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Archaeological Investigation

SCADBURY MOATED MANOR, LONDON BOROUGH OF BROMLEY: LANDSCAPE INVESTIGATIONS

Magnus Alexander with
Edward Carpenter, Daniel Hunt, Jonathan Kewley and Lawrence Rees

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SUMMARY
Scadbury Moated Manor, a moated manor house complex dating back to the 13th century was owned by the Walsingham family from the late medieval period through the Tudor and into the early modern era, and was visited by Elizabeth I. The medieval/Tudor manor house now survives only as foundations, but potentially has many surviving elements from earlier periods. The site was scheduled in 2013 and due to the vulnerability of the remains was shortly afterwards placed on the Heritage at Risk (HAR) register. It has been identified as Historic England's London Region's most pressing scheduled monument HAR case. It is intended to grant-aid a project to carry out emergency works identified in the 2016 condition survey and improve the management of the site to start the process of working to remove it from the Heritage at Risk Register.
This project was planned to support this aim by providing a sound spatial and chronological foundation upon which to plan and contextualise these works and to inform the Historic England HAR Architect's Grant Report. In order to contextualise the site, the survey has included aerial photography and lidar mapping across 6km2. On site investigations comprised analytical earthwork survey of the moat island and surrounding areas, including ponds to both east and west, and a detailed analysis of the remains on the moat island supported by commissioned orthophotography. The project has also sought to locate and contextualise previous work by Orpington and District Archaeological Society (ODAS).
Although it was well known that the remains on the moat island represented multiple phases of activity over several centuries, this project has demonstrated that these included at least two preceding the introduction of brick, one in flint 'calyon', and at least three in brick, pre-dating the 20th century. It has proven difficult to determine the functional layout of the moated manor house in any detail, though it is likely that by the Tudor period there was a gatehouse to the west (where stone corbels for a drawbridge survive), the hall was probably in the position later occupied by the hall erected in the 1930s and service areas probably lay on the lowest, eastern part of the island. The visible remains are predominantly the result of work in the interwar years by Hugh Marsham-Townshend and his wife Laura to create a garden, much of which is based upon the earlier remains, which is of heritage interest in its own right.
Earthwork survey across the broader complex has suggested possible designed elements to the east where the ponds appear to have been deliberately aligned with the eastern moat arm. Though undated these could be of 15th- or 16th-century date. To the west of the moat the walled garden, gateway and foundations of the former Scadbury Park Mansion appeared to form a coherent whole, probably constructed during the middle of the 16th century. Once again, these features had been extensively modified in the modern era and the visible remains are the result of work by the Marsham-Townshend's in the interwar period. As with those to the east, the ponds and associated features to the west are also undated but are perhaps rather later than those to the east however a hollow-way to the immediate west of these could be earlier as it appeared to be associated with the medieval settlement pattern to the immediate south. Elsewhere most features recorded appear to date from the Marsham-Townshend's 20th-century works, though in many cases modifying existing features. Several features including a partially surveyed complex of earthworks to the west relate to Second World War activity, probably by the Home Guard rather than a formal 'stop line'. The aerial

photographic and lidar analysis has also revealed that these formed a part of a much wider pattern of wartime activity with a wide range of defensive, training and other wartime features around Scadbury and in Chislehurst itself. It has also revealed numerous other features from a wide range of periods such as field boundaries, wood banks and rides, and agricultural lynchets.

The area of and around Scadbury Moated Manor clearly contains a wide range of significant heritage features, from the medieval period to the Second World War and after. Many of these lie outside the currently scheduled area but require sensitive management. It is hoped that this report goes some way towards identifying and describing them, and highlighting this need.

CONTRIBUTORS

Magnus Alexander was the project manager, undertook the analytical earthwork survey supported by Daniel Hunt and Lawrence Rees whilst on their Chartered Institute for Archaeologists sponsored training places, undertook the survey and analysis of the remains on the moat island and collated and edited this report. Edward Carpenter carried out the aerial photographic and lidar analysis. Jonathan Kewley provided the basis for the tenurial history and provided working photographs, archival material, and descriptive text relating to the building remains.

ACKNOWLEDGEMENTS

Melanie Millward at GLAAS supplied HER data. David Andrews of Historic England's Geospatial Imaging Team managed the orthophotographic survey of the moat and island undertaken by The Downland Partnership Ltd. Staff at Bromley Historic Collections supplied several images and generously gave permission for their use herein. Janet Clayton and Michael Meekums of ODAS and their colleagues generously shared their research, knowledge and time, enabled access to the site and use of their facilities, and have commented on a draft of this report, considerably improving it.

ARCHIVE LOCATION

Historic England Archive, Swindon

DATE OF RESEARCH

Fieldwork was undertaken in two main phases; during spring 2017 and spring 2018. The orthophotographic survey was undertaken in November 2017.

FRONT COVER

A broad aerial view of the Scadbury area from the east (Damian Grady, 29/9/2012 © Historic England 27533_047). The site of the moated manor house can be seen in the centre of the image with the green tarpaulin cover then on the Undercroft standing out, the steep scarp falling to the outskirts of St Pauls Cray is clear to the left, the pale tower (and darker spire) of St Nicholas' church, Chislehurst, can just be see in the middle distance above Scadbury Moated Manor.

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ABBREVIATIONS

BHC	Bromley Historic Collections
DTM	Digital Terrain Model
GLAAS	Greater London Archaeological Advisory Service
GNSS	Global Navigation Satellite System
HAR	Heritage at Risk
HER	Historic Environment Record
ID/UID	Identifier/Unique Identifier
JP	Justice of the Peace
LBB	London Borough of Bromley
MP	Member of Parliament
NRHE	National Record of the Historic Environment
OD	Ordnance Datum (sea level)
ODAS	Orpington and District Archaeological Society
OS	Ordnance Survey
RAF	Royal Air Force
TST	Total Station Theodolite

CONTENTS

INTRODUCTION

Scadbury Moated Manor is a moated site situated on high ground within an area of park- and farmland in a semi-rural location in the London Borough of Bromley (LBB). It lies within Scadbury Park, which is owned by LBB and managed as a tenant farm and public nature reserve.

The history of the site can be traced back to the mid-13th century in documents and archaeologically to earlier in that century. It was during the 15th and 16th centuries that Scadbury gained a degree of national prominence, following its purchase by the Walsingham family in 1424, perhaps reaching a peak with a visit by Elizabeth I in 1597. By the time it was sold in 1660 it was a wealthy estate with a manor house, barns, stables, a granary, pigeon house, fishponds, extensive gardens and orchards, and a 400-acre park. In the early part of the 18th century the manor house, for the first time in centuries, was unoccupied and it was demolished in 1738. Occupation continued on the site into the later 20th century however with a building to the west of the moat remaining in use as a farmhouse and land-agent's house. This became known as Scadbury Park Mansion and was the site of Home Guard activity during the Second World War. In 1983 the estate was bought by LBB.

Scadbury Moated Manor was scheduled as a moated site and fishponds in 2013, although it was noted that further research was needed. Currently the standing remains on the site are suffering structural problems, with walls increasingly under stress and fragile brickwork in need of attention, and the scheduled monument was added to the Heritage at Risk (HAR) Register in 2014. The work reported herein is intended to support a grant-aided project to remove the site from the HAR Register.

A note on terminology

When discussing 'Scadbury', this report needs to differentiate varying usages. Over the years many different terms have been used with a range of meanings. Some have more than one meaning – 'Scadbury Manor' can mean the medieval estate, or the manor complex of buildings; 'Scadbury Park' can mean the modern park, which includes some of the former estate but not all of it, and includes areas in Chislehurst which were not within the Scadbury demesne estate, or the historic park; it is also the name given to the house lived in by Hugh Marsham-Townshend in the early 20th century. Therefore, in order to align the terminology used in this report with recent and future Orpington and District Archaeological Society (ODAS) publications, the following terms have been adopted (based on Janet Clayton, ODAS, pers comm):

- Scadbury
  - The historic place not necessarily including the moated site and its estate; to the south-east of Chislehurst and west of the Cray valley and associated settlements
- The Scheduled Monument
  - The area as defined by HE; named by HE as 'Scadbury moated manor and fishponds'; restricted to the moat and associated works and extending to include the eastern fishponds (see Designations below)

- The manor house
  - The medieval building complex on the moat island which developed through the Tudor period and was eventually demolished in the 1730s; this would have included a range of elements such as a hall, solar block, and services including kitchens, which evolved over time.
- The reconstructed hall
  - The building erected on the island by Hugh Marsham- Townshend in the 1930s
- Scadbury Park Mansion
  - The successive buildings from the later 19th century which stood on the site west of the moat and north of the walled garden, especially the house lived in by Hugh Marsham-Townshend in the early to mid-20th century
    The terms 'gatehouse'/'farmhouse'/'land-agent's house' refer to earlier buildings on this site
- Scadbury Moated Manor
  - The complex of buildings, moat and surrounding land throughout its history as a manor; an area wider than the scheduled area including Scadbury Park Mansion (and precursors) the associated farm, walled gardens and the western ponds
- Scadbury Park
  - The present park/nature reserve, owned by LBB, including the tenanted farmland which includes areas which were not part of the early estate (especially to the north-west), and may not include all of the areas which were part of that estate, possibly towards the south, though it represents, broadly, the medieval demesne
- The Scadbury Manor estate
  - The lands which historically belonged to Scadbury Moated Manor, essentially the medieval demesne estate; similar to the area and boundaries of the present park but not identical with them, especially to the north/north-east, and perhaps the north-west; the boundaries of this estate changed over time

Location and extent

Scadbury lies about 16km to the south-east of central London and about 7km inside the M25 (Figure 1). It is situated in Chislehurst within the LBB which stretches from the densely urbanised areas of Beckenham and Bromley in the north-west to rural areas south of Orpington. Scadbury is in a relatively rural location between more built up areas: Sidcup lies about 2km to the north, central Chislehurst 1.5km to the west and St Paul's Cray 1km to the south. The modern developments of all three extend much closer than this though, particularly to the south where post-war housing lies within 200m of the moat (Figure 2). This area was all Scadbury Manor estate land which was sold off for development, whereas the demesne farm was designated as Green Belt (ODAS, pers comm).

The moat island measures approximately 45m east/west by 35m north/south. The moat varies in width from 6m to 18 m and the whole is about 70m east/west by

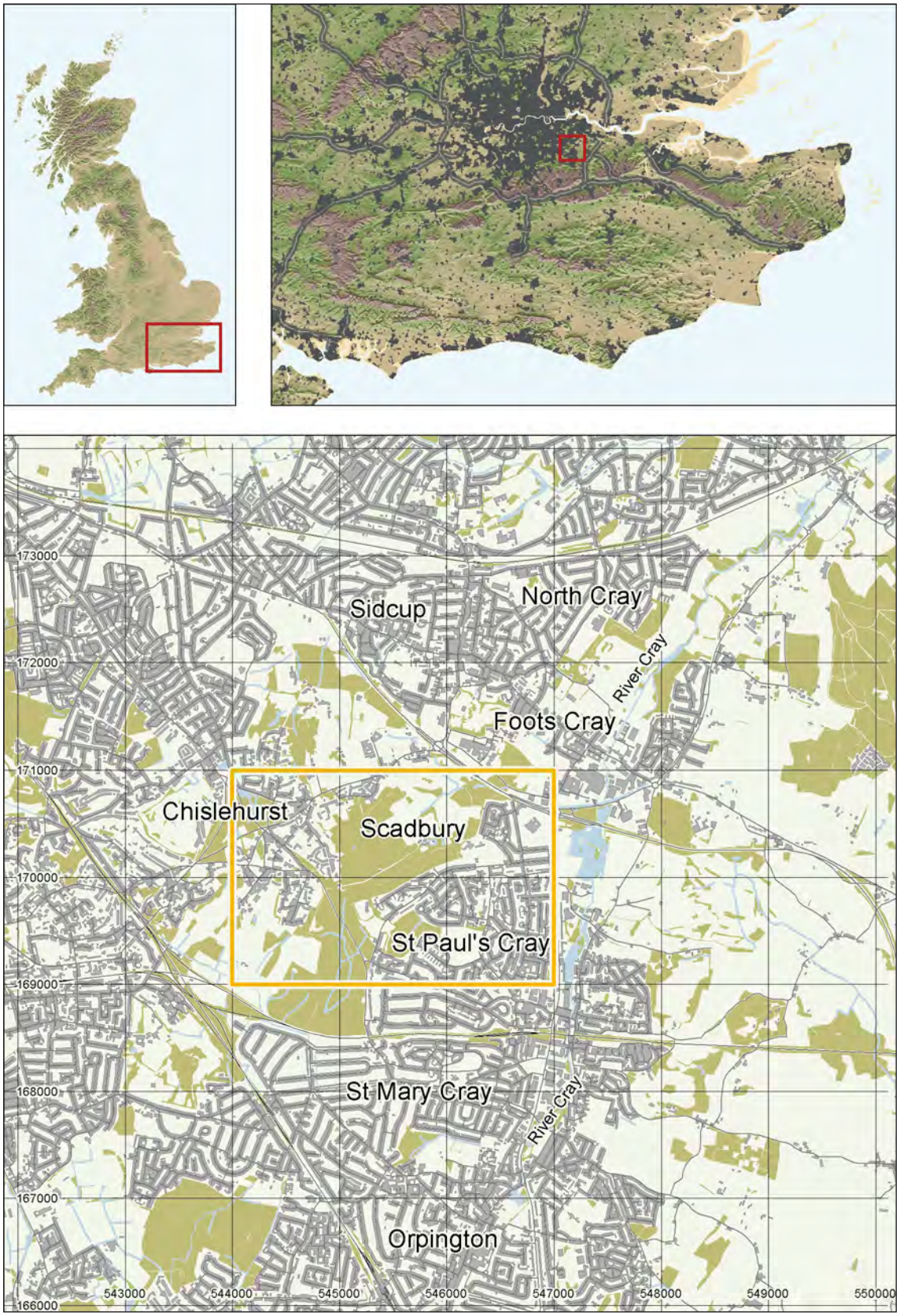

Figure 1 – The location of Scadbury

50m north/south. The moated site itself is however, only part of a larger complex which extends to the west and north to incorporate a range of ancillary buildings of various dates surviving in a range of conditions from subsurface deposits only to standing buildings in use, with some in a ruinous state, as well as earlier elements incorporated into later buildings. Surrounding these are a range of landscape features including the remains of a walled garden and several ponds. Together these occupy the full width of the spur Scadbury Moated Manor sits upon (see Topography below), about 150m across here, and extend for 300m along it. The earthworks include the north end of a holloway running south towards St Paul's Cray and to the west they run into remains of a Second World War trench system that continues for some distance along the ridge. These highlight the broader landscape context which includes Scadbury Park and the historic Scadbury Manor estate. In order to address this, a broader area measuring 3km east/west by 2km north/south was studied using aerial photographs and lidar (yellow rectangle on Figure 2).

Topography and geology

Scadbury Moated Manor is situated between a plateau around Chislehurst to the west that gradually falls northwards, and the broad valley of the River Cray which runs south-north approximately 2km to the east (Figure 2). The moat itself sits at an elevation of about 75m OD (above Ordnance Datum, colloquially 'sea level') towards the eastern end of a spur that rises steadily to the SSW to almost 100m OD where it joins the plateau to the south of Chislehurst about 800m from the moat. To the NNW the ground falls away to a dry valley at about 45m OD before rising again to higher ground, at about 80mOD, associated with the plateau to the west. Although the ground initially rises slightly to the NNE, about 150m from the moat it begins to fall consistently eastwards to the floor of the Cray valley at about 30mOD. To the SSE the ground also falls towards the Cray, but the topography is rather more complex with some subsidiary spurs and minor valleys.

The geology of the area consists of a sequence of largely horizontal deposits British Geological Survey. The oldest (and lowest) are Cretaceous chalks formed in warm seas approximately 72 to 94 million years ago. These are overlain by a sequence of Palaeogene deposits. First, Thanet Formation sands formed in shallow seas, approximately 56 to 59 million years ago and then Harwich Formation sands and gravels, also formed in shallow seas, approximately 48 to 56 million years ago. Above these is the Lambeth Group of sands, silts and clays formed approximately 48 to 59 million years ago though in an environment dominated by swamps, estuaries and deltas.

The topography described above has been created by erosion down through these layers: the Lambeth group deposits survive only on the higher ground above about 90mOD, the plateau and the higher part of the spur to the west; the moat and surrounding areas are situated upon the deposits of the Harwich Formation sands and gravels; the valleys to north and south and the western flank of the Cray valley are cut into the Thanet Formation sands; and the floor of the Cray Valley into the Cretaceous chalk. Here though, the bedrock is overlain by superficial Quaternary

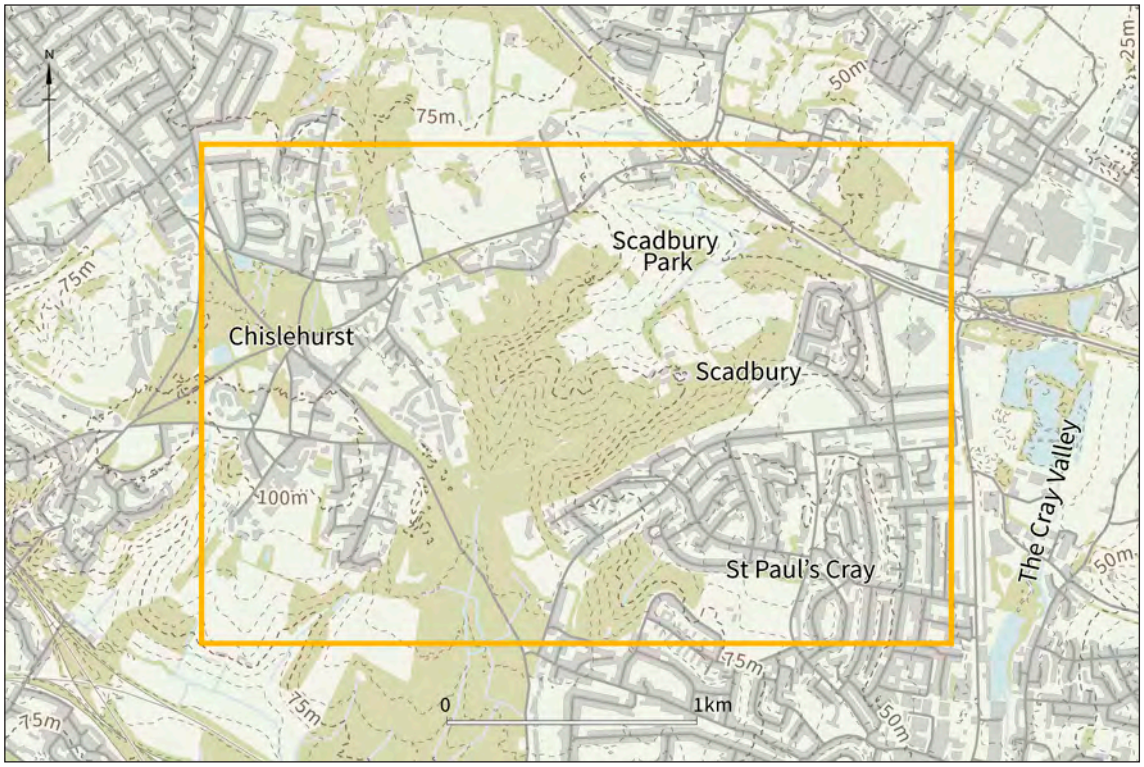

Figure 2 – The vicinity and topography of Scadbury, 10m contours

deposits of windblown clay and silt (Crayford Silt Member) along the valley side and riverine sand and gravel (Taplow Gravel Member) on the valley floor. These last have been quarried in the past and several flooded gravel pits now form nature reserves between St Paul's Cray and Foots Cray.

The soils around Scadbury are 'freely draining slightly acid loamy soils' of low fertility generally under 'cereals and short-term grassland with vegetables and fruit in the South East Region' (Cranfield University 2018). On the higher ground to the south-west the soils are 'freely draining very acid sandy and loamy soils' of very low fertility which is rarely cropped and often extensively grazed (ibid). Urban soils are unclassified.

Designations

The only scheduled monument in the broad project area is Scadbury Moated Manor itself, listed as 'Scadbury Manor moated site and fishponds' (List Entry Number: 1409786; Figure 3).

There are over 40 listed buildings within the broader study area covered by aerial photographic/lidar mapping, mainly in Chislehurst and to the north. Only one of these is related to Scadbury Manor: 'Lodge to Scadbury Park' (List Entry Number: 1204436; National Grid Reference: TQ45066967). It was the Lodge entrance to Scadbury Manor from the late 18th /early 19th century built by the Townshends (ODAS, pers comm) and was first listed in 1973 but details in the entry are scant:

> An early C19 cottage orné. 1 storey. Tiled roof pebbledash. 2 chimneys. 3 windows of which 2 and 3 light bays with ogees. 2 round-headed doors and a rustic porch with 2 wooden columns.

The most significant local designations are the four Greater London Archaeological Priority Areas in the vicinity. These are areas, originally defined in the 1970s and 1980s by the boroughs or local museums, where there is significant known archaeological interest or potential for new discoveries and are incorporated into borough plans. One of these is Scadbury Moated Manor itself (Greater London Archaeological Advisory Service (GLAAS) DesigUID: DLO33105), which covers a larger area than the scheduling, extending further to the west and similar to the area of the earthwork survey (below). Another similar Archaeological Priority Area is that for Frognal House about 1km to the north-east (GLAAS DesigUID: DLO37084). The other Archaeological Priority Areas cover the Cray Valley to the east and the Upper Cray Valley to the south-east (GLAAS DesigUID: DLO37083; DLO33106 respectively).

Figure 3 – The currently scheduled area of Scadbury Moated Manor, the western footbridge (FB) no longer survives (© Historic England, Corporate GIS; background mapping © and database right Crown Copyright (All rights reserved 2019) Licence number 000394)

Background to the project

The scheduled monument at Scadbury Moated Manor has been identified as the highest priority HAR case in London; Historic England supports the grant aiding the site as well as ensuring that the site's owners, LBB, have a long-term strategy for it and are fully committed to its on-going management. Accordingly, LBB are currently being consulted on the potential extent of an 'emergency repair' project. Consequently, there is a need for an accurate survey of the remains on the moated island and the wider landscape in order to provide a secure foundation for this project, inform current management and provide a benchmark for the future research and management of the site.

The Aim of the project was: 'To support a grant-aided scheme to improve the management of the site and thereby to work towards its removal from the Heritage at Risk register'. In order to achieve this, the following Objectives were set:

- To identify the extent of modern (19th and 20th century) works and identify any surviving earlier elements on the moated manor house site in order assess their significance and support the planning of future consolidation schemes;
- To place these remains in their immediate context in order to better understand the overall site development and identify the most significant elements of the site as a whole;
- To place the site in its broader landscape context in order to support Objectives 1 and 2 and provide information relating to the significance of the park as a whole;
- To provide the information required for on-going management and interpretation of the site in order to secure its future.

How these objectives have been met is summarised in the 'Conclusions' below.

Previous research

Orpington and District Archaeological Society (ODAS), a local archaeological society and registered charity, have a long-standing history of involvement with the site going back to a survey of the standing ruins undertaken in 1982 (Hart 2000, 3). In 1985 they published a guidebook to the site. This has seen several revisions as their work progressed and a second edition which has been reprinted with amendments several times, most recently in 2016 (Hart et al). It was at this early stage that many of the areas on the island were named and subsequent work has rendered some of these rather anachronistic (ODAS, pers comm).

Since 1986 ODAS have undertaken archaeological work and associated research on the manor site under licence from LBB. The society publishes a journal, *Archives*, which has included articles on the site and generally reports on the most recent excavation activity. An interim report was also published in the *London Archaeologist* (Hart et al 1993, 97) and various updates have been published in *Medieval Settlement Research*. *The Cockpit*, the newsletter of the nearby Chislehurst Society, has also carried regular news items on Scadbury and the work of ODAS.

ODAS has published a series of excavation reports, though the numerical sequence, Parts 1 to 5, does not reflect the publication dates (Hart 2000, 2011, 2003, 2008, 2005 respectively), but the excavation order. These provide the detailed reporting which supports the information in the news and update articles mentioned above and, since they are the society's considered statements on each piece of work, have been given priority where there are any discrepancies. They have also published a history of a reconstructed timber framed hall that was on the site (Meekums 2014) and recently a survey of historic features in the park (Matthews 2016a). A typescript summary chronology of the site is available on the ODAS website (Archer 2015). The moated manor site is not routinely accessible to the public but is normally opened by ODAS each year. ODAS gives talks to local groups, societies and schools about work at Scadbury and has organised several exhibitions about the site over the years covering the excavations, the wider landscape and relevant historical research.

The excavations by ODAS have examined several areas on and around the moat island. Initially an area behind the west facing retaining wall to the north-west of

the island was excavated (Hart 2000) followed by work in the centre and south-west of the island at various times between 1990 and 2002 (Hart 2011). In 1995 they examined an area to the north-west of the moat and located remains of the estate barn (Hart 2003), in 1997 they turned their attentions to the site of the Victorian/ Edwardian mansion on the site of a probable Tudor building further to the west, to which they briefly returned in late 2006/early 2007 (Hart 2008) and in 2001 and 2002 they excavated an area to the north of the mansion (Hart 2005). Various excavations are continuing, notably the area immediately to the west of the moat; an interim report has been published (Hart 2019). The results of the ODAS excavations will be discussed in context below.

The London HAR Team grant aided a condition survey of the standing remains within the scheduled area. ODAS funded an extension to this survey to cover the standing features in the non-scheduled area of the manor site. The work was undertaken in August 2016 and reported later that year (SSHC Ltd 2016).

Archaeology

The following briefly summarises information from within 1500m of Scadbury Moated Manor obtained from the National Record of the Historic Environment (NRHE) and the Historic Environment Record (HER) for London, maintained by The Greater London Archaeological Advisory Service (GLAAS). No finds have been recorded by the Portable Antiquities Scheme within this area. For further information see the Appendices.

The only prehistoric entries include a few finds of Palaeolithic and Mesolithic flits and axes, and a possible Bronze Age enclosure at St Barnabus Cray church. Two Romano-British sites have been recorded in the Cray Valley; a 1st- to 2nd-century settlement and a 1st- to 2nd-century cemetery with some evidence for 3rd- to 4th-century occupation, the latter also producing an Iron Age brooch. No Anglo-Saxon sites have been recorded other than a re-positioned window in St Nicholas' Church, Chislehurst.

In addition to those for Scadbury itself, medieval records include the origin of Frognal House perhaps around 1100, and a probably late 12th- to 13th-century farmstead near Spring Shaw Road. There were also records for several landscape features with probable medieval origins such as field and wood banks, lynchets, holloways, and some ridge and furrow.

The largest group of post-medieval records relate to Frognal House, with several also relating to Scadbury, plus mentions of one or two other sites. The vast majority are however for Listed Buildings, primarily Grade II with a few at II* (such as Frognal House itself and Chesil House). There were three First World War hospitals in the area and a range of sites from the Second World War, mainly air-raid shelters. Two cold-war sites have also been recorded, a 'Regional Seat of Government' and a 'War Room'.

There are also several records of dene holes (mineral extraction shafts) which are almost impossible to date and can be natural.

History

There were two places called Scadbury in the historic county of Kent, one a manor in the Lathe of Sutton-at-Hone, the Hundred of Ruxley and the Parish of Chislehurst, and the other an estate in the same lathe, the Hundred of Axstane and the Parish and Manor of Southfleet. There seems no connection between them and both names are recorded at early dates (Wallenberg 1934, 17). It is with the former, now in Greater London, that we are concerned.

Origins

Although the place-name Scadbury first appears in mid-13th-century documents, it is generally agreed to be Anglo-Saxon in origin, though its derivation is uncertain. The second element is most likely to be Old English *beorg* 'rounded hill, tumulus'. Although this might not appear to fit the topography, as Scadbury is on a ridge, the ground rises to the east before falling away into the Cray Valley and there is 'a distinctive group in which the *beorg* is not a free-standing hill but a rounded knob on the end of a ridge' (Gelling and Cole 2000, 145, 148). The first element is more uncertain; Gelling notes that descriptive qualifiers are most common with beorg (Gelling and Cole 2000, 149) so perhaps a meaning such as 'shady' from Old English *sceada* (Webb et al 1899, 204) is most likely. Although it is thought that many topographic names such as Scadbury may have been 'quasi-habitative', 'naming both site and settlement' (Gelling and Cole 2000, xvii), minor names are more likely to be simply topographic. Scadbury lies on the eastern boundary of Chislehurst, overlooking the valley of the river Cray, where there has been a long history of Anglo-Saxon settlement, but the less fertile higher land may not have been fully settled until around the time of the Norman Conquest (ODAS, pers comm).

Scadbury is not mentioned in Domesday Book (1086 CE), but this doesn't rule out its existence as a minor place within, or belonging to, another holding. The area between Bromley to the west, Eltham to the north-west, and the Cray Valley to the south and east is a blank, but significant places undoubtedly existed here, notably Chislehurst, which is mentioned in two Anglo-Saxon charters. The first is of Edgar, dated 955 for 973 CE (Sawyer 1968, S671), which gives the boundaries of land near Bromley, the final clause of which can be translated as 'and thence again east to the king's boundary, that is Chislehurst' (Webb et al 1899, 2); the second is a charter of Æthelred, dated 998 CE, relating to approximately the same area, giving similar boundaries, and including the same final clause (Sawyer 1968, S893). This confirms the existence of Chislehurst as an Anglo-Saxon estate, in royal hands (it remained so under Henry II; Webb et al 1899, 101) and it has been suggested that Chislehurst lay within the Domesday Book entry for the royal manor of Dartford 'of which it was an appendage' (Webb et al 1899, 4). The Domesday Book entry for Dartford (Morgan 1983, 1,1) is complex with one main entry, and three distinct separate elements, all of which were described as having been 'taken' from the manor. One is named and appears elsewhere; Hawley, about 4km south of Dartford, and quite highly valued at £15 (Morgan 1983, 5,1). The other two units were considerably smaller, and it is hard to see these as significant enough to have merited mention in a charter, albeit obliquely. However, the entry ends by stating that the manor church was held by

the Bishop of Rochester and valued at 60s, but 'as well as this there are a further 3 small churches' (Morgan 1983, 1,1). Where these small churches lay is not known, but Chislehurst church was very probably in existence by the time of Domesday and may well have been one of these. The existing building incorporates a reused Anglo-Saxon window (GLAAS: MLO103746, 'Appendices'), it was listed in the Textus Roffensis (dated to before 1072) as paying a chrism fee to the church at Rochester (Ward 1932) and mentioned in 1089 when set aside by the Bishop of Rochester for the maintenance of the monks (Webb et al 1899, 4-5).

How Scadbury fitted into this picture is uncertain. As noted above it may not have been in existence as a settlement at this time, the name could simply have referred to a spur of land on the boundary of Chislehurst. It is however equally likely that it could have been a 'quasi-habitative' place-name referring to a farmstead (in Gelling's words, 'a hill ... called **beorg** might have a single farm'; Gelling and Cole 2000, xiii) in the vicinity of the current moat, though not on the same site.

The medieval period

Archaeological evidence shows that occupation on the site of Scadbury Moated Manor began in about 1200, with no evidence for any previous occupation (Hart 2011). It is possible, though not certain, that the moat was dug at around this time. Construction of a substantial moated manor house was a significant endeavour presumably undertaken by a significant landholder, but such a figure would not appear from nowhere; if the moat was a feature of the earliest settlement, Scadbury Moated Manor must have been built by a wealthy, or at least aspirant, individual previously based elsewhere. The question of the origin of the builders of the manor can probably be tied to the question of its position at Domesday (above) and is likely to remain similarly open.

The first reference to Scadbury is as *Scadhebir* in an assessment of 1254 (Wallenberg 1934, 17), and during the ensuing decade there are several mentions of the de Scathebury family in the area. A Daniel de Scathebury appears as a witness to a deed in about 1257 and a John de Scathebury, most likely Daniel's son (though it is possible he was his younger brother), witnessed a deed in 1261, which suggests he must have been over 21 and so probably born in the later 1230s by which time Daniel (if his father) was probably married and perhaps born around 1220 or a little earlier. These deeds were associated with Kemnal Manor, and are now held at New College, Oxford (Kemnal having been acquired by William of Wykeham and its revenues used towards the establishment of his college there). The association with Kemnal is significant. Henry II had assigned £8 per annum from the revenues of his lands in Chislehurst to Hornchurch Priory, an alien foundation in Essex. Initially, this grant was paid from the income of his estates, but later, Hornchurch Priory seems to have acquired land in Chislehurst, notably Kemnal Manor. It is possible that the de Scathebury family were already Kemnal tenants, farming land at Scadbury; at an unknown date, the Scadbury estate became a subinfeudated manor of Kemnal; Scadbury continued to pay a rental to Kemnal for several centuries (ODAS, pers comm).

A John de Scathebury appears in the 1301 lay subsidy assessment for Ruxley Hundred (transcribed in Webb et al 1899, 107, 367); he could be the John mentioned above but would have been at least 60 by this date, so perhaps was his son. In the roll he was assessed at £22.3.0, far more than anyone else in Chislehurst. His assessment was the fifth highest in the whole hundred suggesting significant wealth (Janet Clayton, ODAS, pers comm). Though there is no proof of where he lived, bynames at this date had meaning, suggesting that the de Scathebury family did in fact live at a place known as Scadbury. A reference in the subsidy to goods 'in the chamber' worth 6s 8d suggests the family occupied a substantial dwelling in the vill of Chislehurst and were resident rather than absent landholders. By this date this must have been Scadbury Moated Manor. The detailed assets listed in the subsidy show that John practised mixed farming, with stock including oxen, carthorses, pigs and sheep, and crops including wheat, barley, oats and vetch (fodder).

