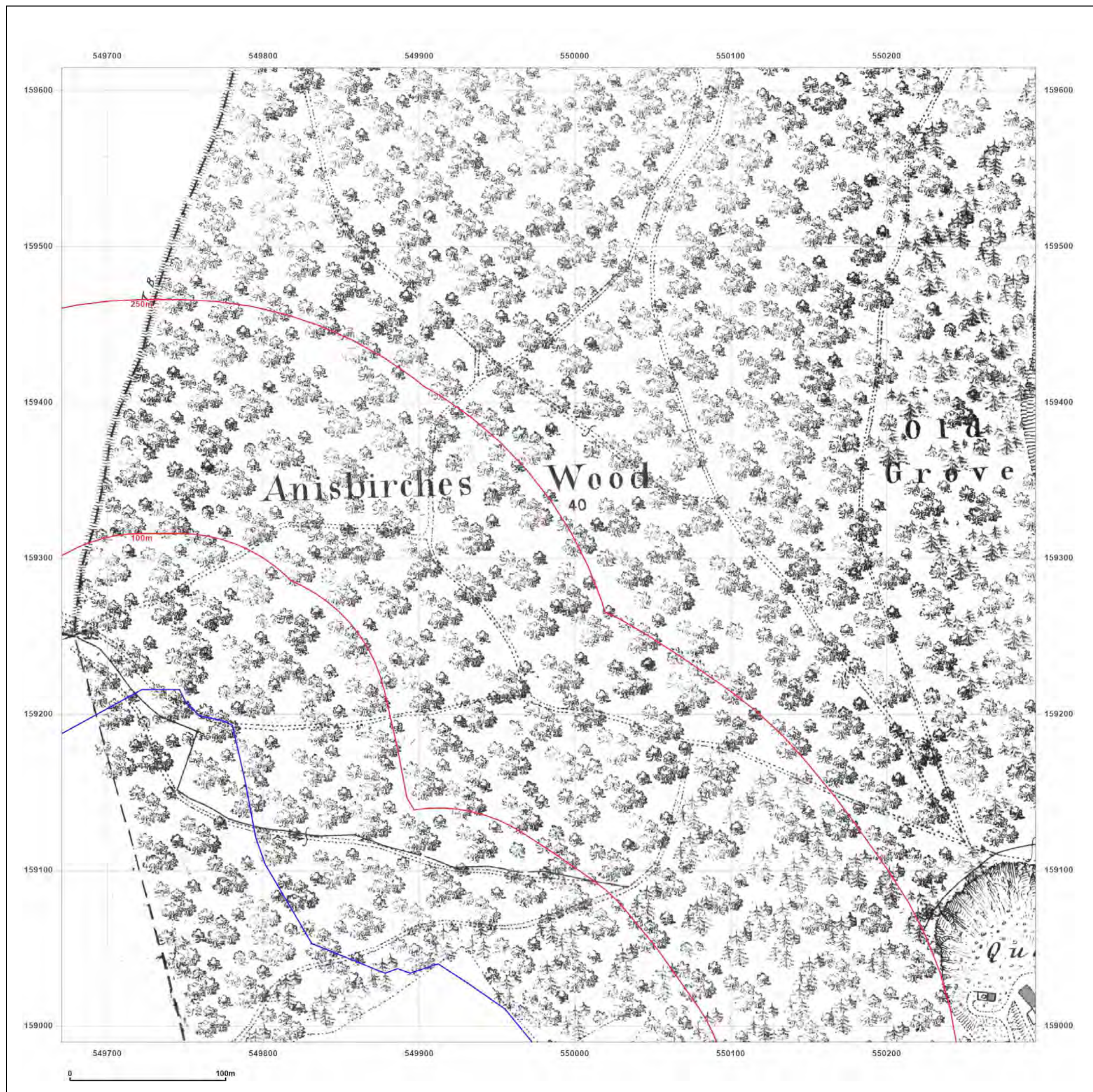


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Site Details:

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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: County Series

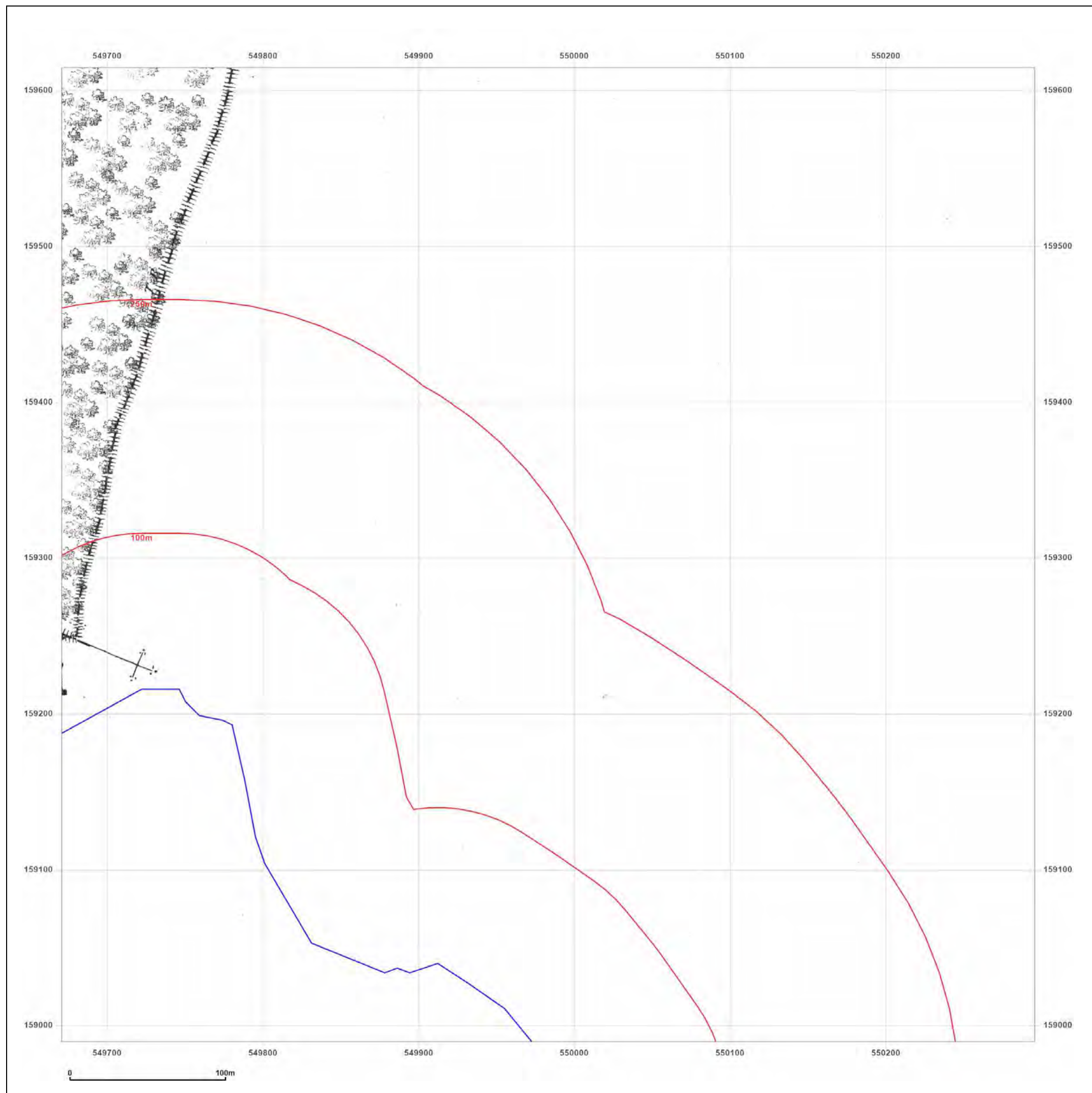
Map date: 1869

Scale: 1:2,500

Printed at: 1:2,500

Surveyed 1869
Revised 1869
Edition N/A
Copyright N/A
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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: County Series

Map date: 1869

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1869
Revised 1869
Edition N/A
Copyright N/A
Levelled N/A



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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: County Series

Map date: 1896

Scale: 1:2,500

Printed at: 1:2,500



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



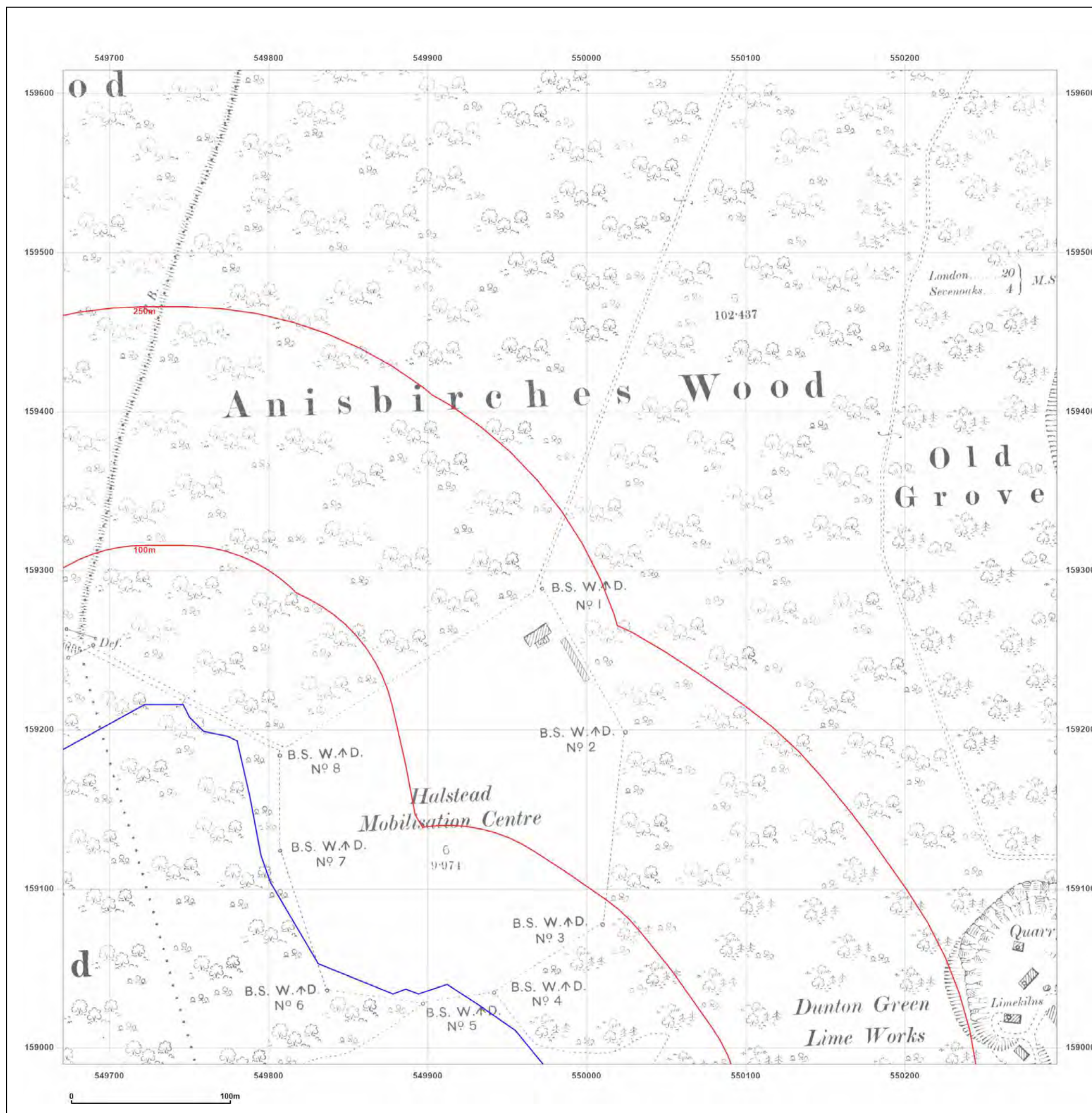
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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: County Series

Map date: 1909

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1909
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A



