



## BERKSHIRE ARCHAEOLOGICAL SOCIETY

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### Geophysics Surveys at Wickham House

(NGR: SU 395 715)



(Wickham House, 2024)

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## **0.1 Distribution**

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## **0.2 Change control**

This document is controlled by the author.

## **0.3 Change history**

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James Peddle and Andrew Hutt.

## **0.4 Changes forecast**

None.

## **0.5 Glossary**

|       |                                                        |
|-------|--------------------------------------------------------|
| AOD   | Above Ordnance Datum                                   |
| BAS   | Berkshire Archaeological Society                       |
| DEFRA | Department for the Environment, Food and Rural Affairs |
| FLO   | Finds Liaison Officer                                  |
| HER   | Historic Environment Record                            |
| LIA   | Late Iron Age                                          |
| LiDAR | Laser imaging, detection and ranging                   |
| NGR   | National Grid Reference                                |
| NMP   | National Mapping Programme                             |
| NMR   | National Monuments Record                              |
| OS    | Ordnance Survey                                        |
| PAS   | Portable Antiquities Scheme                            |
| SMR   | Sites and Monuments Record                             |

## **0.6 Acknowledgements**

I am very much indebted to the Mr and Mrs D'Arcy who allowed BAS to survey the grounds of their home at Wickham House, and without who's support this project would not have been possible. I am further indebted to Prue Griffin for allowing BAS to survey her paddock. Many thanks are also due to Jackie James for kindly allowing use of her carpark.

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This paper is dedicated to the memory of Michael Smallwood who lived for many years at Rose Cottage on Church Hill at Wickham who was a keen amateur archaeologist, long time metal detectorist and collector of pottery sherds discovered in his garden. Michael's passion for unravelling the history of Wickham was unwavering, and we shared many hours discussing theories and sharing ideas.

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# 1 Introduction

The modern village of Wickham in West Berkshire lies along a ridge of high ground on the route of the Roman road Ermin Street (RR 41c) connecting Silchester to Cirencester (Margary, 1973). Over the years numerous finds of Roman coins, pottery and other artefacts have been discovered by Wickham residents and metal detectorists and recorded on the PAS database. Archaeological excavations at the Wickham House walled garden in 2008 revealed evidence of nearby Romano-British occupation (Mundin & Pine, 2010) but revealed no building remains. From this evidence the HER interprets Wickham as the likely site of a Romano-British roadside settlement yet to be definitively located.

The intersection of the Road to Bath (RR 53) with Ermin Street (RR 41c) has long been projected to lie 1.5km southeast of Wickham near the modern day B4000 (Toller, 2013). However geophysics surveys carried out by the BAS (Hutt, Harrison & Abbott, 2021) failed to find evidence of a Roman road along this conjectured route. Subsequent geophysics surveys undertaken by BAS (Abbott & Cains, 2022; Abbott, 2023) identified linear anomalies suggesting that the intersection of the two Roman roads instead lies close to Wickham House near the centre of the present village.

This geophysics survey aims to shed new light on the location, morphology and extent of the conjectured Romano-British roadside settlement at Wickham associated with the likely location of the Ermin Street/Road to Bath intersection.

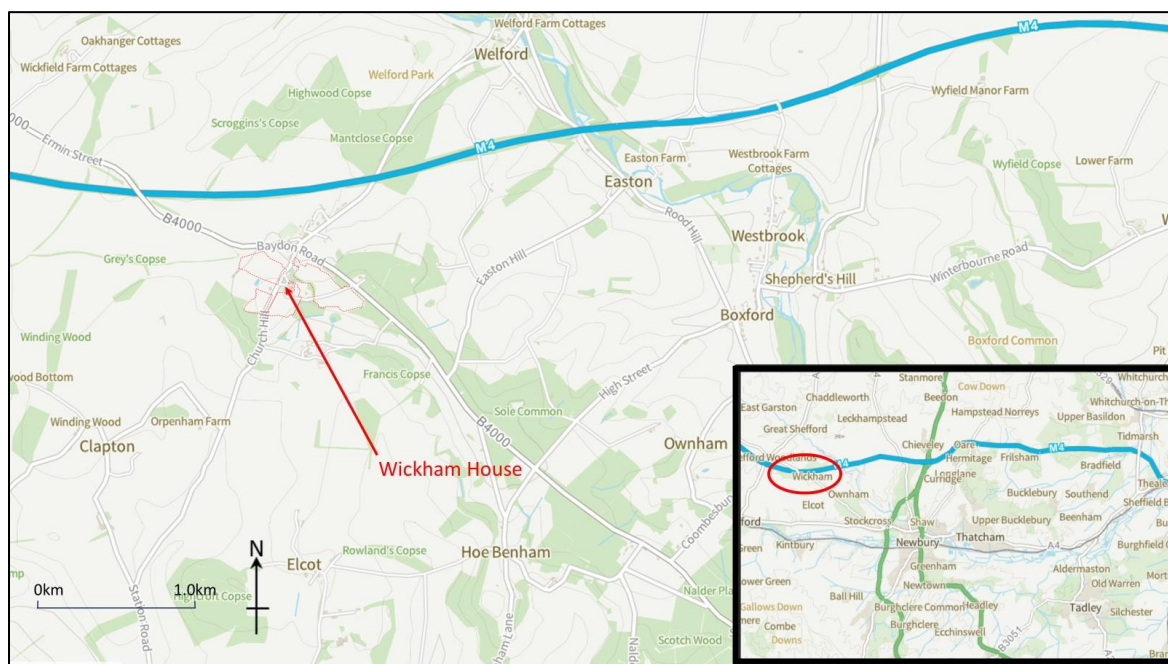


Figure 1.1 Location of Wickham, West Berkshire (Open Map, 2024)

The total area surveyed was approximately 17.5ha and was divided into five distinct sub-areas (Area 1: 4.0ha, Area 2: 2.0ha, Area 3: 3.5ha, Area 4: 7.3ha and Area 5: 0.7ha). The survey areas are located on land owned by Wickham House around Church Hill centred on grid reference SU 395 715 and the nearby paddock (Area 5) centred on grid reference SU 394 717 as shown in Figure 1.2.

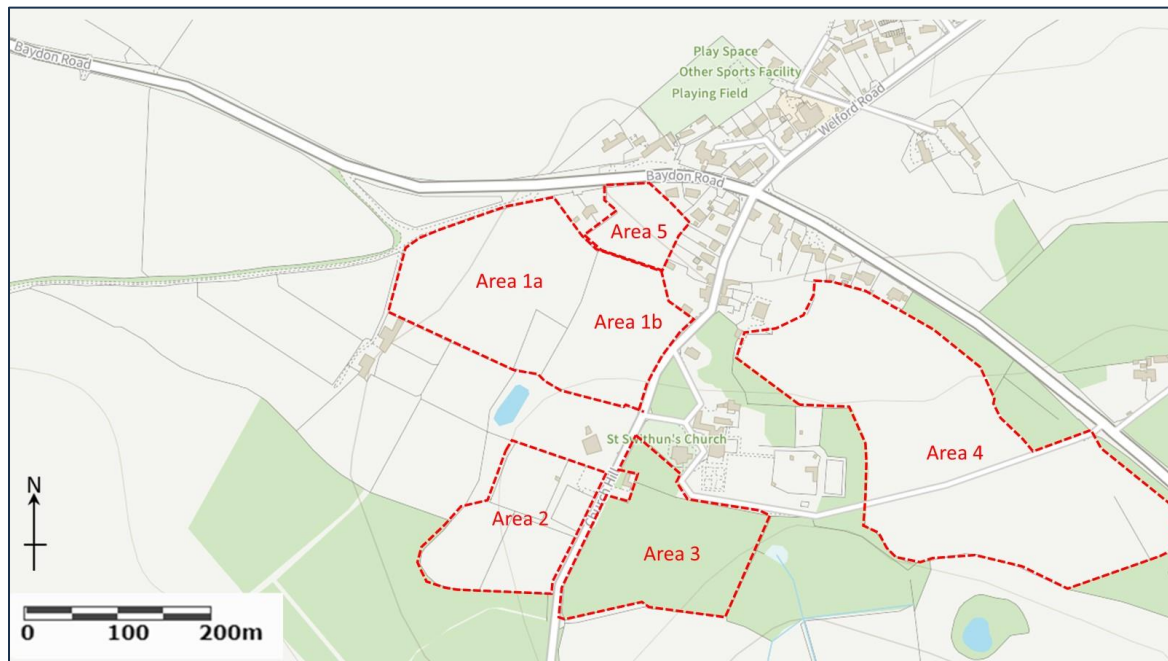


Figure 1.2 Location of the survey areas (Open Map, 2024)

## 2 Geological and topographical context

The area surveyed lies on high ground along a scarped ridge extending from Speen in the southeast and heading northwest towards Lambourn. The geology underlying this area of West Berkshire is Lambeth Group with Newhaven chalk forming a terrace of high ground with its corners at Hungerford, Lambourn, Bradfield and Basildon. At Wickham the Lambeth Group base is overlaid by a superficial deposit of Cold Ash Gravels at the top of Church Hill that are also present along the ridge of high ground further to the southeast (British Geological Survey, 2024).

## 3 Historical and archaeological background

### 3.1 West Berkshire HERs

The HERs recorded within 2km of the survey area are listed in Table 2.1.

Table 2.1 HERs within 2km of the survey area.

| HER     | Map Ref    | Name/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MWB4306 | SU 394 714 | <p><b>Wickham - conjectured Roman settlement</b> - Hill at Wickham observed by OGS Crawford to be surrounded by a bank presumed to be Roman because of the amount of Roman evidence in the area. The OS in 1963 could not find the bank but suspect it is a misinterpretation of a steep scarp caused by sand capping of the hill.</p> <p>Many Roman finds have been reported in the Wickham area leading some to suggest that this settlement is the 'Spinis' of the Antonine Itinerary.</p> <p>The place name 'Wickham' is of Saxon origin but as the first element in the OE compound 'Wicham', it indicates a connection with the smaller Roman settlements.</p> <p>A short north-south earthwork bank is shown just west of St Swithin's Church on the First Edition Ordnance Survey although not on subsequent epochs; this may be part of the rectangular area observed by Peake. An excavation within Wickham House in 2007 uncovered several Roman features.</p> |

| HER      | Map Ref    | Name/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MWB17733 | SU 396 715 | <p><b>Wickham House Walled Garden</b> - possible Roman settlement with 2<sup>nd</sup> to early 4<sup>th</sup> century AD pottery recovered from ditches and a pit during an evaluation excavation. The pottery included local grey and black sandy wares, some probable Alice Holt ware, plus Dorset black burnished ware and New Forest colour coated ware. The range of forms include platter bowls, dishes, <i>mortaria</i>, beakers and jars. In addition, bovine and sheep remains, metalwork, three iron nails and brick were also recovered.</p> <p>The finds were seen to confirm the evidence of a Roman roadside settlement associated with Ermin Street Roman road. The place name of 'Wickham' is considered to be of early Saxon origin and thought to indicate the presence of Roman occupation known to the Saxon settlers. However, the date of the Roman occupation deposits suggests abandonment well before the arrival of the first Saxon. A few residual prehistoric struck flints and a post medieval ditch were also recorded.</p> |
| MWB15521 | SU 393 715 | <p><b>At the (new) Rectory, Wickham</b> - A cobbled surface was found 18 inches below the current ground surface during the excavation of three fence post holes. Roman tile and pottery was recovered from the post holes. The cobbles were bedded into a layer of sand over a rough mixed layer of stones and earth.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MWB16093 | SU 392 717 | <p><b>Fields to west of Wickham</b> - Many large flints, possibly from a building, have been seen in a 100 acre field colloquially known as 'Nicrocks' (although the location of this field is unclear from the source).</p> <p>Copious quantities of Roman pottery including large storage jars, Samian (both plain and decorated), New Forest ware, flagon bases and coarse ware, as well as tile and Roman coins were seen in fields to the west and southwest of Rose Cottage, Wickham. This was 'some years ago' when the fields were machine ploughed for the first time, having only been ploughed using horses previously.</p> <p>The field names seen on the Tithe map of 1837 shown in Figure 3.12 are Black Close (Copse?), Peter's Meadow (Field?), Ten Acres &amp; Patches and the Meadow.</p>                                                                                                                                                                                                                                               |
| MWB4318  | SU 394 715 | <p><b>St Swithun's Church, Wickham</b> - The listed building description notes that St Swithin's (sic) has a 10<sup>th</sup></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| HER | Map Ref | Name/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |         | <p>century AD Saxon tower with a rough flint base with long and short quoins and a round headed opening high on the west side; the top stage of the tower was rebuilt in the late 19<sup>th</sup> century AD.</p> <p>Other sources have suggested that the tower is of late 11<sup>th</sup> century AD date and in fact Norman although exhibiting Anglo-Saxon characteristics. The church is built on high ground to the south of the village of Wickham, a settlement with suggested Roman origins through which the course of Ermin Street passes. The church's name in the early 21<sup>st</sup> century AD is St Swithun's.</p> <p>The Domesday survey does not mention Wickham but gives two churches for Welford; presumably one could be the church here and the other St Gregory's in Welford in the same parish. Wickham Chapel is first documented in 1550. It is likely that St Swithun's was formerly a chapel of ease.</p> <p>Mention is made in an architectural study under 'Mid-Wall columns' of Wickham's Roman column in the belfry: about 3' 3" long with rather complex capital and base, with one band near the top. This would suggest the reuse of local building material. The tower itself includes Wheatley Stone (or stone of a similar type) composed of ground up coral and shell debris from a quarry in Oxfordshire.</p> <p>The medieval church was enlarged with a north aisle in 1827 and then was rebuilt in 1846-9, from a design by Benjamin Ferrey at the expense of the Rev William Nicholson, the rector of Wickham. Another aisle was added to the south, the tower altered and the exterior refaced in knapped flint.</p> <p>It is possible that the tower may have secular or manorial origins or have been associated with beacons. Some rural burhs seem to have been within enclosures, with entrance towers that may have been markers of thegny rank. Although the building at Wickham is in a visible location, there is however little or no archaeological evidence for early medieval occupation in the vicinity.</p> <p>Drawings were made of the south and west elevations of the tower of the church in 2009; this work also re-examined other sources as part of a post-graduate thesis on Saxon towers. The author considered that the late 10<sup>th</sup> or early 11<sup>th</sup> century AD tower at Wickham was</p> |

| HER      | Map Ref    | Name/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |            | convincing as a refuge, with its above ground opposing doorways, as well as a chapel. "It probably stood within a Roman enclosure adjacent to a manor-house and may have been built by Earl Ælfhere of Mercia. It stands in a highly strategic location, on high ground adjacent to a Roman road and near a hundred meeting-place, surrounded by major beacon-chains, with a commanding view of the surrounding area and it may even itself have been crowned by a beacon. The nave was added in the later 11 <sup>th</sup> century AD".                                                                                                                                                                                                                        |
| MWB16588 | SU 395 716 | <p><b>Wickham</b> - A possible shifted village. The name Wickham indicates contact with indigenous British people rather than a Saxon population because of the link to the Roman 'vici'. There is documentary evidence for the king's fair recorded in 1276.</p> <p>The GIS polygon represents the approximate extent of the early medieval to medieval settlement, based on evidence from archaeological finds, aerial photography and the built environment.</p>                                                                                                                                                                                                                                                                                             |
| MWB17615 | SU 396 716 | <p><b>Features southeast of Wickham</b> - The Lambourn Downs National Mapping Programme recorded the earthwork remains of ditched enclosures and drains visible in aerial photographs. The ditches and enclosures (perhaps paddocks) were associated with the medieval settlement at Wickham and centred at SU 3967 7163.</p> <p>Several broadly similar cropmarks are still visible in 2003 and 2010 air photographs in the parkland to the north of Wickham House. This is also an area of land where the projected course of the Roman road lies.</p>                                                                                                                                                                                                        |
| MWB17196 | SU 388 706 | <p><b>Orpenham Farm</b> - Historic farmstead with possible medieval origins, a 17<sup>th</sup> century AD farmhouse and several later agricultural buildings, still largely present in 21<sup>st</sup> century AD. This farm is recorded on the First Edition Ordnance Survey map as noted during a 2005 survey of West Berkshire's historic farmsteads. It is also named on Rocque's map as 'Orpingham'. The place name has been traced by Gelling to the beginning of the 13<sup>th</sup> century AD as Harpeham, suggested as 'homestead where the harp is played', although this may not have been on exactly the same site as the farm.</p> <p>Some building recording has taken place at Orpenham Farm, with photographs taken in 1984 and a detailed</p> |

| HER     | Map Ref       | Name/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         |               | survey carried out by the Royal Commission in 1994. The farmstead includes a 17 <sup>th</sup> century AD farmhouse and an 18 <sup>th</sup> century AD barn, a late 18 <sup>th</sup> century AD granary, a cart shed, stable and cattle shelter around a large yard.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| MWB2097 | SU 406<br>721 | <p><b>‘Tullock Farm 1’ banjo enclosure, Welford</b> - An irregular oval enclosure visible as a thick well-defined dark mark in crop. Richards recorded a banjo enclosure seen in aerial photographs. The Berkshire County Council SMR recorded this as an irregular or oval enclosure visible as a thick well-defined dark mark in crop. There was a possible simple gap entrance on east side.</p> <p>This has been mapped as one of two banjo enclosures as part of the Lambourn Downs Mapping Project where they were seen as cropmarks in aerial photographs, and this one was 'centred at SU 4066 7211 and comprises a sub-circular single ditched enclosure 50m in diameter and with a funnel entrance to the south-east'.</p> <p>The features have subsequently been studied with other examples in the area. Geophysical survey by Levick confirmed the ditches were correctly located although survey results were poor compared to those on chalk (see also MWB2095).</p> |
| MWB2098 | SU 406<br>720 | <p><b>‘Tullock Farm 2’ banjo enclosure, Welford</b> - Small incomplete, possibly ditched enclosure seen as cropmarks in aerial photographs. The Berkshire County Council SMR recorded this as a small incomplete possibly ditched enclosure seen in aerial photographs at SU 40644 72022. The northwest side was missing. A possible entrance on the southeast appears to splay out but the cropmark was truncated by a harvested strip down the side of the field. The feature was therefore not well defined.</p> <p>This has been mapped as one of two banjo enclosures as part of the Lambourn Downs Mapping Project which were seen as cropmarks in aerial photographs and this one is within 30m to the south of the other, at SU 4063 7203. It comprises 'a single ditched sub-circular enclosure of 32m x 35m with an entrance to the south-east which is defined by a two parallel ditches 30m in length.'</p>                                                             |

| HER      | Map Ref       | Name/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |               | The features have subsequently been studied with other examples in the area. Geophysical survey by Levick confirmed the ditches were correctly located although survey results were poor compared to those on chalk (see also MWB2095)                                                                                                                                                                                                                                                                                                       |
| MWB2037  | SU 395<br>705 | <b>Feature south of Wormstall</b> - Blurred irregular soil marks, possibly non-archaeological and a very blurred light ring identified by J Richards as a ring ditch. However, Google Earth imagery suggests that the soil marks in the area are probably geological rather than archaeological.                                                                                                                                                                                                                                             |
| MWB17816 | SU 385<br>714 | <b>Enclosure south of Windingwood Lane, Kintbury</b> - The Lambourn Downs Mapping Programme recorded an incomplete oval enclosure of possible prehistoric or unknown date visible as an earthwork on aerial photographs. Only the southeast side was transcribed and the enclosure had a diameter of 60m. Little is visible even as a cropmark in a 2003 aerial photograph; the area appears to have been under cultivation for some time. An old chalk pit is shown on the 2 <sup>nd</sup> Epoch Ordnance Survey map 150m to the southwest. |
| MWB16693 | SU 408<br>715 | <b>Enclosure northwest of Sole Farm, Welford</b> - The Lambourn Downs National Mapping Programme recorded the cropmark remains of an oval enclosure of prehistoric or Roman date from aerial photographs. The enclosure was defined by a single ditch with a diameter of 30m x 25m. No cropmarks could be seen of this enclosure on Google Earth in 2016 .                                                                                                                                                                                   |
| MWB4191  | SU 408<br>731 | <b>Welford Village</b> - Welford village, recorded in the 9 <sup>th</sup> century and in Domesday with a rebuilt Norman church with a cross in the churchyard.                                                                                                                                                                                                                                                                                                                                                                               |
| MWB23108 | SU 408<br>731 | <b>Churchyard of St Gregory's Church, Welford</b> - Churchyard surrounding a church of Saxon and Norman origins, within the Welford Estate. The churchyard surrounding the Saxon and Norman church of St Gregory is shown on the First Edition OS map of 1880. It had been extended to the north-east at its southern end by the Second Edition map of 1899, and again at some time between the Third and Fifth Edition maps of 1912 and 1979, respectively. The oldest burial listed on one website dates to 1559.                          |
| MWB4192  | SU 408<br>731 | <b>Welford Village</b> - Early medieval village recorded in AD821 as "Weliford" and "Waelingford" according to WF De Birch's "Cartularium Saxonicum" (1885-1893)                                                                                                                                                                                                                                                                                                                                                                             |

| HER      | Map Ref       | Name/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |               | quoted by Gelling. A later Saxon version of the name is recorded in AD956 as "Weligforda".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| MWB4194  | SU 408<br>731 | <p><b>St Gregory's Church, Welford</b> - The Norman tower taken down and re-built in the late 19<sup>th</sup> century AD. Flint, some squared and knapped and some knapped, with stone dressings and tiled roof. Tower, nave, aisles, chancel and south porch. Heavy stone moulded plinth, buttresses, moulded string at sill level, gable parapets. Round tower, tall first stage with one semicircular headed window to north, south and west, short second stage above moulded string changing to octagon at top, with two-light pointed arched louvres with thin engaged columns under pointed arch. Coupled columns at corners of octagon supporting blind arcade and stone spire with two-light gabled louvres at base, clock faces to north and south. On west wall of south aisle is a re-set monument in carved stone and marble of kneeling female figure in niche flanked by Ionic columns supporting frieze and aedicule. Beneath this is an inscribed tablet with kneeling figures of 12 girls and 7 boys, Latin inscription to Anna, daughter of William Rede, wife of Adrian Fortescue and Thomas Parry, died in 1585 in her 75<sup>th</sup> year; 11<sup>th</sup> century AD arcaded font on a 20<sup>th</sup> century AD base.</p> <p>The Domesday survey listed a church in Welford and it seems likely that St Gregory's is on its site. The subsequent Norman building had various alterations and additions, but was demolished and rebuilt in 1852 by Talbot Bury, the unusual round tower being the only part of the church in original form. Numerous architectural details are said to be preserved at Wickham vicarage including some sarsen cobbles used in the construction of the tower.</p> |
| MWB15823 | SU 408<br>731 | <p><b>Welford Park (House)</b> - A Grade I listed 17<sup>th</sup> - 18<sup>th</sup> century AD country house with earlier monastic origins within in a landscaped park. Welford Park is reputedly on the site of a medieval monastic building, and later Elizabethan manor house. A guide to the history of the house states that a monastery stood on the site of the present house and church until the Dissolution of the Monasteries. Welford appears to have been an important estate of the monks of Abingdon Abbey, and received a grant of a free warren in 1275-76, indicating the probable existence of a hunting park associated with the grange manor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| HER      | Map Ref       | Name/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |               | Henry VIII kept Welford as his own deer hunting lodge until he granted it by lease to Sir Thomas Parry in 1546. Probably a manor house was then built: there is some evidence for this building in the cellar of the present house, which was built 1652 by John Jackson of Oxford. In the early 18 <sup>th</sup> century AD, Thomas Archer, the owner, remodelled the house by adding a storey and constructing Ionian columns on the front façade. Pevsner notes curious brick details.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| MWB17952 | SU 404<br>730 | <p><b>Welford Park (Park)</b> - Welford Park is shown on Rocque's 1761 map as The Park, although it was bisected by the Lambourn Valley road running directly through from the church past the mansion towards Weston. By the time of the First Edition Ordnance Survey map, a new road had been created, diverting traffic around the park to the north of the river. Two parallel avenues of trees were planted on the south side of the valley before 1761 running from south-southwest to north-northeast, and are still visible in the late 19<sup>th</sup> century AD and on 21<sup>st</sup> century AD aerial photographs, although much depleted. Another longer avenue on the same orientation ran from the house and church up the north side of the valley; this also survives as a strip within farmland in the 21<sup>st</sup> century AD. Formal planting and large water features along the River Lambourn appear in the late 18<sup>th</sup> century AD map, but have since become more naturalised. In the Ordnance Survey Drawing the standing water is depicted as two large ponds on the course of the river, similar in size to fishponds.</p> <p>A short guide to the house and park produced by the owners notes that there was a monastery on the site of the present house and church. After the dissolution of the monasteries, Henry VIII initially kept Welford as his own deer hunting lodge. The country house was built in 1702. The grounds were largely planned by Charles Eyre who inherited Welford in 1831. He diverted the main road, created the front drive and planted many trees including an avenue of lime trees.</p> |
| MWB16704 | SU 384<br>731 | <p><b>Oakhanger House</b> - Unlisted house possibly of early origins, with a name documented from the 13<sup>th</sup> century AD. Oakhanger is marked on Rocque's map with a cluster of buildings, and the lands of Oakhanger may represent one of the two moieties of Elton described in the Domesday Survey. The house was formerly within Welford parish. There are named documentary</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| HER      | Map Ref       | Name/Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          |               | <p>references to Oakhanger in the late 13<sup>th</sup> century AD, continuing through to the time of the Dissolution of the abbey of Abingdon. The name means 'oak wood on a slope'.</p> <p>It is unclear how old the existing house of Oakhanger is, and it is not listed, although it appears to share some of the same footprint as the building on the First Edition Ordnance Survey. The house may have burned down in 1805, but been rebuilt on an old core. Finds from the Roman, medieval and post-medieval periods have been found in surrounding fields, including large pieces of oolitic limestone tiles.</p> |
| MWB4195  | SU 408<br>731 | <b>Welford Churchyard Cross</b> - A stone cross standing in the churchyard has an octagonal shaft let into a square base. The shaft has the remains of an ornamental head dated to the 16 <sup>th</sup> century AD.                                                                                                                                                                                                                                                                                                                                                                                                       |
| MWB16342 | SU 380<br>730 | <b>Wickfield</b> - Possibly the site of a deserted settlement, although it is doubtful how nucleated a village it ever was.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| MWB2093  | SU 405<br>705 | <b>Possible ridge and furrow west of Sole Common</b> - Faint dark parallel lines visible in crop possibly representing ridge and furrow.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| MWB4193  | SU 408<br>731 | <b>Welford Village</b> - 'Waliford' recorded in the Domesday Book (1086). Later versions of the name include 'Weliford' (1167), 'Walifort' (1200) and 'Welleford'; (1272). Information from Gelling.                                                                                                                                                                                                                                                                                                                                                                                                                      |

## 3.2 Material culture distribution

Heat maps showing the distribution of PAS/HER/Museum material culture findspots in relation to HERs of the same period correlates past human activity with the monumental record.

### 3.2.1 Bronze Age material culture and HER monument distribution

The HERs across the survey area dated to the Bronze Age are ditched enclosures without firm dating evidence (i.e. spanning the Bronze Age/Iron Age). There are no material culture findspots from this period recorded within the survey area or its environs. Together this evidence suggests that the survey area is unlikely to have been occupied during the Bronze Age.

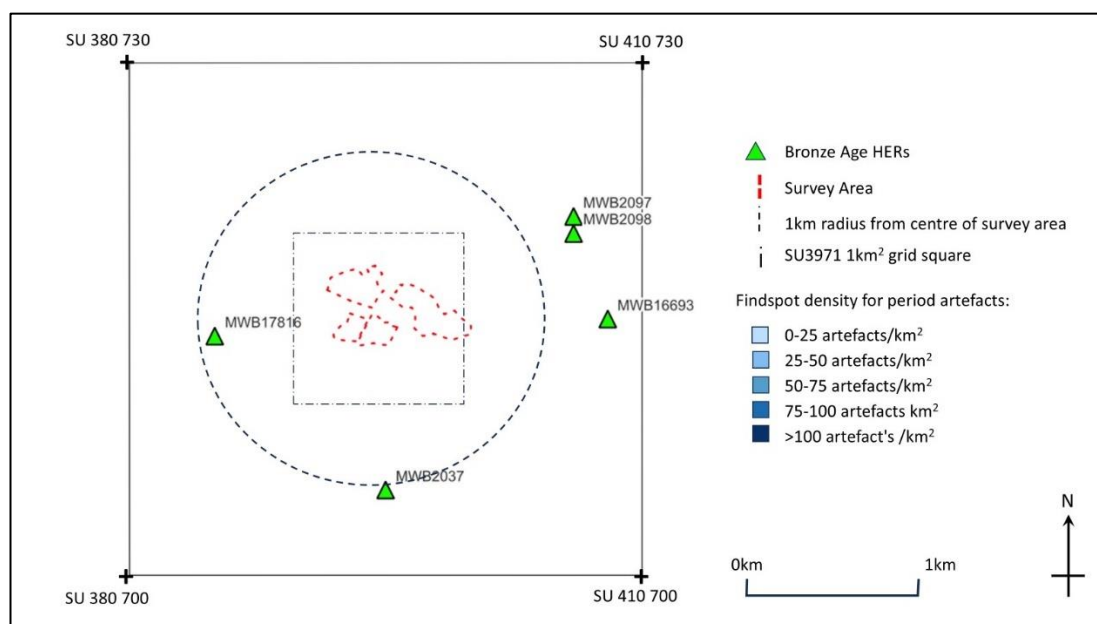


Figure 3.1 Distribution of Bronze Age material culture and HER monuments surrounding the survey area.

Table 3.2 Types of Bronze Age material culture found within 1km<sup>2</sup> grid square SU 39 71 recorded on the PAS database (PAS, 2024).

| Types of material culture dated to Bronze Age period | Quantity |
|------------------------------------------------------|----------|
| None                                                 | -        |

### 3.2.2 Iron Age material culture and HER monument distribution

The HERs of ditched enclosures dating to the Iron Age (again without firm dating evidence) are shown alongside Iron Age material culture findspots in Figure 3.2. Finds discovered within the survey area include two LIA coins of Tasciovanus dating to BC20-AD10. Whilst hoards are not included in the distribution heat maps, the HER records the discovery of a coin hoard at Wormstall House in 1870 (MWB12099) of which only one coin, a silver didrachm of the 'Roman Republic BC dated BC222-BC205 survives, suggesting a *terminus post quem* for deposition as early as the 2<sup>nd</sup> century BC.

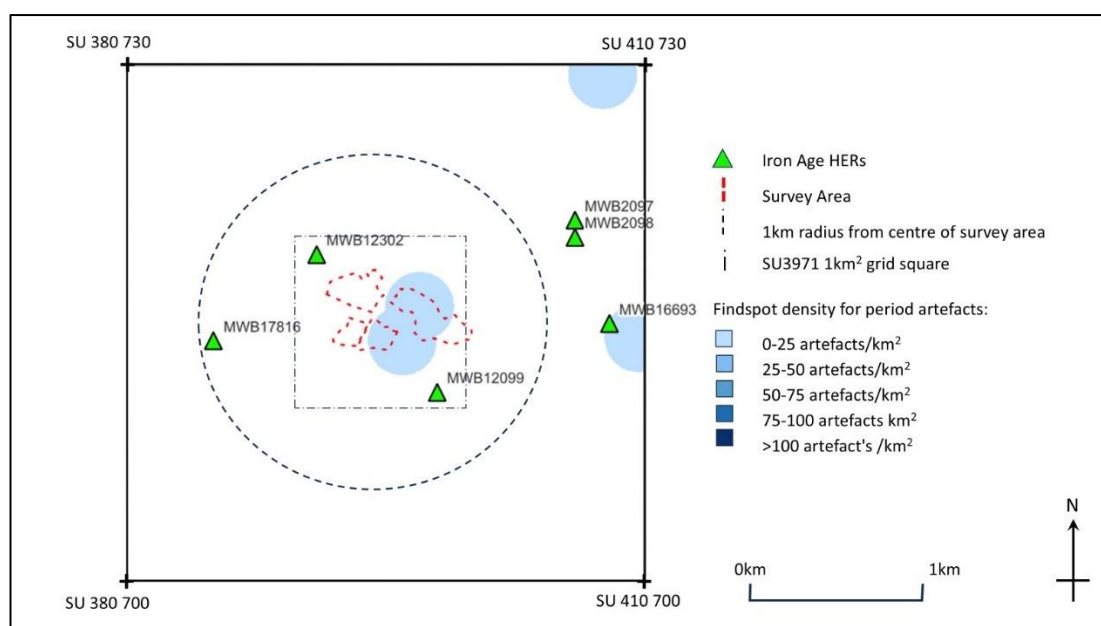


Figure 3.2 Distribution of Iron Age material culture and HER Monuments surrounding the survey area.

Table 3.3 Types of Iron Age material culture found within 1km<sup>2</sup> grid square SU 39 71 recorded on the PAS database.

| Types of material Culture dated to Iron Age period | Quantity |
|----------------------------------------------------|----------|
| Coin                                               | 2        |
| Brooch                                             | 1        |
| Strap Fitting                                      | 1        |

### 3.2.3 Roman material culture and HER monument distribution

Two significant concentrations of Romano-British material culture at Wickham are centred on Wickham House and on the Wormstall Estate 700m to the southeast are recorded on the PAS database as shown in Figure 3.3.

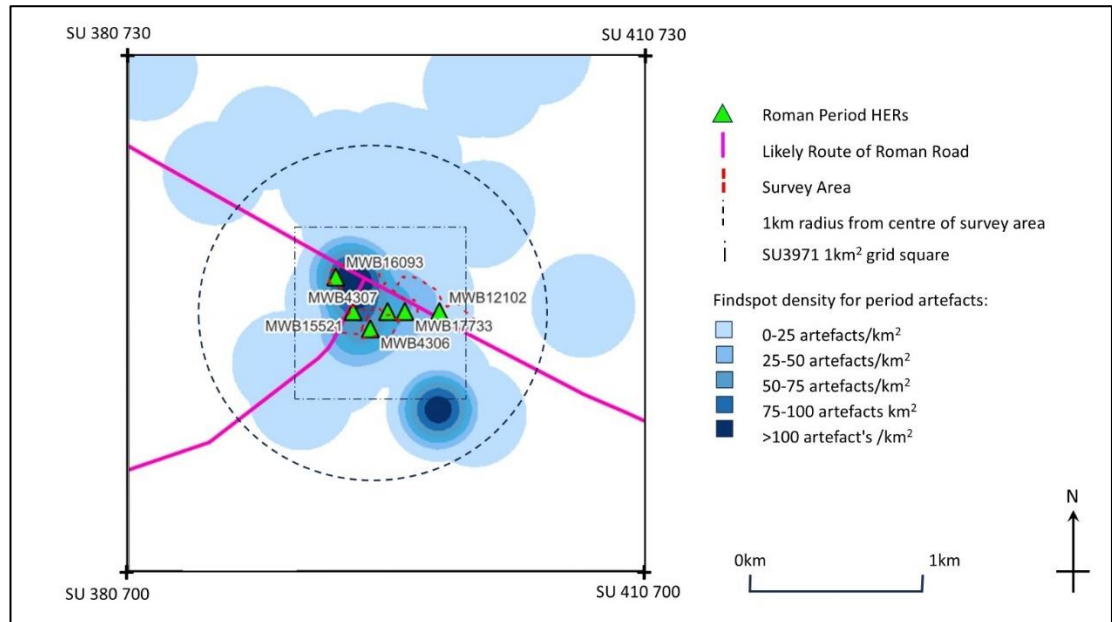
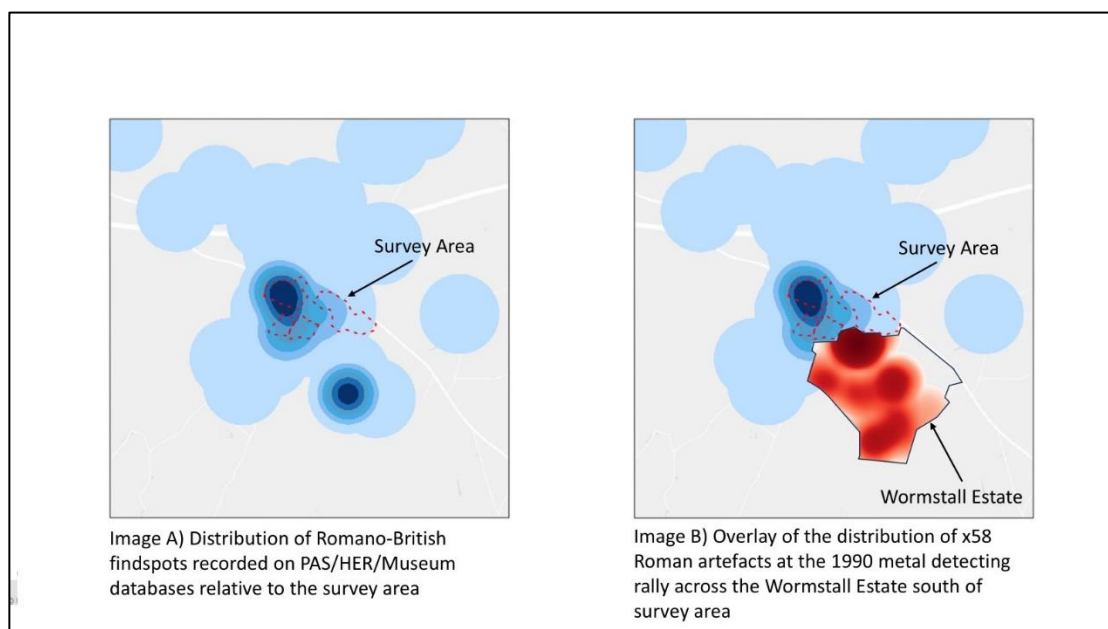


Figure 3.3 Distribution of Roman material culture and HER Monuments surrounding the survey area.