Ten years later a commission of oyer and terminer (effectively a court hearing) was held into an attack by John de Scathebury and his son, also John, on William de Cray's property in St Paul's Cray, followed a year later by an attack on his person when in London. It seems unlikely that a 70 year old man would engage in violence so there were probably three Johns who were heads of the de Scathebury Family in sequence; John I born in the late 1230s, John II probably over 40 in 1311 so perhaps born in the 1260s, and John III who joined in the attack, so was probably an adult, perhaps born around 1290. The identity of the John (II or III) assessed in 1301 remains open.

The family seem to have passed through the 'agrarian crisis' of 1315-22 (Platt 2012) relatively unscathed. In 1326 a John de Skathebury was able to add to his estates by buying a messuage and ten acres in Chislehurst (Webb et al 1899, 107); based on the above dates this could be either John II or III. In 1343, a fine allows the family to be linked with certainty to 'the manor of Scathebury, with its appurtenances' for the first time (Webb et al 1899, 108; Webb thinks on the marriage of John de Scathebury to Christina Hadresham, or Hathersham, a member of a high-ranking Surrey family; Roskell et al 1993). At this date John III would have been well into his 50s which seems late to marry and his widow appears to have outlived him by many years; whilst considerable age discrepancies are not unknown in an era of dynastic marriages it at least seems possible that there was a fourth John de Scathebury, perhaps born in the 1320s. John (III/IV) died without issue around 1349 (a court case shows a John de Scathebury was alive in 1349 and a lack of documentation referring to the de Scatheburys after this date suggests that the Black Death was responsible for the disappearance of the family; ODAS, pers comm) and his widow, Christina, remarried to Nicholas Herring who was a royal steward, escheator, commissioner, Member of Parliament (MP) and Justice of the Peace (JP), and described by Edward III as 'my good friend'; clearly a significant figure. In 1369 Nicholas and Christina transferred the Scadbury Manor estate to John Hadresham, thought to be Christina's nephew, and two others, probably as feoffees (Webb et al 1899, 110). It is not known when Christina died, but Nicholas survived for some years; he was amongst those mustering troops for Richard II's fighting in France in 1380, and his property in Dartford was attacked during the Peasant's Revolt of 1381.

The Walsinghams – 1424 to the 1650s

Nothing more is known of the estate until 1424 when Alan Everard, former Sheriff of London (in 1415), made the estate over to Thomas Dale, clerk (presumably a feoffee), who immediately sold it to Thomas Walsingham (Webb et al 1899, 111), beginning over two centuries of ownership by the family, six of whom were named Thomas (see the Walsingham family pedigree in Webb et al 1899, opp 112).

Thomas I was a wealthy London based vintner who had prestigious London tenancies granted to him by the king and was a feoffee for land in at least four London parishes. He had married by 1391, so he must have been born in the 1370s or earlier and have been in his eighties when he died in 1457. His original purchase of the Manor of Scadbury also included various lands and tenements in Chislehurst, Paul's Cray, Foot's Cray, Lewisham, Bromley, and Bexley (rather than Bexhill as transcribed in Webb]. In 1433 he added the Manor of Tonge (essentially what became the Hawkwood estate opposite Scadbury) by exchange with the Abbot of Lesnes (ODAS, pers comm) as well as various purchases and exchanges of arable, woodland and several crofts, suggestive of a consolidation of his extensive and diverse holdings. He appears to have spent his retirement in a royal grace and favour rental in St Katherine's Hospital. He, his wife and his son in law were buried in St Katherine's Church (Webb et al 1899, 112-6) but his will still indicates close ties with Scadbury; he refers to 'my preste (priest) ate Scatbury' and had an 'almery' there (typically a store for books; Oxford English Dictionary). He was both literate and numerate; his will makes it clear that he owned several books and sets out his pride in his account-keeping.

He was succeeded by Thomas Walsingham (II) who was born in 1415 or 1416 and married late in life after his father's death. Thomas I's retirement in London suggests Scadbury Moated Manor was not his primary residence and it is possible that Thomas II was already living there, perhaps managing the estate on Thomas I's behalf. Thomas II seems to have held no public offices and died in 1467, his only notable act, according to Webb, being funding the rebuilding of Chislehurst church. Scadbury Moated Manor continued to be occupied by his widow and her second husband, John Green; they were certainly there in 1476 (the year of her death) when he was Sheriff. John died in 1485, by which time he may already have given up possession to the heir when he came of age, his stepson James (Webb et al 1899, 116-18).

James Walsingham was born in 1462 and was married at the age of 17 to Elinor, who was probably seen as a good match and brought considerable wealth into the family. James was Sheriff of Kent in 1497 holding his shrievalty at Little Davington, Kent, suggesting that Scadbury was not his primary residence. He acquired estates from the crown under both Henry VII and VIII, attended King Henry VIII at the Field of the Cloth of Gold in 1520 (with his eldest son Edmund), and was appointed to collect the king's subsidy in 1523, so was clearly a 'well-to-do county squire'. He died in 1540 at the age of 78 (Webb et al 1899, 118-19).

James was succeeded by his elder son, Edmund Walsingham. James' younger son, William (after 1480–1534) bought the nearby estate of Foots Cray and was the father of Elizabeth I's Secretary of State and spymaster, Sir Francis Walsingham. Edmund did not inherit until he was about 60 and spent most of his time away from Kent. He married by 1510, entered the service of Thomas Howard, Earl of Surrey by 1513, and fought at Flodden that year, being knighted by Surrey afterwards. He was a JP for Surrey in 1514, frequently a subsidy commissioner between 1523 and 1545, and held various other commissions in Surrey, London, Essex, and Kent. He entered royal service and serving as Lieutenant of the Tower of London from 1521 until the king's death in 1543 and then became Vice-Chamberlain of the widowed Queen Katherine Parr's Household. Lady Walsingham died about 1526 and sometime between 1535 and 1543 Sir Edmund remarried to Anne, daughter of Sir Edward Jerneghan of Somerleyton, Suffolk, who outlived him (Webb et al 1899, 119-26).

Although Edmund inherited the Scadbury Manor estate in 1540, on his retirement from the Tower he may initially have retained his strongest connections in Surrey becoming a Knight of the Shire in 1545. However, he was appointed a JP for Kent in 1547, suggesting a return to the county. Edmund's return to Kent, after many years under both James and Edmund during which Scadbury may have only been a secondary residence, could provide a context for the rebuilding or renovation of Scadbury Moated Manor, perhaps funded by £600 from the sale of his Surrey House, Gomshall Towerhill in 1549. Edmund certainly had experience of rebuilding on a large scale whilst Lieutenant of the Tower of London; from 1532 the whole circuit of walls and towers was repaired, there was some rebuilding in the royal lodgings both in timber and brick, including a new Jewel House of brick with stone dressings and in 1540 Walsingham was able to have his lodgings completely rebuilt (Colvin 1975, 263-9). The result is the building which stands today and thus is of some interest as the only structure known to have been built by one of the owners of the Scadbury Manor estate.

Following his death in 1549, Sir Edmund was succeeded by his only surviving son, Thomas (III) who had been born in about 1526 (Hesler 1981). He married in 1555, but, unlike his father, Thomas did not enter royal service, though he was acquainted with the queen and eventually knighted in 1573. His preoccupations seem to have been principally Kentish; he was appointed to the Bench about 1559, was Sheriff in 1563 and was elected MP for Maidstone in 1571. Thomas III's seventh daughter Mary is of interest as Robert Marsham-Townshend who held the estate around 1900 was descended from her, although he did not inherit the estate through that side of his family (Webb et al 1899, 135). Thomas died in 1584, and was apparently in financial difficulties towards the end of his life as he left most of his property, including the Scadbury Manor estate, in the hands of his executors for 21 years in order to pay off his debts, an entail that would, in theory, end in 1605. His three eldest sons had predeceased him, and he was succeeded by his eldest surviving son Edmund who was granted a lease of Chislehurst Manor by Elizabeth and from this point Scadbury and Chislehurst manors appear to have descended together (Webb et al 1899, 104). Edmund died unmarried five years later and was in turn succeeded by his younger brother Thomas (IV). On Thomas IV's death in 1630 a commission was issued to Thomas (V) to administer his grandfather's estates perhaps as any income

from them was still tied to servicing debts from over 40 years earlier (Webb et al 1899, 133-6).

Thomas IV was born in 1560 or 1561 and became a JP for Kent in 1596, MP for Rochester in 1597, and obtained minor offices as Keeper of Eltham Park in 1600 and Warden of Rochester Bridge in 1615. He married, probably before his brother's death in 1589, Audrey a daughter of Sir Ralph Shelton of Shelton, Norfolk (see Gair 2010). This was a significant connection as Sir Ralph was Elizabeth I's second cousin (Block 2006) and Audrey was Lady of Honour to Queen Elizabeth, which may have been part of the reason Scadbury Moated Manor was graced by a visit by her in 1597, though Thomas had helped with the defence of Rochester the previous year and the visit may have been in recognition of his contribution to the defence of England. He may well have been knighted during this visit; indeed, this may have been its the purpose; in a Privy Council document he is 'Mr Walsingham' the day before the visit and 'Sir Thomas Walsingham' the day after (ODAS, pers comm). Much has been made of the visit by Elizabeth I. Webb records it thus:

> In 1597 he [Thomas IV] had the honour of entertaining the Queen at Scadbury, and a tree which she planted on this occasion, known as Elizabeth's oak, is still shown in the beautiful avenue leading from St. Paul's Cray Common to the site of the old house. The Queen also planted some fig-trees by the present brick archway on the south side of the site of the house. These fig-trees came from Marseilles; they were pointed out to Queen Victoria in April 1872, on the occasion of her visit to Lord Sydney, and have only recently died. We have been able to fix the year of this visit of Queen Elizabeth by a letter in the state papers from Cecil to the Earl of Essex in 1597, the court then being at Greenwich; he writes: "I being at Greenwich and the Queen at Mr. Walsingham's." This visit was, no doubt, of a private character, and not made during one of the celebrated royal progresses. The close proximity of Greenwich would make such a visit easy to accomplish. It was in this same year, 1597, that the further demise of the manor of Dartford, with Cobham, Combe, and Chislehurst, was granted to Sir Thomas for twenty-one years, and probably this was one of the results of the Queen's visit. (Webb et al 1899, opp 138-9)

Webb includes a photograph of the entrance gateway (1899 opp 138). A note also reports:

> It is said that in the old house at Scadbury two rooms retained to the last, in the eighteenth century, names commemorative of Queen Elizabeth's visit. One was called " the Queen's apartment" another that of "the Maids of Honour". (Webb et al 1899, n1 139)

After a difficult transition Thomas IV's wife became a favourite of Queen Anne of Denmark and the Walsinghams became joint Keepers of the Queen's Wardrobe. They were prominent at Court under James I, and received an annual pension and a grace and favour house at Whitehall. Given their court roles, London accommodation, and the Scadbury Manor estates apparently being tied up with

his father's debts, it seems unlikely that they spent much time there. Walsingham was a patron of Christopher Marlowe who may have hidden at Scadbury Moated Manor; a warrant for his arrest suggested he might be at 'the house of Mr Thomas Walsingham in Kent' (Webb et al 1899, 142). Thomas had bought the Manors of Dartford (1597) and Chislehurst (1611) but died in 1630 leaving debts of over £3,000, possibly because the family were 'not prepared to devote their time and energy to governing their estates' (Everitt 1973, 28), though if any profits were going straight to servicing debts this lack of motivation is perhaps understandable.

His successor was his son, Thomas (V), who was born about 1589 (see Thrush and Ferris 2010) and educated at King's, Cambridge. He achieved minor court office; Gentleman of the Privy Chamber Extraordinary to Henry, Prince of Wales 1610-12 and Gentleman of the Privy Chamber extraordinary to Charles I in 1641. He was knighted in 1613 when only in his early twenties and entered the Commons, for Poole in 1614 and then for Rochester from 1621-40. Locally, he was Vice-Admiral of Kent from 1626 and JP for the county from 1629, holding both offices into the 1650s. During the Civil War he appears to have hedged his bets; probably a royalist at heart he nevertheless maintained the confidence of Parliament and although he was arrested at one point appears to have survived relatively unscathed (Webb et al, 146-8). Thomas inherited his maternal grandfather's Norfolk estates, but his financial position became worse than his father's with debts rising to £9,000 by 1642 (Knafla 2008). While Scadbury was not a particularly large manor house, Shelton (burned down, probably in the early 18th century) was a great brick mansion (Pevsner and Wilson 1999, 643). One might have expected Thomas to become involved in Norfolk affairs, but of this there is no sign. Thomas married twice, first to Elizabeth, daughter of Sir Peter Manwood of Hackington near Canterbury, and second to Elizabeth, daughter of Richard Bourne of Bobbingworth in Essex (who had bought that estate from Thomas), and widow of Nathaniel Master, citizen and grocer (Knafla 2008).

With Thomas V the Walsingham connection with the Scadbury Manor estate came to an end, for he sold it in March 1660; the conveyance and associated documentation survive in Bromley Historic Collections (BHC; ODAS, pers comm). He had already sold his London and Essex properties (BHC 1080/1/4/1/1/1).

The Bettensons –1660 to 1733

The purchaser of the Scadbury Manor estate was Sir Richard Bettenson who had purchased Walsingham's Cheapside property in 1654. Like the Walsinghams, he had Essex connections, being the son and heir of Richard Bettenson of Layer De la Haye, but his mother's kin were more important, for she was a daughter of Edward Cecil, Viscount Wimbledon (1572-1638), granddaughter of the first Earl of Exeter, and great-granddaughter of the first Lord Burghley, Elizabeth's minister (GEC 1953; Lockyer 2004). Sir Richard was admitted to Lincoln's Inn in 1621, knighted in 1625, married in or before 1627, served as Sheriff of Surrey in 1645-46, and created baronet in 1663 (see Webb et al 1899, pedigree opp 156). An undated rental (reproduced in Hart et al 2016) shows that the Bettensons spent £800 on repairs 'new built' after purchasing the manor, suggesting considerable work.

Sir Richard died in 1679, two years after his son Richard, and in consequence was succeeded by his grandson, Edward, who was then only three or four years old. During his minority he lived in Scadbury Moated Manor with his mother Theodosia and her second husband Samuel Oldfield (BHC 1080/3/1/1/6, marriage settlement of Theodosia Betenson 16th August 1687). Sir Edward Betenson (the single t was favoured in the 18th century) was Sheriff of Kent in 1704-05 but otherwise seems to have lived quietly. He died unmarried in 1733, and though he left estates in Kent, Surrey, Essex, Middlesex and the City, he was in financial difficulties by the time of his death; his Chislehurst estates were mortgaged for some £6, 000 (Webb et al 1899, 154; BHC 1080/1/8/4 referring to a Surrey estate mortgaged for £1,500). He may have been the last owner to live in the moated manor house (Archer 2015).

Neglect – 1733 to the later 19th century

Edward Betenson's estates initially passed to his three sisters, Albinia, Theodosia and Frances, who by this time were all in their sixties or seventies, and all had husbands with their own country houses and presumably little interest in Scadbury (Webb et al 1899). It was during this period that we have the first records of the estate being let. In December 1733 it was let to an Edward Hawes at 4d an acre who remained the tenant until his death in 1763 and lived in 'a little house in very good repair with out houses belonging to the mansion house' (Archer 2015); this was probably the farmhouse precursor to Scadbury Park Mansion.

In May 1736 the sisters sold their interests to Albinia's son John Selwyn for £16,085 (BHC 1080/1/1/1/1/21; 1080/1/1/1/1/20), although, confusingly, a Court Baron was held in the name of the three sisters in 1738 (BHC 1080/1/1/2/4/2/11). The Selwyn family were originally connected with Gloucester and had extensive lands and a large house at Matson, outside the city, which were held by successive generations until 1912. Matson and its associated estates were a source of revenue and a country home and many family members are buried in Matson church (ODAS, pers comm).

John Selwyn (1688 – 1751) served as an ADC to the Duke of Marlborough in Flanders, became MP for Truro 1715-21 and held a customs post before buying the Parliamentary seat at Whitchurch for which he was returned at the 1727 election (Watson 1970a). He was MP for Gloucester from 1734 until his death and was described by Horace Walpole as 'a shrewd, silent man, and reckoned honest' (*Saturday Review* 7/1/1919, 'Historical Villages', 127, 549-50). He married his first cousin, Theodosia Farrington's daughter Mary, who became a leading light at 'the young court' of the Prince and Princess of Wales. Following his accession as George II, she continued to be 'rarely absent' from the court during the life of Queen Caroline (Webb et al 1899, 160-1), who she served as a Woman of the Bedchamber. These were smart people, holding offices at Court or in the ministry and serving in Parliament, and Scadbury's distance from central London, particularly if it had become outmoded, would have left it of little interest to them as a residence. The manor house was demolished in March 1738, as revealed in a letter by Frances Bettenson, John's aunt, wherein she reports that they 'are quite out of love with Scadbury' and are pulling it down, and that they were 'carrying all the materials to

build at Danson', Danson Park a few miles away in Bexley, the Selwyn's new house (Archer 2015, ODAS, pers comm). John Selwyn owned the Scadbury Manor estate for only six years; in December 1742 (BHC 1080/1/1/1/1/23) he sold the land, farm buildings and the remains of the manor house to his son-in-law, the 41-year-old Hon Thomas Townshend (See GEC 1953, 590).

Thomas was educated at Eton and King's, Cambridge, and an MP for over half a century, for Winchelsea from 1722 to 1727 and then for Cambridge University from 1727 to 1774. He held minor office, as Under-Secretary of State from 1724 to 1730 and as Secretary to the Lord Lieutenant of Ireland from 1739 to 1745. He also held the sinecure of Teller to the Exchequer from 1727 until his death in 1780. He was the widower of John Selwyn's daughter Albinia who he had married in 1730. She had died in 1739 aged only 25, leaving five children, and her 'irreparable loss' seems to have affected Thomas profoundly. Nevertheless, Webb's report that Thomas had had the manor house pulled down 'with the intention of rebuilding it in a more commodious style, but that upon the death of his wife he abandoned the project' (Webb et al 1899, 163, 164) must be incorrect as it is now clear that the demolition preceded both his acquisition of the estate and her death. There being no habitable house of sufficient quality on the Scadbury Manor estate, in about 1750 (conveyances held by BHC suggest 1749, and there's a letter written by Thomas from Frognal in 1751; ODAS, pers comm) he bought Frognal House, a largely-Jacobean mansion nearby (Webb et al 1899, 164), which remained his descendants' principal seat for the next century and a half. Thomas continued to lease the Scadbury Manor estate, first to Edward Hawes, then from 1764 John Anderton and from 1776 Thomas Tyler who remained tenant until his death in 1803. In 1778 the manor house on the island was described as having 'been many years in ruins and there remains only a farmhouse, built out of part of them' (Archer 2015), presumably the precursor of Scadbury Park Mansion.

In 1780 Thomas' son, also Thomas Townshend (1733 – 1800), succeeded to his estates. Educated at Eton and Clare Hall, he early opted for a political career, being returned to the Commons for the family borough of Whitchurch at 21. He held various minor appointments in the 1750s and 1760s, including Clerk of the Household to the Prince of Wales from 1756 to 1760, and was sworn of the Privy Council in 1767. In 1760 he married Elizabeth, who served as Lady of the Bedchamber to Queen Charlotte, and the couple had seven children (Webb et al 1899, 165-8). After the fall of Lord North in 1781 he was briefly Secretary at War, and then joined the Cabinet as Home Secretary from 1782-83 and again from 1783-89. He was created Baron Sydney of Chislehurst in 1783 and Viscount Sydney of St Leonards, Glocesterchire, in 1789. Thomas was instrumental in the policy to send convicts to the newly colonised territory of Australia and the penal colony of Sydney was named in his honour. He was a rich man, inheriting estates from his Selwyn uncle and from his kinswoman the Countess of Exeter. He was elected Fellow of the Society of Antiquaries in 1784, but there is no evidence that he took any interest in Scadbury.

The 1st Viscount Sydney (Archer 2004) was succeeded by his eldest son John (1764 – 1831), educated like his father at Eton and Clare Hall. He served as his father's

Under-Secretary at the Home Office. He then followed Pitt the Younger and was MP for Newport, Isle of Wight from 1786 to 1790 and for Whitchurch from then until he succeeded to the peerage. He held various appointments at court and in government, but nothing of great moment. He lived at Frognal and married twice, leaving two daughters and a son, John Robert (Webb et al 1899, 168-9). John appears to have brought the estate back into direct management as it was described as 'in hand' in 1810 (Archer 2015).

The 2nd Viscount Sydney was succeeded by his son John Robert (1805-1890) in 1831. He was educated at Eton and St John's, Cambridge, and, while on some sort of diplomatic mission to Russia, was returned to the Commons for the family borough of Whitchurch in 1826, holding it until his succession five years later (Watson 1970b). He held various government posts over the years, notably Captain of the Yeomen of the Guard 1852-58, Lord Chamberlain 1859-66 and Lord Steward of the Household 1880-85 and 1886. He started as a Tory, became a Peelite and finished as a Liberal. He married but had no children and though he was created Earl Sydney in 1874, all his titles died with him. His landed estate was in fact quite modest for an Earl: some 3,000 acres worth £6,615 a year in 1883, two-thirds in Kent and the remainder in Gloucestershire. He left some £67,000 at his death and his will permitted his widow to live on at Frognal until her death, which was three years later in 1893 (Webb et al 1899, 169). During this period the estate was managed by George Golding (by the 1841 census), George Caustin (by 1871), and Garrod Sage (by 1881) (Archer 2015).

The Scadbury Manor estate then passed to Earl Sydney's nephew, the Hon Robert Marsham (1834-1914) (see Pirie-Gordon 1937; Marsham-Townshend 1903), son of the Earl's sister Mary, who assumed the name and arms of Townshend by Royal Licence, a condition of the will. Robert had been educated at Eton and Christ Church and then spent four years in the Diplomatic Service. A traveller (and Fellow of the Royal Geographical Society) and plant-collector, he seems to have taken no part in politics and was not raised to the peerage as one might expect of an earl's heir. He married the daughter of a Suffolk parson (Pirie-Gordon 1937) and had two sons, Hugh and Ferdinand. He does not seem to have been in financial difficulties as he left over £70,000 (about £8m at 2019 prices) on his death in the early months of the Great War (*NPC*). During Robert's ownership the land agent was Charles Kenderdine who was living in Scadbury Park Mansion with his wife and three children by the 1901 census until early 1904 when he moved out, apparently to allow Hugh Marsham-Townshend and his new wife to move in (below). He returned in around 1912 (Scadbury Park Mansion must have been empty in 1911 when it was omitted from the census) and stayed until 1919, again moving out to allow Hugh to return (Archer 2015).

Reoccupation – 20th century

Following Robert's death in 1914, his elder son Hugh Marsham-Townshend (1878-1967) inherited. His younger son Ferdie was killed in the Great war. Hugh was educated at Eton and Christ Church, served for a while in the army, and was appointed to the Commission of the Peace for Kent by the 1930s. He married twice,

to two sisters, daughters of Sir Henry Bunbury, 10th Bart; first Cecilia, and then, after Cecilia's early death, Laura, having one son by each marriage. Following their marriage, Hugh and Cecilia lived in Scadbury Park Mansion from 1904 to 1912. Cecilia died in Hampshire in 1912 (*NPC*), but later the same year Hugh was living at Mildenhall, Suffolk, near the Bunburys' seat, presumably seeking support with his young son and perhaps courting Laura, who he married in 1913. ODAS note that Laura seems to have been a driving force in developing the commercial potential of the estate and wonder whether she was also instrumental in the redevelopment of the house and perhaps the grounds (pers comm). It may therefore be incorrect to attribute the works in this period to Hugh alone.

In 1915, soon after his father's death and faced with death duties, The Marsham-Townshends auctioned the contents of Frognal House and put the Frognal and Scadbury estates on the market. Frognal House was purchased/requisitioned by the Government and became a military hospital, later becoming Queen Mary's Hospital. Following the redevelopment of Queen Mary's, the house was sold and survives today as a nursing home. The Scadbury estate did not find a buyer in 1915 and in the end was retained by the family. The Marsham-Townshends wished to see it developed for residential property, but successive planning proposals were turned down as the land was designated Green Belt. The Marsham-Townshends enlarged

Figure 4 – The recently extended house from the south-east, probably taken in the 1920s, see also Figure 58 (Historic England Archive; BL25833)

Figure 5 – The moat island towards the end of the Marsham-Townshends' initial works, about 1930, the Apple Store can be seen in the middle distance (BHC, 1080/2/1/17)

Scadbury Park Mansion, principally with two new wings to the south (Figure 4). The plans were drawn up in 1919 (BHC 1080/2/1/26/27) and in 1920, perhaps while building work was going on, The Marsham-Townshends were back in Hampshire (*Kelly's Directory*, Hants, 1920). Between the wars the Scadbury estate was run as a commercial fruit farm and one structure on the island, the Apple Store, survives from this period (Figure 5). After the war it was used to pack apples and there are pictures of apples being stored in the reconstructed hall; previously packing had been done in the estate barn, but that had been destroyed in 1945 (ODAS, pers comm).

In the interwar years, The Marsham-Townshends did significant work in and around the moat and island by clearing vegetation, digging out and filling with water the largely dry moat, building dwarf walls on top of the ruined walls he found (Figure 5). Then between about 1936 and 1938, he had a fantasy 'medieval hall' erected using old timbers, which was known historically as 'Manor Hall' (Figure 6), a project managed by the Kettering architects Gotch and Saunders. Hugh was said by Philip Street, who photographed the work in progress, to believe that the timbers, which were from Manor Farm in St Mary Cray, had originally come from Scadbury, and therefore that he was 'reinstating' them. However, this was incorrect, the timbers had to be cut to fit, and it is unclear why Hugh thought so (ODAS, pers comm).

Work commenced on the air-raid shelter immediately east of Scadbury Park Mansion in 1938, and from 1940 until 1944 the local Home Guard unit was based at Scadbury; the 54th Battalion, Kent Home Guard, part of the south-east London P Sector (Matthews 2016b, 74). At the very end of the war some of the back offices of

Figure 6 – The reconstructed 'Manor Hall', probably in about 1960 (BHC, 1080/2/1/17)

the house and the main estate barn, were destroyed by enemy action, allegedly the last V1 to cause any damage in England.

ODAS have letters exchanged in 1984 with a Mr Anthony Biggs who was born in 1927 in one of the estate cottages at the west end of the drive from Chislehurst (pers comm). His father was employed by The Marsham-Townshends in about 1920 to 'plant and create the fruit farm' and was the estate manager during the war. In his time the family estates amounted to about 2,000 acres, extending almost to Swanley. Mr Biggs recalls many details of the Scadbury Manor estate from his childhood, such as learning to swim in the east arm of the moat which was full of large golden carp and how the estate children used to beat the woods to 'put up' woodcock, partridge, pheasant, rabbits and hare 'to the guns' between about 1934-8. During the early years of the war the Apple Store was empty (having been a workshop during the erection of the reconstructed hall) and sand-bagged for use as a 'blast shelter' and later, trenches were dug along the south edge of the woods as part of London's anti-tank line. The letters also include his incredibly evocative memories of when he was in the Home Guard:

> In the 1940/41 period at dusk and dawn 'stand to' we would patrol the old moated area alone to watch for any signs of German 'falschamm jaeger' [sic] (paratroopers) which might signal invasion either imminent or in progress. The moated area affording a perfect view towards the south coast. I can still remember the smell of damp morning air and as daylight crept on, the low scudding clouds and myself at 16 years of age beside these very ancient but

> reasonably still well kept remains. A Hurricane shot down during the Battle of Britain landed at the corner of 'Littlewood' towards the Sidcup Bypass end of the estate, another during the bombing of Biggin Hill and Croydon – A Spitfire in a screaming dive which seemed would never end – finally pulled out and loose the end of its left main plane – in the area of the Perry Street Lodge end of the estate where I was standing and where my father and we by that time resided. Spent bullets and cannon shells, shrapnel splinters, ammunition links jingling from the sky. The bomb craters – 2 roads impassable – the parachute mines – damage to cottages on the drive...

Hugh remained at Scadbury Park Mansion during the war but in the late 1940s passed the estate on to his elder (and only surviving) son, John. By 1951 Hugh had gone to live with his adopted daughter Doreen Leigh-Pemberton (nee Townshend-Webster, the circumstances of her adoption at not known; Archer 2016, 71) and his son-in-law John Leigh-Pemberton (1911-97), first on Sloane Square and then in Roehampton (Electoral Registers, Chelsea and Putney). Leigh-Pemberton was a graphic artist and painter who worked closely with the portrait painter Sir Oswald Birley. He painted portraits of Hugh and John Marsham-Townshend but is probably best known for his contributions to the Shell series of Countryside posters and to several Ladybird books on natural history.

Hugh's elder son John Marsham-Townshend (b 1905) (see Pirie-Gordon 1937) was educated at Eton and then went into the Diplomatic Service like his grandfather and served in the Scots Guards in the Second World War. He rebuilt some of the back offices of Scadbury Park mansion that had been destroyed by enemy action, but otherwise his ownership seems to have been a period of decay. The orchards were grubbed out in 1971 using government grants (Archer 2015). He died in 1975 with his estate valued at £350,347 (*NPC*).

John had never married, and as his half-brother Thomas had died from wounds received in the war, the estate was inherited by his nieces June and Susan (Thomas' daughters), June as the elder holding the lordship of the manor. Scadbury Park Mansion was gutted by fire shortly after John's death, in January 1976 (*Kentish Times*, 17/1/1976), fortunately after the muniments had been removed, and remained empty until 1983 when the sisters sold it to LBB.

Soon after acquiring the estate LBB levelled the surviving standing remains of Scadbury Park Mansion as a safety measure, covered the area with topsoil, and planted trees (Hart 2008, 3). A year later parts of the estate were opened to the public. Following their 1982 survey of the site, ODAS was given a licence to carry out archaeological work, beginning excavation in 1986, and in 1987 they organised the first of their annual open days. In November of that year the severely damaged reconstructed hall (which had been left empty on the island and was subject to vandalism) was dismantled and the timbers transferred to the Weald and Downland Museum. Some of the timbers from the reconstructed hall have recently (2020) been returned to the site. In 2001 the family archive, containing papers from the 17th to

20th centuries, was purchased by LBB with the help of a grant from the MGC/V&A Purchase Grant Fund. The site of the manor house on the island, the moat and the eastern fishponds were scheduled in 2013 and the next year were added to the Historic England Heritage at Risk register, featuring as the cover of the London section of that year's report (Archer 2015).

Summary

The summary below emphasises periods of growth and decline across the Scadbury Manor estate as well as investment and damage to the buildings.

