Historic England

Rampier Copse, Silchester, Hampshire: Analytical Earthwork Survey

Olaf Bayer

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Cover image: Plough-levelled remains of enclosure bank (1.2). Looking south towards Rampier Copse with enhanced bank 3.2 under woodland in the background (DP218209 © Historic England, photograph Steve Baker).

Research Report Series 10-2019

Rampier Copse, Silchester, Hampshire: analytical earthwork survey

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SUMMARY

A Level 3 analytical earthwork survey at Rampier Copse, Silchester, Hampshire was undertaken by Historic England as part of the Silchester Environs Project in late 2017 and early 2018. The survey covered an area of approximately 14ha immediately outside the south-west corner of the Roman town of Calleva Atrebatum. The earliest recorded feature was a sub-circular enclosure, or small hillfort, of presumed mid to late Iron Age date, abutted by a linear earthwork of presumed late Iron Age date. Elements of the enclosure are massively enhanced and are incorporated into the outer earthwork surrounding the late Iron Age oppidum. Part of the oppidum's inner earthwork, Roman roads, and quarrying, woodland banks and boundaries of presumed post-medieval date were also recorded.

CONTRIBUTORS

The survey was undertaken by Olaf Bayer (Historic England) and Daniel Wheeler (University of Reading), with assistance from Mark Bowden, Sharon Soutar, Johanna Roethe, Hannah Kennedy and Amy Wright (all of Historic England), and Jenni Eaton, Lindsay Banfield, Tom Hayes and Krystyna Truscoe (University of Reading). The report was written, illustrated and laid out by Olaf Bayer. Unless otherwise stated photographs were taken by Olaf Bayer. Mark Bowden commented on the final text.

ACKNOWLEDGEMENTS

The author would like to thank Helen Jex, Andrew Aitken and James Adkins (Hampshire County Council), Desmond Best, Jonathan Stacey and Graham Hutton for permitting access to the survey area. Prof Michael Fulford, Dr Catherine Barnett, Dr John Creighton and Krystyna Truscoe of the Department of Archaeology, University of Reading provided useful discussion about the survey area and the wider Silchester landscape. Hampshire Record Office provided access to the Silchester Parish tithe map. Thanks are also due to the Society of Antiquaries of London for permitting reproduction of images from Archaeologia, and The Royal Archaeological Society for permitting the reproduction of images from the Archaeological Journal. Dr John Creighton supplied the mapping on which figure 15 is based. David McOmish (Historic England) and David Field made useful comments on the survey drawing.

ARCHIVE LOCATION

Historic England Archive, The Engine House, Swindon, SN2 2EH

DATE OF SURVEY

December 2017–April 2019

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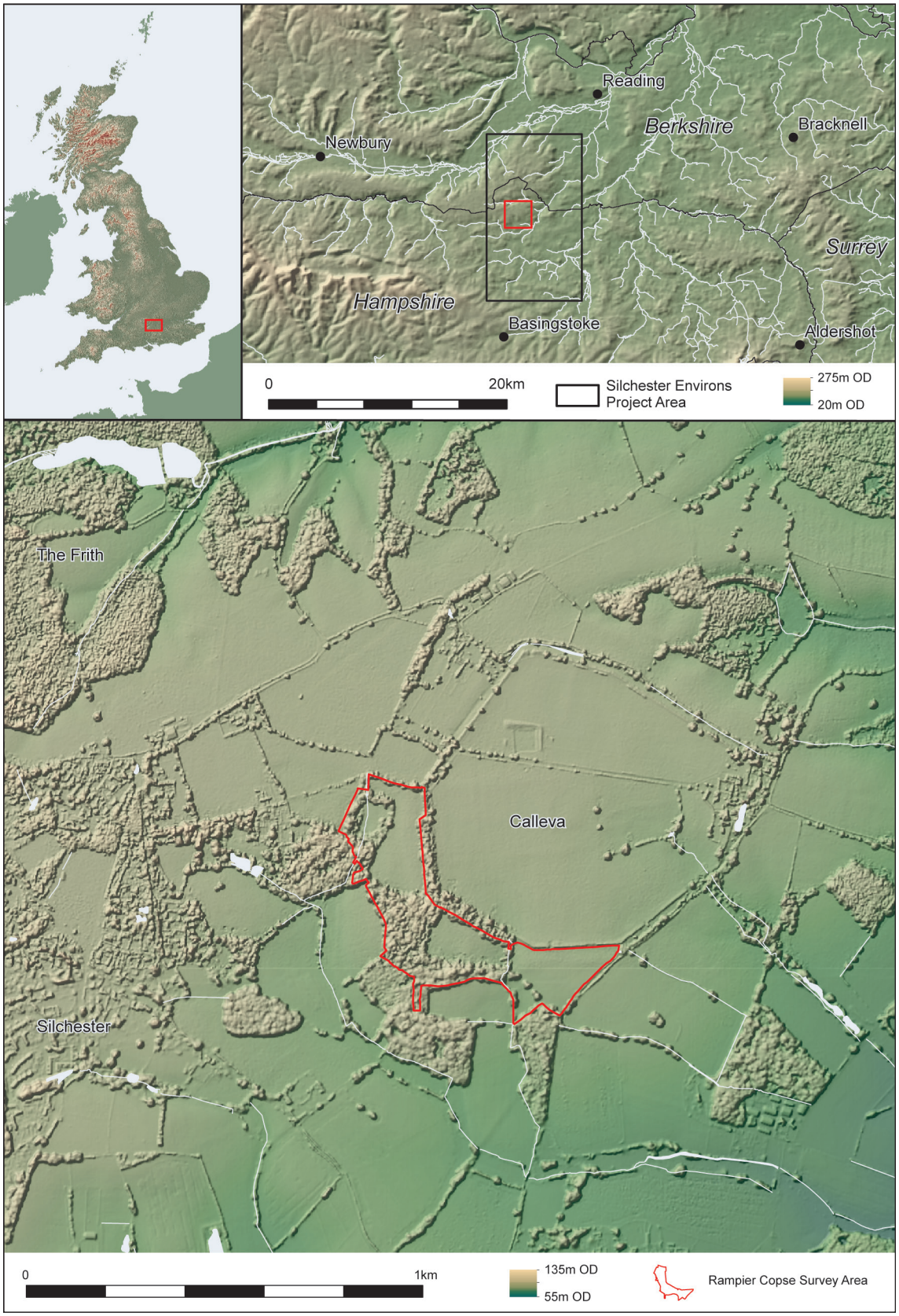

Figure 1. Rampier Copse location. Contains digital surface model data derived from 90m SRTM topography data courtesy of CGIAR http://srtm.csi.cgiar.org; and 2m photogrammetry ©Bluesky International Ltd; Getmapping PLC. Rivers data derived from OS data © Crown Copyright and database right 2019. All rights reserved. Ordnance Survey Licence number 100024900.

INTRODUCTION

"It was a rather wild garden, for Uncle Aquila did not keep a full-time garden slave, but a very pleasant one, running down to the crumbling earthworks of British Calleva. In some places the fine stone-faced city walls were already rising. One day they would rise here too, but as yet there was only the curved wave-break of old quiet turf, glimpsed between the branches of wild fruit-trees; and where the bank dipped, stray glimpses over mile upon mile of forest country rolling away into the smoke-blue distance." (Sutcliff 1954, 72)

Survey context

A Level 3 analytical earthwork survey (Historic England 2017) of earthworks at Rampier Copse, Silchester, Hampshire was undertaken between December 2017 and early March 2018 by Historic England's (HE) Historic Places Investigation Team (West) with the assistance of staff and students from the University of Reading. The survey was carried out as part of the Silchester Environs Project run by the University of Reading's Department of Archaeology (Barnett and Fulford 2015). The survey focussed on a series of substantial earthworks immediately outside the south-west corner of the defences surrounding the Roman town of Calleva Atrebatum (Fig 1). Surveyed features included a probable mid to late Iron Age hillfort, elements of the inner and outer earthworks surrounding the late Iron Age oppidum, the northern end of the Dicker's Farm Dyke linear earthwork, and elements of the Roman roads leading from the town's south and south-west gates.

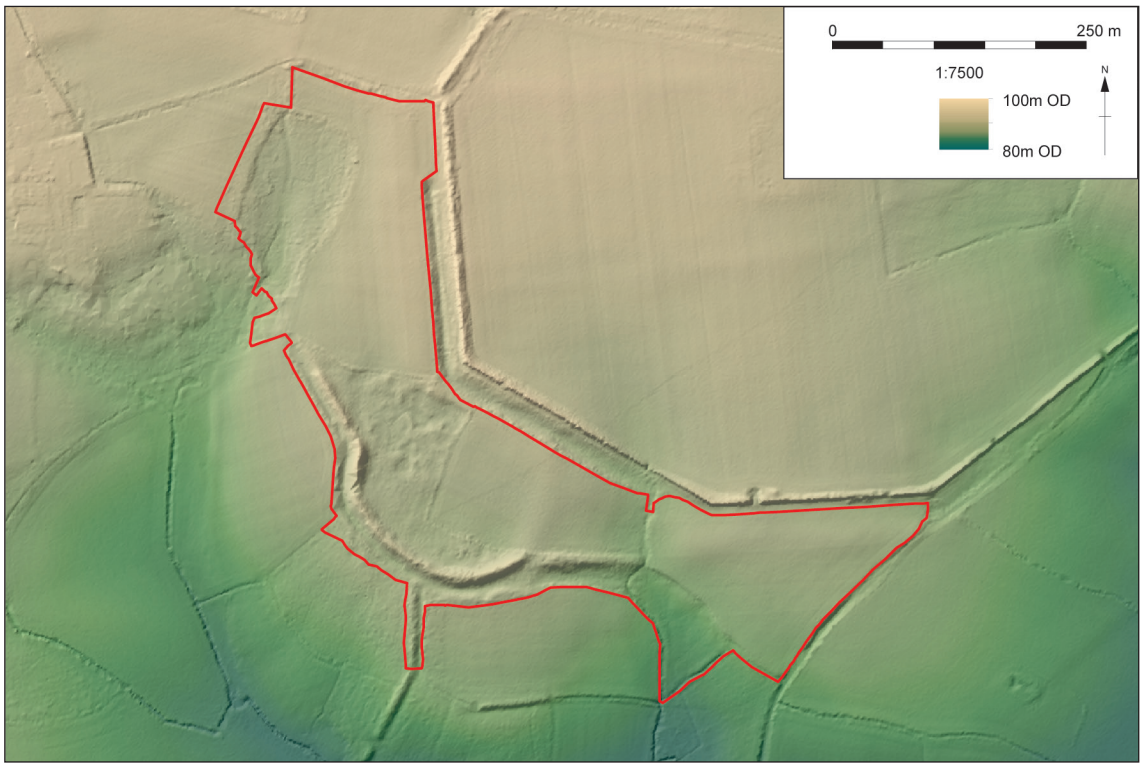

Figure 2. Topography of Rampier Copse study area. Derived from 1m lidar © Environment Agency copyright/database right 2019. All rights reserved.

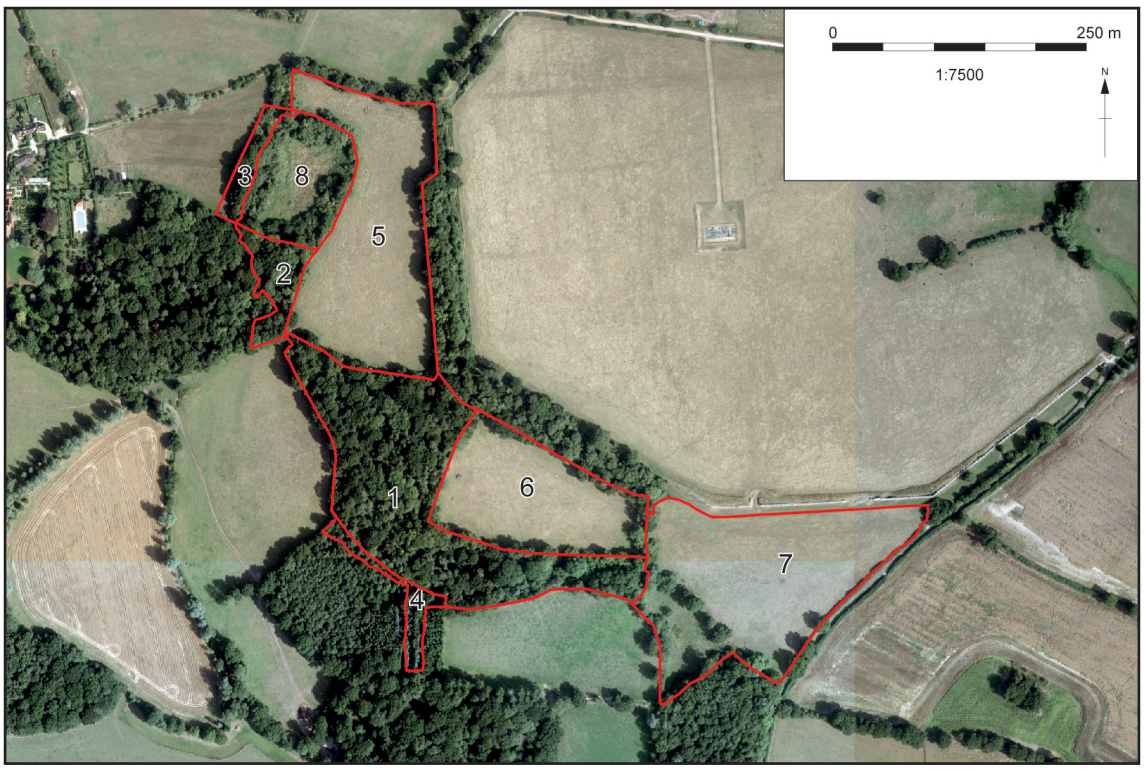

Figure 3. Rampier Copse landuse. Contains 25cm vertical aerial photography © Bluesky International Ltd; Getmapping PLC.

Geology, topography and landuse

Covering an area of approximately 14 ha the survey occupies the southern edge of the Silchester plateau, with the ground dropping away to the south and south-west towards the Silchester Brook (Fig 2). Within the study area the plateau edge is cut by the lines of two unnamed, small north to south running streams. The western stream draining area 8 (see below), and the eastern stream rising within the town. Solid geology comprises sands and clays of the London Clay Formation, overlain on the northern fringes of the site by sands and gravels of the Silchester Gravel Member (BGS 2019).

Today the survey area can be divided into 8 areas (Fig 3) each characterised by different land use, and as a result, by differing degrees of earthwork preservation. The areas are separated from each other by post and wire fences.

- Areas 1, 2 and 3 are covered with mature deciduous woodland and have generally well-preserved earthworks. The northern end of area 1 has been heavily disturbed by quarrying. There are areas of significant damage caused by badger setts in area 1.

- Area 4 immediately to the south of area 1 is under well-established conifer plantation. Earthwork preservation is good in this area with isolated areas of badger damage.

- Areas 5, 6 and 7 are all under permanent pasture. Each of these areas has been previously cultivated and only substantial earthworks remain, in very spread form.

- Area 8 is covered by very wet, over-grown, rough grazing and was substantially excluded from the survey.