Many of the findspots recorded on the Wormstall Estate were prompted by BAS encountering the landowner's assemblage of Roman coins not previously recorded on the PAS database (Hutt, Harrison & Abbott, 2021). These coins were assigned a generic findspot by the FLO at the centre of the Wormstall Estate as their actual findspots were unknown.

The majority of this assemblage related to a metal detecting rally held during the 1990s (HER: MWB15958) of which the landowner possessed an estate map recording 58 Roman period findspots (of the 143 total Roman objects found within SU3970). This distribution of finds shown in Figure 3.4 suggests a singular focus of distribution centred on Wickham House.



*Figure 3.4 Distribution of Roman finds from the metal detecting rally at Wormstall relative to the distribution of findspots recorded on PAS.*

*Table 3.4 Types of Roman material culture found within the 2km<sup>2</sup> of grid squares SU3970 and SU 39 71 recorded on the HER, PAS and Museum databases.*

| Types of material culture Type dated to Roman period | Quantity |
|------------------------------------------------------|----------|
| Coin                                                 | 401      |
| Pottery sherd                                        | 41       |
| Brooch                                               | 8        |
| CBM                                                  | 3        |
| Weight                                               | 2        |
| Beaker                                               | 1        |
| Bracelet                                             | 1        |
| Buckle                                               | 1        |
| Finger Ring                                          | 1        |
| Harness Pendant                                      | 1        |
| Lamp                                                 | 1        |
| Miniature Axe                                        | 1        |
| Nail Cleaner                                         | 1        |
| Padlock                                              | 1        |
| Sealbox                                              | 1        |
| Spindle Whorl                                        | 1        |
| Stud                                                 | 1        |
| Tweezers                                             | 1        |

401 of the 470 (i.e. 85%) Roman period artefacts from SU 39 70 and SU 39 71 are coins, of which 253 (i.e. 63%) have been dated by Reece Period. The normalised

frequency distribution of coin finds by Reece Period relative to Reece's British Mean is shown in Figure 3.5 (Reece, 1991). With few coins dating to the Early Roman period this suggests that coin use at Roman Wickham was not statistically significant until Reece Period 13 (AD260-AD275) when the number of coins deposited significantly increases. However, during the 4<sup>th</sup> century AD from Reece Period 15 (AD296-AD317) to 19 (AD364-AD378) coin finds at Wickham outpace the British Mean suggesting this was Wickham's economic zenith. Of particular note are Reece Period 19 coins (AD364-AD378) whose deposition at Wickham is 2.8 times greater than the British Mean.

Reece's method (Reece, 1991) for diagnosing likely settlement function based on chronological ratios of coin distribution across the Roman period suggests that Roman Wickham was unlikely to have had a major military role. Instead coin deposition suggests that Wickham was likely to have exhibited rural and religious settlement functions during the Late Roman period. The high concentration of Reece Period 19 coins found at Wickham correlates with an increased propensity for Late Roman religious activity at sites across sites across Wiltshire exhibiting significant Reece Period 19 coin deposition (Moorhead, 2001). The presence of coin finds dating to Reece Period 21 and the Early Medieval artefacts shown in Figure 3.5 suggest that occupation at Wickham continued to the end of the Roman Period and into the Early Medieval Period.

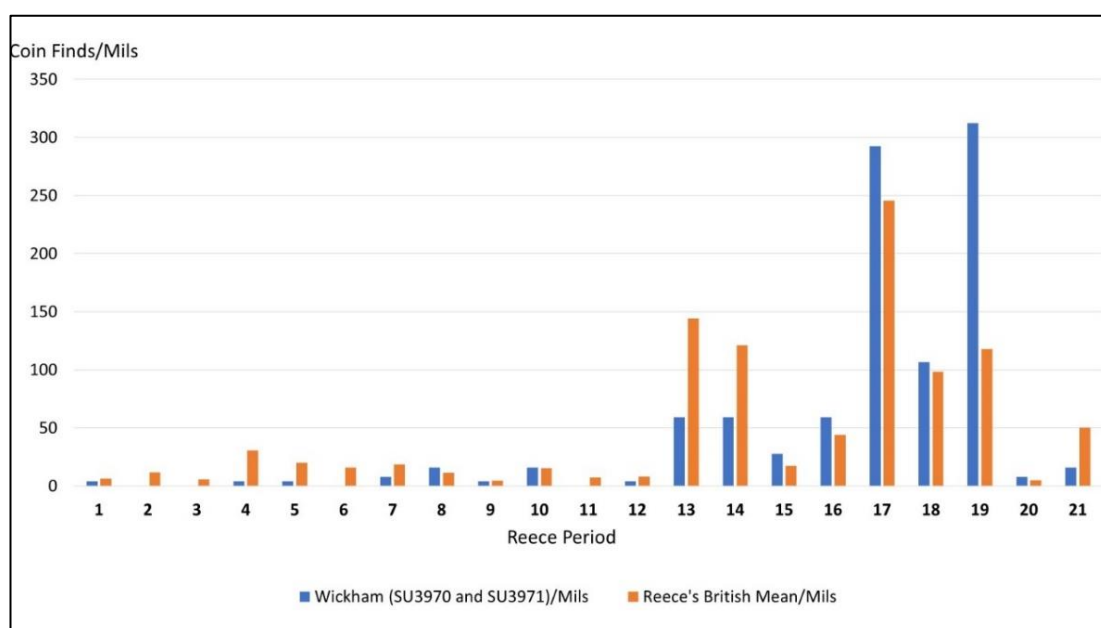


Figure 3.5 Normalised frequency distribution of coin finds from the Wickham (SU3970/SU3971) assemblage and Reece's British mean.

### 3.2.4 Early Medieval material culture and HER monument distribution

The HER records the location of the 9<sup>th</sup>-10<sup>th</sup> century AD church of St. Swithun's (MWB4318). The small assemblage of material culture from this period includes high status artefacts dating to the 5<sup>th</sup>-6<sup>th</sup> centuries AD.

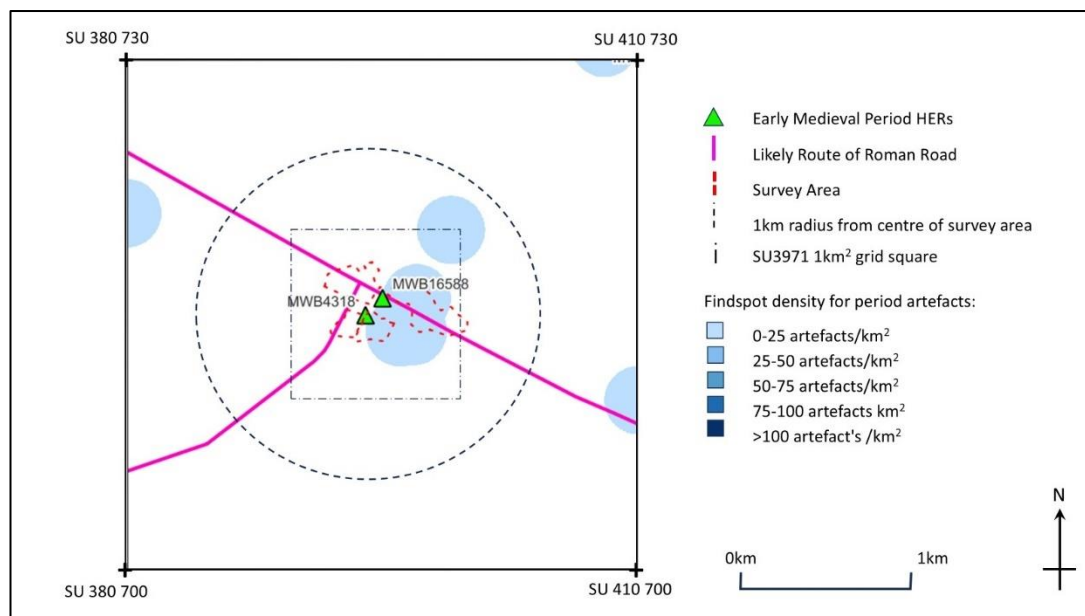


Figure 3.6 Distribution of Early Medieval material culture and HER Monuments surrounding the survey area.

Table 3.5 Types of Early Medieval material culture found within 1km<sup>2</sup> grid square SU 39 71 recorded on the PAS database.

| Types of material culture dated to Early Medieval period | Quantity |
|----------------------------------------------------------|----------|
| Strap end                                                | 3        |
| Brooch                                                   | 2        |
| Hanging Bowl                                             | 1        |
| Stirrup                                                  | 1        |

### 3.2.5 Medieval material culture and HER monument distribution

The distribution of material culture dating to the Medieval period highlights increased occupation activity around Wickham at this time as shown in Figure 3.7.

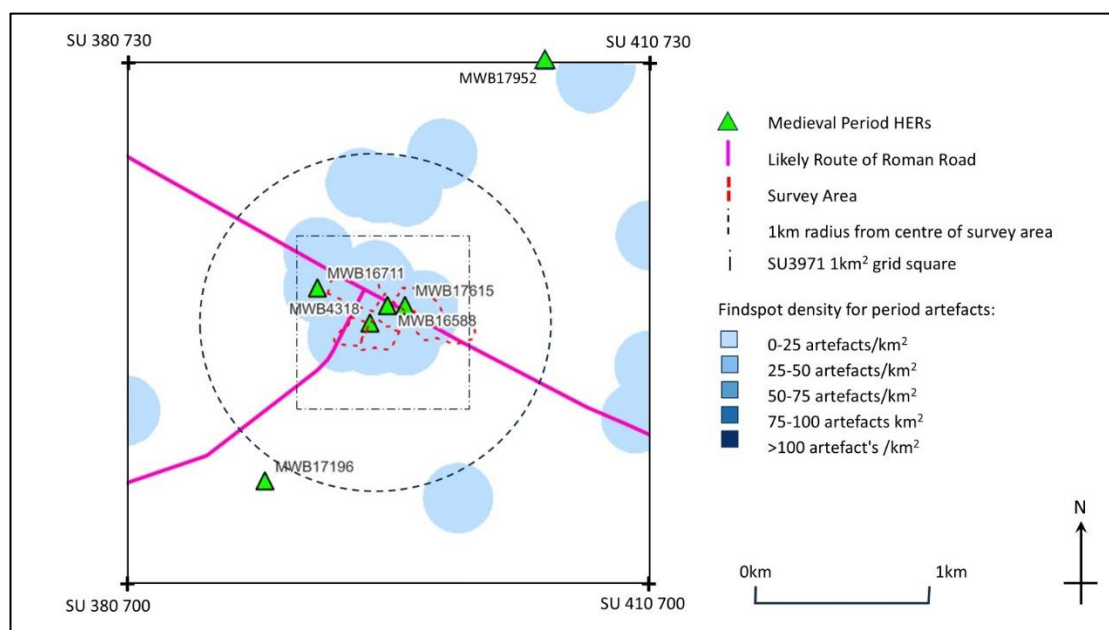


Figure 3.7 Distribution of Medieval material culture and HER Monuments surrounding the survey area.

Table 3.6 Types of Medieval material culture found within 1km² grid square SU 39 71 recorded on the PAS database.

| Types of material culture dated to Medieval period | Quantity |
|----------------------------------------------------|----------|
| Coin                                               | 6        |
| Buckle                                             | 4        |
| Vessel                                             | 2        |
| Tile                                               | 2        |
| Seal Matrix                                        | 2        |
| Key                                                | 2        |
| Steelyard Weight                                   | 1        |
| Weight                                             | 1        |
| Dagger                                             | 1        |

### 3.3 LiDAR

LiDAR data for the survey area is shown in Figure 3.8 highlights a number of landscape anomalies:

- **Anomaly L1:** Anomaly L1 represents a hilltop plateau of 4.5ha surrounded by a scarp across the summit of Church Hill where St Swithun's Church is located. This plateau appears to have been transected by ditch L4 across its southern extent.
- **Anomaly L2:** Anomaly L2 represents what appears to be substantial ditch running in an arc from southwest to northwest centred on Church Hill at a distance of 150m. The intersection of this possible ditch with the conjectured route of the Roman Road to Bath at SU 3915 7129 within New Copse appears to suggest that the Roman road traverses this ditch via a possible 'entrance' to the enclosed area within. Anomaly L2 becomes indistinct from the northwest to the north where it clips the southeast corner of Area 1a (at SU 3927 7163) before running through the present treeline separating Areas 1a/Area 1b/Area 5. After this the projected arc of anomaly L2 is obscured by the modern village and the B4000 and is not visible within Area 4.
- **Anomaly L3:** Anomaly L3 represents a 150m x 150m area of multiple rectilinear ditched features also seen as crop marks on aerial photographs where it is identified as. anomaly AP3 in Figure 3.9. These features lie on permanently boggy ground adjacent to the projected route of Ermin Street (Margary, 1973) at the foot of a steep 2m linear scarp.
- **Anomaly L4:** Anomaly L4 is a substantial ditch some 2m wide and 1.5m deep running east-west along the top of the natural south facing scarp overlooking a wide area of permanently boggy ground below on the Wormstall Estate. The south facing profile of this ditch is angled at 45° degrees, whereas the north facing profile is angled at 70° degrees from horizontal. Anomaly L4 follows the boundary of the Kintbury/Welford parishes shown in the AD1878 OS map in Figure 3.13, and currently marks the boundary between Wickham House and the Wormstall Estate to the south.
- **Anomaly L5:** Anomaly L5 is an east-west aligned scarp demarking higher ground to the south from lower permanently boggy ground to the north.

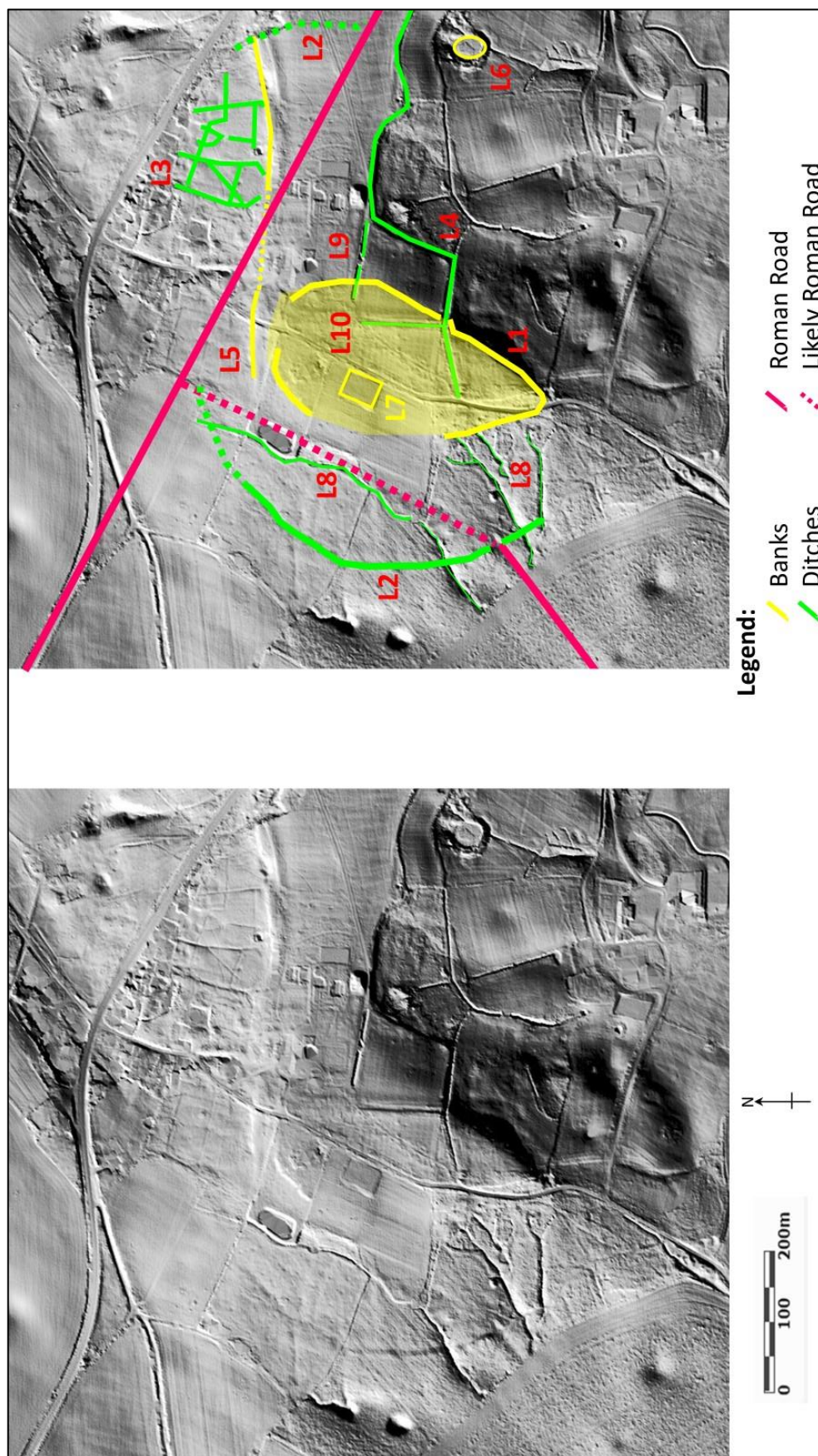


Figure 3.8 LiDAR of Wickham and the surrounding area highlighting observed anomalies (DEFRA, 2024).

- **Anomaly L6:** Anomaly L6 is a 20m diameter circular feature located within Wormstall Wood with the appearance of a manmade pond. It is known that American troops were bivouacked here during WWII suggesting this feature may have been used to collect water from springs located to the north.
- **Anomaly L7:** Anomaly L7 is a 30m x 20m equestrian paddock shown by satellite images to have been constructed between 2012-2017.
- **Anomaly L8:** Anomaly L8 represents a number of water logged ditches that drain water flowing from nearby natural springs.
- **Anomaly L9:** Anomaly L9 is a 'ha-ha' running east-west south of the formal lawns of Wickham House.
- **Anomaly L10:** Anomaly L10 is north-south aligned linear scarp approximately perpendicular to the ha-ha seen associated with Anomaly L9.
- **Anomaly L11:** Anomaly L11 is a 20m long linear feature coincident with where the Roman Road to Bath is thought to cross the anomaly L2 ditch.

### 3.4 Aerial photographs and satellite images

Digitised crop marks plotted from historic aerial photographs taken across the survey area are shown in Figure 3.9:

- **Anomalies AP1 and AP2:** Identified from a photograph taken in 1946, anomalies AP1 and AP2 (Historic England Monument ID:1300817) are interpreted as the remains of Post Medieval ridge and furrow agriculture.
- **Anomaly AP3:** Anomaly AP3 is a 150m x 150m area of multiple rectilinear ditches identified from aerial photographs taken in 1971 (Historic England Monument ID: 1300958). Anomaly AP3 is interpreted as the probable enclosures and drains of the Medieval settlement at Wickham.

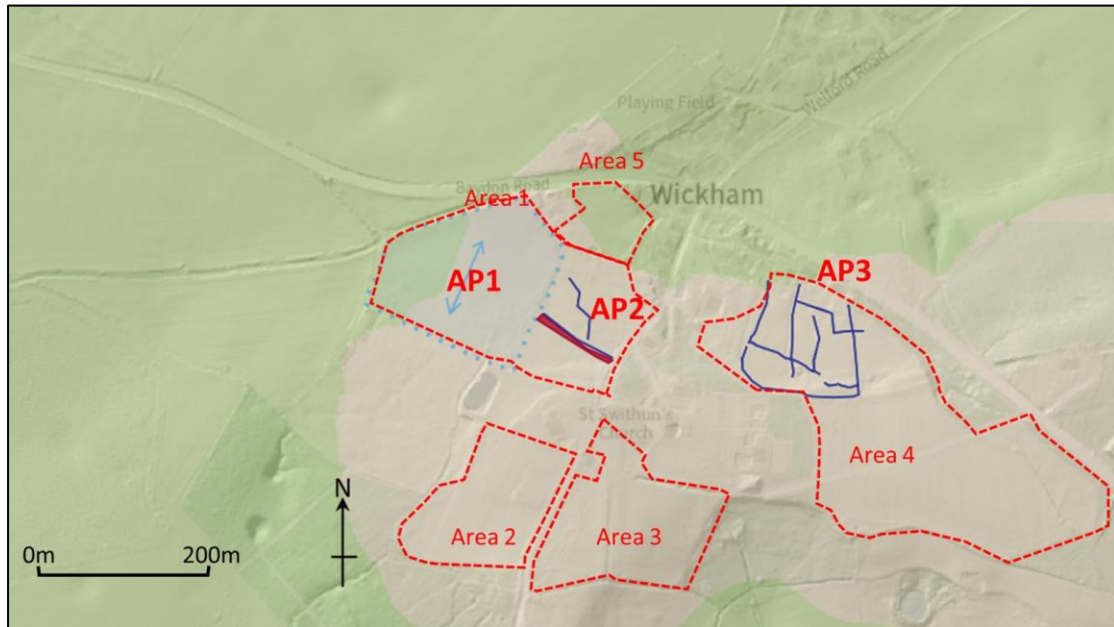


Figure 3.9 Consolidation of features observed from historic aerial photographs across Wickham and survey areas (Historic England Aerial Mapping, 2024).

Figure 3.10 shows a WWII aerial photograph taken by the USAAF in 1944 of a rectilinear enclosure (possibly walled or fenced) approximately 5m x 7m surrounding the well at SU 3943 7166 in Area 1b identified as anomaly AP4. This feature is not shown on any historic maps, but visible remains of brick footings and a broken stone basin can still be seen. The structure itself appears to have been demolished at some point after 1944.

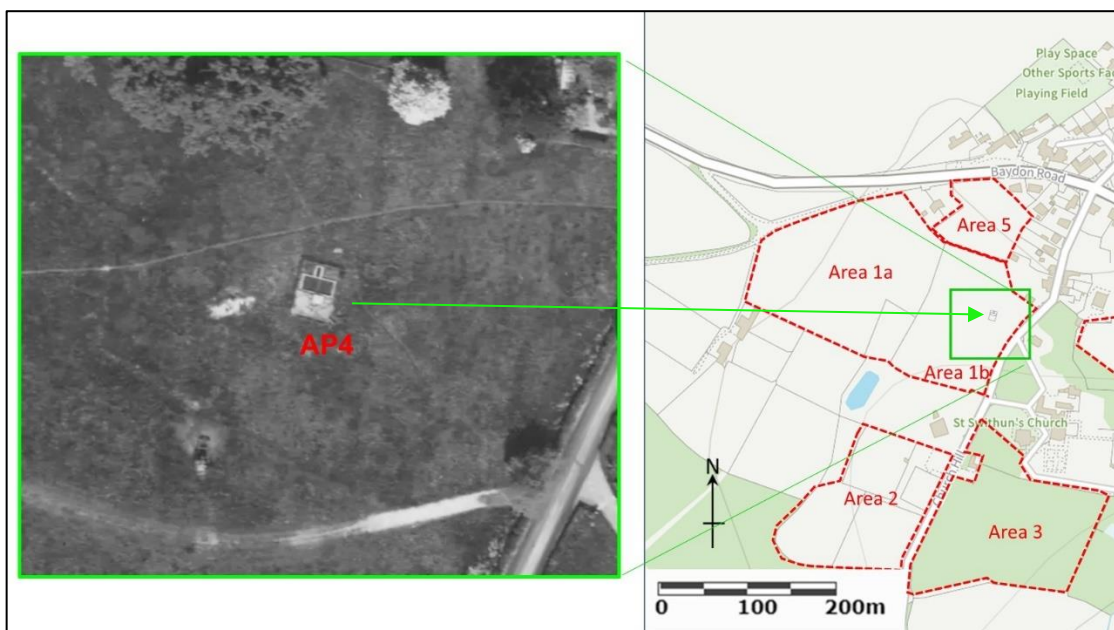


Figure 3.10 A WWII USAAF aerial photograph of Area 1b showing a structure surrounding the well at SU 3943 7166 (Historic England, 2024; Open Map, 2024).

### 3.5 Historic maps

Historic maps provide a useful source of evidence that can discriminate the remains of recently demolished buildings from those of much older structures:

- Temporary buildings erected in 1943 to accommodate American troops during WWII at the southern end of the hilltop plateau on Church Hill still referred to as 'The Camp' are shown in Figure 3.15. Later maps show that these buildings had disappeared by the early 1950s.
- The 1840 tithe map shown in Figure 3.12 shows large buildings on the site of the current Wickham House. Not shown is the driveway connecting to Church Hill (first seen in the Ordnance Survey map of 1878) and the driveway connecting to the B4000 (first seen in the Ordnance Survey map of 1898).
- St Swithun's church was designated as a 'chapel of ease' and was completely rebuilt between 1845 and 1849 retaining only the Saxon tower.
- The 'Old Rectory' located on the site of the present Wickham House is thought to have been built in the late 18<sup>th</sup> century AD. It was rebuilt in its present Gothic style between 1855 and 1858. Wickham House of the 1860s also featured a cloister, a conservatory, a substantial vinery with a curved glass roof and a 100' high spire on the southwest corner of the house. All these features have now been demolished, but their locations can be seen on the Ordnance Survey maps of 1878 and 1898 and surviving photographs.
- None of the historic maps show buildings present in Area 4 where the long drive meets the B4000, suggesting that any remains of buildings found in this location would have to have been demolished prior to 1761.



Figure 3.11 Wickham of 1761 as shown in the Rocque map of Berkshire (The Royal Collection Trust, 2024)

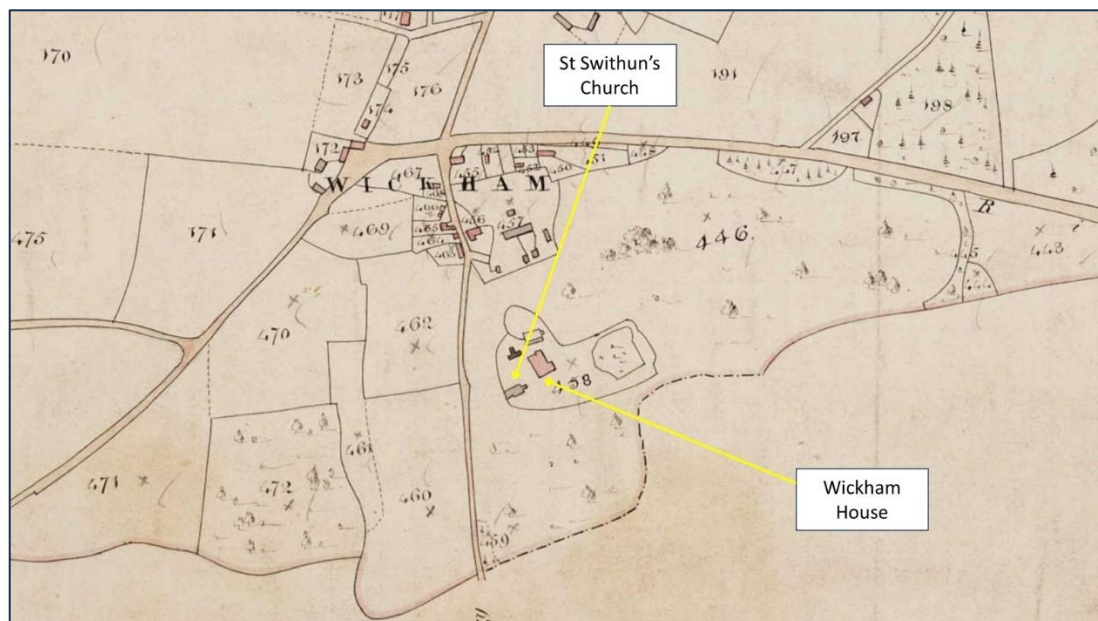


Figure 3.12 the 1840 tithe map of Welford parish showing Wickham (Berkshire Records Office, 2024).

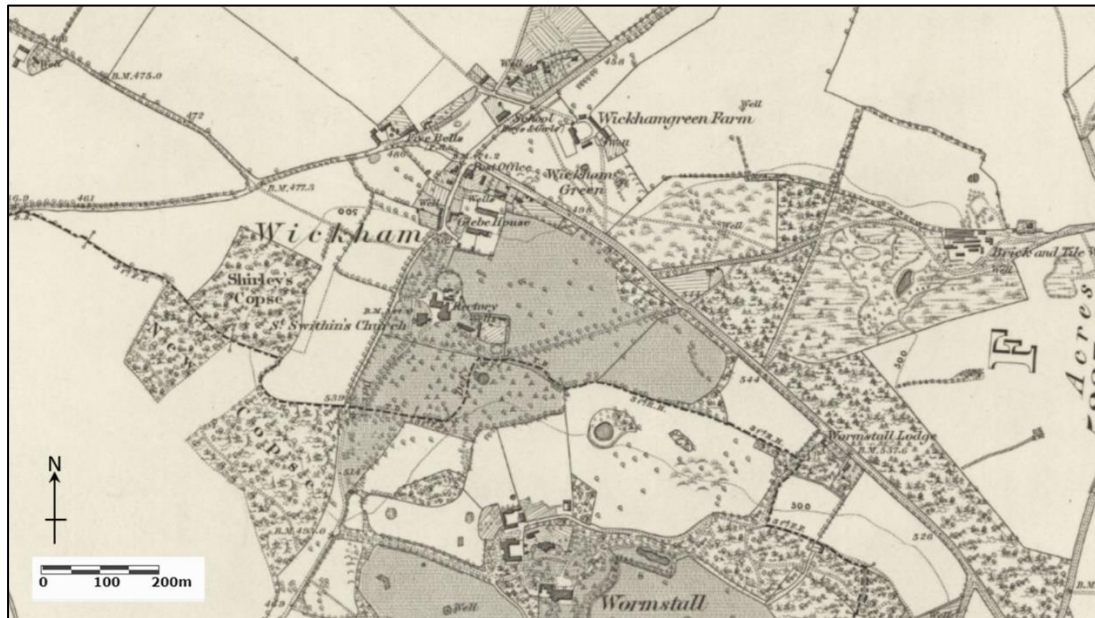


Figure 3.13 The Ordnance Survey map of 1878 (National Library of Scotland, 2024).



Figure 3.14 The Ordnance Survey map of 1898 (National Library of Scotland, 2024).



Figure 3.15 Location of WWII temporary structures at Wickham House and the Wormstall Estate (National Library of Scotland, 2024)

### 3.5. Revised projection of the Roman road to Bath

The intersection of the Road to Bath (RR 53) with Ermin Street has long been thought to lie 1.5km to the southeast of Wickham along the B4000 (Toller, 2013). Geophysics surveys carried out by the BAS on the Wormstall Estate in 2021 (Hutt, Harrison & Abbott, 2021) failed to find any evidence of the Road to Bath along this conjectural route or its projected intersection with Ermin Street. Furthermore, a topographical survey identified a swathe of permanently boggy ground along the steep escarpment to the north of the Wormstall Estate which would have presented a challenge to the construction of a road.

Further BAS geophysics surveys at Radley Farm (Abbott & Cains, 2022) to the west of Wickham affirmed the earthworks visible in Stibbs Wood and Three Gate Copse were the remains of the Roman Road to Bath. A previously lost transcript of an excavation of the Road to Bath at Three Gate Copse (Preshous & Bamister, 1968) describes the road's construction morphology as seen in section. Further BAS geophysics surveys across a wide area of land owned by Sir Richard Sutton Limited between Three Gate Copse and New Copse revealed a 160m long linear anomaly to the west of New Copse that was coincident with a linear high earth resistance anomaly and linear LiDAR/satellite image anomalies. These anomalies were interpreted as being the probable remains of the Road to Bath (Abbott, 2023).

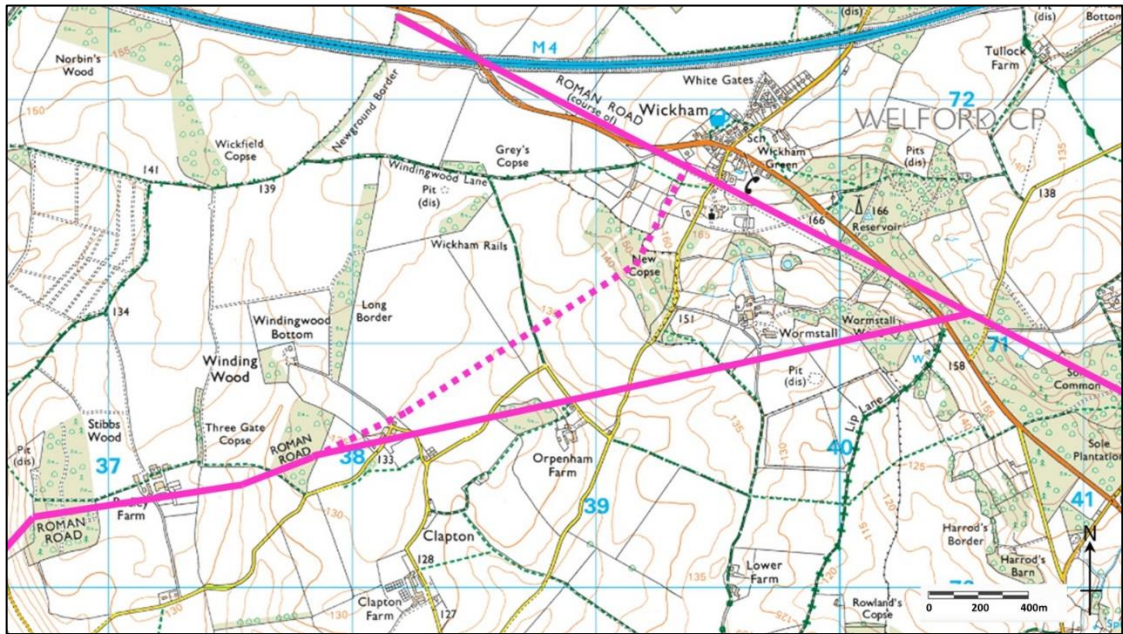


Figure 3.16 The revised route of the Roman Road to Bath (RR 53) (Abbott, 2023; Magic Maps, 2023).

The remaining section of the Road to Bath is thought most likely to follow the field boundary to the west of Church Hill close to where a cobbled surface is recorded in to have been discovered in the HER (MWB15521) at SU 393 715. Concentrations of flints are visible at SU 3935 7166 within the present treeline situated along the field boundary separating Area 1a/1b.

## 4 Project objectives

The objectives of this project are to:

1. Carry out geophysics surveys to locate and define the extent and morphology of past phases of settlement at Wickham.
2. To locate the routes followed by the Roman roads Ermin Street (RR41a) and the Road to Bath (RR53) and their likely intersection.
3. Identify further work needed to reveal the archaeological potential of this site to enable local residents to be better informed of the history of the place where they live.