- **c1200 CE: Start of 150 years of economic growth**
  - Archaeology suggests first occupation of the site, the moat probably an original or very early feature (the Anglo-Saxon place-name was probably simply topographic but may have referred to a farmstead to the immediate south in the Cray Valley)
- 1254: First documentary reference to *Scadhebir*
- 1257: First reference to the *de Scathebury* family, highly suggestive of occupation/ownership
- 1301: Lay Subsidy; John de Scathebury richest person in Chislehurst and 5th richest in the hundred
- 1326: The de Scathebury family were still adding to their lands
- **1349: Did the Black Death see an end to the line?**
  - A John de Scathebury dies without issue, no further references to the family.
- **1349-1424: Nothing is known about the estate**
- **1424: Another long period of growth**
  - Acquisition by Thomas Walsingham I with numerous other lands in the wider area, he was a wealthy merchant with high status connections
- 1433: Thomas I was adding to his estates
- 1457: Thomas Walsingham II inherits, but may already have been managing the estate suggesting continuity, he probably funded the rebuilding of Chislehurst church so had disposable wealth
- 1467: Thomas II dies, but his widow remarries, and the couple live on at Scadbury
- **1483: A long period of continuity and security**
  - James Walsingham comes of age and may have received Scadbury, certainly by 1485 when his stepfather dies; he had married well bringing considerable wealth into the family and held Scadbury as his primary seat for over 50 years
- **1540: Start of a period of neglect?**
  - Edmund Walsingham inherits, little initial interest in Scadbury but appears to have returned to Kent in 1547; £600 from sale of property in 1549 may have allowed Edmund to improve Scadbury but his death in the same year suggests otherwise
- 1549: Thomas Walsingham III inherits

- 1584: Thomas III dies in debt and leaves Scadbury with his executors for 21 years to pay these off, Edmund Walsingham inherits
- 1589: Thomas Walsingham IV inherits
- 1597: Thomas IV buys Dartford Manor suggesting some wealth,
    - **Queen Elizabeth I's visit is highly likely to have prompted investment (in the manor house and grounds at least)**
- 1605: Possible end of the entail set up by Thomas III (though this may have been paid off earlier)
- 1611: Thomas IV buys Chislehurst Manor again suggesting available wealth
- 1630: Thomas IV dies leaving debts of over £3,000 (almost £670,000 in 2019 according to the Bank of England) so any investment and purchases may have been funded by loans, Thomas Walsingham V inherits
- By 1642: Thomas V's debts had risen to £9,000 (over £2 million in 2019)
- **1660: A brief period of investment**
    - Thomas V sold Scadbury to Sir Richard Bettenson who soon afterwards spent £800 on repairs 'new built' (over £130,000 in 2019)
- **1679: Stagnation and decline?**
    - Sir Richard dies and is succeeded by his 3-4-year-old grandson Edward; little likelihood of any significant investment
- c1694-5: Sir Edward Betenson attained his majority and came into his estates where he lived quietly all his life
- 1733: Sir Edward dies unmarried, probably the last owner to live in Scadbury Moated Manor, and his estates passed to his sisters, all of whom had their own houses and little interest in Scadbury
    - At this time his Chislehurst estates were mortgaged for £6000 (almost £1.5 million in 2019)
    - Parts at least of the Scadbury Park estate were let out by this date, if not earlier
- 1736: The Scadbury Park estate is sold to John Selwyn (Sir Edward's nephew) who had family connections with Gloucester and held offices in London so had little interest in Scadbury
- **1738: Scadbury Moated Manor demolished**
- 1742: John sold the Scadbury Manor estate to his son-in-law the Hon Thomas Townshend
- c1750: Thomas purchased Frognal House, which becomes the family seat for the next 165 years, relegating Scadbury to a component part of their estates, which let out with what became Scadbury Park Mansion occupied as a farmhouse
- 1780: Thomas' son, also Thomas Townshend, inherits, became 1st Viscount Sydney
- 1800: John Townshend, 2nd Viscount Sydney inherits, he appears to have brought the estate back in hand
- 1831: John Robert Townshend, later Earl Sydney, inherits
- 1890: Earl Sydney's nephew, the Hon Robert Marsham inherits, assumes the Townshend name

- 1915: Hugh Marsham-Townshend inherits, sells off Frognal House but the wider estate doesn't sell and is retained
  - Hugh had lived in Scadbury Park Mansion in 1904-12, and spent the war living in Mayfair
- 1920: The Marsham-Townshends move back to Scadbury having had work done to extend Scadbury Park Mansion, the extensive orchards were also planted at about this time
- **c1922-38: Work on the moat, moat island, walled garden and surroundings**
  - Including the reconstructed hall 1936-8
- 1938: Start of wartime works, notably the air-raid shelter to the east of the house
- 1940-4: Scadbury was the base for the local Home Guard unit
- By 1951: Hugh had left Scadbury, his son John remaining
- 1967: John Marsham-Townshend inherits
- 1971: The orchards are grubbed out
- 1975: John dies, and the estate passes to his two daughters leaving the house empty
- **1976: Scadbury Park Mansion gutted by fire**
- 1982: ODAS involvement begins with a survey of the moat island
- 1983: LBB purchases the estate and soon after levels the remains of the mansion
- 1985: Estate opens to the public
- 2013: Part of the site scheduled
- 2014: Scheduled Monument added to the HAR register

STRUCTURAL REMAINS ON AND AROUND THE MOAT ISLAND

As noted above, archaeological evidence indicates that occupation at Scadbury Moated Manor originated in about 1200, though it is possible that the moat was secondary, added sometime over the next century or so. The island was then occupied, by the de Scatheburys, the Walsinghams and then the Bettensons and their descendants, until shortly before the demolition of the manor house in 1738. With continuous occupation over a long period, the manor house layout would have evolved from the high medieval period through to the early modern. The moat island was then abandoned for almost two centuries, until Hugh Marsham-Townshend moved into Scadbury Park Mansion, the former estate manager's house built on the foundations of a Tudor building, and began an extensive campaign of improvement starting in or immediately after 1919, though some work may have taken place in the Edwardian period. The remains on the island therefore comprise two distinct elements; those of the former manor house, and those of the Marsham-Townshends' garden.

Sources of evidence

Early maps

The earliest known depiction of the moat in any detail is on the 1st edition Ordnance Survey (OS) 1-inch to the mile map of 1805-19, previous representations being stylised. This shows a square moat, apparently completely water filled, with enclosures to the north and west, presumably the farm's yard and walled garden respectively.

The 1844 tithe map (The National Archives 17/87/1) shows the moat island as slightly trapezoidal, with the north-west corner projecting a little to the west, and the remainder of the island broadly rectangular, the form shown on later maps and seen today. The east, south and west arms of the moat were water filled, apart from a broad causeway running south from the south-east corner of the island. A track crossed the northern arm of the moat in roughly the same place as the current causeway; no causeway is depicted but tithe maps did not usually depict such features. Two buildings are shown on the island; one in the approximate position of the Undercroft, one to the south.

The 1st edition 6-inch and 25-inch to the mile maps surveyed in 1861-7 and published in 1868 (Figure 7), show the moat island as about 41m east/west by 36m north/south, and surrounded by revetment (or possibly enclosed). Three probable buildings are depicted on the island: the ones to the north and south shown on the tithe map, and one to the west. The eastern arm of the moat was a well-defined, roughly rectangular pond, wider than the other arms. The western arm appears to have been partially water filled, though perhaps only seasonally so; was less regular and only depicted in outline, not shaded. A well is shown in the moat just north of the outer south-west corner (south of a cistern identified by the Orpington and District Archaeological Society (ODAS) (Hart 2019)) approached by track running

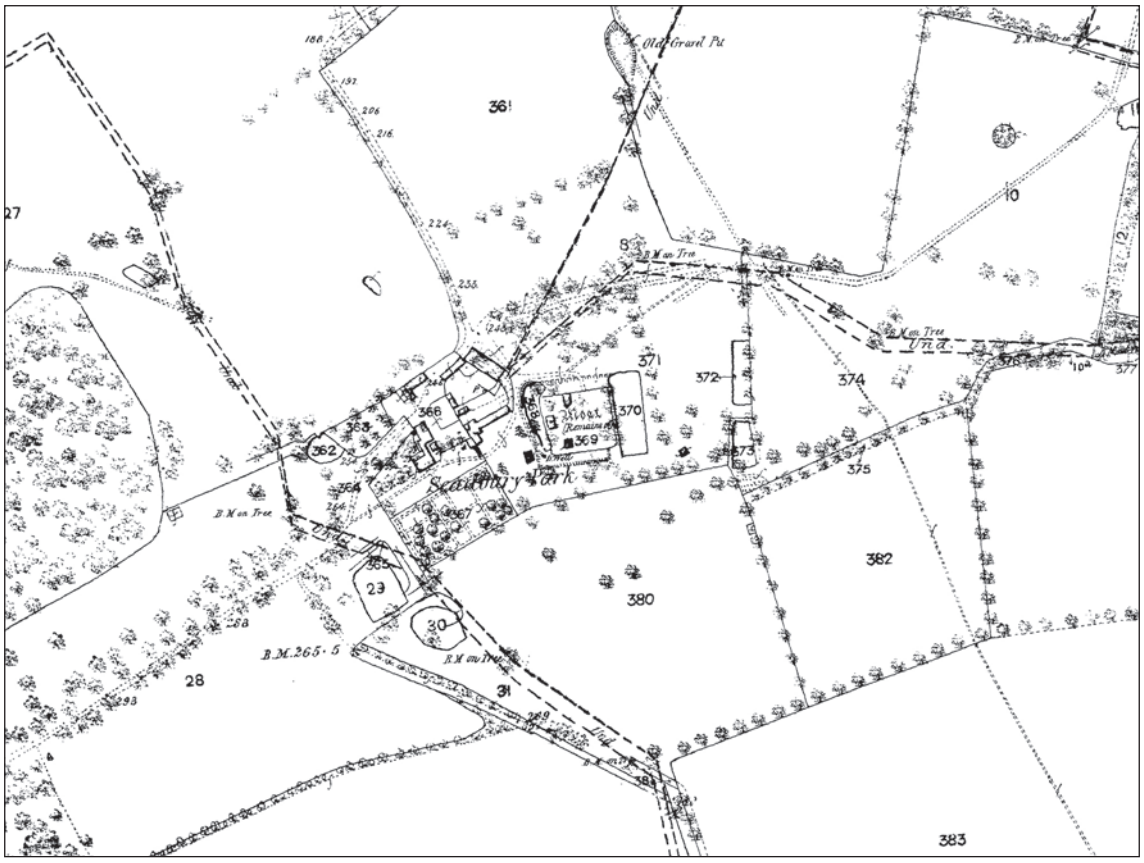

Figure 7 – Detail of Kent VIII OS 6" to 1 mile map published 1870, surveyed 1862-8 (© and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024)

obliquely down into the moat so it seems likely that any outer wall must have largely collapsed. The northern arm is depicted as dry and crossed by a track as on the tithe map, but again it is unclear if there was a causeway. The southern arm and causeway are not shown.

The 1897 2nd edition OS (Figure 8) echo this general picture but add detail. The moat island revetment (or enclosure) is confirmed, but the east side has two lines suggesting separate revetment for the island and the eastern arm. The east and west moat arms contained water as previously. The north arm was again dry, and it remains unclear if the track ran on a causeway. The south arm and causeway are depicted once again, probably due to more accurate representation rather than any change on the ground. The structures on the island are confirmed as roofed buildings by hatching. The northern and southern buildings appear much as previously with the former labelled 'Boat House' which must refer to boat storage as the adjacent moat was dry. The western building is shown as a larger north/south rectangle, rather than roughly square, with a dashed east side where it was open, but it is not clear if this is due to improved mapping or a change to the building. Small rectangular features appear to record the stone corbels on the island with a pair opposite that no longer survive.

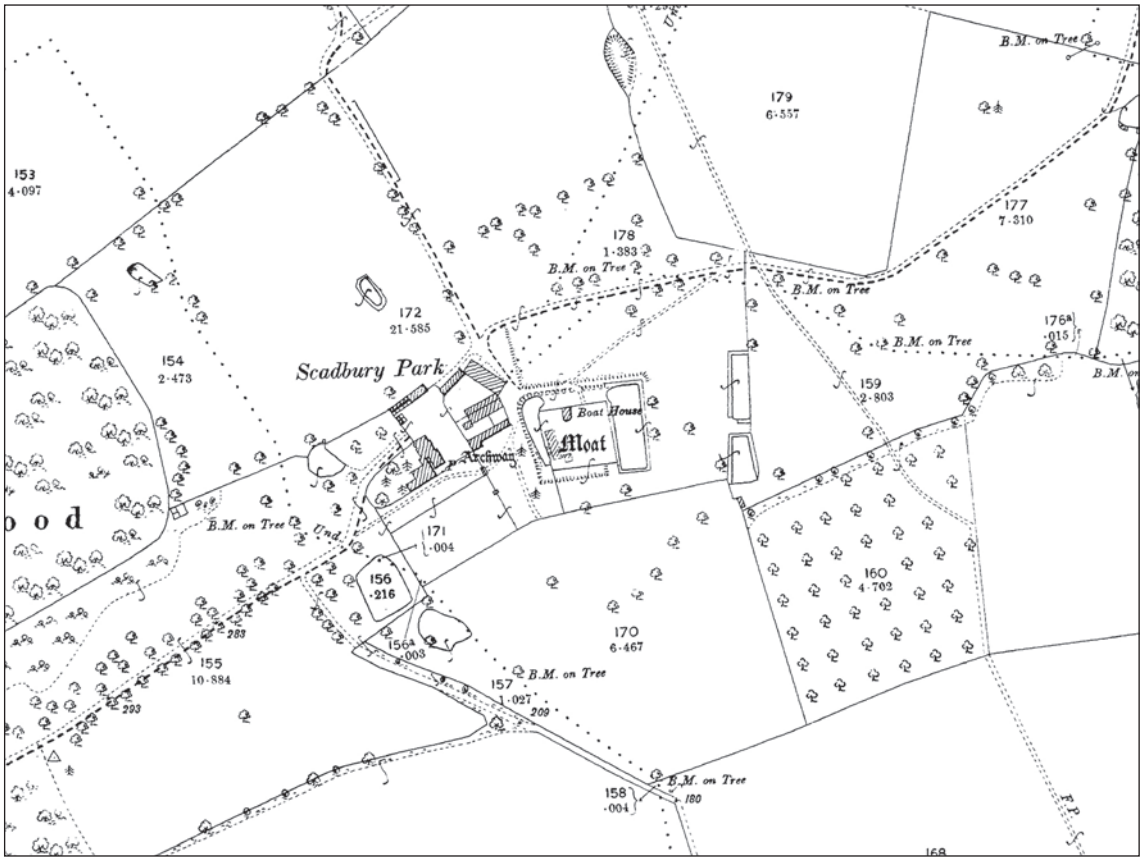

Figure 8 – Detail of Kent VIII.15 OS 25" to 1 mile map, not to scale, published 1897, revised 1895 (© and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024)

The 1909 3rd edition OS map (Figure 9) shows very few changes. The eastern boundary of the island is depicted tight to the eastern arm, a little to the east of the previous line, and the western and southern buildings on the island have been omitted, perhaps ruined or demolished, in keeping with the description in Webb et al (below).

A late 19th-century description

The remains of the manor house were described in some detail at the end of the 19th century:

> Scadbury House was demolished ... and unfortunately no record exists of its appearance or plan ... Its site is however intact, and some of the lower portions of its walls remain ... The lower portion of its front wall remains up to the level of the ground floor. The dimensions of the house – so far as can be ascertained – were 112 feet front and back by 120 feet deep. On the north side there is a small cellar having a depressed barrel-vaulted ceiling, and splayed round-headed window. (Webb et al 1899, 285-6)

It is unclear exactly what was meant by 'front and back' and 'deep' as they seem to suggest the same measurement, and the measurements could be applied either way

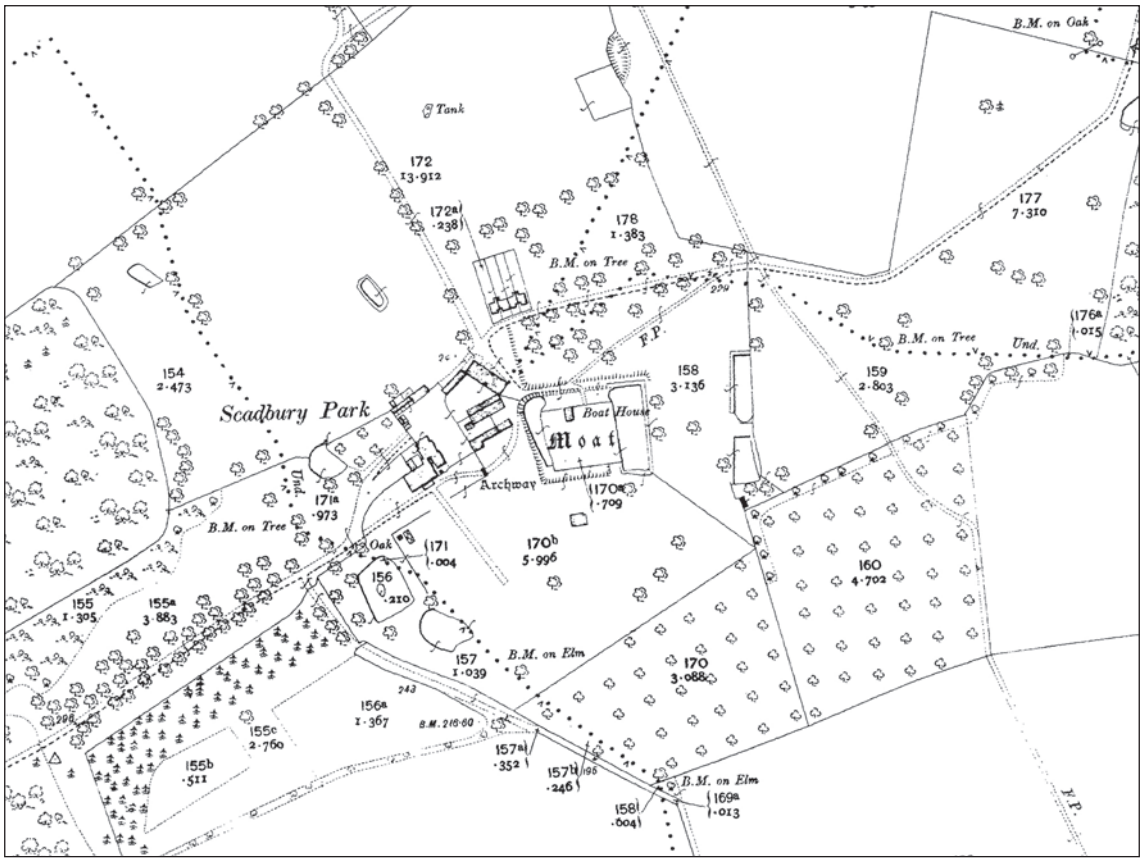

Figure 9 – Detail of Kent VIII.15 OS 25" to 1 mile map, not to scale, published 1909, revised 1908 (© and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024)

around, however it is clear that the house remains almost completely occupied the moat island, apart perhaps from a strip along the east side. The cellar must be the Undercroft and the splayed window survives. That no other buildings are mentioned is in keeping with the 3rd edition OS maps. The description then goes on:

> The moat is nearly dry on all sides but the east, where it has been embanked, and is wide, and well filled with water. There is a spring of excellent water at the west side near the entrance. The step leading to this is a piece of ornamental stonework, apparently the return of a string-course or cornice. (Webb et al 1899, 286)

The spring was shown on the 1st edition OS maps (above) and the stone step sounds like it was reusing material from the manor house, perhaps recovered from the moat (below). There is then a brief description of the manor house which:

> was built round a quadrangle entered by an archway, the moat being crossed by a drawbridge. The corbels in which this revolved are in situ, and the socket-holes are quite perfect. Beneath in the moat are several pieces of the stone jambs of the archway. From these remains we can see that the jamb had splayed projections on each face, the inner and smaller being probably the impost, and the outer, buttresses, as in the gateway. (Webb et al 1899, 286)

The presence of the quadrangle is noteworthy. The corbels are still in situ, and these and the fallen stones in the moat can be seen in a plate, which also shows the overgrown nature of the site (Webb et al 1899, opp 106).

> The avenue from St. Paul's Cray Common is terminated by its entrance gateway, which is of brick, having a four centred arch, and splayed brick buttresses on each face. (Webb et al 1899, 285)

A note about this arch records that:

> Mr. Kenderdine tells us that an old man named Dean, who worked on the estate all his life, remembered that there was formerly a stone over the arch bearing the date 1540. This fell down with a portion of the superstructure many years ago; and though Dean was under the impression that the stone had been replaced when the rebuilding took place, it cannot now be seen; but it may be concealed by the dense mass of ivy stems which have covered the gateway. (Webb et al 1899, n1 285)

The 'rebuilding' referred to was probably that of 'the residence of the agent Mr. C. Kenderdine ... outside the gateway' (and examined by ODAS (Hart 2008)):

> which has been enlarged and otherwise much improved in recent years ... Hasted says that it was built from the materials of the old mansion but this is doubtful; for its walls are of stone rubble, while those of the other were of brick. It probably was much altered and added to in the last century; but we think there can be no doubt that it was the former gatehouse. Externally it shows no trace of wrought stonework or other ancient detail, but the vaulting of the cellar is exactly similar to that of another at Scadbury House. (Webb et al 1899, 285)

The confusion over materials can be explained as it is likely that there was once more flint on the island which was replaced by brick, potentially leaving the old material available for reuse (above). Presumably the other cellar refers to the Undercroft.

The description then moves away from the moat and island and mentions, based on a 1705 beating of the bounds (Webb et al 1899, 408-10), 'an enclosure on the north side of the house called the Rookyard, and another on the east called the Paddock; while the orchard was on the south slope below the present kitchen garden' (Webb et al 1899, 286). The kitchen garden was presumably within the walled garden to the west of the moat and south of Scadbury Park Mansion.

The description then details some remains discovered 200yds north of the Scadbury Moated Manor:

> In a field at the edge of the park, there is a sandy pit about twelve feet deep. This was formerly level, and a large elm-tree grew on the spot. In 1851, during a gale, this tree suddenly sank into the ground for a considerable distance. On removing the stump, remains of masonry, indicating an arched passage, were found; the collapse

> of which had caused the fall of the tree. This was probably a drain for letting off the water from the moat for cleansing purposes, as a doorway and passage exist in the outer bank of the moat beneath the surface of the water. (Webb et al 1899, 286)

The 'doorway and passage' must have been in the north side of the moat for the above inference to have been drawn, so it is possible that the 20th-century works that appear to be related to managing water within the moat, adjacent to its north-east corner (below), are making use of an earlier feature. The hollow cannot be seen; perhaps it was filled in being dangerous to livestock.

The excavation photographs

A number of photographs of the Marsham-Townshends' moat excavations (Figure 10), as well as a few from a little later, survive in BHC (1080/2/1/17). These show

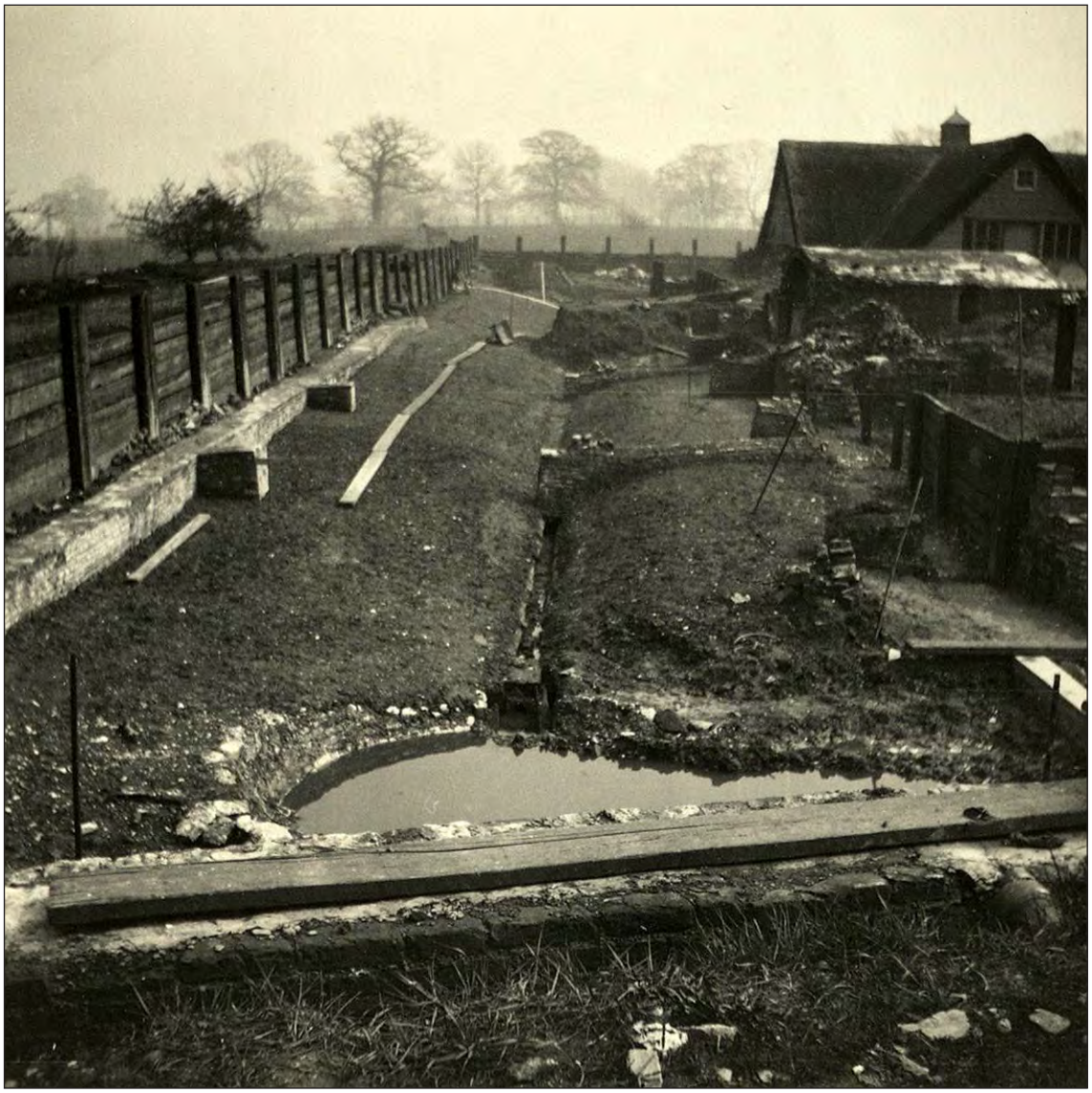

Figure 10 – An example of one of the excavation photographs of the 1920s showing the north moat arm from the west (BHC, 1080/2/1/17)

the moat before work commenced (or at least very early in the process) and at several stages during and afterwards and most must date from the 1920s. Several show parts of the moat before any obvious work, with the east and west arms holding water, and with the former drained but almost completely silted up. The earliest stages of excavation were rather untidy with spoil apparently dumped close to where it had been excavated. The later stages involved the use of a small railway and cart to remove spoil. In a few photographs, brick walls can be seen within the on-going works suggestive of the foundations for walls above that had been lost or removed. The photographs then record the construction of timber revetment and reinforcement within the moat arms. The photographs also include a general view across the island from the west showing a decorative pavement approaching the bridge abutments (presumably that dated to about 1700 by ODAS (Hart 2019)), where there was a temporary wooden bridge. Visible in the background is the Apple Store. There is also one showing the initial excavation of the Large Cellar, and another the area south of the Undercroft. Visible in the background of several of these photographs are what may be walls and spills of rubble, hinting at the state of the island and suggesting that they are early images.

Gotch & Saunders' 1928 plans

Several professionally produced scale drawings of the moat island survive in BHC, all apparently undertaken by the Gotch & Saunders (G&S) firm of architects in or around October 1928, though not all are signed or dated. They comprise:

- One slightly damaged but otherwise good quality plan entitled 'Scadbury Park Kent; survey of foundations of old house' signed by G&S and dated October 1928 (BHC 1080/3/2/28/15/6); this covers the entirety of the moat and island and has spot heights from a datum on one of the drawbridge corbels and some text notes (Figure 11)
- What appears to be a copy (or working version) of the above that lacks levels and has slightly simpler notes but survives in better condition (same ref, original source Sidcup Literary and Scientific Society)
- One in fair condition and of good quality entitled 'Scadbury Park Kent', signed 'G&S Archt', and dated October 1928 (BHC 1080/3/2/28/15/6 (6)); this only covers part of the island but probably most of the identifiable structural elements
- A damaged plan on tracing paper, perhaps originally covering much the same area as the above; untitled and unsigned but otherwise in the same style with very similar writing (BHC 1080/3/2/28/15/6)
- In addition, the same files contain an elevation drawing of the west front of the manor house entitled 'Scadbury Hall, Kent' in a very similar hand to that on the above plans but unsigned (BHC 1080/3/2/28/15/6 (3))

These plans are somewhat problematic. Despite the titles of the first two they include several features not depicted on earlier maps, such as the extension of the moat island to the east and the area inserted into the north-east corner of the moat, and omit the Apple Store which was in place (according to the excavation photographs, above). It is therefore difficult to be sure exactly what they are depicting; they show neither only old foundations nor all that was visible at the time. Although

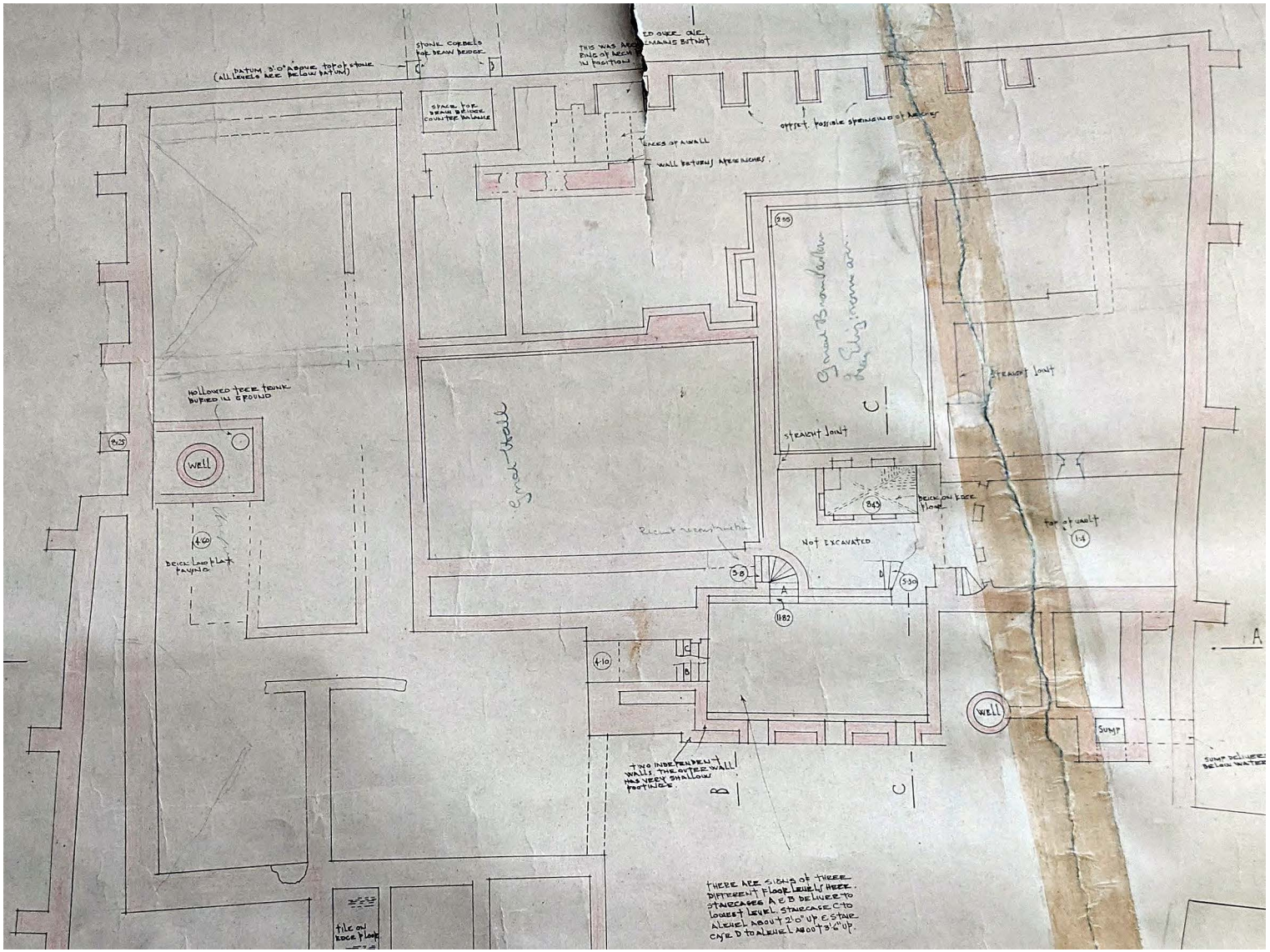

Figure 11 – Detail of the signed Gotch and Saunders survey plan entitled ‘Scadbury Park Kent; survey of foundations of old house’ and dated October 1928, showing the western two-thirds of the moat island, north to the right; the annotations in blue pencil are typical of the Marsham-Townshend but reflect the naming on other G&S plans (BHC 1080/3/2/28/15/6)

the depiction of a feature probably means the firm's surveyors found something to record, this could be of almost any date prior to autumn 1928 and whilst most of the Marsham-Townshends' works were built upon earlier foundations not all were.

The other two plans are also like one another, but again it is unclear what they record if anything; neither is stated to be a survey, and both depict features not appearing on the other plans. Several of these features are unlikely to have survived to this date if the description in Webb et al (1899) is accurate, such as ground floor windows, so it is likely they are reconstructions, though the nature and quality of the evidence they are based on is unknown. The elevation drawing would appear to depict a building based on the third plan, confirming a reconstruction, but what period is intended is uncertain. The overall appearance of the elevation suggests that the reconstruction may have been intended to portray the manor house in the late 16th century but considerable efforts seems to have been made to tie the plans to an inventory of the manor house undertaken in 1727 (below). All the plans (survey and reconstruction) show various spaces labelled using room names from the inventory and though the later site of the reconstructed hall is consistently labelled 'Hall' the other identifications are quite varied.

Note that a very rough plan of the moat and island also survives (also BHC 1080/3/2/28/15/6) which sketches the key features of the island with various measurements of the moat, as well as several other more cryptic sketches. Perhaps these were notes from an initial rough survey.

Later evidence

There are several photographs taken at about the time of the work to the Kitchen area, perhaps 1929 or 1930; these show some piles of bricks within the Kitchen but elsewhere planting looks established (BHC 1080/2/1/17).

The 1933 4th edition OS map (Figure 12) shows the developments on the island in outline, including several features not shown on the G&S survey. At the relatively large scale used, the presence of a feature (allowing for some conventional depiction and simplification) can be taken to be a reasonable indication that it existed, but an absence does not prove it did not.

Two Aerofilms aerial photographs from 1934 show the site at about the same date but unfortunately the negatives are damaged; only one shows the whole moat and island (Figure 13), the other having a crack running east/west across it (Figure 57). They show the extent of the Marsham-Townshends' works before the erection of the reconstructed hall in some detail.

BHC hold notes and sketches by Hugh dated 10th April 1936 relating to plans for the erection of the reconstructed hall, with detailed plans by architect John Pym dated 15th April 1936 (1080-3-2-28-15-6 (4b) & (4c)) as well as a photograph of the works in progress (1080/2/1/17).