Historic mapping and previous archaeological research

Colt Hoare (1818)

Although plans have been drawn of Roman Silchester/Calleva since the early eighteenth century (Creighton and Fry 2016, 12-6), Colt Hoare's map of 1818 (1821, 57) is the first to depict the earthworks outside the Roman town (including those in the current survey area), in anything like accurate form (Fig 4). The main body of the Rampier Copse earthwork is shown under woodland (area 1) as a crescent of bank with a linear protrusion to the north-west, and a south-eastern linear protrusion separated by a narrow gap. The curved portion of the bank has a ditch on its south-western (outer) edge. A bank is shown in the open field to the north of the main earthwork (area 6) continuing the line of the curved bank north towards the south-western edge of the town defences. To the south-east of the woodland, the south-eastern arm of the main earthwork continues in open fields across a narrow valley, forming a bank outside the southern edge of the town defences (area 7). A similar bank is shown in open fields (area 5) to the west of the town, fading out at its southern end as it approaches the woodland outside the south-western corner of the town. Dicker's Farm Dyke linear earthwork is shown as a straight bank (labelled 'Roman Road') approaching the southern edge of the main earthwork and appearing to slight the outer edge of its ditch. Stepping back from the earthwork features, the map shows land division in the study area to be very similar to that seen today. Two minor differences are: the eastern edge of the woodland defining area 4 is 20m further west, tight against the western edge of the Dicker's Farm Dyke; and a trackway runs east to west between areas 1 and 2, forming the southern edge of area 2.

Tithe Map (1841)

The Silchester parish tithe map is the first accurate depiction of the area (Fig 5). It shows the configuration of the fields and boundaries surrounding Rampier Copse in a very similar form to that seen today. No earthworks are depicted. Whilst the tithe map adds detail to field boundaries, the configuration of the landscape is very similar to that shown by Colt Hoare in 1818. A short trackway following the southern edge of area 7 in its south-corner is the only substantial addition. Each of the large fields bordering the town defences is under arable cultivation, and the remaining open areas are under either pasture or meadow. The majority of the study area is owned and occupied by the Rev John Coles. Two fields (areas 6 (344) and 7 (323)) on the eastern edge of the survey area are owned by the Duke of Wellington and leased to William John Barton.

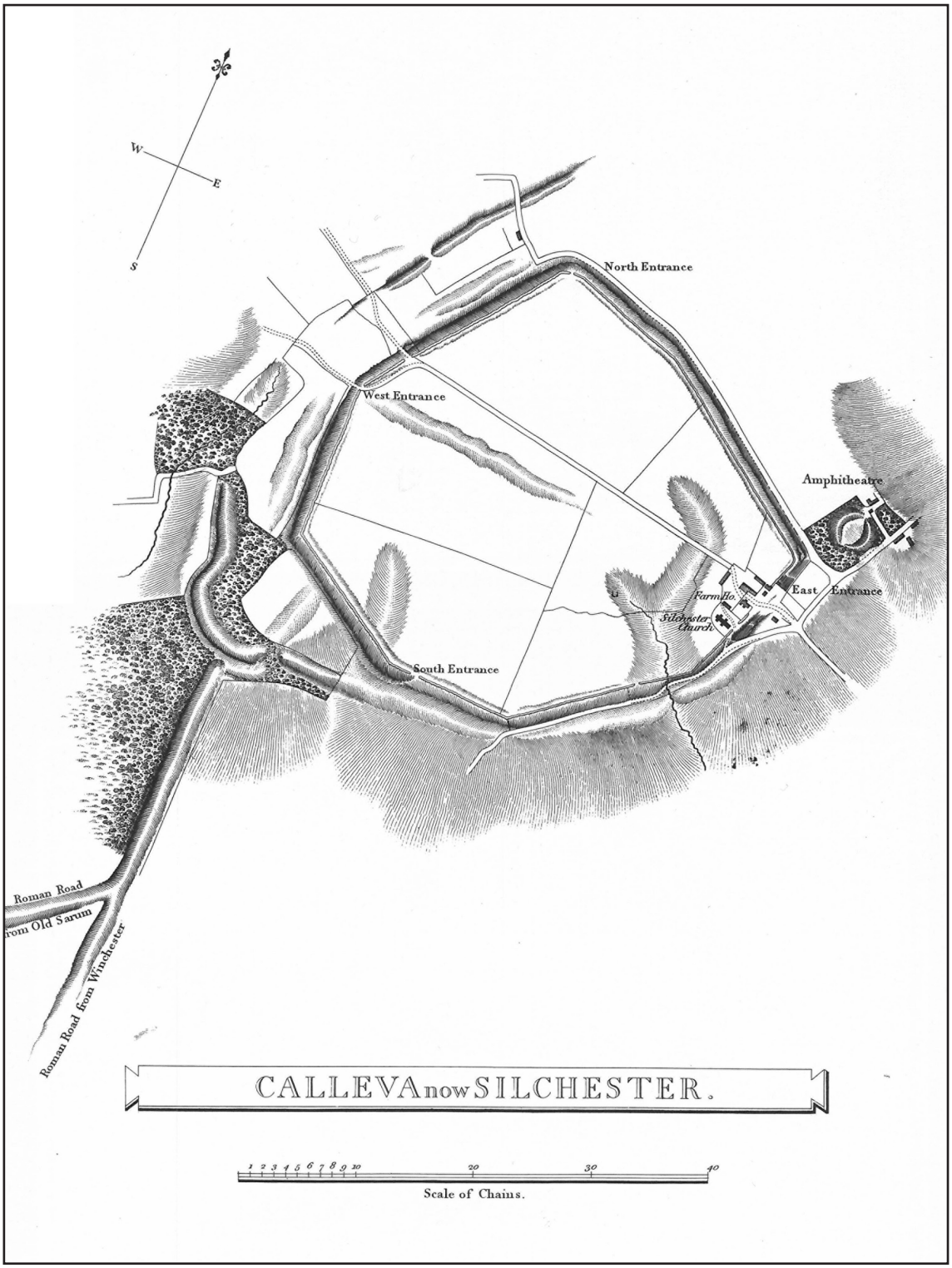

Figure 4. Richard Colt Hoare and Philip Crocker's (1818) plan of Silchester (Hoare 1821, 57).

Figure 5. Extract of Silchester tithe map 1841. Hampshire Record Office: 21M65/F7/209/2.

Wright and Fairholt (1845)

In their account of Roman Silchester Wright and Fairholt (1845) describe the Rampier Copse earthwork:
"*….. on the south side is a very large earth-work, extending in a half circle from the walls, and enclosing a considerable space. It is so considerable, that, although it seems hitherto to have escaped the notice of antiquaries, it no doubt filled an important place in the military defences of the town*" (Wright and Farholt 1845, 151)

Maclauchlan (1850)

Maclauchlan's survey adds detail and hachures to the Silchester tithe map. His plan shows the position of the town relative to the Silchester plateau, and importantly picks out and defines the earthworks outside the town including Rampier Copse and Dicker's Farm Dyke linear earthwork (Fig 6). In his accompanying written account Maclauchlan makes little mention of the main Rampier Copse earthwork other than in his description of Dicker's Farm Dyke "*which comes close up to the ditch of the outer rampart when it swells out to the south-west projection*" (1851, 231). Maclauchlan's plan also includes a profile (C-D) across the Rampier Copse earthwork. His depiction of the earthworks is broadly similar to Colt Hoare's with two slight differences. Firstly, he does not depict the northern continuation of the curving earthwork (across area 6), and secondly, he shows a break between the south-east protrusion of the main earthwork and the bank on the southern edge of the town. Approximate lines of the roads leaving the town's southern and western gates are shown. Maclauchlan's work is significant in that he recognises the

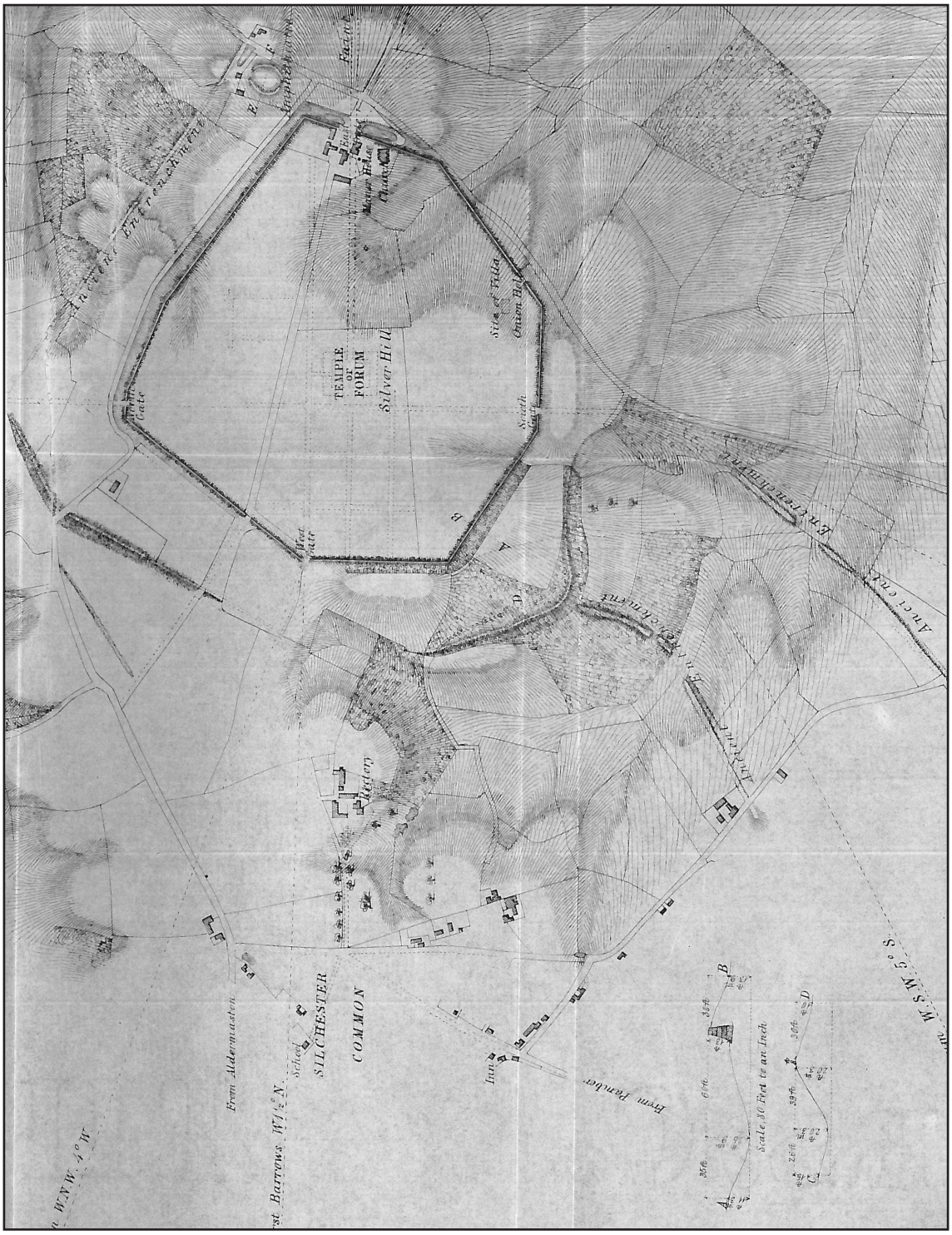

Figure 6. Extract from Maclauchlan's 1850 plan of Silchester (1851). Reproduced with permission of The Royal Archaeological Institute.

'*British*' (Iron Age) origin of the earthworks surrounding and converging on Roman Silchester (1851, 230-1).

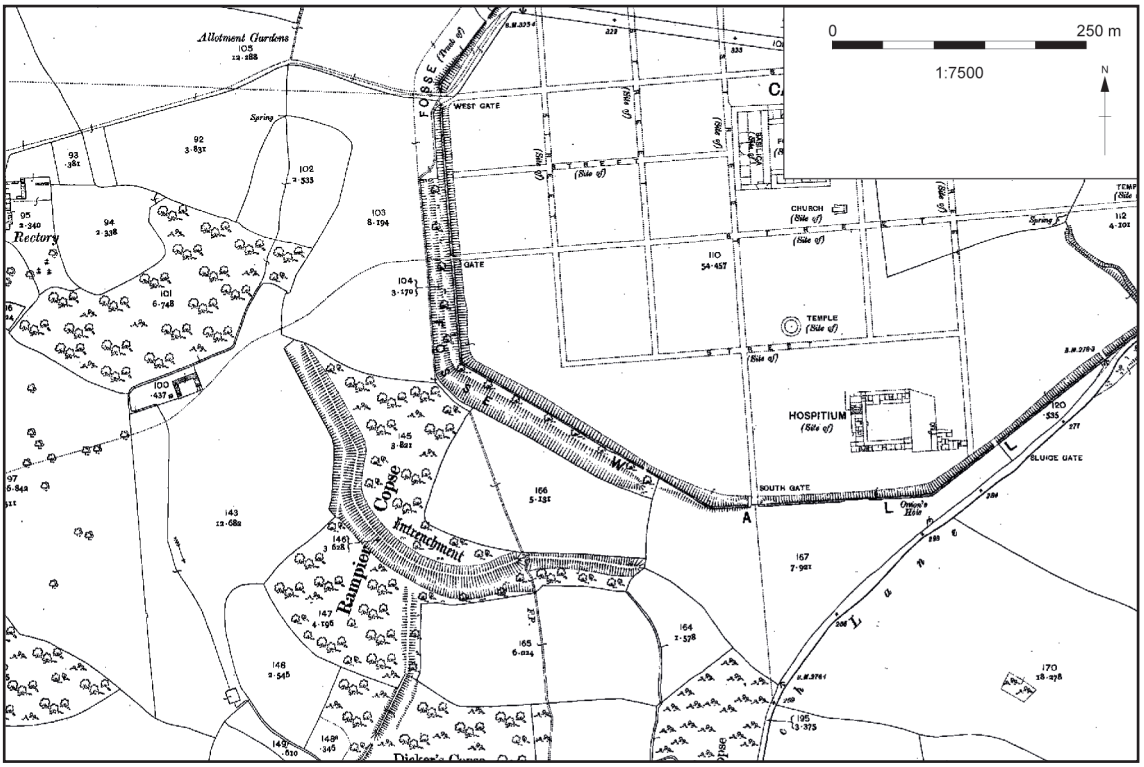

Figure 7. Extract of Ordnance Survey 6 inch mapping, 1896. © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019). Licence numbers 000394 and TP0024.

Ordnance Survey (Six Inch 1874 and 1896)

Although showing the Rampier Copse earthworks in considerably more detail than Coalt Hoare or Malauchlan, late 19th century Ordnance Survey mapping essentially tells the same story. The main earthwork consists of a crescent of bank with protruding extensions to the north-west and south-east. The north-western wing is continuous with the main bank, whilst there is a gap between the main bank and the south-eastern wing where it is crossed by a footpath. The bank has an external ditch. Dicker's Farm Dyke is shown approaching the main earthwork from the south-west, and for the first time, hints of ditch are shown on its eastern side. No relationship is shown between the Dyke and the main earthwork. No archaeological earthworks are depicted in the open parts of the survey area; however, the lines of the Roman roads approaching the south and west gates are straightened and formalised. Little change is evident on the revised mapping of 1896 (Fig 7), the only alteration being at the north-west end of the Rampier Copse earthwork where a small area of woodland in the south-east corner of area 2 has been cleared, and the trackway on the southern edge of area 2 removed.