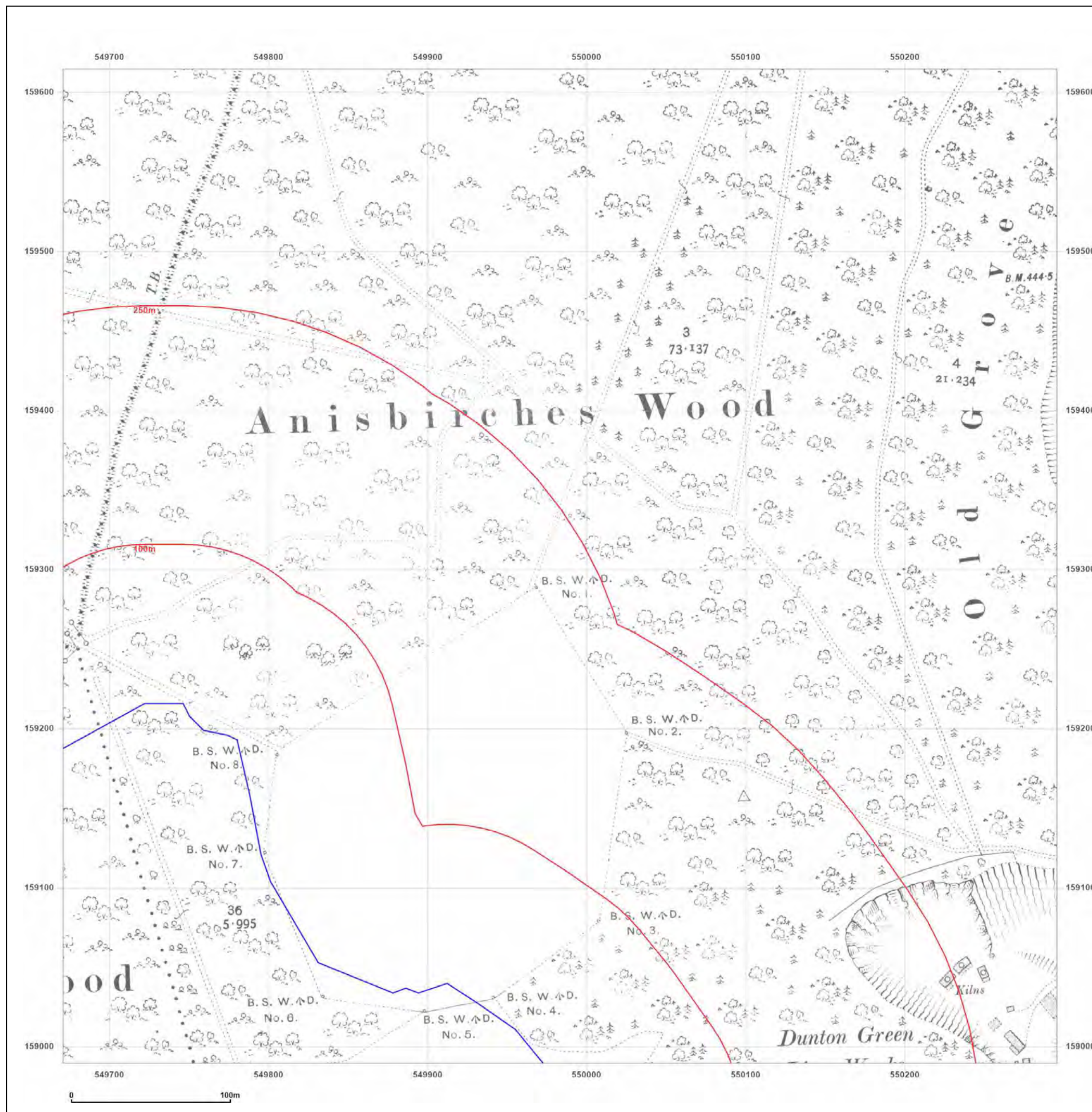
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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: National Grid

Map date: 1961

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1963
Levelled 1952

Surveyed 1961
Revised 1961
Edition N/A
Copyright 1963
Levelled 1952

Surveyed 1961
Revised 1961
Edition N/A
Copyright 1963
Levelled 1952

Surveyed 1961
Revised 1961
Edition N/A
Copyright 1963
Levelled 1952

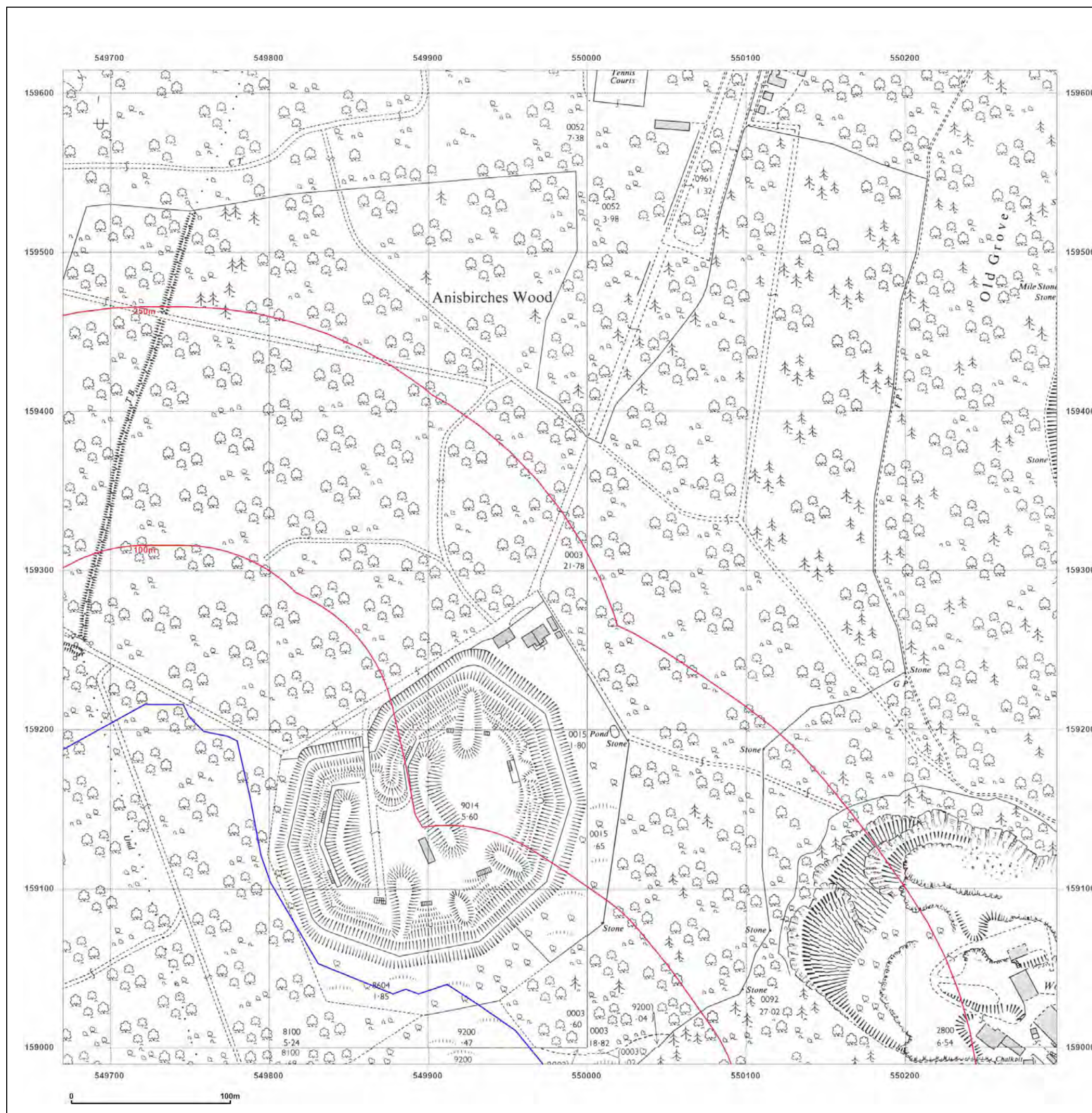


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Site Details:

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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: National Grid

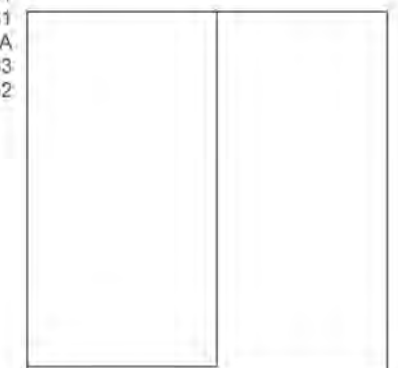
Map date: 1961

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1963
Levelled 1952

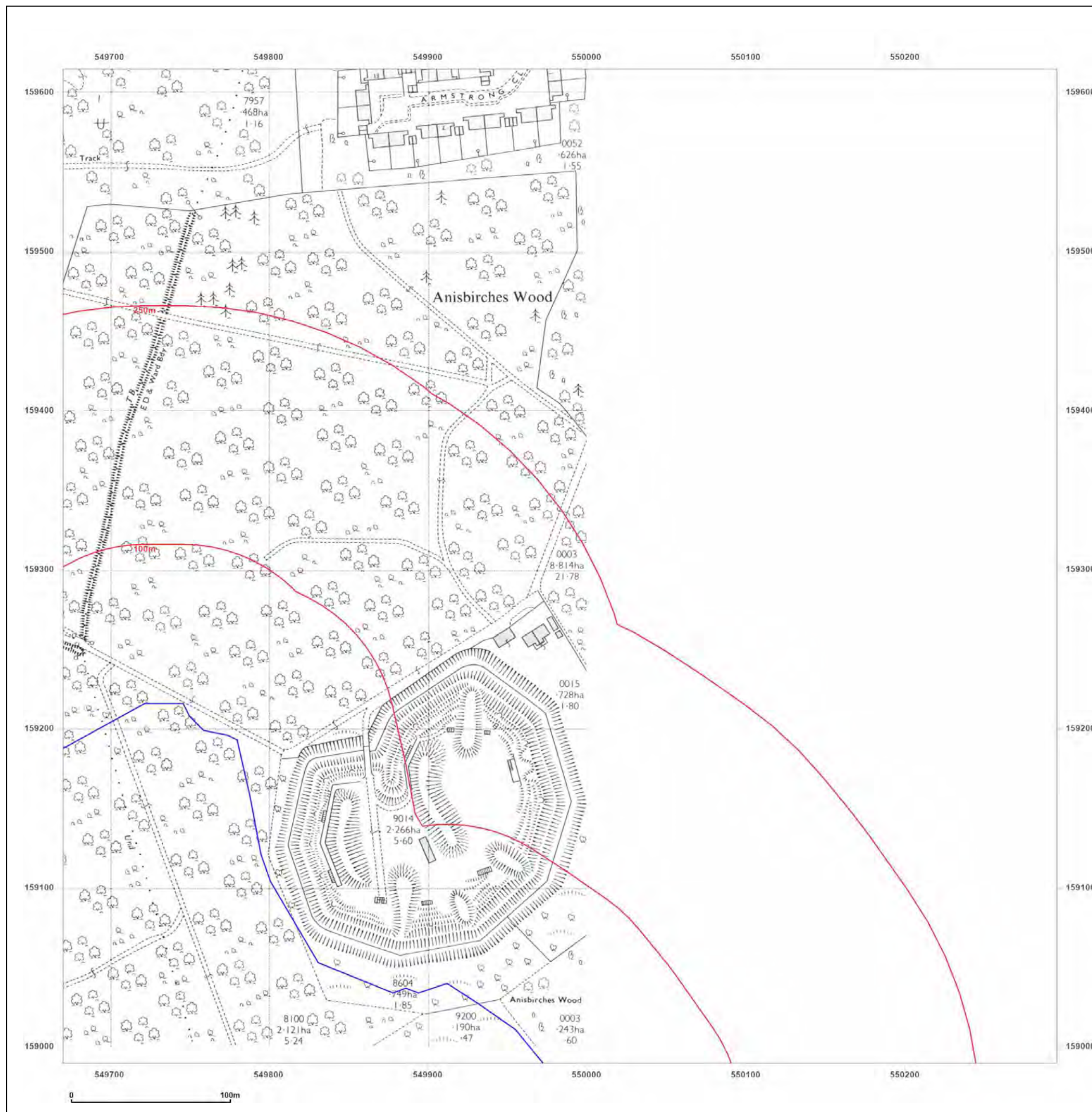


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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: National Grid

Map date: 1961-1963

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1961
Edition N/A
Copyright 1963
Levelled 1952