## 5 The geophysics survey

The survey was carried out from 1<sup>st</sup> to 30<sup>th</sup> June 2023 and 1<sup>st</sup> to 15<sup>th</sup> October 2023 across the five sub-areas shown in Figure 1.2.

### ***5.1 Geophysics survey method***

The survey was carried out in compliance to ClfA guidelines (ClfA, 2024). Control points were positioned to establish an array of 20m x 20m data collection grid squares. Grid squares were surveyed with a Bartington 601 gradiometer dual sensor gradiometer, the results processed using Snuffler (Snuffler, 2006) and the resulting geophysics plots reviewed for anomalies. Grid squares containing anomalies exhibiting evidence of likely past human activity were also surveyed using a Frobisher TAR-3 Earth resistance meter.

Each of these five sub-areas across the survey area are located independently of one another each using their own datum (i.e. Fixed Reference Points) to create the survey grid. The details of the grid in relation to Fixed Reference Points refer are shown in Appendix 1.

### ***5.2 Area 1 surveys***

Area 1 lies along the course of Ermin Street where it is projected to intersect with the Road to Bath. Area 1b features a well and areas of permanently boggy ground. Both Areas 1a and 1b have revealed a wide distribution of Roman artefacts discovered by metal detectorists, and a large assemblage of Romano-British pottery has collected from the garden of Rose Cottage in the northeast of Area 1b. The HER (MWB16093) records possible building remains at SU 392 717 to the west of Area 1a.

#### ***5.2.1 Area 1a gradiometer survey***

A survey grid of 20m x 20m squares was established across the area to be surveyed using measuring tapes and geometry, and extended using measuring tapes to create an area approximately 180m south to north and 260m west to east as detailed in Appendix 1. The Gradiometer survey image for Area 1a is shown in Figure 5.1, and the identified anomalies are shown in Figure 5.2:



Figure 5.1 Gradiometer survey for Area 1a (Open Map,2024).

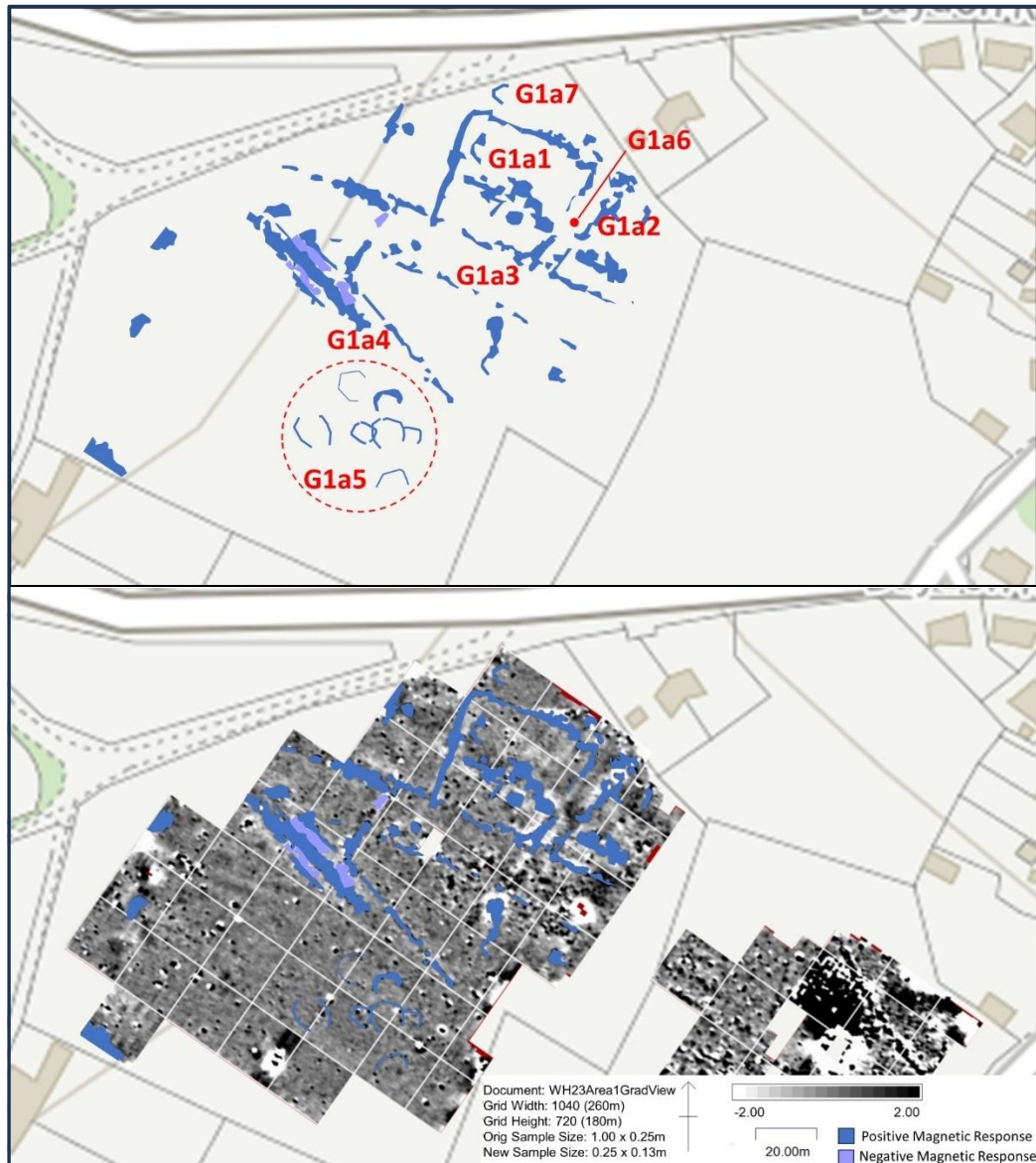


Figure 5.2 Gradiometer anomalies for Area 1a (Open Map, 2024).

- **Anomaly G1a1:** Anomaly G1a1 is 40m x 40m ditched enclosure adjacent to and aligned with G1a3 (i.e. Ermin Street). Within enclosure G1a1 there are features most likely representing pits and disturbance possibly associated with occupation and/or buildings. It is likely that the entrance to this enclosure was on its southeast facing side via lane G1a6. Alignment of anomaly G1a1 with the Roman road suggests that was constructed at a time when Ermin Street was in use.
- **Anomaly G1a2:** Anomaly G1a2 consists of two perpendicular rectilinear ditches aligned with G1a3 (i.e. Ermin Street) and lane G1a6. G1a2 is interpreted as being the possible south-westerly remains of a rectilinear

ditched enclosure or building on the southeast facing side of Ermin Street. Alignment of this anomaly with the Roman road suggests that G1a2 was constructed during the period when Ermin Street was in use.

- **Anomaly G1a3:** Anomaly G1a3 consists of two parallel linear ditches running for 110m in a southeast to north-westerly alignment some 15m apart. These features are interpreted as the extant remains of the Roman road Ermin Street 15m to the south of the route predicted by Margary (1973).
- **Anomaly G1a4:** Anomaly G1a4 consists of two parallel linear ditches some 8m to 10m apart that runs for approximately 60m at a 30 degree angle to and intersection with G1a3 (i.e. Ermin Street). This anomaly is interpreted as the extant remains of the intersection of the Roman Road to Bath with Ermin Street, and may possibly be a 'slip road' connecting to the main alignment of the Road to Bath. Between the outer ditches of anomaly G1a4 are linear anomalies with a positive and negative magnetic response. This is interpreted as possibly being due to iron slag used to repair the 'slip road's' surface.
- **Anomaly G1a5:** Anomaly G1a5 is a group of overlapping circular features approximately 8m to 10m in diameter to the south of the 'slip road' G1a4 connecting Ermin Street and the Road to Bath. These features are interpreted as being the drip gullies of past round houses. It is likely that these features represent a smaller number of buildings with multiple phases of construction (i.e. were rebuilt multiple times in roughly the same location over many years).
- **Anomaly G1a6:** Anomaly G1a6 is interpreted as a 5m wide ditched lane branching northeast from (i.e. perpendicular to) Ermin Street between of G1a1 and G1a2.
- **Anomaly G1a7:** Anomaly G1a7 is an indistinct semicircular negative magnetic feature approximately 5m in diameter which is interpreted the possible drip gully of a round house to the north of the G1a1 enclosure.

### 5.2.2 Area 1a Earth resistance survey

A survey grid of 20m x 20m squares was established across the same grid used for the gradiometer survey of Area 1a to create an area 100m south to north and 100m west to east as detailed in Appendix 1.

The earth resistance anomalies are identified in Figure 5.3 are:

- **Anomaly R1a1:** Anomaly R1a1 is an area of high earth resistance 35m x 18m located between the two parallel ditches of the Roman road Ermin Street (G1a3) and is interpreted as being the remains of the Roman road's metalled surface.
- **Anomaly R1a2:** Anomaly R1a2 consists of rectilinear high resistance features across an area of 30m x 25m located to the west of the ditched enclosure G1a1 on the north side of and aligned with the Roman road Ermin Street. R1a2 is located close to where the HER (MWB16093) records possible building remains. R1a2 is interpreted as the probable remains of a masonry footed multi-roomed roadside building.
- **Anomaly R1a3:** R1a3 is a circular high earth resistance anomaly approximately 10m in diameter. R1a3 is co-located with smaller and indistinct circular gradiometer anomaly G1a7. With no negative magnetic responses visible from the gradiometer that might have suggested exposure to high temperature, anomaly R1a3 is thought unlikely to be the remains a kiln.
- **Anomaly R1a4:** R1a4 is a linear high earth resistance anomaly some 20m in length perpendicular to the G1a3 (i.e. Ermin Street) coincident with the north eastly aligned linear gradiometer feature of G1a2 interpreted as the ditch of a possible building or enclosure. R1a4 is interpreted as the likely the remains of a wall associated with the G1a2 building/enclosure associated or rubble fill from a nearby building within one of the G1a2 ditches.
- **Anomaly R1a5:** Anomaly R1a5 is a linear high resistance anomaly 15m in length coincident with the southerly ditch of the Road to Bath 'slip road' G1a4. R1a5 is interpreted as being agger from nearby Ermin Street R1a1 that has (intentionally or otherwise) been deposited into ditch G1a4.

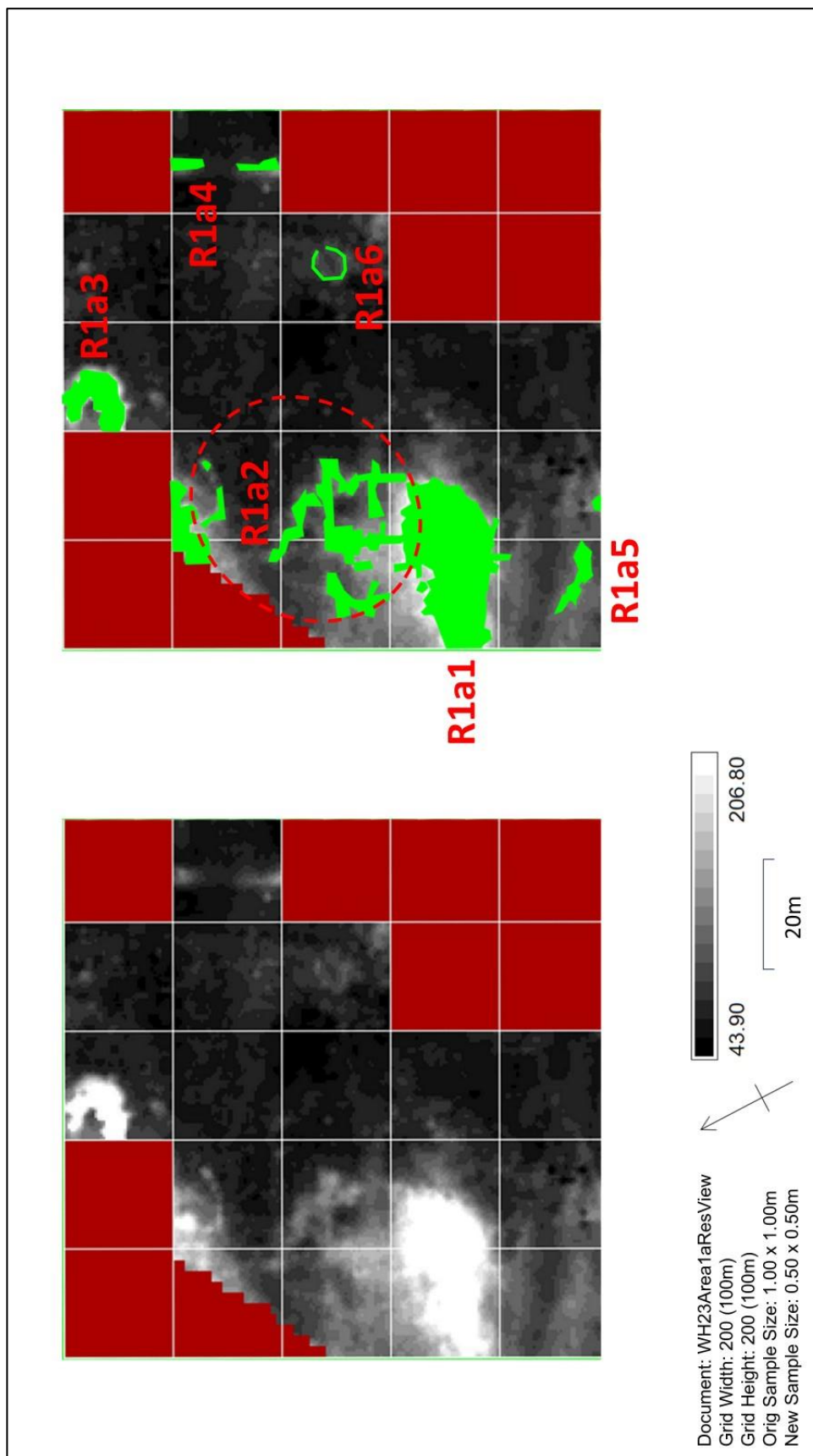
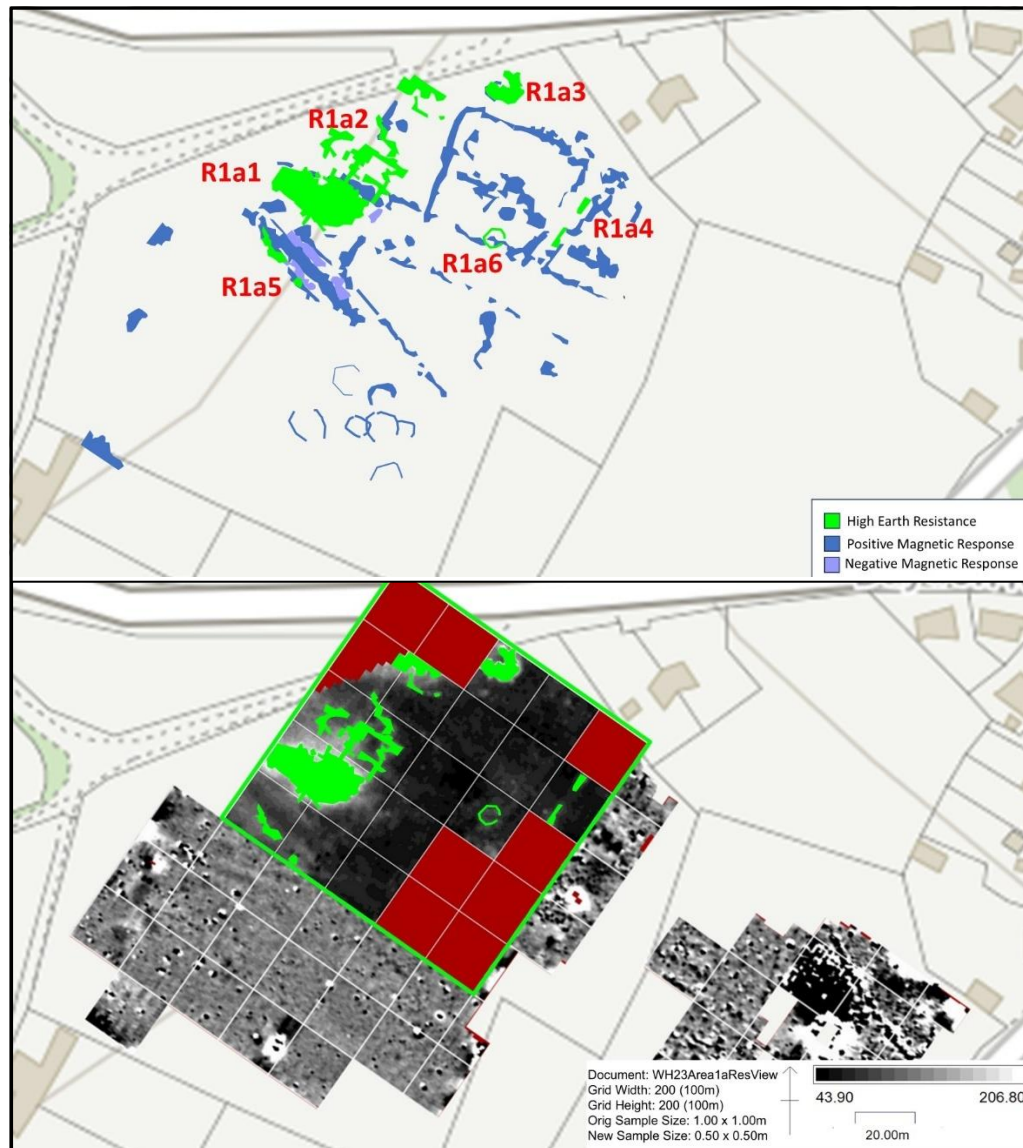


Figure 5.3 Earth resistance survey for Area 1a.



*Figure 5.4 Earth resistance anomalies for Area 1a relative to the gradiometer anomalies (Open Map, 2024).*

- **Anomaly R1a6:** R1a6 is an instinct circular high resistance anomaly 7m in diameter with a gap facing southeast located at the south of ditched enclosure G1a1 alongside G1a3 (i.e. Ermin Street) as shown in Figure 5.4. R1a6 is the only high resistance feature within roadside enclosure G1a1, and is interpreted as being the possible remains of a circular building withing enclosure G1a1 and possibly associated with Ermin Street that passes immediately to the south of anomaly R1a6.

### 5.2.3 Area 1b gradiometer survey

A survey grid of 20m x 20m squares was established across the area to be surveyed defined by extending the grid used for Area 1a using measuring tapes and geometry to create an area approximately 140m south to north and 100m west to east as detailed in Appendix 1.

The Gradiometer survey image for Area 1b is shown in Figure 5.5, and the anomalies identified are shown in Figure 5.6:

- **Anomaly G1b1:** Anomaly G1b1 are two parallel linear anomalies exhibiting a positive magnetic response running east-west for approximately 20m at a distance of 5m. The northerly G1b1 linear is aligned with the southerly ditch of Ermin Street seen in Area 1a, and is interpreted as being part of Ermin Street's southern ditch with a further parallel ditched ditch 5m further to the south.
- **Anomaly G1b2:** Anomaly G1b2 is a curved parallel feature exhibiting a positive magnetic response approximately 20m in length and 5m apart. G1b2 is interpreted as the ditches of a lane possibly intersecting a further ditched lane running parallel to the Roman road.
- **Anomaly G1b3:** Anomaly G1b3 is a linear feature exhibiting a positive magnetic response some 20m in length that is interpreted as a ditch. Being located perpendicular to and transecting the Roman road it is likely that ditch G1b3 was dug after the Roman road had fallen out of use during a later phase of occupation.
- **Anomaly G1b4:** Personal conversation with local residents suggests that the Area 1b pasture had been used for cattle, but due to the boggy nature of the ground the pasture quickly turned into a quagmire and has since been used for sheep only. It is likely that the wide area of disturbance exhibited by anomaly G1b4 is the result of churned ground around the well where animals may have congregated. There are also areas of negative magnetic response visible at this location of which the cause is unknown.



Figure 5.5 Gradiometer survey for Area 1b (Open Map,2024).

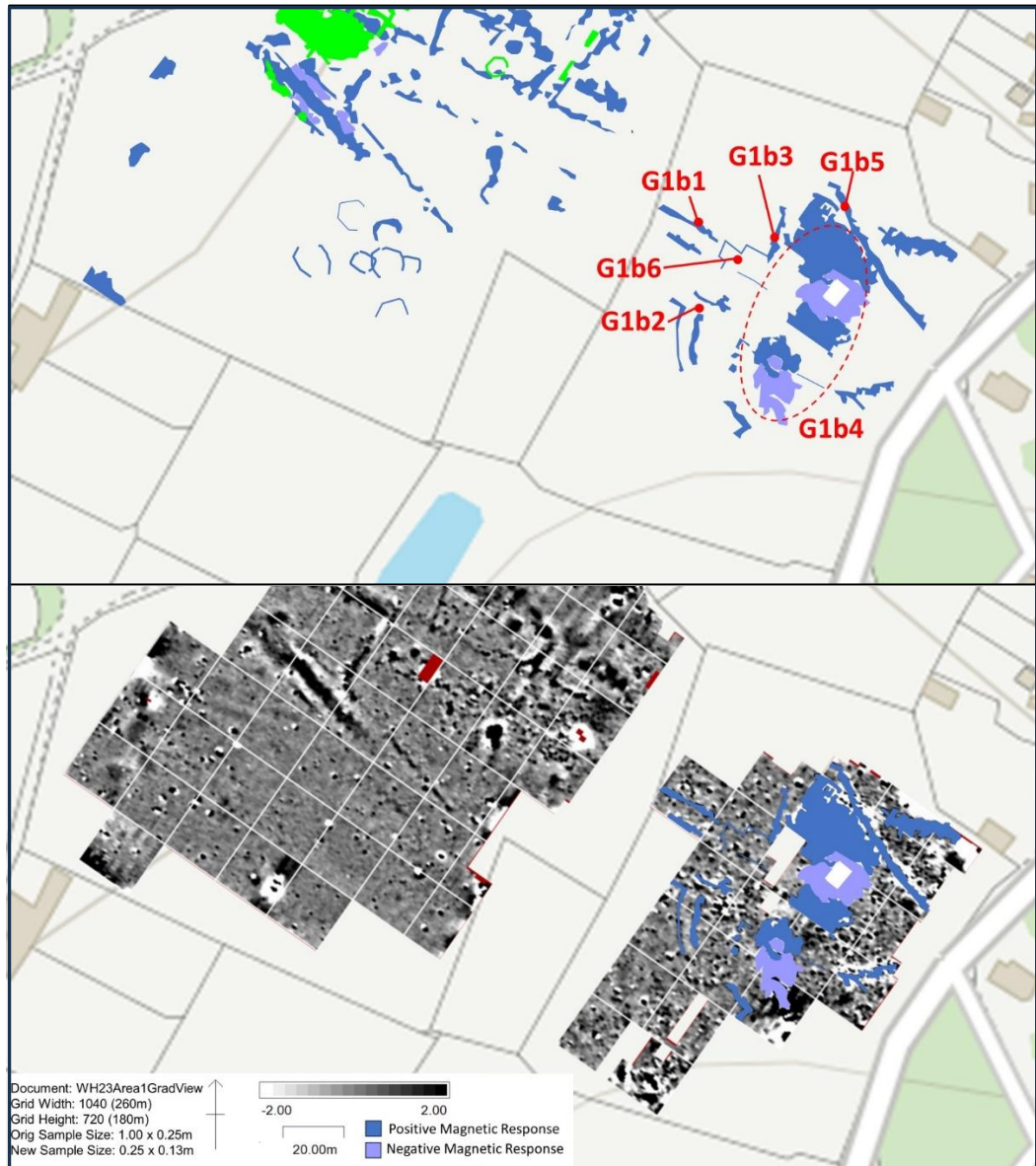


Figure 5.6 Gradiometer anomalies for Area 1b (Open Map, 2024)

- **Anomaly G1b5:** Anomaly G1b5 is a linear feature exhibiting a positive magnetic response extending 60m across Area 1b in a southeast-northwest alignment. Conversation with local residents suggested that this may have been a trench dug within living memory to connect water/gas utilities to nearby properties.
- **Anomaly G1b6:** Anomaly G1b6 is an indistinct rectilinear feature aligned with and located close to the south side of the Roman road. The morphology of this feature suggests that it may represent the construction trenches of a building. Further investigation is needed to confirm this tentative interpretation.

### 5.2.4 Area 1b and Area 1c earth resistance surveys

Area 1c uses the same survey grid used by Area 1a and Area 1b which was extended across this tree line using measuring tapes, and the ground cleared of undergrowth to permit access. Part squares were surveyed where dense foliage denied access.

The earth resistance survey for Area 1b used a new grid of 20m x 20m squares relative to the northern boundary of Area 1b with Area 5 due to there being insufficient time to re-instate the grid used for the Area 1 gradiometer surveys. The Area 1b earth resistance survey grid was defined using measuring tapes and geometry to create an area of 60m north-south and 40m east-west as detailed in Appendix 1.

The locations of the earth resistance survey grids defining Area 1b and Area 1c are highlighted using green boxes in Figure 5.7 relative to the gradiometer survey grid. The earth resistance anomalies for Area 1b are shown in Figure 5.8:

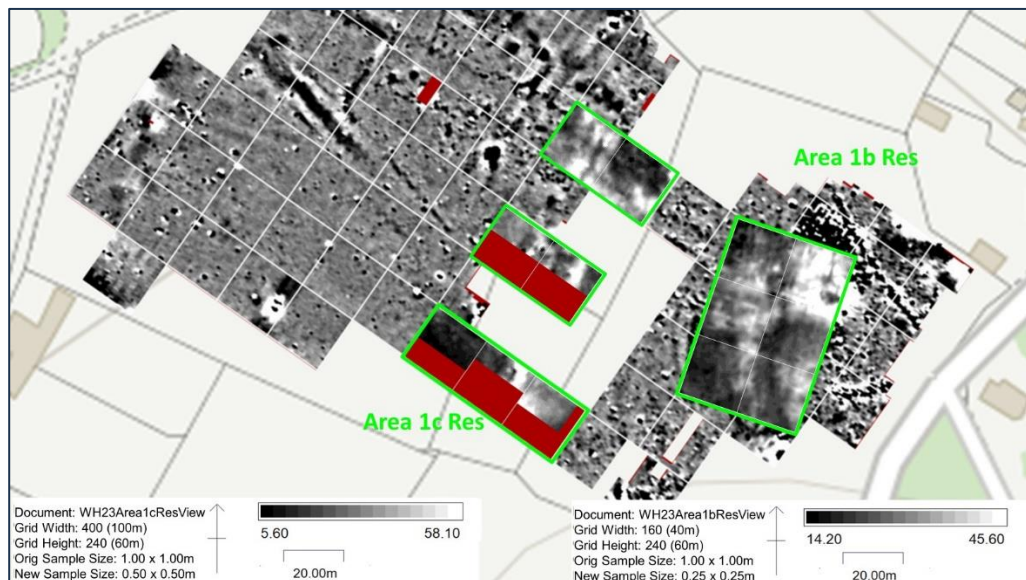


Figure 5.7 Earth resistance survey Areas 1b and 1c relative to the Area 1 gradiometer survey grid (Open Map, 2024).

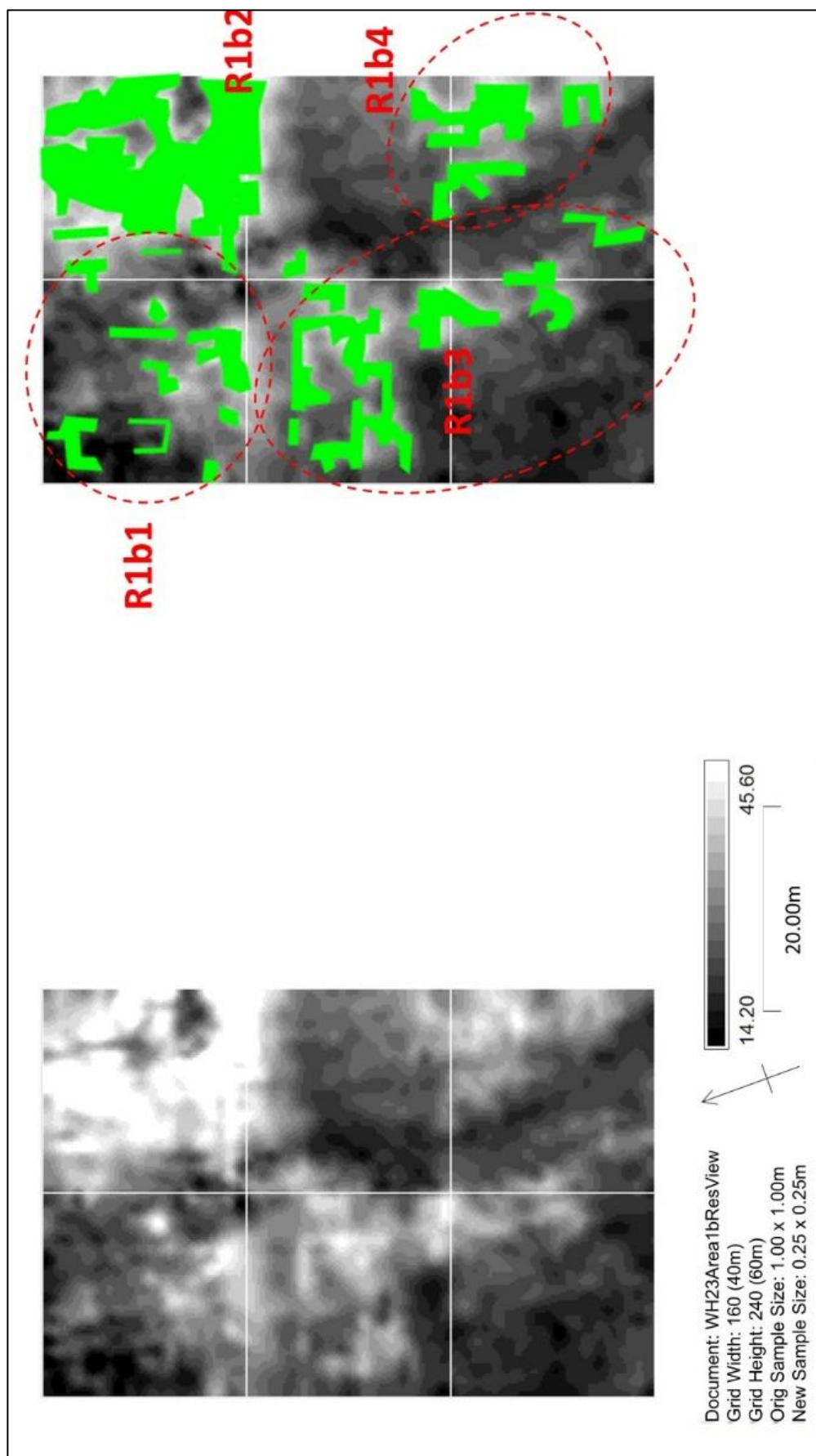


Figure 5.8 Area 1b earth resistance survey and anomalies identified.

- **Anomaly R1b1:** Anomaly R1b1 is a group of rectilinear high earth resistance features aligned with but overlapping Ermin Street. Anomaly R1b1 is interpreted as being the remains past building(s) constructed on top of the Roman road and/or parallel to it.
- **Anomaly R1b2:** Anomaly R1b2 is a rectilinear spread of high earth resistance around the well currently covered with an iron grate and surrounded by remains of a stone and brick seen surrounding the well shown in Figure 3.10 and identified as AP4.
- **Anomaly R1b3:** Anomaly R1b3 is a 15m x 10m group of rectilinear high earth resistance features aligned with Ermin Street. Further to the south extended of this feature over an area of 25m x 7m are further rectilinear features on the same alignment. Anomaly R1b1 is interpreted as the remains of a masonry footed multi-roomed building or buildings.
- **Anomaly R1b4:** Anomaly R1b4 is a group of high earth resistance rectilinear features located to the east of R1b3 on the south side of Ermin Street on the same alignment as R1b3 and Ermin Street across an area of 15m x 20m. Although less clear than R1b3, anomaly R1b4 is also interpreted as the possible remains of a masonry footed multi-roomed building or buildings.

The high earth resistance anomalies within Area 1c are shown in Figure 5.9:

- **Anomaly R1c1:** The high earth resistance anomaly R1c1 may relate to the extant remains of Ermin Street's metallised surface. However in isolation anomaly R1c1 is too indistinct to be diagnosed as a Roman road.
- **Anomaly R1c2:** Anomaly R1c2 consists of two areas of high Earth resistance aligning with the projected route of the Roman Road to Bath 20m to 50m south of its likely intersection with Ermin Street. However as no parallel ditches were observed either by the gradiometer or earth resistance surveys associated with anomaly R1c2 the interpretation as likely Road to Bath remains highly tentative and will required evaluation excavation to confirm.

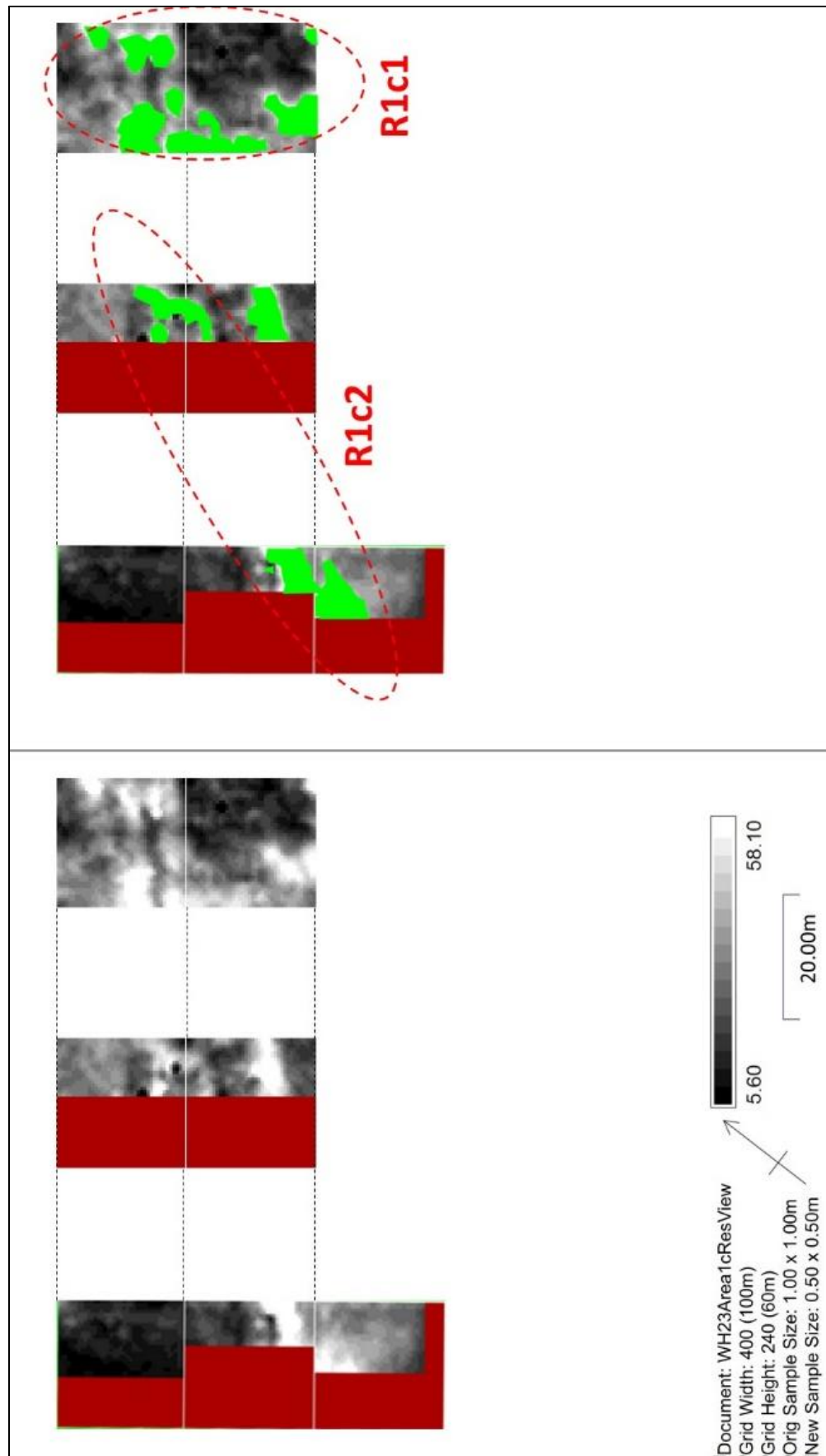


Figure 5.9 Area 1c earth resistance survey and anomalies identified.