Karslake (1900)

The first recorded excavations within the survey area were carried out by John Karslake in the first decade of the twentieth century. Frustratingly the locations of his trenches are not recorded. Karslake seems to have excavated at several locations on the main rampart, where he mentions the discovery of multiple cremations cut into its inner and outer faces (1910, 30). Ceramics probably associated with one of

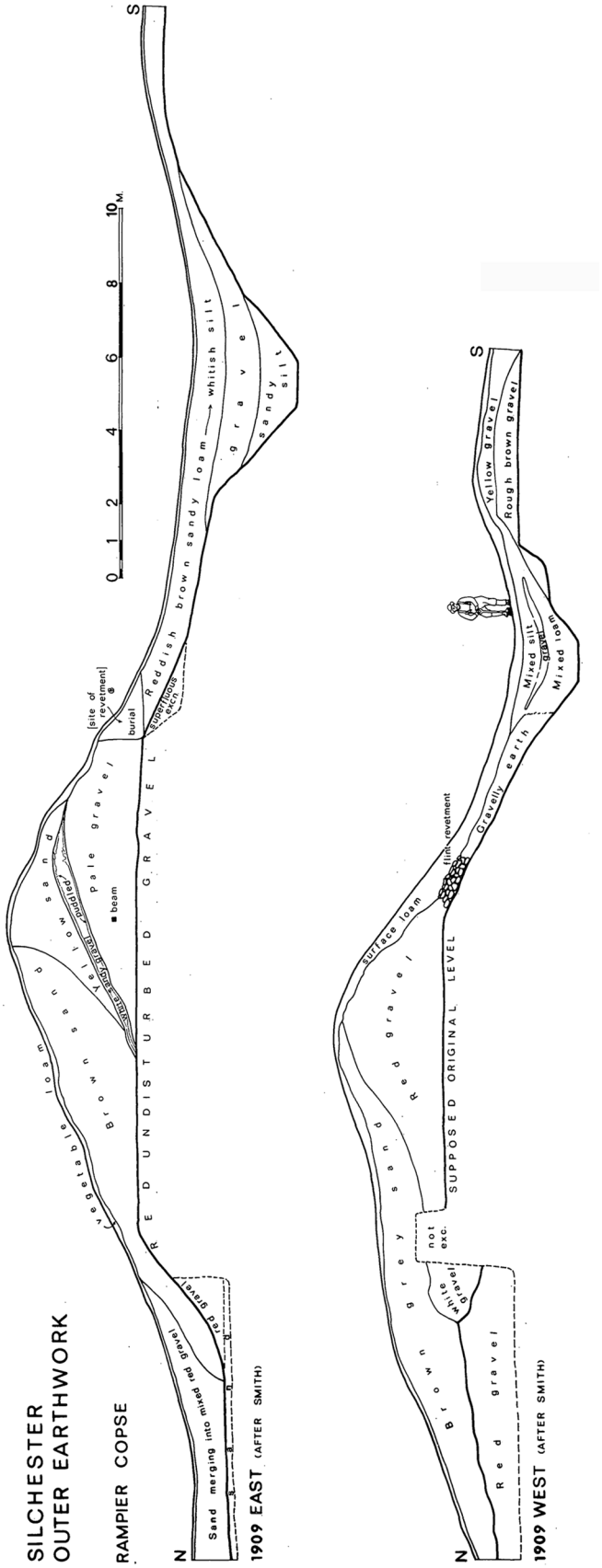

Figure 8. Society of Antiquaries 1909 sections across bank (3.2) and ditch (3.4). After Boon (1969, plate IX). Reproduced by kind permission of the Society of Antiquaries of London.

these cremations have subsequently been dated to the late first/early second century AD (Fulford and Timby 2001, 294; Creighton and Fry 2016, 374-375). Karslake also notes the presence of wattle work retaining fences associated with a spring at the base of the bank (1910, 31). Further excavation took place on the Roman road leading south-west from the south-west gate "*at the field gate to the north end of Rampiers*" (1910, 31), presumably the gap in the earthwork between areas 1 and 2. His report also makes reference to a series of circular huts, with hearths and gravel paths in the "*space between the outer entrenchment and the wall*", possibly referring to the area within the Rampier Copse earthwork, which he attributes to a native settlement which lay outside the town (1910, 331).

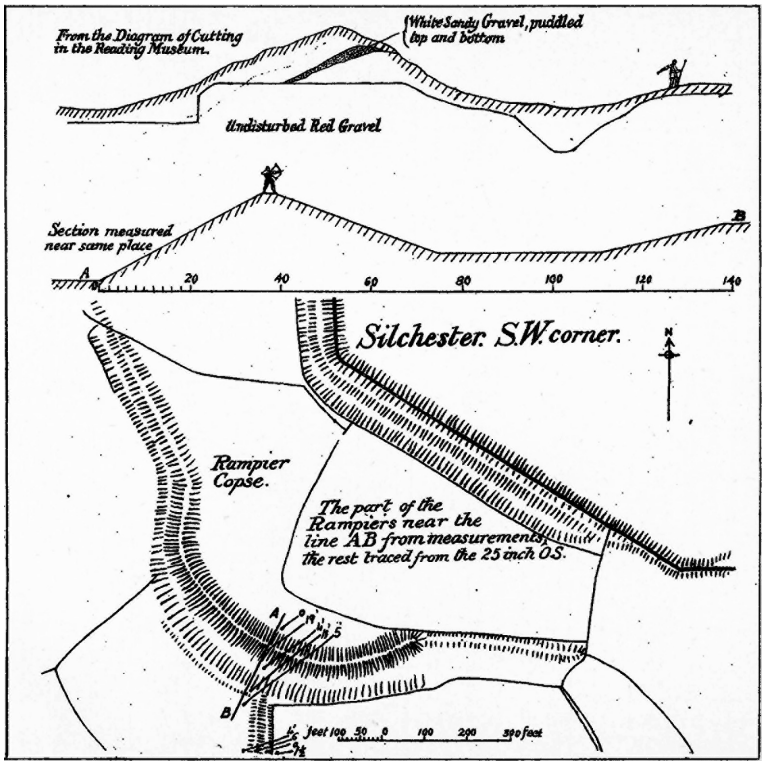

Figure 9. Williams Freeman's 1915 survey of Rampier Copse.

Society of Antiquaries (1909)

Extensive excavations were carried out on behalf of the Society of Antiquaries within the walls of the town between 1890 and 1908 (Creighton and Fry 2016, 22-27). A final season of excavation in 1909 focussed on the town's defences and their surrounding earthworks (St John Hope and Stephenson 1910). This included the excavation of two trenches cutting across the curved portion of the Rampier Copse earthwork (Fig 8 and see Fig 12). The first towards its western end covered a distance of "*nearly 1000 feet*" (1910, 317) extending from the south-west corner of the town. The second was a shorter trench towards its western end. These trenches produced no firm dating evidence for the earthworks, but did produce further evidence of cremations inserted into the top of the inner face of the earthwork (St John Hope and Stephenson 1910, 318 and 326-7). Excavations also took place on the approach to the town's southern gate.

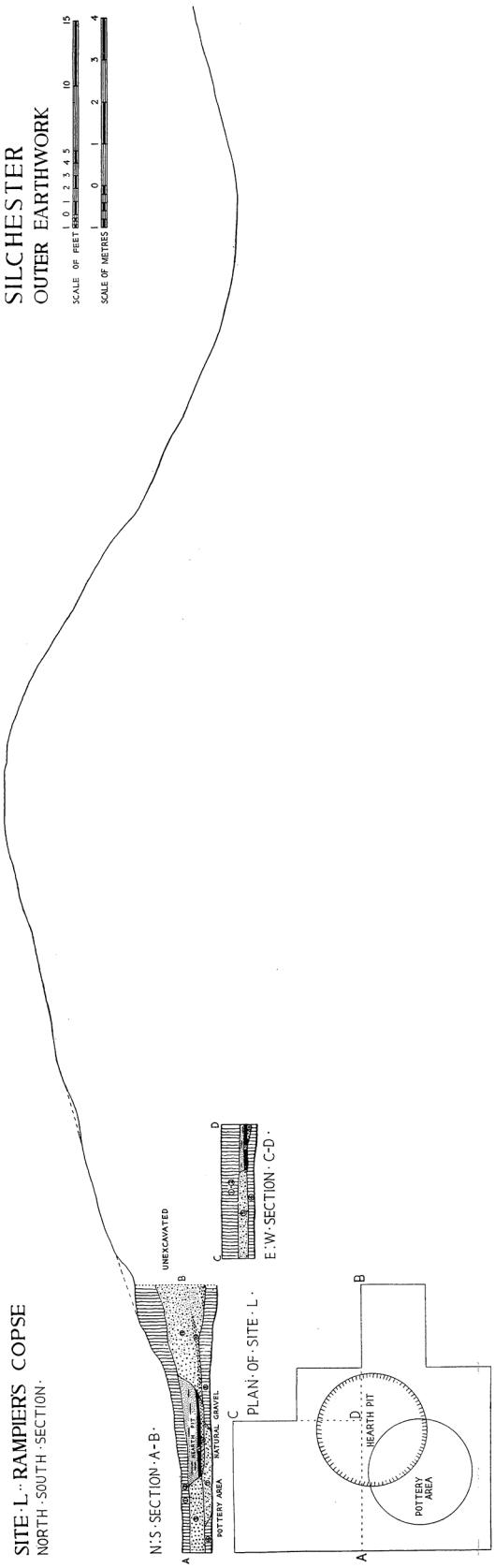

Figure 10. Cotton's 1939 section and profile across bank (3.2) and ditch (3.4). After Cotton (1947, plate XXXVIII). Reproduced by kind permission of the Society of Antiquaries of London.

Williams Freeman (1915)

Williams Freeman's plan of the Rampier Copse earthwork is substantially based on earlier Ordnance Survey mapping. He adds further detail and a single profile across the main earthwork immediately to the west of the Dicker's Farm Dyke (Fig 9). Williams Freeman remarks on the scale of the ramparts, and, after a previously unpublished section drawing from the 1909 excavations, discusses the composition of the main bank (1915, 319). He also discusses the Dicker's Farm Dyke, suggesting that it is "*one of those banks and ditches radiating out from British Camps, and which, as has been suggested elsewhere, may have served in pre-Roman times the purpose of both roads and boundary fences*" (1915, 323).

Cotton (1939)

Further excavation was carried out at Rampier Copse in 1939 by Cotton on behalf of the Ministry of Works. Cotton's excavations consisted of a series of small trenches focused on the curved portion of the main earthwork (Fig 10 and see Fig 12). Her largest trench, cut into the tail of the bank, produced Roman brick from what she saw as a primary context, leading her to interpret the Rampier Copse earthwork as early Roman in date (1947, 139-40; Fig 10). She concluded that "*The earthwork its self is built in a native tradition rather than a Roman, and it would therefore seem that it must have been erected by a collective of native peoples under the direct stimulus of Roman leadership*" (Cotton 1947, 140). A further trench excavated close to the gap between the eastern end of the curving main earthwork and the south-eastern projection revealed ditch deposits suggesting that the gap was not an original entrance (Cotton 1947, 140).

St Joseph (1945-52)

In the years following the Second World War aerial photography revealed the first traces of a further pre-town 'inner' earthwork inside the previously known outer earthwork, and in places overlain by the later town wall (St Joseph 1953, 89).

Boon (1954-8)

The next major phase of work to have a bearing on the survey area was carried out by Boon in 1954-8. This work focused on elucidating the nature of the inner and outer earthworks. Boon proposed that both the inner and outer ramparts formed continuous circuits enclosing the Iron Age oppidum (Fig 11). As part of this work Boon (1969, 16-8) made two important observations about the Rampier Copse earthwork. Firstly, drawing on Colt Hoare's (1821) plan, and on field observations, he suggested that the curving element of the main earthwork, and its apparent continuation into the field to the north, formed part of an earlier enclosure or "*Salient Dyke*", which was subsequently modified and incorporated into the outer earthwork (Boon 1969, 16-7). Secondly, Boon reappraised the earlier excavations carried out by St John Hope and Stephenson, and Cotton. He concluded that the early Roman material recovered during Cotton's excavation was redeposited within the infill of a quarry hollow at the back of the main bank (1969, 17-18).

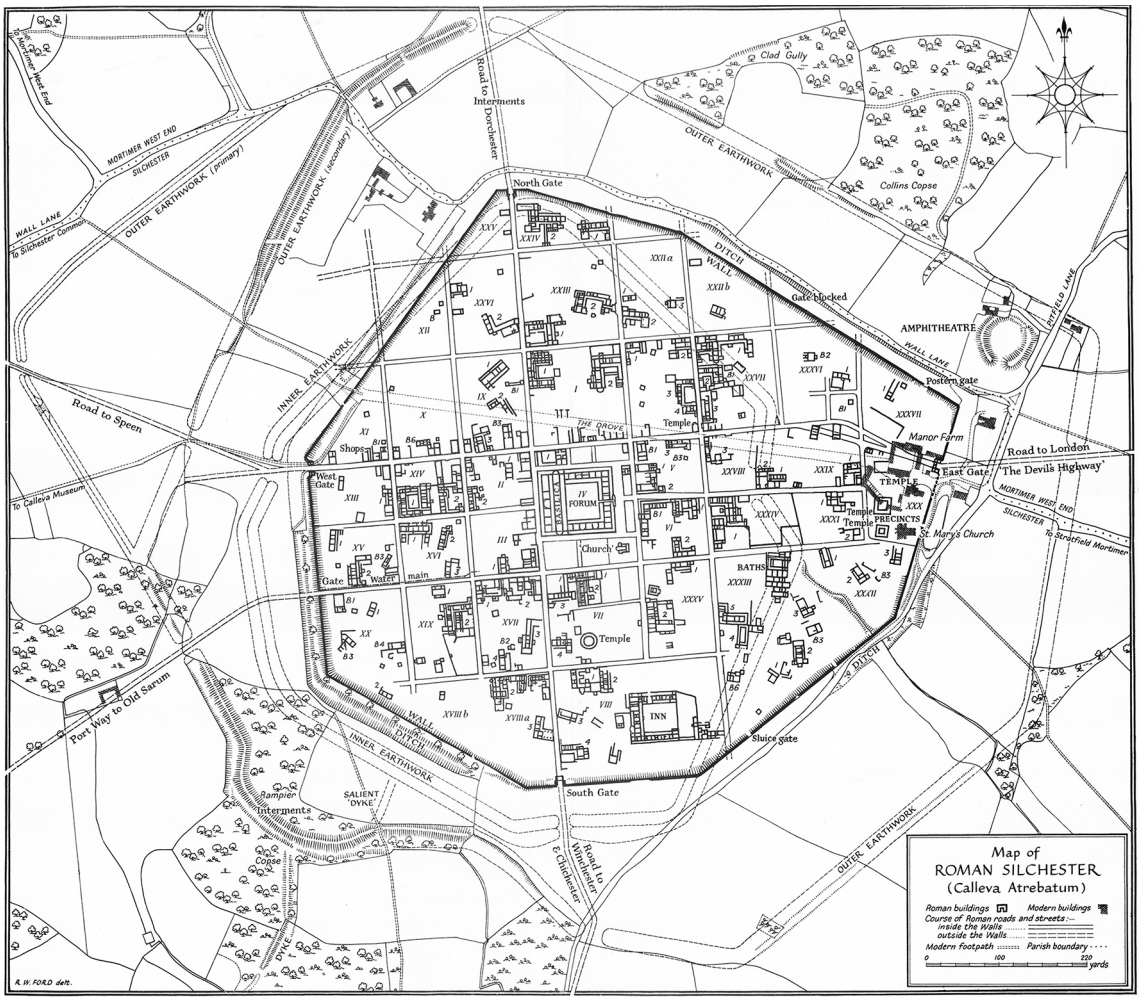

Figure 11. Boon's plan of Silchester (MP_SRT0002 © Historic England).