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

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

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

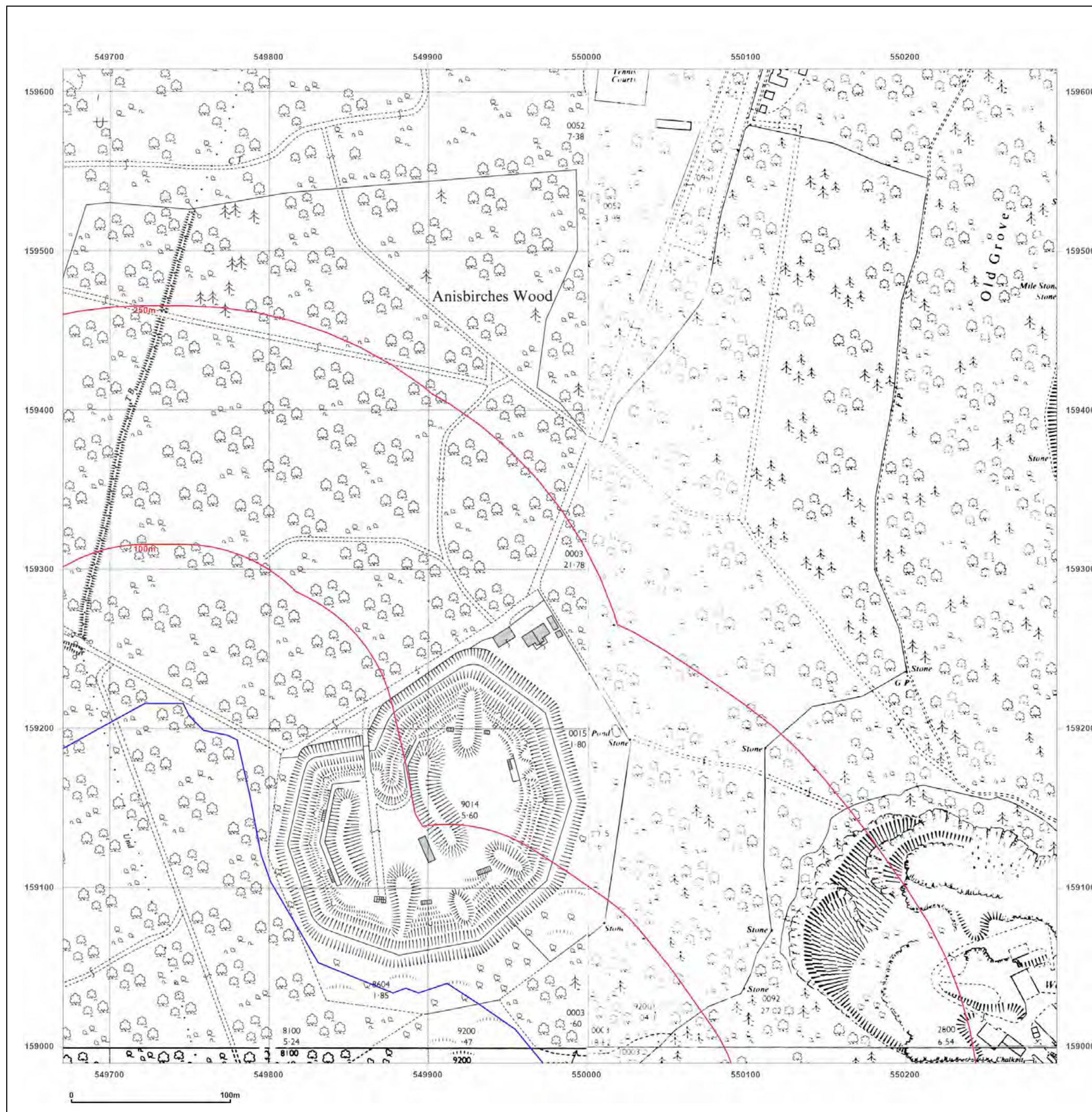


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Site Details:

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Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: National Grid

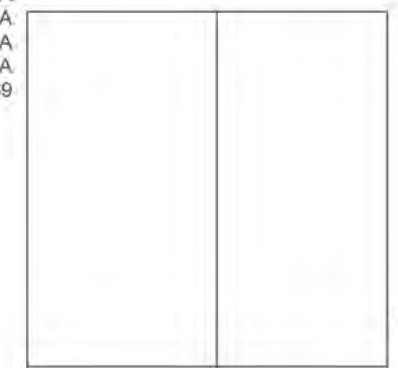
Map date: 1968-1969

Scale: 1:2,500

Printed at: 1:2,500



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



Surveyed 1968
Revised 1968
Edition N/A
Copyright 1969
Levelled 1957



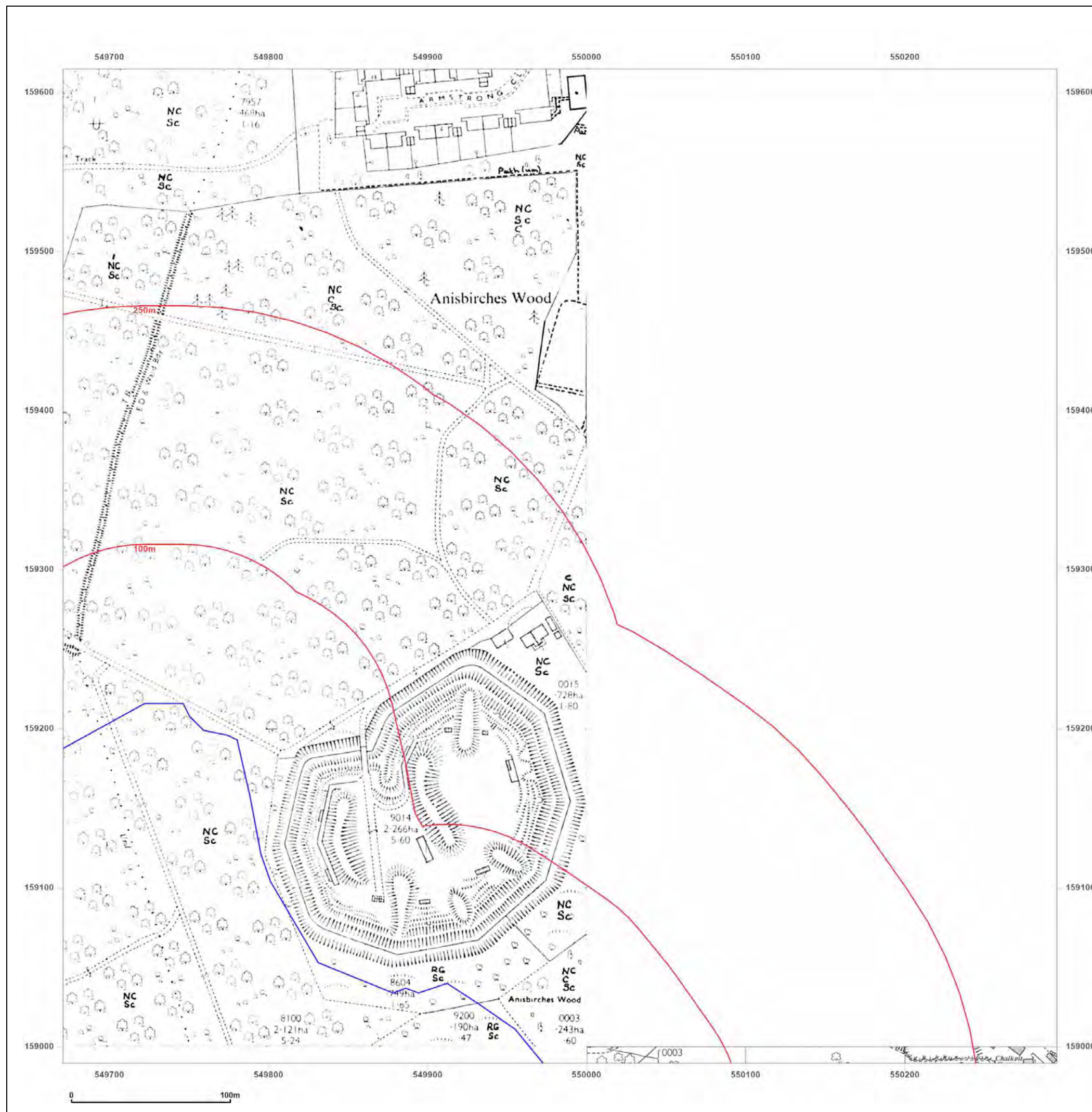
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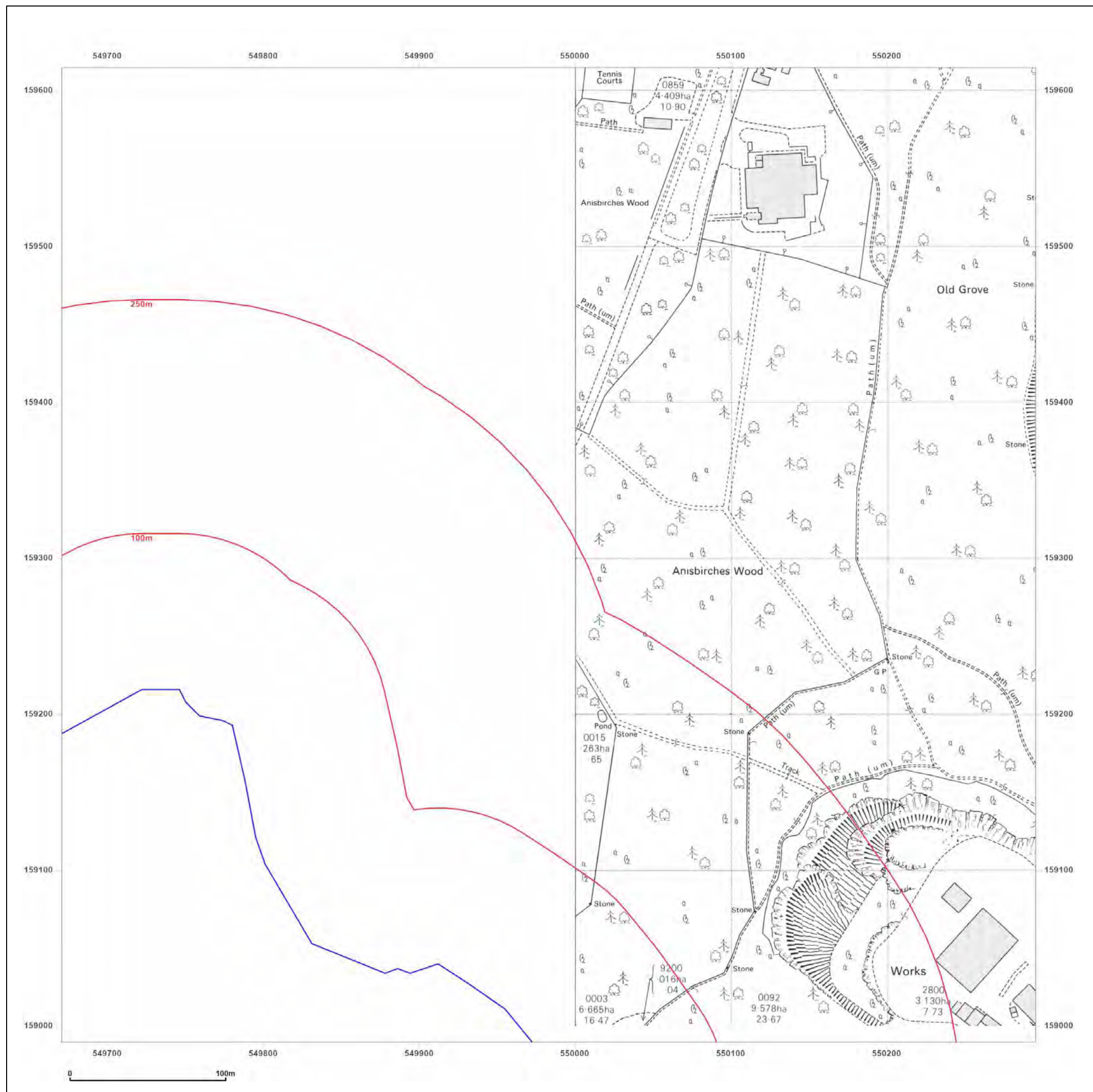


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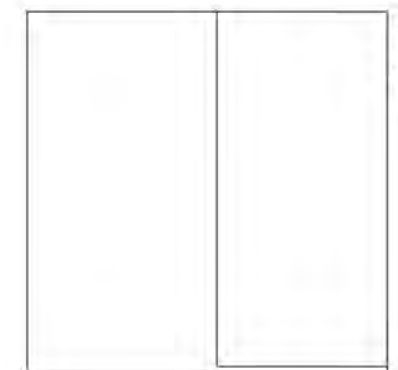
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Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: National Grid

Map date: 1981

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1961
Revised 1981
Edition N/A
Copyright 1982
Levelled 1967