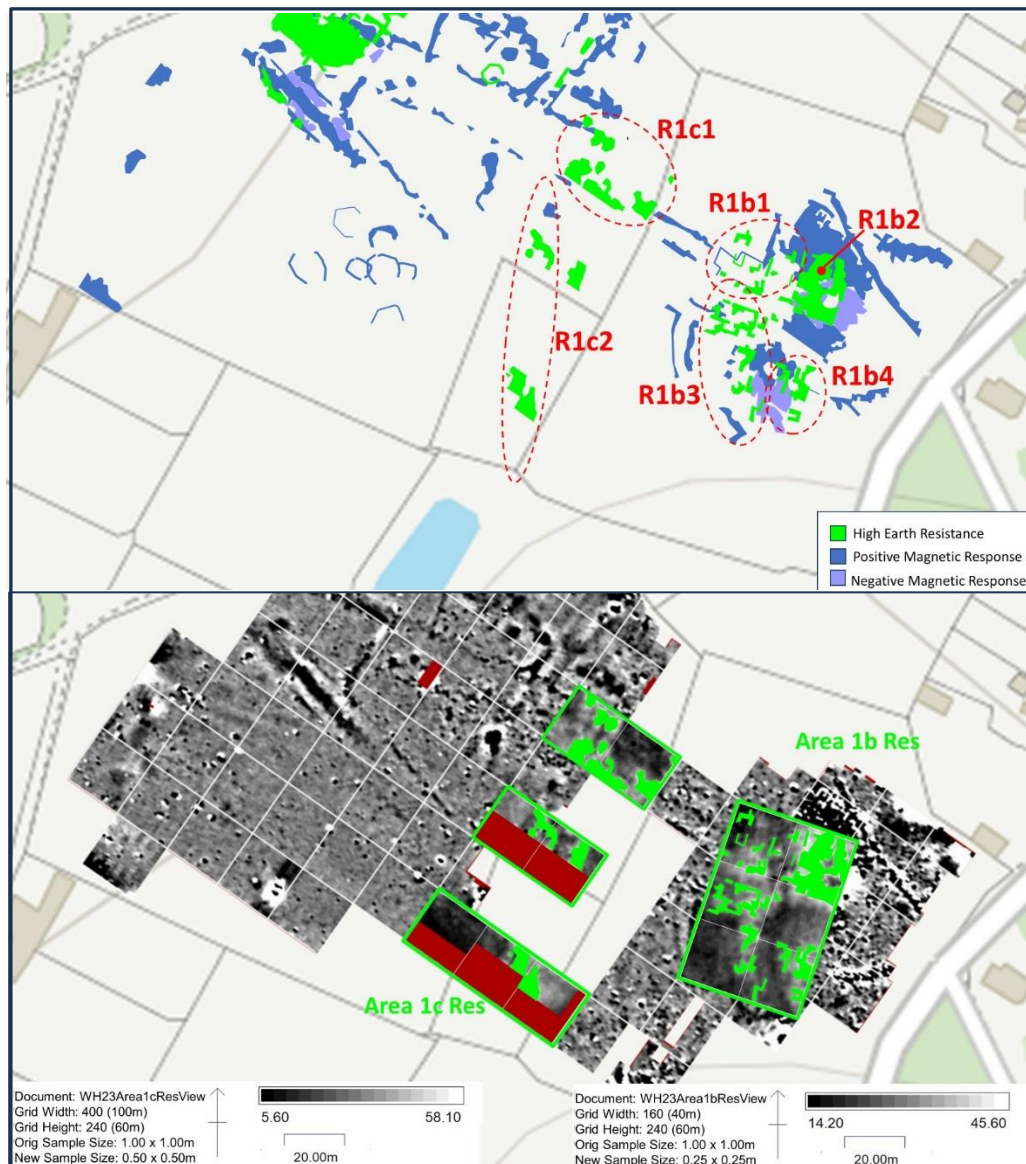


Figure 5.10 Earth resistance anomalies for Area 1b and Area 1c relative to the gradiometer anomalies in Area 1b (Open Map, 2024).

### 5.3 Area 2 surveys

Area 2 lies between the projected course of the Roman Road to Bath to the east, and the hilltop plateau on Church Hill to the west, and is currently used as equestrian paddocks. Metal detecting across this area has revealed Roman coins, Romano-British pottery, a Medieval key and handmade iron nails.

#### 5.3.1 Area 2 gradiometer survey

A survey grid of 20m x 20m squares was established across the area to be surveyed using measuring tapes and geometry to create an area approximately 100m south to north and 120m west to east as detailed in Appendix 1.

The gradiometer survey image for Area 2 is shown in Figure 5.11. The high magnetic response and low magnetic response anomalies (not thought to have been caused by bipolar interference) are shown in Figure 5.12:

- **Anomaly G2a1:** Anomaly G2a1 exhibits a positive magnetic response measuring 45m x 40m and is interpreted as being a 'D-shaped' ditched enclosure. The linear ditch of the enclosure is aligned north-south. The indistinct anomalies within the interior of this enclosure suggest possible further internal subdivision.
- **Anomaly G2a2:** Anomaly G2a2 located in the southwest corner of the field is a 40m x 10m area of bipolar interference and disturbed ground. This location within the pasture is permanently boggy and likely to have been regularly churned by animals, and also contained visible evidence of scrap metal fencing suggesting G2a2 could also be due to buried metal waste.
- **Anomaly G2a3:** Anomaly G2a3 is a 20m x 15m area of interference, found (by a local metal detectorist) to contain a high concentration of iron nails. The signature of anomaly G2a3 is consistent with both ferrous interference and heat, and it interpreted as the probably location of past bonfires.
- **Anomaly G2a4:** Anomaly G2a4 is a linear north-south aligned anomaly exhibiting a positive magnetic response measuring some 45m in length and parallel at a distance of 15m to anomaly G2a5. Anomaly G2a4 interpreted as a ditch of unknown date, with a number of possible pits located to its east

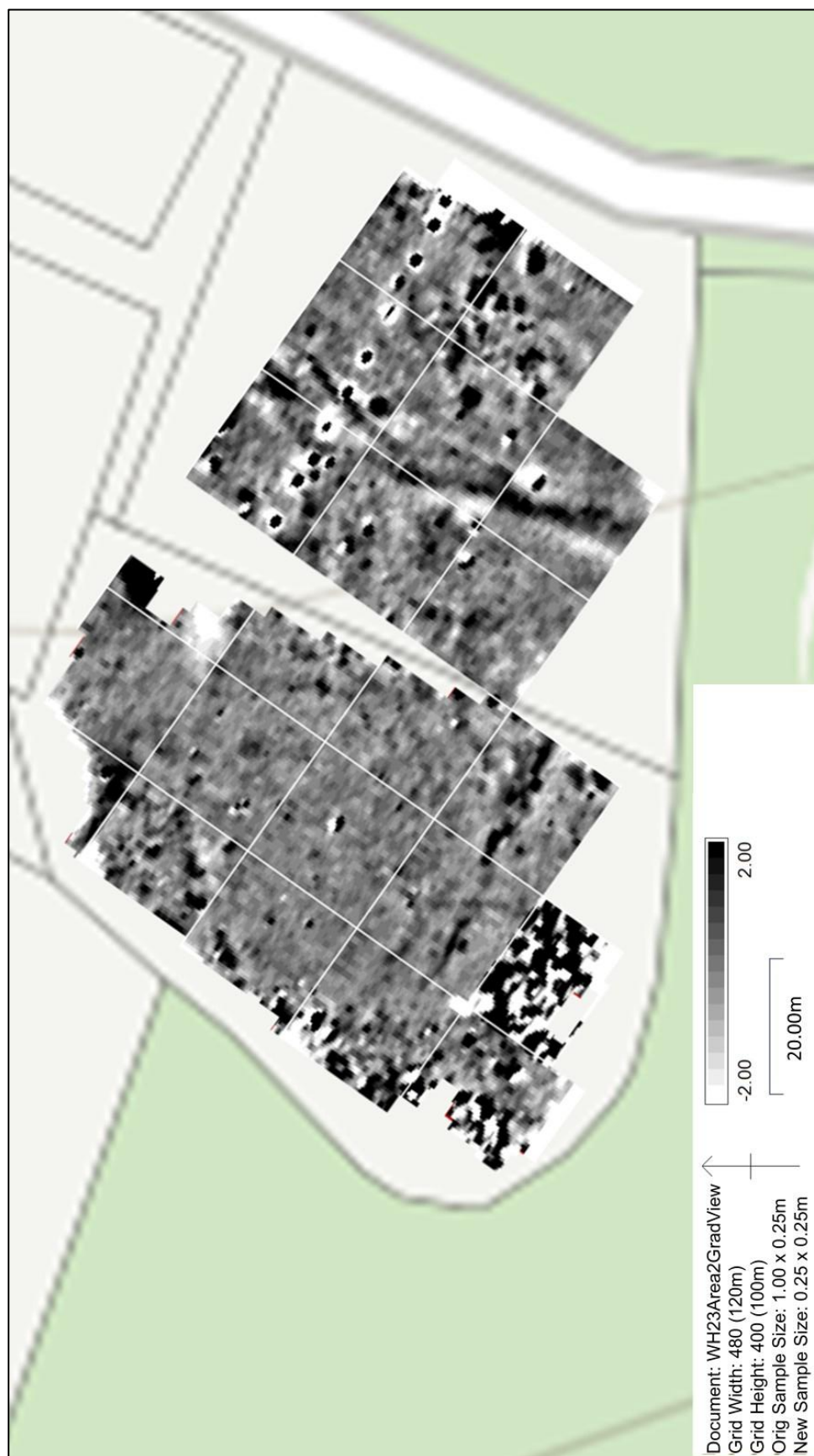


Figure 5.11 Gradiometer survey for Area 2 (Open Map, 2024).

- **Anomaly G2a5:** Anomaly G2a5 is linear north-south aligned anomaly exhibiting a positive magnetic response measuring some 10m in length and parallel at a distance of 8m to anomaly G2a1. Anomaly G2a5 is interpreted as a ditch of unknown date.
- **Anomaly G2a6:** Anomaly G2a6 is a linear alignment of equidistant high magnetic responses running northwest to southeast across one of the eastern Area 2 paddock. G2a6 is interpreted as the remains of steel post sockets for temporary electrical fencing - one of which was visible along this alignment.

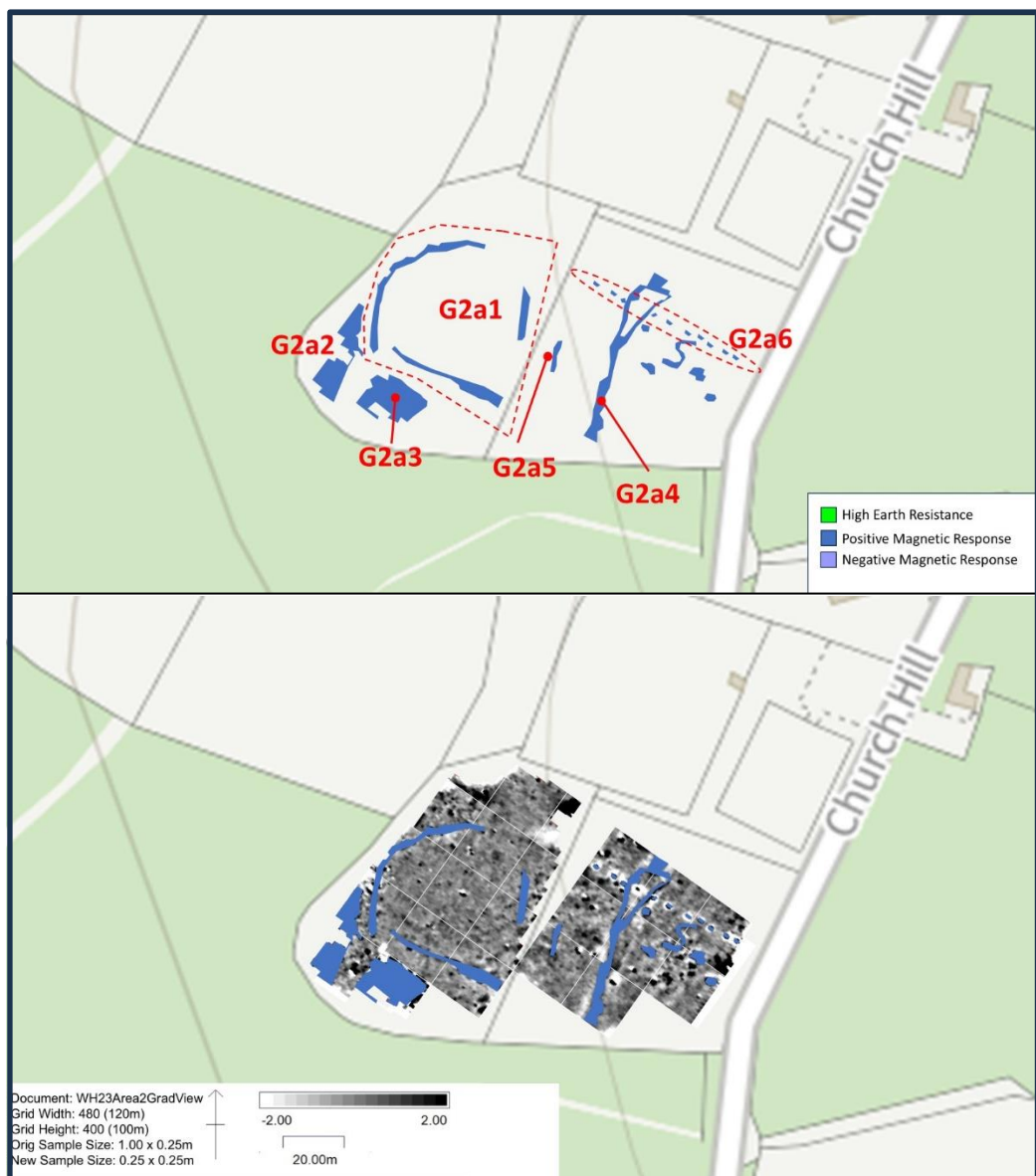


Figure 5.12 Gradiometer anomalies for Area 2 (Open Map, 2024).

### 5.3.2 Area 2 earth resistance survey

An earth resistance survey of Area 2 was not undertaken due to limited time available.

## 5.4 Area 3 surveys

Area 3 lies within the locus of the hilltop plateau on Church Hill to the south of Wickham House and St Swithun's Church. Metal detectorists have found a Roman coins and other Roman period artefacts across this area.

### 5.4.1 Area 3 gradiometer survey

A survey grid of 20m x 20m squares was established across the area to be surveyed. The length of the sides was confirmed using measuring tapes and geometry, and the survey area was extended using measuring tapes to create an area approximately 140m south to north and 180m west to east as detailed in Appendix 1. The Gradiometer survey image for Area 3 is shown in Figure 5.13 and the anomalies observed are shown in Figure 5.14:

- **Anomaly G3a1:** Anomaly G3a1 is a 100m x 40m area to the south of Area 3 featuring a concentration of overlapping circular features approximately 8m to 10m in diameter with positive magnetic responses. These features are interpreted as being the drip gullies of one or more round houses that may have occupied this area. This area also contains a number of likely pits.
- **Anomaly G3a2:** Anomaly G3a2 is a 85m x 80m rectilinear feature exhibiting a positive magnetic response that is coincident on its western side with a visible north-south aligned bank. On its northern side aligns with a ditch (not surveyed) cut in front of a stone faced ha-ha. The alignment of this anomaly with the ha-ha to the north and its rectilinear form suggests that this anomaly may result from landscaping carried out during the mid-19<sup>th</sup> century AD when the present Wickham House gardens was rebuilt.

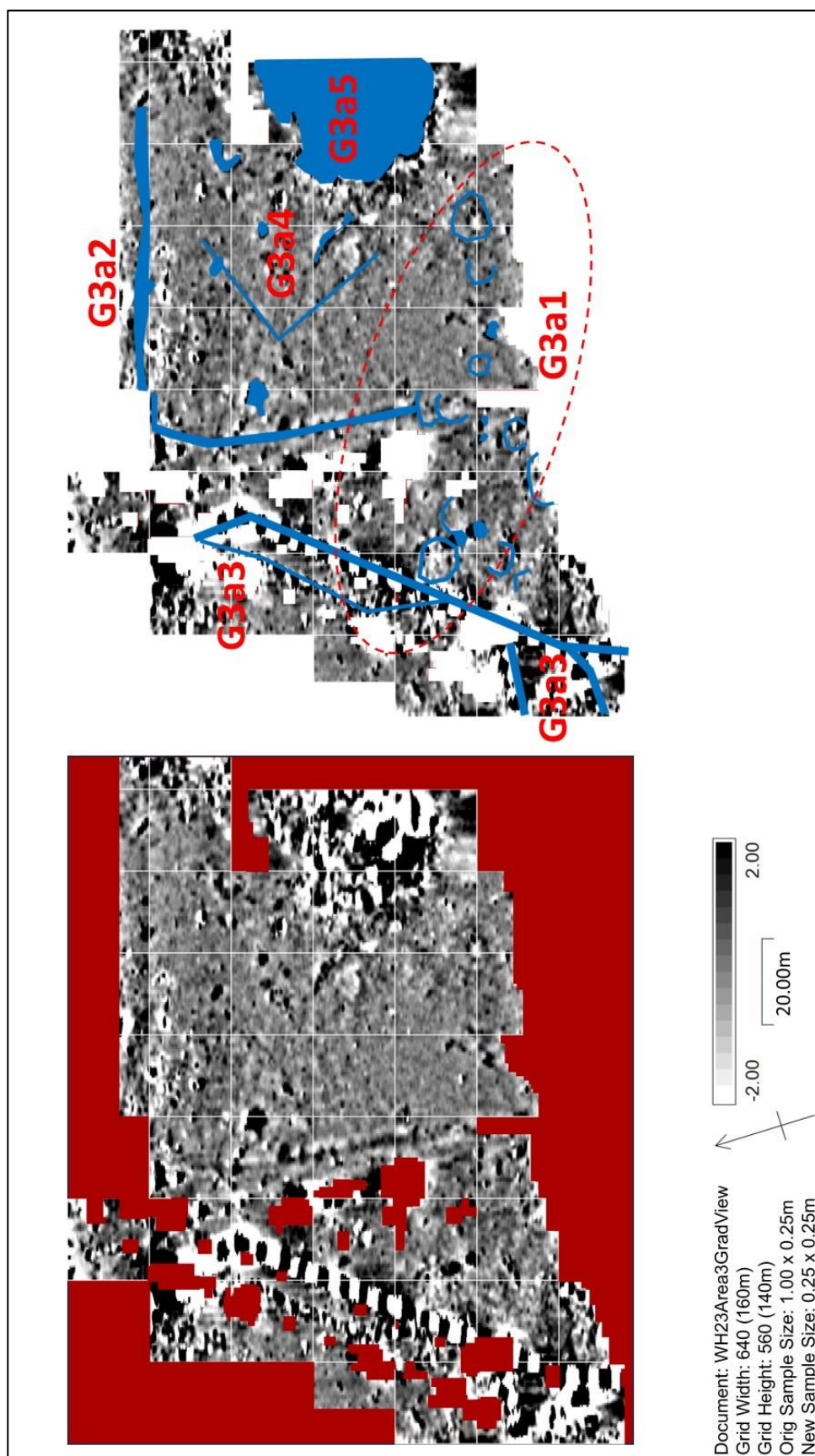


Figure 5.13 Gradiometer survey for Area 3.

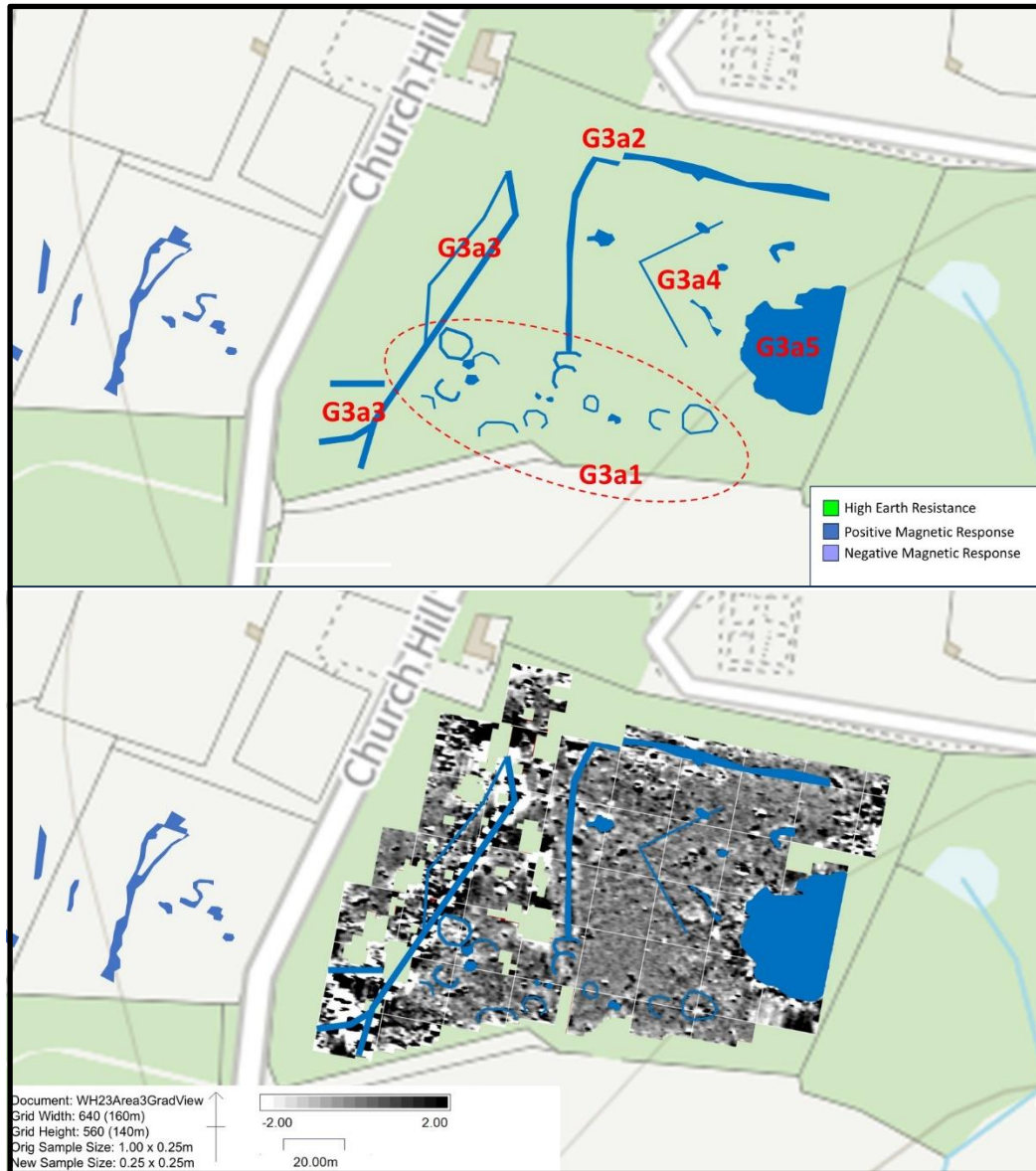


Figure 5.14 Gradiometer anomalies for Area 3 (Open Map, 2024).

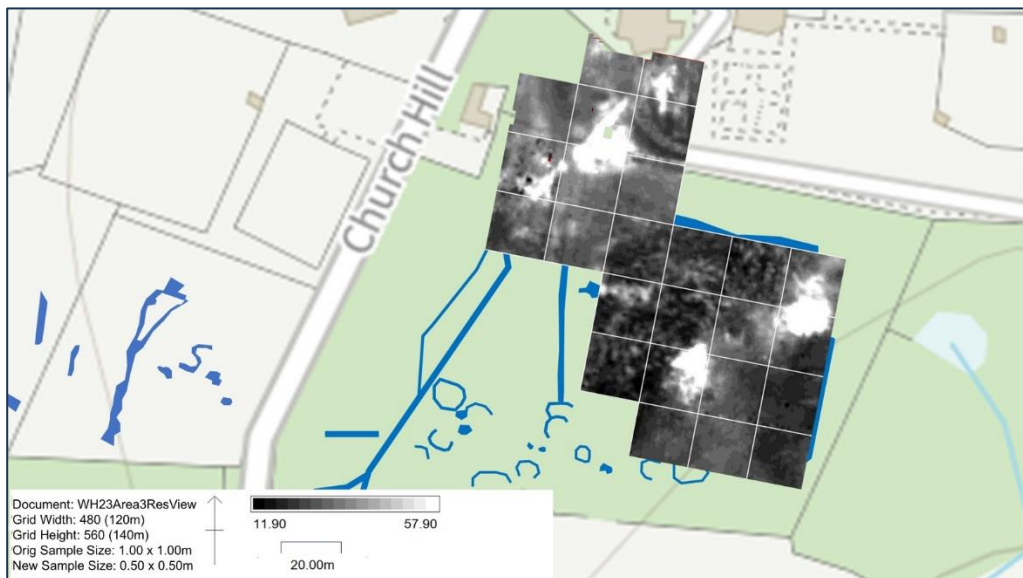
- **Anomaly G3a3:** Anomaly G3a3 are multiple linear features exhibiting dipolar magnetic interference to the west of Area 3 across an areas of 40m x 120m. These features are located within the oak lined avenue seen in Figure 3.13 that went out of use between 1878 and 1898. Remains of the brick gateway onto Church Hill most likely associated with this driveway are still visible in the southwest corner of Area 3. Following personal conversation with the landowner anomaly G3a3 is interpreted as buried electrical and security cabling installed in recent years.
- **Anomaly G3a4:** Anomaly G3a4 is a narrow 'L-shaped' feature exhibiting a positive magnetic response measuring 35m x 40m facing to the northwest and

southeast. The northwest-southeast aligned side of G3a4 has a parallel linear feature some 10m long located 8m to the northeast. Given the natural slope of the land to the southeast, anomaly G3A4 is interpreted as a possible gully created to divert rainwater around a surface and/or building.

- **Anomaly G3a5:** Anomaly G3a5 is a 40m x 40m area in the southeast corner of Area 3 where heavy/waterlogged ground slopes to the southeast at the top of the natural scarp below. Local residents recall waste soil being deposited across this area some 15 years previously which most likely resulted in the disturbed ground suggested by anomaly G3a5.

#### 5.4.2 Area 3 earth resistance survey

A survey grid of 20m x 20m squares was established using the Area 3 gradiometer survey grid to create an area approximately 120m south to north and 140m west to east as detailed in Appendix 1 and shown in Figure 5.15.



*Figure 5.15 Location of earth resistance survey relative to the gradiometer survey anomalies observed in Area 3 (Open Map, 2024).*

The earth resistance survey image for Area 3 and the anomalies observed are shown in Figure 5.16:

- **Anomaly R3a1:** Anomaly R3a1 is located 20m southeast of and aligned with the 'L-shaped' gradiometer anomaly G3a4. G3A4 thus appears to define an

enclosure to the northwest of R3a1. R3a1 is an 'L-shaped' anomaly measuring 70m x 40m exhibiting moderate earth resistance with two 15m x 20m areas of high earth resistance located at the southeast end and northeast ends. There is also a 3m x 3m 'U-shaped' high resistance feature located between the two areas of high earth resistance. Anomaly R3a1 is interpreted tentatively as an 'L-shaped' surface with rain gullies (G3a4) along its northwest and southeast facing boundary creating an enclosed area. At either end of the northwest facing edge of the 'L-shaped' surface are two areas of high earth resistance interpreted as possible spreads of rubble. Located on ground sloping to the southeast, there are no buildings shown on historic maps in this area these features may together represent a pre-1761 building or garden features of the 18<sup>th</sup>-19<sup>th</sup> century Wickham House.

- **Anomaly R3a2:** Anomaly R3a2 consists of two linear high resistance features measuring 20m in length located to the northwest of anomaly R3a1, one of which is aligned with R3a1 but the other not. R3a2 may represent walls associated with R3a1 but this is not clear from the survey image and needs to be investigated further. Anomaly R3a2 is not aligned with other nearby features and historic maps show no buildings in this location after 1761.
- **Anomaly R3a3:** Anomaly R3a3 includes a number of moderately high and high earth resistance linear features that align with the late 18<sup>th</sup> century AD driveway connecting Wickham House to Church Hill. The curved feature of moderate earth resistance within R3a3 corresponds to the present gravel driveway. R3a3 is interpreted as being the extant remains of the late-18<sup>th</sup> century AD driveway shown in Figure 3.13.

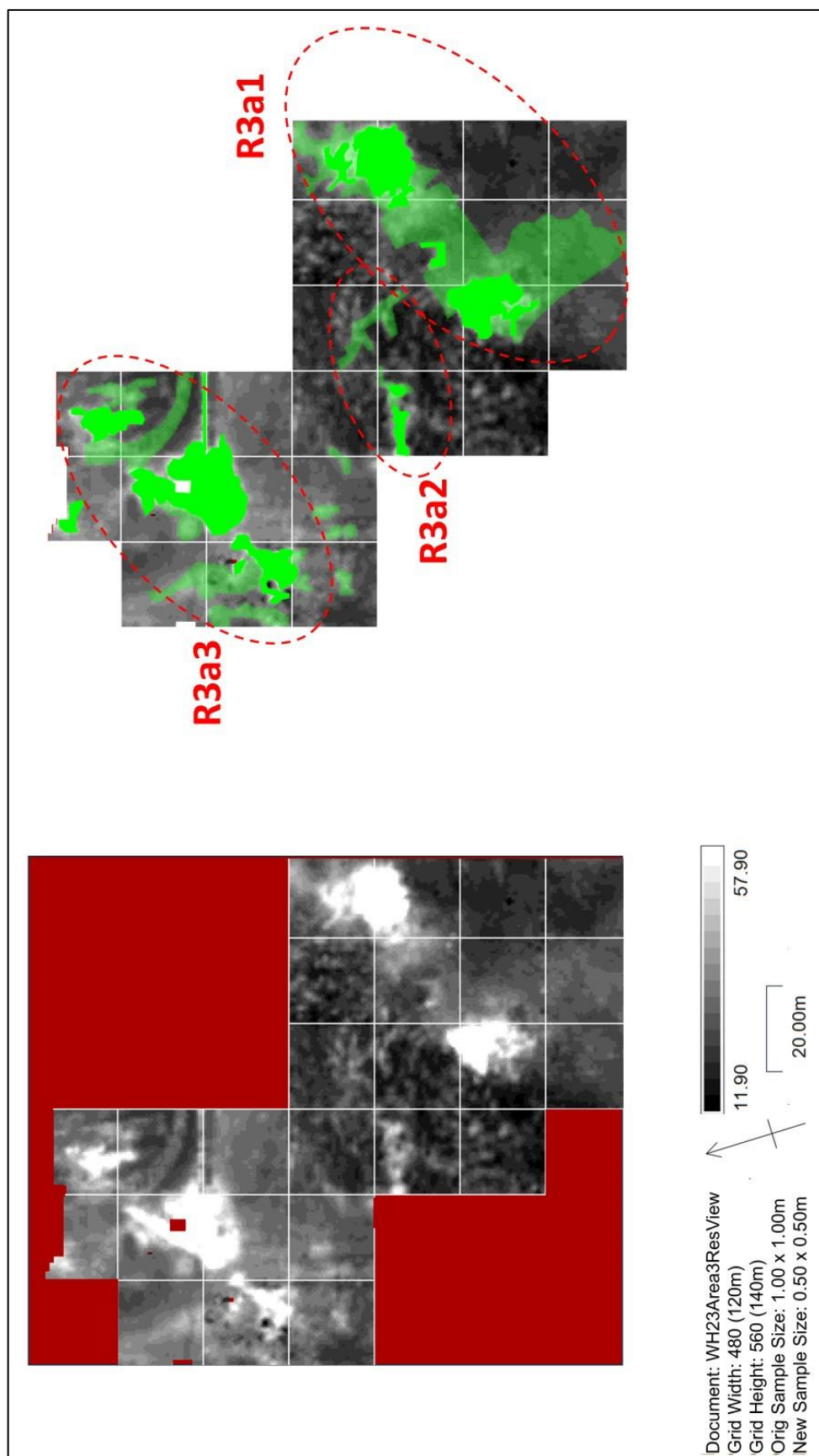


Figure 5.16 Earth resistance survey for Area 3.



Figure 5.17 Earth resistance anomalies for Area 3 relative to the gradiometer anomalies (Open Map, 2024).

## 5.5 Area 4 surveys

Area 4 lies within the grounds of Wickham House across the projected line of Ermin Street and close to the crop marks of anomaly AP3 interpreted by the HER as being associated with the drains or paddocks of medieval Wickham. A wide spread of Roman coins and other material culture have been discovered across Area 4 as recorded on the PAS database.

### 5.5.1 Area 4 gradiometer survey

A survey grid of 20m x 20m squares was established across the area to be surveyed using measuring tapes and geometry. The survey area was extended using measuring tapes to create an area approximately 260m south to north and 360m west to east as detailed in Appendix 1.

The Gradiometer survey image for Area 4 is shown in Figure 5.18, and anomalies observed are shown in Figure 5.19:

- **Anomaly G4a1:** Anomaly G4a1 is a 50m x 40m rectilinear feature comprising positive and negative magnetic responses, and is aligned with and adjacent to the northeast side of the Roman road Ermin Street. The well-defined rectilinear linear positive magnetic responses are interpreted as construction trenches defining a multi-roomed building possibly fronted by a porch or yard. The alignment of this structure with the Roman road suggests that it was constructed when Ermin Street was still in use. The negative magnetic responses seen within the trenches suggests exposure to intense heat possibly as the result of the building having caught fire.
- **Anomaly G4a2:** Anomaly G4a2 consists of two parallel linear positive magnetic features 8m apart aligned northeast and perpendicular to Ermin Street. These are interpreted as ditches of a lane running alongside building G4a1. At the northerly end of this lane it appears to branch 90 to the northwest close to where a natural spring/pond is located and intersects with another lane running parallel to Ermin Street.
- **Anomaly G4a3:** Anomaly G4a3 is a wide area of regular rectilinear enclosures each measuring 30m x 30m extends for some 200m along both sides of and aligned with Ermin Street heading to the southeast. These enclosures are defined by linear boundaries exhibiting a positive magnetic response interpreted as ditches. The area to the northeast of these enclosures is noisy and may represent a wide spread of less intensive past occupation.



Figure 5.18 Gradiometer survey for Area 4a (Open Map, 2024).



Figure 5.19 Gradiometer anomalies for Area 4a (Open Map, 2024).

- **Anomalies G4a4, G4a5 and G4a6:** Anomalies G4a4, G4a5 and G4a6 are areas of strong positive and negative magnetic responses. These anomalies are interpreted as being the locations of where past bonfires causing intense heat resulting in negative magnetic responses and the resulting concentration of ferrous debris exhibiting positive magnetic response. This interpretation will need to be confirmed using a metal detector at a later date.
- **Anomaly G4a7:** Anomaly G4a7 is a 50m long linear feature exhibiting dipolar interference which is interpreted as being a buried electricity supply cable.

The absence of anomalies seen in the northwest of Area 4 where the rectilinear cropmarks of anomaly AP3 area located suggest that this permanently boggy pasture at the foot of a 2m high steep scarp was not occupied.

### 5.5.2 Area 4a earth resistance survey

A survey grid of 20m x 20m squares was established using the gradiometer survey grid for Area 4a (an area 100m south to north/60m east to west and an area 60m south to north/40m east to west) as detailed in Appendix 1 and shown relative to the Area 4 gradiometer anomalies in Figure 5.20.