Informed by aerial photography and excavation Boon proposed the outer earthwork splitting into two lines to the north of the extant earthworks in area 2. Continuing the alignment of the area 2 earthworks to the north-west he postulated a primary phase of the outer earthwork (1969, pl 1,15). He then suggested a secondary phase of the outer earthwork which turned abruptly to the north-east into area 3 to join the extant earthwork at Sandy's Lands (1969, pl 116). At the opposite end of the main Rampier Copse earthwork Boon proposed that the outer earthwork follows the line of a lynchet south-east across the middle of area 7.

Boon postulated the line of the inner earthwork running continuously between *c.* 50 and 150m outside, and approximately parallel with, the town wall in areas 5, 6 and 7 (1969, plate 1). He excavated several trenches into the inner earthwork at, or close to, the point where it is breached by the road leading from the south gate of the town in area 7. Traces of pre-Roman occupation were encountered underlying the inner earthwork, indicating a very late Iron Age or very early Roman date for its construction (Boon 1969, 14).

Boon (1969, 35-6) interpreted the Dicker's Farm Dyke as a defensive structure and draws comparisons with the oppidum at Colchester (Camulodunum). In an earlier

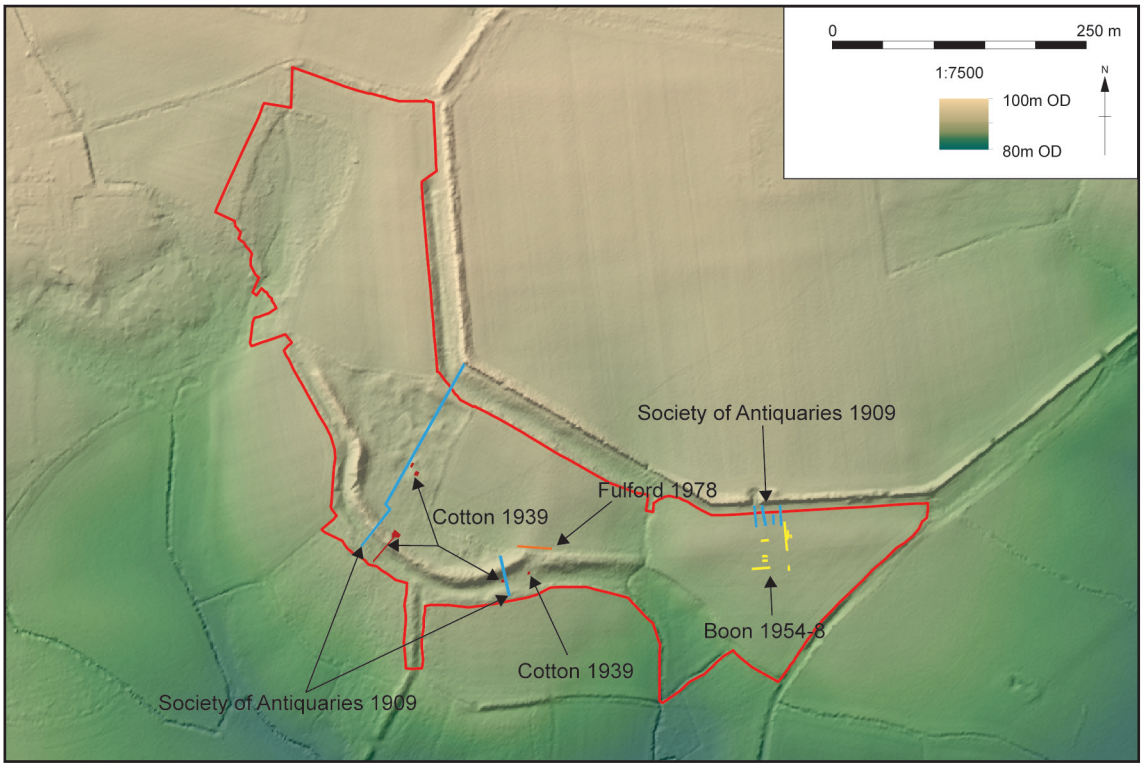

Figure 12. Location of twentieth century excavations at Rampier Copse. Trench locations derived from Creighton and Fry (2016b, supplementary data, 05_Past_Excavation_Locations). Topography derived from 1m lidar © Environment Agency copyright/database right 2019. All rights reserved.

publication he suggested that the Dicker's Farm Dyke is truncated by, and therefore earlier than, the outer earthwork at Rampier Copse (1957, 61).

Ordnance Survey field visit and antiquity model (1957)

Carried out during Boon's investigation of the inner and outer earthworks, the 1957 Ordnance Survey field visit by field investigators A Clarke and WC Woodhouse, and the resultant antiquity model, provides the basis for modern mapping of the study area (Fig 13). In areas 1 and 4 the Antiquity Model mostly shows subtle alterations to previously mapped features (compare red and black hachures in Fig 13). There are several significant additions to previous mapping on the south-western (outer) edge of the main ditch at the junction between areas 1 and 4. This includes a rounded terminus to the ditch on the eastern side of Dicker's Farm Dyke, and a hint of a counterscarp bank on the main ditch opposite the end of the Dyke bank. Further to the west the pronounced counterscarp bank on the main ditch, and an associated length of outer counterscarp are shown for the first time. To the north-west the continuation of the Rampier Copse earthwork into area 2 is shown for the first time. The south-eastern protrusion to the main earthwork is shown continuing into area 7 as a pronounced lynchet crossing the open field.

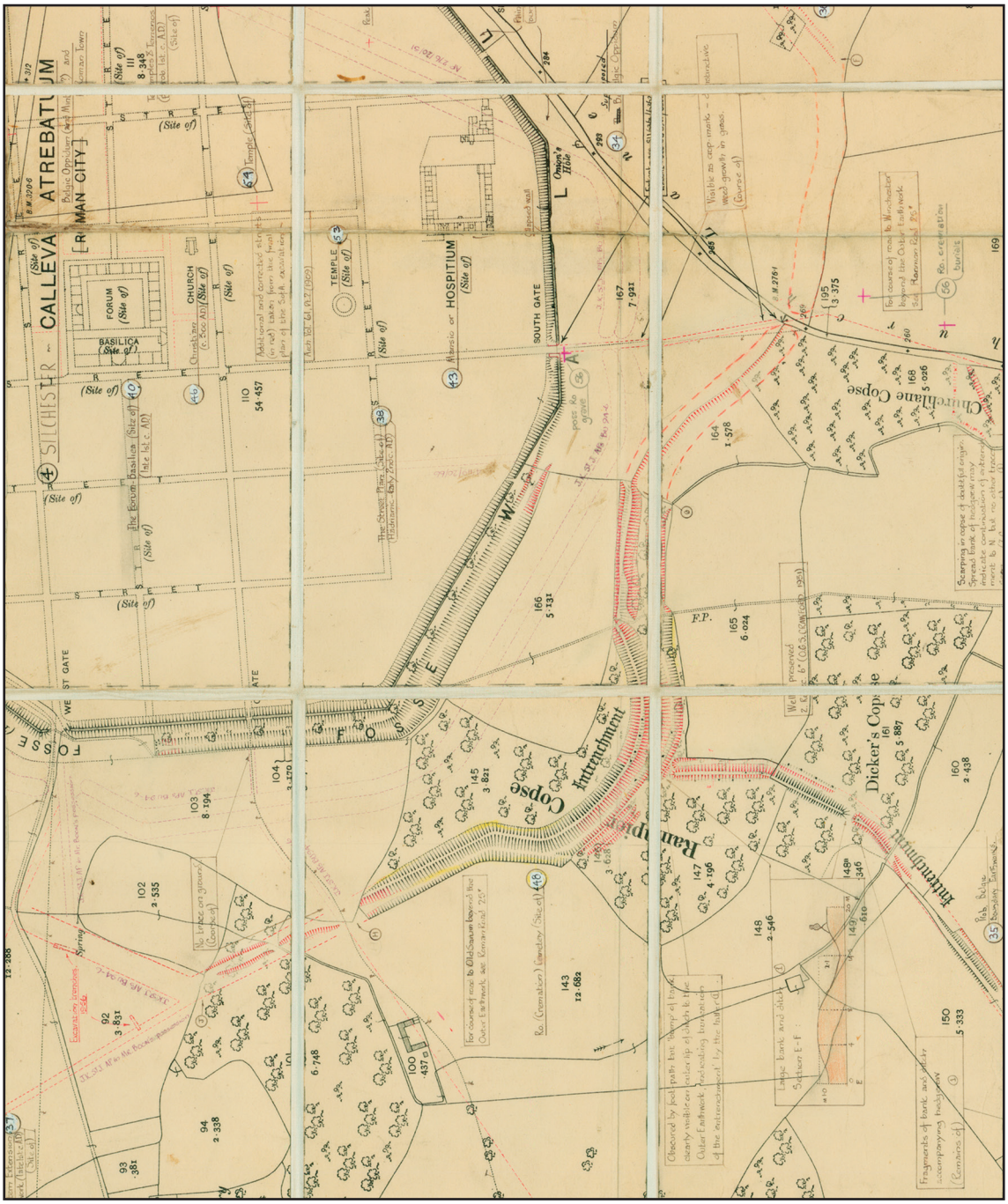

Figure 13. Ordnance Survey Antiquity Model for Silchester (1957). (1221084 Historic England Archive).

There appears to have been a degree of collaboration between Boon and the Ordnance Survey Archaeology Division during the 1950s. Boon's postulated courses of the inner and outer earthworks derived from St Joseph's aerial photographs are shown on the Antiquity Model. Clarke's 1957 addition to the record card accompanying the Antiquity Model echoes Boon's assertion that the Dicker's Farm Dyke is truncated by the Rampier Copse earthwork (Clarke 1956).

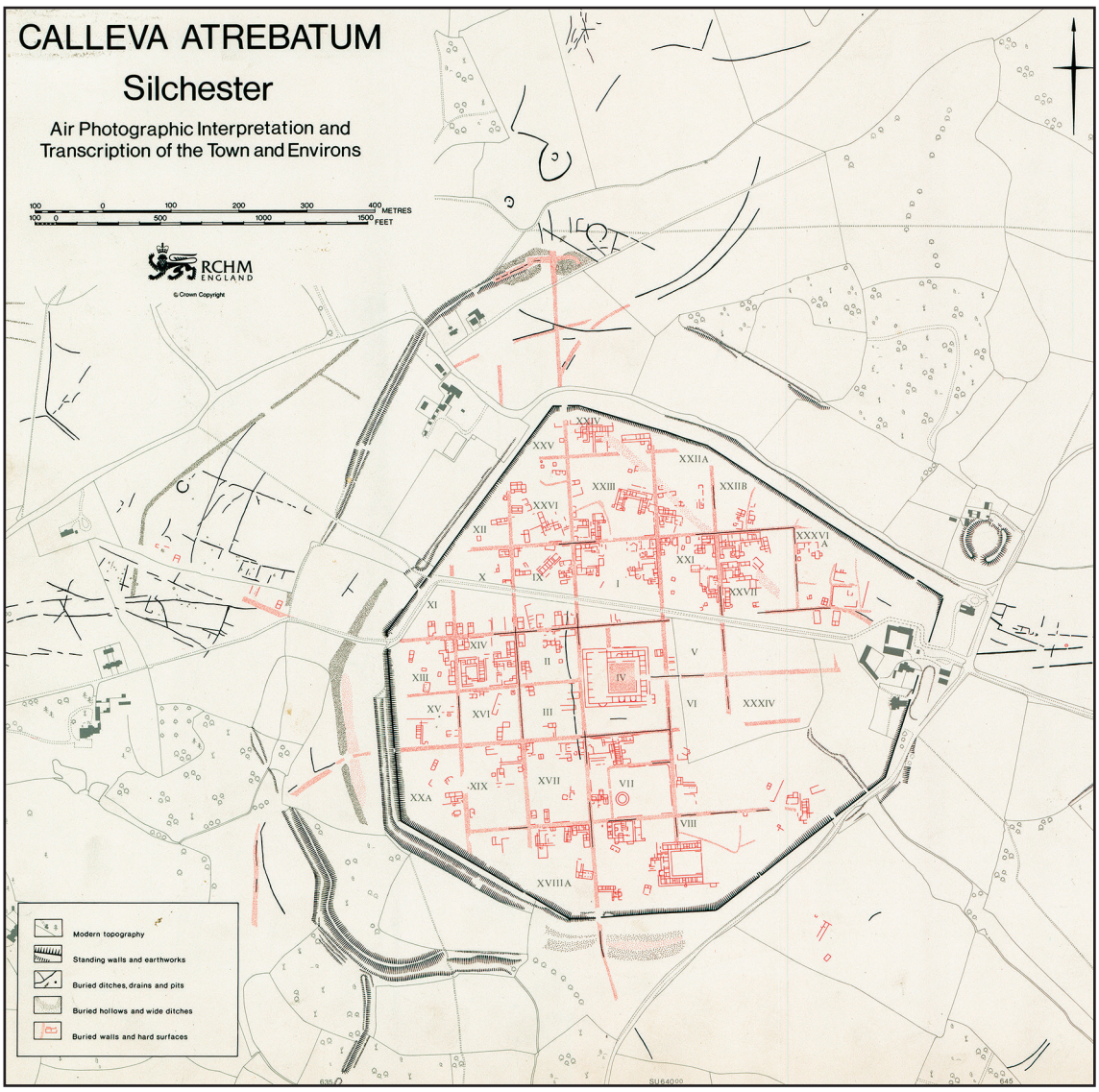

Figure 14. Aerial photographic interpretation and transcription of Silchester and environs in 1996 (ME000023 © Historic England).

Corney (1969-81)

Between 1969 and 1981, Corney carried out a programme of fieldwalking in the areas surrounding the town. Surface collection of Iron Age and Roman ceramics was undertaken in areas 5, 6 and the northern part of area 7. Discrete scatters of late Iron Age ceramics were identified within each of these areas. Notably a scatter of first century BC ceramics comes from approximately the line of the bank of the earlier enclosure (Corney 1984, 287) in area 6; however, no Iron Age material was recovered from the interior of the enclosure (Corney 1984, Fig 85).