The Biggs letters held by ODAS (see 'Known history' above) record that, amongst many other things, Mr Biggs recalled that:

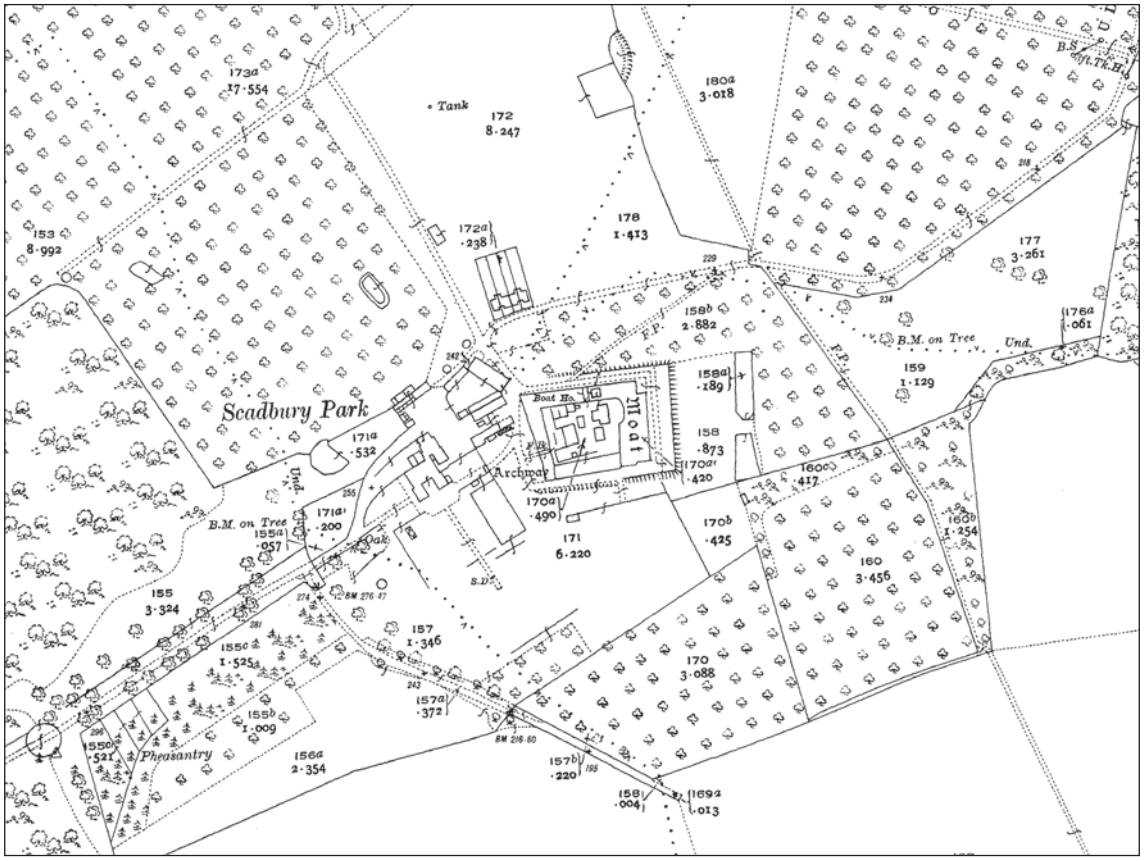

Figure 12 – Detail of Kent VIII.15 OS 25" to 1 mile map, not to scale, revised 1930, published 1933 (© and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024)

- The cast iron foot bridge was in place by about 1930, possibly as early as 1927
- The main moat excavations were nearly finished by the time he was 5 (1932), he believed the 'tailings' were dumped to the north of the moat
- The island was treated as a 'brick yard' by the Marsham-Townshends with old bricks stacked for reuse (but he noted that Mr Rhodes (below) could make his own brick and tile for the reconstructed hall)
- Work on the reconstructed hall took place between 1936 and 1939 with the roof being fitted in 1937-8, it was undertaken by a Mr Rhodes who used the first part of the Apple Store as his workshop, the timbers stored in the main part. Notes on a map in his second letter suggest that the causeway may have been strengthened to allow the timbers to be brought onto the island.

The first letter also contained a small sketch map of the moat and immediate surroundings which showed the Apple Store and the reconstructed hall ('Great Hall') on the island which was accessed via a 'steel arched plank bridge', a summer house 'circa 1935-6' (actually in place by 1934; Figure 13)) in the north-east corner of the moat, vegetable garden and potting shed to the south, Elizabethan sundial and arch to the west with sheds (one of which was his father's office) and a scythe sharpening area to the immediate north, farmyard and barn to the north of this and the brick foundations of greenhouses/hothouses to the north of the moat.

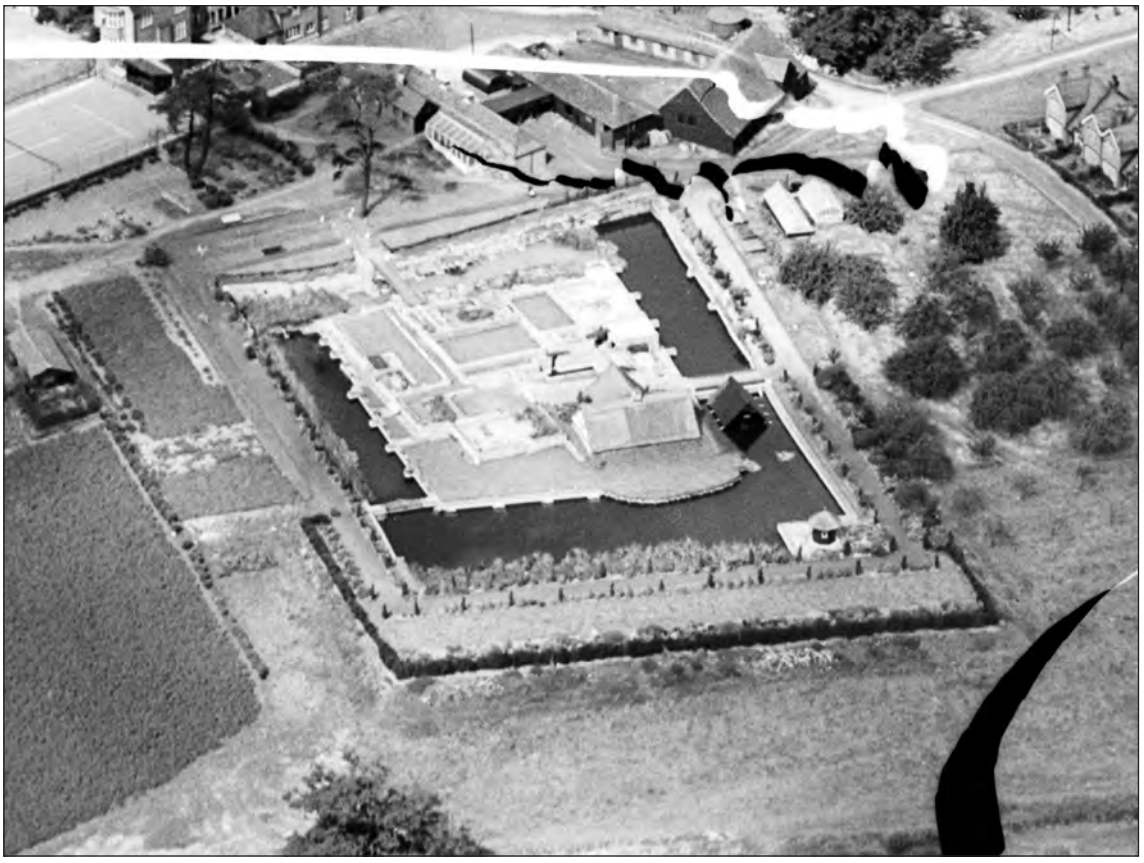

Figure 13 – Detail of a July 1934 aerial photograph of the moat from the ESE. AFL193407/EPW045613 © Historic England (Aerofilms Collection)

Description of the remains

See Figure 55 below.

Note that in general, capitalisation is used to distinguish the names used by ODAS from more general usage; 'Kitchen'/'kitchen', 'Parlour'/'parlour' or 'Hall'/'hall' for example.

The following description is based upon a detailed survey undertaken during this project at a nominal scale of 1:250 and an on-site inspection of the remains. This was supplemented by a review of a photographic survey of the island undertaken by ODAS in 2011/2012, carried out after the fullest clearance of the site for some time and therefore showing lower courses of brickwork no longer visible, or in some cases now lost. The recent photogrammetry was also checked, but this proved less useful as although geometrically accurate and to scale it failed to show the lowest courses clearly. This description runs anti-clockwise from the causeway, finishing with the Apple Store before going on to the outer moat walls. The naming used below is that previously used by ODAS.

Two forms of brickwork predominate. Most of the upper work is of irregular length bricks laid stretcher bond in a hard cement mortar and is almost certainly by the Marsham-Townshends, who seems to have taken little care over the bonding,

presumably because their work was not structural. This is referred to below as *late*. Underlying most of the late work was better quality but degraded brick work, usually of whole bricks (as far as could be seen) laid to English bond in a soft, probably lime mortar referred to below as *early*. Several areas of flint work were also identified and, though some had late pointing, they appear at core to be in lime mortar and were also presumed to be *early*. Note that although multiple phases of early work were identified in several places (below), almost all dating remains relative and a more refined phasing might be misleading.

Main areas are named on Figure 55; numbers in square brackets also refer to this figure.

Causeway

This is mainly retained by cast concrete walls with some brick in hard mortar, and some possibly early brick, visible on the west side where the causeway meets the island. It is likely that this brick is a surviving buttress for the early moat wall to the south incorporated into the causeway. Photographic and archival evidence shows that the Marsham-Townshends created the causeway in its entirety. The 1928 Gotch and Saunders (G&S) plans suggest that the original causeway was narrower, and the excavation photographs indicate that it was originally constructed of timber revetted earth, so it appears to have been reinforced later. This must have been before 1934 as

Figure 14 – The Causeway from the south-west, note the cast concrete reinforcement and the brick to the right (Magnus Alexander 11/08/2020 © Historic England)

the aerial photographs (Figure 13) show the surviving form. It is suggested above (in the Webb letters) that this was to allow the timbers for the reconstructed hall to be transported onto the island but this appears to be incorrect as Phillip Street suggests that Hugh was not aware of the availability of the timbers used until early 1936 ('Discussion' below).

Area east of Undercroft and north of Large Cellar

Two parallel walls run WSW/ENE through this area approximately perpendicular to the Undercroft but on a slightly different orientation to the north moat wall (Figure 15).

The northern wall [1] is broader than the southern and appears to have stepped out at the base though the wall is in poor condition. It retains higher ground to the south, perhaps explaining its relatively substantial form. The upper courses and surviving north face (see Figure 29) are late work though much has been lost; more has survived to the west where the wall is rather crudely tied into the Undercroft. The surviving lower courses appear early.

Immediately south of the east end of this wall are two sides (W & S) of a brick shaft built against it. The east side also appears to survive but is obscured by a stump. It cannot be seen if this structure is tied into the wall to the north. The G&S survey shows that the west wall extended south to the well (below) and described this

Figure 15 – The Undercroft from the east, the two walls discussed are visible in the foreground (Jonathan Kewley 26/04/2017 © Historic England)

feature as a 'sump' noting that it 'delivers to moat below water level'. An ODAS photograph showed loose chalk rubble in this shaft.

Little of the southern wall [2] can be seen but that which is visible is early with crude late pointing. It cannot be determined if it is tied into the east Undercroft wall. There is a layer of late brickwork on top of this and traces of hard mortar suggesting some lost courses. A slight parchmark suggests that the wall continued east with a return to the south on approximately the same line as the east wall of the 'sump'. This is slightly different to the G&S survey which showed it terminating further west at a wall extending south from the sump's west side to the well (below). A low ridge was surveyed on this line though.

To the south of the southern wall is a circular well [3] but a metal cover makes it difficult to examine (Figure 16). To east and west are the remains of wooden posts set in concrete, suggestive of a late ornamental 'wishing well' and confirmed by photographs from the 1960s in the possession of ODAS. ODAS noted that its 'brick lining is similar to other 15th- and 16th-century brickwork on the island' (Hart 2011, 11), so the Marsham-Townshends must have adapted an earlier feature. They also investigated an unfinished well to the south which they thought probably dated to the 16th century and had been abandoned as this well was thought to be in a more suitable position (Hart 2011, 11). If so, this suggests a 16th-century date for this well and perhaps the other early brickwork here.

The impression is that the area to the north, between the two walls, was a 'room', with the 'sump' in the corner perhaps a drain, which suggests a functional role. The area to the south might also have been a room though this is less clear; if so, the well also suggests a functional role. With features in both possible rooms relating to supply and disposal of water it is tempting to wonder if this structure was a laundry or associated with food preparation in some way.

Figure 16 – The north well from the north-east. The late north wall of the Large Cellar can be seen in the background, note the use of concrete (Jonathan Kewley 26/04/2017 © Historic England)

Large Cellar

The Large Cellar is a flooded, rectangular structure with broad straight stairs to the south and narrow curving stairs to the west (Figure 17). The upper walls, over 20 courses deep in places, are late with early work beneath. The late walls include several decorative features including a relieving arch in the north wall possibly recording the former barrel vault and several niches, some of which may have early work visible behind. The visible southern stair is entirely late and discrepancies between the levels given on the G&S plan and levels recorded during the survey suggest that these stairs were rebuilt after 1928. The lower part of the small stair to the west appears to have been a fairly coherent, if narrow, early stair (0.65-0.80m wide), with a short straight section from the cellar and a rising curve turning 90° to the south, though most of it has collapsed or is underwater. From about halfway up the curving section the steps are late and though some have partially collapsed, the upper steps are in place. The top of the stairs has an awkward relationship with the north-east corner of the Hall and narrow to 0.50m, though this could be a result of the late work rather than original. The early work has decayed in several places leaving the late work above poorly supported (Figure 18). This has led to some shifting en masse of the late brickwork, particularly the west side north of the small stair and to either side of the south stair. At the base, the lower eastern and western walls step in a slightly and at the north-west corner the late work overlies the probably early wall running south from the Undercroft (below) which aligned with lower section of the western cellar wall, suggesting they may have been part of a single structure, though a direct relationship cannot be seen. The interior of the

Figure 17 – A general view of the Large Cellar from the north-east with the columns and the fireplace of the Hall behind (Jonathan Kewley 26/04/2017 © Historic England)

cellar is cement-rendered at its base, but as the Small Cellar and Hall (below) are also rendered, and the water level would appear to match that in the moat this is unlikely to have been deliberately to create a pond.

The Large Cellar has a complex history. One of the excavation photographs shows the cellar after some clearance, though the eastern wall cannot be clearly seen. It had a brick floor at a higher level than today, and the western wall is continuous with a spring for a barrel vault; the south-western stair cannot be seen. The slightly later G&S plan shows a rather different structure to that visible today and shown in the excavation photograph, perhaps after further clearance work, the removal of some elements and excavation. The eastern wall appears to be a rather complex structure, and perhaps showed evidence for windows above, as these are depicted in the G&S reconstruction plan (Figure 56). The western wall included the surviving south-west stair plus another to the north-west, no evidence for which is visible today, and which would have probably been just out of frame of the excavation photograph. There is also the suggestion that both east and west walls had projecting bases much as seen today, though broader.

The G&S plan notes that 'There are signs of three different floor levels' in the cellar (Figure 11). The south-west staircase and the south staircase 'deliver to the lowest level', a second staircase to the south, presumably built over the lower staircase and therefore later, delivered to 'a level about 2'0" up', and the north-west staircase 'to

Figure 18 – A view south-west across the south of the Large Cellar with the Hall behind. The south stair is to the left with the small west stair to the right. The extent of decayed early fabric below the late work is clearly visible between the two (Jonathan Kewley 26/04/2017 © Historic England)

a level about 3'6" up', probably the level shown in the excavation photograph. the Marsham-Townshends must have excavated the cellar back to its original level for it to have been possible to make these observations. Calculating from the levels given on the G&S plan the lowest of these floor levels would have been at about 73.6mOD or a little lower, the second at 74.2mOD and the highest at 74.6mOD. Although variable, apparently due to the loss of some bricks, the level of the projections at the base of the east and west walls was between about 74.4mOD and 74.6mOD, a good match with the estimated level for the highest, and presumable final, floor level. It seems highly likely therefore that there were at least three phases in the life of the Large Cellar, each apparently with a higher floor level, perhaps repeated attempts to deal with groundwater seepage. This would have had implications for whatever was above, which must also have been rebuilt or remodelled to raise the ceiling, though not necessarily every time the floor level was raised.

From the above, it seems likely that the Marsham-Townshends removed secondary internal walls revealing the details of the eastern wall's structure and the two western stairs prior to the G&S survey. He then appears to have built up upon the early work he exposed, rather than the lines of the secondary internal walls he removed; the projecting lower parts of the east and west walls are probably remnants of the removed secondary walls. ODAS however recorded the original eastern cellar wall surviving to ground level to the east of the late wall and suggested that the late wall was built within the earlier footprint (Hart 2011, fig 20, 44), contrary to the

Figure 19 – The Large Cellar from the south with the block of brickwork wrapping around the south stair. Note the possible joint to the lower left, the second joint is obscured by the buff block (Jonathan Kewley 26/04/2017 © Historic England)

above; perhaps the Marsham-Townshends treated the eastern and western walls differently. It is unclear why he built over what was probably the latest staircase, that in the north-west, but given the current floor level within the cellar perhaps he was attempting to recreate its 'original' form.

To the south and east of the top of the south stair is a large, L shaped block of early brickwork [4] (Figure 19), which ODAS dated to about 1500 (Hart 2011, fig 3, 8) apparently on the form of the bricks, the lime mortar, and evidence from elsewhere. It seems likely that this formed the foundation for a structure, its compact form suggesting something with a relatively small footprint; ODAS suggested a staircase (Hart 2011, 10). It may have blocked the lowest (original?) stairs into the cellar and so have been secondary, perhaps related to a rebuilding of the structure above. The G&S survey noted that at the south-east corner of the cellar were two walls independent of one another, the outer with very shallow footings, so perhaps constructed to visually tie two phases of work together rather than being structural, lending some support to this suggestion. To the west is a late wall or planter that the G&S plan suggests was constructed on a separate wall running south from the cellar. Despite being rather roughly laid there are two fairly neat joints visible within the rather decayed brickwork suggesting the western side wall of the stair continued to the south separating the wall beneath the planter from the rest of the base.

Undercroft and Small Cellar

The Undercroft is a substantial brick-built structure with a thick, low, barrel vault (Figure 20). It is the only building to be shown on all detailed early maps and is depicted uniformly suggesting it was always a significant element of the remains on the island, and probably in use; it was labelled 'Boat House' on early OS maps. It was in a poor condition and ODAS have undertaken various repairs to the structure (pers comm). In 2008 they repaired and repointed the northern of the two east-west walls, with a stepped section created against the Undercroft wall. In 2009-10 the west wall was cleared of vegetation and repointed, and repairs were made to the splayed window opening including cutting and insertion of replacement bricks and re-building of the external sill. The work was done using lime mortar and re-used bricks.

Internally the structure appears to be of a whole and apart from a concrete floor there is no obvious late work. Externally, the upper 0.7m or so of the eaves, is late with early work below. The base of the east face, between the two walls to the east described above, steps out a little, is on a slightly different angle, and is early, with crude late repointing (Figure 21). The upper part of this wall is on a slightly different alignment, has been refaced and is late. The lower parts of the north-east corner have late repairs, but there are suggestions of degraded English bond and parts project north of the later work above, suggesting it is part of the early wall to the south. In fact much of the earlier brickwork on the north faces of the Undercroft walls and vault is irregular suggesting that they had originally been tied into an end wall on the line of the current moat wall (Figure 22). At its base, the eastern wall is wider than the western and a vertical joint running up to the level of the spring for the vault is visible, suggesting the wall may have been added to along the eastern side and

Figure 20 – The Undercroft from the south-west (Magnus Alexander 11/8/2020 © Historic England)

Figure 21 – The east wall of the Undercroft showing the late work above and the stepped-out section below (Jonathan Kewley 26/04/2017 © Historic England)

Figure 22 – The north side of the Undercroft from the north-east (Magnus Alexander 11/8/2020 © Historic England)

Figure 23 – The north end of the east wall of the Undercroft, note the vertical joint left of centre (Magnus Alexander 11/8/2020 © Historic England)

rebuilt above the vault, where it was structurally simpler to do so (Figure 23). This suggests that the two east-west walls to the east of the Undercroft (above) are only tied into this and so part of a secondary early phase.

The lower parts of the walls of the Undercroft extend south beyond the vaulted section creating an 'area' between it and the Small Cellar accessed via a spiral stair set into the east wall. The upper part of the west wall [5] appears late (Figure 24). The lower section looks early and projects eastwards into the 'area' at the same level as the spring for the vault to the north, suggesting it may once have supported the vault which extended further south, also suggested by some irregular brickwork in the south face of the vault, probably all the way to the Small Cellar (and indicated on the G&S survey by a dashed line). The south-west corner of the Undercroft has a slightly awkward relationship to the Parlour; although the west wall of the former is on the same line as the east wall of the latter it is offset to the east and unlikely to have been built at the same time, though which is earlier and which later is not known.

The south end of the surviving vault is supported by two brick columns (rather crudely reinforced with late work) with a well-built semi-circular arch between and slightly awkward 'gothic' arches to either side, partially making use of the profile of the barrel vault (Figure 25). This supporting work appeared to be secondary to the main structure though this could not be confirmed. If so, then the cellar area might have been a deliberate creation, perhaps associated with the use of the Undercroft as a boat house.

Figure 24 – The west wall of the Undercroft 'area' with the spring for the barrel vault visible to the right. Some early English bond is visible at the bottom of the photograph with clearly late work above the step (Magnus Alexander 11/8/2020 © Historic England)

Figure 25 – The south end of the Undercroft with the 'area' in the foreground and the spiral stairs visible to the right (Magnus Alexander 11/8/2020 © Historic England)

Figure 26 – The east of the Undercroft 'area', the area of concrete and rubble to the right is the location of one of the steps noted on the Gotch and Saunders survey plan (Magnus Alexander 11/8/2020 © Historic England)

The spiral stair in the east wall [6] is late, though as a staircase is shown on G&S, and other work to the Undercroft appears to post-date 1928, it is probably a reconstruction. Most of the surrounding work is early with some late repairs and repointing (Figure 26) but it is unclear if this staircase is original to the vault or secondary, perhaps associated with the creation of the 'area'. The south wall of the 'area' was late cast concrete, retaining much higher ground to the south, some of which was made up of relatively modern rubble. A cast concrete wall of a similar date runs south at this higher level. Note that this was the location of a staircase shown on the G&S plan rising to the south from this point. As mentioned above, the east wall may continue south to form the west wall of the Large Cellar, but this cannot be confirmed due to this late work.

The Small Cellar is also of brick but here early walling survives to a high level and springs for a small barrel vault remain (Figure 27). There are niches in the south and west walls and two low piers against the east wall, as well as a full height pier in the south-east corner so clearly the cellar (and whatever stood above it) had a relatively complex history for a small structure. The west wall of the Undercroft does not form the west wall of the Small Cellar, which is offset to the west and appears to be integral with the east wall of the Parlour, so the Undercroft and Small Cellar seem not have been constructed as a whole. It has a simple but decorative brick floor which looks very similar to that in the Marsham-Townshends' excavation photograph of the Large Cellar (above) so could also be early, though as the floor in the large cellar was tertiary it is also possible that the Small Cellar was an addition. G&S give a level on the cellar floor of 74.60m OD (calculated) and nearby the actual level is only 0.06m lower, close enough to be due to error, historic or modern, and suggesting that it was not altered post-1928. Late concrete render in several places has been scored to look

Figure 27 – The Small Cellar from the NNE (Magnus Alexander 11/8/2020 © Historic England)

like ashlar and probably once covered the whole cellar; this is in keeping with the reconstructed hall so more likely of the 1930s than 1920s.

West of the Undercroft

This area, north of the Parlour (below), is divided into two by a central wall running north-south and from the strip of ground to the west by another wall, a continuation of the west Parlour wall (Figure 28).

The central wall [7] is in poor condition and in some areas fallen bricks have been restacked; they lack mortar and have no discernible bonding. Some areas survive intact and as far as can be seen are early. Some large flints are visible in the bottom of the south end of the east side, possibly indicating a projection from the north wall of the Parlour to the immediate south which has similar flints in its base. The flintwork is early but otherwise the date is uncertain (see discussion below). This appears to be the only wall to have been untouched by the Marsham-Townshends, though even here there are areas of late pointing. Within the south-west angle of the area between this wall and the Undercroft is a large block of bricks [8] like that described to the south of the Large Cellar (above) and also probably early. It also seems likely that this was the base for a moderately sized structure such as a staircase or chimney stack. The material making up the surrounding raised area contains much flint and chalk, so it is possible it is debris from a collapsed structure above or was dumped. The ground falls away to the north and east of this and

Figure 28 – General view from the west, wall [9] is in the foreground with [7] beyond, the Undercroft and Apple Store are in the background (Jonathan Kewley 26/4/2017 © Historic England)

appeared to have been cut back. The area to the east, against the Undercroft wall, was probably dug out to allow for runoff from a late drain inserted through the north Parlour wall.

The wall to the west [9] is almost entirely late, with a concrete core, the facing bricks coming away in panels. The north end has steep, narrow steps though the wall would have provided an insecure walkway so they must have been decorative. The lowest courses appear to be early, and to the south these have partially collapsed. On the east face this was more marked, revealing some large flints, and closer to the Parlour this appears to form an early, lime mortared flint wall base, though with late pointing. There are no flints visible in the west face. The flintwork is very probably early but for more on the date see the discussion (below). The area between the two walls falls away to the north more gently than that to the east. This appears to have been a deliberate decision by the Marsham-Townshends as the fall to the north is managed by a late brick and concrete wall with brick steps, running between the ends of the two walls, and another low, late wall to the north and east. The higher ground to the west is accessed by a set of wide, late steps on the line of the western wall and retained by a late wall to the north set back from the north moat wall.

North moat wall

To the west of the causeway a low wall [10] retains the moat island (Figure 29). The upper, visible brick courses are late and create a narrow walk along this side of the

Figure 29 – The north moat wall looking west from the Causeway (Jonathan Kewley 26/4/2017 © Historic England)

island. It is difficult to determine the extent of rebuilding as the lower work is in poor condition and below the water line. The clearest of the excavation photographs (see for example Figure 10) show there to have been several surviving buttresses and suggest that the eastern part of the moat wall itself (from the causeway to a few metres west of the Undercroft) then survived to close to the current height but that the western part had been lost, at least above foundation level. Cast concrete has been used extensively in this latter section, no doubt as a simple and economical repair, and to reinforce existing brickwork in places, such as around the buttresses.

Parlour

This is one of the largest single features on the island; a rectangle of moderate height walls orientated WSW/ENE that steps out slightly towards the base both internally and externally (Figure 30). The overall appearance is probably very similar to that of the Hall before the Marsham-Townshends' work of the 1930s. On all four sides the upper walls are late with bricks around a concrete core concealed by a coping layer, apart from where bricks have been lost. Below this is early brickwork, collapsing in places. The transition between the two is at a variable level, and not always clear due to repointing, but was probably determined by the height and condition of surviving walls at the time of the Marsham-Townshends' works. It is notable that in several areas English bond can be seen both within and above the broader base suggesting that this is an early feature of construction, not the result of narrow late work built upon a broad early base. Most of the visible late work appears to have been

Figure 30 – The Parlour from outside the north-west corner looking east. Note the decaying English bond at the base of the wall with some late concrete to the right (Jonathan Kewley 26/4/2017 © Historic England)

Figure 31 – East face of the Parlour's west wall (the opposite face to that in the foreground of Figure 30) showing the repointed flint (Jonathan Kewley 26/4/2017 © Historic England)

completed by 1928 as the G&S survey gave a level for the top of the wall of 76.46m OD (calculated) and the surveyed level is 76.48m, virtually identical. The interior ground level is high, has been levelled, and is featureless apart from a late, semi-circular, brick-built shaft to a drain in the north-east corner, which had some flints in its base. Internally, little early work can be seen due to this high ground level.

As noted above, the west wall continues to the north, and though the late walls do not quite align and the Parlour wall is wider, this is probably misleading; the underlying early walls align and are a uniform width for several metres beyond its north-west corner. As seen to the north, there are several areas of flint in the east face of this wall but not the west (compare Figure 31 with Figure 30). To the south, some late concrete can be seen in the base of the west face, probably shoring up collapsing early work. The north wall has also been mentioned above, and some flint is visible in the north face, but none can be seen in the south. Again, the east wall has been touched upon above as it appears to form the west wall of the Small Cellar which has a slightly awkward relationship with the Undercroft. Only the very lowest courses of the west face appear early and some flint is visible to the south. The east face is not visible apart from in the small cellar. The flintwork is no doubt early, but for more detail see the discussion.

Little of the south face of the south wall is visible. At its west end it appears much as elsewhere, with late work overlying early, although the English bond had two courses of stretchers between the headers. Most of the rest of the western half of the south face of this wall is obscured by a collapsing late planter built in brick against it (Figure 32). It is possible that this was built upon an earlier feature, but this is far from certain as any early work is much decayed and obscured by soil, what could be seen at its base looked like concrete. A feature did appear here on the G&S survey, but the plan also included some late elements; the G&S reconstruction plan (Figure 56) depicts this as a bay window, though it is not known upon what evidence. The east half of the south wall forms part of the north wall of the Hall and has been rendered so no brickwork can be seen, though the bottom steps out a little as elsewhere suggesting the presence of early work below the late here also.

Figure 32 – The collapsing planter built against the south wall of the Parlour and projects into the south of the Herb Garden (Magnus Alexander 11/8/2020 © Historic England)

Herb Garden

This is the modern use of a small enclosed area that featured a rectangular central bed with smaller beds on all sides, all defined by bricks set vertically but angled at 45-degrees to create saw-toothed edging, with fish scale pattern brick paving between, probably by the Marsham-Townshends (Figure 33). It is defined by the surrounding walls; that to the north was the western half of the south wall of the Parlour and has been described.

The eastern wall forms the northern three quarters of the west wall of the Hall. This has mortar on the top, apparently seating for the reconstructed hall timbers, over late coping stones and upper courses, much as described for the Parlour. There appears to be much less of this late material than around the Parlour and it sits on relatively high early walls, though these have late pointing and are much decayed, so it is difficult to distinguish between the two, with English bond only clear towards the base. It is also impossible to determine if there was ever a step out at the base as around the Parlour walls, though a rendered step within the Hall suggests that there may have been. There is some late concrete along the base, probably to stabilise the early wall above.

Dominating the east side of the Herb Garden is a substantial chimney stack servicing a fireplace within the Hall [11]. Early aerial photographs make it clear that everything above the adjacent wall levels post-dates 1934 (Figure 13); the

Figure 33 – View of the Herb Garden from the south-west with the Hall to the right and the Parlour beyond (Jonathan Kewley 26/4/2017 © Historic England)

stack presumably dates to the erection of the reconstructed hall in 1936 and is one of the only examples of late work in English bond; perhaps built with more care as it stood to some height, was visible from a distance, and was associated with the reconstructed hall. It sits upon a large base, projecting into the garden, which appears to be early with late pointing. Note that the G&S reconstruction plan (Figure 56) shows a bay window here, as with the planter to the immediate north-west (see Parlour above).

To the south the ground rises to a causeway running east from the abutments of the former bridged entrance onto the island a few metres to the south-west of the Herb Garden (below). The higher ground of this causeway is apparently retained by a scruffy wall with a concrete base like that beneath the planter to the north and must be late. However, this seems to have been constructed in front (north) of another wall that might be early; some English bond is visible in places. Access up to the entrance level from the garden is via some late steps, the second of which is a reused worked stone, like that of the drawbridge corbels.

About half of the western side of the garden is defined by a substantial pyramidal planter [12] that seems to be visible on the 1934 aerial photographs (Figure 13), the rest being open to the area behind the west moat wall (below). Most is late work with irregular bonding, and much has collapsed, but at the base are a few courses of probable early work. The G&S survey noted that there was a wall here that 'returns a few inches' to the west, with 'Traces of a wall' continuing to the moat wall, though no evidence for these survives.

West moat wall

North

The moat wall [13] drops vertically into the moat (Figure 34) with seven internal buttresses to the east (Figure 35), most being approximately the same size, though the southernmost is larger than the others. The wall is built of bricks in soft mortar with relatively narrow joints laid in English bond and is clearly early. The upper courses are loose but the lower remain in fairly good condition. The west face remains intact in places but there are large areas where the face bricks have been lost. In a plate in Webb et al (1899, opp 106) the wall appears intact, suggesting that this damage occurred during the Marsham-Townshends' works, but perhaps they removed loose material. ODAS noted the use of poor-quality brickbats in most parts of this wall where they were not intended to be visible, including as headers in the face (Hart 2000, 18), which would leave it poorly tied in and explain these areas of loss. To the south is an area of collapse that, whilst restricted, cut back further than just the face. North of the most northerly buttress, the wall [14] is narrower and on a line slightly forward of that to the south, with a retaining wall behind and steps down towards the north-west corner, much as seen on the northern extension of the west Parlour ('Parlour' used here to distinguish the area named by ODAS from the more general 'parlour' used elsewhere) wall to the east (above). This appears to be late work but probably the rebuilding of an early wall, which had collapsed more than that to the south. This length of wall steps out slightly just above the water surface,

Figure 34 – A general view of the moat island from the north-west, with the west moat wall from the north-east corner to the bridge abutment (Magnus Alexander 11/8/2020 © Historic England)

Figure 35 – The west moat wall from the north, despite being rather overgrown, four of the internal buttresses are visible with the bridge abutments on the island (left) and opposite (above right of centre) visible beyond (Jonathan Kewley 26/4/2017 © Historic England)

probably marking the line of the original wall face. A set of late steps leads down into the moat from the north-west corner. Timber uprights against this wall can be seen in the moat; these are late reinforcements visible in the excavation photographs.