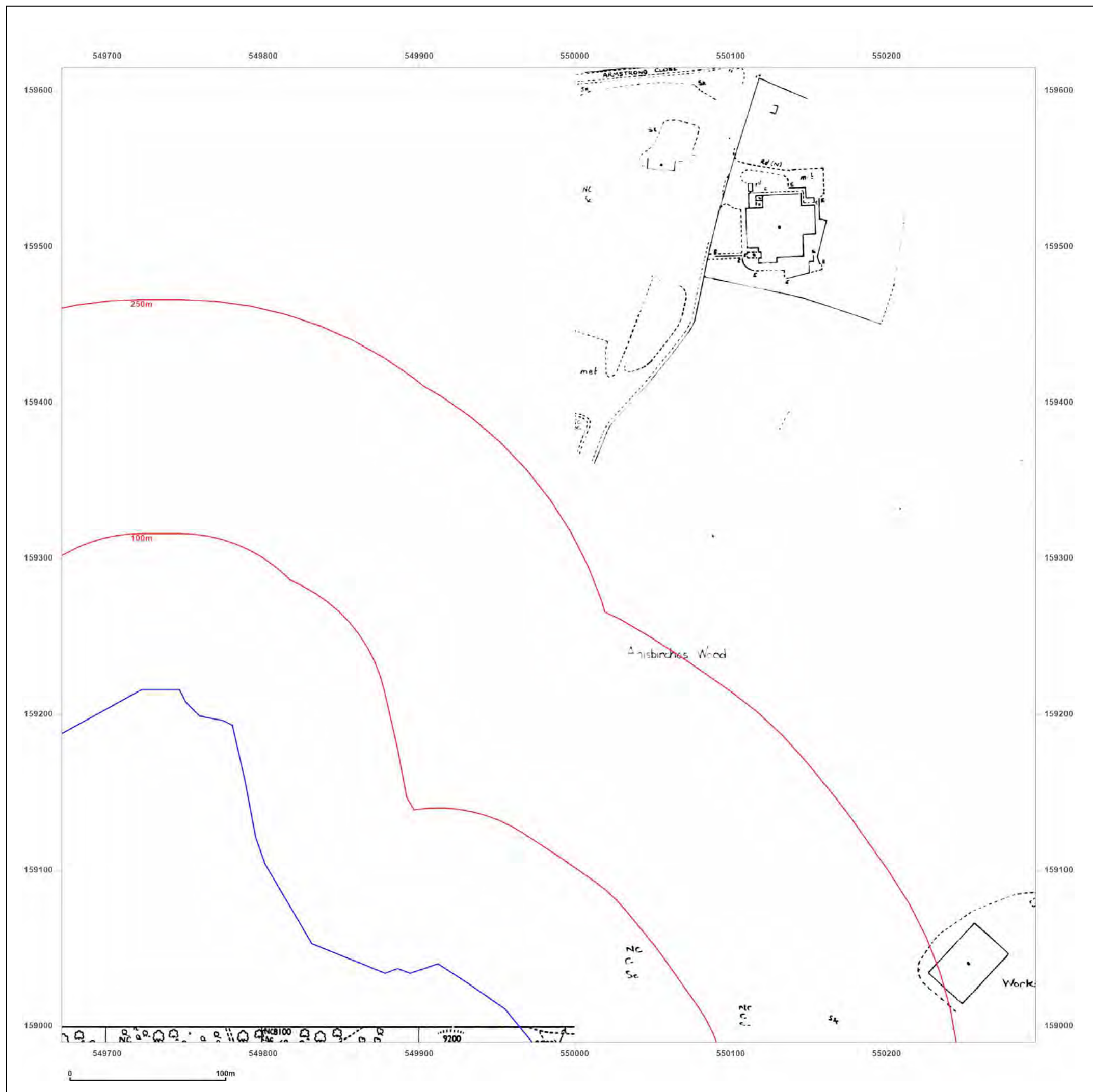


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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: National Grid

Map date: 1978-1982

Scale: 1:2,500

Printed at: 1:2,500



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

Surveyed 1969
Revised 1982
Edition N/A
Copyright 1982
Levelled 1969



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Site Details:

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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: National Grid

Map date: 1988-1992

Scale: 1:2,500

Printed at: 1:2,500



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

Surveyed 1982
Revised 1988
Edition N/A
Copyright 1988
Levelled 1982

Surveyed 1987
Revised 1988
Edition N/A
Copyright 1988
Levelled 1987

Surveyed 1983
Revised 1988
Edition N/A
Copyright 1988
Levelled 1983

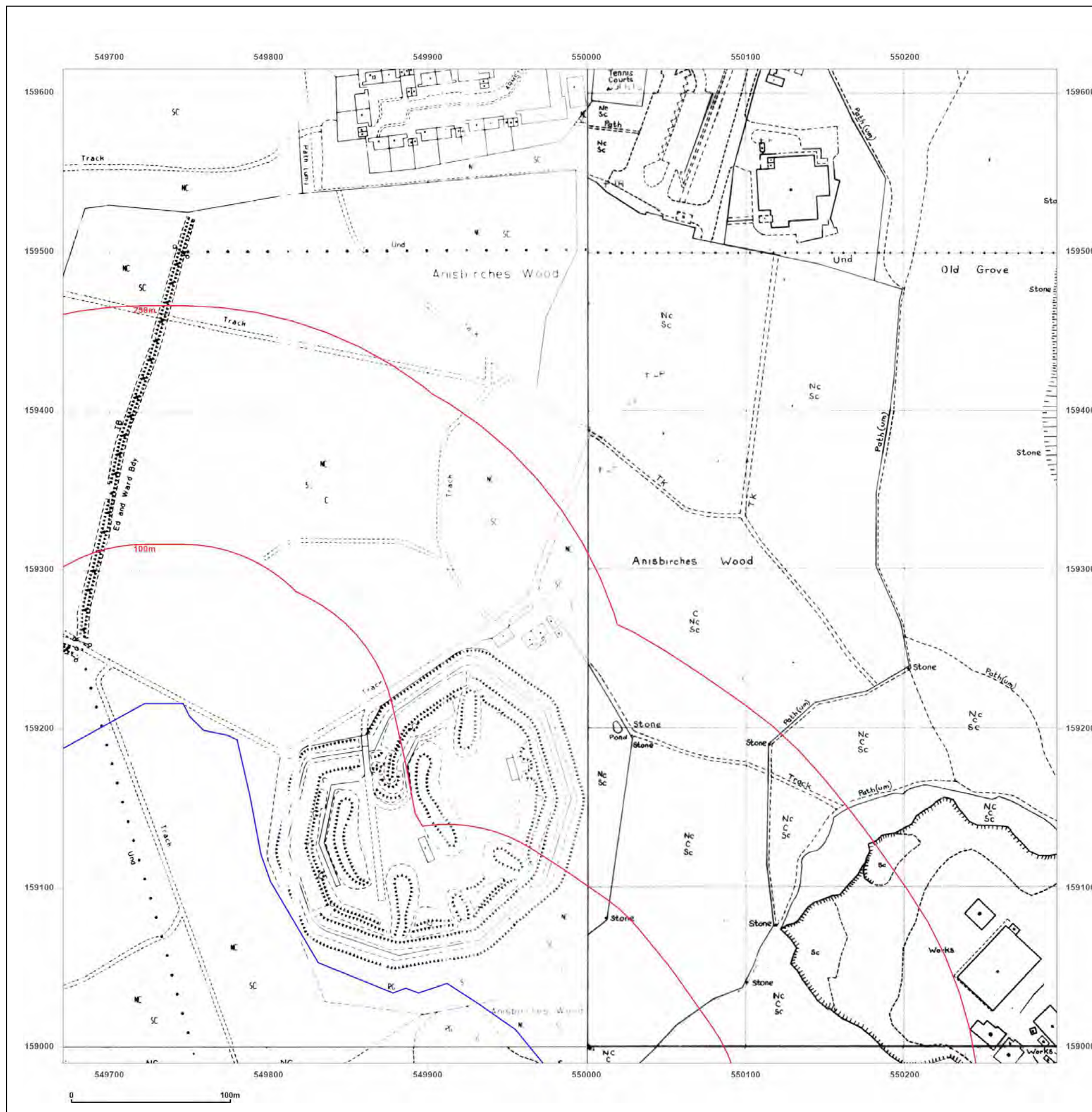


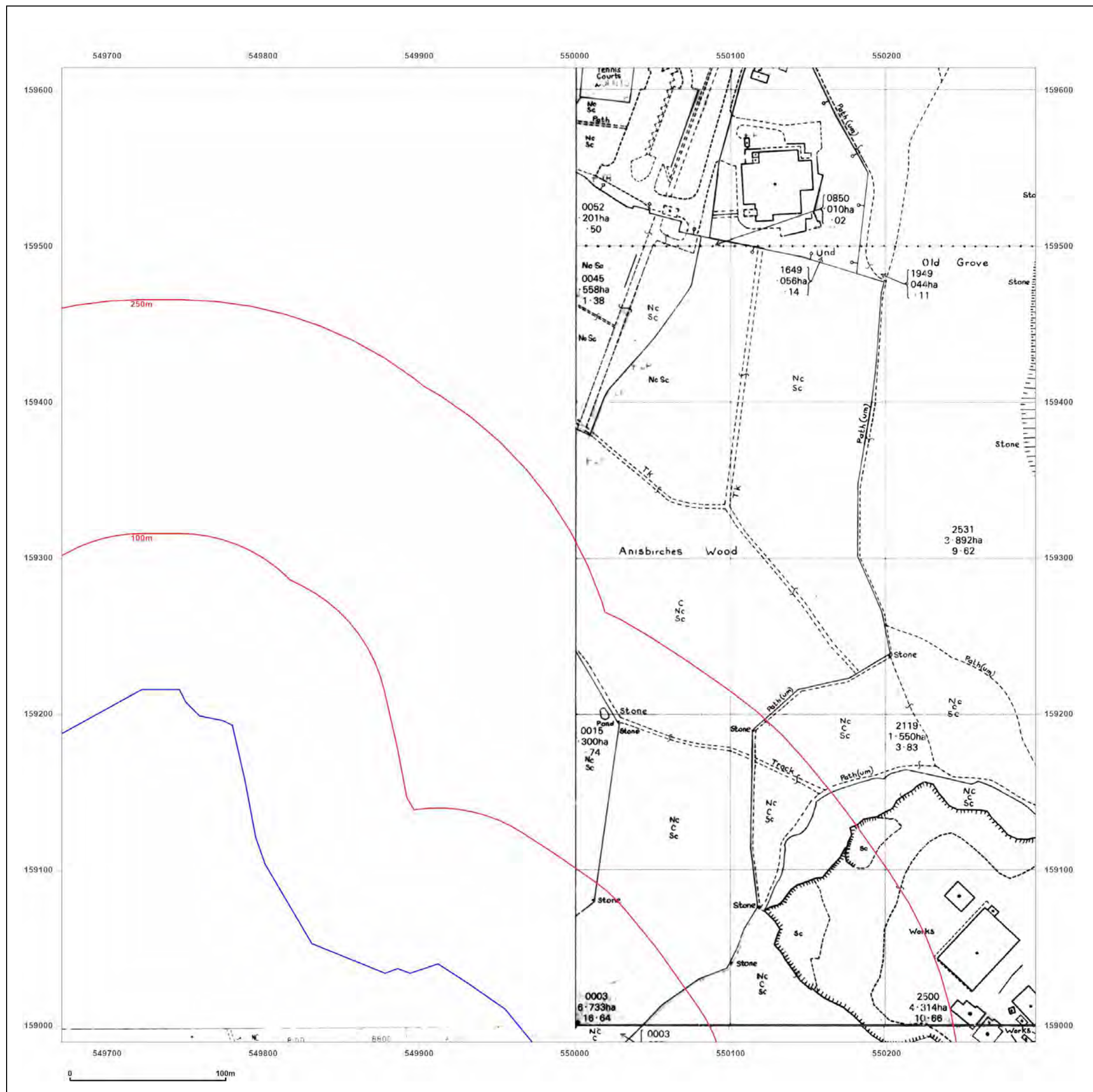
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Site Details:

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Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: National Grid

Map date: 1989-1992

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A
Revised N/A
Edition N/A
Copyright 1989
Levelled 1982

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1989
Levelled 1983

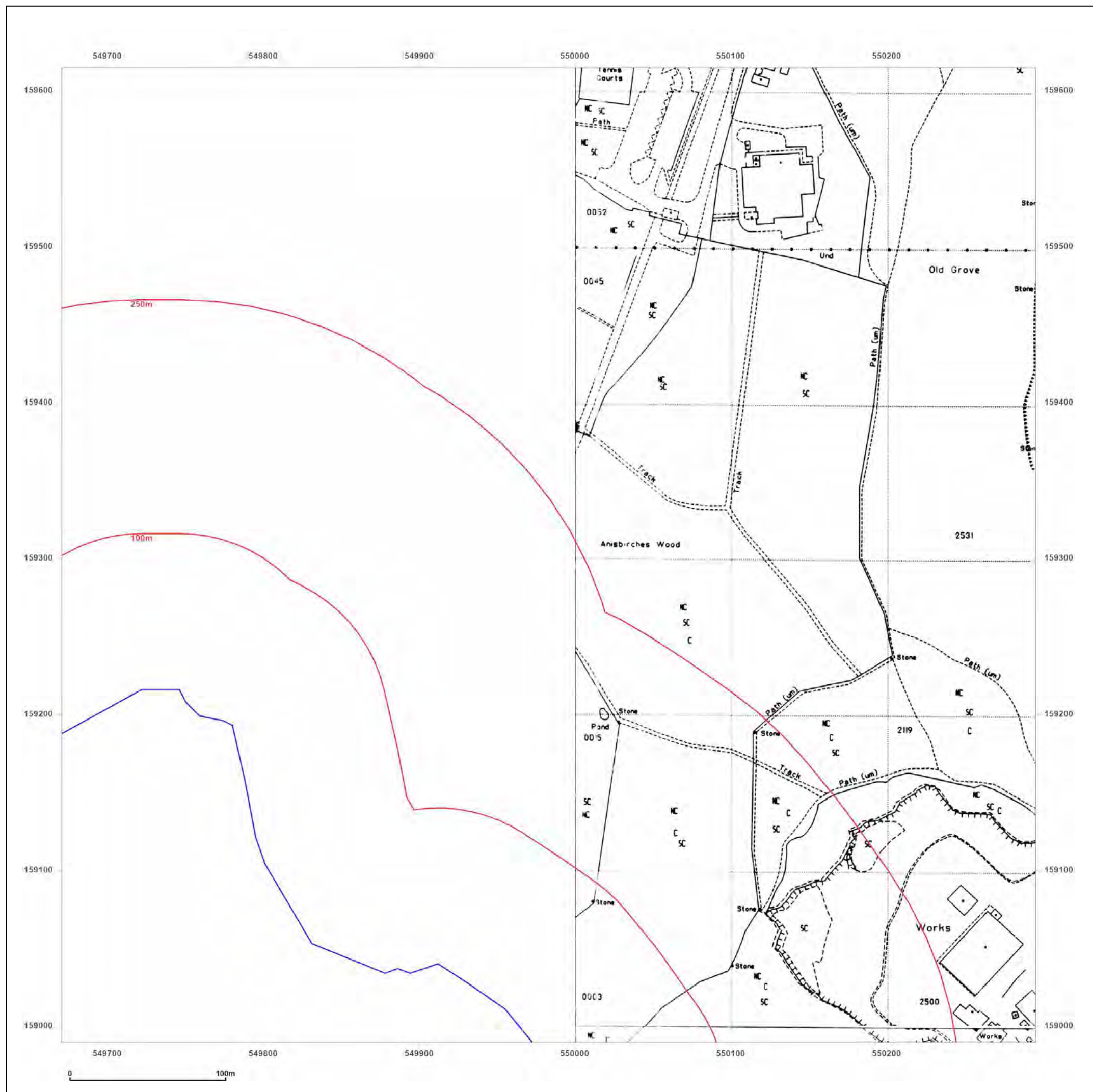


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Site Details:

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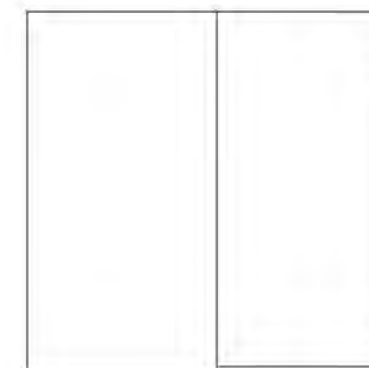
Client Ref: WIE18326-100_REQ109304
Report Ref: WTM1-7796077_LS_2_2
Grid Ref: 549983, 159302

Map Name: National Grid

Map date: 1992

Scale: 1:2,500

Printed at: 1:2,500



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

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Revised N/A
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Levelled N/A



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FORT HALSTEAD, TN14 7BS

Order Details

Date: 27/04/2021
Your ref: WIE18326-100__REQ109304
Our Ref: WTM1-7796078
Client: Waterman Infrastructure & Environment Limited

Site Details

Location: 549645 158957
Area: 17.32 ha
Authority: [Sevenoaks District Council](#)



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Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

N/A: >10ha

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08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	0	1	24	18	-
15	1.2	Historical tanks	0	0	1	2	-
16	1.3	Historical energy features	0	0	2	0	-
16	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
17	1.6	Historical military land	1	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
18	2.1	Historical industrial land uses	0	1	33	25	-
21	2.2	Historical tanks	0	0	1	2	-
21	2.3	Historical energy features	0	0	4	0	-
21	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	Active or recent landfill	0	0	0	0	-
23	3.2	Historical landfill (BGS records)	0	0	0	0	-
24	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
24	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
24	3.5	Historical waste sites	0	0	0	0	-
24	3.6	Licensed waste sites	0	0	0	0	-
24	3.7	Waste exemptions	0	0	0	6	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
26	4.1	Recent industrial land uses	1	0	3	-	-
27	4.2	Current or recent petrol stations	0	0	0	0	-
27	4.3	Electricity cables	0	0	0	0	-
27	4.4	Gas pipelines	0	0	0	2	-
28	4.5	Sites determined as Contaminated Land	0	0	0	0	-



28	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
28	4.7	Regulated explosive sites	0	0	0	0	-
28	4.8	Hazardous substance storage/usage	0	0	0	0	-
28	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
29	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
29	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	0	3	-
29	4.12	<u>Radioactive Substance Authorisations</u>	0	0	1	4	-
30	4.13	<u>Licensed Discharges to controlled waters</u>	0	0	1	5	-
31	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
32	4.15	Pollutant release to public sewer	0	0	0	0	-
32	4.16	List 1 Dangerous Substances	0	0	0	0	-
32	4.17	List 2 Dangerous Substances	0	0	0	0	-
32	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
32	4.19	Pollution inventory substances	0	0	0	0	-
33	4.20	Pollution inventory waste transfers	0	0	0	0	-
33	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
34	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
35	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
37	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
39	5.4	<u>Groundwater vulnerability- soluble rock risk</u>	Identified (within 0m)				
39	5.5	Groundwater vulnerability- local information	None (within 0m)				
40	5.6	<u>Groundwater abstractions</u>	0	0	0	0	2
41	5.7	Surface water abstractions	0	0	0	0	0
41	5.8	<u>Potable abstractions</u>	0	0	0	0	1
42	5.9	Source Protection Zones	0	0	0	0	-
42	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
43	6.1	Water Network (OS MasterMap)	0	0	0	-	-



43	6.2	Surface water features	0	0	0	-	-
44	6.3	<u>WFD Surface water body catchments</u>	2	-	-	-	-
44	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
45	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
46	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
46	7.2	Historical Flood Events	0	0	0	-	-
46	7.3	Flood Defences	0	0	0	-	-
46	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
47	7.5	Flood Storage Areas	0	0	0	-	-
48	7.6	Flood Zone 2	None (within 50m)				
48	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
49	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding					
50	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
51	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
52	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
52	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
52	10.4	Special Protection Areas (SPA)	0	0	0	0	0
52	10.5	National Nature Reserves (NNR)	0	0	0	0	0
53	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
53	10.7	<u>Designated Ancient Woodland</u>	5	3	1	9	37
55	10.8	Biosphere Reserves	0	0	0	0	0
55	10.9	Forest Parks	0	0	0	0	0
56	10.10	Marine Conservation Zones	0	0	0	0	0
56	10.11	<u>Green Belt</u>	1	0	0	0	0
56	10.12	Proposed Ramsar sites	0	0	0	0	0



56	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
57	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
57	10.15	Nitrate Sensitive Areas	0	0	0	0	0
57	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
58	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	2	-	-	-	-
59	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
60	11.1	World Heritage Sites	0	0	0	-	-
61	<u>11.2</u>	<u>Area of Outstanding Natural Beauty</u>	1	0	0	-	-
61	11.3	National Parks	0	0	0	-	-
61	<u>11.4</u>	<u>Listed Buildings</u>	0	0	3	-	-
62	<u>11.5</u>	<u>Conservation Areas</u>	1	0	0	-	-
62	<u>11.6</u>	<u>Scheduled Ancient Monuments</u>	1	0	0	-	-
63	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
64	<u>12.1</u>	<u>Agricultural Land Classification</u>	Grade 4 (within 250m)				
65	<u>12.2</u>	<u>Open Access Land</u>	1	0	0	-	-
65	12.3	Tree Felling Licences	0	0	0	-	-
65	<u>12.4</u>	<u>Environmental Stewardship Schemes</u>	0	0	1	-	-
66	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
67	<u>13.1</u>	<u>Priority Habitat Inventory</u>	10	3	18	-	-
69	<u>13.2</u>	<u>Habitat Networks</u>	1	1	2	-	-
69	<u>13.3</u>	<u>Open Mosaic Habitat</u>	0	0	1	-	-
69	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
71	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
72	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	0	0	2	0	-
73	<u>14.3</u>	<u>Superficial geology (10k)</u>	1	0	0	0	-

74	14.4	Landslip (10k)	0	0	0	0	-
75	14.5	<u>Bedrock geology (10k)</u>	2	0	2	0	-
76	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
77	15.1	<u>50k Availability</u>	Identified (within 500m)				
78	15.2	Artificial and made ground (50k)	0	0	0	0	-
78	15.3	Artificial ground permeability (50k)	0	0	-	-	-
79	15.4	<u>Superficial geology (50k)</u>	1	0	0	0	-
80	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
80	15.6	Landslip (50k)	0	0	0	0	-
80	15.7	Landslip permeability (50k)	None (within 50m)				
81	15.8	<u>Bedrock geology (50k)</u>	2	0	2	0	-
82	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
82	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
83	16.1	<u>BGS Boreholes</u>	0	1	3	-	-
Page	Section	Natural ground subsidence					
85	17.1	<u>Shrink swell clays</u>	Low (within 50m)				
87	17.2	<u>Running sands</u>	Negligible (within 50m)				
89	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
90	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
91	17.5	<u>Landslides</u>	Moderate (within 50m)				
93	17.6	<u>Ground dissolution of soluble rocks</u>	Moderate (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
95	18.1	<u>Natural cavities</u>	1	0	1	0	-
96	18.2	<u>BritPits</u>	0	0	1	2	-
97	18.3	<u>Surface ground workings</u>	0	1	21	-	-
98	18.4	Underground workings	0	0	0	0	0
98	18.5	<u>Historical Mineral Planning Areas</u>	0	0	1	0	-



98	18.6	<u>Non-coal mining</u>	1	1	0	0	5
99	18.7	Mining cavities	0	0	0	0	0
99	18.8	JPB mining areas	None (within 0m)				
100	18.9	Coal mining	None (within 0m)				
100	18.10	Brine areas	None (within 0m)				
100	18.11	Gypsum areas	None (within 0m)				
100	18.12	Tin mining	None (within 0m)				
100	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
101	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
102	20.1	<u>BGS Estimated Background Soil Chemistry</u>	8	9	-	-	-
103	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
103	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
104	21.1	Underground railways (London)	0	0	0	-	-
104	21.2	Underground railways (Non-London)	0	0	0	-	-
105	21.3	Railway tunnels	0	0	0	-	-
105	21.4	<u>Historical railway and tunnel features</u>	0	0	3	-	-
105	21.5	Royal Mail tunnels	0	0	0	-	-
105	21.6	Historical railways	0	0	0	-	-
106	21.7	Railways	0	0	0	-	-
106	21.8	Crossrail 1	0	0	0	0	-
106	21.9	Crossrail 2	0	0	0	0	-
106	21.10	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 29/06/2019

Site Area: 17.32ha



Recent site history - 2018 aerial photograph



Capture Date: 02/08/2018

Site Area: 17.32ha



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Date: 27 April 2021

Recent site history - 2014 aerial photograph



Capture Date: 16/04/2014

Site Area: 17.32ha



Recent site history - 2008 aerial photograph



Capture Date: 20/09/2008

Site Area: 17.32ha



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Date: 27 April 2021

Recent site history - 1999 aerial photograph



Capture Date: 06/09/1999

Site Area: 17.32ha



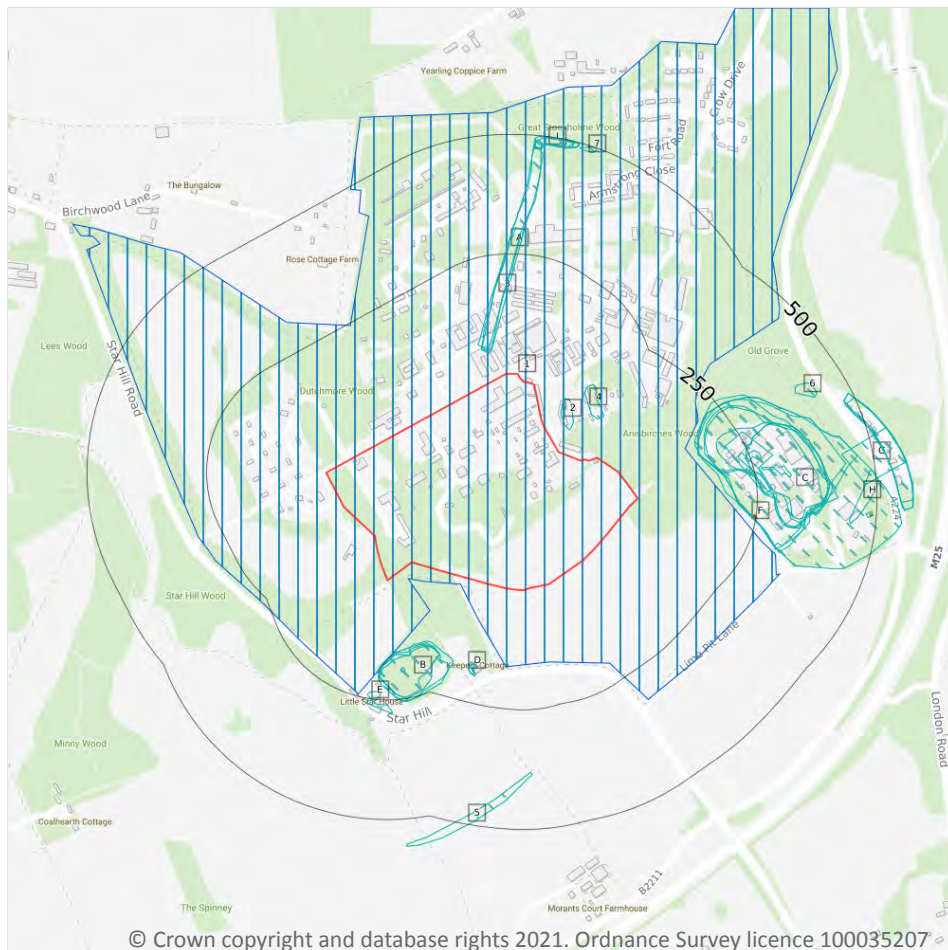
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Date: 27 April 2021