Fulford (1978)

The most recent excavation in the study area was carried out by the University of Reading in 1978 as part of a series of trenches investigating the course of Boon's proposed outer earthwork (Fulford 1984, 35). One of these trenches was excavated

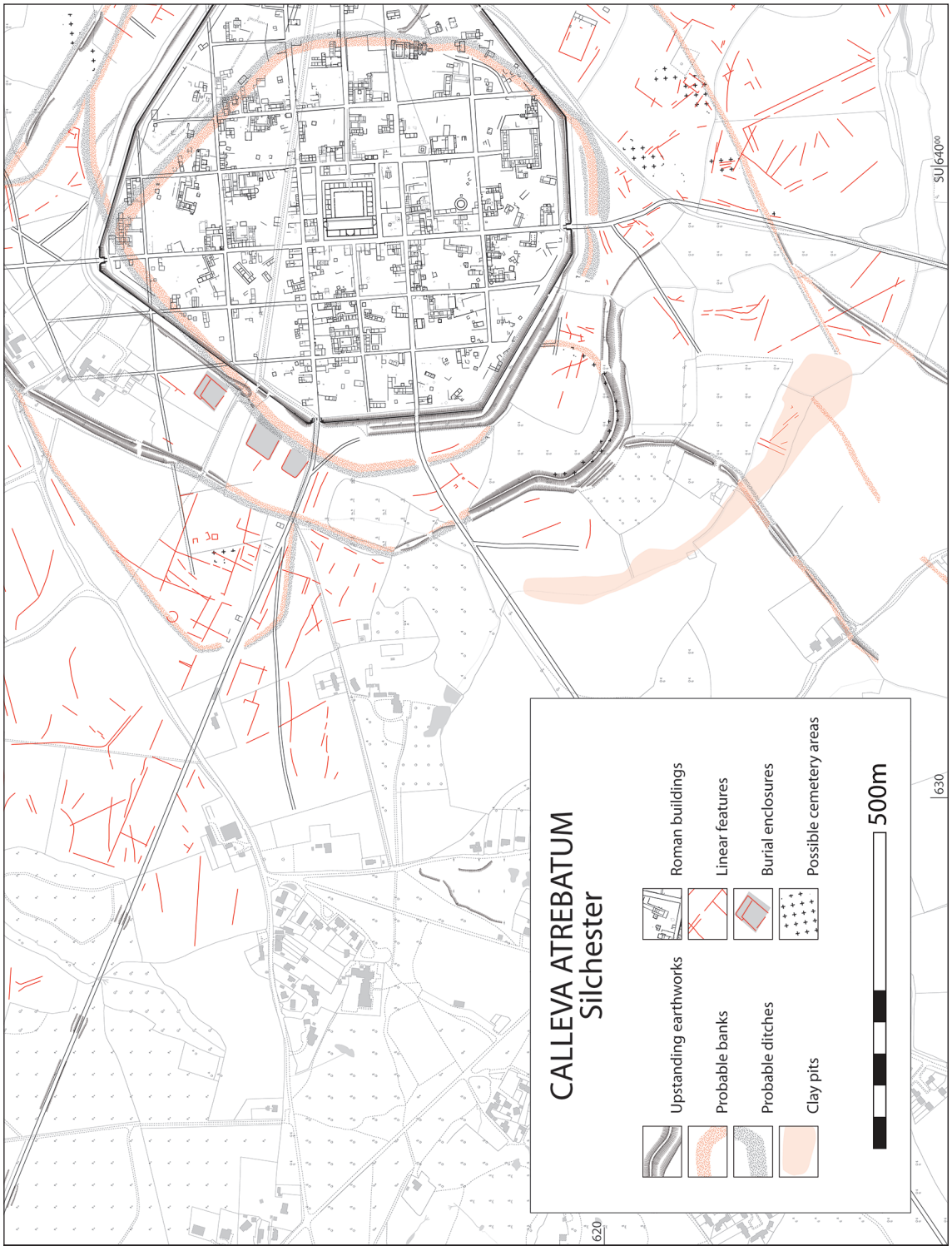

Figure 15. Location of archaeological features in the Rampier Copse area (adapted from Creighton and Fry 2016b, supplementary data, Silchester main features).

across the line of Boon's '*Salient Dyke*' on the southern edge of area 6 (see Fig 12). Fulford's excavation did not conclusively prove the presence of the earlier enclosure (1984, 83). Based on evidence from trenches outside the current study area, Fulford goes on to call into question Boon's (1969) work. He suggests that there is no evidence for a continuous outer earthwork, rather that the Rampier Copse

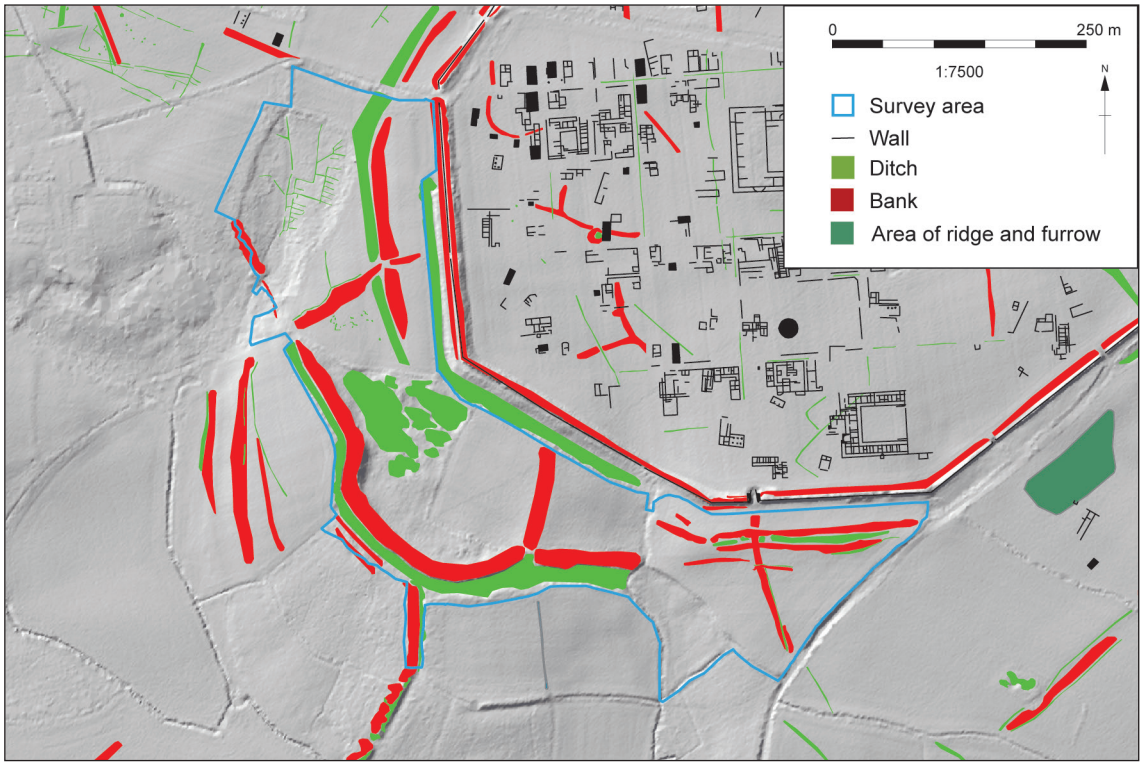

Figure 16. Aerial interpretation and mapping of the Rampier Copse area (after Truscoe 2017). Topography derived from 1m lidar © Environment Agency copyright/database right 2019. All rights reserved.

and Sandy's Lands earthworks represent part of a complex of possibly incomplete banks designed to isolate Iron Age *Calleva* at the eastern end of the gravel plateau (1984, 83).

Bewley and Fulford (1996)

A review of all aerial photography available at the end of 1995 resulted in an updated plan of Calleva and its surrounding area. Bewley and Fulford (1996, 388 and Fig 14) heavily revised Boon's (1969) mapping of the inner and outer earthworks. Pertinent to the current survey area, the lines of Boon's primary and secondary outer earthwork to the north of area 2 were removed, severing the link between the Rampier Copse and Sandy's Lands earthworks. Outside the south-west corner of the town the course of the inner rampart across area 6 is also removed, as is the proposed continuation of the outer rampart across the centre of area 7. Significantly the line of Boon's 'Salient Dyke' earlier enclosure in area 6 was not plotted.

Creighton and Fry 2016

In combination with a comprehensive review of all research to date, Creighton and Fry (2016) published the results of extensive geophysical survey within and surrounding Calleva, complemented with an analysis of available lidar data (Fig 15). This research included new work in areas 5, 6 and 7 of the current survey area.

Based on slightly inconclusive results from geophysical survey, in combination with an apparent earthwork visible in lidar data, Boon's (1969) 'Salient Dyke' hypothesis

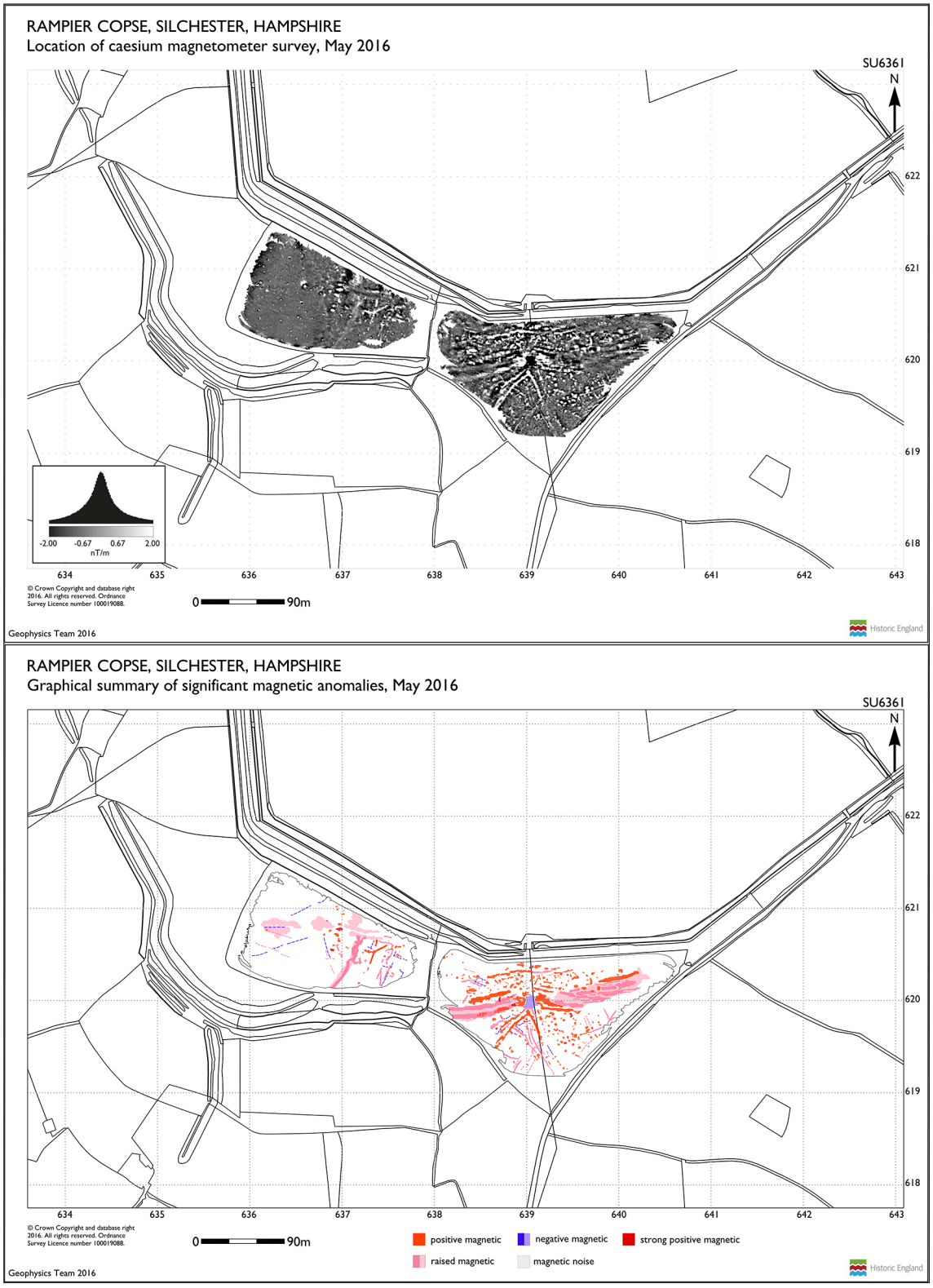

Figure 17. Historic England magnetometer survey of areas 6 and 7 (after Linford et al 2019).

is resurrected (Creighton and Fry 2016, fig 9.6). They suggest that the curving element of the main Rampier Copse earthwork did once continue across area 6 forming an enclosure approximately 2.2ha in extent (2016, 320). Their assumption is that the northern/north-eastern edge of the enclosure was removed by the later construction of the town wall ditch (2016, 322). They also point to the 'quiet' nature of the gradiometer data within the postulated enclosure when compared to the mass of magnetic anomalies apparent to the east outside its bank (2016, 320). A possible entrance way in the enclosure's eastern edge is also suggested (2016, 320).

In area 3 Creighton and Fry (2016, fig 6.52 (feature 13), 235) suggest that lidar data hints at an earthwork connecting the northern limit of the outer earthwork within the Rampier Copse complex (in area 2) with the southern extent of the Sandy's Lands earthwork. At the other end of the main Rampier Copse complex they suggest that the outer earthwork continues to its termination at the south-east limit of the current study area as the lynchet dividing area 7 (2017, fig 9.7). They suggest an early Roman (after the late first century AD) date for the construction of the outer earthwork in the Rampier Copse area (Fig 15; 2016, pl 9.9, 327).

In area 5 Creighton and Fry's gradiometer survey shows the inner earthwork running roughly parallel to the town wall, and apparently terminating close to its south-west corner (2016, 210, 234, 308). No sign of the inner earthwork was observed in area 6, and it is suggested that it has been removed by the town defences in this area (2016, 252, 309). Hints of the inner earthwork are seen in the gradiometer data in the eastern half of area 7 (Creighton and Fry 2016, fig 6.64 (feature 17), 252). They suggest the inner earthwork is late Iron Age in date (Creighton and Fry 2016, fig 9.9; 325).

Creighton and Fry's surveys show the road leading from the town's south gate bifurcating to the south of the inner earthwork. The branch leading south towards Winchester and Chichester runs towards the south-east corner of area 7 (2016, fig 6.64), whilst the branch leading west towards Old Sarum runs south-west crossing the wet ground in the southern half of area 7 (2016, 248, fig 6.64). The road leading from the town's south-west gate towards Old Sarum can be seen running south-west across area 5 (Creighton and Fry 2016, fig 6.52 (feature 8), 234).

Truscoe (2017)

As part of the aerial photographic and lidar survey undertaken during the Silchester Environs Project (Truscoe 2017) all visible archaeological features in the Rampier Copse survey area were remapped (Fig 16). Two significant additions to previous mapping are an area of post-medieval quarrying in the northern part of area 1, and a network of post-medieval drainage channels in area 8.

Linford et al (2019)

As part of the Silchester Environs Project magnetometer (Fig 17) and ground penetrating radar (GPR) surveys were carried out by Historic England in areas 6

and 7 of the Rampier Copse survey area (Linford *et al* 2019). In area 6 results from the magnetometer survey reinforce those from Creighton and Fry's (2016) survey. The eastern bank of the earlier enclosure is seen, with a ditch on its outer edge and evidence of a possible entrance. The area inside the enclosure is relatively clean of magnetic anomalies when compared to the area immediately to the east. In area 7 the survey shows the line of the inner earthwork apparently terminating to the west of the south gate above the valley of the eastern stream.

DESCRIPTION AND PHASING

Results of the survey are presented as four principal drawings at the end of this report. Figure 40 gives an overview of the survey at a scale of 1:2500. Figures 41, 42 and 43 show the survey as a series of annotated hachure plans and profiles at a scale of 1:1250. Earthwork features in figures 41 to 43 are numbered according to 8 phases of activity (see table below). Figure 44 shows the approximate extent of surface traces of badger damage.

Phase	Numbering prefix
Early Enclosure/Hillfort	1
Dicker's Farm Dyke	2
Extension and enhancement (the outer earthwork)	3
The inner earthwork	4
Roman roads	5
Quarry	6
Woodland banks and other boundaries	7
Previous excavations	8

Hillfort?

The earliest earthworks in the study area comprise the partial remains of a sub-circular univallate enclosure with an internal area of approximately 2.2ha in areas 1 and 6. In area 1 the southern and south-eastern elements of the enclosure bank (1.1) are buried by, but determine the morphology of the curving central element of bank (3.2). To the north-east in area 6 (Figs 18 and 19) the line of the enclosure bank is seen as a very spread earthwork (1.2) approximately 50m wide by 1m high (see profiles 1 and 2). Earthwork (1.2) runs north across area 6 before being cut by the town ditch. To the north-west in area 1 the line of the enclosure bank begins to turn north-east before it abruptly stops. If the enclosure was roughly symmetrical in plan the line of its north-western edge would be expected to arc north-east towards the position of the south-west corner of the town defences. This area has been heavily disturbed by quarrying (6.1) and no surface traces of the enclosure were recorded during the survey. A step (1.3) in the base of bank (3.2) may be the only surviving trace of the north-western element of the enclosure. It is assumed that the northern limits of the enclosure were removed during the construction of the town defences. No surface traces of an external ditch for enclosure (1.1/1.2) were recorded by the survey. It is likely that all traces of any ditch within area 1 were removed by ditch (3.4) accompanying enhanced bank (3.2). In area 6 a magnetic anomaly outside (to the east of) bank (1.2) is likely to indicate the presence of an in-filled ditch (see Fig 17 and Linford *et al* 2019).