Between the wall and the Parlour/Herb Garden is a long narrow area, from the north-west corner of the moat island to the bridge abutment (below) (Figure 35). Most of this was excavated by ODAS in the later 1980s and the current fall towards the moat wall is largely the result of this. The ODAS excavation revealed a pavement of large flint cobbles here, not mentioned in the excavation report; this was presumably by the Marsham-Townshends but required a large quantity of good quality flints from somewhere (Michael Meekums, ODAS, pers comm). Immediately beneath this was natural clay at a high level to the east, with a construction trench to the west associated with the building of the moat wall as it contained building debris and dated to the middle of the 15th century (Hart 2000, 9-13). The presence of the buttresses and the construction trench suggests that there was space for them and therefore that there were no existing buildings tight to the edge of the moat here. The south end of this area, immediately north of the bridge abutments (below), is more complex. As mentioned above, G&S recorded a wall where the late planter is, that returned a little to the west, and traces of a wall continuing as far as the end of the buttresses. It also noted that the space between the first and second buttresses 'was arched over one ring of arch remains but not in situ'. A second set of wall traces was also recorded to the south of this, apparently running between the end of the

southern buttress and the wall pre-dating the planter, a short spur of wall on the east end of the buttress perhaps marking its location. There appears to have been a structure of some sort here, perhaps relating to a gatehouse, though the ODAS report makes no mention of any evidence for it surviving the Marsham-Townshends' works and no evidence for any of the walls G&S record were seen during the survey.

To the south, access from this area up onto the entrance level is via a set of small brick steps laid in concrete. Although late, some large flints were visible and the steps may overlie an earlier feature though these could be re-laid, as is likely with the pavement to the north.

Bridge abutment

The entrance to the island is marked by a substantial, square, brick-built structure [15] at the highest point on the island, apparently integrated into the moat walls to north and south, with two large stone corbels for a drawbridge projecting west over the moat (the only worked stone surviving in place) and a probable counterweight pit. It is likely that the west wall was a later addition; a vertical joint could just be seen in the west face of this wall to the south, though this was obscured by a vertical iron member from the Marsham-Townshends' bridge, any northern joint was obscured by render, and the east face is poorly tied into the walls to the north and south (Figure 36). If so then this could have been a relatively simple plank structure the weighted rear of which swung down into the pit. The inserted wall indicates a second phase of work and suggests the replacement of the drawbridge by a fixed bridge.

Figure 36 – The eastern bridge abutment and pit from the east, note the poor joints to left and right of the far wall (Jonathan Kewley 26/4/2017 © Historic England)

A late decorative pavement [16] with flower beds to either side, edged with large un-mortared flints, runs east from the bridge abutment to an entrance to the reconstructed hall. It is built upon an elevated causeway with the ground dropping away to either side, more markedly to the north where it is retained by several features described above. The ground level to the south is higher, so the relative drop lower, and this side is retained by a probable low flint wall with late brickwork on top (below). The pavement surface was a little higher than the walls of the 'counterweight pit', the entrance to the reconstructed hall at the east end of this causeway crossed an existing wall at a high level, and there was the suggestion of a doorway at a lower level in the flint wall, so it is possible that the underlying causeway is late, or at least secondary to the flint wall.

South

The moat wall south of the abutment [17] is in much poorer condition than that to the north and has been substantially rebuilt, presumably by the Marsham-Townshends. The north 3.5m of the wall is much as seen to the north, though the loss of bricks from the west face is more extensive and it soon loses integrity and height. There are signs of late repairs to this face but most of these repairs also appear to have been lost. The central 3m or so appear to have some surviving early brickwork in the face; areas of English bond with late repointing were visible. There was typical late work above which until recently had a top that stepped down as the wall height decreased, but this was lost when the area was vandalised in 2012. The final 3m seems to be entirely late though it is possible that early work survives below. There are several apparently late brick buttresses at the base of the wall, within the moat, but these had early origins, probably explaining why the Marsham-Townshends did not use timber reinforcement as seen to the north (Michael Meekums, ODAS, pers comm).

A second wall [18] is set 0.7-0.9m back to the east from the main moat wall, leaving a gap between the two referred to by ODAS as the Narrow Passage. The lower parts of this wall, where visible to the north, appear to be early, with later work above including steps for access, as seen elsewhere. South of the steps the high ground to the east is retained by a flimsy late wall already showing signs of collapse in 2012 and now partially lost. A narrow brick pavement beneath this wall may be the remains of the more substantial early wall which had continued to the south-west corner. This appears to be confirmed by the Marsham-Townshends' excavation photographs which suggest that the west end of the south moat wall, at least in part, tied these two walls together. They also show the two walls and the gap between them, extending at a low level to the south wall of the bridge abutment, confirming the changes of level and steps between the two as late.

There is no sign of internal buttresses to the wall and there probably never were any; there was natural clay tight against the back face of the wall and the bases of the buttresses to the north were about 0.80m lower than the surviving clay here (Hart 2000, 16; fig 6, 13; fig 5, 11). However, the higher ground to the east has not been excavated and it seems possible that there could be reinforcing buttresses for the east wall rather than the west as it appears to be the former that was bearing the

main load. If so, the east wall could have been earlier, with the west built to create a uniform façade.

The flint wall

As noted above, a probable flint wall [19] runs along the south side of the entrance causeway (Figure 37). To the west, late brick steps overlie the draw-bridge pit to the west and the flint wall to the east obscuring the relationship between the two.

Generally, only the south face of this wall is visible, the rest being obscured by later walls and the causeway itself, so it is not certainly a standalone wall or footing but this seems likely. It is composed of variable but generally medium sized flint nodules in irregular courses, and although it has late pointing, soft mortar can be seen so it seems likely to be early, perhaps 14th-century 'calyon', or flint wall (see Discussion). It is clearest to the west where a height of about 0.40m can be seen, and continues along the south side of the causeway, increasing slightly in height towards the east, though here the upper levels look to be late repairs. It is capped with one or two courses of late brickwork but about halfway along this stretch is a section of full height brickwork [20], about 0.80m wide, with well-defined vertical sides. This looks like a former door opening suggesting that the ground level to the north had once been lower. The flint continues unbroken to the east becoming integrated into the base of the south wall of the Hall (below). It drops sharply where this occurs

Figure 37 – General view of the flint wall from the WSW, the bricked up section, possibly an entrance, can be seen in the centre of the image (Magnus Alexander 11/8/2020 © Historic England)

but is still visible to a height of about 0.30m with late brick and a coping course on top. The flintwork stops abruptly where the reconstructed hall's south entrance has been inserted, but very similar flint is visible 2.00m further east, 0.75m beyond the entrance, though it is lower and in poor condition (Figure 38). The flint wall continues beyond the south-east corner of the Hall for almost 2.00m where flint is also visible in the north face supporting the probability that this was a wall or footing. Although truncated by the late entrance to the reconstructed hall, the flint did not immediately resume, so it is possible that there was a second original gap in this wall, like that to the west, indicating another entrance, though this is uncertain.

Hall

This area to the west of the centre of the moat island has been referred to as the Hall since at least the G&S plans of 1928 (Figure 11), though there is no definite evidence for this other than its size and position. The name seems to have become entrenched as it was the site of the Marsham-Townshends' later reconstructed hall, erected using timbers from Manor Farm, St Mary Cray (Meekums 2014). There appear to be two distinct phases of late work here. First was the consolidation of the surrounding walls in much the same form as those around the Parlour (above) which can be seen on the 1934 APs (Figure 13) to have formed a complete circuit without any entrances. The timber framed reconstructed hall was then inserted into this in 1936 and work associated with this overlies, or cuts through everything earlier. For clarity,

Figure 38 – The eastern parts of the flint wall from the west, further flints probably marking its continuation can just be seen beyond the south entrance to the Hall and continuing beyond its east wall (Jonathan Kewley 26/4/2017 © Historic England)

'Hall' is used to refer to the general area, and 'the reconstructed hall' to the building erected here in 1936.

Surviving from the reconstructed hall are two pairs of brick columns to north and south that supported the timber frame and a rising concrete spiral stair that led to a gallery. There is also the substantial fireplace and chimney stack towards the north end of the west wall (mentioned above), and a semi-circular sunken feature in the middle of the east wall of uncertain function (Figure 39). Although a probable drain suggests it contained water, photographs survive showing it to have contained one of the main structural crucks of the reconstructed hall. It is therefore possible that the floor here was lowered to accommodate this and the drain was to prevent the timbers becoming damp (Michael Meekums, ODAS, pers comm). The largest entrance is to the south and there is another entrance at the south end of the east wall; both allow almost level access. Two further entrances step down into the reconstructed hall, one from the entrance causeway at the south end of the west wall and one at the north end of the east wall. As noted, these are all secondary late features not visible on the 1934 APs (Figure 13); the south, south-east and north-east entrances, the semi-circular feature, and possibly the fireplace, were cut through or into existing walls, though the walls probably date, at least in part, from the Marsham-Townshends' earlier work.

Figure 39 – A general view of the Hall area from the south-east. Three of the four brick columns, the concrete stair and the fireplace are visible, the decorative pavement in front of the south-east door (middle foreground) is typical of the other late decorative pavements laid by the Marsham-Townshends seen elsewhere (Jonathan Kewley 11/5/2017 © Historic England)

Internally, the floor is mortar with marks from the main timber framing elements and joists that presumably supported a slightly raised wooden floor. Most of the tops of the surrounding walls also have mortar on them from seating the timber frame. The remainder of the interior is rendered and scored to look like ashlar, and it is impossible to see any of the brickwork apart from a few small areas where the render has flaked away. All four walls have small steps inwards at their bases (apart from the centre of the eastern wall), the step to the west being a little higher than the others. Around the Parlour walls these lower projecting sections appeared to be early.

Externally, the south wall has already been described, as has the west wall where visible, and as far as can be seen both consist of early work (though the south wall is of flint and the west of brick) beneath late reconstructed hall work on top. The western half of the north wall is a part of the Parlour and has also been described. The remainder of this wall matches that to the west and aligns with it, again with early brickwork beneath late, with elements of the reconstructed hall overlying. On this basis the Parlour and Hall walls appear to have originally been constructed as a unified whole, perhaps in the 16th century.

The area outside the east wall of the Hall is more complex. The south end of the east wall is isolated from the rest by the doorway to the immediate north. It is not bonded into the wall to the south (with the flint base) and appears to be entirely late. All the visible work around the doorway itself is also late but the entrance had been cut relatively crudely through an existing wall, probably late over early as elsewhere. East of the doorway (outside the Hall) the ground level is slightly raised with another late decorative pavement. A bed to the south, and a late raised planter to the east, suggest that this entrance was approached from the north (all visible in the foreground of Figure 39). Most of the east wall of the Hall north of this entrance appears to be late, with later the reconstructed hall related work on the top. A few courses at the base project slightly and appear to be in slightly irregular English bond without any late pointing so might be early. Immediately to the east, a crudely cast concrete manhole surround is clearly late. Behind the internal semi-circular feature, the initial late work has been replaced, presumably when the reconstructed hall was built, and a drain runs away to the north-east, perhaps emptying into the Large Cellar (Hart 2011, 9), again suggesting that this was a water feature of some sort. North of this the wall is much as seen to the south, with late work over a small, possibly early plinth.

G&S recorded a wall running parallel to the east wall of the Hall and about 1.20m from it (Figure 11). A low wall is visible on the 1934 aerial photographs (Figure 13), and ODAS recorded a 1930s wall that ran from the dwarf wall to the south to the south-west corner of the Large Cellar and noted that 'in most places a few courses of original work are still present under the modern', 'original' referring to early 'Tudor-type' (Hart 2011, Fig 3/3a, 9, 10, Fig 8, 14). Currently however, only late planters remain to the south and north, constructed of narrow brick walls with concrete cores. There is no sign of any central section of wall late or otherwise; although not recorded, it appears that this was completely removed by ODAS during their excavations and any early footings do not seem to have been substantial (see Hart 2011, Fig 8, 14). It is worth emphasising however that walls on this line [21] appear

Figure 40 – The awkward relationship between the north-east corner of the Hall (left) and the Large Cellar (right) (Jonathan Kewley 26/4/2017 © Historic England)

to have run from the Large Cellar to the south moat wall and to a large extent may have been preserved below various late features.

As noted above there is a rather awkward relationship between the north-east corner of the Hall and the south-west corner of the Large Cellar, with the small western stair apparently being cut into the north-east corner of the Hall and very narrow at the top (Figure 40, see also Figure 18). The original relationship is obscured by late work, however.

South of the flint wall

To the immediate south of the flint wall a late decorative pavement [22] of similar pattern to elsewhere, runs for over 16m along the south side of the entrance causeway, Hall and beyond and is about 1.20m wide (Figure 41, centre). To the south this is defined by a late, low, brick wall with five regularly spaced square planters, which turns south on the line of the wall east of the Hall and was in place by 1934 (Figure 13). There is no evidence for any early footings to this wall, though they may have been present; G&S show a narrow wall on this line, pecked in the central section suggesting it was only partially traceable.

Figure 41 – A general view of the area south of the flint wall from the east; the Hall and flint wall can be seen to the right, the turf capped well enclosure to the left (Jonathan Kewley 26/4/2017 © Historic England)

South of this is level grass, retained to the south by a substantial brick enclosure around two wells (Figure 41, left) with very light walls running away from this to the east and west, the latter returning to the north to run parallel to the west moat wall, though their collapse is leading to slumping (see west moat wall above and south moat wall below). East of the well enclosure, at the level of the grassed area to the north, is a rectangular structure [23] that appears superficially like that around the well. The north wall has a similar form with single skin bricks and a concrete core and continues the line of the well enclosure. There is a planter on the corner where it returns south, again on the line of the wall to the east of the Hall and there is an entrance in the approximate centre of this east wall. A cast concrete path runs west from this across most of the enclosure. Although the enclosing walls appear as substantial as those around the well, all are collapsing to some extent, presumably following the collapse of the light wall to the south, so appear to have been built without proper foundations. This structure is clearly secondary to the well, and did not appear on the G&S survey; a narrow wall on the line of the late north wall was indicated with dashed lines which returned to the north where it was shown to be more substantial and went on to meet the wall to the south of the decorative pavement (above). This rather suggests an early building to the north was of more historical significance than the late structure to the south. The G&S survey does though note 'paving of brick laid flat' over a rectangular area like the northern two thirds of the later structure but this may have been a yard surface. The survey gives a

level on this paving of 75.77m OD (calculated) whereas the current level in this area is 75.62m OD (-0.15m), which suggests the paving was lifted.

South moat wall

The south moat wall comprises two main elements, the low moat wall (itself made up of two distinct sections), and set back from this, along the western two thirds of the island, a second set of walls retaining the high ground to the north (Figure 42). All visible brickwork is late, and historic OS maps show that this side of the island was realigned to run more to the ENE (note particularly the differences between the 3rd and 4th editions), though the south-west corner seems to be in roughly the same location, and ODAS describe the buttress here as original (Hart 2000, fig 5, 11). The excavation photographs show what appear to be sections of surviving early walls and buttresses apparently in the location of the existing work so it seems that rather than building new walls on new lines, the Marsham-Townshends 'chased' the walls along this side of the island and built up from what he found. The previous depiction of the island here might have been the result of material collapsing from the north pushing its apparent line to the south.

The most substantial feature along this side of the moat is a square enclosure [23] of massive late walls of brick with a concrete core and a gully in the top, perhaps intended for planting, that encloses two wells on the west, north and east sides, the south being open and set back slightly from the moat (Figure 43). The larger well is

Figure 42 – General view of the south moat wall from the SE corner of the island looking west (Jonathan Kewley 26/4/2017 © Historic England)

centrally placed with a late brick wall that stands about 60cm high with a modern protective grate. To the immediate north-west is a second much smaller shaft with a low, late, brick kerb, squeezed awkwardly into the corner. The G&S survey recorded a 'hollowed tree trunk buried in ground' and it seems that this could be the remains of an early well shaft. The surrounding floor of the enclosure is of concrete. Several of the Marsham-Townshends' 1920s photographs show the excavation of the area around the well and the cutting back of the ground to either side. In the cut sections a considerable depth (perhaps 2.0m) of natural clay can be seen with a notable shelly band perhaps 60-70cm thick about 30-40cm up, with around 30cm of topsoil above. The only early features that could be seen in the photographs were a brick wall to the west of the section cut back for the well (two stretchers thick, surviving to about a metre high, but with the top well below the surrounding ground level, and perhaps a few metres in length), and an isolated block of brickwork to the east, possibly displaced. Some boards seem to be laid across the site of the wells, so their shafts might also have been present. Whilst this suggests the visible structure may have been built on earlier foundations, this is uncertain, and no north wall is visible so the late structure may not accurately represent anything earlier.

To either side of the well enclosure the high ground is retained by light, late, brick walls set back from the moat edge [25] (mentioned above). These are collapsing (Figure 44), and in several places slight internal buttresses can be seen, those to the west incorporated into small planters, though these were clearly inadequate. As noted above, the ground to the north falls away to the south, clearly the result

Figure 43 – The south well enclosure from the SSE, the second well is in the back-left corner and cannot be seen (Jonathan Kewley 26/4/2017 © Historic England)

Figure 44 – The collapsing retaining wall to the west of the well enclosure from the east (Magnus Alexander 11/8/2020 © Historic England)

of slumping. The G&S survey does not appear to show these walls and the 1920s photographs indicate that the revetment was initially timber. The walls end on the line of the west wall of the Kitchen where they turn north and are incorporated into a set of steps (below).

The south-west corner of the moat island, including the southern part of the west wall (above) appears to have been completely rebuilt, though the Marsham-Townshends' excavation photographs show a block of brickwork to the west [26], possibly a return of the set back (eastern) west moat wall to the north (above), and several buttresses, early in the excavation and reconstruction process, suggesting they were early survivals that formed the basis for the visible late work. The westernmost buttress has cast concrete surrounding it that incorporates a slot which had apparently held horizontal timbers, probably to manage water levels in the moat (depicted on the 4th edition OS maps). To the east of this the base of the moat wall (visible in ODAS photographs when the moat was at a lower level) has been reconstructed on concrete from the corner as far as the well and it is not clear from the photographs if the early wall survived here. the Marsham-Townshends' excavation photographs suggest it was completely absent south of the well enclosure and there is the possibility that the eastern section of moat wall, on a line slightly to the south, may have once extended further west. This work appears to have been complete by 1928 as a level given on the G&S survey was very close to the modern figure (74.66m OD (calculated) and 74.72m OD respectively). The moat wall, east

of the surviving early block adjacent to the corner, was low leaving a narrow walk close to the water. In front of the well a set of late steps leads down into the moat. East of the well, late brickwork paving continues the line of the moat wall to the west forming a narrow path set back from the actual moat wall to the immediate south. The G&S survey appears to record this path, but it is not known if there is an early wall beneath.

The eastern part of the moat wall [27] continues in much the same late form as to the west, but on a slightly different, more southerly line. No underlying concrete can be seen along this section and the 1920s photographs seem to show better survival of the wall along this stretch prior to reconstruction. Perhaps this earlier wall is what the G&S survey records as it did not show the planters within the late wall which must have been integral to its construction; possibly the visible work post-dated 1928. As to the west, the easternmost buttress also has some encasing concrete including a slot from timbers (depicted on OS maps). On the very corner are a set of small steps down into the moat. Though omitted by G&S and the OS, these appear to have been in place by the 1934 APs (Figure 13).

Kitchen area

(Note that 'Kitchen' is used to specify the area named as such by ODAS, elsewhere the more general 'kitchen' is used.)

This area is dominated by a large rectangular walled enclosure measuring about 11.0m NNW to SSE by 7.6m WSW to ENE (Figure 45). The late walls are built with single inner and outer brick skins, possibly with a concrete core at the base as seen elsewhere, though this is not visible, and were earth filled and turf capped. The east and south walls, as well as to some extent the Apple Store to the north and a set of steps to the south-west, retain the ground within the Kitchen and to the north and west which is about 0.7m higher than to the east. There are opposing entrances to the west and east, the latter with steps down to the lower eastern ground outside the Kitchen. A flint cobbled path runs between the entrances [28] and a rectangular brick paved area to the north, surrounded with gravelly earth, partly backfill of an ODAS trench (Hart 2011, 8). The whole of the area to the south of this (about two thirds of the interior) is paved with brickbats, apart from the features that have been referred to by ODAS as 'ovens' and a 'hearth', and a semi-circular niche in the south wall with an open base. No clearly early work is visible in either 'oven', and both have late drains. The G&S survey records flooring of tiles in the south and west of the Kitchen on edge and gives this surface a level of 75.13m OD (calculated). The current brick floor is at 75.30m OD (+0.17m), which suggests that the late floor may have been laid on the earlier which could therefore survive.

About 1.8m north of the south-west corner of the Kitchen is a wall running west at right angles to the Kitchen for 5.3m [29] until it abuts a cross wall, forming a 'T'. This cross wall runs parallel to the sections of wall to the west which ran parallel to the east wall of the Hall as far as the south moat wall (above). The east/west wall is late and slighter than the Kitchen walls but has a gully in the top as seen elsewhere. Some early courses step out slightly at the base of this wall, but it is unclear if this

Figure 45 – A general view of the Kitchen from the south-east. Note the slightly decayed early work in the base of the wall to the left of the near corner and the late work spalling away from earlier work to the right (Jonathan Kewley 26/4/2017 © Historic England)

reflected a previously wider wall above or a plinth/foundation. The north/south wall is slightly narrower again, has no gully, and appears to be entirely late over a slightly undermined concrete base. All these walls were shown by G&S and so were probably based upon early work even where none can be seen.

A broad set of brick steps [30] with adjacent brickwork runs SSE for 4.3m or so, from the south-west corner of the Kitchen and on the same line but slightly to the west (Figure 46). As noted above, this retains higher ground to the west, the steps allowing access. The wall to the south also stepped down though this was clearly not intended for access. All this work appeared to be late, but again the G&S survey showed a wall here, so it probably incorporates early work.

Although this area appeared much as above by the time of the 1934 aerial photographs (Figure 13), it has little resemblance to its depiction in 1928 (Figure 47). The G&S plan shows a wall on the approximate line of the existing west Kitchen wall that ran straight, from the north-west corner of the Kitchen for 8.75m to the base of the 'T' of walls to the west [29]. The northernmost 3.5m or so shown on the G&S plan was narrower than the southern section and a similar width wall ran east at the point where the thickness changed suggestive of a separate structure (see below). South of the point where it abutted the 'T' to the west, the G&S plan shows the north/south wall to have changed orientation slightly and increased in breadth. It continued to the south moat walk though didn't extend to the south moat wall (see

Figure 46 – Steps to the south of the Kitchen (Magnus Alexander 11/8/2020 © Historic England)

above). Although the existing west wall of the Kitchen runs on much this line, it is straight and a uniform width and although all of the visible brickwork seems late, the alignment of the lowest courses south of the west Kitchen entrance reflect that of the G&S plan, so are probably early (Figure 48).

The north Kitchen wall also appears to be on the line of a wall shown by G&S. Though the visible work is late, the lowest courses on the north face projected slightly and may be earlier, as with the west wall (above). This wall was shown by G&S to have continued east beyond the east Kitchen wall and was also visible on the 1934 aerial photographs (Figure 13). It survived until relatively recently and was used by ODAS as a datum in the early 2000s when it was described as 'a wall foundation of Tudor-type bricks, one header plus one stretcher wide' which had been 'capped by modern work at ground level' (Hart 2011, 18; fig 11, 16). The north wall depicted by G&S had a return to the south on the approximate line of the east Kitchen wall and north of the east entrance the lower courses of the wall project slightly, so could again be early. To the south however, where the wall steps out more markedly but is collapsing, it is clear that the projection is a late skin built against probable early work behind where traces of English bond were visible (Figure 49). Although G&S only recorded the north end of a wall here, pecked lines projected it south and the east side of the ovens could have been part of the same wall.

To the south of the north Kitchen wall, G&S recorded a second east/west wall, possibly now beneath the late brickwork edging the north side of the flint path within the Kitchen. A pecked line on the G&S plan indicates the wall may once have extended further east, perhaps meeting the early wall beneath the east Kitchen wall. G&S showed the early north/south wall was about the same thickness as the two

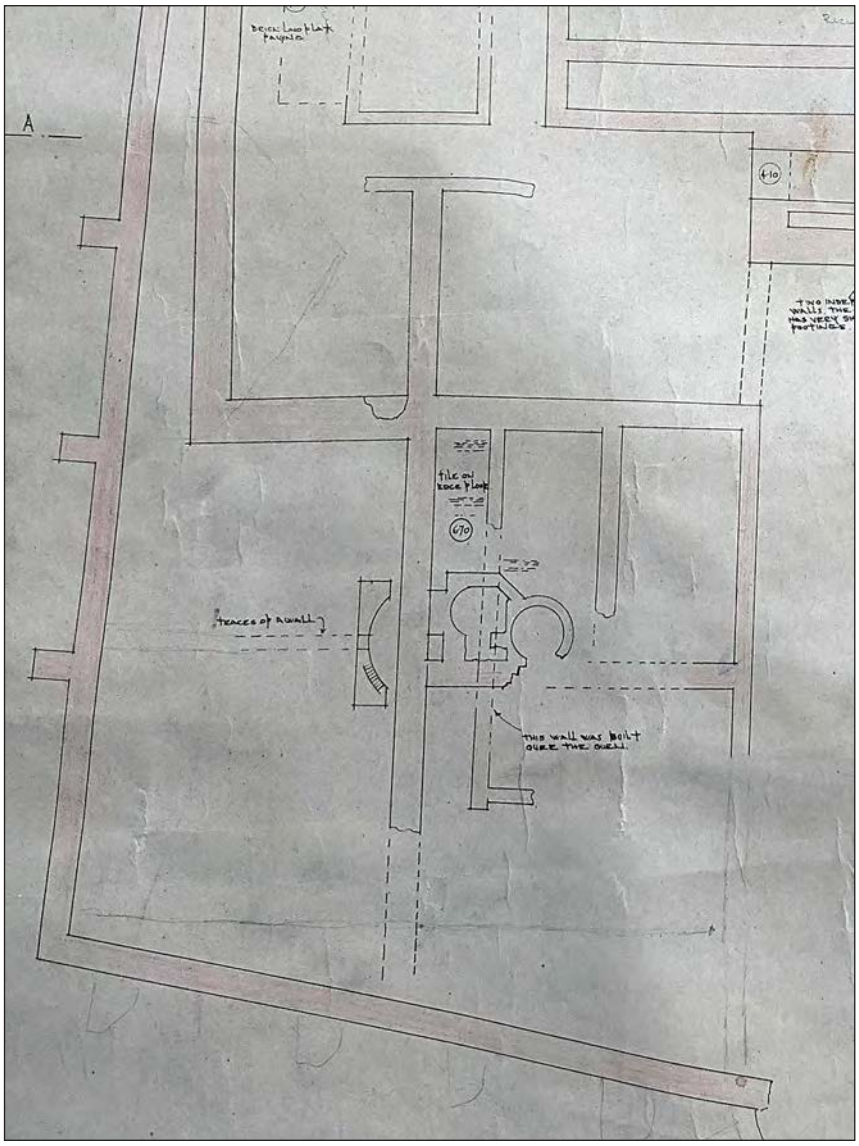

Figure 47 – Detail from the G&S survey showing the south-east of the moat island as surveyed in 1928, north to right (BHC 1080/3/2/28/15/6)

east/west walls and possibly the stub of north/south wall to the east, but the west wall was wider to the south, suggesting that these narrower walls were part of a single structure of a different phase.

Some distance to the south of this G&S recorded another east/west wall, narrower than the others, which 'was built over the ovens', and extended east for several more metres with a short northward return suggestive of further elements lost by 1928. This clearly indicates that the 'ovens' were redundant when the wall was built. It is notable that the surviving 'ovens' are rather different to those recorded by G&S. Though this wall would have extended into the area excavated by ODAS no sign of it was seen (see Hart 2011, Fig 11, 16); it appears to have been a light structure completely lost during the Marsham-Townshends' works.

A short distance to the south again G&S depicted a more substantial wall, apparently a continuation of the east/west wall of the 'T' (above), which extended to the east of the current west Kitchen wall, with dashed lines running almost to the east

Figure 48 – The west wall of the Kitchen from the south, showing the markedly different orientation of the lower courses (Magnus Alexander 11/8/2020 © Historic England)

Figure 49 – The south end of the east wall of the Kitchen, from the south-east, showing the late skin falling away from the probably early core (Magnus Alexander 11/8/2020 © Historic England)

moat arm. No sign of this survives but the ODAS excavations recorded a robbed out foundation on this line as well a few 'Tudor-type bricks' in situ at the east end, running north/south, and a parallel robbed foundation trench about 1.50m to the south (Hart 2011, 18, fig 11, 16).

The G&S survey did not record a wall where the south Kitchen wall is. It did, however, depict a substantial rectangular east/west feature with an incurving north face which appears to have been incorporated into this wall, as the semi-circular niche mentioned above [31]. This part of the south face of the south wall is the only place around the Kitchen walls where any English bond can be clearly seen (though there was typical late work above and some concrete at the base, presumably render), so it seems this is an early feature that survives, at least in part (Figure 50). The curved north face appears to have been preserved but the G&S representation shows a feature with a flatter curve which extended a bit further to the east than today. There was no certainly early work here, but the lower courses were uniformly headers and there was some flint incorporated into the very bottom, so it is possible that the Marsham-Townshends reshaped this feature. The G&S survey noted traces of a wall running south from here of about the same size as the narrow wall overlying the ovens, but no evidence for this survives.

Figure 50 – The east end of the south Kitchen Wall, note the presence of English bond towards the base (Magnus Alexander 11/8/2020 © Historic England)

Apple Store

The Apple Store is a stubby 'T' shape in plan, with low walls, apparently of cast concrete and correspondingly low eaves to steeply pitched roofs in modern concrete tile. It has gables to the north and south, weather boarded above the base walls, with large, square, louvered vents and smaller, square openings above, both also in wood. The gabled front to the west is also weather boarded with double entrance doors, approached by a short, cast concrete ramp, with a concrete gully to either side. Material has been thrown up against the walls on all sides creating short steep scarps, that to the east being the highest at 0.8m. Internally the store comprises two rooms. That to the west is small, occupying the western part only, with a floor substantially below the top entrance step. The large main room occupies the remainder of the building and is lower again containing standing water.

East/north-east moat 'wall'

[Not photographed by ODAS in 2011/12 or during photogrammetry.]

The southern 18.5m or so of the eastern side of the moat island is revetted with a buttressed brick wall, and the section north of this in timber. The 1920s excavation photographs do not show any evidence for early work on this side of the island but they do show that the northern section that curves out around the Apple Store was new (it had originally run straight and closer to the store) and that the late revetment was initially all in timber. The walled section must therefore be secondary late work; an un-buttressed wall is shown on the 1928 G&S survey plans, and the buttresses were in place by the 1934 aerial photographs (Figure 13). The area to the north of the Apple Store is also revetted in timber though here there is a second higher revetment to the immediate south, tight to the Apple Store; the Marsham-Townshends' excavation photographs suggest that they were broadly contemporary. To the east is a rectangular projection, an original part of the Marsham-Townshends' work, but its function is unknown. Much of the moat revetment timber around the Apple Store is decaying.

Outer Moat Walls

North

To the west of the Causeway the outer moat walls comprise shuttered concrete above brick, now being undermined where wet. Weathering of the concrete has revealed decayed timber revetment behind, suggesting that it was a secondary fix, which is borne out by the excavation photographs (Figure 10 for example). The upper brickwork is late, though the lowest visible courses appear to be English bond, suggesting they are early, and whilst the buttresses appear to be of entirely late construction they could be based upon early fabric, again supported by the early photographic evidence. East of the causeway the work appears to be entirely late with brick above cast concrete, and there is no photographic evidence for any early work here.

In the north-east corner of the moat a square feature has been inserted by the Marsham-Townshends. This appears to have been constructed at the same time as the northern revetment. Within the north-east corner of this area is a brick built service chamber (see [14] on Figure 64) but this has been open for some time and silted up so its function cannot be determined, though it is likely to be related to the control of water in the moat.

East

Some revetment is visible to the east and an east facing scarp to the south suggests that the line of the earlier eastern revetment may have continued to the south (see [11]/[12] on Figure 64). If so, then the timber revetment to the south, along the rest of the east side of the moat, could also be secondary and concealing earlier revetment behind.

South

To the east, the south side of the moat is also timber revetted. A section east of centre, opposite the south-east corner of the moat island, is a mixture of late brick and cast concrete apparently associated with the work on the island and the creation of a timber dam across the moat as it also featured a buttress with a slot set into it (above). The central section is also a timber revetment. A short section in the west is shuttered concrete that appears to overlie brick, but it is not possible to determine the form of this (Figure 51). All appears to be late, but possibly facing early work, given the ground level to be retained and the form of the west wall (below). The excavation photographs show a lot of collapse in this area, so it is likely that the upper parts of any surviving early walls have been lost, however.

West

The west outer moat wall is the most substantial and complex.

To the south is a section of shutter cast concrete with a single course of brick coping, probably continuing around the corner from the west end of the south moat wall (above), though a brick pier between the two makes this uncertain (Figure 51). Immediately to the north, the wall is of brick which has been heavily repointed and has no coherent form or bonding. Here the wall steps forward at the base, where there were several low buttresses, though most of these were not visible at the time of survey. The upper parts, visible at the time of the survey, appear to be late but, for the reasons given above, are probably early at core. The lower parts and buttresses are more likely to be early, though consolidated by the Marsham-Townshends.