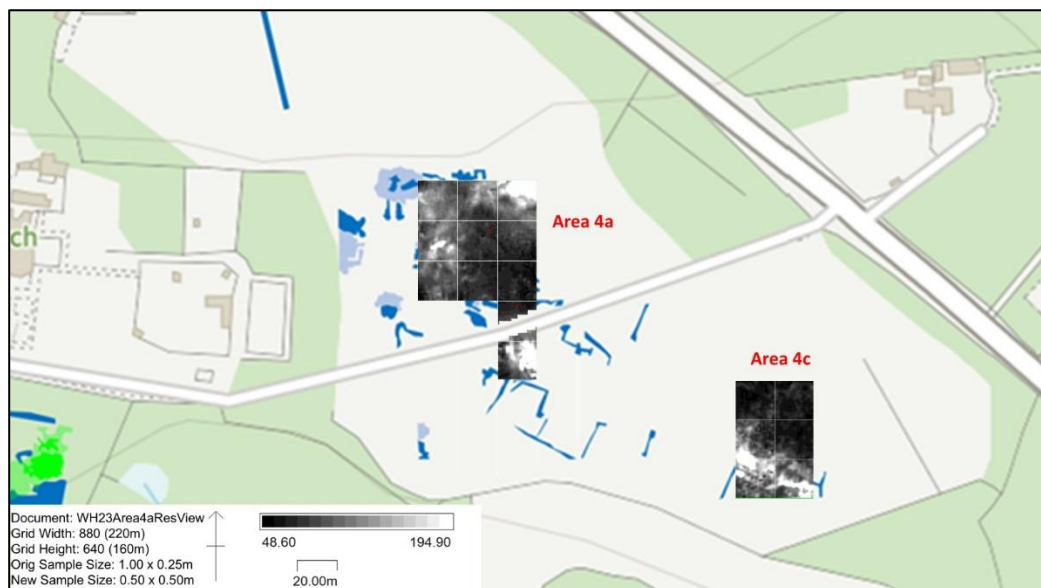


Figure 5.20 Earth resistance survey Area 4a and Area 4c in relation to the observed Area 4 gradiometer anomalies (Open Map, 2024).

The earth resistance anomalies observed in Area 4a and shown in Figure 5.21 and Figure 5.22 are:

- **Anomaly R4a1:** Anomaly R4a1 consists of a rectilinear high resistance feature measuring 12m x 5m and a linear high resistance feature 10m long both of which are associated with the northwestern corner of the multi-roomed building defined by anomaly G4a1. This suggests that Anomaly R4a1 represents the extant remains of this building's masonry wall/footings. It is also possible that further masonry remains are either too deeply buried to be detected or have been robbed out.

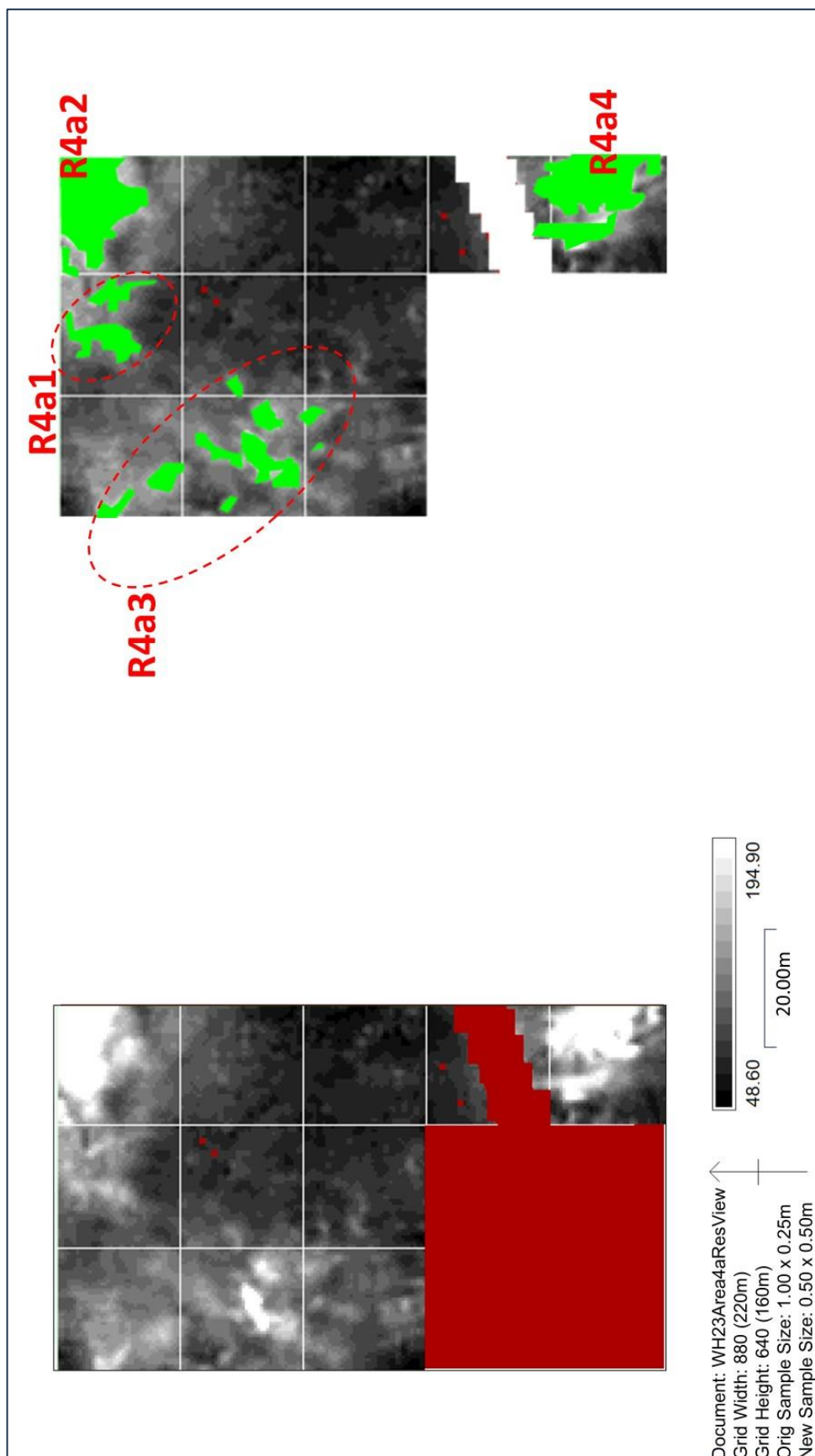


Figure 5.21 Earth resistance survey for the northwest of Area 4a.

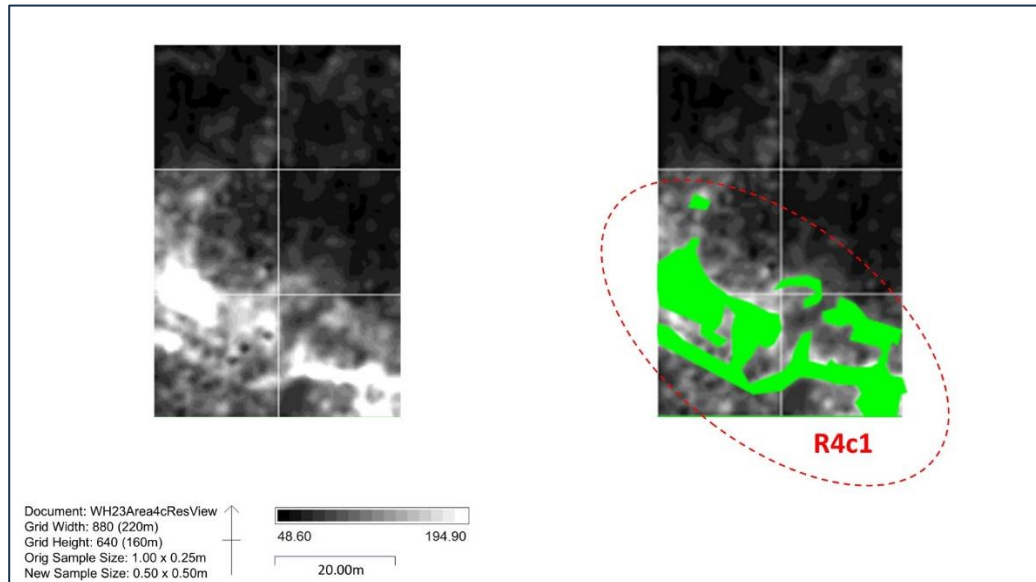


Figure 5.22 Earth resistance survey for the southeast of Area 4a.

- **Anomaly R4a2:** Anomaly R4a2 represents a 20m x 15m area of high earth resistance to the northeast of the building defined by anomaly G4a1. This is interpreted as a spread of rubble/tile associated with its demolition.
- **Anomaly R4a3:** Anomaly R4a3 is represented by a number of small high earth resistance features across a 30m x 30m area to the southwest of the building defined by anomaly G4a1. This anomaly is interpreted as possibly being an extended spread of building rubble associated with building G4a1.
- **Anomaly R4a4:** Anomaly R4a4 is a small spread of high earth resistance measuring 20m x 15m that is also located on the alignment of Ermin Street from R4c1 in the southeast and Ermin Street's ditches (G1a3) 300m to the northwest. This suggest that anomaly R4a4 may represent a small surviving area of Ermin Street's metallised surface.
- **Anomaly R4c1:** Anomaly R4c1 is a linear swathe of high earth resistance measuring 43m x 18m that is aligned with and located directly along the projected route of Ermin Street. Anomaly R4c1 is interpreted as being the extant remains of the metallised surface of Ermin Street.

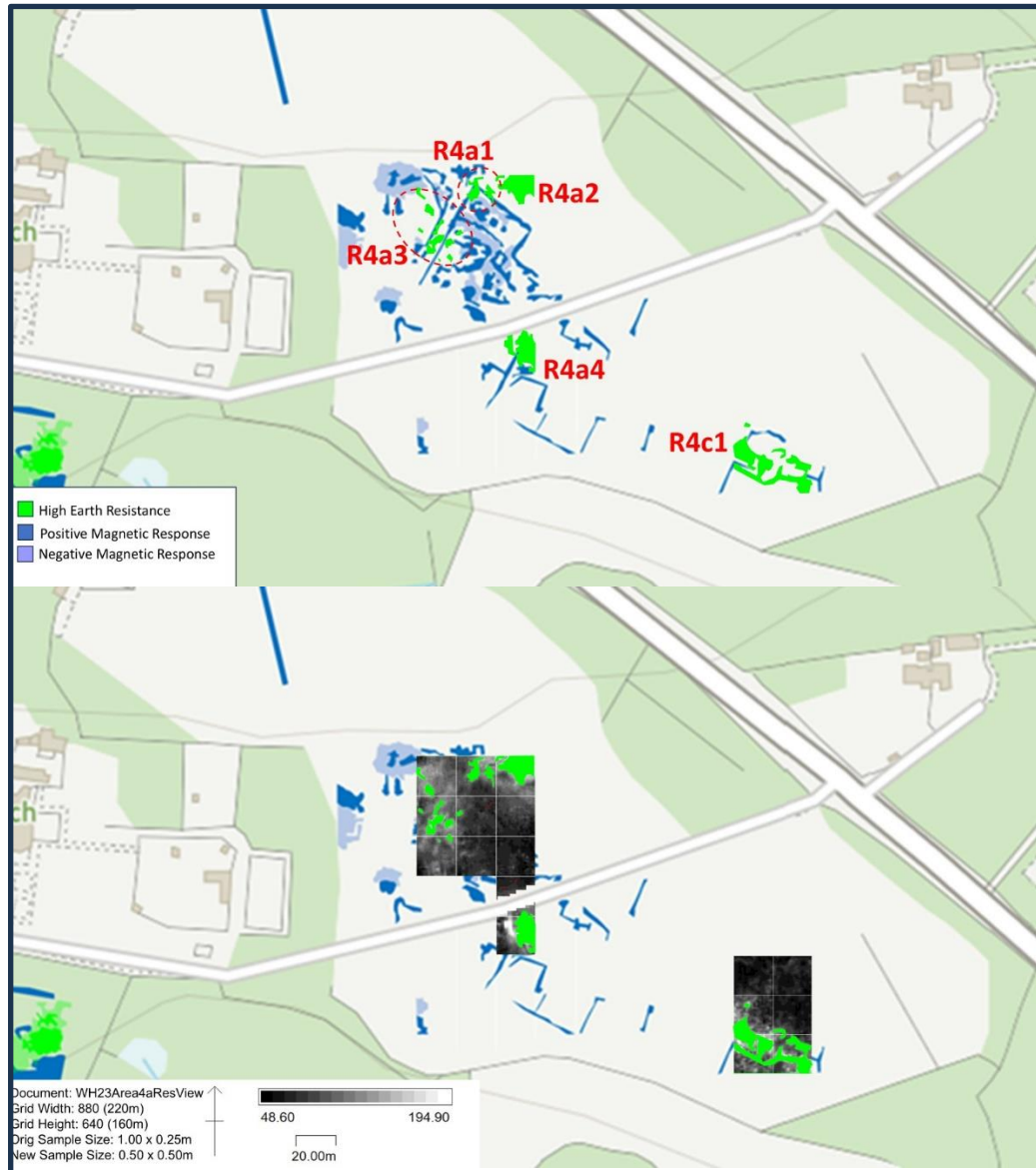


Figure 5.23 Earth resistance anomalies for Area 4a and Area 4c relative to the Area 4 gradiometer anomalies (Open Map, 2024).

### 5.5.3 Area 4b gradiometer survey

It was not possible to carry out a gradiometer survey of Area 4b due to its proximity to a high voltage electrical transformer, high voltage power cables and metal fencing.

### 5.5.4 Area 4b earth resistance survey

A survey grid of 20m x 20m squares was established across the area to be surveyed on a new alignment intended to maximise the survey area free due to the number of nearby obstacles present as detailed in Appendix 1.

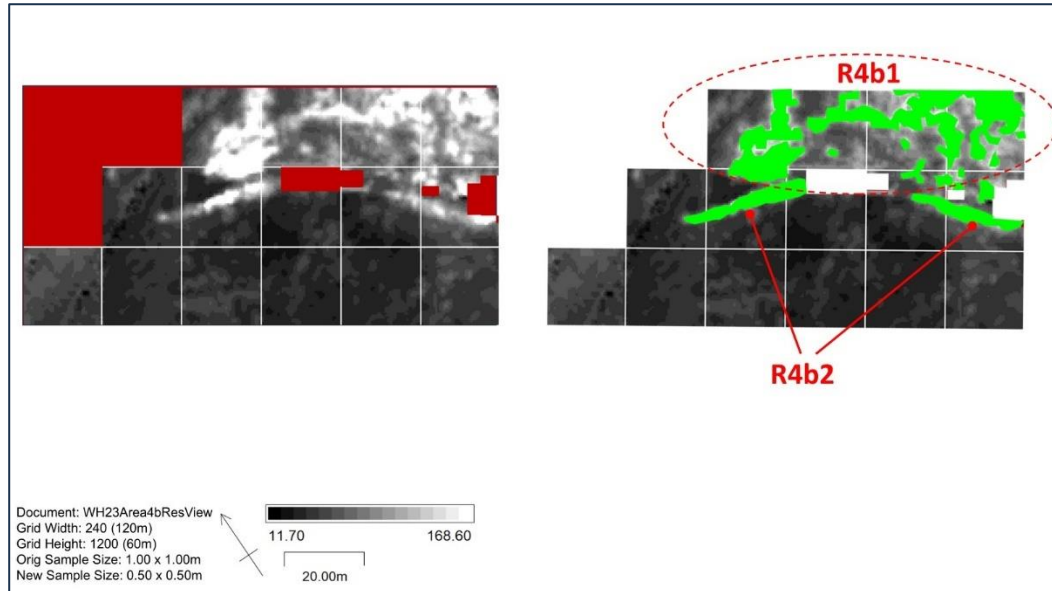


Figure 5.24 Earth resistance survey for Area 4b.

The earth resistance survey image for Area 4b is shown in Figure 5.24, and the high earth resistance anomalies identified are shown in Figure 5.25:

- **Anomaly R4b1:** Anomaly R4b1 is a 70m x 25m area of rectilinear high earth resistance features that together are interpreted as the masonry walls/footings of a building with that extended beyond the grounds of Wickham House to the northeast. These rectilinear features are more substantial than those observed elsewhere suggesting a different construction morphology. Anomaly R4b1 is aligned at 10° to Ermin Street although some 80m distant, but is closely aligned with the B4000. Whilst no buildings are shown in this location on historical maps from 1761, anomaly R4b1 could date to any time from AD43 to the 18<sup>th</sup> century AD.
- **Anomaly R4b2:** Anomaly R4b2 is a water logged ditch probably containing rubble fill from anomaly R4b1 resulting in the observed high earth resistance response.



Figure 5.25 Earth resistance anomalies for Area 4b (Open Map, 2024).

## 5.6 Area 5 surveys

Area 5 is a small paddock immediately to the north of Area 1b adjacent to the B4000. The HER (MWB16588) characterises Early Medieval/Medieval Wickham as a 'shifted village'. Situated between Area 1 and the present village, Area 5 offers the potential to reveal evidence of the multi-phase translation of occupation at Wickham over the centuries following the end of the Roman period.

### 5.6.1 The Area 5 gradiometer survey

A grid of 20m x 20m squares was established across the area to be surveyed using measuring tapes and geometry to create an area approximately 60m south to north and 60m west to east as detailed in Appendix 1.

The Gradiometer survey image for Area 5 is shown in Figure 5.26 in relation to anomalies observed across Area 1 to the south and southwest.

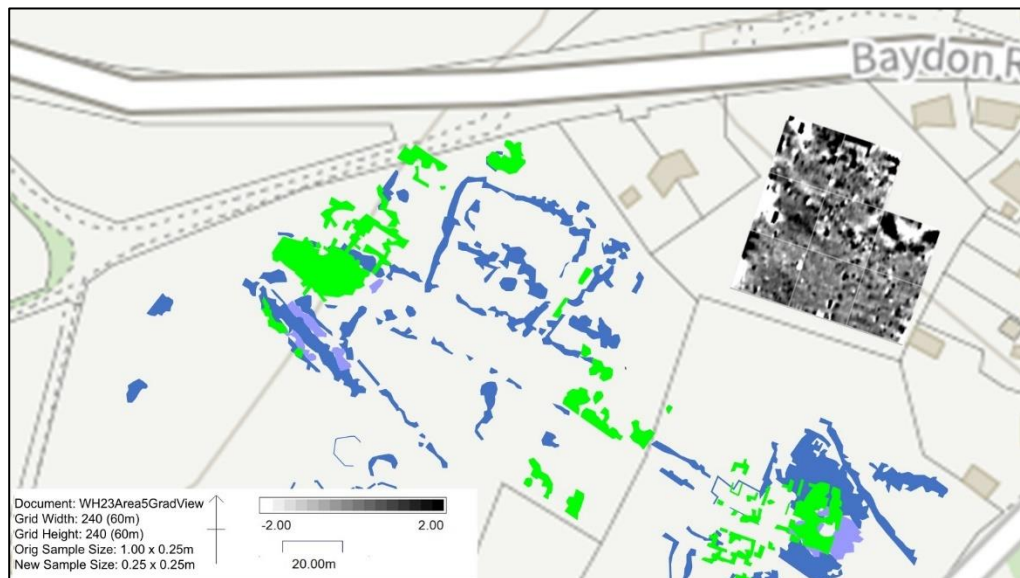


Figure 5.26 The gradiometer survey for Area 5 (Open Map, 2024).

The gradiometer anomalies observed for Area 5 are shown in Figure 5.27:

- **Anomaly G5a1:** Anomaly G5a1 is a rectilinear feature with a positive magnetic response measuring 8m x 3m and is aligned with and 50m to the north of the Roman road. G5a1 is interpreted as possibly being the construction trenches of a past building.
- **Anomaly G5a2:** Anomaly G5a2 is a rectangular feature measuring 8m x 5m and two parallel 10m long linear features perpendicular to the rectangular feature. The general alignment of these features is a 45° to the Roman road and some 60m to the north. These features are interpreted as the ditches associated with a past building. Being on a different alignment to G5a1 and the Roman road suggest that the building associated with G5a2 is probably from a post Roman phase of occupation.

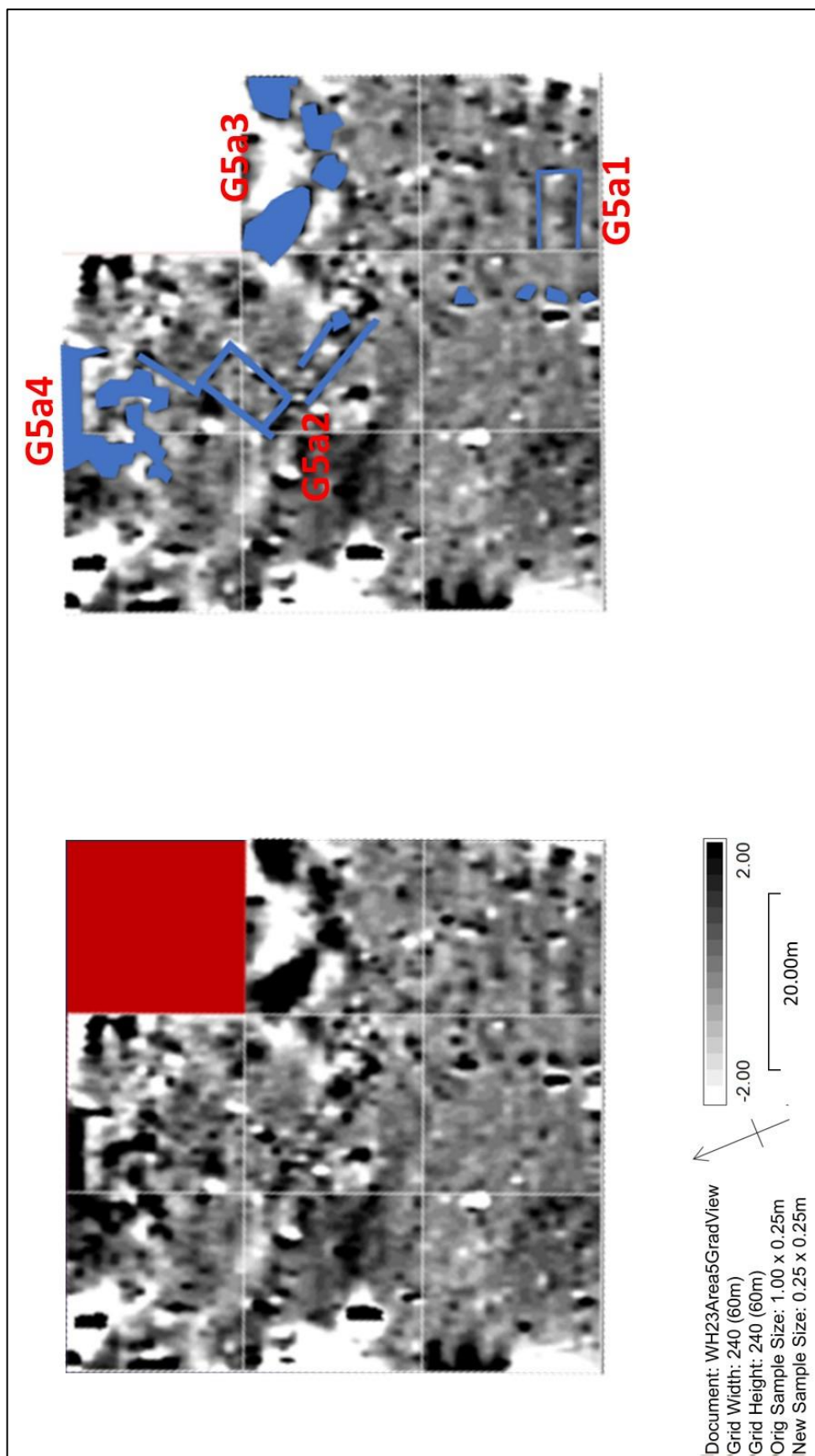


Figure 5.27 Gradiometer anomalies observed within Area 5.

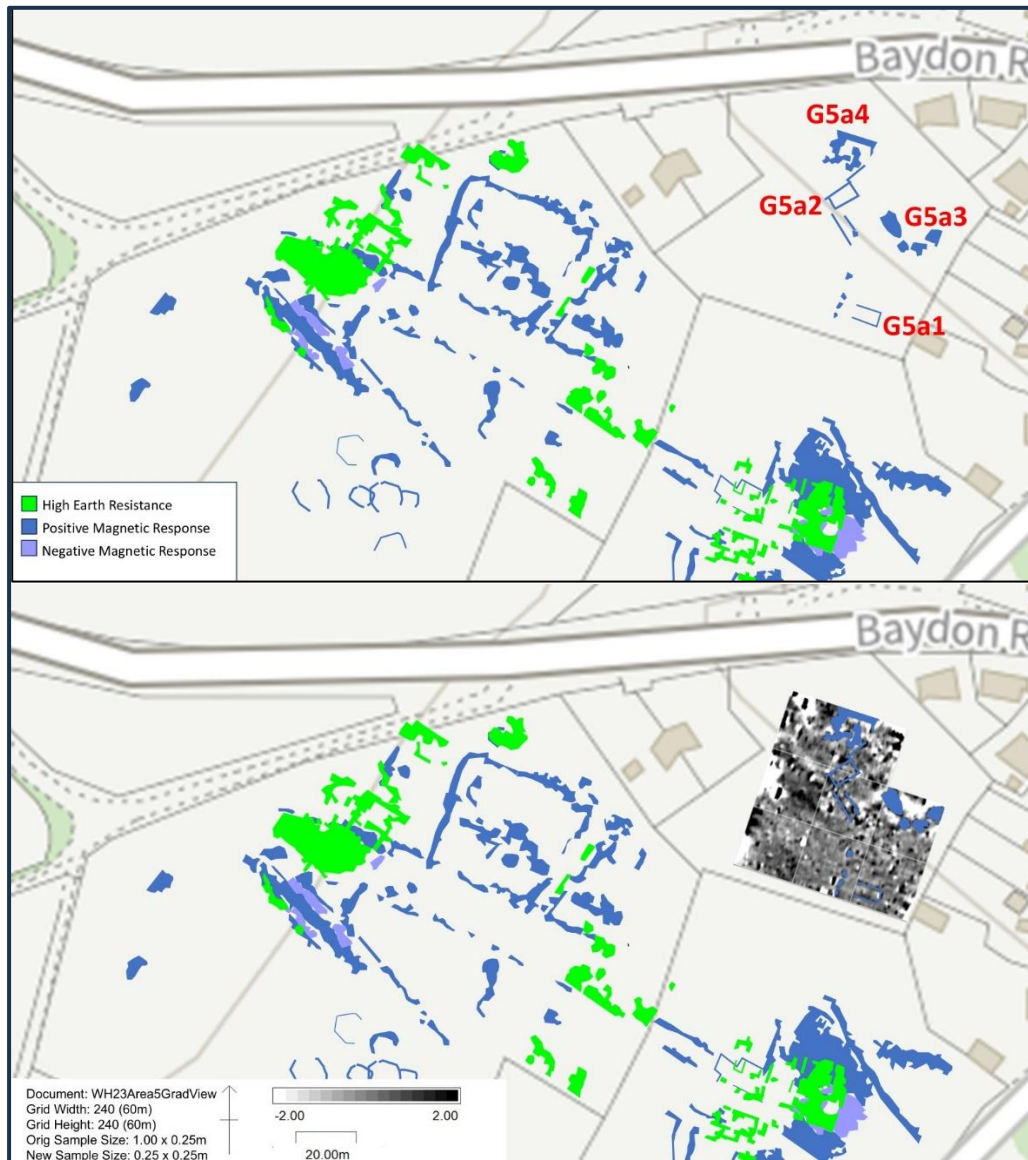


Figure 5.28 Gradiometer anomalies for Area 5 (Open Map, 2024).

- **Anomaly G5a3:** Anomaly G5a3 is represented by four features exhibiting a positive magnetic response that are interpreted as possible pits across an area of 20m x 10m.
- **Anomaly G5a4:** Anomaly G5a4 are features exhibiting a positive magnetic response, but are too indistinct to offer a likely interpretation.

### 5.6.3 Area 5 Earth resistance surveys

Using the same survey grid as for the gradiometer survey, a grid of 20m x 20m squares was established across Area 5 to create an area 40m south to north and 80m west to east as detailed in Appendix 1.

Attempts were made to earth resistance survey grid squares further to the north of Area 5 surveyed using the gradiometer. These grids (highlighted in Figure 5.29) recorded extremely high earth resistance readings that swapped Snuffler obscuring anomalies with lower earth resistance. This was interpreted as being the result of earthworks associated with construction of the M4 motorway when the course of the B4000 was modified. Personal conversations with local residents suggests that ground/hard core was deposited across the north of this pasture to stabilise the new B4000 road.

The resulting earth resistance survey image for Area 5 in relation to anomalies observed across Area 1 to the south are shown in Figure 5.30, and anomalies identified within Area 5 in Figure 5.31.



Figure 5.29 Earth resistance survey area for Area 5 in relation to anomalies observed in Area 1 (Open Map, 2024).

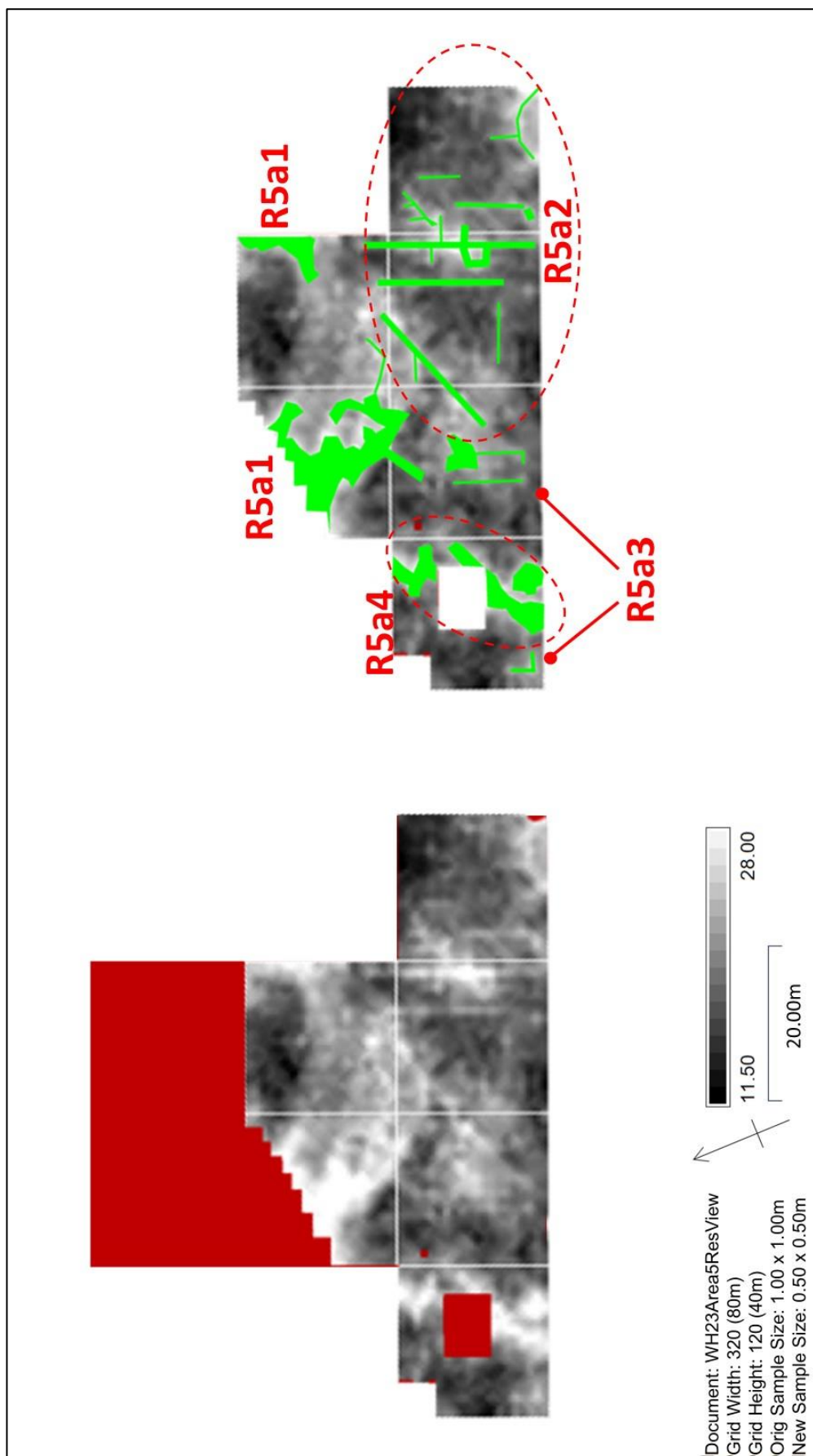


Figure 5.30 Earth resistance survey anomalies observed within Area 5.

The high Earth resistance anomalies are shown in Figure 5.30:

- **Anomaly R5a1:** Anomaly R5a1 consists of two areas of high earth resistance to the north of the survey area. Given the exclusion of two grids to the north of this area due to their extremely high earth resistance it is likely that R5a1 is also associated with this unusual result.
- **Anomaly R5a2:** Anomaly R5a2 consists of a number of linear anomalies exhibiting high earth resistance ranging in length from 5m to 25m. The majority of these linear features are aligned with (or perpendicular to) Ermin Street, but two features are at 45° to the Roman road alignment. Together these features are interpreted as being the remains of building spanning at two or more phases of occupation.
- **Anomaly R5a3:** Anomaly R5a3 consists of two parallel linear high earth resistance features 10m long and 3m apart, and a rectilinear high earth resistance feature measuring 4m x 2m. Both features are approximately aligned with Ermin Street some 50m to the south. Anomaly R5a3 is interpreted as possible building remains, but are too indistinct to offer a firm interpretation.
- **Anomaly R5a4:** Anomaly R5a4 is represented by fragmented areas of high resistance over an 20m x 8m area aligned southwest-northeast and is interpreted as a surface. Anomaly R5a4 is approximately aligned with the route of the Roman Road to Bath, but as located to the north of Ermin Street this may represent a continuation of this thoroughfare. However without the associated parallel ditches diagnostic of a major thoroughfare it is more likely that this anomaly is the extant remains of past occupation.

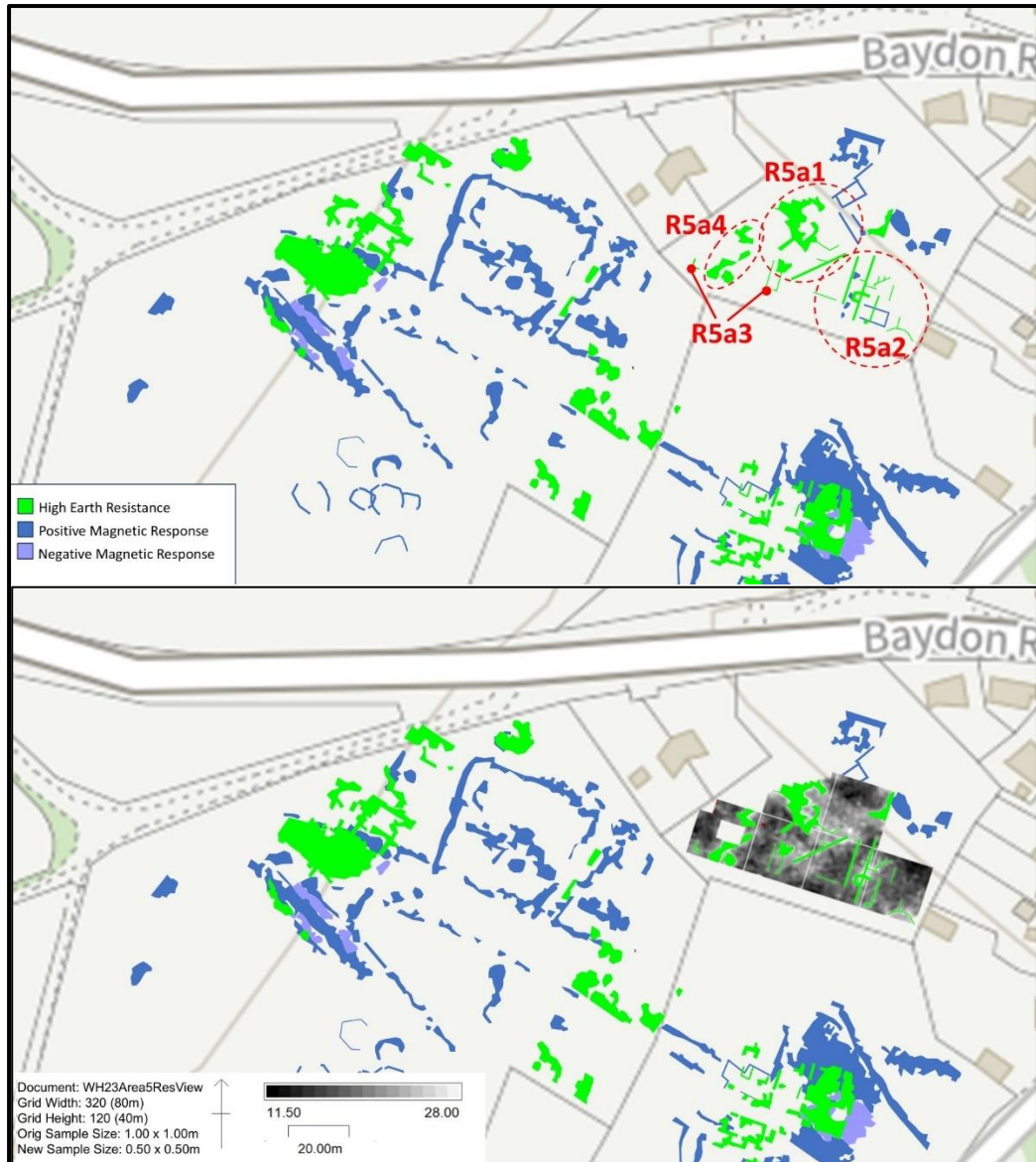


Figure 5.31 Earth resistance anomalies for Area 5 relative to the gradiometer anomalies (Open Map, 2024).