Dicker's Farm Dyke

An approximately 80m length of the Dickers Farm Dyke linear earthwork was surveyed south of bank (3.2) and ditch (3.4). Here the Dyke (Figs 20 and 21) consists of bank (2.1) measuring 12.5m wide by 1m high with a ditch (2.2) measuring 7m wide by up to 1.3m deep on its eastern edge (see profile 3). The eastern edge of ditch (2.2) appears to have been steepened presumably when it formed the eastern edge of area 4. Ditch (2.2) appears to wrap around the northern terminus of bank (2.1) but at 0.6m deep is noticeably shallower in this area.

Figure 18. Plough-levelled remains of enclosure bank (1.2). Looking south towards Rampier Copse with enhanced bank 3.2 under woodland in the background (DP218209 © Historic England, photograph Steve Baker).

Figure 19. Plough-levelled remains of enclosure bank (1.2). Looking north towards the southern defences of Calleva under woodland (©Historic England).

Figure 20. Looking south along the Dicker's Farm linear earthwork bank (2.1) (©Historic England).

Figure 21. Looking south along the Dicker's Farm linear earthwork ditch (2.2) (©Historic England).

Figure 22. Looking east towards the northern end of the Dicker's Farm linear earthwork (2.1) to the right and bank (3.7) to the left, scale 1m (©Historic England).

Earthwork evidence for the stratigraphic relationship between Dicker's Farm Dyke and the rest of the Rampier Copse complex is difficult to determine. The Dyke runs towards the southern-most extent of enclosure (1.1) and enhanced earthwork (3.2) suggesting that one or both of these features predates its construction. The Dyke terminates approximately 8m south of ditch (3.4) with neither its bank (2.1) or ditch (2.2) slighting it. At this point a mound (3.7) measuring 10m long by 7m wide (Fig 22) sits on top of the outer edge of ditch (3.4). Two potential sequences are presented here:

1. If mound (3.7) is interpreted as being derived from the construction of the Dyke (specifically the northern end of ditch (2.2) this would indicate that the Dicker's Farm Dyke post-dates the excavation of ditch (3.4), therefore post-dating both enhanced bank (3.2) and enclosure (1.1).

2. However, if mound (3.7) is interpreted as an element of the fragmentary remains of an enhanced counter scarp (3.6/3.8/3.9/3.10) to ditch (3.4) in this area, this would suggest that the Dicker's Farm Dyke predates enhanced bank (3.2) and (ditch 3.4).

The second interpretation is favoured, and it is suggested that the Dicker's Farm Dyke was constructed after, and is therefore aligned upon, enclosure (1.1/1.2). The original relationship between the Dyke and enclosure (1.1/1.2) was then removed by the construction of enhanced bank (3.2) and the digging of ditch (3.4).

Extension and enhancement (the outer earthwork)

At some point after its construction, enclosure (1.1/1.2) is massively altered. Its southern and western elements (1.1) are incorporated into a much bigger, north-west to south-east running curvilinear earthwork (3.2). Enhanced bank (3.2) (Figs 23, 24 and 25) measures between 20 and 25m wide at its base, between 3 and 5m wide at its top, and between 3.5 and 5m in height (see profiles 5-10). There are several pronounced undulations in the top of bank (3.2); these probably reflect a combination of former excavation trenches (see below), and damage caused by badgers and fallen trees. Bank (3.2) has abrupt termini at its north-western (Fig 26) and south-eastern ends.

The line of bank (3.2) is continued by much slighter banks (3.1) to the north-west and (3.3) to the south-east. Bank (3.1) continues for a distance of approximately 40m and is a maximum of 18m wide by 1.2m high (see profile 4). Bank (3.3) (Figs 27 and 28) continues downslope for a distance of approximately 100m before terminating close to the western bank of the eastern stream. At up to 20m wide by 1.7 m high it is a more substantial feature than bank (3.1) (compare profiles 4 and 11). The apparent gap between the western end of bank (3.3) and the eastern end of bank (3.2) shown on all previous historic mapping was not observed. Any impression of a gap is caused by the line of a footpath cutting across the earthworks at this point.

Banks (3.1, 3.2, 3.3) are fronted by ditch (3.4) on their western, south-western and southern sides. Ditch (3.4) (Fig 29) varies in size between 10m wide by 0.75m deep alongside bank (3.1) (see profile 4), to up to 11m wide by 1.3m deep alongside enhanced bank (3.2) (see profiles 5 to 10). To the south of bank (3.3) ditch (3.4) is even bigger at 15m wide by 1.6m deep (see profile 11).

Ditch (3.4) has an intermittent counterscarp bank (3.5) on its outer edge. It is present in the areas of banks (3.1) and (3.2) where it is up to 3m wide by 0.5m high, and appears to fade out to the south of bank (3.3). The counterscarp is most pronounced at (3.6) in the area of the slightly flattened south-west facing edge of bank (1.1/2.2). Here for a distance of approximately 80m the counterscarp (Fig 30) measures 7m wide by 0.5m high (see profile 8). Enhanced counterscarp (3.7) is fronted by an additional bank (3.9/3.10) which measures 55m long by 9m wide by 0.6m high.

The line of bank (3.1) continues to the north-west into area 2 after a gap of approximately 40m. Here bank (3.11) measuring 9.5m wide by 0.6m high (see profile 12) continues downslope to the western stream (Fig 31). This line is continued on the western side of the stream as bank (3.12) which measures 11m wide by 0.25m high (Fig 32 and see profile 13). The southern end of bank (3.12) has been covered by garden waste. Neither banks (3.11) or (3.12) display any trace of a ditch on their western edge.

Figure 23. Looking north-west from ditch (3.4) towards enhanced bank (3.2), (DP218211 © Historic England, photograph Steve Baker).

Figure 24. Looking south-west from the top of enhanced bank (3.2) across ditch (3.4) (©Historic England).

Figure 25. Looking east towards the curving inner edge of enhanced bank (3.2) (©Historic England).

Figure 26. Looking south-east along bank (3.1) with north-eastern end of enhanced bank (3.2) in the background, scale 1m (©Historic England).

Figure 27. Looking east along bank (3.3) (©Historic England).

Figure 28. Looking south-east towards bank (3.3) under woodland (©Historic England).

Figure 29. Looking north-west along ditch (3.4), scale 1m (©Historic England).

Figure 30. Looking north-west along counter scarps (3.9) to the left and (3.8) to the right, scale 1m (©Historic England).

Figure 31. Looking north-west along bank (3.11) downslope towards the western stream, scale 1m (©Historic England).

Figure 32. Looking north-east across bank (3.12), scale 1m (©Historic England).

The inner earthwork

Traces of the inner earthwork (4.1) were recorded in area 7 running parallel with, and approximately 25m outside, the southern edge of the town defences (Figs 33 and 34). It occupies the very edge of the Silchester plateau with natural topography beginning to drop away immediately to the south. Inner earthwork (4.1) is visible as a large spread bank approximately 30-35m wide by 0.7m high, with no surface traces of either an inner or outer ditch (see profiles 15 and 16). At its eastern end it continues beyond the survey area under Church Lane. At its western end it appears to terminate before the ground drops away towards the eastern stream.

No traces of the inner earthwork were recorded in area 6. Two slight south facing scarps (4.2) and (4.3) were recorded running approximately parallel with the south-western face of the town defences (profile 17). Scarp (4.2) appears to be overlain by enclosure bank (1.2). Both (4.2) and (4.3) are considered to be natural topographic features probably relating to the edge of the Silchester Gravels.

In area 5 the inner earthwork was recorded as a low spread bank (4.4) running parallel with, and approximately 15m outside, the town's defences (Fig 35). Bank (4.4) is between 30 and 50m wide and up to 1m high (see profiles 18 and 19).

Roman roads

Surface traces of two Roman roads were recorded. In area 7 road (5.1), leading south towards Winchester and Chichester, was recorded as a 27 wide by 0.3m high causeway running from the edge of the survey area, next to the town's south gate, and slighting the northern edge of the inner earthwork (4.1). No surface expression of this road was recorded to the south of this point.

Slight traces were recorded of road (5.2) leading south-west towards Old Sarum across area 5. The road is visible as a break in the western edge of inner earthwork (5.2), and again as a very slight scarp (5.3) in the south-west corner of area 5. Creighton and Fry (2016, Figs 6.51 and 6.52) show road (5.2/5.3) clipping the southern edge of area 2. The current survey found no traces of the road within area 2. It is therefore suggested that the road ran centrally through the gap in the outer earthwork between areas 1 and 2.

Quarry

All traces of natural topography have been removed by a series of gravel quarries (6.1) in much of the northern part of area 1 (Fig 36). The quarries are deepest (up to 2m) towards the northern edge of area 1, and are shallower (0.5m) closer to the back of the main rampart (3.2). The quarries show a degree of internal structure being arranged in a series of irregular bays, separated in some instances by low banks. The central and southern parts of the quarries are wet, and a series of shallow ditches (6.2), typically 1.5m wide by up to 0.2m deep, have been dug in anattempt to drain this area.

Figure 33. Looking east along inner earthwork (4.1) towards Church Lane. Calleva southern defences to the left (©Historic England).

Figure 34. Looking west along inner earthwork (4.1) towards the eastern stream and Rampier Copse. Calleva southern defences to the right (©Historic England).

Figure 35. Looking east across the inner earthwork (4.4) towards Calleva western defences under woodland (©Historic England).

Figure 36. Looking north across quarrying (6.1), scale 1m (©Historic England).

Figure 37. Looking north-west along scarp (7.11), scale 1m (©Historic England).

Figure 38. Looking south-east along scarp (7.12).

Banks, boundaries and ditches

All of the wooded areas within, or bordering, the survey area are defined by a series of woodland banks (7.1) to (7.10). The woodland banks typically measure approximately 3m wide by 0.3m high, although some are slighter and intermittent.

Unlike all other potential elements of the outer earthwork in the study area (3.1/3.2/3.3), which face 'outwards' (i.e. to the south-west or south), scarp (7.11) on the eastern edge of area 3 faces 'inwards' (south-east) into area 8 (Fig 37 and see profile 14). On this basis it is suggested that this feature is not part of the outer earthwork, as proposed by Creighton and Fry (2016, fig 6.52 (feature 13), 235), but is part of a later boundary enclosing area 8, the topographic depression in which the western stream rises. Scarp (7.11) is approximately 5m wide by 1m high.

Feature (7.12) is a south-west facing scarp running north-west to south-east across area 7 (Fig 38 and see profile 20). It is suggested that this feature is a lynchet resulting from the cultivation of the northern part of area 7 against a, now removed, field boundary shown on historic mapping (see Figs 5-7). This runs contrary to Boon's (1969, Fig 1) and Creighton and Fry's (2017, Fig 9.7), suggestion that it is a continuation of the outer earthwork. The narrow gap between the eastern end of this feature and woodland bank (7.8) is likely to be the lane shown on historic mapping (see Figs 5 and 6). Spread (7.13) on the southern edge of scarp (7.12) is probably the result of cattle erosion.

The western stream drains area 8 before running south bisecting area 2 in a channel (7.14) measuring approximately 4m wide by 0.6m deep. The eastern stream rises inside the town's defences and then runs south between areas 6 and 7, in a 2.6m wide by 1.3m deep channel (7.15). To the south of scarp (7.12) the eastern stream opens into a marshy area in the southern part of area 7. It is suggested that the southern end of the eastern stream was formerly canalised against the western edge of area 7 between scarp (7.16) and bank (7.17). Ditch 7.18 measures approximately 4m wide by 1m deep and runs at the foot of woodland bank (7.8) along the south-eastern edge of area 7.

Badger Damage

There is extensive surface evidence of badger activity in the area of the main Rampier Copse earthwork (approximate extent shown in blue in Fig 44). Its impact can be seen in the broadening of the top of bank (3.2) in a particular focus of activity towards its eastern end (also compare profile 9 with profiles 5, 7 and 8).

Previous excavations

During the course of the twentieth century a number of archaeological excavations have taken place within the survey area (see Fig 12). Slight traces of several of these excavations were observed during the current survey. Feature (8.1) coincides with the approximate size and location of one of Cotton's two small trenches in the area behind the main Rampier Copse earthwork. Similarly feature (8.2), originally

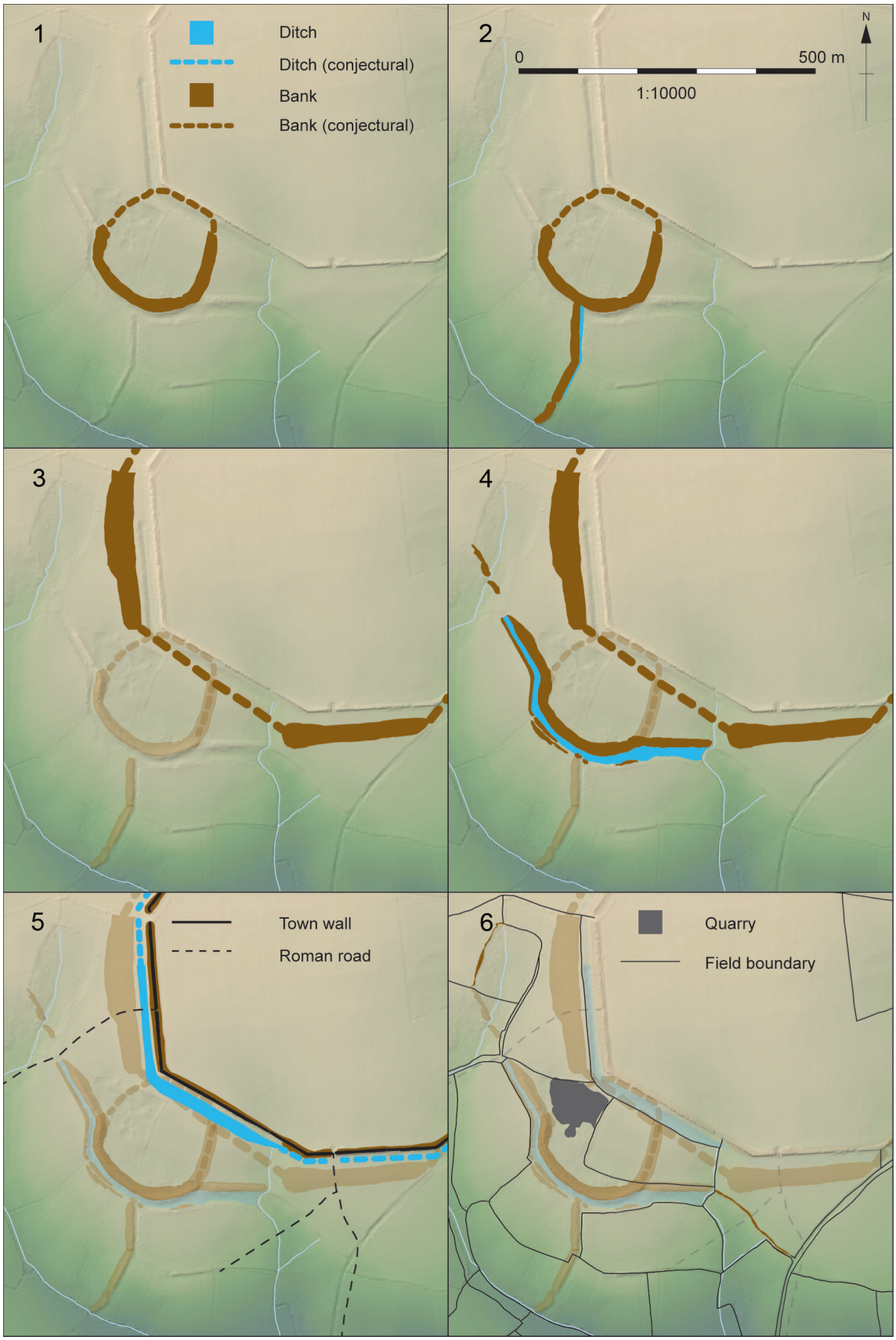

Figure 39. Development of the Rampier Copse earthwork complex. Topography derived from 1m lidar © Environment Agency copyright/database right 2019. All rights reserved. Water courses derived from OS data © Crown Copyright and database right 2019. All rights reserved. Ordnance Survey Licence number 100024900. Roman roads based on Creighton and Fry (2016b, supplementary data, 26_Grad_Interpretation_Roads).

thought to be badger damage, corresponds reasonably closely with the position of both Cotton's main trench L into the back of bank (3.2), and the southern end of the western of the Society of Antiquaries 1909 trenches. A slight depression (8.3) in the top of bank (3.2) corresponds closely with the location of the eastern of the Society of Antiquaries 1909 trenches.