1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

43

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
2	40m NE	Unspecified Heap	1981	2137464



ID	Location	Land use	Dates present	Group ID
A	55m NW	Unspecified Heap	1907	2196301
3	57m NW	Unspecified Heap	1981	2188259
A	59m NW	Unspecified Heap	1961	2196248
4	81m N	Unspecified Heap	1981	2137462
B	144m SE	Unspecified Old Quarry	1895 - 1907	2210741
B	148m S	Unspecified Pit	1961 - 1981	2269940
B	151m S	Unspecified Pit	1936	2246631
C	156m NE	Unspecified Works	1968 - 1973	2248961
C	156m NE	Unspecified Quarry	1968 - 1987	2280975
B	156m SE	Unspecified Quarry	1869	2145046
C	158m NE	Unspecified Works	1961	2206852
C	158m NE	Unspecified Works	1983 - 1987	2209906
D	167m S	Unspecified Ground Workings	1907	2252942
D	168m S	Unspecified Ground Workings	1869	2181038
C	168m NE	Unspecified Quarry	1961	2245913
C	171m NE	Lime Works	1936	2252324
B	186m S	Unspecified Tank	1981	2153923
C	194m NE	Lime Works	1907	2221893
C	212m NE	Railway Sidings	1936 - 1961	2207148
C	228m E	Railway Sidings	1936	2221764
E	234m S	Unspecified Pit	1895	2125696
C	239m E	Kilns	1907	2142385
C	241m E	Unspecified Quarry	1869 - 1895	2212051
C	242m E	Lime Works	1895	2227309
E	253m S	Unspecified Pit	1869	2125697
C	267m E	Lime Kilns	1869	2137949
5	381m S	Unspecified Ground Workings	1961 - 1981	2176999
6	396m NE	Unspecified Heap	1973 - 1987	2263773



ID	Location	Land use	Dates present	Group ID
G	437m E	Cuttings	1973 - 1987	2274883
H	444m E	Unspecified Ground Workings	1968	2134931
I	473m N	Unspecified Heap	1895	2238564
I	474m N	Unspecified Heap	1940	2208922
I	474m N	Unspecified Heap	1932	2256784
I	474m N	Unspecified Heap	1907	2287989
G	476m NE	Cuttings	1907	2196844
G	477m NE	Cuttings	1936 - 1961	2200773
G	477m NE	Cuttings	1869 - 1895	2226429
H	478m E	Unspecified Tank	1973	2156314
I	483m N	Unspecified Heap	1940	2174803
I	483m N	Unspecified Heap	1907	2252725
I	483m N	Unspecified Heap	1932	2272950
7	488m N	Unspecified Heap	1907	2137463

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

3

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
D	172m S	Tank or Trough	1869	380009
E	253m S	Tank or Trough	1869	380008
H	486m E	Unspecified Tank	1968	370827

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m

2

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
F	243m E	Electricity Substation	1968 - 1989	271686
F	245m E	Electricity Substation	1992	273558

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

1

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

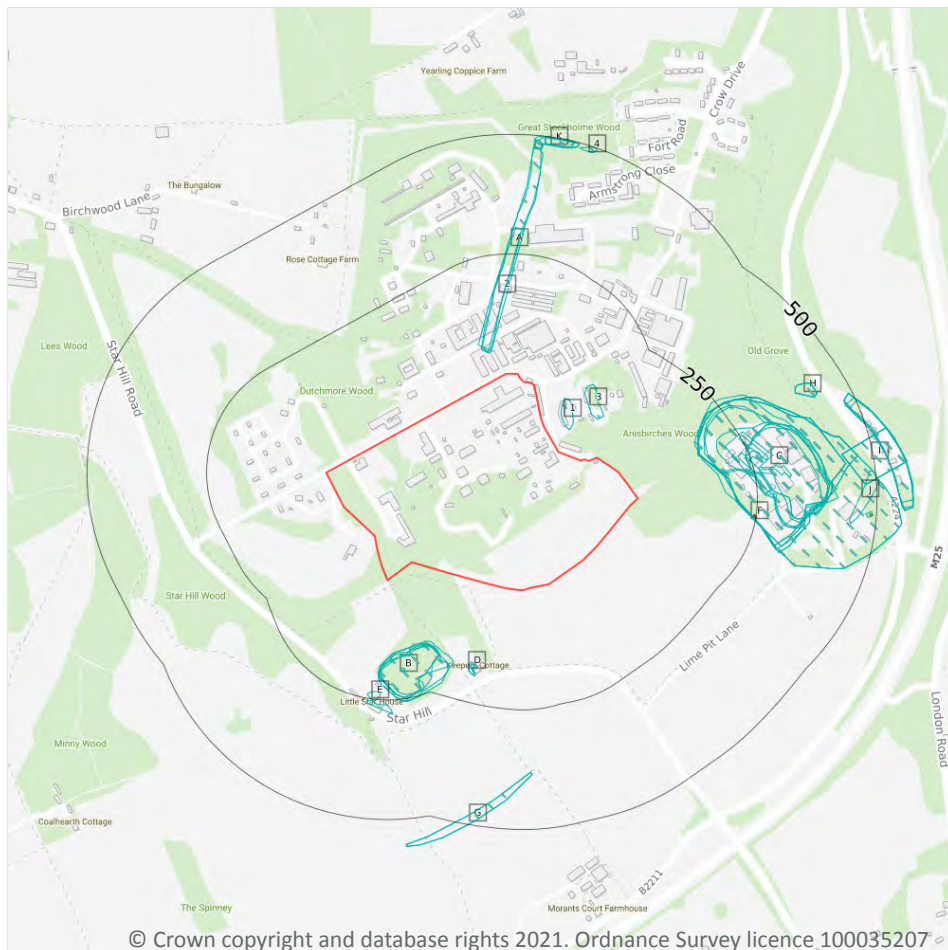
Features are displayed on the Past land use map on **page 13**

ID	Location	Site Name	Date of Operation	Activities
1	On site	Fort Halstead - Defence Science and Technology Laboratory	1915 – present day	Atomic bomb trigger mechanism developments between 1940s and 1950s, nuclear weapons development

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

59

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

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
1	40m NE	Unspecified Heap	1981	2137464
A	55m NW	Unspecified Heap	1907	2196301
2	57m NW	Unspecified Heap	1981	2188259

ID	Location	Land Use	Date	Group ID
A	59m NW	Unspecified Heap	1961	2196248
3	81m N	Unspecified Heap	1981	2137462
B	144m SE	Unspecified Old Quarry	1895	2210741
B	148m S	Unspecified Pit	1981	2269940
B	148m S	Unspecified Pit	1961	2269940
B	151m S	Unspecified Pit	1936	2246631
B	153m S	Unspecified Old Quarry	1907	2210741
C	156m NE	Unspecified Quarry	1973	2280975
C	156m NE	Unspecified Quarry	1968	2280975
C	156m NE	Unspecified Works	1973	2248961
C	156m NE	Unspecified Works	1968	2248961
B	156m SE	Unspecified Quarry	1869	2145046
C	158m NE	Unspecified Works	1961	2206852
C	158m NE	Unspecified Quarry	1983	2280975
C	158m NE	Unspecified Quarry	1987	2280975
C	158m NE	Unspecified Works	1983	2209906
C	158m NE	Unspecified Works	1987	2209906
D	167m S	Unspecified Ground Workings	1907	2252942
D	168m S	Unspecified Ground Workings	1869	2181038
C	168m NE	Unspecified Quarry	1961	2245913
C	171m NE	Lime Works	1936	2252324
B	186m S	Unspecified Tank	1981	2153923
C	194m NE	Lime Works	1907	2221893
C	212m NE	Railway Sidings	1961	2207148
C	228m E	Railway Sidings	1936	2221764
E	234m S	Unspecified Pit	1895	2125696
C	239m E	Kilns	1907	2142385
C	241m E	Unspecified Quarry	1869	2212051



ID	Location	Land Use	Date	Group ID
C	242m E	Lime Works	1895	2227309
C	242m E	Unspecified Quarry	1895	2212051
C	246m NE	Railway Sidings	1936	2207148
E	253m S	Unspecified Pit	1869	2125697
C	267m E	Lime Kilns	1869	2137949
G	381m S	Unspecified Ground Workings	1981	2176999
G	381m S	Unspecified Ground Workings	1961	2176999
H	396m NE	Unspecified Heap	1983	2263773
H	396m NE	Unspecified Heap	1973	2263773
H	396m NE	Unspecified Heap	1987	2263773
I	437m E	Cuttings	1983	2274883
I	437m E	Cuttings	1973	2274883
I	437m E	Cuttings	1987	2274883
J	444m E	Unspecified Ground Workings	1968	2134931
K	473m N	Unspecified Heap	1895	2238564
K	474m N	Unspecified Heap	1940	2208922
K	474m N	Unspecified Heap	1932	2256784
K	474m N	Unspecified Heap	1907	2287989
I	476m NE	Cuttings	1907	2196844
I	477m NE	Cuttings	1869	2226429
I	477m NE	Cuttings	1936	2200773
I	477m NE	Cuttings	1895	2226429
J	478m E	Unspecified Tank	1973	2156314
I	480m NE	Cuttings	1961	2200773
K	483m N	Unspecified Heap	1940	2174803
K	483m N	Unspecified Heap	1932	2272950
K	483m N	Unspecified Heap	1907	2252725
4	488m N	Unspecified Heap	1907	2137463

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m

3

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

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
D	172m S	Tank or Trough	1869	380009
E	253m S	Tank or Trough	1869	380008
J	486m E	Unspecified Tank	1968	370827

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

4

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

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
F	243m E	Electricity Substation	1988	271686
F	243m E	Electricity Substation	1989	271686
F	244m E	Electricity Substation	1968	271686
F	245m E	Electricity Substation	1992	273558

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



2.5 Historical garages

Records within 500m

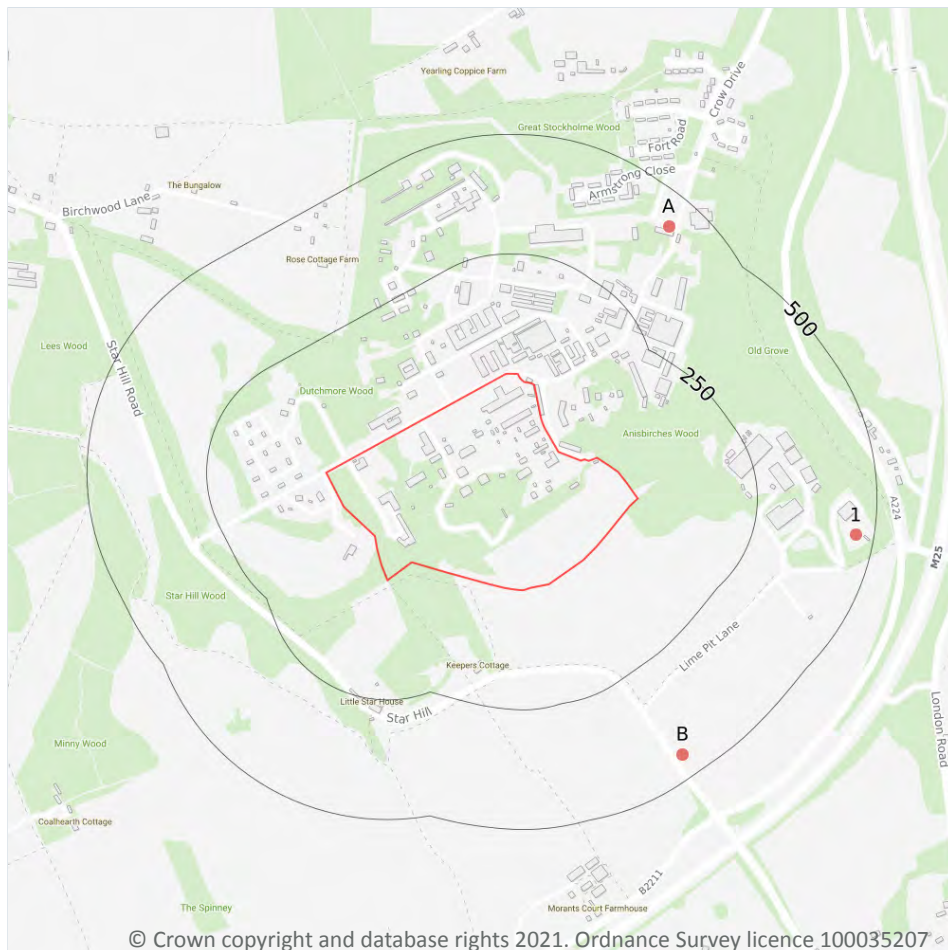
0

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

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

0

Waste site records derived from Local Authority planning records and high detail historical mapping.