## 5.7 Survey of 'The Camp' on the Wormstall Estate in 2021

BAS carried out a geophysics survey across the Wormstall Estate in April 2021 including the pasture known as 'The Camp' (referred to as 'Area 5' within the survey report, but in this report is called 'The Camp' to avoid confusion). This pasture is situated to the south of Wickham House adjacent to Area 3 on the south side of the ditch L4. The results of this survey are shown in Figure 5.32 and Figure 5.33 and anomaly descriptions have been copied verbatim from the original report (Hutt, Harrison & Abbott, 2021).

### 5.7.1 The gradiometer survey of 'The Camp' pasture

The 2021 gradiometer survey of 'The Camp' pasture identified anomalies shown in Figure 5.32:

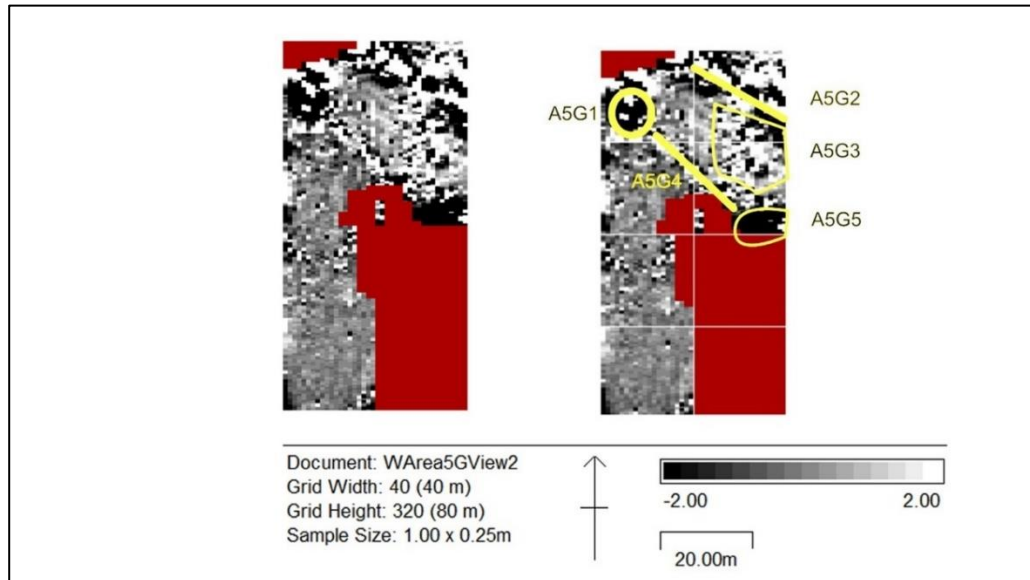


Figure 5.32 Gradiometer survey of 'The Camp' field at Wormstall (Hutt, Harrison and Abbott, 2022, 34).

- **Anomaly A5G1:** A5G1 a circular anomaly 10m in diameter with a high magnetic signature. This may be a tree throw or a structure.
- **Anomaly A5G2:** A5G2 a linear anomaly 25m long and 4-6m wide with a vibrant magnetic signature. This could be evidence of a large ditch.
- **Anomaly A5G3:** A5G3 an area 16m x 20m with a mix of magnetic signature. This was an area where the subsequent the resistance meter probes kept on coming into contact with stones.
- **Anomaly A5G4:** A5G4 a linear anomaly some 30m in length.
- **Anomaly A5G5:** A5G5 a 10m x 5 m rectangular anomaly on the edge of the survey grid.

There were various anomalies along the fence line; they have been ignored because they were probably due to the proximity of the wire fence.

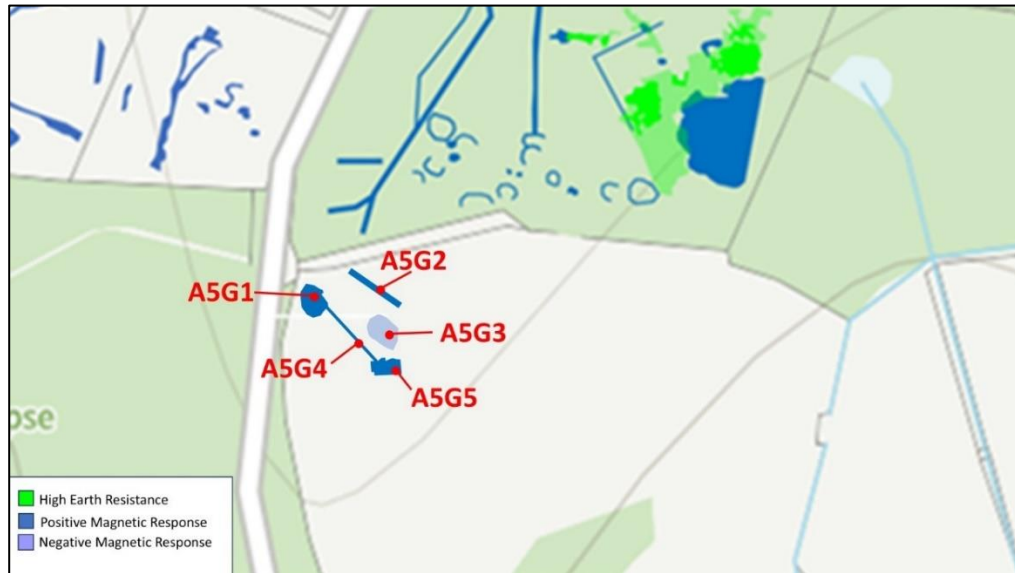


Figure 5.33 Gradiometer anomalies observed in 'The Camp' field at Wormstall in 2021 (Open Map, 2024).

### 5.7.2 The earth resistance survey of 'The Camp' pasture

Using the same 20m x 20m grid as used for the gradiometer survey, the 2021 earth resistance survey of 'The Camp' pasture identified anomalies shown in Figure 5.34 and Figure 5.35:

- **Anomaly A5R1:** A5R1 a 16m x 6m rectangular anomaly which probably identifies the remains of a building.
- **Anomaly A5R2:** A5R2 a 45m long linear anomaly across the survey area. Given its proximity to the road and boundary of the Wormstall estate this may represent a service trench
- **Anomaly A5R3:** A5R3 is an odd shaped anomaly measuring 25m x 15m. This area of high resistance may represent a dump of building or demolition material.

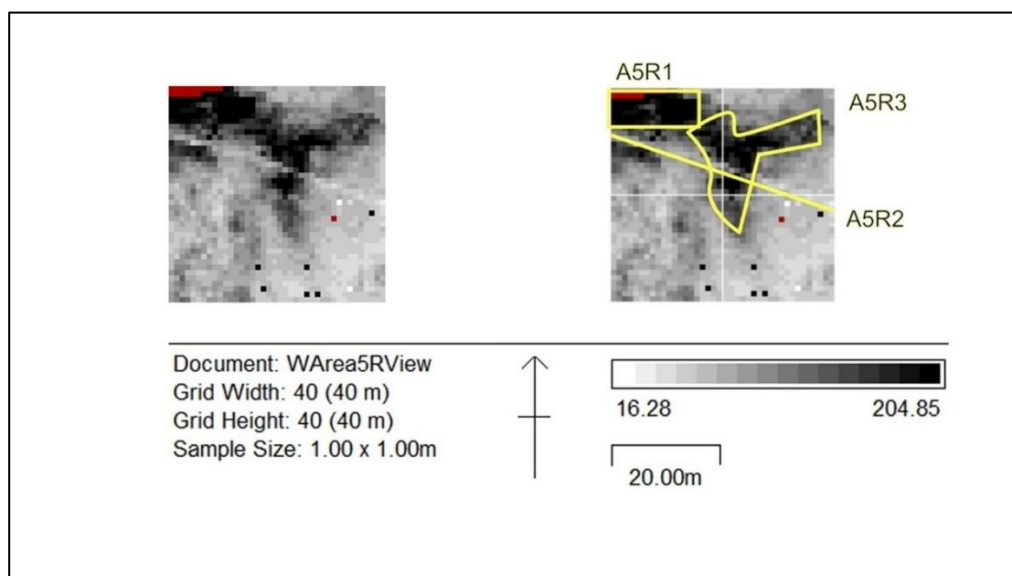


Figure 5.34 Earth resistance survey of 'The Camp' pasture at Wormstall (Hutt, Harrison and Abbott, 2022, 35).

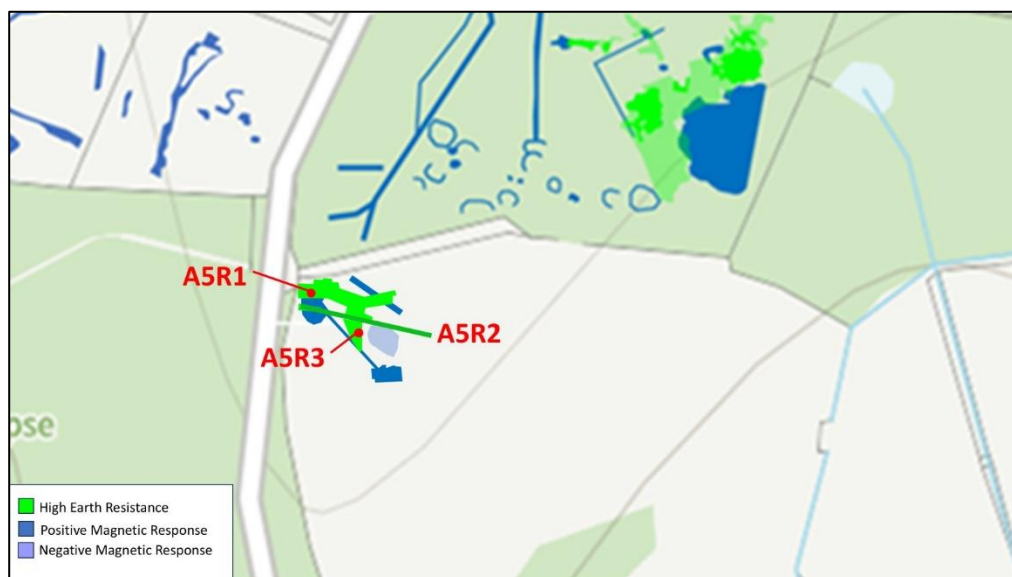


Figure 5.35 Earth resistance anomalies in 'The Camp' pasture in relation to newly identified anomalies in Area 3 (Open Map, 2024).

## 6 Discussion

The consolidated anomalies identified by this geophysics survey area shown in Figure 6.1 and discussed along with other evidence gathered by the study.

### 6.1 Topography

LiDAR data in Figure 3.8 highlights that the area around Church Hill is a prominent plateau of high ground dominating the surrounding countryside to the south and west. Natural springs located across this hilltop provide a year round supply of water and result in permanently boggy ground to the north, east and south of Church Hill. To the south and west of Church Hill there is a steep scarp overlooking the Wormstall Estate.

The high concentration of Roman and Medieval material culture suggests occupation of Wickham during these periods. The HER (MWB4318) records that Wickham was used as a hundred meeting-place during the Medieval period, was granted a fair in 1276 and the 10<sup>th</sup> century AD stone tower of St Swithun's church may originally have served as a beacon. It is likely that Church Hill afforded a strategic view along the Roman roads heading to the west and northwest, and the combination of the steep scarp/boggy ground either side of the ridge top used by Ermin Street allowed the movement of goods and people along this major Roman thoroughfare to be tightly controlled.

The hilltop plateau on Church Hill is interpreted within the HER (MWB4306) as a possible sand capped earthwork. However it is also possible that this topography is mostly natural with only minimal human augmentation. The possible ditch (anomaly L2) centred on Church Hill at a distance of 150m highlighted by LiDAR is only evident along an arc extending from the southwest to northwest exhibiting a very different morphology compared to known hillforts/oppida nearby. However it is likely that the relatively secure and well-resourced strategic location of Church Hill was exploited throughout history by both occupants and travellers using the ridge of high ground to move between the Berkshire Downs and the Kennet Valley.

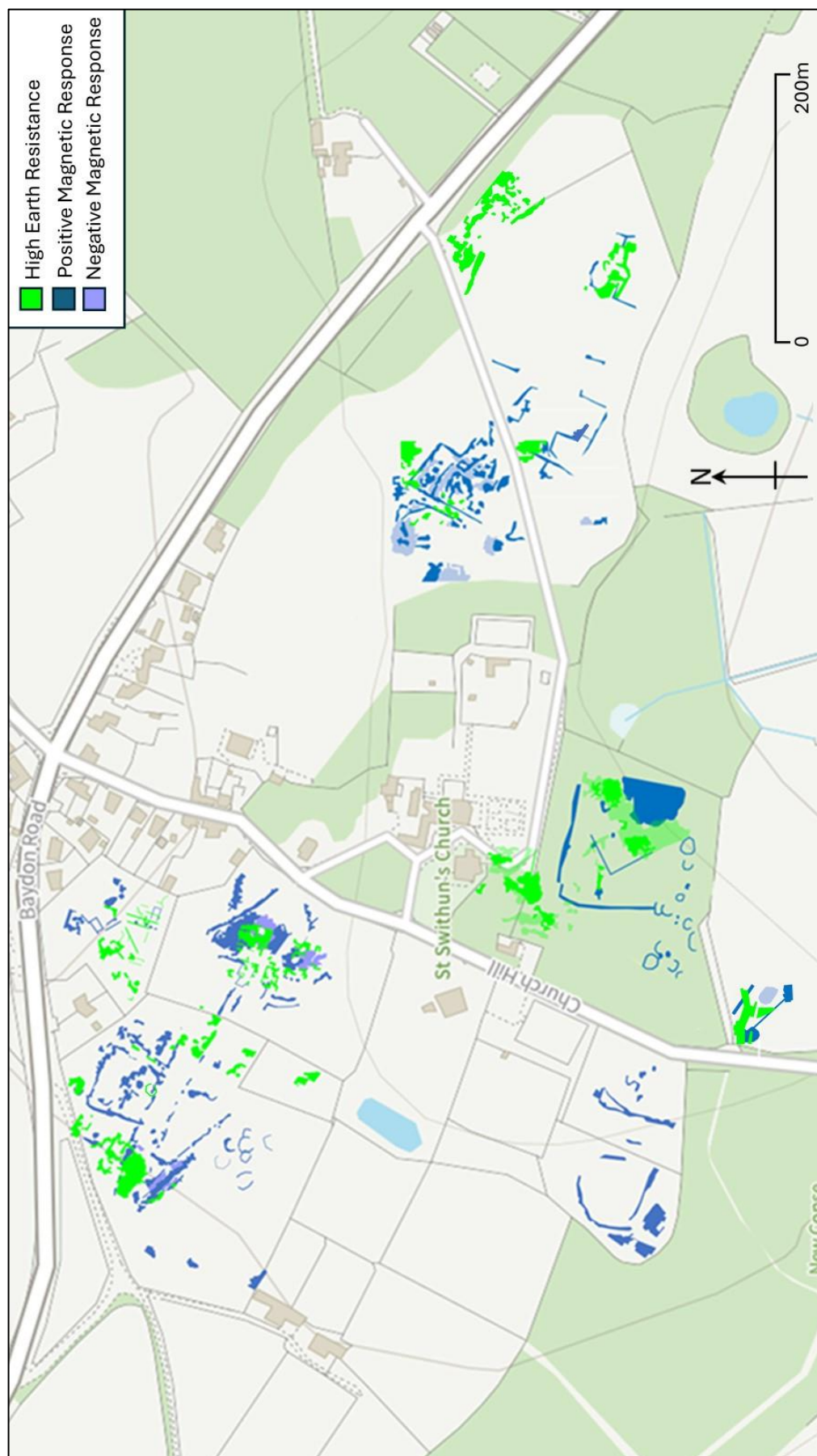


Figure 6.1. Consolidated geophysics anomalies identified (Open Map, 2024)

A survey of these landscape features is required to better understand the relationship between the Roman roads, the Wickham settlement and the surrounding landscape topography. A further objective of this survey will be to highlight whether anomalies L1 and L2 are manmade earthworks, or naturally occurring landscape features augmented and/or adapted by past occupants of Wickham. Archaeological fieldwork will be required to define social interactions exploiting Wickham's topography e.g. ritual activities, marketing/trading and control of the local population by the military/elite.

## **6.2 Roman roads**

This geophysics survey revealed new evidence of the extant remains of Ermin Street's ditches (G1a3 and G1b1) and its metalled agger (R1a1, R4a3 and R4a4). This evidence is sufficient to confirm Ermin Street's route through Wickham to be only 15m south of the route projected by Margary (1973). However the survey suggests that much of the road's metalled surface has been lost with agger visible only intermittently. Evaluation excavations to confirm the state of preservation of Ermin Street at Wickham will facilitate informed management of this monument. Excavation of ditch fills may additionally provide valuable dating evidence of the road's construction and period of use.

The route of the Road to Bath has been surveyed extensively to the southwest of Wickham (Abbott & Cains, 2022; Abbott, 2023) which identified the road's likely route as far as New Copse. Extant remains of the last 600m from New Copse to Ermin Street were not definitively identified by this survey, although intermittent areas of high resistance features were observed across Area 1c (R1c1 and R2c2) that may represent the line of the road. On this same alignment of flints are visible within the treeline separating Area 1a/Area 1b and HER MWB15521 records a cobbled surface along this same alignment. More definitive evidence of a road intersection is the 'slip road' (G1a4) branching off from Ermin Street heading to the southeast as shown in Figure 6.2. Evaluation excavation of this intersection may reveal the phasing of construction of the two thoroughfares and dating evidence. Other unresolved questions include whether there is a second 'slip road' branching from Ermin Street to the northwest to join with the Road to Bath or does it intersect with Ermin Street as a 'T-junction' in addition to the 'slip road(s)'? A further question is whether the Roman road from Bath continues to the northeast from Wickham making the intersection with Ermin Street a 'crossroads'?

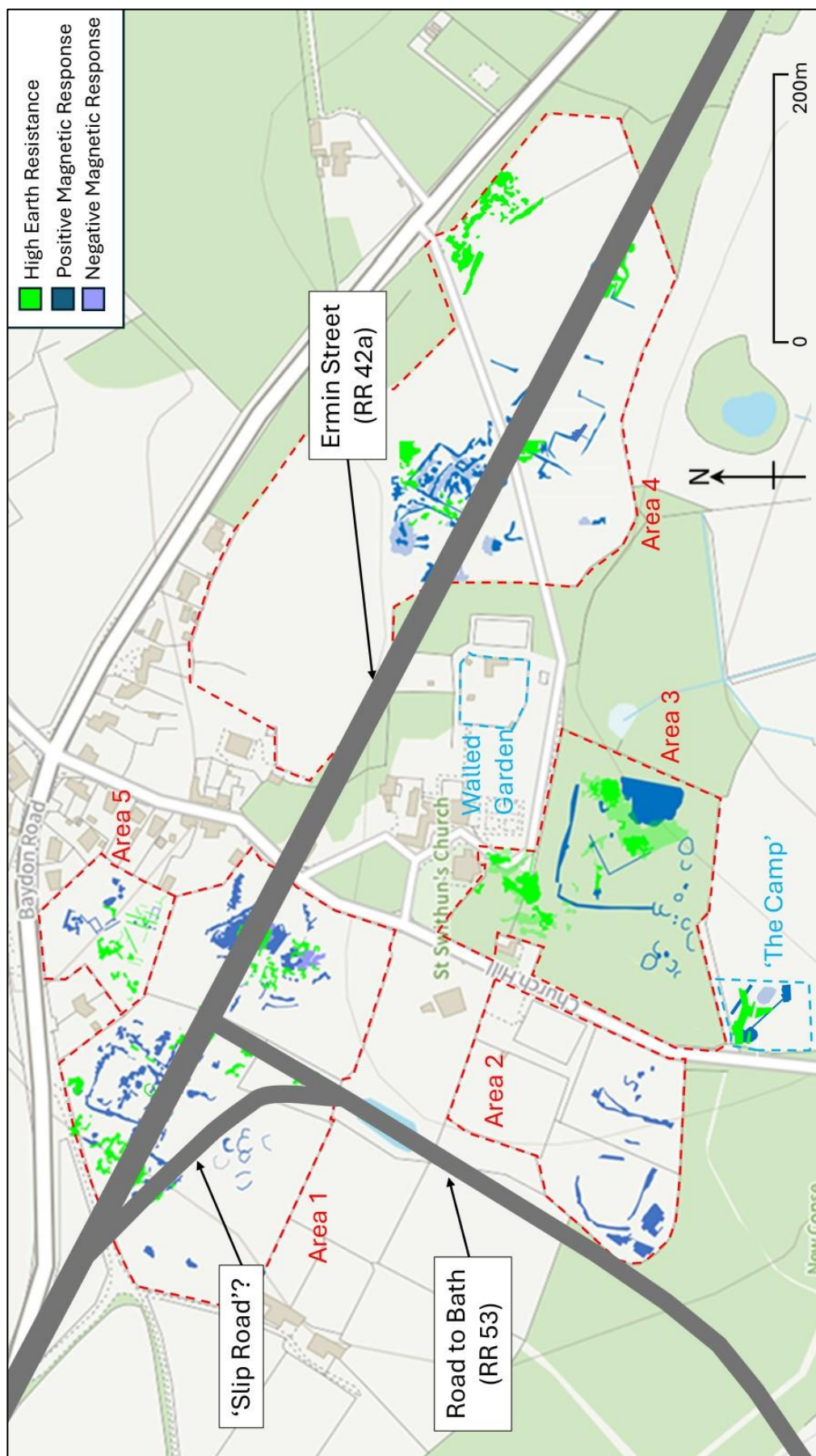


Figure 6.2. Interpretation of likely Roman roads (Open Map, 2024).

### 6.3 *Settlement features*

This geophysics survey has revealed a number of possible buildings and enclosures not recorded on historic maps back as far as 1761. Some of the buildings/enclosures revealed by this survey align with and/or adjacent to Ermin Street suggesting that they were probably built after the Roman road was constructed and before it fell out of use. Other likely buildings exhibit little apparent relationship with the Roman roads.

Whilst much of the material culture discovered at Wickham by metal detectorists dates to the Late Roman (i.e. Mid-3<sup>rd</sup> to Late-4<sup>th</sup> centuries AD) period peaking between AD364-AD378, the majority of these artefacts lack accurately recorded findspots which prevents them being used to date specific buildings or settlement features. Excavations within the walled garden of Wickham House in 2008 revealed remains of pottery and food waste interpreted as detritus of nearby domestic activity during 2<sup>nd</sup>-3<sup>rd</sup> centuries AD (Mundin & Pine, 2010), but again the precise location of this settlement was not identified. The assemblage of artefacts found in the garden of Rose Cottage and recorded on the PAS database has a similar composition to the assemblage from the walled garden although dating is less diagnostic. Together these material culture assemblages suggest domestic occupation along Ermin Street close to the walled garden at Wickham House and around Area 1b throughout the Roman period and peaking during the 2<sup>nd</sup>-3<sup>rd</sup> centuries AD. The much wider deposition of coins particularly of those dating to the Late Roman period possibly may have been deposited by visiting non-residents during the 4<sup>th</sup> century AD who deposited coins in the course of their stay but did not create large amounts of domestic refuse. These assemblages cannot be used to date specific anomalies/features revealed by the geophysics surveys.

The likely buildings, enclosures and other settlement features identified by the geophysics anomalies are described below with and their locations shown on Figure 6.3:

- **Building #1** – Located in the northeast of Area 4, building #1 (R4b1) is a 60m x 20m rectilinear anomaly exhibiting high earth resistance which is aligned at an angle of 10° to Ermin Street and located 80m to the north. Anomaly R4b1 is aligned with the B4000 road. The high earth resistance rectilinear features are considerably more substantial than those seen elsewhere on this site. It is possible that this building was constructed anytime between the Roman and Post-Medieval periods, but is thought more likely to be of post-Roman origin due to its alignment with the B4000, distance from likely Roman settlement features and its distinctively

substantial masonry footings. Evaluation excavation will be required to further define the building's morphology, date and function.

- **Building #2** – Located in Area 4 adjacent to and aligned with Ermin Street, building #2 is a 50m x 30m feature consisting of positive magnetic response anomaly G4a1, high resistance linear anomaly R4a1 in its northwest corner and high resistance anomaly R4a2 to the northeast. Together these anomalies are interpreted as a substantial multi-roomed building possibly fronted by a porch or yard facing southwest onto Ermin Street, with a lane (G4a2) on its eastern side leading to a spring/pond. Rectilinear anomaly R4a1 in the northwest of the building is interpreted as the possible remains of walls/footings and anomaly R4a2 as a possible rubble spread associated with the demolition of the building. Negative magnetic responses also exhibited by G4a1 suggests exposure to intense heat suggesting that the building having caught fire.

Building #2 is located in a dominant position on Church Hill adjacent to Ermin Street and at the narrowest point of the ridge top between permanently boggy ground to the north and the steep scarp to the south – and with a commanding view of land to the southwest/northwest. Rectilinear enclosures extend along Ermin Street to the southeast on both sides of the road, and the walled garden where Roman domestic occupation detritus has been revealed lies 100m to the southwest.

The scale, layout and location of building #2 suggest that it is likely to have high status occupation, and its close alignment with Ermin Street suggest that was probably built whilst the Roman road was in use. However, with no definitive dating evidence evaluation excavation will be required to further define the building's morphology, date and function.

- **Building #3/Building #4** – Located within Area 1b adjacent to Rose Cottage, the rectilinear high earth resistance anomalies R1b1, R1b3 and R1b4 share an alignment with Ermin Street, and are interpreted as being one or more masonry footed buildings. The large assemblage of Romano-British pottery found at Rose cottage 40m to the northwest suggests nearby domestic occupation during this period. Anomaly R1b3 in particular appears to be to adjacent rooms of a multi-roomed rectilinear masonry footed building measuring 15m x 10m. Without definitive dating evidence evaluation excavation is required to define the number of discrete buildings, their morphology, phasing, date and function, as well as their relationship with the nearby Roman roads.

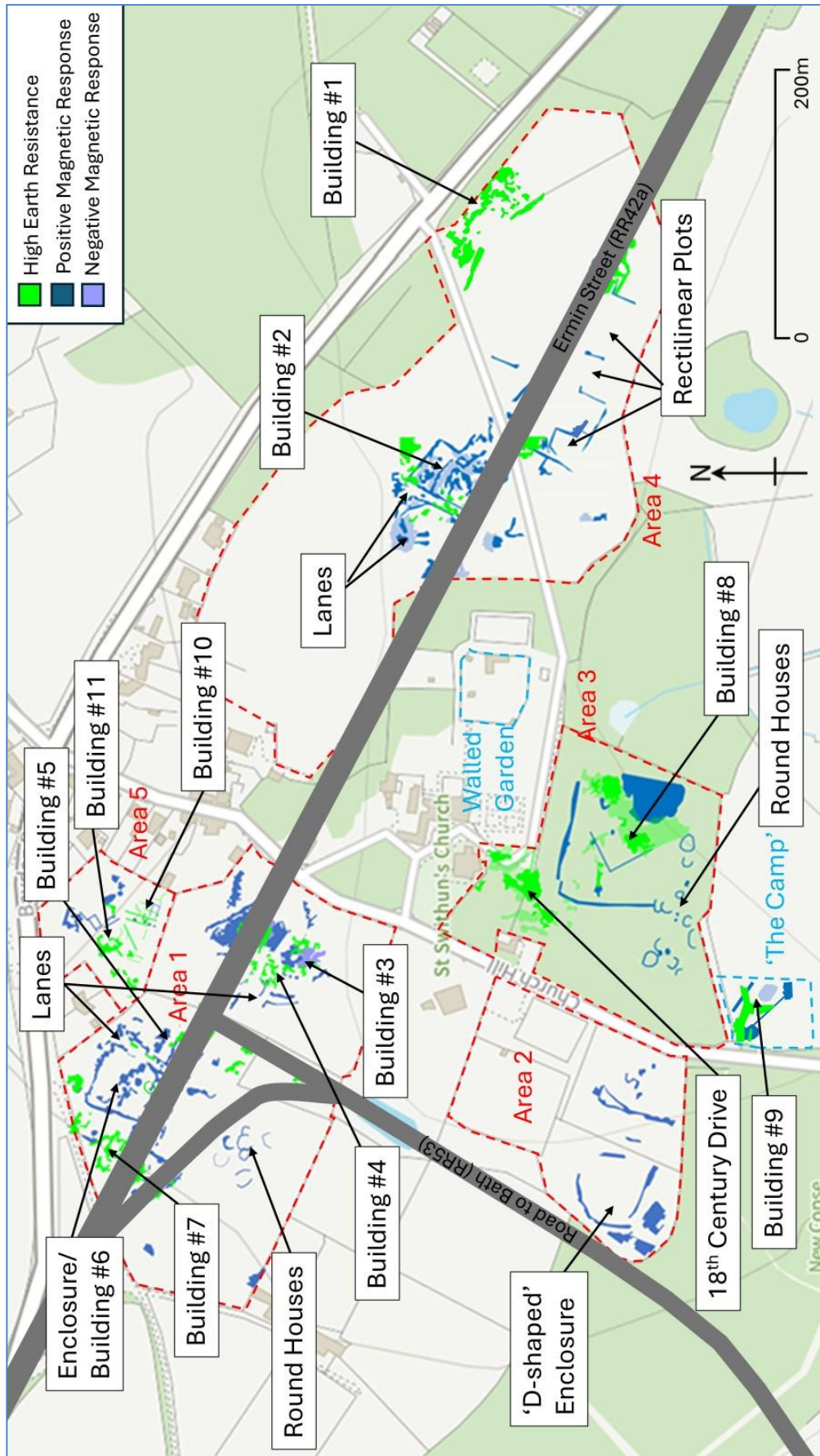


Figure 6.3 Interpretation of other anomalies at Wickham (Open Map, 2024).

- **Building #5** – Located to the east of Area 1a, anomaly G1a2 is a linear ditch aligned perpendicular with and adjacent to the Ermin Street, which is coincident with linear high earth resistance anomaly R1a4. Each of these anomalies measuring 20m in length. Whilst the ground to east of G1a2/R1a4 could not be surveyed due to trees/vegetation, together these two anomalies are interpreted as being the footings of the wall of a building only the northeast side of Ermin Street or a rubble filled ditch of a lane perpendicular to Ermin Street heading to the north. Evaluation excavation will be required to further define these features, their morphology, date function and relationship with the nearby Roman roads.
- **Enclosure/building #6** – Located in Area 1a on the northeast side of Ermin Street, anomaly G1a1 is a 40m x 40m positive magnetic response anomaly interpreted as a ditched enclosure associated with the Roman road, and a lane on the southeast side of the enclosure (G1a2) heading north, from which it is thought that the enclosure was accessed. Within the enclosure are a number of positive magnetic responses interpreted as pits, and more indistinct magnetic responses suggesting a possible building and/or disturbance. On the southwest side of the enclosure directly adjacent to Ermin Street is high earth resistance circular anomaly R1a6 measuring 7m diameter interpreted as a circular masonry footed building/store with an entrance facing southeast. The function of enclosure/building #6 is not clear, but is interpreted as most likely to date to when Ermin Street was in use. Detailed evaluation excavation is required to further define these unusual features, their morphologies, dates/phasing, function and relationship with Ermin Street.
- **Building #7** – Located at the west of Area 1a close to where the HER (MWB16093) records a concentrations of roof tile, Roman pottery and large flints being found. Anomaly R1a2 exhibits multiple rectilinear high earth resistance features that appear to closely align with and are adjacent to Ermin Street. Anomaly R1a2 is truncated in part by the modern bridleway to the northwest, but the features extend across an area of 40m x 25m. Anomaly R1a2 is interpreted as a likely masonry footed multi-roomed/multi-building rectilinear structure, but features are insufficiently clear to determine layout and function. Without definitive dating evidence, evaluation excavation will be required to define the number of discrete buildings, their morphology, phasing/date and function, as well as their relationship with the nearby Roman roads.
- **Building #8** – Located to the south of Area 3 exhibiting a 'L-shaped' area of moderate earth resistance (anomaly R3a1) measuring 70m x 40m with two 15m x

20m areas of high earth resistance to the southwest and northwest. Also associated with this potential building are anomalies R3a2 and 'L-shaped' anomaly G3a4. Together these anomalies are interpreted as being an 'L-shaped' yard or surface with its internal apex facing to the southeast with two buildings (each approximately 10m x 10m) situated at the southeast end and northeast end of its northwest facing side. A rectilinear ditch acting as a rain gully is located uphill used to deflect rain water.

The building #8 features are located >200m south of Ermin street and are on a different alignment. No buildings are shown at this location on historic maps dating back to 1761. This suggests that if these features are do relate to buildings, they probably date to any period prior to this date. Evaluation excavation will be required to further define the morphology of these features, and if they relate to past buildings to determine their morphology, phasing/date and function.

- **Building #9** – Located on 'The Camp' pasture on the Wormstall Estate surveyed in 2021 (Hutt, Harrison & Abbott, 2021), the rectilinear anomalies A5G3, A5R1 and A5R3 most likely relate to the temporary WWII buildings known to have occupied this area from 1944 to the early 1950s as shown in Figure 3.15.
- **Building #10** – Located to the east of Area 5, anomaly R5a2 exhibits a number mostly linear high earth resistance linear features that are mostly aligned with Ermin street to the south, but others at 45° to Ermin Street. Anomaly R5a2 is interpreted as the remains of multiple phases of occupation consisting of one or more buildings potentially on two different orientation. The two very different alignment of features in Area 5 may be due to the later Medieval settlement re-occupying the site of earlier occupation as it expanded. Evaluation excavation will be required to define the remains of buildings, their morphology, phasing/date and function.
- **Building #11** – Located to the west of Area 5, anomalies R5a1, R5a3 and R5a4 exhibit a number of rectilinear and linear high earth resistance features that are mostly aligned at 45° to Ermin Street suggesting a post-Roman phase of occupation. Anomalies R5a1, R5a3 and R5a4 are interpreted as the remains of one or more phases of post-Roman occupation consisting of one or more masonry footed buildings. Evaluation excavation will be required to define the remains of these buildings, their morphology, settlement function, phasing and date of construction.

- **D-shaped enclosure** – Located in Area 2 the positive magnetic anomaly G2a1 interpreted as a ditched ‘D-shaped’ enclosure measuring 45m x 40m. The function and date of this earthwork, and its relationship with the wider settlement are unknown and will require evaluation excavation to better define its function construction date and period of usage.
- **Rectilinear enclosures** – Located in the southeast of Area 4, anomaly G4a3 identifies a series of regular rectilinear positive magnetic response measuring 30m x 30m extending for some 200m on both sides of Ermin Street. Interpreted as being roadside enclosure boundary ditches, the close alignment of G4a3 with Ermin Street suggests these ditches were constructed whilst Ermin Street was in use. However the function of these enclosure, dates of usage and their relation to the rest of the Wickham settlement will required evaluation excavations and/or test pits to further define.
- **Possible round houses** – Located in Area 1a (G1a5) and the south of Area 3 (G3a1) the geophysics surveys revealed circular features with exhibiting a positive magnetic response measuring 5m-7m in diameter interpreted as the drip gullies of round houses. As many of these circular gullies are overlapping this suggests smaller number of circular buildings constructed over several phases of occupation with new buildings constructed as older buildings fell into disrepair.