As discussed above, the top of main bank (3.2) is uneven with several substantial dips in its profile. The majority of these features can probably be ascribed to damage caused by fallen trees and by badgers. It is possible, however, that some may mark the locations of Karslake's unrecorded excavations into bank (3.2) in the 1900s, themselves accentuated by later badger damage.

The nature of feature (8.4) cutting partially across the Dickers Farm Dyke is uncertain. It has relatively straight edges suggesting a possible unrecorded excavation trench, but it also within an area of badger damage.

DISCUSSION

Possible hillfort

The earliest phase of the Rampier Copse earthwork complex is the construction of a sub-circular enclosure on a minor promontory on the southern edge of the Silchester plateau, isolated to the east and west by the abrupt valleys of two small streams. Only the south-western, southern (1.1) and eastern (1.2) elements of the enclosure's ramparts remain, with the north-western and northern elements and much of its interior having been destroyed by later activity. The enclosure is assumed to have been approximately 2.2ha in extent; geophysical survey shows little trace of internal structures or activity, and a possible entrance in its eastern side (Linford *et al* 2019).

The existence of the enclosure has gone in and out of archaeological fashion since the early nineteenth century, clearly depicted by Colt Hoare in 1818, disappearing from the literature until Boon's work in the 1950s, not conclusively proven by Fulford in the 1970s, re-emerging as a probability in Creighton and Fry's recent work, and its existence reinforced by a combination of earthwork, geophysical and aerial survey as part of the Silchester Environs Project.

Boon (1969, 17) and Creighton and Fry (2016, 322-5) all draw comparisons between the size and morphology of the Rampier Copse enclosure, and the small univallate hillfort at The Frith/Pond Farm (Bayer and Bowden 2016), approximately 1.5km to the north-west on the northern edge of the Silchester plateau. Creighton and Fry (2016, fig 9.8, 325) go on to suggest that the Rampier Copse enclosure, The Frith hillfort and earthworks at Flex Ditch (approximately 1km to the west of Rampier Copse) form a series of "*non-settlement*" mid to late Iron Age enclosures on the edge of the Silchester terrace. The construction of The Frith is currently dated to the mid to late Iron Age (200-30 cal BC -2038 +/-29 BP, SUERC-65355, Barnett *et al* 2016, 7-8). Excavation and geophysical survey within The Frith indicated a similar absence of Iron Age activity (Barnett *et al* 2015, 6-7) to that suggested by geophysical survey inside the Rampier Copse enclosure. In the absence of independent dating for the Rampier Copse enclosure, a similar date seems probable.

Dicker's Farm Dyke

The relationship between the Dicker's Farm Dyke linear earthwork and the rest of the Rampier Copse complex is unclear. However, based on a combination of earthwork evidence, and radiocarbon dates from a comparable linear earthwork at Wood Farm just over 1km to the south-west (Barnett, Wheeler and Pankhurst 2016), a mid to late Iron Age date is assumed for this feature. On this basis it would make most sense if the Dicker's Farm Dyke was a linear boundary appended to the initial enclosure or hillfort at Rampier Copse (1.1/1.2), but predating its enhancement and extension as part of the outer earthwork/bank (3.2).

The northern end of the Dyke occupies the break of slope as the land drops away to the south-west. It is suggested that the Dyke is deliberately positioned to be visually

impressive when seen from this lower ground. Similarly enhanced (3.6/3.7/3.8) and additional (3.9/3.10) counterscarps immediately to the east and west of this location take similar advantage of the underlying topography to accentuate their form at the point where bank (3.2) is at its closest to the break of slope.

The outer earthwork

The most conspicuous phase of the Rampier Copse earthwork complex is the massive enhancement of the southern and south-western elements of the earlier enclosure (1.1), and their incorporation into a longer curvilinear earthwork extending approximately 250m to the north-west (3.1, 3.2, 3.11 and 3.12), and over 100m to the south-east (3.3). This group of features forms part of the outer earthwork on the western side of the late Iron Age oppidum.

It is likely that this earthwork represents multiple phases of construction, and is not necessarily a single planned entity. The central element of the earthwork, where it overlies the bank of the original enclosure or hillfort, and extending approximately 80m to the north-west (3.2), is most prominent. This structure constitutes something very different to the smaller continuation to the south-east (3.3), and the more diminutive continuation to the north-west (3.1/3.11/3.12).

The construction of earthwork (3.2) deliberately modifies and monumentalises elements of a pre-existing enclosure or small hillfort, potentially already a significant locale in its own right. With the possible exception of the 'The Tofts' at Stanwick, North Yorkshire (Haselgrove *et al* 1990, 58-72; Haselgrove 2016, 446-50; Welfare *et al* 1990, 29-32), and the relationship between the Whiteways Plantation enclosure and The War Dyke, West Sussex (Carpenter *et al* 2016, 31; Cotswold Archaeology 2016), the deliberate incorporation of an earlier monument into the earthworks defining a late Iron Age oppidum is unusual. Externally it transforms the side of the enclosure closest to the terrace edge into an imposing barrier overlooking and blocking access from lower ground to the south and west. Internally it creates an amphitheatre-like architecture within which a relatively small space is framed on three sides by a crescent of bank up to 5m tall. Cremations inserted into bank (3.2) (Karslake 1910; St John Hope and Stephenson 1910; Fulford and Timby 200; Creighton and Fry 2016, 374-5), indicate that this feature retained a significance into at least the late first/early second century AD. The question of how this structure, lying little more than 100m outside the walled town, was used during the remainder of the Roman period remains open.

It is unclear what happened to the northern and eastern sides of the enclosure circuit. Given their total removal by later activity to the north and north-west, and slight, spread remains to the east it is considered likely that they existed in something approaching their original, un enhanced form until they were slighted by the late-second-century AD construction of the town wall and ditch. The north-eastern corner of the enclosure may well have determined the position of the south-west corner of the town defences.

At its north-western end bank (3.2) terminates abruptly and its line is continued by a series of much smaller banks (3.1/3.11/3.12) across the valley of the western stream before running out at the northern edge of area 2. Contrary to Creighton and Fry's (2016, fig 6.52 (feature 13), 235) interpretation of lidar data, no surface traces were recorded of a linear feature connecting the northern end of bank (3.12) with the southern end of the outer earthwork at Sandy's Lands over 250m to the north. This once again severs the link between the Sandy's Lands and Rampier Copse earthworks.

At its south-eastern end bank (3.2) again terminates abruptly, and its line is continued downslope to the western side of the eastern stream by bank (3.3). Results of both the current survey and recent geophysical surveys (Linford *et al* 2019) suggest that bank (3.3) does not turn to the south-east and cross area 7 as previously suggested (Boon (1969, plate 1; Creighton and Fry 2017, fig 9.7). Instead it appears that, albeit with a gap of approximately 40m on the eastern bank of the eastern stream, bank (3.3) aligns with and effectively merges with the inner earthwork (4.1) in area 7. This configuration of the inner and outer earthworks is not dissimilar to that shown by both Colt Hoare (1821) and Maclauchlan (1851), and further breaks down Boon's idea of a continuous outer earthwork surrounding the oppidum.

The inner earthwork

Survey results show the inner earthwork in areas 5 and 7, but not in area 6. As proposed by Creighton and Fry (2016, 252, 309), it is suggested here that the inner earthwork (4.6) was removed by the southern defensive circuit of the town between the south-east corner of area 5 and the western edge of area 7. As outlined above, based on the results of the current survey and recent geophysical survey it looks likely that the outer earthwork merged with the inner earthwork at the western edge of field 7.

Whilst it is suggested that both the inner and outer earthworks are late Iron Age in date, their relative chronology remains unclear. The sequence shown in Fig 39 (phases 3 and 4) is speculative.

Roman roads

Survey results have added little to our understanding of the lines of the Roman roads leading away from the town. The only addition is that the road running from the south-west gate towards Old Sarum is considered unlikely to have entered area 2, but instead it is suggested that the line was approximately 10m to the south and ran centrally through the gap between banks (3.1) and (3.11).

Quarry

Quarrying (6.1) at the northern edge of area 1 presumably accessed the southern edge of the Silchester Gravel Member. It is considered likely that the quarry hollows are post-medieval in date. However, the only stratigraphic relationship is that they

post-date the construction of enclosure (1.1, 1.2), and were therefore constructed after the mid to late Iron Age. The quarries are not shown on any historic mapping, and are first recorded from lidar data by Truscoe (2017). It is curious that they are not mentioned by St John Hope and Stephenson (1910), given that the line of their long western trench appears to have gone straight through the centre of the quarries. The assumption has to be that they were of no interest to early twentieth century archaeologists focused on the Iron Age and Roman periods, as only the far northern and southern ends of the trench section were recorded. It is considered unlikely that the full length of the proposed western trench was ever excavated. Certainly, no trace of it was observed whilst recording the quarries during the current survey.

Cotton (1947, 139) described the quarries as "*a series of mounds and hollows. Trial soundings through one mound showed that it was of natural gravel, and in one of the least marshy hollows only leaf mold was found over natural gravel*". And whilst she excavates close to them, she does not explicitly recognise them for what they are. Cotton goes on to suggest that "*the Copse* [area 1] ....is *unique in being the one part of Silchester undisturbed since Roman times*".

Badgers

The problem of damage caused by burrowing animals does not appear to be solely a recent one. Both Karslake (1910, 330), and St John Hope and Stephenson (1910, 326) mention the disturbance at the beginning of the twentieth century. Although the Rampiers Copse earthworks are large in scale (banks 2.1, 3.1, 3.2 and 3.3 in particular) badger activity is extensive (Fig 44), is undoubtedly disturbing archaeological deposits, and poses the greatest ongoing threat to the monument.

RECOMMENDATIONS FOR FURTHER WORK

The following recommendations are made for further work at Rampier Copse:

- The cumulative evidence of earthwork survey, lidar data and geophysical survey all point to the existence of an enclosure (1.1/1.2), possibly a hillfort, as the initial component in the Rampier Copse complex. Excavation of the enclosure's bank (1.2), it's probable outer ditch, and part of its interior (all in area 6), would provide the best opportunity to establish its chronology and the nature of its use.

- The relationship between the Dicker's Farm Dyke linear earthwork (2.1/2.1), enclosure (1.1/1.2) and enhanced earthwork (3.2) remains ambiguous from surface evidence alone. Excavation at the intersection of these features has the potential to establish both their relative chronology, and possibly to provide a date for the construction of the Dicker's Farm Dyke.

- The current survey poses a number of questions about the structure and chronology of the main Rampier Copse earthwork (3.2), and its relationship with the earlier enclosure/hillfort (1.1), and the smaller earthworks at its western (3.1), (3.11) and (3.12) and eastern (3.3) extents. Excavation of bank (3.2) would be a complex undertaking due to the scale of the earthwork, the presence of multiple active badger setts, and instability caused by tree roots and badger activity. However, the excavation of several trenches across the bank (3.2) and ditch (3.4) is probably the only way that these questions can be addressed. Excavation would also give a better understanding of the extent of historic and ongoing badger damage, and provide an evidence base for the effective future management of this monument.

  As a minimal scheme would be to reopen the three trenches excavated across bank (3.2) by St John Hope and Stephenson (1910) and Cotton (1947). Further trenches should also be excavated on the approximate line of profile 5 (at a point where bank (3.2) is presumably no longer underlain by enclosure (1.1)), and of profiles 4, 11, 12 and 13 to characterise and date banks (3.1), (3.3), (3.11) and (3.12) respectively.

METHOD

Due to the partially wooded nature of the site field survey utilised a combination of digital and analogue techniques. The majority of the survey was conducted using a survey grade Global Satellite Navigation Survey System (GNSS) receiver and a robotic Total Station Theodolite (TST). A Trimble R8 survey-grade GNSS receiver connected to the Ordnance Survey's GNSS correction network (OSNet) via the Trimble VRS Now service was used to establish the OS coordinates of 6 control points outside wooded areas. The location of each control point was adjusted to the OSTN15 National Grid Transformation with a final accuracy of +/-0.01-0.015m. Using a Trimble S7 TST these points were then used to establish a ring traverse and two link traverses of survey stations covering the majority of the survey area (Historic England 2016, 19-20). Over 95% of earthwork features were mapped using the TST referencing these survey stations. In the few areas where dense vegetation precluded the use of digital survey techniques, detailed survey was completed using standard tape and offset techniques (Historic England 2017, 7-15), referencing temporary control pegs previously located with the TST.

Digital survey data was adjusted, and field codes processed, in Trimble Business Center software before being exported to ArcGIS 10.3.1 and combined with digitised field drawings. The principle survey plan for this report was completed at a scale of 1:1000 using digital drawing techniques in Adobe Illustrator software. Additional report illustrations were prepared using ArcGIS 10.3.1. All profiles are derived from Environment Agency 1m Lidar DTM data and were created using ArcGIS 10.3.1. and Adobe Illustrator software.