North of this is about 12m of more uniform brickwork extending to the west bridge abutment. This has a near vertical upper section with a stepped-out base and a low buttress. Most is heavily pointed and falling away in some areas, but in places appears to be English bond. Although numerous partial bricks and adjacent courses of headers suggest this was late, the ODAS comments on the use of partial bricks in the west moat island wall (above) may apply here. The lower courses were

Figure 51 – The south-west corner of the moat from the moat island, south moat wall to the left, west moat wall to the right (Jonathan Kewley 26/4/2017 © Historic England)

Figure 52 – The southern part of the outer west moat wall with particularly low water level, part of the western bridge abutment can be seen to the right (Magnus Alexander 11/8/2020 © Historic England)

underwater at the time of survey so could not be seen clearly, but recent site visits have allowed them to be photographed (above).

At the top of the west bridge abutment is concrete that supported the former cast iron bridge (Figure 53). The brick behind this is apparently tied into the wall to the north but to the south are a set of late, steep, narrow steps, similar to those seen elsewhere, which do not appear to be tied into the wall to the south or the abutment to the north. Below the concrete is brick with areas of late pointing and stretcher bond face surviving, particularly in the centre where it may have been protected beneath the bridge. To either side and below this is rather decayed brick in a soft pale mortar, which appears to form two amorphous buttresses. ODAS photographs show that these were rectangular at the base, as can be seen in Figure 53. Between these is a circular feature, which has been investigated by ODAS who found it to be 2m deep and constructed of flint with a few courses of brick around the top. They believe it to have been a cistern receiving potable water from Tudor works to the west (Hart 2019, 33 and below).

The 5.6m of wall to the north of the bridge abutment, looked very similar to that to the south of it, with a near vertical late upper section and a stepped base. This seems to be confirmed by the presence of two integral planters like those seen in the south moat island wall (above). The excavation photographs show a low but substantial

Figure 53 – The western bridge abutment from the east, although overgrown the low water level allows some features not visible during the survey to be seen (Magnus Alexander 11/8/2020 © Historic England)

Figure 54 – A general view along the west moat arm looking north (Jonathan Kewley 26/4/2017 © Historic England)

decayed wall running along this side of the moat north of the bridge abutment so this late work (and that described below) was based upon early footings perhaps still visible as the stepped out base, which also suggests that the stepped out base to the south of the bridge abutment was early. The following 4.2m are set back, apparently in order to provide a small area with access to the water level, approached by a set of steep, narrow, late steps similar to several others. The creation of this section may have removed some of the surviving early wall, though some could survive below. At the time of survey ODAS had a trench open behind the sections of moat wall described above (see Figure 54 and 'Discussion' below for their findings).

The 6.6m to the north of this are also vertical brickwork with hard pointing but in relatively good condition. A narrow ledge (half a brick's width), a little over halfway up could be a deliberate design feature, two phases of work, or a repair. For about 7.7m to the north of this, the wall is of poorer construction and lacks the ledge. Below the northern half of this section is a rectangular brick 'tank' in the base of the moat with a narrow step adjacent to the moat wall and two very steep steps above possibly allowing access. ODAS believe it to be of 16th or 17th-century date (it is visible with part of the adjacent wall in the excavation photographs), possibly for raising young fish before release into the moat (Hart 2019, 33).

The few metres of wall to the immediate north of this are in poor condition and the surface has fallen away exposing the core and areas that have been repaired with stacked tiles rather than bricks. There is a short section that had a narrow ledge

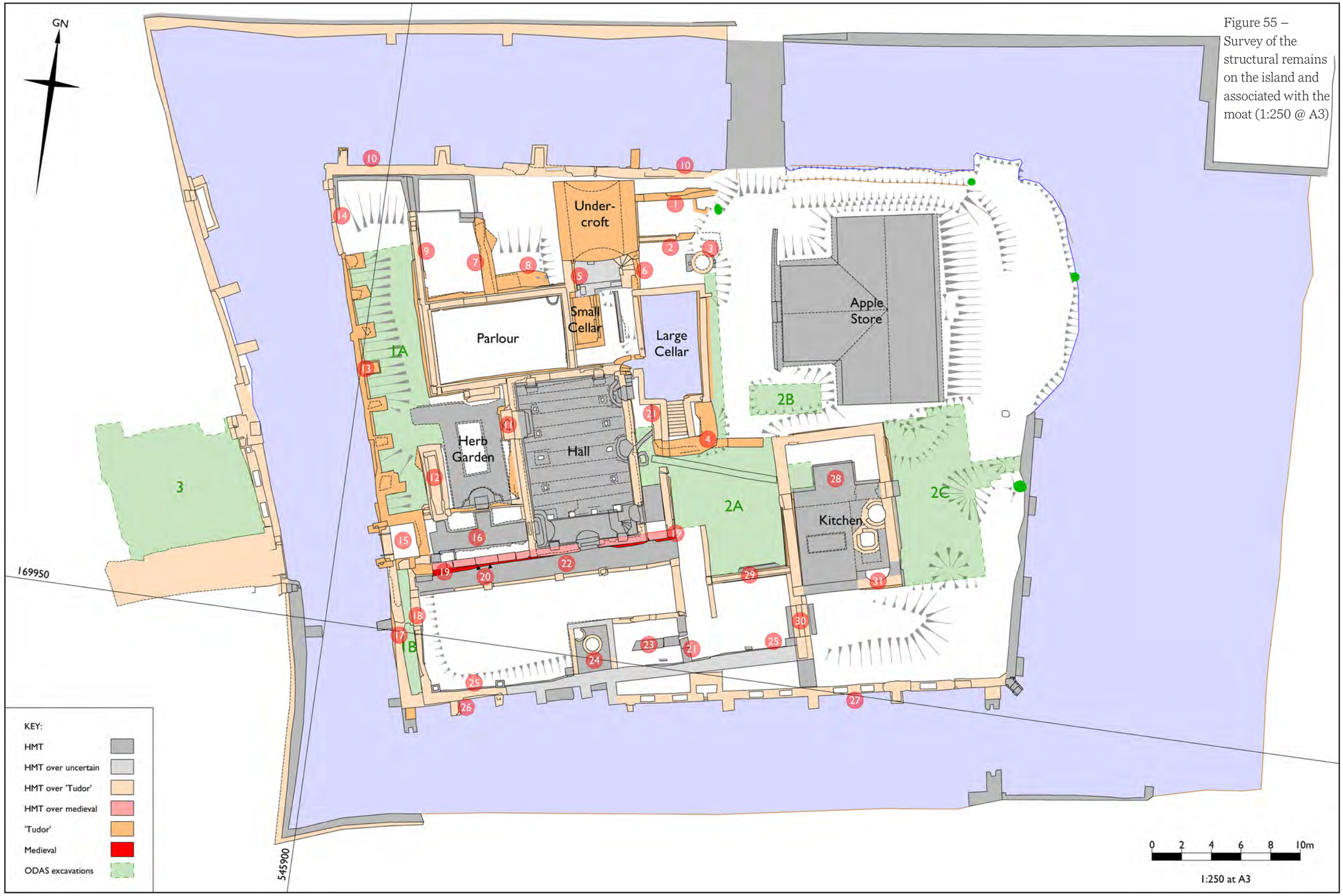

Figure 55 – Survey of the structural remains on the island and associated with the moat (1:250 @ A3)

as seen to the south, suggesting that the intervening section had been repaired or rebuilt. The exposed core appears to be somewhat better laid than typical late work and it may have been early. The northern 7m or so comprise concrete with a narrow step out at the base and two rows of offset drainage pipes above, with about half a metre of slightly set back brickwork above these. The impression is that the concrete had been cast against brick behind, but this could not be demonstrated.

Discussion

As has been noted in the introduction, Scadbury lies on the outer edge of a zone where 'The tentacle spread of London during the last 200 years has swept away most of the historic evidence within ... Greater London', an area that 'contained several market towns, over 300 villages and settlements, and an unknown number of manor houses ... all thoroughly blighted or destroyed' (Emery 2006, 238). Surviving evidence for houses of the lesser gentry comparable to Scadbury Moated Manor is therefore scant, almost entirely archaeological and that generally limited (see Emery 2006, 238-9). Across the south-east however, there is 'a modest span of stone-built houses ... relatively plentiful in Kent' (Emery 2006, 269).

Ightham Mote is close to Scadbury Moated Manor, geographically, socially, and in scale. It was built in the 1330s on a rectangular moated site in stone and timber-framing set around a main courtyard. Similarities with Ightham have been noted at Hever Castle (licence 1383, also on square moated site with a central courtyard but with a slightly smaller footprint and a much grander overall structure, mainly in stone), Southfleet Rectory (probably 1340s, no moat or courtyard but a similar main block comprising hall, high-end chambers, and low-end services in stone), both Kent, and Walton Manor (probably earlier 14th century, surviving stone hall and chapel, originally 'closer to the early work at Ightham Mote than the present structure suggests'), Surrey (Emery 2006, 357-64, 355-7, 407-8, 414). None of these used brick structurally, but their similarities suggest a model for the layout of the manor house at Scadbury.

The vast majority of surviving medieval houses identified by the RCHME in Kent are of timber with a few examples (or phases) in stone; brick appears to be very rare, though probably because wholly post-medieval phases were only noted in passing; 'Brick, although popular in the post-medieval period, was so rarely used in domestic buildings erected before the end of the 15th century that it need not be considered here' (Barnwell and Adams 1994, 44). The only example identified during the survey was Hornes Place, Appledore, which comprised 'substantial alterations to the chapel, largely carried out in yellow brick of the same fabric used at Camber Castle and East Guldeford church shortly after 1500' (Pearson et al 1994, 7).

Few other examples of early houses that made any significant use of brick survive, and most appear to have been rather grander than Scadbury Moated Manor. For example, Ford Palace and Daundylyon Court were both 15th-century brick built residences in north-east Kent, originally larger than Scadbury manor house, but little survives of either, and Wickham Court, Kent, 'was built entirely of brick except for

stone dressings' soon after 1469, but is also more substantial than Scadbury is likely to have been, though little of the original interior survives (Emery 2006, 339, 416).

Early development

The earliest features on the island excavated by ODAS have been dated to about 1200 and since no earlier material has been recovered during any of their excavations, even residual, it is likely this was the first use of the site. These features were an open drain and cistern. The drain was traced from just east of the Hall almost to the eastern edge of the island, with little evidence for cleaning suggesting a limited working life of a few decades. ODAS suggest that it drained the medieval hall roof, presumed to lie to the west. The cistern lay partially beneath the north-east corner of the Kitchen and was probably associated with the drain, but remained in use longer, being backfilled in about 1350 (Hart 2011, 14-15, 27).

It is not known if the moat was in existence at this time, though the site's location, on clay and below a spring line, has been taken to indicate that it was always intended to be moated, and that it was probably therefore an original feature (Hart 2011, 27, 17). It was likely to originally have been entirely an earthwork with little revetment and any that did exist long since lost. Recent ODAS excavations to the west of the current moat revealed what was thought to be the recut profile of the medieval moat (Hart 2019). Here its western side lay over 6m to the west of the existing moat and sloped steeply down to the base, which sloped moderately from about 73.4m to 72.9m OD (Hart 2019; levels calculated from text and present survey). No sign of the eastern side of the cut was seen, so its full width is unknown, but must have been considerable, due to the topography. Bridging this would have required a substantial structure, and perhaps for this reason ODAS have suggested that the original entrance to the island may have been to the north (Hart 2019, 35), but it may have been deliberately intended to create an impressive approach, and it would not have been beyond medieval technology to bridge such a broad moat.

Sealing the drain in the area between the Hall and Kitchen were areas of loamy clay containing small abraded 13th-century sherds which ODAS identified as a 'medieval terraced walkabout surface'. This surface might have extended to the north of the Kitchen where a levelling deposit, thought to date from the 15th century, may have incorporated some material from an earlier medieval surface (Hart 2011, 9, 7, 11-12).

Over 200kg of tile debris was recovered from the ODAS excavations around the Kitchen. This was nearly all a single type, dated to the early 13th century and distinctly different from the 'Tudor-type' tile found elsewhere. It was thought most likely to have come from the 'demolition of mediaeval building(s) preceding their replacement by 15th- or 16th-century brick buildings' (Hart 2011, 19. Perhaps this inferred building was a standalone kitchen, suggested by a tile rather than thatch roof, replaced by a kitchen integrated within the main house. There was no direct evidence for it and as the full extent of the broadly contemporary yard is also uncertain it seems that it could have been anywhere on the east of the island.

Naturally, the island would have fallen gently from west to east, probably not steeply enough to have mattered to the initial builders of the site, likely to have been constructing separate buildings able to accommodate minor changes in level and be orientated across this fall. ODAS suggest that the island was deliberately divided into three terraces at some time, the east of the island being the lowest, the Kitchen and area west intermediate, and the south-west of the island the highest (Hart 2011, 7). Although the topography bears out this broad picture, examination of the survey undertaken for this project and the levels given by G&S suggest it is rather more complex than this. Although the western side of the island was undoubtedly the highest there were numerous variations in the levels and few, if any, areas that had not been modified. Similarly there is nothing certainly remaining untouched on the intermediate level, which seems rather unconvincing as a terrace; the difference in height between this and higher ground to the west is generally less than the variations in level seen within these areas, and overall the 'intermediate terrace' slopes from approximately the same elevation adjacent to the Hall as seen within it (75.7m) to an original level within the Kitchen of about 75.1m (calculated from G&S), a fall unlikely to be dissimilar to the natural. There is, however, a larger drop to the lowest areas along the eastern side of the island where the ground level is about 74.7m OD, but the higher ground is currently retained by late works and the original form of this transition is unknown. It therefore seems more likely that what ODAS characterised as a single phase of terracing was actually a series of levelling episodes, in restricted areas, probably related to the (re)construction of adjacent buildings.

During the survey, elements of flint and/or chalk were identified in several places, particularly the east/west flint wall, but also more fragmentary sections to the north (see 'Description' above). It should be noted though, that when ODAS excavated the estate barn, which they dated to the 16th century, they found its wall footings to have incorporated 'much flint, as large nodules, but only on the inner side of the wall' (Hart 2003, 15, 8). It is possible therefore, that the flint-work on the site might be contemporary with the brick. The appearance of the flint wall on the moat island was rather different however, being composed of smaller flints laid more consistently in a lime mortar, possibly calyon, which is often of 14th-century date (Wright 1972, 36; Emery 2006, 398-99). By this time the Scadbury estate appears to have become a wealthy manor; in the 1301/2 Lay Subsidy John de Scathebury was the wealthiest person in the parish (Webb et al 1899, 107) so reconstruction at this time is possible.

As noted, the original complex on the island would most probably have been made up of a group of largely separate buildings, but:

> long before the end of the middle ages the gradual coalescence of separate elements had produced buildings that were integrated complexes of hall, of living and sleeping chambers for the family and guests, accommodation for services and servants, cellarage and perhaps a chapel. (Cooper 1999, 55)

Given the length of the flint wall, perhaps 16.6m or more, it seems likely that it represents a part of this process of integration and hints at a coherent layout established on the island before the 15th- to 16th-century work in brick. As the wall stood rather higher than the other flintwork identified and probably contained

a gap for a doorway, it seems to be rather more than just a wall footing, but it is unfortunate that its north side could not be seen.

Much (re)development took the form of 'alternate rebuilding' with different structural elements being rebuilt at different times, for example the rebuilding of the chamber block or service block at the ends of the hall as two storey cross wings at separate times, later followed by the rebuilding or remodelling of the hall. Sometimes this process also led to the reversal of the high and low ends. Examples include Fyfield, Berkshire, Navestock, Essex, Sandon, Hertfordshire, Barnes, Surrey and Broughton Castle, Oxfordshire (Croom, 2018, 52-3, 18).

Thomas Walsingham (I) acquired the Scadbury Manor estate in 1424 (Webb et al 1899, 111, 104) and was a wealthy London merchant, closely connected with successive royal households, holding various official positions, serving twice as an MP and becoming an esquire by the time of his will so a member of the gentry. He also went on to acquire more property in the area, so it seems likely that he would have invested in the site. What evidence there is however suggests he was very proud of his London residences and he was buried in London, so perhaps Scadbury was of secondary interest to him, and it is possible that his son, Thomas (II), was managing the estate on his behalf before his death (Janet Clayton, ODAS, pers comm). What form any investment by him might have taken is unknown, but was perhaps more for comfort than structural, so any work during his ownership has probably been lost.

Thomas' will of 1457 indicates that there was a priest at Scadbury Moated Manor at the time, and presumably also a chapel of some sort (Webb et al 1899, 115-16, 375-6), but its location and form is not known. It was probably from an earlier phase in the life of the manor rather than part of the new works, and may have been a stand-alone building, which would be typical of many 13th century complexes, as at Grench/Grange near Rochester and Horton near Canterbury, both held by in-laws (ODAS, pers comm). By the mid-15th century however, it could just have been a room within the manor house set aside for this purpose (Croom 2018, 73), as was the case later in the history of the house (Archer 2018). The fate of the chapel is also unknown, but a lack of later references to it, when documentation was generally improving, suggests it may have been removed or repurposed soon after this date. Perhaps when the Scadbury chapel within Chislehurst church was built, probably by Thomas II (1457-67; Webb et al 1899, 116), the public display of faith (and no doubt status) was preferred and a private chapel at Scadbury Moated Manor no longer seemed necessary. In any case, a purpose-built chapel of the latter part of the 16th century seems unlikely as it would have rendered the family chapel in the parish church largely redundant and politically unacceptable under the reformation. In the context of later developments, it is tempting to suggest that the creation of the chapel at Chislehurst could have been intended to free up space on the moat island.

Layout

A typical layout for a gentry house of the late 14th century would have included a central hall entered at the low-end, with an adjacent buttery and pantry, the kitchen

lying beyond; over these would be a good bedchamber. At the high-end of the Hall would have been the best chamber and chapel, usually at first floor level with lesser rooms beneath (Cooper 1999, 56). The parlour 'was on the ground floor at the high end of the house ... the high-end stair generally rose not from the Hall but from the Parlour or from a lobby adjacent to it' (Cooper 1999, 289). Other buildings, such as accommodation for retainers and visitors, bake house, stables and barns, would have been separate, though perhaps by this date placed to form a coherent whole, often around a court or courts. Most were approached by a gatehouse designed to suggest authority though generally of minimal defensive value and there might have been other entrances for general use (Cooper 1999, 58). Courtyards prevented an unnecessarily elongated plan, which provided a secure internal space and allowed access from one part of the house to another, whilst also allowing the segregation of services within the overall complex. Such a plan also enabled 'alternate rebuilding' (Cooper 1999, 59, 61; above). It was very common for the gatehouse and Hall to lie on opposite sides of any court with other buildings or wings on the remaining sides. Such a plan would be notable for the marked distinction between the upper and lower ends of the Hall and the small number of rooms, many of which would have had multiple roles (Cooper 1999, 56, 59, 61).

Relating this to the early remains on the island is clearly difficult. The medieval hall would have been a key element of the layout of the moat island but there is no direct evidence for its location, though it seems reasonable to believe that it lay where it is generally assumed to have done, on the site of the reconstructed hall. The slightly oblique orientation of the current remains places the reconstructed hall's long axis across the natural fall, making construction a little simpler, so may preserve the alignment of the original. Though the area is now level enough for this not necessarily to be a significant factor this may not originally have been the case (above). ODAS excavation evidence suggests that there was a 13th-century yard to the east of the Hall (probably ruling out one alternative site for it), with a contemporary tiled building somewhere nearby, which suggests a service area including a yard and detached kitchen. This would be a common layout with the prevailing west/south-west winds carrying smoke, sparks and smells away from the rest of the complex, plus the topography would allow for drainage away from the higher status parts of the complex. It is likely that the formal approach would have been from the opposite side of the hall, keeping the services out of sight. If the service area did lie to the east, then the formal approach was probably from the west, perhaps defining one axis of the layout. This would mean that the formal approach was along the ridge from Chislehurst, and across the broadest and most impressive arm of the moat, presumably via a substantial bridge. Direct access to the service area could have been modest in scale due to the more moderate topography.

The other primary axis for the site would have been that defined by the high- and low-ends of the Hall, but it is not possible to determine this with any certainty at this date. Although some possibilities for later periods are discussed below, this axis was not necessarily fixed; the two ends might be swapped over as the site developed as seen for example at Broughton Castle, Oxfordshire (Croom 2018, 13). Whilst a south high-end tends be more common, to make the best use of available light and warmth, numerous exceptions are known.

Brick

At 'Sheen under Henry V [1413-22] ... brick was first employed in royal works on a major scale. Sheen also reminds us that timber-framing was far more common than has usually survived' (Emery 244)

> The widespread introduction of brick towards the end of the fifteenth century was the primary development of the early Tudor period. Initially used for undercroft vaults and load bearing walls, its preference by the crown as a fashionable material as at Bridewell Palace [London] (1515-23) meant its speedy adoption by aristocracy, merchants and institutions. (Emery 2006, 218)

The early brickwork

ODAS have suggested that the accommodation on the island was substantially rebuilt in brick during the approximate period 1460-1550 (Archer 2015, 9). The significant change at Scadbury Moated Manor in this period is perhaps more likely to be the introduction of brick, than an impetus to rebuild that wasn't there before. During the medieval period there was a tendency for manorial complexes to become larger, more integrated complexes, and from the mid-14th century there was also an increase in the numbers and specialisation of buildings and rooms as the desire for comfort and privacy increased (Croom 2018, 44, 18), processes that continued well into the 16th century. The original complex of the early 13th century is unlikely to have had much in common with that of the mid-15th and the flint wall (above) suggests at least one, perhaps 14th century, phase of redevelopment and is unlikely to have been the only one.

It also seems likely that the period during which the surviving early brick fabric on the site was constructed and reconstructed extended well beyond the mid-16th century. Most of the dating evidence set out below is based upon ODAS excavations in relatively restricted areas, some dates are inferred rather than directly determined, and their work has tended to concentrate on initial construction. As noted above, numerous examples of secondary early work have been identified, all of which are undated and none of which need be contemporary with one another. The bricks used at Scadbury Moated Manor have been identified as 'Tudor type', a form that didn't really change much until the 17th century, and as some of the suggested secondary early work was the remodelling of earlier structures, bricks could have been reused, potentially pushing some secondary phases even later; they were generally laid in English bond, which remained popular until the end of the 17th century. As work at Scadbury continued until around 1700 (below) some of the secondary work that appears to be in Tudor-type brick, and discussed below, could have taken place quite late in the life of the manor house.

The most likely candidate for the architect for most of the brick building works is James Walsingham, who held the estate for over 60 years. He inherited the Scadbury Manor estate with his father Thomas' other estates in 1467, as well as additional estates from his mother, further estates upon his marriage to an heiress in about 1479 and was clearly wealthy. He was also something of a local magnate;

he was the Sherriff of Kent 1496-7, attended Henry VIII at the Field of the Cloth of Gold in 1520 and lived until 1540. The known dates of other early brick manor houses in the south-east such as Mote Manor, Iden, Sussex (1460s, Emery 2006, 354, Beswick 1993, 18-19), West Wickham, formerly Kent (1469, Emery 2006, 270), and New Place, Boreham in Wartling, Sussex (1473, Beswick 1993, 18-19), would seem to favour his period of ownership, as does most of the ODAS excavation evidence, and such a long period of stable, high-status ownership would provide the ideal context for the long-term development of the site apparent in the remains and suggested by ODAS.

Construction and secondary work

ODAS have shown that the northern part of the west island wall appears to be one of the earliest structures to be rebuilt in brick, describing it as 'a relatively early example of English manorial brickwork', from 'the middle part to the 15th century' (though the finds reports suggest that construction could have been later in the century). Its lower levels were built tight to a vertical cut with a construction cut above to allow for stabilising buttresses to be built (Hart 2000). This suggests that the moat wall was constructed to the east of the original moat though, how far is unknown. It is also notable that this is the only arm of the moat to lie on the same orientation as the Hall (and many other elements of the plan) and it seems possible that the moat was deliberately realigned which might explain why the south of the wall is rather different from the north; it would not need to have been cut back into the island to the same extent. The wall was built of sandy bricks in a lime mortar, laid to English bond, and though the face bricks were complete and carefully laid, as far as could be seen most of the rest were brickbats, including the exposed headers, suggesting poor quality manufacturing. It was noted that the brickwork of this wall was 'indistinguishable' from that on the rest the island, leading to the initial suggestion that there may have been of a single programme of work, though subsequent ODAS excavations demonstrated that this is unlikely; brickwork elsewhere was dated to the mid-16th century (Hart 2011). In addition, multiple phases are clearly visible in several places and much of the brickwork visible elsewhere on the island appears to contain more whole bricks, so perhaps quality improved over time, favouring an on-going programme of work. Although there is little in-situ stone surviving at the manor house except the drawbridge corbels, Miller noted that several pieces of stone with mouldings, apparently from an archway, lay in the moat, and these are also visible in a photograph therein (Webb et al 1899, 286, opp 106). This suggests at least some of the brickwork had stone dressings, a style which became more fashionable from the mid-15th century (Wright 1972, 24), in keeping with the ODAS excavation evidence. More recent ODAS excavations (Hart 2019) have demonstrated that the opposite (west) wall of the west moat arm was inserted into a broader existing moat and the area backfilled in about 1550, possibly as much as a century after the opposite wall was constructed. It therefore seems likely that the wall on the island initially faced onto a broad and relatively simple earthwork moat. Nevertheless, there must have been a more imposing façade here than elsewhere on the island confirming that from the late medieval period at least, the entrance was from the west. The discrepancy between the dates of the inner and outer moat walls

along the west arm of the moat raises the possibility of secondary work on the island side and calls into question the date of the bridge abutments and any gatehouse.

Overall, the walls, drawbridge and gatehouse created an imposing, formal west front and it is likely that there was once similar work around much of the moat. Detailed examination of the remains and the excavation photographs show there to have been early brickwork underlying much of what is apparently entirely late work (see 'Description' above). Along the north moat arm these included: an outer wall along the western half of the north arm that survived to several courses high with possible buttresses; a short length of inner wall to the west of the causeway which survived to a similar height, a north wall to the Undercroft on the same line suggesting a wall here may once have been of some height (below); and several isolated buttresses to the west of this which implies the former presence of a wall that they supported. To the south; adjacent to the south-west corner of the island, was a substantial wall which appeared to tie together the two west moat arm walls to the north; east of this several buttresses survived suggesting that the wall continued; and to the south and east was a wall on a slightly different line that extended to the south-east corner of the island, again substantial though with fewer buttresses perhaps as the ground was lower. The south-west corner of the outer moat wall may also have been early, but this could not be confirmed and east of this the ground level appears to have been lowered, probably by the Marsham-Townshends, removing any early evidence. There was no sign of any walls along the east or north-east sides of the moat, but this does not rule them out as they could have been relatively light as the ground levels were low. The probable on-going life of the east arm of the moat as a self-contained pond (above) might also have led to their loss. It therefore seems that everywhere the ground level was significantly higher than the moat there was brick walling of a Tudor type, and it is possible that the moat was once entirely walled.

After the west moat wall, the Undercroft is one of the most substantial surviving structures on the island. It makes use of the natural fall to create storage beneath a chamber which would have been on a similar level to the accommodation to the south. It is highly likely that it had a northern end wall, possibly extending to east and west creating an inner moat wall. Its size might have been in part intended to support this, but also suggests that the chamber above may have been substantial, though its function is unknown. It could have been a private chapel, but it seems more likely that this was considered unnecessary after the family chapel was built in Chislehurst church and following the reformation and would probably have faced north which is unusual, east being preferred. The Undercroft aligned with the Large Cellar so could have been contemporary, at least when first built, but appears to have had a slightly awkward relationship with the Parlour to the south-west suggesting it may not have been built at the same time. As noted above, the Undercroft has been partially repaired by ODAS.

Several phases of secondary but early (i.e. Tudor) brick work, have been noted elsewhere on the island, though it is possible that these were not contemporary with one another and that there were many separate episodes of building, rebuilding, addition and conversion. The Large Cellar had its floor level raised three times, which necessitated rearranging access with staircases being rebuilt, added, and

blocked off, and must also have led to the rebuilding of the structure above at some point, though not necessarily every time the cellar was modified. The structure marked by the large brick base to the south may also have been secondary as it could have blocked the earliest (lowest) south staircase, did not appear to be tied into the cellar and a secondary wall to the east, identified by G&S, was perhaps intended to tie new work in with old. The structures to the north of the Large Cellar and east of the Undercroft appear to have been built against the existing Undercroft, suggesting the secondary (re)development of this area as well. There also seem to have been two, or possibly three, phases of 'Tudor-type' brick construction in the Kitchen area, though the complete rebuilding of this area by the Marsham-Townshends makes it difficult to be sure of this. The extent to which there were multiple phases across the rest of the site is less certain though there are several possibilities: the awkward relationship between the north-east corner of the hall and the Large Cellar's south-west steps suggests they were constructed separately; the Undercroft may not have been constructed at the same time as the Parlour and Small Cellar might also be secondary (or even tertiary); the G&S survey records the remains of relatively light walls to the north of the bridge abutment that could have related to a secondary structure, perhaps a gatehouse as suggested by their reconstruction; and the two parallel north/south walls to the south of the abutment have a rather awkward relationship, best explained by two phases of construction here as well.

Although there was clearly a substantial amount of work in brick undertaken at Scadbury Moated Manor, much timber must have remained. In 1630, Thomas Walsingham V complained in a letter of the behaviour of his tenants 'They have carried away all my gates, rails, pales and other things fastened to the freehold, which they ought not to have done, and left neither timber to repair the house nor firewood for my new tenant' (Webb et al 1899, 150). The need for timber clearly indicates at least some framed structures remained, even at this relatively late date.

Layout

Despite much more evidence surviving on the island from this period, it remains extremely difficult to arrive at a coherent plan for any point in time, or to assign functions to any elements of such a plan. The layout of the typical late 14th-century manor house, described above, remained common for 200 years and it is likely that much of the brick building would have been evolutionary rather than revolutionary; alternate rebuilding within the existing layout upgrading the accommodation in a more appropriate style, rather than sweeping it away and building anew, hence the incorporation of the east/west flint wall into structures of this period.

As noted above, society, family life and consequently house plans continued to evolve and it seems likely that the secondary early brick phases described above, which probably date to the first half of the 16th century, reflected these changes. One of the key changes was an increasing specialisation of function and hence a proliferation of rooms but these were not always easy to accommodate within existing plans:

> In the course of the sixteenth century the increasing complexity of chambers and galleries on the upper floors ... placed considerable

> demands on the ground floor of the house where room sizes and numbers were not increasing at a commensurate rate. (Cooper 1999, 275)

And necessitated some quite significant changes

> Some increase in the ground-floor area could be met by incorporating within it functions that had generally been housed outside the house, notably the kitchen.
> ...
> A useful increase in upper-floor area could also be achieved by placing chambers over the Hall, while the Hall's decreasing status made acceptable the sacrifice some of its architectural prominence. (Cooper 1999, 275, 277)

These developments suggest that the ground floor plan may have borne little relationship to the use of the manor house as a whole:

> At Ightham [Mote, Kent] almost all accommodation of any distinction (save for the Hall) is on the upper floors: except for two parlours the ground floor rooms seem to have housed services and servants' lodgings, storage and perhaps in part little more than dead space in order to create sufficient floor area in the storey above. (Cooper 1999, 68)

An inventory of 1727 (see below) certainly featured a large amount of servant's, service and storage space on the ground floor, a pattern possibly dating back to this period. This suggests that interpretation of the manor house layout based on physical remains alone is likely to be a rather futile exercise. Nevertheless, we should make some attempt to do so.

The hall tended to be the most stable part of the building plan through this period and probably still lay in the centre of the island where the reconstructed hall was later erected, though it must be emphasised again that there is no certain evidence for this, it is merely hard to see where else it could have been. As noted above, in the 13th-century a yard and (inferred) tiled building had lain to the immediate east of this area, both of which may have survived into this period. ODAS suggest that the inferred building was only demolished in the later 15th century, possibly to make way for new brick buildings (Hart 2011, 11, 19, 12), though not necessarily replacements as it was common to incorporate the kitchens into the main house at about this time, in order to increase upper floor space (below). The yard may have remained open throughout this period this as it was the location of an unfinished 16th or 17th-century well (ibid), rather unlikely to have been dug within an existing building. This suggests that the east of the island was the service area and the west the formal front, something we can be much more confident of by this date given the development of the western approach and moat arm, and is supportive of the suggestions along these lines above, though it remains unclear which was the high-end of the manor house and which the low, or if these ever changed. Nevertheless, if this was the correct location for the hall then the position of the gatehouse, opposite the south end of the hall, suggests that the entrance was also here and therefore that

this was the low end. Further, if the G&S reconstruction is correct and there was a bay window to the north, then, as bays illuminating the dais became fashionable from the later 15th century (Emery 2006, 223); suggesting this was the high end. Such was the original, mid-14th-century layout at nearby Ightham Mote, Kent, though here the gate was opposite the upper end, perhaps with room for a larger courtyard centrality on the entrance front was more important (Emery 2006, Fig 79, 359).