In Area 1a the close proximity of these gullies to the ‘slip road’ of the Road to Bath/Ermin Street intersection suggests that at least some of these circular buildings may have predated the construction of this ‘slip-road’. With no definitive dating evidence, evaluation excavation will be required to examine the remains of these circular buildings to define their phasing, date and their relationship with other buildings and enclosures within the Wickham settlement. A further research objective will be to examine how the identities of the occupations of Wickham’s circular buildings was different to that of the occupants of contemporary rectilinear buildings nearby.

- **Lanes** – there are at least four sections of ditched lanes of 5m width revealed across the areas surveyed. G1a2 in Area 1a and G4a2 in Area 4 appear to branch northeast from and perpendicular to Ermin Street and appear to be metalled. Other sections of lane seen in Area 1b are less clearly associated with Ermin Street and appear not to be metalled. There are further parallel linear anomalies seen in Area 5 that may also be lanes, but are too indistinct to diagnose definitively.

Together these features suggest that the roadside settlement at Wickham extended to the north and south of Ermin Street via a network of lanes used to access resources such as ponds and other buildings set back from the road. However some of the lanes revealed may related to later phases of occupation. Evaluation excavation of these lanes and their ditches is required to record the construction morphology of these anomalies and develop a chronology of construction and usage.

- **Well enclosure** – Located in Area 1b the well enclosure identified as AP4 from the 1944 USAAF aerial photograph shown in Figure 3.10 which correlates with high earth resistance anomaly R1b2. The well is currently covered with an iron grate and is surrounded by extant remains of a brick/mortar wall and fragments of a stone basin. The location of the well is shown Ordnance Survey maps, but other than the aerial photograph there is no record of the appearance of the well and its enclosure. The structure appears to have been demolished at some point after 1944. Evaluation excavation (taking full account of the likelihood of a deep/unstable well shaft) will be required to better understand its past usage and how this water source relates to both Ermin Street and later phases of past settlement.
- **18<sup>th</sup> century AD Wickham House driveway** – Located in the east of Area 3 the linear high earth resistance features of anomaly R3a3 correlate closely with the 18<sup>th</sup> century driveway shown on the 1878 Ordnance Survey map in Figure 3.13 and the extant alignment of the avenue of mature oak trees on either side of this driveway. The remains of brick gate posts visible in the southwest corner of Area 3 represent the driveway's intersection with Church Hill. The curved high earth resistance feature of anomaly R3a3 represents the present metalled driveway.

## 7 Further work required

This survey has highlighted a number of topographical and archaeological anomalies that warrant closer inspection so that the archaeological remains of past phases of settlement at Wickham can be better understood. This work will enable the residents of Wickham to closely connect with the history of the place where they live.

It is recommended that a programme of evaluation excavations be defined to investigate the morphology, phasing and function of selected features identified by this survey. High resolution of geophysics survey will also be used to augment definition of larger anomalies of interest. Furthermore, a topographical and geological survey will explore the extent that interactions between past inhabitants and their natural environment shaped the evolution, morphology and sustainability of the settlement at Wickham. The area of Wickham north of the B4000 also warrants investigation to understand the forces driving the movement of the focus of occupation from Wickham House to its present location.

## 8 Conclusions

Recent studies of Roman roads suggest that Wickham may have been located at the intersection of Ermin Street (RR41a) and the Road to Bath (RR53). Wickham's material culture assemblage exhibits a large number of Romano-British and Medieval artefacts. However to date detailed evidence of the scale and location of the past settlement at Wickham have been largely conjectural.

This geophysics survey has revealed a number of previously unknown likely buildings and enclosures suggesting multiple phases of occupation in and around Wickham House from pre-history through to the present day. Further evidence of Ermin Street and the Road to Bath were also revealed. Further work is needed to define the evolving chronology, morphology and function of this settlement and the extent that this evolution was influenced by the local topography.

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## Appendix 1: Geophysics survey grid details

Table A1.1 – Area 1a gradiometer survey (Open Map, 2024)

|                             |                                                                                                                                                                                                                                                               |                                                                                     |                                                    |                                                                                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 1a gradiometer survey                                                                                                                                                                                                                                    |                                                                                     |                                                    |                                                                                                                                                                         |
| Date of Survey:             | 17 <sup>th</sup> -21 <sup>st</sup> June 2023                                                                                                                                                                                                                  | Survey Team Leader:                                                                 |                                                    | Keith Abbott                                                                                                                                                            |
| Datum grid square:          | The “start point” of grid square <b>19MonJ13</b> (i.e. the “bottom left hand corner” of the grid square) is located 100m NW and 40m SW of Position #1.                                                                                                        | Information Defining the location of the Fixed Reference Point datum on Ground/Map: | Fixed Reference Point NGR:                         | Fixed Reference Point Description:<br><br>NE corner of Area 1b pasture at the intersection of the Rose Cottage and Church Hill fences.                                  |
|                             |                                                                                                                                                                                                                                                               |                                                                                     | SU 3948 7166                                       |                                                                                                                                                                         |
| Snuffler Map Name:          | Area1aGradView                                                                                                                                                                                                                                                | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:        | Relative Position #1:                              | The “bottom left corner” of grid 21JunW59 (see Area 1b table) 50.0m NW of the Fixed Ref Point parallel to the SW facing fence line of Rose Cottage and 12.0m to the SW. |
| Type of Survey:             | Bartington 601 gradiometer                                                                                                                                                                                                                                    |                                                                                     | Relative Position #2:                              | 100m SW from Position #1 and 56.5m from the SE corner of Area 1b where the two fence lines intersect.                                                                   |
|                             |                                                                                                                                                                                                                                                               |                                                                                     | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 1a survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing NE.                                                           |
| Neighbouring Snuffler Maps: |                                                                                                                                                                                                                                                               | Area 1b                                                                             |                                                    |                                                                                                                                                                         |
| Notes:                      | Permanent pasture with long grass. Dry conditions.<br><br>Grid square 19MonJ13 is visible through the treeline from Area 1b where the reference points are located, so the SE-NW axis of the survey grid can be aligned using tape measures and trigonometry. |                                                                                     |                                                    |                                                                                                                                                                         |

**Snuffler Data Files (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:**

|          |          |          |         |         |         |                        |
|----------|----------|----------|---------|---------|---------|------------------------|
| n/a      | n/a      | n/a      | 17Sat49 | 17Sat48 | 17Sat40 | 19MonJ15               |
| n/a      | n/a      | 21MonJ16 | 17Sat50 | 17Sat47 | 17Sat39 | 19MonJ14               |
| n/a      | n/a      | 21MonJ17 | 17Sat51 | 17Sat46 | 17Sat38 | <b><u>19MonJ13</u></b> |
| n/a      | 21JunW32 | 21MonJ18 | 17Sat52 | 17Sat45 | 17Sat37 | 19MonJ12               |
| n/a      | 21JunW31 | 21MonJ19 | 17Sat53 | 17Sat44 | 17Sat36 | 19MonJ11               |
| 21JunW35 | 21JunW30 | 21MonJ20 | 17Sat54 | 17Sat43 | 17Sat35 | 19MonJ10               |
| 21JunW34 | 21JunW29 | 21MonJ21 | 17Sat55 | 17Sat42 | 17Sat34 | 19MonJ9                |
| 21JunW33 | 21JunW28 | 21MonJ22 | 17Sat56 | 17Sat41 | n/a     | n/a                    |
| n/a      | 21JunW27 | n/a      | n/a     | n/a     | n/a     | n/a                    |

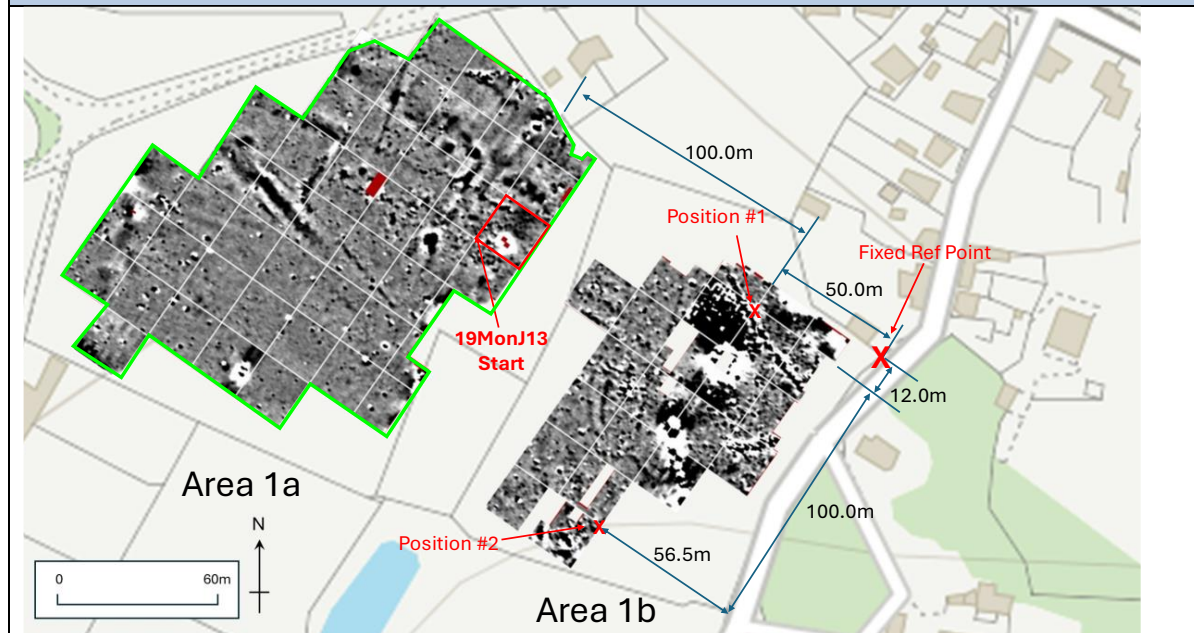
**Diagram of survey area:**

Table A1.2 – Area 1a earth resistance survey (Open Map, 2024)

|                             |                                                                                                                                                                                                                                                                                                                                        |                                                                                     |                                                    |                                                                                                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 1a earth resistance survey                                                                                                                                                                                                                                                                                                        |                                                                                     |                                                    |                                                                                                                                                                    |
| Date of Survey:             | 30 <sup>th</sup> June 2023                                                                                                                                                                                                                                                                                                             | Survey Team Leader:                                                                 |                                                    | Keith Abbott                                                                                                                                                       |
| Datum grid square:          | The “start point” of grid square <b>30JunFinalRes31</b> (i.e. the “bottom left hand corner of the grid square”) is located 160m NW and 40m SW of Position #1.                                                                                                                                                                          | Information Defining the location of the Fixed Reference Point datum on Ground/Map: | Fixed Reference Point NGR:                         | Fixed Reference Point Description:                                                                                                                                 |
|                             |                                                                                                                                                                                                                                                                                                                                        |                                                                                     | SU 3948 7166                                       | NE corner of Area 1b pasture at the intersection of the Rose Cottage and Church Hill fences.                                                                       |
| Snuffler Map Name:          | Area1aResView                                                                                                                                                                                                                                                                                                                          | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:        | Relative Position #1:                              | The “bottom left corner” of 21JunW59 (see Area 1b table) 50.0m NW of the Fixed Ref Point parallel to the SW facing fence line of Rose Cottage and 12.0m to the SW. |
| Type of Survey:             | Frobisher TAR3 earth resistance meter                                                                                                                                                                                                                                                                                                  |                                                                                     | Relative Position #2:                              | 100m SW from Position #1 and 56.5m from the SE corner of Area 1b where the two fence lines intersect.                                                              |
|                             |                                                                                                                                                                                                                                                                                                                                        |                                                                                     | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 1a survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing NE.                                                      |
| Neighbouring Snuffler Maps: |                                                                                                                                                                                                                                                                                                                                        | Area 1b                                                                             |                                                    |                                                                                                                                                                    |
| Notes:                      | Permanent pasture with long grass. Dry conditions.<br><br>Grid square 19MonJ13 is visible through the treeline from Area 1b where the reference points are located, so the SE-NW axis of the survey grid can be aligned using tape measures and trigonometry.<br><br>This is the same grid as used for the Area 1a gradiometer survey. |                                                                                     |                                                    |                                                                                                                                                                    |

**Snuffler Data Files** (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:

|                 |                 |                               |                 |                 |
|-----------------|-----------------|-------------------------------|-----------------|-----------------|
| n/a             | n/a             | 30JunFinalRes35               | 30JunFinalRes30 | n/a             |
| 30JunFinalRes45 | 30JunFinalRes44 | 30JunFinalRes34               | 30JunFinalRes29 | 30JunFinalRes42 |
| 30JunFinalRes43 | 30JunFinalRes38 | 30JunFinalRes33               | 30JunFinalRes28 | n/a             |
| 30JunFinalRes40 | 30JunFinalRes37 | 30JunFinalRes32               | n/a             | n/a             |
| 30JunFinalRes39 | 30JunFinalRes36 | <b><u>30JunFinalRes31</u></b> | n/a             | n/a             |

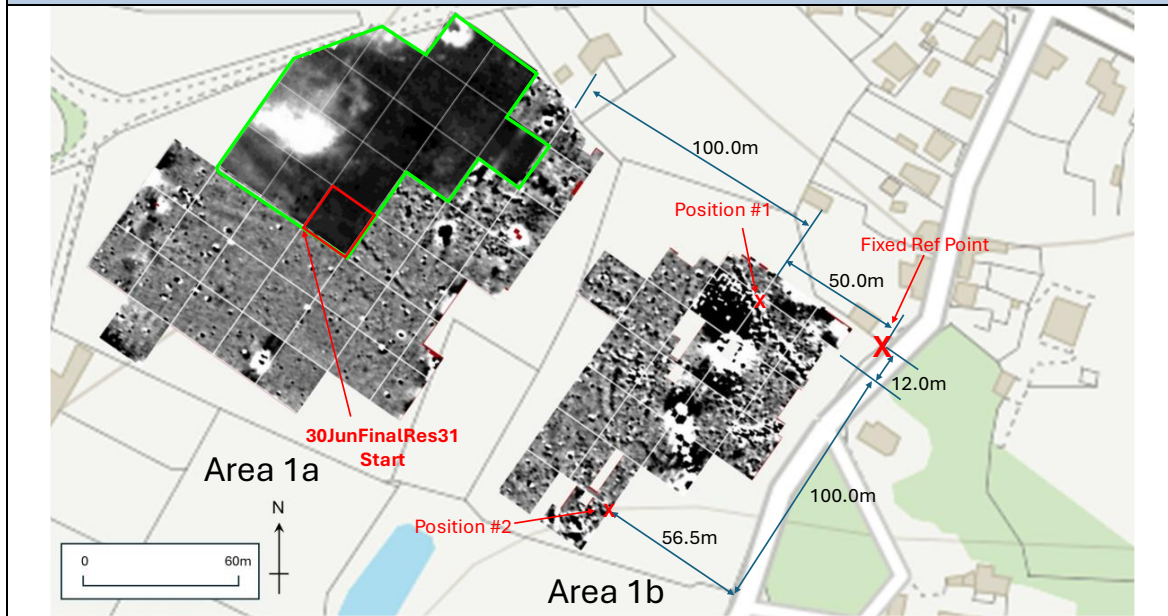
**Diagram of survey area:**

Table A1.3 – Area 1b gradiometer survey (Open Map, 2024)

|                             |                                                                                                                                                                |                                                                                     |                                                    |                                                                                                                                                |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 1b gradiometer survey                                                                                                                                     |                                                                                     |                                                    |                                                                                                                                                |
| Date of Survey:             | 21 <sup>st</sup> June 2023                                                                                                                                     | Survey Team Leader:                                                                 |                                                    | Keith Abbott                                                                                                                                   |
| Datum grid square:          | The “start point” of grid square <b>21JunW64</b> (i.e. the “bottom left hand corner of the grid square) is located 60m SW and 20m to the SE of Position #1.    | Information Defining the location of the Fixed Reference Point datum on Ground/Map: | Fixed Reference Point NGR:                         | Fixed Reference Point Description:<br><br>NE corner of Area 1b pasture at the intersection of the Rose Cottage and Church Hill fences.         |
|                             |                                                                                                                                                                |                                                                                     | SU 3948 7166                                       |                                                                                                                                                |
| Snuffler Map Name:          | Area1bGradView                                                                                                                                                 | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:        | Relative Position #1:                              | The “bottom left corner” of 21JunW59 50.0m NW of the Fixed Ref Point parallel to the SW facing fence line of Rose Cottage and 12.0m to the SW. |
| Type of Survey:             | Bartington 601 gradiometer                                                                                                                                     |                                                                                     | Relative Position #2:                              | 100m SW from Position #1 and 56.5m from the SE corner of Area 1b where the two fence lines intersect.                                          |
|                             |                                                                                                                                                                |                                                                                     | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 1b survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing NE.                                  |
| Neighbouring Snuffler Maps: |                                                                                                                                                                | Area 1a                                                                             |                                                    |                                                                                                                                                |
| Notes:                      | Permanent pasture with long grass. Permanently wet ground conditions across much of Area 1b with marsh grass presenting an obstacle to progress in many areas. |                                                                                     |                                                    |                                                                                                                                                |

**Snuffler Data Files** (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:

|         |          |          |          |                        |
|---------|----------|----------|----------|------------------------|
| n/a     | n/a      | 21JunW46 | 21JunW59 | 21JunW60               |
| n/a     | 21JunW45 | 21JunW47 | 21JunW58 | 21JunW61               |
| 23Jun49 | 21JunW44 | 21JunW48 | 21JunW57 | 21JunW62               |
| n/a     | 21JunW43 | 21JunW50 | 21JunW55 | <b><u>21JunW64</u></b> |
| n/a     | 21JunW42 | 21JunW51 | 21JunW54 | n/a                    |
| n/a     | 21JunW41 | 21JunW52 | n/a      | n/a                    |
| n/a     | 21JunW40 | 21JunW53 | n/a      | n/a                    |

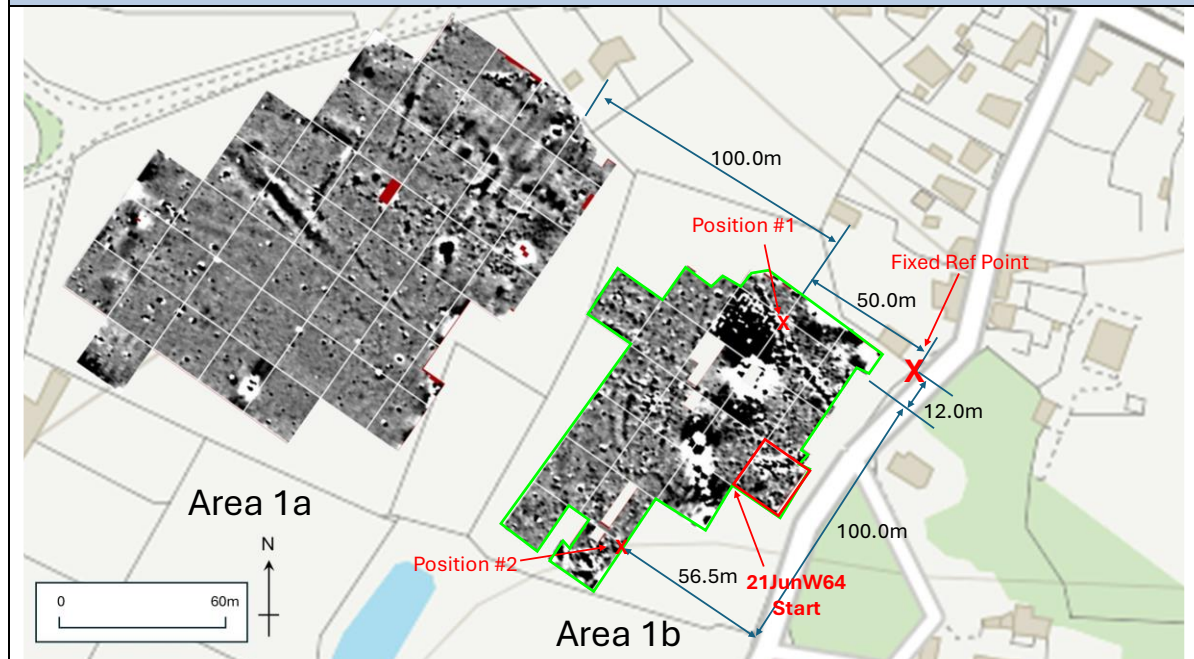
**Diagram of survey area:**

Table A1.4 – Area 1b earth resistance survey (Open Map, 2024)

|                             |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                      |                                                    |                                                                                                                                                                                   |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 1b earth resistance survey                                                                                                                                                                                                                                                                                                                                                |                                                                                      |                                                    |                                                                                                                                                                                   |
| Date of Survey:             | 10 <sup>th</sup> October 2023                                                                                                                                                                                                                                                                                                                                                  | Survey Team Leader:                                                                  |                                                    | Keith Abbott                                                                                                                                                                      |
| Datum grid square:          | The “start point” of grid square <b>TuesWick51</b> (i.e. the “bottom left hand corner of the grid square) is located 100m SW of Position #2 perpendicular to the fence separating Area 1b from Area 5.                                                                                                                                                                         | Information Defining the location of the Fixed Reference Point datum on Ground/Map:  | Fixed Reference Point NGR:                         | Fixed Reference Point Description:<br><br>NE corner of Area 1b along the fence separating Area 1b from Area 5 to the north where it intersects with the boundary of Rose Cottage. |
|                             |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                      | SU 3945 7171                                       |                                                                                                                                                                                   |
| Snuffler Map Name:          | Area1bResView                                                                                                                                                                                                                                                                                                                                                                  | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:         | Relative Position #1:                              | 40.0m to the SW of the Fixed Reference Point perpendicular to the fence separating Area 1b from Area 5.                                                                           |
| Type of Survey:             | Frobisher TAR3 earth resistance meter                                                                                                                                                                                                                                                                                                                                          |                                                                                      | Relative Position #2:                              | 40.0m to the NW along the fence separating Area 1b from Area 5 and 40.0m to the SW perpendicular to the same fence line.                                                          |
|                             |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                      | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 1c survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing NE.                                                                     |
| Neighbouring Snuffler Maps: |                                                                                                                                                                                                                                                                                                                                                                                | Area 1a and Area 1b grids used for the gradiometer, but using a different alignment. |                                                    |                                                                                                                                                                                   |
| Notes:                      | Permanent pasture with long grass. Permanently wet ground conditions across much of Area 1b with marsh grass presenting an obstacle to progress in many areas. Dry overcast conditions at time of survey.<br><br>This survey used a different alignment to the other Area 1 surveys and surveyed only six grid squares due to limited time remaining to undertake this survey. |                                                                                      |                                                    |                                                                                                                                                                                   |

**Snuffler Data Files** (show Ref Grid **underlined/bold**) [Ref Ohms for earth resistance]:

|                          |            |     |     |     |
|--------------------------|------------|-----|-----|-----|
| TuesWick53               | TuesWick56 | n/a | n/a | n/a |
| TuesWick52               | TuesWick55 | n/a | n/a | n/a |
| <u><b>TuesWick51</b></u> | TuesWick54 | n/a | n/a | n/a |

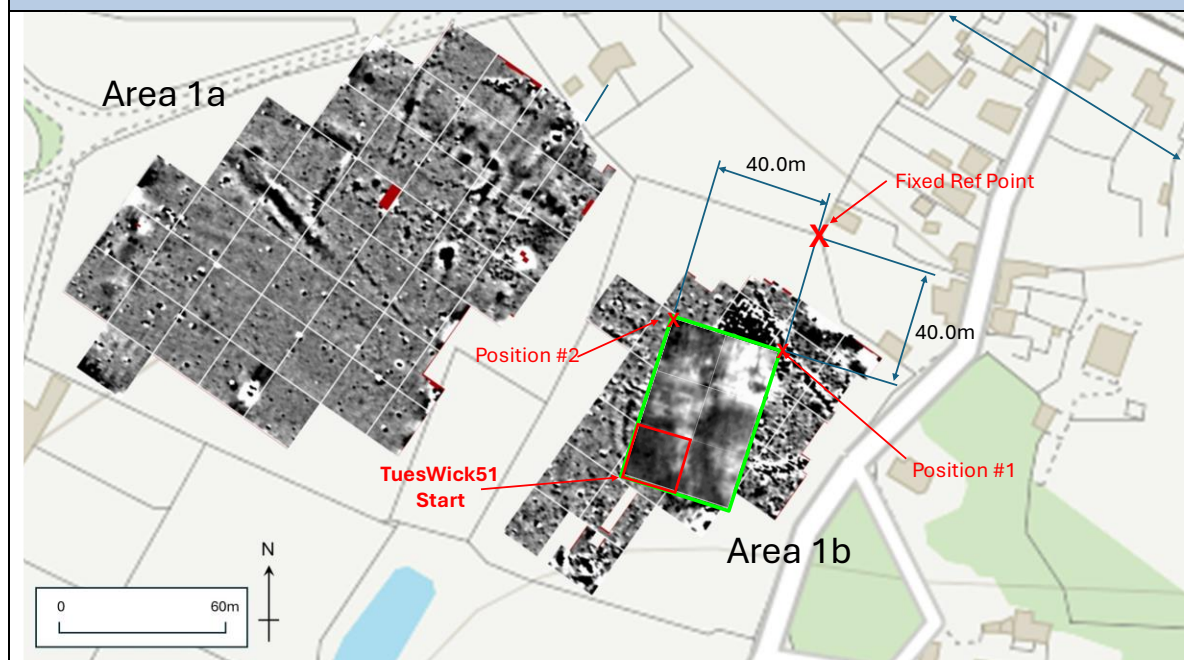
**Diagram of survey area:**

Table A1.5 – Area 1c earth resistance survey (Open Map, 2024)

|                             |                                                                                                                                                                                                                                                            |                                                                                     |                                                    |                                                                                                                                                |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 1c earth resistance survey                                                                                                                                                                                                                            |                                                                                     |                                                    |                                                                                                                                                |
| Date of Survey:             | 22 <sup>nd</sup> June 2023                                                                                                                                                                                                                                 | Survey Team Leader:                                                                 |                                                    | Keith Abbott                                                                                                                                   |
| Datum grid square:          | The “start point” of grid square <b>22Jun12</b> (i.e. the “bottom left hand corner of the grid square) is located 100m SW and 60m to the NE of Position #1.                                                                                                | Information Defining the location of the Fixed Reference Point datum on Ground/Map: | Fixed Reference Point NGR:                         | Fixed Reference Point Description:<br><br>NE corner of Area 1b pasture at the intersection of the Rose Cottage and Church Hill fences.         |
|                             |                                                                                                                                                                                                                                                            |                                                                                     | SU 3948 7166                                       |                                                                                                                                                |
| Snuffler Map Name:          | Area1cResView                                                                                                                                                                                                                                              | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:        | Relative Position #1:                              | The “bottom left corner” of 21JunW59 50.0m NW of the Fixed Ref Point parallel to the SW facing fence line of Rose Cottage and 12.0m to the SW. |
| Type of Survey:             | Frobisher TAR3 earth resistance meter                                                                                                                                                                                                                      |                                                                                     | Relative Position #2:                              | 100m SW from Position #1 and 56.5m from the SE corner of Area 1b where the two fence lines intersect.                                          |
|                             |                                                                                                                                                                                                                                                            |                                                                                     | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 1c survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing SE.                                  |
| Neighbouring Snuffler Maps: |                                                                                                                                                                                                                                                            | Area 1a and Area 1b                                                                 |                                                    |                                                                                                                                                |
| Notes:                      | Area 1c is the treeline separating Area 1a from Area 1b and uses the same grid alignment. The areas surveyed in Area 1c were the gaps between the trees from which vegetation/nettles were cleared by hand.<br><br>Dry sunny conditions at time of survey. |                                                                                     |                                                    |                                                                                                                                                |

**Snuffler Data Files** (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:

|         |     |         |     |                       |
|---------|-----|---------|-----|-----------------------|
| n/a     | n/a | n/a     | n/a | 22Jun15               |
| 22Jun19 | n/a | 22Jun17 | n/a | 22Jun14               |
| 22Jun18 | n/a | 22Jun16 | n/a | <b><u>22Jun12</u></b> |

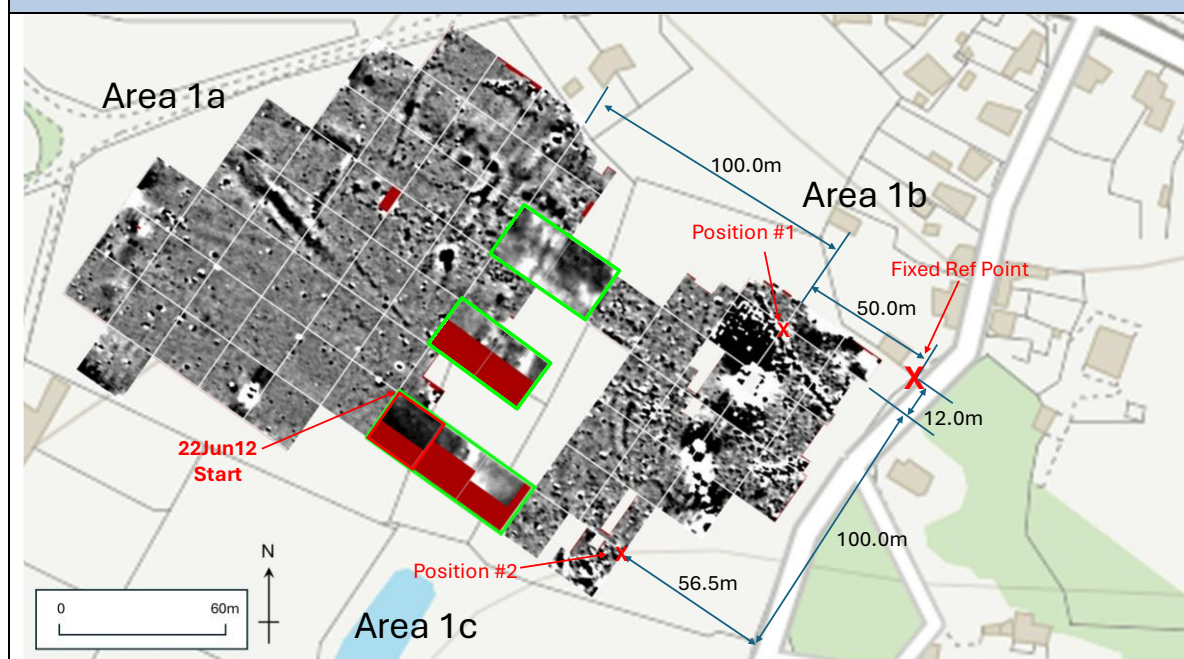
**Diagram of survey area:**

Table A1.6 – Area 2 gradiometer survey (Open Map, 2024)

|                             |                                                                                                                                          |                                                                                     |                                                    |                                                                                                              |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 2 gradiometer survey                                                                                                                |                                                                                     |                                                    |                                                                                                              |
| Date of Survey:             | 28 <sup>th</sup> June 2023                                                                                                               | Survey Team Leader:                                                                 |                                                    | Keith Abbott                                                                                                 |
| Datum grid square:          | The “start point” of grid square <u>28Jun1</u> (i.e. the “bottom left hand corner” of the grid square) is located 40m SW of Position #2. | Information Defining the location of the Fixed Reference Point datum on Ground/Map: | Fixed Reference Point NGR:                         | Fixed Reference Point Description:                                                                           |
|                             |                                                                                                                                          |                                                                                     | SU 3924 7146                                       | Fence post at inflection of the western fence line of Area 2.                                                |
| Snuffler Map Name:          | Area2GradView                                                                                                                            | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:        | Relative Position #1:                              | Measure 71.1m south from the Fixed Reference Point to the line of the N-S fence dividing Area 2.             |
| Type of Survey:             | Bartington 601 gradiometer                                                                                                               |                                                                                     | Relative Position #2:                              | 40m SW from the Fixed Reference Point and 60mNW from Position #1.                                            |
|                             |                                                                                                                                          |                                                                                     | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 2 survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing NE. |
| Neighbouring Snuffler Maps: |                                                                                                                                          | None.                                                                               |                                                    |                                                                                                              |
| Notes:                      | Permanent pasture. Dry overcast conditions.                                                                                              |                                                                                     |                                                    |                                                                                                              |

**Snuffler Data Files** (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:

|               |         |         |         |         |         |
|---------------|---------|---------|---------|---------|---------|
| 28Jun5        | 28Jun10 | 28Jun14 | 28Jun18 | 28Jun21 | 28Jun23 |
| 28Jun4        | 28Jun9  | 28Jun13 | 28Jun17 | 28Jun20 | 28Jun22 |
| 28Jun3        | 28Jun8  | 28Jun12 | 28Jun16 | 28Jun19 | n/a     |
| 28Jun2        | 28Jun7  | 28Jun11 | n/a     | n/a     | n/a     |
| <b>28Jun1</b> | 28Jun15 | n/a     | n/a     | n/a     | n/a     |

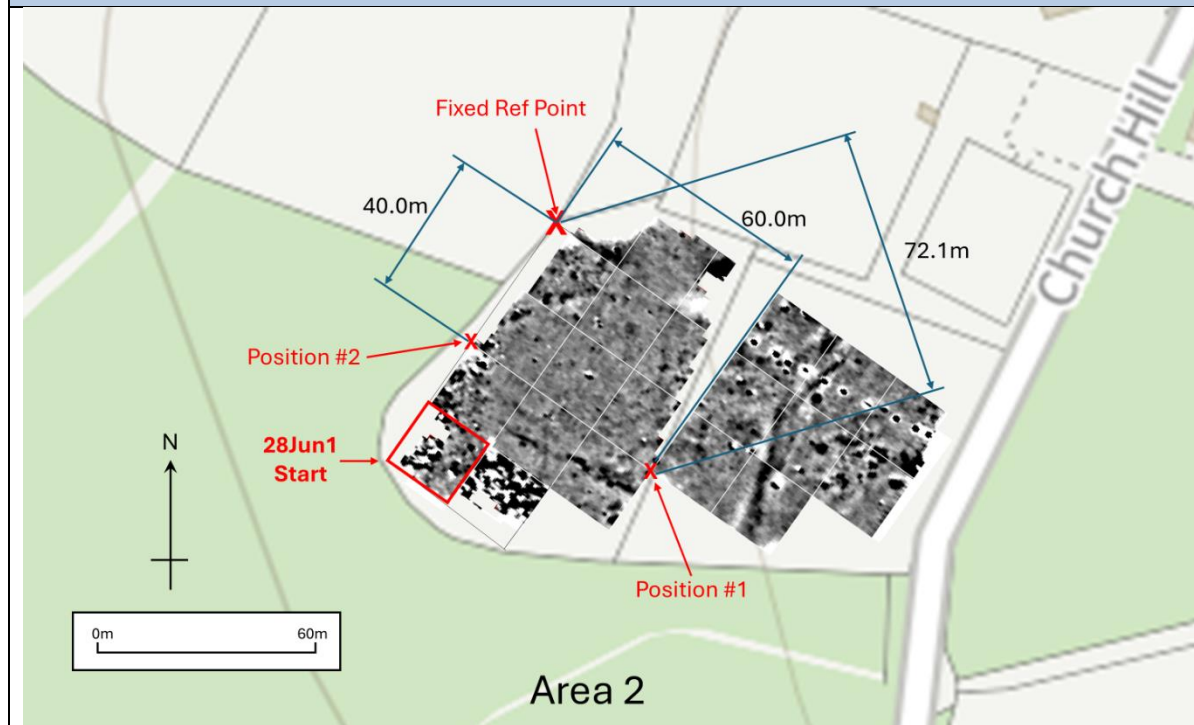
**Diagram of survey area:**

Table A1.7 – Area 3 gradiometer survey (Open Map, 2024)

|                             |                                                                                                                                       |                                                                                     |                                                    |                                                                                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 3 gradiometer survey                                                                                                             |                                                                                     |                                                    |                                                                                                                                                                         |
| Date of Survey:             | 1 <sup>st</sup> -5 <sup>th</sup> September 2023                                                                                       | Survey Team Leader:                                                                 | Keith Abbott                                       |                                                                                                                                                                         |
| Datum grid square:          | The “start point” of grid square <u>D1WickSep7</u> (i.e. the “bottom left hand corner” of the grid square) is located at Position #1. | Information Defining the location of the Fixed Reference Point datum on Ground/Map: | Fixed Reference Point NGR:                         | Fixed Reference Point Description:                                                                                                                                      |
|                             |                                                                                                                                       |                                                                                     | SU 3946 7147                                       | Iron fencepost and intersection of E-W fence along the N side of the ha-ha ditch and the N-S fence heading towards the church.                                          |
| Snuffler Map Name:          | Area3GradView                                                                                                                         | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:        | Relative Position #1:                              | The “bottom left corner” of grid <u>D1WickSep7</u> lies 20.0m to the S of the Fixed Reference Point perpendicular to the E-W fence along the N side of the ha-ha ditch. |
| Type of Survey:             | Bartington 601 gradiometer                                                                                                            |                                                                                     | Relative Position #2:                              | 80.0m east of Position #1 and 20.0m to the S of and perpendicular to the E-W fence along the N side of the ha-ha ditch.                                                 |
|                             |                                                                                                                                       |                                                                                     | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 3 survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing N.                                                             |
| Neighbouring Snuffler Maps: |                                                                                                                                       | None.                                                                               |                                                    |                                                                                                                                                                         |
| Notes:                      | Permanent pasture with long grass. Survey carried out mostly in dry overcast conditions with some light rain.                         |                                                                                     |                                                    |                                                                                                                                                                         |