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

3.6 Licensed waste sites

Records within 500m

0

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

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

3.7 Waste exemptions

Records within 500m

6

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

Features are displayed on the Waste and landfill map on **page 23**

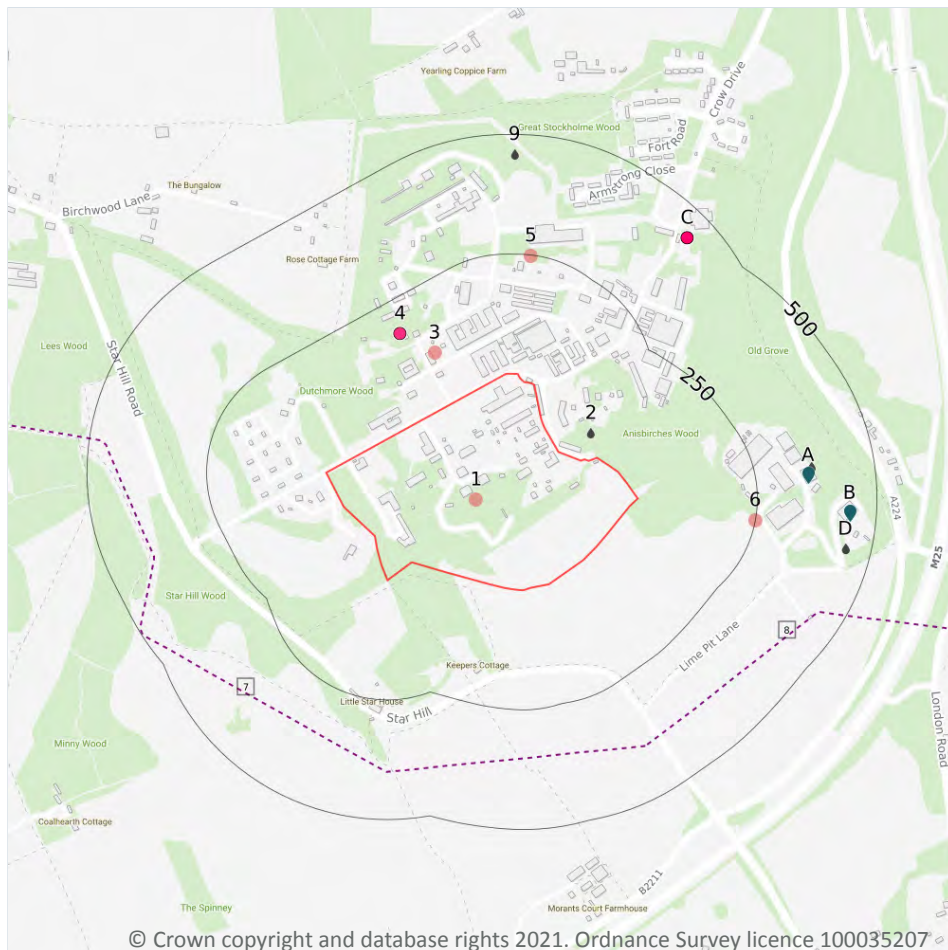
ID	Location	Site	Reference	Category	Sub-Category	Description
A	434m NE	QinetiQ, Fort Halstead, Sevenoaks, Kent, TN14 7BP	WEX147126	Storing waste exemption	Not on a farm	Storage of waste in a secure place

ID	Location	Site	Reference	Category	Sub-Category	Description
A	434m NE	QinetiQ, Fort Halstead, Sevenoaks, Kent, TN14 7BP	WEX147126	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	452m SE	-	WEX215850	Storing waste exemption	On a Farm	Storage of sludge
B	452m SE	-	WEX104708	Storing waste exemption	On a farm	Storage of sludge
B	452m SE	Turvins Farm Sundridge Road SEVENOAKS Kent TN14 6HB	EPR/WE5940N A/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of sludge
1	462m E	NORTH DOWNS BUSINESS PARK, LIMEPIT LANE, DUNTON GREEN, SEVENOAKS, TN13 2TL	WEX183357	Treating waste exemption	Not on a farm	Screening and blending of waste

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Gas pipelines
- Licensed pollutant release (Part A(2)/B)
- Radioactive Substance Authorisations
- Licensed Discharges to controlled waters

4.1 Recent industrial land uses

Records within 250m

4

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 26**

ID	Location	Company	Address	Activity	Category
1	On site	Works	Kent, TN14	Unspecified Works Or Factories	Industrial Features
3	111m NW	Chimney	Kent, TN14	Chimneys	Industrial Features
5	249m N	Works	Kent, TN14	Unspecified Works Or Factories	Industrial Features



ID	Location	Company	Address	Activity	Category
6	250m E	Electricity Sub Station	Kent, TN13	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

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

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

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

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	2
----------------------------	----------

High pressure underground gas transmission pipelines.

Features are displayed on the Current industrial land use map on **page 26**

ID	Location	Pipe Name	Details	
7	349m S	GRAVESEND THAMES SOUTH TO TATSFIELD	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 750 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned
8	388m SE	GRAVESEND THAMES SOUTH TO TATSFIELD	Pipe Number: - Pipeline Safety Regulations Number: - Ownership: National Grid Maximum Operating Pressure (Bar): -	Pipeline Diameter (mm): 750 Wall Thickness (mm): - Year of commission: Not specified Abandonment Status: Not abandoned

This data is sourced from National Grid.



4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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



4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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

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

Records within 500m

3

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 26**

ID	Location	Address	Details	
A	358m E	Lancaster Plc, Lime Pit Lane, Dunton Green, Sevenoaks, Kent, TN13 2TL	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
B	443m E	Hanson Concrete Batching, Lower Quarry, Limepit Lane, Dunton Green, Sevenoaks, Kent, TN13 2TL	Process: Use of Bulk Cement Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
B	443m E	Hanson Readymix Concrete, Pilgrims Way, Sevenoaks, TN13 2TL	Process: Use of Bulk Cement Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

5

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

Features are displayed on the Current industrial land use map on **page 26**



ID	Location	Address	Details	
4	180m NW	Qinetiq Ltd, Dstl Fort Halstead, Sevenoaks, Kent, TN14 7BP	Operator: Qinetiq Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: CA0417 Date of approval: 13/02/2006	Effective from: 13/02/2006 Last date of update: 01/01/2015 Status: Effective
C	443m NE	Ministry Of Defence, Dra Fort Halstead (rarde), fort Halstead, Sevenoaks, Kent, TN14 7BP	Operator: Ministry Of Defence Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AM4835 Date of approval: 21/05/1997	Effective from: 21/05/1997 Last date of update: 01/01/2015 Status: Effective
C	443m NE	Ministry Of Defence, Defence Research Agency, Fort Halstead, Sevenoaks, Kent, TN14 7BP	Operator: Ministry Of Defence Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AM5785 Date of approval: 13/05/1994	Effective from: 10/06/1994 Last date of update: 01/01/2015 Status: Superseded By Variation
C	443m NE	Ministry Of Defence, Defence Research Agency, Fort Halstead, Sevenoaks, Kent, TN14 7BP	Operator: Ministry Of Defence Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AM5785 Date of approval: 06/08/1997	Effective from: 06/08/1997 Last date of update: 01/01/2015 Status: Superseded By Variation
C	443m NE	Ministry Of Defence, Defence Research Agency, Fort Halstead, Sevenoaks, Kent, TN14 7BP	Operator: Ministry Of Defence Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AM5785 Date of approval: 25/06/1998	Effective from: 25/06/1998 Last date of update: 01/01/2015 Status: Superseded By Variation

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

4.13 Licensed Discharges to controlled waters

Records within 500m

6

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

Features are displayed on the Current industrial land use map on **page 26**

ID	Location	Address	Details	
2	53m N	DSTL FORT HALSTEAD, SEVENOAKS	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NPSWQD006490 Permit Version: 1 Receiving Water: GROUND WATERS VIA SOAKAWAY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 10/02/2009 Effective Date: 10/02/2009 Revocation Date: -



ID	Location	Address	Details	
A	369m E	JESSUPS LIME LOWER QUARRY, PILGRIMS WAY, DUNTON GREEN, SEVENOAKS KENT, TN13 2TL	Effluent Type: SEWAGE DISCHARGES - UNSPECIFIED - NOT WATER COMPANY Permit Number: P10011 Permit Version: 1 Receiving Water: INTO LAND	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 15/01/1990 Effective Date: 15/01/1990 Revocation Date: 20/12/2012
A	369m E	JESSUPS LIME LOWER QUARRY, PILGRIMS WAY, DUNTON GREEN, SEVENOAKS KENT, TN13 2TL	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: P10011 Permit Version: 2 Receiving Water: INTO LAND	Status: VARIED UNDER EPR 2010 Issue date: 21/12/2012 Effective Date: 21/12/2012 Revocation Date: -
D	445m E	PREMIX PLANT, PILGRIMS WAY, PREMIX PLANT PILGRIMS WAY, DUNTON GREEN, SEVENOAKS, KENT	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: P04594 Permit Version: 1 Receiving Water: INTO LAND	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 31/03/1993 Effective Date: 31/03/1993 Revocation Date: 20/12/2012
D	445m E	PREMIX PLANT, PILGRIMS WAY, PREMIX PLANT PILGRIMS WAY, DUNTON GREEN, SEVENOAKS, KENT	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: P04594 Permit Version: 2 Receiving Water: INTO LAND	Status: VARIED UNDER EPR 2010 Issue date: 21/12/2012 Effective Date: 21/12/2012 Revocation Date: -
9	459m N	DEFENCE SCIENCE AND TECHNOLOGY, FORT HALSTEAD, SEVEN OAKS, KENT, TN14 7BP	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: NPSWQD006491 Permit Version: 1 Receiving Water: GROUNDWATERS VIA SOAKAWAY	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 02/02/2009 Effective Date: 02/02/2009 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m

0

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

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



4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m**0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m**0**

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m**0**

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

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

4.19 Pollution inventory substances

Records within 500m**0**

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

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



4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m

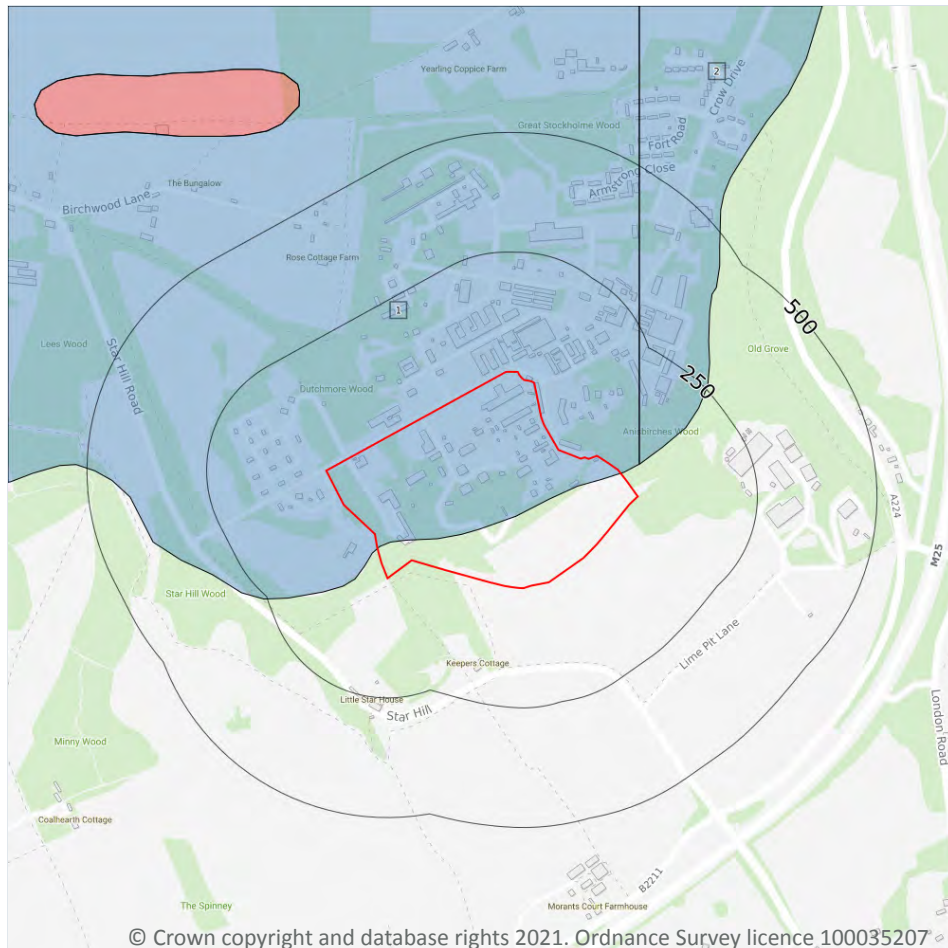
0

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

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



5 Hydrogeology - Superficial aquifer



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

5.1 Superficial aquifer

Records within 500m

2

Aquifer status of groundwater held within superficial geology.