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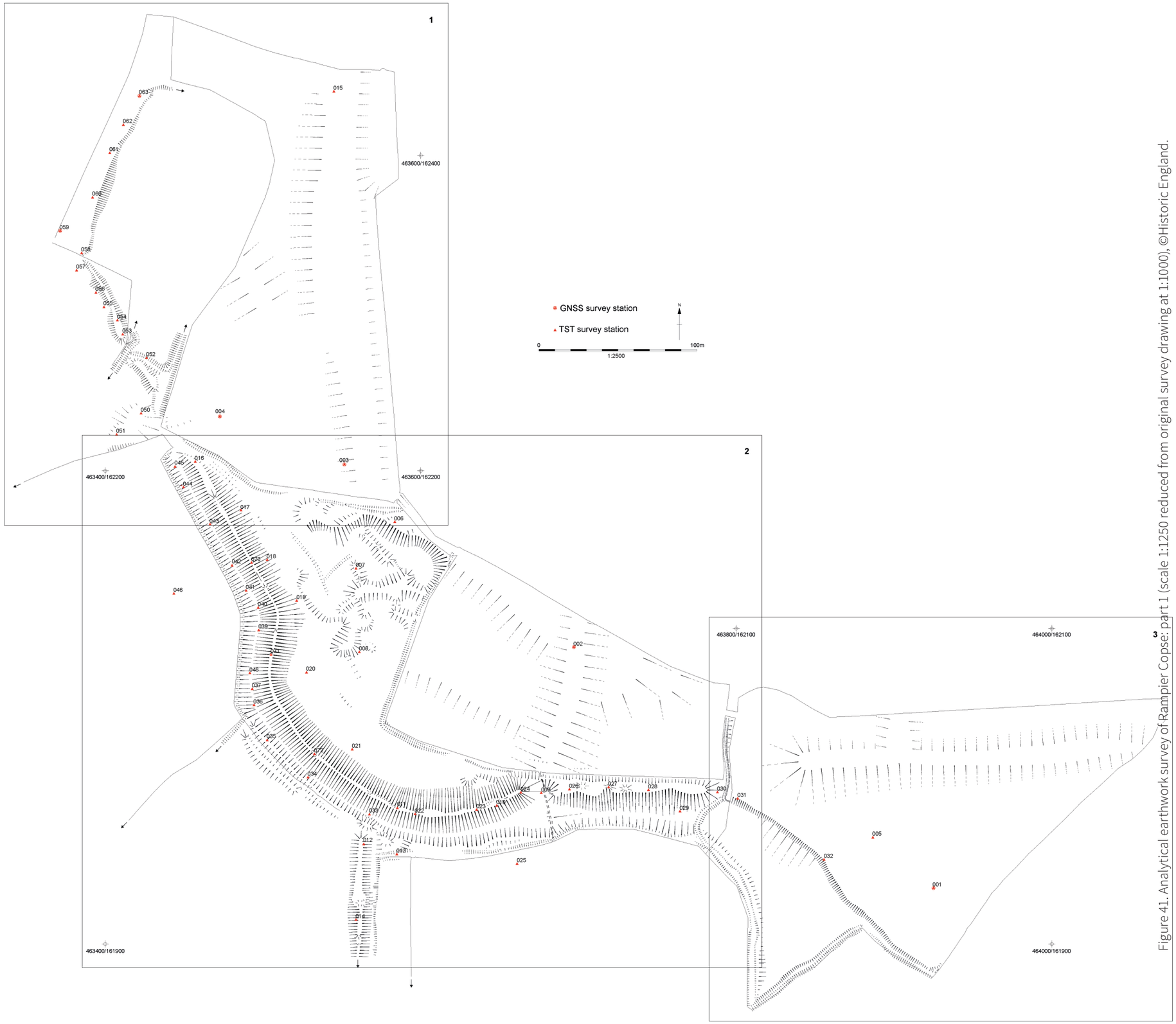

Figure 41. Analytical earthwork survey of Rampier Copse: part 1 (scale 1:1250 reduced from original survey drawing at 1:1000), ©Historic England.

Figure 40. Analytical earthwork survey of Rampier Copse (scale 1:2500 reduced from original survey drawing at 1:1000, ©Historic England).

Figure 42. Analytical earthwork survey of Rampier Copse: part 2 (scale 1:1250 reduced from original survey drawing at 1:1000, ©Historic England).

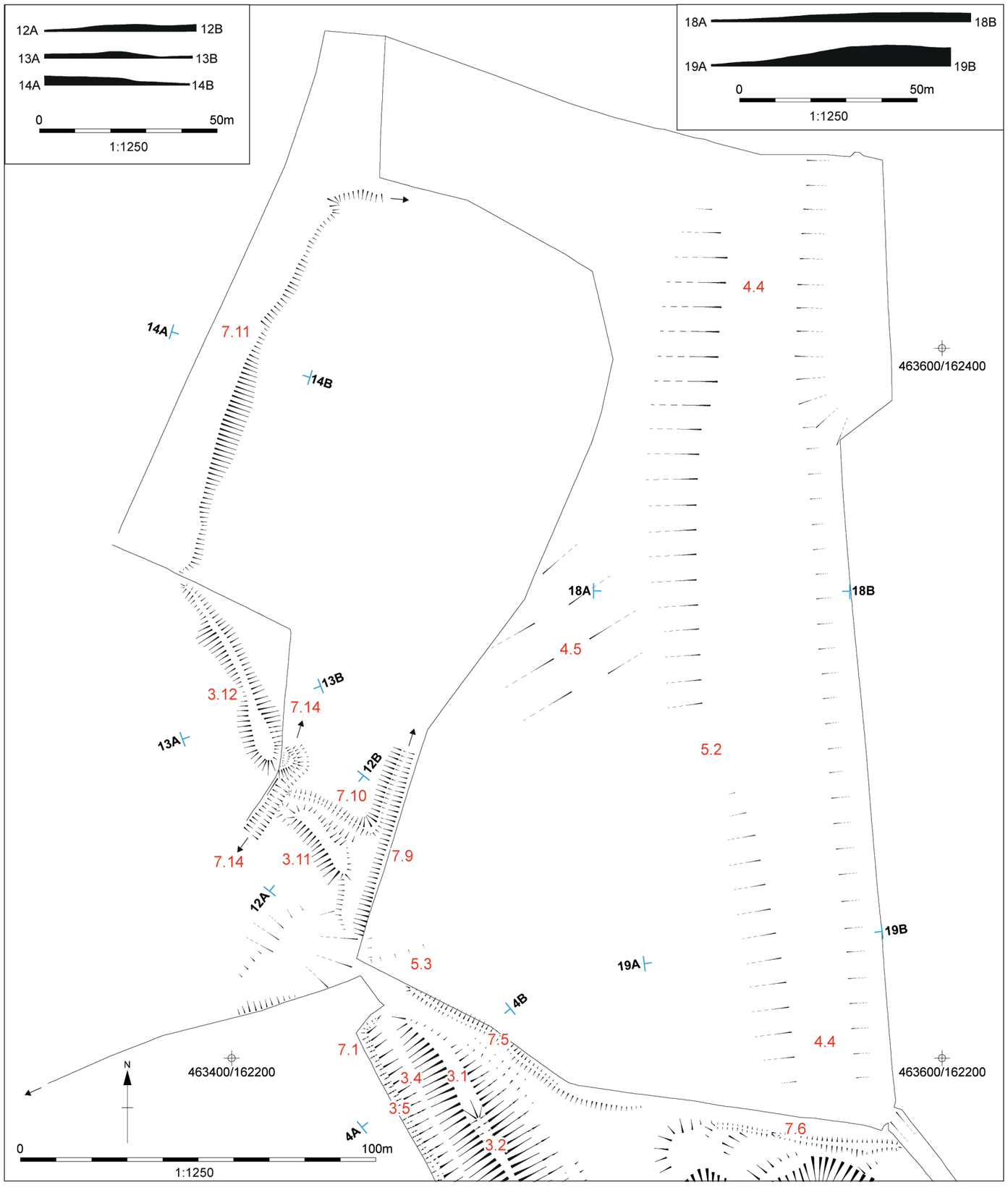

Figure 41. Analytical earthwork survey of Rampier Copse: part 1 (scale 1:1250 reduced from original survey drawing at 1:1000, ©Historic England).

Figure 42. Analytical earthwork survey of Rampier Copse: part 2 (scale 1:1250 reduced from original survey drawing at 1:1000, ©Historic England).

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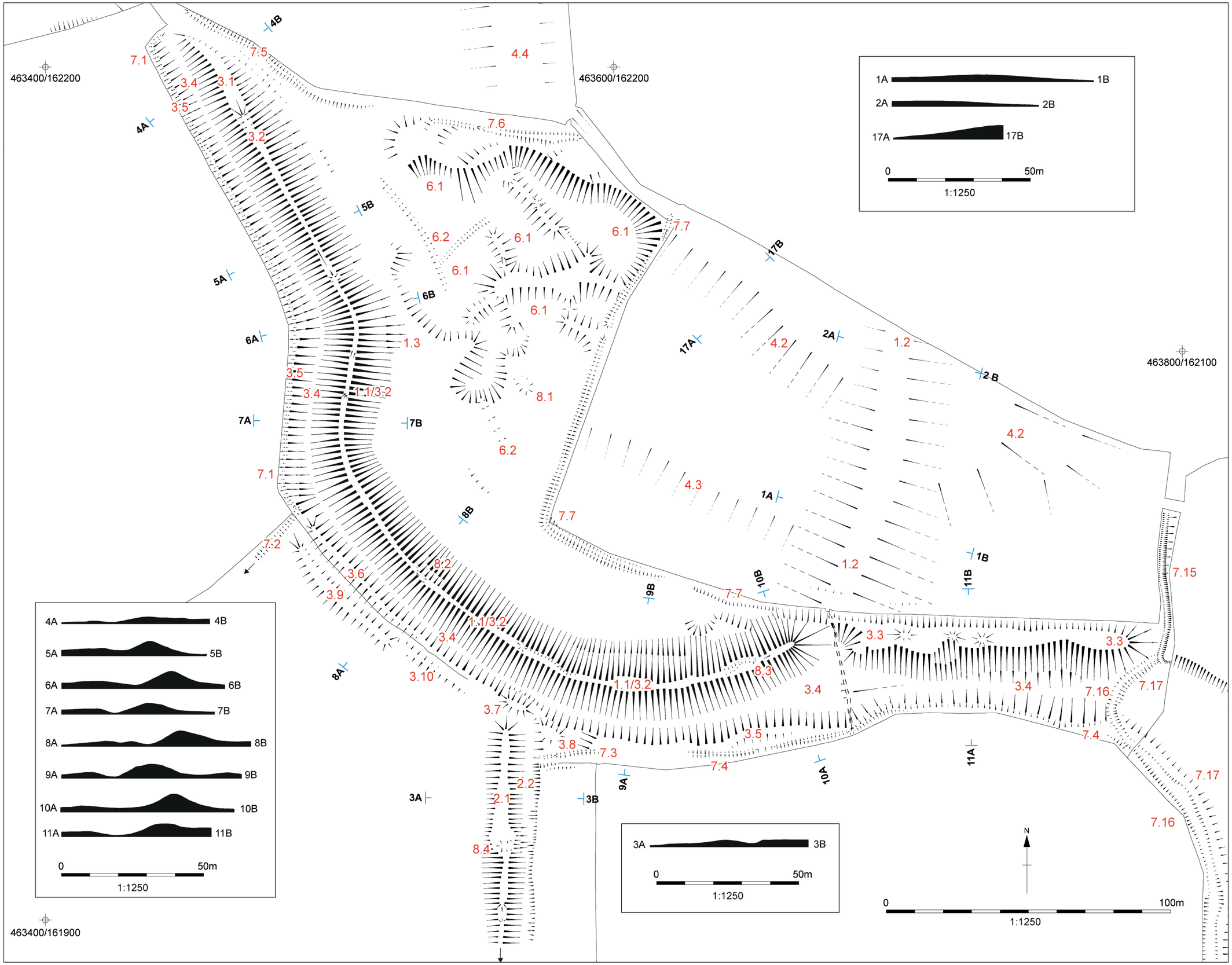


Figure 42. Analytical earthwork survey of Rampier Copse: part 2 (scale 1:1250 reduced from original survey drawing at 1:1000, ©Historic England).

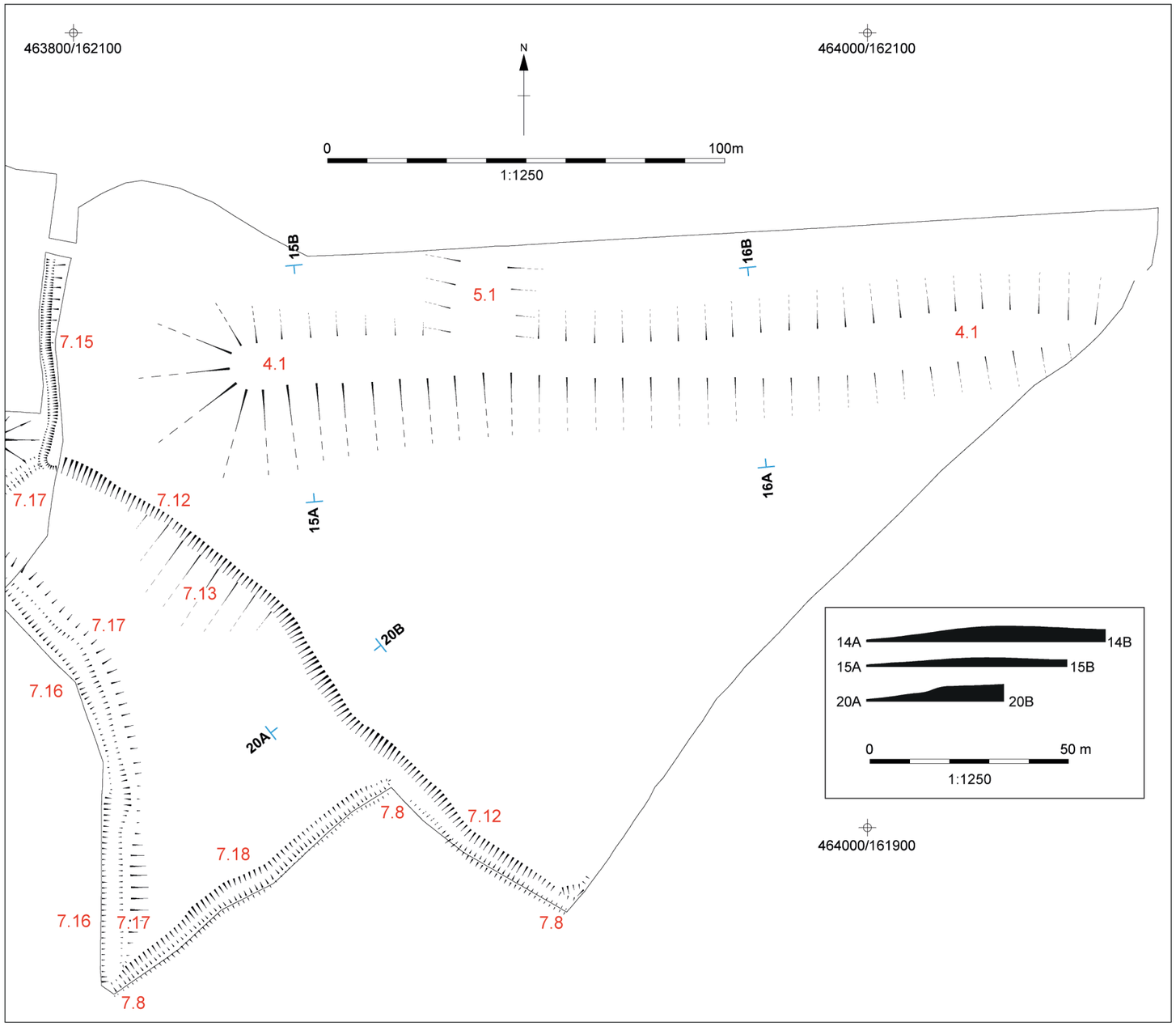
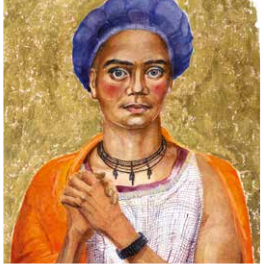


Figure 43. Analytical earthwork survey of Rampier Copse: part 3 (scale 1:1250 reduced from original survey drawing at from 1:1000, ©Historic England).

Figure 44. Analytical earthwork survey of Rampier Copse showing principle areas of badger damage (in blue) in early 2018 (scale 1:2500 reduced from original survey drawing at 1:1000, ©Historic England).



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