As noted, much of the brick rebuilding and development probably took place during the 16th century and the evolution of Ightham Mote gives a picture of what these works may have comprised:

> changes in the course of the sixteenth century were typical of those required to meet the needs of fashionable living. A tall gatehouse was built above an entrance that had formerly been less ostentatious; a great chamber for the entertainment of guests was formed of the flanking range that had probably provided lodgings for retainers. A gallery ... and an open logia were built to link this front range with the body of the house on the other side of the courtyard; good chambers were added at the low end (the only space remaining) to supplement those at the high end; and the medieval chapel was converted into further bedchambers. (Cooper 1999, 68)

How far Scadbury Moated Manor reflected this pattern is uncertain, but many of these changes are possible. There is no certainty that any gatehouse associated with the bridge abutment was contemporary with the west moat wall to the north (1460+); it seems equally likely that it could have been associated with the works on the opposite side of the moat (c1550) and the G&S survey recorded some secondary walls to the north of the abutment that they reconstructed as part of a gatehouse. At the end of its life there were two parlours at Scadbury, as at Ightham. The Great Brown Parlour lay below the best chamber (below) and must have been at the high end, so probably originated as a private living or dining room possibly in the later 14th century (Croom 2018, 81). The Little Brown Parlour however, probably lay on the other side of the manor house close to the entrance and would seem to be an ideal candidate for an entertaining chamber of this period. Whether there was ever a connecting loggia or gallery is moot. It is possible that a floor may have been inserted over the hall (above); the brick base south of the Large Cellar could have been for a stair added to access this.

Queen Elizabeth I visited Scadbury Moated Manor in 1597 and although the visit was 'of a private character, and not made during one of the celebrated royal progresses', she must have spent some time there, planting an oak and some fig trees, though she does not appear to have stayed overnight (Webb et al 1899, 138). This event is likely to have prompted works on the manor house and grounds and a note in Webb mentions that:

> in the old house at Scadbury two rooms retained to the last, in the eighteenth century, names commemorative of Queen Elizabeth's

> visit. One was called "the Queen's apartment", another that of "the Maids of Honor" (Webb et al 1899, 139 n1)

The queen's apartment was probably the 'best' private chamber which would be given up for high status guests and at the high end over the Great Brown Parlour (see the 1727 Inventory below). There may also have been a second-best private chamber over the service wing/block reserved for family use (Croom 20018, 64). The maids' room is not mentioned in the inventory, but it must have been adjacent, perhaps the 'Brown Chamber' or the 'Old Nursery'. Although no certainly late 16th-century work has been identified at Scadbury Moated Manor to date, as discussed above some of the brickwork, particularly the secondary phases, could very well date to this period.

The late manor house

Whilst the layout described above may reflect that at Scadbury Moated Manor by the mid-16th century, the only detailed record for the manor house is an inventory of 1727 which followed a further 150 years of evolution. The manor house appears to have continued to develop through to the early 18th century. Sir Richard Bettenson spent £800 on repairs and new building following his purchase of the estate in 1659/60 (see the final item in the rental reproduced Hart et al 2016, 6). In the hearth tax assessment for Lady Day 1664, Sir Edward Betenson was assessed for fifteen hearths in Chislehurst, which must be for Scadbury (Wareham 2019). In 1685 his son Sir Richard Bettenson was assessed for 18 hearths (Webb et al 1899, 14-15), a notable increase. Archaeological evidence also indicates that improvements were still taking place in about 1700, when a paved 'avenue' approaching the bridge was constructed (Hart 2019).

There seems to have been some decline following this though. A valuation of about 1700 mentions three barns at Scadbury Moated Manor but a 1733 lease only two (Hart 2003, 6). The 1727 inventory (below) also suggests 13 hearths, five fewer than in 1685, and it has been suggested that the manor house may have been empty at this time (Hart 1997). The moat also appears to have been at least partially dry in late 1733 when a lease referred to a pear growing 'in the Moate on the right-hand side of the bridge going into Scadbury House' (BHC 1080/1/1/3/1/1/4).

In August 1734, the manor house was described in a valuation of the estate as 'a large Old Timber Building of no value more than as old materials' (BHC 1080/1/1/3/7/9). It seems inherently unlikely that the manor house could have been entirely of timber, given the surviving brick footings, particularly for the west moat wall and the Undercroft. On the other hand, Miller says that the house was of brick (Webb et al 1899, 285), but this was over 150 years after its demolition and probably based upon the surviving remains. ODAS noted the generally poor quality of brickwork in the west wall, which was largely built of brickbats and would have been rather weak, which suggests that many of the slighter walls may never stood to a great height, though the quality seems to have been better in other areas. Therefore, the manor house may have been a mixture of entirely brick, brick to first floor level with timber above, and entirely timber, presumably largely on brick footings but not necessarily so.

The manor house was eventually demolished in March 1738 as revealed in a letter by Frances Bettenson, aunt of then owner John Selwyn, wherein she also reports that they were 'carrying all the materials to build at Danson', that is Danson Park in Bexley, the Selwyn's new house (ODAS, pers comm). The carrying away of large amounts of material suggests that a significant proportion of the upstanding buildings were once of brick, possibly with stone dressings as suggested by the remains in the moat mentioned by Webb, and with some flint suggested by various surviving elements and flint reused by the Marsham-Townshends.

The 1727 inventory

The inventory will be examined in some detail as the most complete picture available of the manor house, albeit towards the end of its life. It seems to be the basis for the current naming of 'rooms' on the island as the various G&S plans show slightly-differing attempts to tie the inventory to the ruins, and ODAS have broadly followed these.

Each room is listed in the following order (bearing in mind that rooms and so on containing nothing of value, or nothing belonging to Sir Edward, will have been omitted):

Room	Summary of contents
The passage coming in at the great gates	Some prints
The pantry next to the great gates	A 'mounteau' (portmanteau?), 2 old tables, a basket service
The passage to the dressing room	Some furniture, 3 pictures, stag's horns, an oak table, a backgammon set, a close stool, a 'machine for a lamp'
The Dressing Room	Quality fire tools, 4 window curtains, 2 tables, 8 chairs, dressing accessories (clothes brush, large looking glass), 17 pictures and prints, 2 brass locks
The Little Brown Parlour next the dressing room	3 tables, couch, easy chair, 7 other chairs, cushions, stool, clock, 12 pictures and prints, tools for a fireplace, 2 pairs of curtains, 2 brass locks, hand bell and possibly 2 pairs of pistols and a steel (cross?) bow
The Stewards Hall	An iron stove, a cane couch, a great chair, a stool, a pair of curtains, 4 pictures, a map of Kent
The Servants Hall	A table, form, 2 guns, a lantern a great brush
The Pantry	Much china, earthenware, glassware, basketry, wooden items, and so on
The Kitchen & two little Rooms Adjoining	A long list of items of iron, brass, copper, pewter, tin and wood, numerous fire tools, cooking vessels and implements
The yard next the cellar	A cistern with a brass tap, a bottle rack
The 'Innermost', '2nd' and '3rd' cellars	Listed together A range of casks, barrels tubs and other vessels, several stands

Room	Summary of contents
The Brew House	Items for producing beer (malt mill, mashing vat) and cider (cider press, cider trough), also dairying (churn, milk pail, cheese press), a fishing net
The Dairy	A range of dairying and butchery items (choppers, a block, a bacon salter, and (meat?) safe), a table, 2 benches
The passage leading to the great brown parlour	17 pictures, prints and maps, pike, halberd, 2 stag's horns, a table
The two closets next to the passage	An assortment of items including furniture, boxes and trunks, some clothing, weapons. The first had a brass lock
The Brown Parlour next the privy garden	Brass fire tools, numerous chairs and tables, tea-making facilities and a range of china, calico curtains, some pictures and prints, a brass lock
The Brown Dressing Room	A red settee, stool, 6 cloth chairs, a table, a [looking?] glass, 3 pictures
The Brown Chamber	Fire tools, feather bed with bolster, blankets etc, several chairs, table, mat
Queen Eliz[abeth's] Room over the Great Parlour	Fire tools, a feather bed ornately dressed in red with curtains and a valance, 2 stools, 3 chairs, a table, a picture
The Passage Room	2 oak tables, 2 large chests
The Old Nursery	A feather bed, a cupboard, some chairs, a rug, a tapestry, no fire tools. A closet off contained an old chair, and some curtain rods
The Chamber next the Nursery	Fire tools, 2 feather beds with grey serge curtains and bedclothes etc, 3 chairs, 2 stools, and a table
The Great Hall	High quality fire tools, 56+ pictures a marble table, 2 oak tables, 14 chairs, 4 stools, a 2-armed chair all gilt, a large looking glass
The White Staircase	50+ pictures
The Ante Chamber By Sir Ed[ward's] chamber	2 chairs, 2 stools, table, chest of drawers, 2 large trunks, a box, all containing necessities such as a nightgown and pillows, 3 prints
Sir Ed[ward's] Chamber	A luxuriously dressed down bed, a grate and fire tools, calico window curtains, turkey carpets, dressing table with looking glass, large easy chair, 4 cloth covered chairs, 4 plainer chairs, 2 flower pieces, 4 pictures, a brass lock, a stool, and 2 chairs in a closet
The inner closet over the kitchen	Several trunks containing fabric and old clothes and a range of other things such as a flock bolster & pillow, 5 pieces of silk, hampers, glasses
The mid closet	Similar material such as chests of drawers, furniture, curtains, 'fringe for a bed'
The 1st bed chamber over the Steward's Hall	Fire tools, a feather bed and bedclothes, clothes rack, bookshelf, curtains and 3 stools
The 2nd chamber	2 feather beds, 2 blankets, 2 tables, 2 trunks, 2 chairs, 2 stools, a rug, yellow serge curtains, close stool
The Brown Chamber going to the Plod room	Plainly dressed wrought bed, table, 6 chairs

Room	Summary of contents
The Plod room	A well-dressed feather bed, quality fire tools, a picture, tapestry, brass lock, 2 pairs of curtains, pistol
The Ed Room	Fire tools, feather bed, other furniture including clothes press and looking glass, 3 pistols
Andrew's Room	A feather bed, otherwise sparsely furnished, no fire tools
The linen and plate	Listed separately but as some had been listed elsewhere it is unclear what distinguished that listed here

The inventory starts with a group of rooms and passages suggestive of an entrance sequence, starting with the passage coming in from the great gates. It seems clear that the great gates were on the west side of the island where the corbels are, and the passage could well have been that through a gatehouse as it only contained a few prints and may have been open to the elements. Although it is not certain that there was a gatehouse it seems highly likely as it is improbable that the imposing western façade, built between about 1460 and 1550, would have lacked one. The G&S survey suggests that there were wall footings for one, possibly secondary to the moat wall, and their reconstructions (plan and elevation) feature one. The inventory then details the pantry, clearly a small storeroom, probably off the passage and also potentially within any gatehouse. The passage to the dressing room follows but it is not clear how the two passages related to one another; it contained a little furniture and more decoration, including some pictures rather than prints, so perhaps was within the main building. The location and contents of the dressing room itself suggest it was a public space for departure or arrival, a fireplace would have warmed arrivals with plenty of seats for waiting if needs be. This room may have formed something of a communications hub; the inventory records two brass locks suggesting two lockable doors, perhaps restricting access into the rest of the house (though there must have been numerous doors without locks). Next was the Little Brown Parlour which was next to the dressing room and, though also comfortable, was perhaps a more private space. Several rooms are described as 'brown' suggesting wood panelling.

The inventory then runs through what appears to have been a service wing or block comprising a series of plain, sparsely furnished, functional rooms; the steward's hall, servants' hall, pantry, kitchen (with two little rooms off), yard, three cellars, brew house, and dairy. Given that the steward's hall was listed after the Little Brown Parlour it seems possible that it was accessible from it, a possibility supported, if rather tenuously, by a bell listed in the Parlour which might have been to summon servants. The pantry was clearly a key storage space and the kitchen obviously an important functional room but it is not clear if the two small rooms off it were for storage, such as wet and dry larders, or had specialist functions, like a pastry for baking, bolting room for sieving flour or a scullery for cleaning vegetables (Croom, 2018, 139). It is clear however, that the kitchen was integrated into the main building as it had rooms above. The three cellars, though accessible from the yard, could have been beneath the rooms already mentioned though this is far from certain. The brew house and the dairy, which perhaps also acted as butchery, are listed after the yard and seem to have shared storage so they were probably in a standalone building. Brewing, dairying and butchery were often unpleasant, noisome processes likely to

be located as far from polite areas as possible. With prevailing westerly or south-westerly winds in southern England it seems likely that they would have been to the east, and the topography would simplify drainage away from the main buildings.

The inventory then appears to return to the main buildings and the passage to the Great Brown Parlour, and whilst it seems likely that the inventory would have picked up again from a previous point, perhaps the dressing room, this is uncertain; if Miller's description (above) is correct then the manor house had a courtyard and any number of passages/rooms could have been accessed from this. The passage was clearly a polite space and had two closets off it. The first had a lock so perhaps one led off the other with one lockable door securing both, though their contents do not appear to have been valuable. The Great Brown Parlour contained a great number of chairs and tables and, with a well accoutred fireplace, it was clearly a large entertaining space. A brass lock is mentioned suggesting a lockable door which could have been that from the passage, but it is possible that there was a door leading out to the privy garden which it may have been more worthwhile to secure. This is the only mention of the privy garden and nothing more is known about it though it seems likely to have been on the island, probably somewhere on its south side as the north would not be good for plants, the east seems to have been the service area and the west would not have been private.

The inventory then moves on to the brown dressing room, and brown chamber (a bedroom with a fireplace) which seem to form a pair (pairs of rooms appear to be common; at least three further examples are suggested below), probably on the ground floor (Croom 2018, 137). These were followed by Queen Elizabeth's chamber, which was 'over the great parlour' and must have been accessed via a staircase. Both the great parlour and best chamber were typically close to the principal staircase, almost certainly so at the time it was made over for the Queens use. If this was the White Staircase however it seems odd not to mention it at this point; perhaps the staircase was empty and not recorded, the former principal stair superseded at some point in the 16th century. The next room mentioned is the passage room, sparsely furnished so probably more passage than room. Following this was the Old Nursery, a bedroom with a closet but lacking any sign of a fireplace so perhaps for a servant, and the chamber next to the nursery, another bedroom but with a fireplace and two beds so probably shared, which again suggests it was occupied by servants, or possibly children. By this date, nurseries could be with the family accommodation or that of the servants on the top floor (Croom 2018, 215) so these rooms could also have been on the first floor and accessed from the passage room, which might fit with the possible layout of rooms beneath, or in an attic accessed via another undocumented staircase. The inventory then details the great hall, suggesting a break at this point, and it seems likely that the passage, parlour, and various chambers formed a distinct group of rooms overlooking the privy garden, probably in a block at the high end of the hall (above). With the tea making facilities in the Parlour and the presence of the Old Nursery it is tempting to suggest that this may historically have been seen as a rather feminine zone.

The Great Hall had another very well accoutred fireplace and appears to have been the largest space in the manor house if the quantity of furniture and pictures is

anything to go by. In a gentry house with medieval origins it is highly likely that it was a surviving element from early in the site's development, though almost certainly modified at some point, or even completely rebuilt. This was another grand entertaining space, though perhaps more austere than the Great Brown Parlour, so more befitting of the dignity of the lord of the manor. It may have been on the opposite side of the manor house to the entrance as several of the following rooms lay over the service wing mentioned above but are described in the opposite direction. This would place it somewhere between the Great Brown Parlour and the kitchen which would be in keeping with a typical high-end (parlour)/low-end (kitchen) division. As such it may well have been accessed via a porch opening into a central courtyard. The hall is followed by the White Staircase, suggesting it was of stone or painted, and clearly the main staircase as it was decorated with numerous pictures. As noted, there must have been others, but if these didn't contain anything of value they would have been omitted.

The remaining rooms all appear to have been on the first floor as the majority were bedrooms, some specifically described as above other rooms. It seems highly unlikely that all led off one another so there was very probably an unlisted passage running from the top of the white staircase. The next two rooms were an ante chamber and Sir Edward's chamber probably the most luxuriously furnished room in the manor house, literally the master bedroom. It had a brass lock suggesting a lockable door, presumably that from the antechamber, in turn suggesting a dead end, particularly as the closets listed next were unlikely to have been accessed through his bedroom. Sir Edward's rooms may have been above the Great Hall as the closet mentioned next was over the kitchen. If so, the bedroom fireplace could have shared its stack with that of the hall, as appears to have been intended at Ightham Mote ('the hall chimney was rebuilt in the sixteenth century with an additional flue rising from first-floor level; in the event nothing was done' (Cooper 1999, 282)).

The contents of the inner closet are listed next followed by the mid closet; both appear to have been general storerooms. The former was over the kitchen and though it is possible both were it is perhaps more likely the latter was over the pantry or the servants' hall as the next room, the first bed chamber, was over the steward's hall. This seems to have been a comfortable bedroom with a fireplace perhaps served by the stack that served the stove below. The second chamber may also have been over the steward's hall and with two beds, trunks, tables, chairs and stools, was probably shared, probably by servants as there is no evidence for a fireplace, though there was a close stool. This was followed by the brown chamber going to the Plod room and the Plod room itself, perhaps another paired apartment; the former was a rather plain bedroom without any evidence for a fireplace, perhaps for a servant, the latter a grander bedroom with a fireplace, possibly with a male occupant given the presence of a pistol. The Plod room had one lock suggesting a single lockable door and perhaps a dead end. The name is odd but seems correct as there were also references to 'plod' curtains and counterpane; it seems to have been named from the décor, so perhaps 'plaid'. The final two rooms might form another apartment; the Ed room was another fairly well-appointed bedroom with a fireplace, again with pistols suggesting a male occupant, perhaps Sir Edward's uncle, also Edward, and led to Andrew's room, a very sparse bedroom without a fire, so perhaps a servant's;

'andrew' is an obsolete term for a valet (Oxford English Dictionary, Janet Clayton, ODAS, pers comm). From the order, it seems possible these rooms were over the Little Brown Parlour, and/or the Dressing Room.

There is one notable omission from this inventory, the chapel. This is known to have been present from relatively recently examined document now in the British Library entitled 'A Father's Blessinge, to his motherless, and (as farre as the world can make hir) fatherless, deare and onely Daughter Dorothie Tuke' by Maurice Tuke and dated 1640. It is a collection of pious homilies but towards the back is a later note: 'This Book was found at Scadbury in the Closet by the Chapell July 1737' (Archer 2018). It seems likely that the document was found as the house was being cleared prior to demolition the next year (above). There is also a marriage license of 1684 that suggests that George Corthorpe and Albinia Elliot, a first cousin of Edward Betenson, may have married in the chapel at Scadbury Moated Manor (ibid).

In broad terms the inventory suggests several groups of rooms comprising:

- Gates, entrance passages, dressing room and Little Brown Parlour (possibly with bedrooms above)
- The Great brown Parlour (with adjacent privy garden and bedrooms, including Old Nursery, above)
- Hall (master suite above?), staircase
- Service wing/block (bedrooms above)
- Cellars
- Yard, brew house and dairy

As discussed above the gates were on the west of the island where the stone corbels survive, almost certainly within a gatehouse with a through passage. The G&S survey records secondary walls to the north, and their reconstruction plan (Figure 56) depicts a standalone gatehouse with a passage to the south, immediately east of the bridge abutment, with a space/room and spiral stair to the north. Based on the available evidence this does not seem unreasonable, though it is not clear what the stair is based upon or where it might have led.

It also seems highly likely that the three cellars listed are the three low-level rooms visible today; the Large Cellar, the Undercroft, and the Small Cellar. The G&S survey plans show stairs leading up from the south and west of the Large Cellar, and a passage that led from the north end of the west wall through towards the Undercroft and Small Cellar, with a stair running up to the south from this. The relationship between the Large Cellar, the Undercroft and the Small Cellar was not properly defined however, the area being labelled as 'not excavated'. There were several features depicted on the survey plans at a higher level, many of which were obscure, all since removed or overlain by the Marsham-Townshends' works. The G&S reconstruction of the Large Cellar had three windows in the east wall that seem to reflect some of these so perhaps they were able to tell there were windows above, based on evidence now lost. The reconstruction also shows two doors in the west wall, one leading to the small curving stairs down to the cellar, the other to a rather vague open area or room to the north, which lay over the Small Cellar. In the Small

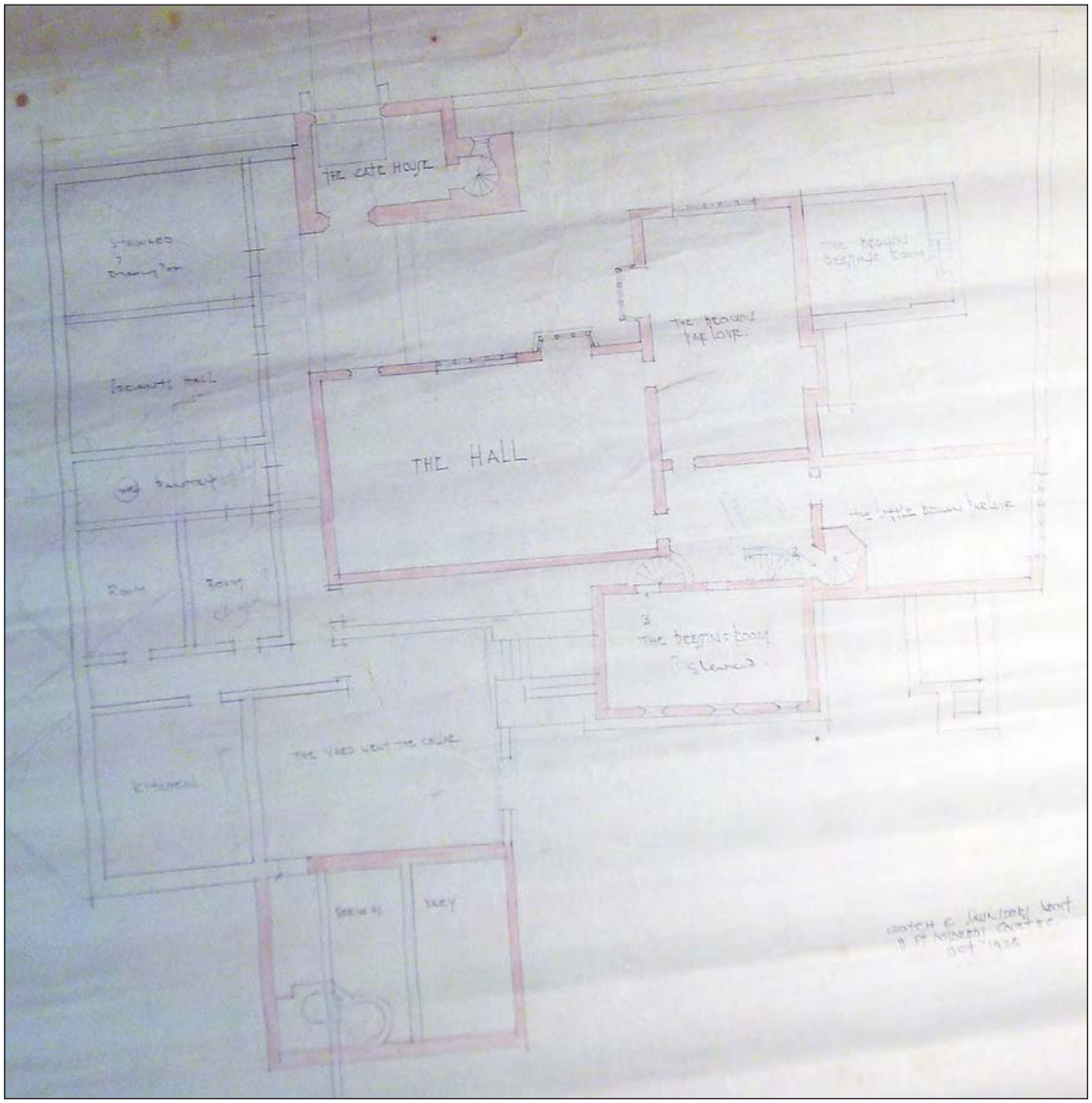

Figure 56 – Detail from a plan of the moat island entitled 'Scadbury Park Kent', signed 'G&S Archt', and dated October 1928, north to the right, tone adjusted for clarity (BHC 1080/3/2/28/15/6 (6)). This appears to be an attempt to reconstruct the late house layout but has some later revision (see 'Sources of evidence' above).

Cellar's north-east corner, were the stairs down to the cellar passage and a spiral stair down to the Undercroft where a stair is now. These were rather close together and the former was shaded in blue rather than pink on the G&S reconstruction possibly intended to indicate a different phase. A dashed line appeared to indicate the southern extent of the vault, further south than survives today, but with the late pillars also shown, suggesting some collapse and that this line was a projection, presumably based on surviving springs for the vault. The G&S reconstruction drawings depict the room above the Undercroft with a large mullioned window in the north wall, located directly above the moat wall, suggesting that they thought there had been a wall across this end of the Undercroft (see 'Description'). An excavation photograph suggests that there may have been a wall here but what can be seen of it does not look early.

Another reasonably confident identification would appear to be the brew house and dairy with the ODAS 'Kitchen'. The ODAS naming cannot be correct (and ODAS acknowledge that the naming is rather unfortunate but was forced upon them by the circumstances of their involvement in the 1980s, pers comm), as the kitchen was integral to the main building and the brew house and dairy were apparently the only standalone building(s). The G&S survey records that one of the features interpreted as ovens had been built over before the house was demolished and so was redundant at this time. It should also be borne in mind that the appearance of the area today bears little resemblance to that depicted by G&S, which suggests more than one phase and several rooms or adjacent buildings, some of which extended further to the east than any seen today. It is possible however, that one of these earlier phases represents a kitchen and that the 'ovens' were a part of this. The Tudor kitchen reconstructed at the Weald and Downland Museum has two identical features, a bread-oven and a copper used for brewing, in the same relationship, one circular, the other slightly angled at the corners; and also a central hearth with tiles on edge, very like the Scadbury kitchen layout (ODAS, pers comm)

It also seems likely that the Hall was in the position later occupied by that erected by the Marsham-Townshends, as in the G&S reconstruction. If so, the 'quadrangle' mentioned by Miller must have been the area to the west, between the Hall and the gatehouse which would agree with his statement that it was 'entered by an archway', that through the gatehouse. This implies that the manor house may have had an approximate 'H' plan with the Hall across the centre and wings to north and south. It is possible however that Miller's 'quadrangle' was what has been assumed to have been the Hall and that the manor house had a central courtyard though this seems unlikely as there is no obvious alternative position for the Hall. Nevertheless, it would be possible to confirm this archaeologically which should be relatively straightforward, if damaging to the remains of the Marsham-Townshends' Hall and requiring Scheduled Monument Consent.

Apart from these reasonably fixed areas the rest of the layout is difficult to determine. As mentioned above, G&S attempted a reconstruction of the manor house (BHC: plan, 1080-3-2-28-15-6 (6); elevation, 1080-3-2-28-15-6 (3)), and though the intended date is uncertain, the reconstruction plan (Figure 56) makes some effort to relate the survey plan to the 1727 Inventory. It is not clear to what extent the details (windows, fireplaces, stairs etc) were based on physical evidence though they largely reflect the survey plan and to some extent surviving evidence (see Description above). Note that through the late 17th and 18th centuries there was a tendency to remove projections such as bays, porches, external stairs and chimney stacks to create a flatter more outward looking aspect (Croom 2018, 204) so it is possible that G&S were reconstructing features that did not actually survive to the end of the manor house's life.

The reconstruction plan (Figure 56) shows a standalone gatehouse with an open area to the immediate east and the Hall in the centre of the island. It is unclear if the open area or the Hall was how G&S interpreted Miller's 'quadrangle', the former seems a little small and incoherent to have been identified as such though he does suggest it was immediately adjacent to the gatehouse arch. In the reconstruction the

Hall had an entrance opposite the gatehouse, a large mullioned window in the centre of the west wall and a mullioned bay window to the north of this, but no fireplace. The service wing ran along the south side of the island with the steward's room in the south-west corner followed eastwards by the servants Hall, pantry (containing a well on the approximate site of the late well enclosure), two rooms (presumably those 'adjoining' the kitchen), and the kitchen. The yard lay to the north of this and the brew house and dairy to the east with the Large Cellar accessed from the yard by stairs to the north. The Great Brown Parlour lay immediately north of the western open area and Hall, with a mullioned bay window to the south (west of, and adjacent to, the bay window in the Hall), a large mullioned window in the west wall, and a fireplace in the north wall built upon the large brick base surveyed here. The reconstruction shows the brown dressing room to the north of the Parlour (containing a stair, presumably to the brown bedchamber), the Little Brown Parlour was over the Undercroft (with a mullioned north window), and the dressing room over the Large Cellar.

There are, however, several issues with this reconstruction. Whilst the southern range flows as per the inventory, the area to the north does not, particularly the dressing room, which appears to have been a reception area, is nowhere near the entrance, nor linked to it by a passage. The location of the privy garden adjacent to the Brown Parlour is left open, horticulturally it is unlikely to have been to the north, the strip to the west was narrow and not particularly private and the space to the south (where the damaged reconstruction on tracing paper places it) was even more public. Two almost adjacent parlours would be unusual; it was far more common for the great parlour to be at the upper end of the house and the small parlour at the low end, often near the kitchen for warmth (Croom 2018, 137-8). It also incorporates a rather awkward and unnamed (and not noted in the inventory) room between the two parlours and the dressing room. It seems rather awkward to have the brown dressing room on the ground floor when it appears to be an anteroom to the brown bedroom which seems to have been placed on the first floor. There are also rather awkward relationships between the Hall, yard and kitchen, it ignores the block of brickwork to the south of the Large Cellar and the walls to the east of the Undercroft and omits the well here. There seems to have been some recognition of these problems as there is evidence of a reconsideration of this layout, with some walls crossed out and others added, and some names changed. However, these do not fit the underlying remains as well as the original reconstruction, and they are only partial, suggesting they were not fully thought through.

There are a few more general issues. The Great Parlour was possibly seen as a feminine space, with a range of bedrooms above, possibly also feminine given Queen Elizabeth's Room and the Old Nursery. Such rooms tended to favour the south side of the house in order to receive the best light and at Scadbury manor house probably also offering better views across the wider countryside, at least from the ground floor. The privy garden might then lie in the south-east corner of the island, perhaps explaining the slightly awkward arrangement of walls here.

The service rooms might then have lain to the north, a location favoured as much for the coolness provided as the south was for light and warmth (Markham 1613),

with the sequence of rooms suggesting that the kitchen was somewhere in the north-east of the site, a logical position given the prevailing south-westerly winds, and possibly making more sense of the access to the cellars. It could have been over the Undercroft or Large Cellar, with the two rooms adjoining being those to the east/north, one with the sump, the other with the well, both suggestive of a utilitarian function. The main access to the Large Cellar seems to have been from the south suggesting that 'the yard next the cellar' was where G&S suggest, to the south of it. By the time of the inventory however, the Large Cellar appears to have actually been a half cellar so perhaps 'next' only implies a physical relationship rather than access and the yard was in the otherwise unused north-east corner of the island; the Apple Store would have removed much of the evidence for it. Above the service rooms were several bed chambers which appear to have been grouped into at least two pairs, with one room more elegantly furnished, the other much plainer. The overall impression is that these were generally occupied by men. They were listed after Sir Edward's Chamber, one was referred to as Andrew's (a valet's) room and another as 'Ed room', perhaps more likely to be Edward's room rather than an error for 'bed' (Sir Edward Bettenson's uncle, Richard's brother, was named Edward, perhaps this his room when he visited; he lived at Sevenoaks (Webb et al 1899, Bettenson family tree)), and several contained pistols. Views from these rooms, if to the north, would have been across the park, perhaps of more interest to the men of the household. Sir Edward's chamber and associated anteroom may have been on a floor inserted over the Hall, or over one of the other rooms in the north east corner.

The Marsham-Townshend's works

Hugh first moved into Scadbury Park Mansion, the former estate manager's house to the west of the moat, in August 1904. He was listed in local directories as living there until 1911 but the visitors' book contained entries until September 1912 (Archer 2015, 15). There is no evidence that much work was done at this time, apart, perhaps, from any internal work needed to make the cottage more comfortable, though the house had been extended at various times during the 19th century (ODAS, pers comm). Following his father's death in 1914 Hugh inherited the family estates, but the Marsham-Townshends lived in Mayfair during the war and Mr Kenderdine, the site manager who had been resident at Scadbury before Hugh moved there, was back in residence (Archer 2015, 16). After the war, the Marsham-Townshends started planning their return to Scadbury, beginning with the extension of two wings to the mansion, plans for which were produced in 1919 (BHC 1080/2/1/26/27). Presumably Mr Kenderdine moved out to allow these to take place, and the Marsham-Townshends wouldn't have moved in until they were complete, probably in 1920.

At about this time he began to develop the estate as commercial orchards, with fruit trees being purchased in 1919, 1920 and 1921 (Archer 2015, 16). The Apple Store must date from this period though its exact construction date is not known. It was not on the 1909 OS map but the excavation photographs (above) show that it was in place before any of these works commenced. The earliest photographs show it to have been thatched with a central cupola/vent, a weather boarded south gable with windows (and probably the same in the north gable), and windows to either side of,

and above the entrance in the western gable. Before the end of the works to the moat the weatherboarding in the gables had been painted to look like timber framing. At some point after the works, but prior to the erection of the reconstructed hall (below), the store appears to be neglected with the thatch falling away in many places, but at the time of the hall's reconstruction the thatch had been repaired so perhaps this was just the old thatch being removed prior to new thatching. By the Second World War the thatch had been replaced with what look like asbestos tiles, presumably it was considered a fire risk. The outward curve of the island to the east of the store was not contemporary with its construction but was added during the moat works.

Once Scadbury Park Mansion had been extended to create a suitable residence and the commercial orchards set up, the Marsham-Townshends turned their attention to the grounds (some of his works in the wider landscape have been discussed above):

> Over a period of ten years, from 1925, Mr H S Marsham-Townshend systematically excavated the moat, removed the trees which covered the ruins and took steps to preserve the footings then uncovered. (Bushell 1974, 221)

Bushell was a local historian and it seems likely that he got this information directly from Hugh (Janet Clayton, ODAS, pers comm). As indicated, his works were substantial; the moat was completely re-excavated and new retaining walls were constructed, both internal and external to the moat. Numerous dwarf walls were built across the island, frequently upon existing walls, and in many places planting beds were incorporated into these walls or created adjacent to them. He also repaired and remodelled some existing structures, notably the west moat walls, Undercroft and Large Cellar.