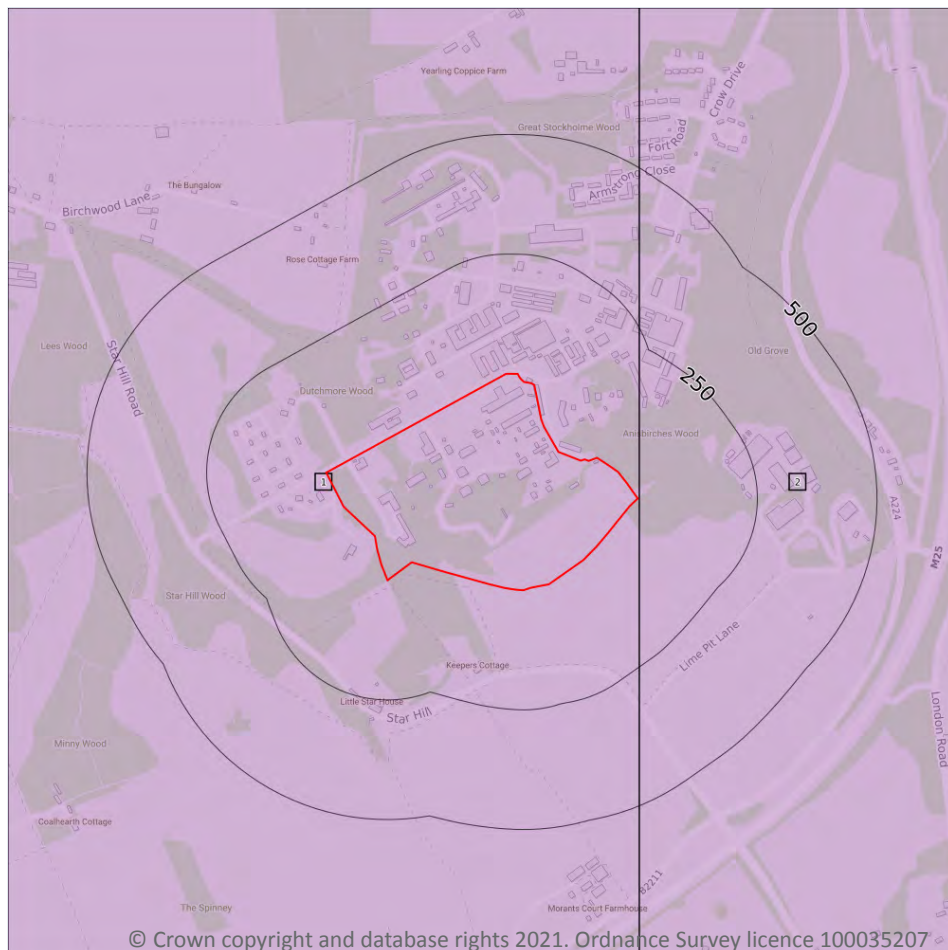
Features are displayed on the Hydrogeology map on **page 34**

ID	Location	Designation	Description
1	On site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
2	43m NE	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

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



Bedrock aquifer



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

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 35**

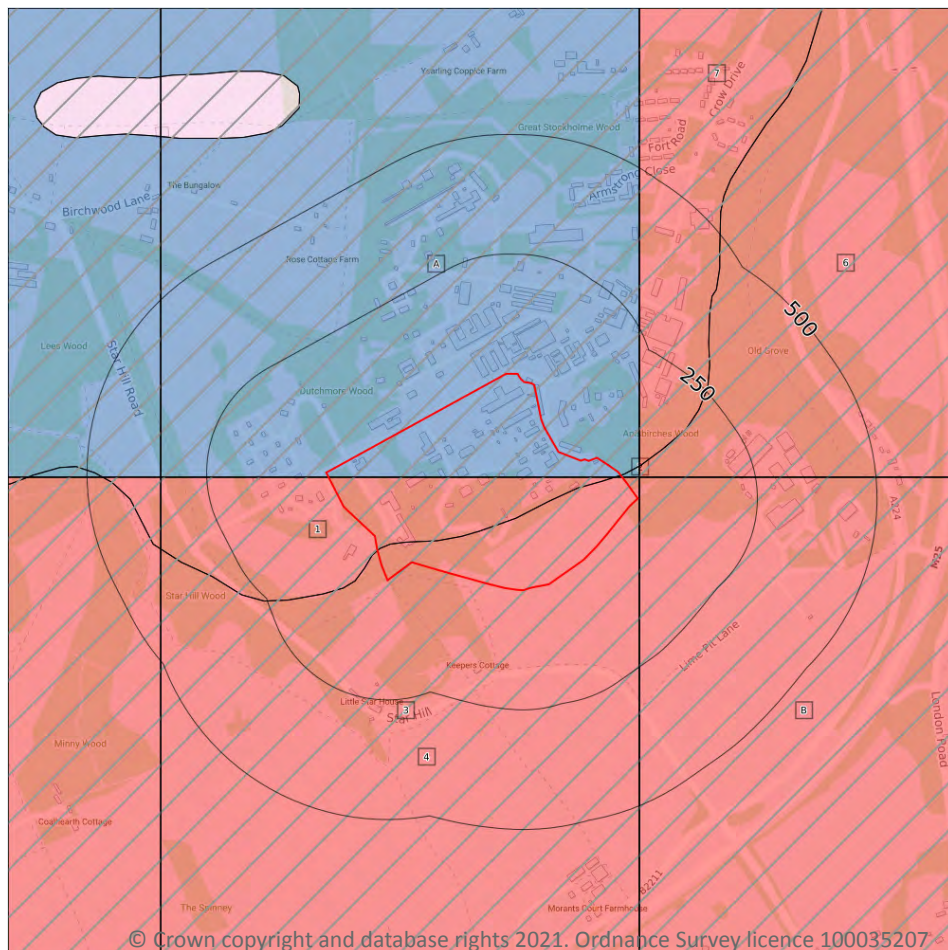
ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	3m E	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers



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



Groundwater vulnerability



— Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

7

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

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

Features are displayed on the Groundwater vulnerability map on **page 37**



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
2	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
4	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
A	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: <3m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
B	3m E	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: Intermediate Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
6	28m NE	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
7	42m NE	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: Unproductive Aquifer type: Unproductive Thickness: <3m Patchiness value: <90% Recharge potential: No Data	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures

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



5.4 Groundwater vulnerability- soluble rock risk

Records on site

2

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

ID	Maximum soluble risk category	Percentage of grid square covered by maximum risk
3	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	14.000000000000002%
A	Very significant soluble rocks are likely to be present with a moderate possibility of localised natural subsidence or dissolution-related degradation of bedrock, especially in adverse conditions such as concentrated surface or subsurface water flow.	99.0%

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

5.5 Groundwater vulnerability- local information

Records on site

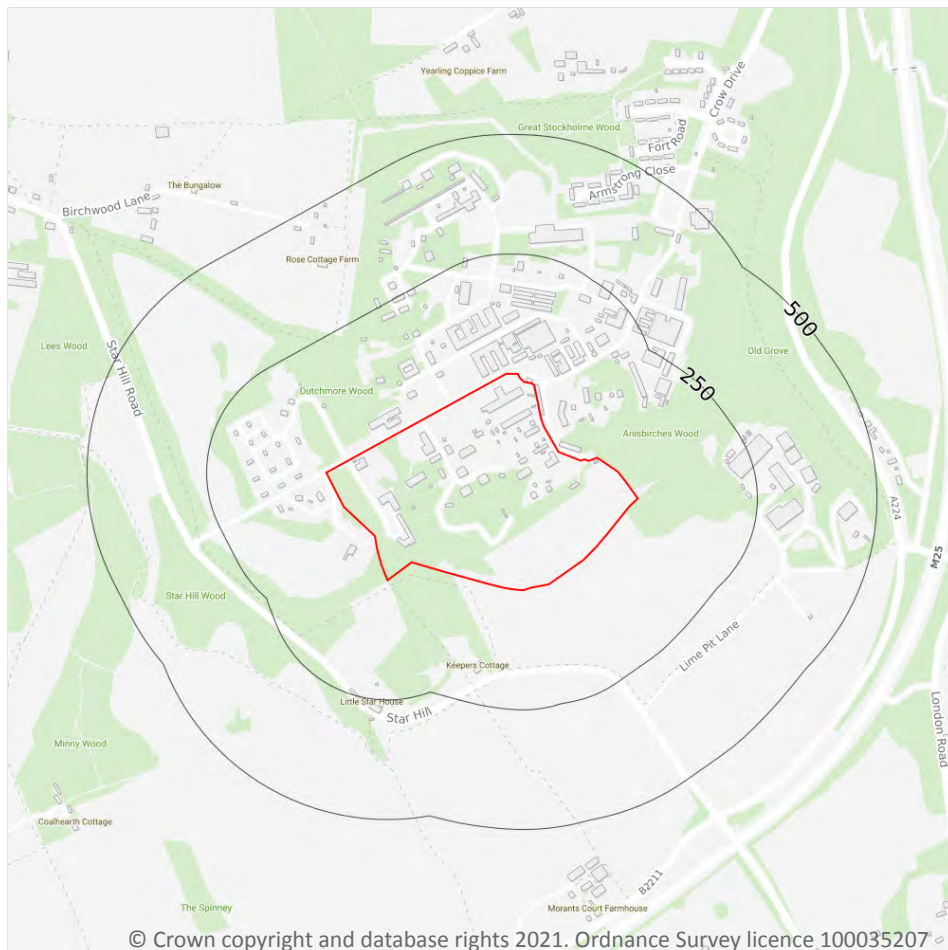
0

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

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



Abstractions and Source Protection Zones



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

5.6 Groundwater abstractions

Records within 2000m

2

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 40**

ID	Location	Details	
-	1296m SW	Status: Active Licence No: 9/40/01/0170/G Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Southern Region Groundwater Point: TWO CATCHPITS AT CHEVENING ESTATE, SEVENOAKS Data Type: Point Name: Trustees of the Chevening Estate Easting: 548680 Northing: 157760	Annual Volume (m ³): 11,819.80 Max Daily Volume (m ³): 76.34 Original Application No: - Original Start Date: 02/05/1967 Expiry Date: - Issue No: 100 Version Start Date: 27/02/2017 Version End Date: -
-	1296m SW	Status: Active Licence No: 9/40/01/0170/G Details: General Farming & Domestic Direct Source: Southern Region Groundwater Point: TWO CATCHPITS AT CHEVENING ESTATE, SEVENOAKS Data Type: Point Name: Trustees of the Chevening Estate Easting: 548680 Northing: 157760	Annual Volume (m ³): 11,819.80 Max Daily Volume (m ³): 76.34 Original Application No: - Original Start Date: 02/05/1967 Expiry Date: - Issue No: 100 Version Start Date: 27/02/2017 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	0
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Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

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

5.8 Potable abstractions

Records within 2000m	1
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Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 40**

ID	Location	Details	
-	1296m SW	Status: Active Licence No: 9/40/01/0170/G Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Household Direct Source: Southern Region Groundwater Point: TWO CATCHPITS AT CHEVENING ESTATE, SEVENOAKS Data Type: Point Name: Trustees of the Chevening Estate Easting: 548680 Northing: 157760	Annual Volume (m ³): 11,819.80 Max Daily Volume (m ³): 76.34 Original Application No: - Original Start Date: 02/05/1967 Expiry Date: - Issue No: 100 Version Start Date: 27/02/2017 Version End Date: -

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

5.9 Source Protection Zones

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

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

5.10 Source Protection Zones (confined aquifer)

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

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

6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

2

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

Features are displayed on the Hydrology map on **page 43**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River WB catchment	Upper Darent	GB106040024221	Darent	Darent and Cray
3	On site	River WB catchment	Upper Cray	GB106040023990	Cray and Shuttle	Darent and Cray

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

6.4 WFD Surface water bodies

Records identified

2

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

Features are displayed on the Hydrology map on **page 43**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	2263m SE	River	Upper Darent	GB106040024221	Poor	Good	Poor	2016
-	8541m N	River	Upper Cray	GB106040023990	Moderate	Good	Moderate	2016

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



6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 43**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	West Kent Darent and Cray Chalk	<u>GB40601G501800</u>	Poor	Poor	Poor	2015

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



7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

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

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

7.5 Flood Storage Areas

Records within 250m

0

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

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



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

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

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

7.7 Flood Zone 3

Records within 50m

0

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

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