**Snuffler Data Files (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:**

|               |               |               |               |                   |             |             |             |             |
|---------------|---------------|---------------|---------------|-------------------|-------------|-------------|-------------|-------------|
| n/a           | n/a           | Day2WickSep40 | n/a           | <u>D1WickSep7</u> | D1WickSep13 | D1WickSep19 | D1WickSep24 | D1WickSep26 |
| n/a           | Day2WickSep41 | Day2WickSep39 | Day2WickSep30 | Day2WickSep29     | D1WickSep12 | D1WickSep18 | D1WickSep23 | D1WickSep25 |
| n/a           | Day2WickSep42 | Day2WickSep38 | Day2WickSep31 | Day2WickSep28     | D1WickSep11 | D1WickSep17 | D1WickSep22 | n/a         |
| Day2WickSep51 | Day2WickSep43 | Day2WickSep37 | Day2WickSep32 | Day2WickSep27     | D1WickSep10 | D1WickSep16 | D1WickSep21 | n/a         |
| Day2WickSep50 | Day2WickSep44 | Day2WickSep36 | Day2WickSep33 | D1WickSep2        | D1WickSep9  | D1WickSep15 | D1WickSep20 | n/a         |
| Day2WickSep48 | Day2WickSep45 | Day2WickSep35 | Day2WickSep34 | D1WickSep1        | D1WickSep8  | D1WickSep14 | n/a         | n/a         |
| Day2WickSep47 | Day2WickSep46 | n/a           | n/a           | n/a               | n/a         | n/a         | n/a         | n/a         |

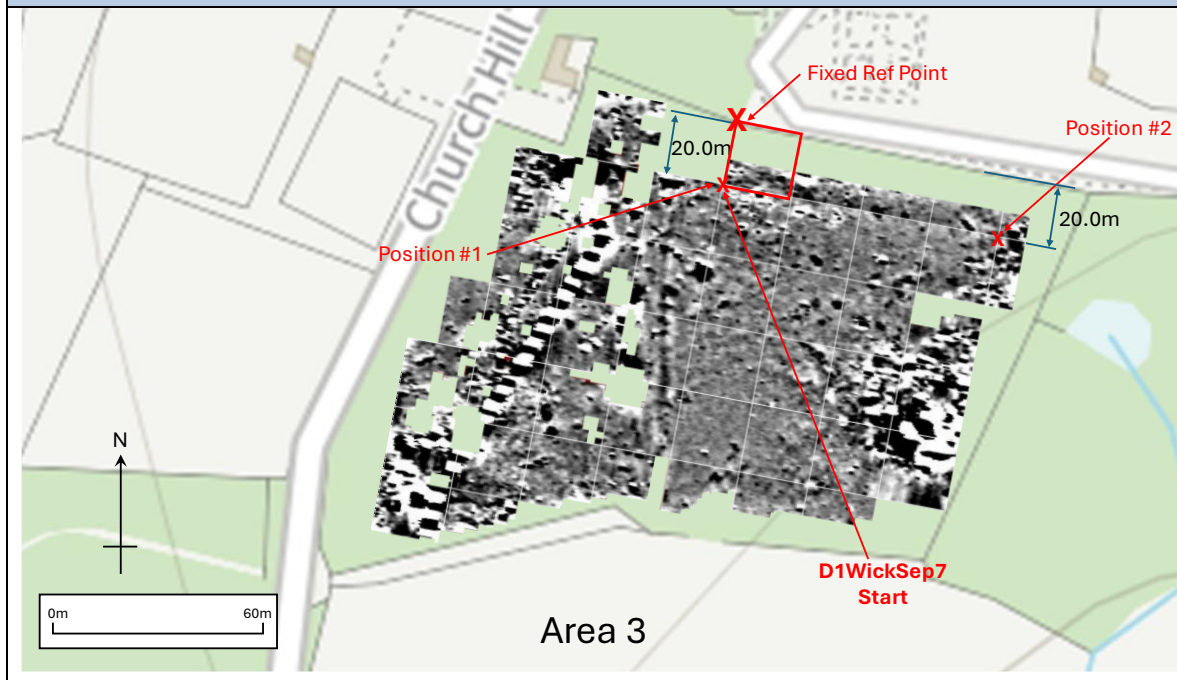
**Diagram of survey area:**

Table A1.8 – Area 3 earth resistance survey (Open Map, 2024)

|                             |                                                                                                                                                                                           |                                                                                     |                                                                              |                                                                                                                                |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 3 earth resistance survey                                                                                                                                                            |                                                                                     |                                                                              |                                                                                                                                |
| Date of Survey:             | 1 <sup>st</sup> -5 <sup>th</sup> September 2023                                                                                                                                           | Survey Team Leader:                                                                 | Keith Abbott                                                                 |                                                                                                                                |
| Datum grid square:          | The “start point” of grid square <b>D4SepWick12</b> (i.e. the “bottom left hand corner” of the grid square) is located at Position #1.                                                    | Information Defining the location of the Fixed Reference Point datum on Ground/Map: | Fixed Reference Point NGR:                                                   | Fixed Reference Point Description:                                                                                             |
|                             |                                                                                                                                                                                           |                                                                                     | SU 3946 7147                                                                 | Iron fencepost and intersection of E-W fence along the N side of the ha-ha ditch and the N-S fence heading towards the church. |
| Snuffler Map Name:          | Area3ResView                                                                                                                                                                              |                                                                                     | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point: | Relative Position #1:                                                                                                          |
| Type of Survey:             | Frobisher TAR3 earth resistance meter                                                                                                                                                     | Relative Position #2:                                                               |                                                                              | 80.0m east of Position #1 and 20.0m to the S of and perpendicular to the E-W fence along the N side of the ha-ha ditch.        |
|                             |                                                                                                                                                                                           | Survey Grid Orientation Relative to Magnetic North                                  |                                                                              | At the start point of each Area 3 survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing N.                    |
| Neighbouring Snuffler Maps: |                                                                                                                                                                                           | None.                                                                               |                                                                              |                                                                                                                                |
| Notes:                      | Permanent pasture with long grass. Survey carried out mostly in dry overcast conditions with some light rain.<br><br>Uses the same survey grid as used for the Area 3 gradiometer survey. |                                                                                     |                                                                              |                                                                                                                                |

**Snuffler Data Files** (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:

|            |            |                          |            |            |            |
|------------|------------|--------------------------|------------|------------|------------|
| D4SepWik15 | D4SepWik16 | D4SepWik18               | n/a        | n/a        | n/a        |
| WickTues22 | D4SepWik21 | D4SepWik20               | n/a        | n/a        | n/a        |
| WickTues23 | WickTues24 | <b><u>D4SepWik12</u></b> | D4SepWik13 | D4SepWik14 | WickTues25 |
| n/a        | n/a        | D4SepWik11               | D4SepWik3  | D4SepWik4  | D4SepWik9  |
| n/a        | n/a        | D4SepWik10               | D4SepWik2  | D4SepWik5  | D4SepWik8  |
| n/a        | n/a        | n/a                      | D4SepWik1  | D4SepWik6  | D4SepWik7  |

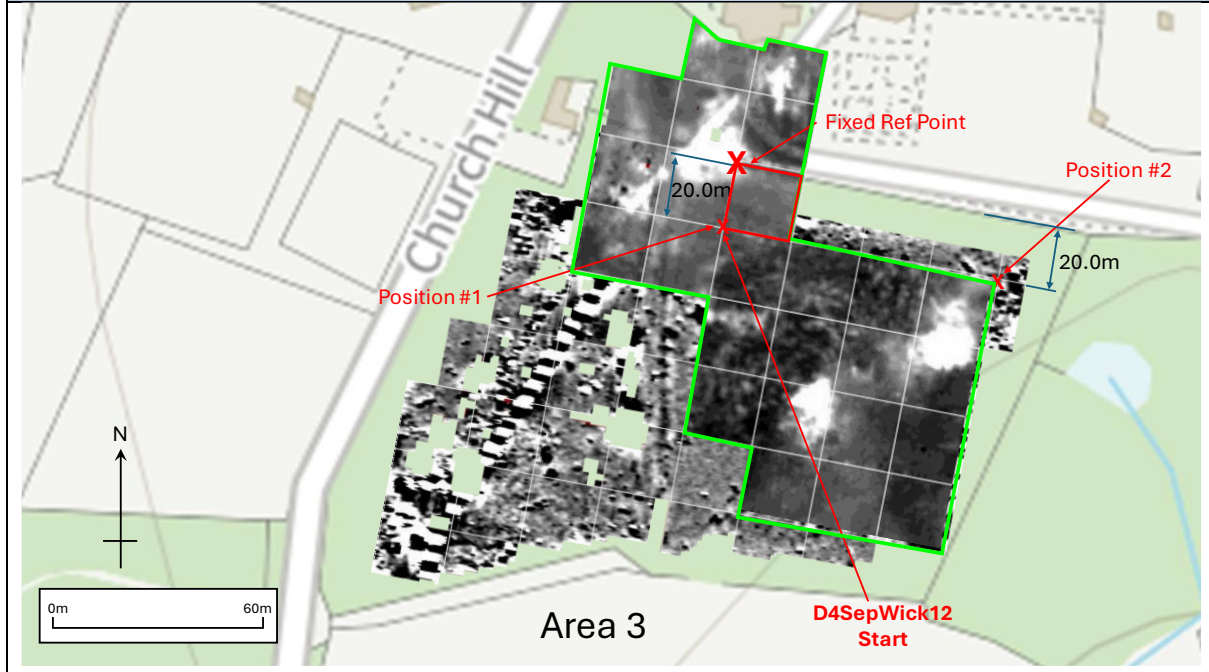
**Diagram of survey area:**

Table A1.9 – Area 4 gradiometer survey (Open Map, 2024)

|                                    |                                                                                                                                                     |                                                                                            |                                                           |                                                                                                                                                                                                                                               |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Area:</b>                       | Area 4 gradiometer survey                                                                                                                           |                                                                                            |                                                           |                                                                                                                                                                                                                                               |
| <b>Date of Survey:</b>             | 13 <sup>th</sup> -26 <sup>th</sup> June 2023                                                                                                        | <b>Survey Team Leader:</b>                                                                 | Keith Abbott                                              |                                                                                                                                                                                                                                               |
| <b>Snuffler Grid Datum Point:</b>  | The “start point” of grid square <b>13JunW21</b> (i.e. the “bottom left hand corner” of the grid square) is located 20.0m due south of Position #1. | <b>Information Defining the location of the Fixed Reference Point datum on Ground/Map:</b> | <b>Fixed Reference Point NGR:</b>                         | <b>Fixed Reference Point Description:</b>                                                                                                                                                                                                     |
|                                    |                                                                                                                                                     |                                                                                            | SU 3964 7151                                              | The NE corner of the fence surrounding the Wickham House tennis court adjacent to Area 4.                                                                                                                                                     |
| <b>Snuffler Map Name:</b>          | Area4GradView                                                                                                                                       | <b>Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:</b>        | <b>Relative Position #1:</b>                              | The “bottom left corner” of grid <b>13JunW21</b> lies 25.0m to the E of the Fixed Reference Point aligned with the north facing tennis court fence, and then 48.1m due north (i.e. not perpendicular to the north facing tennis court fence). |
| <b>Type of Survey:</b>             | Bartington 601 gradiometer                                                                                                                          |                                                                                            | <b>Relative Position #2:</b>                              | 80.0m due south of Position #1.                                                                                                                                                                                                               |
|                                    |                                                                                                                                                     |                                                                                            | <b>Survey Grid Orientation Relative to Magnetic North</b> | At the start point of each Area 4 survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing N.                                                                                                                                   |
| <b>Neighbouring Snuffler Maps:</b> | Area 4b earth resistance.                                                                                                                           |                                                                                            |                                                           |                                                                                                                                                                                                                                               |
| <b>Notes:</b>                      | Dry and sunny survey conditions. Areas of interference due to iron lawn edging and tree fencing were removed manually post-survey.                  |                                                                                            |                                                           |                                                                                                                                                                                                                                               |

**Snuffler Data Files (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:**

|          |          |                 |          |          |          |        |         |         |        |        |        |        |         |         |         |         |         |
|----------|----------|-----------------|----------|----------|----------|--------|---------|---------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 13JunW16 | n/a      | n/a             | n/a      | n/a      | n/a      | n/a    | n/a     | n/a     | n/a    | n/a    | n/a    | n/a    | n/a     | n/a     | n/a     | n/a     | n/a     |
| 13JunW15 | 13JunW13 | 13JunW2         | 13JunW3  | n/a      | n/a      | n/a    | n/a     | n/a     | n/a    | n/a    | n/a    | n/a    | n/a     | n/a     | n/a     | n/a     | n/a     |
| 13JunW14 | 13JunW12 | 13JunW1         | 13JunW4  | n/a      | n/a      | n/a    | n/a     | n/a     | n/a    | n/a    | n/a    | n/a    | n/a     | n/a     | n/a     | n/a     | n/a     |
| n/a      | n/a      | n/a             | n/a      | n/a      | n/a      | n/a    | n/a     | n/a     | n/a    | n/a    | n/a    | n/a    | n/a     | n/a     | n/a     | n/a     | n/a     |
| n/a      | n/a      | n/a             | n/a      | n/a      | n/a      | n/a    | n/a     | n/a     | n/a    | n/a    | n/a    | n/a    | n/a     | n/a     | n/a     | n/a     | n/a     |
| n/a      | n/a      | <b>13JunW21</b> | 13JunW6  | 13JunW32 | 13JunW34 | n/a    | n/a     | n/a     | n/a    | n/a    | n/a    | n/a    | n/a     | n/a     | n/a     | n/a     | n/a     |
| n/a      | n/a      | 13JunW20        | 13JunW7  | 13JunW11 | 13JunW35 | WedPM1 | WedPM14 | WedPM15 | n/a    | n/a    | n/a    | n/a    | n/a     | n/a     | n/a     | n/a     | n/a     |
| n/a      | n/a      | 13JunW22        | 13JunW8  | 13JunW10 | 13JunW36 | WedPM2 | WedPM13 | WedPM16 | ThuW24 | n/a    | n/a    | n/a    | n/a     | n/a     | n/a     | n/a     | n/a     |
| n/a      | n/a      | 13JunW23        | 13JunW25 | 13JunW27 | 13JunW37 | WedPM3 | ThuW23  | WedPM17 | ThuW25 | ThuW30 | ThuW35 | 26Jun1 | n/a     | n/a     | n/a     | n/a     | n/a     |
| n/a      | n/a      | 13JunW24        | 13JunW26 | 13JunW28 | 13JunW38 | WedPM4 | WedPM11 | WedPM18 | ThuW26 | ThuW31 | ThuW36 | 26Jun2 | 26Jun7  | n/a     | n/a     | n/a     | n/a     |
| n/a      | n/a      | n/a             | n/a      | 13JunW29 | 13JunW39 | WedPM5 | WedPM10 | WedPM19 | ThuW27 | ThuW32 | ThuW37 | 26Jun3 | 26Jun8  | 26Jun12 | n/a     | 26Jun23 | 26Jun21 |
| n/a      | n/a      | n/a             | n/a      | 13JunW30 | 13JunW40 | WedPM6 | WedPM9  | WedPM20 | ThuW28 | ThuW33 | ThuW38 | 26Jun4 | 26Jun9  | 26Jun13 | 26Jun16 | 26Jun22 | 26Jun20 |
| n/a      | n/a      | n/a             | n/a      | 13JunW31 | 13JunW41 | WedPM7 | WedPM8  | WedPM21 | ThuW29 | ThuW34 | ThuW39 | 26Jun5 | 26Jun10 | 26Jun14 | 26Jun17 | n/a     | 26Jun19 |
| n/a      | n/a      | n/a             | n/a      | n/a      | n/a      | n/a    | n/a     | n/a     | n/a    | n/a    | ThuW40 | 26Jun6 | 26Jun11 | 26Jun15 | 26Jun18 | n/a     | n/a     |

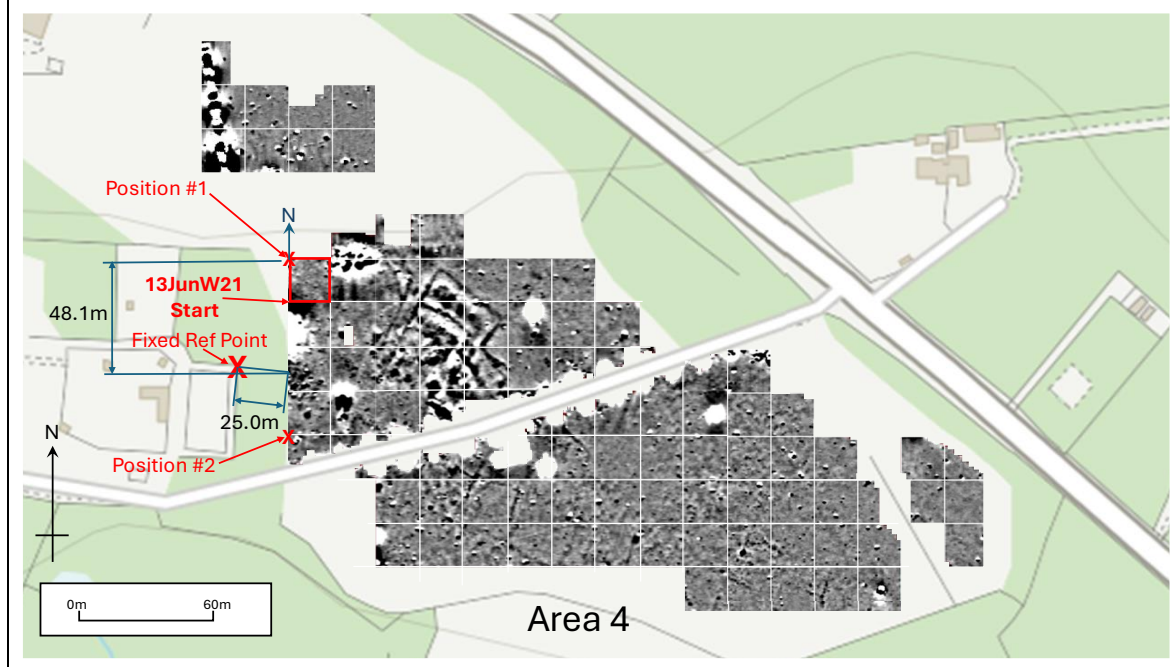
**Diagram of survey area:**

Table A1.10 – Area 4a earth resistance survey (Open Map, 2024)

|                             |                                                                                                                                                           |                                                                                              |                                                    |                                                                                                                                                                                                                                                                        |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 4a earth resistance survey                                                                                                                           |                                                                                              |                                                    |                                                                                                                                                                                                                                                                        |
| Date of Survey:             | 27 <sup>th</sup> -28 <sup>th</sup> June 2023                                                                                                              | Survey Team Leader:                                                                          |                                                    | Keith Abbott                                                                                                                                                                                                                                                           |
| Snuffler Grid Datum Point:  | The “start point” of grid square <u>RRData1</u> (i.e. the “bottom left hand corner” of the grid square) is located 60m south and 40m east of Position #1. | Information Defining the location of the Fixed Reference Point datum on Ground/Map:          | Fixed Reference Point NGR:                         | Fixed Reference Point Description:                                                                                                                                                                                                                                     |
|                             |                                                                                                                                                           |                                                                                              | SU 3964 7151                                       | The NE corner of the fence surrounding the Wickham House tennis court adjacent to Area 4.                                                                                                                                                                              |
| Snuffler Map Name:          | Area4aResView                                                                                                                                             | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:                 | Relative Position #1:                              | The “bottom left corner” of grid 13JunW21 (see Area 4 gradiometer survey) lies 25.0m to the E of the Fixed Reference Point aligned with the north facing tennis court fence, and then 48.1m due north (i.e. not perpendicular to the north facing tennis court fence). |
| Type of Survey:             | Frobisher TAR3 earth resistance meter                                                                                                                     |                                                                                              | Relative Position #2:                              | 80.0m due south of Position #1.                                                                                                                                                                                                                                        |
|                             |                                                                                                                                                           |                                                                                              | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 4 survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing N.                                                                                                                                                            |
| Neighbouring Snuffler Maps: |                                                                                                                                                           |                                                                                              | Area 4b earth resistance                           |                                                                                                                                                                                                                                                                        |
| Notes:                      |                                                                                                                                                           | Dry and sunny survey conditions.<br><br>Uses the same grid as the Area 4 gradiometer survey. |                                                    |                                                                                                                                                                                                                                                                        |

| Snuffler Data Files (show Ref Grid <u>underlined/bold</u> ) [Ref Ohms for earth resistance]: |         |          |     |     |     |     |     |          |          |
|----------------------------------------------------------------------------------------------|---------|----------|-----|-----|-----|-----|-----|----------|----------|
| RRData3                                                                                      | RRData6 | RRData7  | n/a | n/a | n/a | n/a | n/a | n/a      | n/a      |
| RRData2                                                                                      | RRData5 | RRData8  | n/a | n/a | n/a | n/a | n/a | n/a      | n/a      |
| <b>RRData1</b>                                                                               | RRData4 | RRData9  | n/a | n/a | n/a | n/a | n/a | n/a      | n/a      |
| n/a                                                                                          | n/a     | RRData10 | n/a | n/a | n/a | n/a | n/a | n/a      | n/a      |
| n/a                                                                                          | n/a     | RRData12 | n/a | n/a | n/a | n/a | n/a | n/a      | n/a      |
| n/a                                                                                          | n/a     | n/a      | n/a | n/a | n/a | n/a | n/a | 27JunER3 | 27JunER6 |
| n/a                                                                                          | n/a     | n/a      | n/a | n/a | n/a | n/a | n/a | 27JunER2 | 27JunER5 |
| n/a                                                                                          | n/a     | n/a      | n/a | n/a | n/a | n/a | n/a | 27JunER1 | 27JunER4 |

## Diagram of survey area:



Table A1.11 – Area 4b earth resistance survey (Open Map, 2024)

|                                    |                                                                                                                                          |                                                                                            |                                                           |                                                                                                                            |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Area:</b>                       | Area 4b earth resistance survey                                                                                                          |                                                                                            |                                                           |                                                                                                                            |
| <b>Date of Survey:</b>             | 6 <sup>th</sup> October 2023                                                                                                             | <b>Survey Team Leader:</b>                                                                 | Tony Bakker                                               |                                                                                                                            |
| <b>Snuffler Grid Datum Point:</b>  | The “start point” of grid square <b>Gate26</b> (i.e. the “bottom left hand corner” of the grid square) is located 20m NW of Position #1. | <b>Information Defining the location of the Fixed Reference Point datum on Ground/Map:</b> | <b>Fixed Reference Point NGR:</b>                         | <b>Fixed Reference Point Description:</b>                                                                                  |
|                                    |                                                                                                                                          |                                                                                            | SU 3991 7153                                              | The SW corner of the south-eastly gate post of the two gate posts supporting the wrought iron gates adjacent to the B4000. |
| <b>Snuffler Map Name:</b>          | Area4bResView                                                                                                                            | <b>Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:</b>        | <b>Relative Position #1:</b>                              | 6.5m due south of the Fixed Reference Point                                                                                |
| <b>Type of Survey:</b>             | Frobisher TAR3 earth resistance meter                                                                                                    |                                                                                            | <b>Relative Position #2:</b>                              | 60m SE of Position #1 along the northerly fence line of Wickham House.                                                     |
|                                    |                                                                                                                                          |                                                                                            | <b>Survey Grid Orientation Relative to Magnetic North</b> | At the start point of each Area 4b survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing SE.              |
| <b>Neighbouring Snuffler Maps:</b> | Area 4a gradiometer                                                                                                                      |                                                                                            |                                                           |                                                                                                                            |
| <b>Notes:</b>                      | <p>Dry and sunny survey conditions.</p> <p>Uses a different grid to the Area 4 gradiometer survey.</p>                                   |                                                                                            |                                                           |                                                                                                                            |

**Snuffler Data Files** (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:

|                      |        |        |
|----------------------|--------|--------|
| Gate30               | Gate35 | Gate41 |
| Gate29               | Gate34 | Gate40 |
| Gate27               | Gate33 | Gate39 |
| <b><u>Gate26</u></b> | Gate32 | Gate38 |
| n/a                  | Gate31 | Gate37 |
| n/a                  | n/a    | Gate36 |

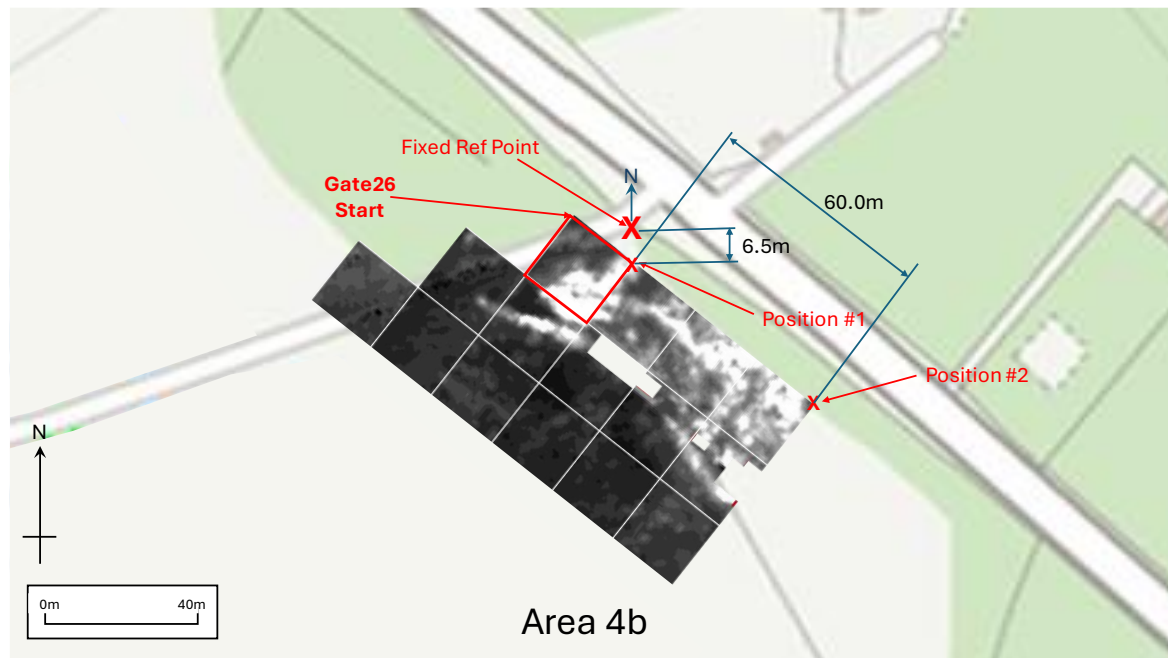
**Diagram of survey area:**

Table A1.12 – Area 5 gradiometer survey (Open Map, 2024)

|                             |                                                                                                                                      |                                                                                     |                                                    |                                                                                                                                                                                                                    |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 5 gradiometer survey                                                                                                            |                                                                                     |                                                    |                                                                                                                                                                                                                    |
| Date of Survey:             | 9 <sup>th</sup> October 2023                                                                                                         | Survey Team Leader:                                                                 | Keith Abbott                                       |                                                                                                                                                                                                                    |
| SnufflerGrid Datum Point:   | The “start point” of grid square <b>SepWFin52</b> (i.e. the “bottom left hand corner” of the grid square) is located at Position #1. | Information Defining the location of the Fixed Reference Point datum on Ground/Map: | Fixed Reference Point NGR:                         | Fixed Reference Point Description:                                                                                                                                                                                 |
|                             |                                                                                                                                      |                                                                                     | SU 3945 7171                                       | The SE corner of the fence line separating Area 1b and Area 5 where it intersects the Rose Cottage boundary.                                                                                                       |
| Snuffler Map Name:          | Area5GradView                                                                                                                        | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:        | Relative Position #1:                              | NW of the Fixed Reference Point perpendicular to the Rose Cottage fence at a distance of 2.0m and perpendicular to the Area 1b fence at a distance of 2.0m. This is where the undergrowth ends and pasture begins. |
| Type of Survey:             | Bartington 601 gradiometer                                                                                                           |                                                                                     | Relative Position #2:                              | 60m NW of Position #1 parallel to the fence separating Area 1b/Area 5 at a distance of 2.0m.                                                                                                                       |
|                             |                                                                                                                                      |                                                                                     | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 5 survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing NW.                                                                                                       |
| Neighbouring Snuffler Maps: |                                                                                                                                      | Area 1b                                                                             |                                                    |                                                                                                                                                                                                                    |
| Notes:                      | Damp and overcast conditions.                                                                                                        |                                                                                     |                                                    |                                                                                                                                                                                                                    |

**Snuffler Data Files** (show Ref Grid underlined/bold) [Ref Ohms for earth resistance]:

|                         |           |           |
|-------------------------|-----------|-----------|
| SepWFin54               | SepWFin58 | SepWFin60 |
| SepWFin53               | SepWFin57 | SepWFin59 |
| <b><u>SepWFin52</u></b> | SepWFin56 | n/a       |

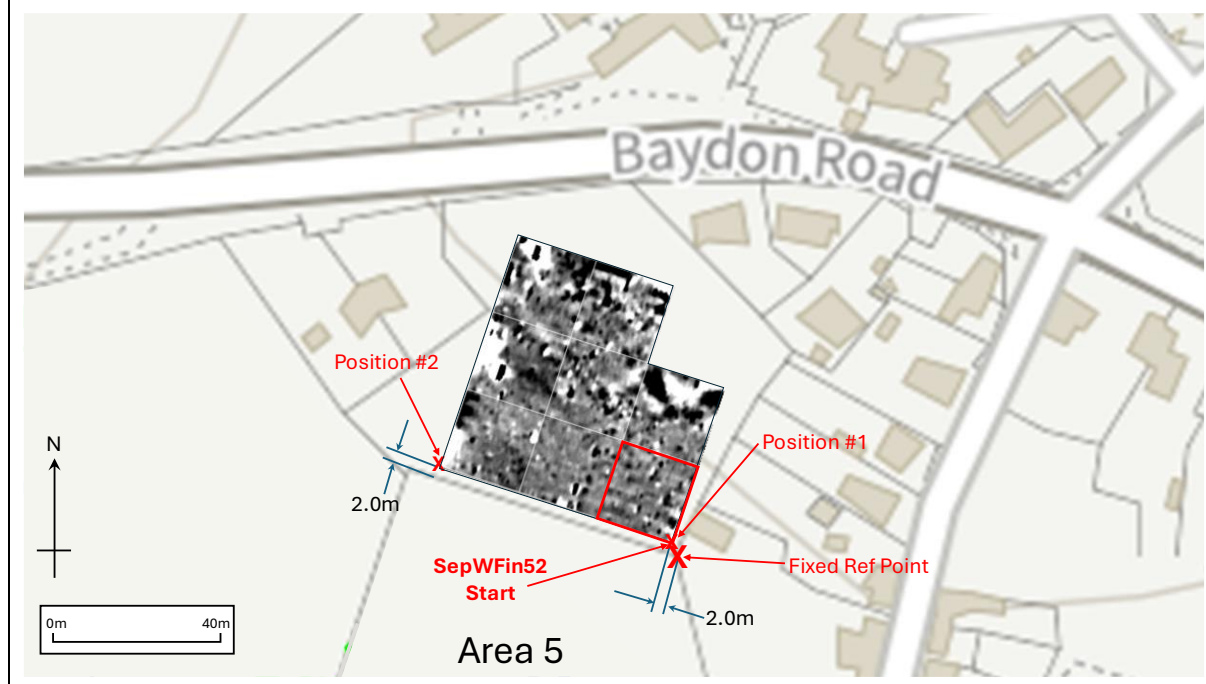
**Diagram of survey area:**

Table A1.14 – Area 5 earth resistance survey (Open Map, 2024)

|                             |                                                                                                                                       |                                                                                     |                                                    |                                                                                                                                                                                                                    |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Area:                       | Area 5 earth resistance survey                                                                                                        |                                                                                     |                                                    |                                                                                                                                                                                                                    |
| Date of Survey:             | 10 <sup>th</sup> October 2023                                                                                                         | Survey Team Leader:                                                                 | Keith Abbott                                       |                                                                                                                                                                                                                    |
| SnufflerGrid Datum Point:   | The “start point” of grid square <b>PMD1Wick42</b> (i.e. the “bottom left hand corner” of the grid square) is located at Position #1. | Information Defining the location of the Fixed Reference Point datum on Ground/Map: | Fixed Reference Point NGR:                         | Fixed Reference Point Description:                                                                                                                                                                                 |
|                             |                                                                                                                                       |                                                                                     | SU 3945 7171                                       | The SE corner of the fence line separating Area 1b and Area 5 where it intersects the Rose Cottage boundary.                                                                                                       |
| Snuffler Map Name:          | Area5ResView                                                                                                                          | Location of Snuffler Map Grid Datum Point relative to Fixed Reference Point:        | Relative Position #1:                              | NW of the Fixed Reference Point perpendicular to the Rose Cottage fence at a distance of 2.0m and perpendicular to the Area 1b fence at a distance of 2.0m. This is where the undergrowth ends and pasture begins. |
| Type of Survey:             | Frobisher TAR3 earth resistance meter                                                                                                 |                                                                                     | Relative Position #2:                              | 60m NW of Position #1 parallel to the fence separating Area 1b/Area 5 at a distance of 2.0m.                                                                                                                       |
|                             |                                                                                                                                       |                                                                                     | Survey Grid Orientation Relative to Magnetic North | At the start point of each Area 5 survey grid (i.e. the “bottom lefthand corner”) the surveyor is facing NW.                                                                                                       |
| Neighbouring Snuffler Maps: |                                                                                                                                       | Area 1b                                                                             |                                                    |                                                                                                                                                                                                                    |
| Notes:                      | Damp and overcast conditions.                                                                                                         |                                                                                     |                                                    |                                                                                                                                                                                                                    |

**Snuffler Data Files** (show Ref Grid **underlined/bold**) [Ref Ohms for earth resistance]:

|                   |            |            |
|-------------------|------------|------------|
| PMD1Wick45        | PMD1Wick46 | n/a        |
| PMD1Wick44        | PMD1Wick47 | PMD1Wick50 |
| PMD1Wick43        | PMD1Wick48 | PMD1Wick49 |
| <b>PMD1Wick42</b> | n/a        | n/a        |

**Diagram of survey area:**