At the end of this period the fantasy medieval hall was constructed in the centre of the island using timber framing taken from Manor Farm, St Mary's Cray (Meekums 2014). The reconstructed hall was inserted into an existing space in the building plan previously recreated by the Marsham-Townshends and referred to on the 1928 G&S plans as *The Great Hall*, though it is uncertain if this identification is correct.

In terms of the physical remains the Marsham-Townshends' work can be characterised by irregularly bonded brickwork in a hard mortar. The bricks were generally laid in regular courses and it is possible that stretcher bond predominated but with very irregular bricks this is uncertain. It should also be noted that the Marsham-Townshends seems to have worked entirely with bricks which do not look new; either genuine pre-18th-century bricks, or conceivably handmade bricks that were new at the time, though as this would have been costly. It seems most likely that many of these old-looking bricks came from elsewhere on the site, for example the walled garden, which has had walls robbed, or from the island, the earlier of the 1920s photographs show numerous brick piles, presumably from tidying collapsed structures. the Marsham-Townshends also made use of cast concrete, both on its own and faced with brick, presumably a decision made for economic reasons with brick facing as an aesthetic consideration. In some places later work would appear to lie beneath apparently older work but this could have been inserted to consolidate the overlying structure. It is also important to stress that even when all the work appears

to be the Marsham-Townshends', this does not rule out the survival of earlier foundations below as seen in several of the 1920s photographs.

From the Sources (above) it can be seen that there are a series of points at which we can gain an idea of the progress of the Marsham-Townshends' works; the photographs of the moat excavations which appear to pre-date the G&S survey, the 1928 G&S survey itself, the OS map of 1933 and some photographs of about the same date, the 1934 APs, the photographs of the hall reconstruction in 1936, and several later but undated photographs. These allow us to summarise the Marsham-Townshends' works in more detail.

At some point the island must have been cleared of trees, it is heavily vegetated in the plate in Webb et al (1899, opp 106) but not in the photographs from the 1920s; it is not known exactly when this took place but stumps are visible on the island in some of the excavation photographs suggesting it was relatively recent, probably the first stage in the works outlined by Bushell above so around 1925, but could have related to the use of the island associated with the Apple Store a little earlier.

The 1920s photographs reveal that one of the first tasks was the draining of the moat. In order to facilitate this, drainage gullies had to be cut along the centre of the west and south arms and perhaps elsewhere. Prior to this the east arm had been maintained as a large rectangular pond, separate from the rest of the moat, though this had silted up considerably. The west arm also held water, but this appears to have been by accident rather than design. The state of the north and south arms prior to works is unknown, but presumably their condition was broadly similar to that shown on the 1909 OS maps (Figure 9).

Within each arm the work appears to have followed roughly the same sequence (though it is uncertain what order the arms were worked on or if they were all addressed at the same time, the shifting railway suggests not). In several places, trenches were cut along one or other side of the moat arms, but these appear to have been either to insert revetment prior to excavating the remainder of the moat, or to locate and chase surviving wall footings, in some cases probably both. The arms were then excavated to an initial depth of 1.0-1.5m or so. Full height revetment was then inserted where necessary, particularly towards the west where the ground level was higher, combined with the exposure and cleaning of any early work revealed, apparently including the removal of loose material if the adjacent stacks of bricks are indicative. Consolidation and reinforcement of the early work along the west arm was significant, mainly in timber with bracing extending across the full width of the moat. There was also further excavation of the other arms of the moat with further revetment stepping inward in several places, underwater when the moat is full. Work would then have moved on to reconstructing the moat walls upon the old footings, but this was not documented in the photographs.

At this stage, work on the island appears to have primarily been the clearing of remains into piles, some no doubt from collapsed walls, but perhaps also the removal of in situ but loose material. This included the emptying of the Large Cellar and Small Cellar. This material looks to have been enough to supply the subsequent

works, would have saved the purchase of bricks, and reduced the amount of material to be removed from site. It is difficult to determine if there was any construction on the island at this time as it was only depicted incidentally. This suggests that there wasn't. An exception was the cutting back and revetment in timber of the high ground along the south and south-west, including the well enclosure

By the time of the G&S survey (1928) the moat appears to have been re-flooded. The external moat boundaries were depicted very simply with all details omitted so the extent of the work is uncertain, though the outline is much as today; the previously rounded north-west corner is shown as a slightly acute angle, and the square insertion in the north-east corner is shown. A note next to the western boundary reads 'brick wall'. A relatively narrow, straight causeway was in place to the north, but it seems unlikely that the western cast iron bridge had been erected as the crossing was depicted with dashed lines apparently indicating the site of the former drawbridge. The internal moat walls are much as today, though there were no buttresses at the south-east corner and along the east wall, nor the planters along the south side so some further work seems to have taken place after this. The levels given on the G&S plan match very closely with those surveyed, however. To the south, the well enclosure had been reconstructed (the early stages of this work were recorded in the earlier photographs), but the adjacent light walls do not appear.

Across the rest of the island it is not clear that much building had taken place. Numerous details do not reflect the surviving structures and suggest that apart from the work directly associated with the moat little had been done. The levels suggest that the Undercroft had not yet been repaired. The small cellar was much as today, but little appears to have been done to it since other than clearance and later rendering that would not be depicted. The Large Cellar appears to have a certain amount of secondary work removed as the small western staircase is depicted (contra the excavation photograph) but elsewhere other elements do not match those seen today so it seems that full excavation and reconstruction had yet to take place. The Kitchen area was very different and clearly had not been touched. It is likely that the level of change seen here is not representative of elsewhere on the island though. Although it was certainly in existence the Apple Store was omitted, presumably as it was of no historic interest.

The 1933 OS map shows the moat as depicted by G&S, though with boundaries running south from the south-west and south-east corners of the island separating the south arm from the east and west arms which would have required some additional work. The south end of the east arm is also slightly stepped suggesting some additional work here too. A footbridge to the west is shown, presumably the cast iron structure erected by the Marsham-Townshends, and adjacent to the causeway was a square building within the moat. The well enclosure is shown with the light retaining walls along the south side of the island, but the south side of the island has been simplified due to its scale. On the island, the Apple Store and Undercroft ('Boat Ho.') are shown shaded as they were in use. The latter had a small structure on its east side, also shaded, though no evidence for this is known. The flint wall, the walls around the Hall, the Large Cellar, and the Parlour with the two walls running north from it are all shown as simple lines. The Parlour's east wall and

the Small Cellar were omitted, however. The 'Kitchen' appears as a simple rectangle, superficially as today (contra G&S).

The 1934 aerial photographs only show minor changes though they do add considerable detail to work known to have taken place by this date. In fact, all the features surveyed on the island can be made out, apart from the later reconstructed hall. It is notable that the walls here stand to a height of around 0.75m with no gaps or obvious means of crossing them, suggesting that the reconstructed hall represents a change of plan. The brick revetment on the east of the island is shown with buttresses for the first time as is a small stair into the moat at the south-east corner, neither depicted on G&S/OS but it is unclear if these were new. The square in the north-east corner of the moat was occupied by a small octagonal building, apparently a summer house (Biggs letters). The causeway appears as today, wider than previously with a stepped-in central section, and the adjacent square structure within the moat can be seen to have had a steeply pitched roof and must have been suspended over the water, this seems to have been a second boathouse, the Undercroft being winter storage (Biggs letters). Planks can be seen laid across the well, the small stairs into the Large Cellar, and the Little Cellar allowing access to the roof of the Undercroft, suggesting some work was in progress even at this late stage. In terms of added detail, the complexity of the western outer moat wall can be seen for the first time, and the footbridge onto the island to the west appears to have been quite an elegant structure. In addition to the barriers separating the south moat arm from the others, a narrow footbridge can be seen crossing the eastern barrier. The west moat arm was choked with vegetation, in a way that suggests there may have been a division between it and the north moat arm.

Summary

Although it is not possible to pin down many details of the layout of the site at any time, it is possible to discern several phases of activity on the island.

ODAS excavations have shown that occupation began in around 1200 and it is likely that the moat was a very early, if not original feature. At this time, occupation would probably have comprised a group of buildings without an integrated plan. It is possible that the original hall was in the same location, on the same orientation, and possibly a similar size to the reconstructed hall erected by the Marsham-Townshends in 1936. This is by no means certain and it would be beneficial to demonstrate this archaeologically.

It is possible that the flint wall on the south side of the Hall represents a phase of rebuilding that pre-dated the development of the site in brick (below). Given the apparent length of this feature this probably represented the development of the layout from separate structures into a more coherent whole and a 14th-century date for this seems likely, though unproven. Further flint elsewhere appeared somewhat different and may be contemporary with elements of the brick reconstruction, as seen in the estate barn to the north-west of the moat examined by ODAS, though an earlier date cannot be ruled out.

The site seems to have been extensively rebuilt in brick between the mid-15th and mid-16th centuries but it is possible that this was an innovation in materials rather than an discrete period of renewal, and that there was a continuous, if perhaps episodic, process of development and redevelopment on the site. In general, it seems that the former extent of early brickwork at Scadbury Moated Manor was considerable; most of the Marsham-Townshends' walls sat on earlier work.

By the end of this period both the inner and outer sides of the moat probably featured substantial brick retaining walls, certainly along the west, south, and most of the north arms and possibly elsewhere too. One of the earliest works in brick was the northern part of the west moat island wall, perhaps dating from the 1460s, but it is unclear if the rest of the moat walls were of a similar date. The opposite wall, on the western side of the west arm, was from about 1550, suggesting a long period of development of the structures associated with the moat and the approach to the manor house. Note that the Tudor arch to the west allegedly bore a date stone inscribed 1540. At least three distinct phases have been identified, probably more, so this may have been an on-going process that continued through the 16th century and possibly beyond. Whilst the earlier brickwork may represent the rebuilding of the existing layout in a more fashionable style, the later works were probably to accommodate evolving house plans, largely seen in an increasing specialisation in function, and hence a need for more chambers, particularly on the upper floors. At Scadbury Moated Manor this led to the integration of the kitchen into the main buildings and perhaps the insertion of a floor over the hall.

The manor house appears to have continued to develop through the 17th century, with the hearth tax indicating an increase in the number of fireplaces in the later 1600s and ODAS excavation evidence suggesting the approach was being improved around 1700. No evidence for these developments was seen on the island. There is some historical evidence that the manor house was neglected after this date and it was eventually demolished in 1738.

The site was neglected for the next 180 years and only the east arm remained water filled, as it was maintained as a standalone pond. The west arm had some water, but this was probably seasonal and incidental, the north and south arms were dry. The Undercroft survived into the early 20th century, partly because it was a substantial structure but also because it was in use as a boat store and may have been repaired. The historic mapping suggests that one, or perhaps two, other buildings on the island may have survived into the 19th century, but there is no certainty these were of any historical significance and neither was mentioned by Miller in 1899.

the Marsham-Townshends set about developing the site as a garden in the 1920s. It is reasonably clear that in most places he built upon earlier foundations and that he seems to have gone out of his way to locate these, to an extent not always appreciated. He clearly seems to have intended his works to be representative of the original manor house plan to a large extent, albeit adapted as a garden. The obvious exception is the Kitchen area, which begs the question; why did he pay so little attention the original layout here? It may be that this being one of the last areas to be developed by him was a factor, perhaps he felt able to invest time or money into the

project, but it is hard to see how this would have made a difference. It seems more likely that he had a specific plan for this area rather than simply making use of what survived as elsewhere, or in some sense recreating it. The last of his main works was the erection of the reconstructed hall in 1936, using timbers from a medieval hall removed from another site. Maybe he intended to erect a hall on the site of the Kitchen, but these timbers fitted better in the larger space in the centre of the island; there is no evidence that he intended this for a building as it had no entrances when initially reconstructed. In support of this possibility, Philip Street, referring to 1936, says:

> On the day of the fall of the house (24th February) I asked the foreman on the spot as to what was being done with the old timber. He said that it was all being stacked in one place. On March 7th I cycled to a farmyard or rickyard at Poverest, near Petts Wood, belonging to Messrs. O'Sullivan and found the timber there. While I was taking the photographs, Mr Hobley appeared on the scene, accompanied by Mr Hugh Marsham-Townshend of Scadbury Park. Mr Hobley and a friend had gone to see the manor house before it was demolished. Mr Hobley had told Mr Marsham-Townshend, who thereupon became interested in the timber, especially in the oak arcade, with a view to purchase for preservation (ODAS, pers comm, referring to 'Architecture of St Mary Cray and Manor Farm' by P. E. Street, 177-183 a photocopy of which is held in BHC)

The elements of the site plan towards the end of the manor house's life are set out in the 1727 inventory and there have been several attempts to map these to the features on the island, from at least as early as G&S in 1928. This has led to the naming of several areas on the island such as the Hall, Parlour, Cellars, and Kitchen. The use of such specific terminology in the naming of the various surviving structures on the island is perhaps unfortunate. There is no certainty about the function of any of them and the naming seems to have framed thinking about the development of the site to a considerable extent. Whilst the Hall, and Cellars are probably reasonable, and Undercroft is accurate, the Parlour is doubtful and vague about which it might be, and Kitchen is certainly incorrect at this late date. The inventory makes it clear that the kitchen had been incorporated into the main building and the G&S survey strongly suggests that the possible oven bases were redundant before the end of the life of the manor house. Whilst this may well have been the site of the medieval kitchen, the current layout in this area is almost entirely the Marsham-Townshends' creation and if any historical term at all is to be used, 'Brew house/dairy' is probably the least misleading.

ANALYTICAL EARTHWORK SURVEY

Description

Numbers in square brackets refer to Figure 64.

Island, moat and immediate vicinity

The moat island was surveyed at a nominal scale of 1:250 in order to capture the details of the structural remains on the island (survey elsewhere was at 1:1000). These remains are discussed above (see Structural remains on and around the moat island) but the majority of what is visible on the island and around the moat appears to be associated with the works by the Marsham-Townshends in the 1920s and 30s. Little in terms of earthworks was seen though the general fall from west to east was notable, reflecting the natural fall of the underlying ridge. Other than this the earthworks recorded largely consist of the embankment of soil around the Apple Store [1], presumably to assist with maintaining an even internal temperature, traces of previous ODAS excavations [2], and subsidence associated with the collapse of some walls [3]. A low mound in the south-east of the moat island [4] might be debris from The Marsham-Townshends' works.

The area to the north-west of the moat, east of the surviving farm buildings, is rather confused and appears to be dominated by a hollow, though this is likely to be conflating surrounding features. An east facing scarp [5] and a slight, rather irregular, north facing scarp that can be traced beneath later disturbance [6], would appear to align with an east/west scarp with a northern return at its west end shown on OS maps of around 1900. Other earthworks in this area, including a possible platform to the north-east and an irregular ridge to the south, probably relate to the construction, use and demolition of two buildings (probably greenhouses) and some small enclosures or large raised beds visible on the 1934 APs (Figure 57) and later maps. To the immediate south and east of this area are two narrow gullies [7], probably wheel ruts related to vehicle access via the causeway onto the island (perhaps delivering apples to the store) as they end with a slight fall to the causeway and cannot be traced to the east. Although the 1933 OS map (Figure 12) shows a continuous track along this side of the moat, the 1934 APs make it clear that to the west of the causeway this was surfaced whereas to the east it appears to be grassed, so probably unsuitable for vehicles.

Along most of the northern side of the moat, and about 8m to its north is a steep, uniform scarp with a level top [8] which steadily increases in height, from about 0.8m in the west to 1.8m at its eastern end, as the underlying ground falls away. To the west, scarp [8] turns to the north forming a clear, slightly obtuse corner and was surveyed for about 15m, though it continued beyond the limit of survey. This return is probably a post war feature as the 1933 OS map (Figure 12) shows the scarp petering out a little to the west, with a path running to the north-east across the scarp suggesting it was relatively slight. The scarp surveyed was too high and steep to cross easily, and the northward return first appears on the 1960 OS map, so it seems likely that the ground to the north and east was lowered to create a level area.

This was not surveyed but appeared to be a large, roughly square platform which was investigated by ODAS and found to be artificially levelled with a rectangular area of dumped pebbles, thought to be a 19th-century rickyard (Clayton 2009).

To the east scarp [8] turns almost due south, forming a sharp right-angled corner, and runs for approximately 75m on a line parallel to, and about 16.5m east of, the east moat arm [9]. The overall height is less clear due to features running along the base of the scarp, but the main fall remains consistently about 1.8m high. There is a similar sharp corner to the south, where the scarp returns to the west [10] but this decreases in height more rapidly, as the natural topography rises more steeply, and ends after about 35m, where scarp [39a] (below) crosses its line, though it was very low at this point and unlikely to have continued much further. Although scarp [10] is initially uniform and steep, as to the east and north, it becomes more irregular as its height reduces.

These scarps clearly create a dam retaining water in the moat, but this was not its original form. Although no scarps are depicted to the east and south on the 2nd and 3rd edition OS maps, they show an east/west scarp to the north of the moat running a little to the south of [8] (on the line of [6] above and apparently continuing to the east as a slight fall above [8]). To the east, this scarp had a short southward return about 15m west of the surveyed north-east corner where [scarps [8] and [9] met. A slight east facing scarp [11] aligns with this return though continues further south than was depicted, perhaps indicating that the earlier moat dam continued further south than the early maps suggest, and the survival of the earlier earthwork within the larger dam. A second similar scarp to the south [12] could also be related but this is less certain. These scarps are not exactly parallel with the east moat arm suggesting it may have been on a slightly different line.

A scarp on the line of [8]/[9]/[10], only appears on OS maps from 1933 (Figure 12) so it seems likely that the dam had been enlarged by this date, probably part of the Marsham-Townshends' inter-war works. The intention may have been to reinforce the smaller original moat dam, but planting visible on the 1934 APs (Figure 57) suggests it may have been to create a large, level platform from which to appreciate the impressive views of the Thames estuary. A densely planted line of massive yews ran along the top outer edge of the moat dam probably originated as a hedge; the 1934 APs show a low dark hedge here, presumably these yews, and the 1933 OS map (Figure 12) shows a boundary which matches well with their extent. This and other planting on the dam visible in 1934 appeared to be relatively well established suggesting that it, and by inference the dam, had been in place for a few years by this time. Several linear features were surveyed on the surface of the dam to the east of the moat. Scarps possibly related to the earlier underlying dam have already been mentioned. To the east of these, several scarps [13] did not align with any mapped features and may be associated with the planting visible on the 1934 APs.

A square area within the north-east corner of the moat [14] also appears to be one of the Marsham-Townshends' works but was probably secondary as it was lower than the surrounding dam with inward facing scarps picking up the lines of the moat to south and west suggesting construction within the existing moat.

Figure 57 – Detail from a July 1934 aerial photograph of Scadbury Moated Manor from the south. AFL193408/EPW045614 © Historic England (Aerofilms Collection)

Along the bottom of much of scarp [9] are smaller secondary scarps [15]. These are generally rather irregular but around the south-east corner of the dam and along the south side of it there is a clear terrace defined by a lower scarp [16]. The 1934 aerial photographs (Figure 57) shows a faint path running along the base of the dam and these regular scarps suggest that this may have been deliberately constructed rather than simply eroded.

The area to the west of the moat is higher than the moat island, a consequence of the natural topography, and the retaining walls are considerable higher here than elsewhere. The area opposite the moat island was dominated by a large trench being excavated by ODAS at the time of survey; no earthworks survived here. Immediately to the south of the trench a decorative pavement [17] survives, leading to the site of a former bridge onto the island [18]. The form of the pavement suggests it was another of the Marsham-Townshends' works, but this is likely to be the original approach route (see 'Structural remains' above). An apparent continuation of the pavement exposed by ODAS to the west [17a] is about 1700 in date (Hart 2019, 25-6), but likely provided the model for their works.

To north and south of ODAS's trench, broad, steep scarps were surveyed falling eastwards to the top of the retaining walls [19]. These followed a slightly curving line and appeared to echo that shown on the 1897 (Figure 8) and 1909 (Figure 9) maps along much of their length. This suggests that they pre-date the Marsham-

Townshends' works but may be the result of his clearance of loose material in order to construct new retaining walls, albeit on earlier footings. The 1934 APs (Figure 57, Figure 13) show a fence on the approximate line of the top of this scarp so it is also possible that it is the result of differential erosion on either side of this. Moderate scarps to the west [19a] are slightly straighter than [19] and may indicate that a wall within the excavated area continued both to north and south of the ODAS trench. A more complex area at the south end of [19]/[19a] was of uncertain origin but some of the earthworks suggest a possible eastern return to the wall mentioned above.

To the south of the moat the ground level fell steadily from higher than the moat island (as above) to approximately the same level after about 50m. A track ran along the south side of the moat and this fell more quickly, reaching the level of the moat after about 15m. This latter change of level was managed by a retaining wall but to the south of the track was a steep well-defined scarp [20] up to about 1.5m high where the differential between the track and the natural ground level was at its greatest. A scarp on this line is first shown on the 1933 map (Figure 12) and it seems likely that this was another of the Marsham-Townshends' works, managing access along this side of the moat which was perhaps more suitable for leisure than that to the north which would have been busy with agricultural traffic, particularly at harvest. A line of yews along the top of this scarp again indicates a grown out hedge but no boundary on this line appears on the 1933 OS map, nor is a hedge visible in the 1934 APs (Figure 57), so this is a later feature than that to the east.

East and south of the moat

To the east of the moat dam the ground falls steadily towards two apparently rather irregular ponds orientated north/south. Beyond these the ground level rises sharply to a field boundary (the limit of survey in this direction) and an area of gently rising pasture beyond. The steep rise to the pasture [21] is clearly artificial and is more steeply cut back to the north than the south, presumably to accommodate the ponds and suggesting that their orientation was not simply determined by the topography. The northern pond is slightly higher than the southern and to manage this transition a dam has been raised between the two [22]. This has clearly been modified over the years with a modern pipe inserted and a later channel cut into it being the most recent and readily identifiable changes. ODAS (pers comm) have noted that when the moat overflows, the lie of the land means that the water drains from its north-east corner and fills the ponds from the north-west.

The current, irregular appearance of these two ponds is of recent origin. The 1897 OS map (Figure 8) shows the northern pond as almost rectangular measuring 40m north/south by 10.3m east/west (the 1870 OS map (Figure 7) shows the same layout but the depiction is less clear). A scarp to the east [23] defines the full length of the pond on this side and to the north and west some of the recorded scarps [24] appear to be on the same alignments. The southern pond was more trapezoidal measuring 29m north/south and 9.5m wide at its northern end broadening out to 16m wide to the south. Again, scarps along the eastern side [25] broadly reflect this layout though here they are somewhat sinuous having been eroded by foot traffic, with evidence for re-cutting at their base. Relatively few changes are recorded in later maps though by

1909 (Figure 9) the southern end of the northern pond was more rounded. Scarps around the north end of the pond and the northern part of the west side [26] reflect this early 20th-century 'softening' of the plan form. By the 1960 map both ponds had become more curvilinear, probably the result of erosion of the banks and silting within the ponds though the increased breadth of the northern pond suggests it may have had a higher water level, perhaps the dam was not functioning properly. The north-west corner of the northern pond appeared to have been cut back in line with this increased width (though this may have been poaching as it was not seen to the south), and the southern pond appeared to extend several metres further south. More recently (post 1960) the southern pond has been extended to the west by the cutting of an embayment perhaps 5m deep and 10m across [27]. The current level of the northern pond appears to be significantly lower than in the past, contributing to its seeming irregularity.

The southern pond is retained by a substantial earthwork dam [28] that runs east/west to its south and curves north to wrap around its south-west corner. A west facing scarp to the north of this [29] suggests that the dam continues but this appears to overlie the main dam scarp suggesting that it had been modified; perhaps the material excavated from the embayment ([27]) had been thrown to the west. The main dam scarp was up to about 2.3m high though as it was constructed over the natural southward fall the amount of material involved may not be as large as appears; nevertheless, this was a substantial structure. To the west there are hints that the dam overlies scarps running off to the west ([39] below) though the relationship was uncertain due to erosion.

To the east of the south-east corner of the south pond is a sub square depression cut into the top of the dam [30] and post-dating it. This appears to be a building platform, but none are recorded in any known sources, so this is uncertain. It seems possible however, given the otherwise unrecorded war-time activity seen elsewhere (below), that this feature maybe from this period.

At the base of the dam is a spur of material [31] that has a rather awkward relationship to the dam but appears to overlie it and an east/west scarp thought to be horticultural or agricultural in origin (below). The spur may be related to a small building shown to the immediate west on the 1930s maps and APs, but this would be indirect and perhaps it is simply material dumped from feature [30] above.

The area between the ponds and the moat dam falls gently from west to east. It is densely covered with recently grown trees and scrub with deep leaf litter and areas of dumped cuttings, much deliberately placed to deter access; it was difficult to identify, and survey features here. Below the moat dam is an east facing scarp [32] though this was rather irregular and intermittent. It is not possible to be sure of the relationship with the dam but there are hints to north and south that it is overlain by scarps [15]/[16] along the bottom of the dam, and it seems likely that these less regular scarps are earlier and pre-date the Marsham-Townshends' interwar works. A low ridge to the east [33] runs slightly obliquely across this area appears to be on the line of a path faintly visible on one of the 1934 APs. On the same photograph a clearer path is visible running in a straight line immediately to the west of the

two ponds. A terrace adjacent to the northern pond [34] and a low flat-topped spur alongside the southern [35] may be on its line but could be related to the ponds. To the north a second scarp runs away from the terrace on a more NNW line [36] and it possible this was eroded by foot traffic breaking away from the better-defined path towards the farm. An east/west gully in this area [37] looks relatively modern, perhaps to assist surface drainage. To the south are two south facing scarps on differing alignments [38], the origins of which are uncertain.

South of the moat and ponds the ground falls away steeply. Here there are several broadly parallel scarps running slightly south of west to north of east, generally following the contours or falling slightly to the east, creating a series of faint terraces, probably agricultural or horticultural in origin [39]. Some, at least in places, appear to align with boundaries shown on the 2nd edition OS maps, and others with boundaries on the 4th edition maps but there is little consistency. In fact, most of the scarps are slightly sinuous and the terraces somewhat irregular as a result. The overall impression is that most had been disturbed and it seems likely that they may once have been more regular. To the east there are hints that the pond dam and associated earthworks may overlie these features, suggesting an earlier date for them. It is possible though that these scarps represent several different phases of activity; their broadly similar alignments determined by the need to contour along the flank of the ridge. It is not possible to trace these scarps far to the west due to areas of very dense vegetation and modern dumping ([69]); although some alignments may continue this cannot be demonstrated. In two places east facing scarps appear to be associated with the south facing scarps and create well defined corners suggestive of platforms [39a]. The western could not be fully surveyed due to knotweed. Both may be associated with blocks of planting visible in the 1934 APs, but this is uncertain; no other explanatory features are known.

To the south are some similar, parallel, linear scarps [40] on a more south-west to north-east alignment than [39]. The easternmost had no clear relationship with those of [39] but the western seems to be overlain by them. A smaller, a less well-defined scarp just to the north of the western scarp is on a similar line but is of a slightly different character so may be related to [41] below. The orientation of these scarps is similar to those to the south-west beyond the areas of dense vegetation and dumping noted above, but neither could be traced through to the south-west. A narrow steep scarp to the south was modern and appeared to be a drain related to a former line of the current track.

To the west of this area is a small complex of earthworks [41], comprising a mound apparently upon a platform associated with a bank and gully terminus. To their immediate west, within the un-surveyed area, a small building appears on OS maps from the 1909 3rd edition (to the first post war edition) and on the 1934 APs (Figure 57, Figure 13) and it seems likely that the earthworks are associated with this. A well-defined bank and ditch [42] runs east from this area and appeared to be contemporary with [40]. Although on roughly the same alignment as the linear earthworks [39] in this area, it seems likely that these features were later.

Scadbury Park Mansion, walled garden and vicinity

To the WNW of the moat is a group of buildings, stables and yards in use today, apparently of 19th-century date and later, some rather ramshackle (see background of Figure 62). These were not surveyed though it was notable that some appeared to have been constructed on earlier footings and ODAS excavated evidence for a large aisled barn in this area, described by them as the 'estate barn' and assigned a broad 16th-century date (Hart 2003).

Within the area surveyed are the remains of Scadbury Park Mansion, occupied on and off by Hugh from the early 20th century and extended by him in 1919-20 (see Figure 4 and Figure 58). ODAS have concluded from an examination of the foundations and cellars (Figure 59), that the house had mid-16th-century origins and was originally, perhaps, the gatehouse to the manor (Hart 2008, 23). Various foundations and walls were surveyed [43] and these correlate with the excavated plan published by ODAS (ibid, 7), though more recent work by them has exposed additional features, including the footprint of the south-east wing [44], part of the 20th-century expansion. To the west of this area a rectangular hollow was surveyed [45]. Though a spoil heap obscures its full extent, its width and orientation suggest it marks the site of the corresponding west/south-west wing. A scarp falls away to the north, and north of this is an approximately square level area [46] very probably marking another part of Scadbury Park Mansion. ODAS report that the footings here were completely removed during the levelling of the site by LBB in 1984 (Hart 2008, 8).

The ground to the south-west of this generally falls to the north and has been divided into three terraces by well-defined scarps [47]. Remains of a short flight of steps was also recorded here. This area is visible on one of the 1934 APs (Figure 57) which showed the area as open lawns with the upper terrace divided slightly asymmetrically into two by a surfaced path approaching Scadbury Park Mansion from the south-west. Its open nature suggests this was the main public front of the house. The path continued the straight alignment of the lane which approached the site from the south-west along the ridge, though the lane then curved around the north side of the house to the service yards to the north and north-east. The continuity of alignment and the presence of decorative diaper brickwork in the wall to the immediate south suggest that this was the primary approach from at least the time of the construction of the walled garden, perhaps about 1540 (below). ODAS cut two very shallow trenches across the line of this path in order to assess the survival of any surfaces but did not see anything. These have not been published to date.

To the south of Scadbury Park Mansion and service buildings are the remains of a walled garden. It is clear from the type of bricks, bond and diaper work that this is considerably older than the visible buildings and remains to the north (apart from the excavated basement of the house perhaps). The piers of an archway [48] (which only collapsed comparatively recently) leading towards the moat are set within a NNW/SSE wall running off from the north-east corner of the walled garden and apparently integral with it. An 'old man' reported in the late 19th century that the archway had once featured a date stone reading 1540 (Webb et al 1899, n1 285);

such a date would fit the surviving evidence and suggests that the walled garden, archway and 'gatehouse' could have formed a coherent whole, or at least have been constructed within the same timeframe, which may also have included the construction of the aisled barn to the north-east. ODAS report that photographs recently acquire by them show both sides of the arch without a datestone, but note that it was very slender at the top and the possibility remains that the Marsham-Townshends reconstructed the arch so they do not rule out the presence of a datestone (pers comm).

The standing walls and the traces of walls and scarps on the same line to the south-east suggest that the walled garden originally measured 68m south-west/north-east by 41m north-west/south-east internally with walls approximately 0.4m thick. The late 19th-century OS maps (Figure 7/Figure 8) show a south-eastern boundary on a line to the north of that suggested by the field evidence which would make the garden about 3m narrower north-west/south-east but it is likely that this was a light secondary structure, perhaps only a fence, as it abutted a wall to the south-west, where there is no sign of it being tied in, and continued beyond the walled garden to the north-east where again there is no evidence for it. There is no sign of an entrance but the second edition OS map of 1897 (Figure 8) shows what appear to be a small set of steps just north of the centre of the east wall. The buttresses recorded in several places are secondary, clearly built to shore up leaning walls (Figure 60).

The interior of the walled garden has been divided into three approximately equal sections, a low central area and two higher areas to the north-east and south-west. This does not appear to be an original feature of the walled garden; this layout is not depicted on the Gudsell estate map of 1810, the tithe map of 1843 or the 1st edition OS maps of 1870 (Figure 7).

The central area is defined by steep, inward facing scarps [49] up to about 1.0m high though more typically around 0.6m. A path runs through the centre of this area, also with inward falling scarps to either side [50] though these are lower, typically about 0.3m high. The areas adjacent to the central path showed a few irregular hollows suggesting former shrubs, though without any obvious pattern and none were seen on the 1934 APs so perhaps self-seeded during periods of neglect. To the north-west, north-west facing scarps define symmetrical low areas [51] either side of the central path. These can be seen in early photographs to have had central paths, one of which at least led to a planter (Figure 58). In the centre of the south-west side of this area is a substantial feature [52], with an oval level area approximately 6-7m across, created by cutting back to the south-west and building up the level to the north-east, presumably with the excavated spoil, perhaps to house a seat or other focal point such as a statue. This is secondary to the main scarp and is not mapped nor visible on the 1934 APs (the negative is damaged in this area) so is undated, though as a substantial tree was growing on it at the time of survey it is probably at least 50 years old.

It is possible that this area was originally set out in the pre-war period, perhaps during Hugh's first period of occupation. The section of wall to the south of Scadbury Park Mansion is not shown on the 1909 OS map (Figure 9) so the walled garden

Figure 58 – Photograph of Scadbury Park Mansion from the SSW, probably dating to the 1920s, see also Figure 4 (Historic England Archives; BL25834)

appears to have been opened out and made accessible from the house by this date. The same maps show a path from the house running slightly obliquely through this area and scarps [53] on the raised area to the east of the central path appear to mark its line. Nevertheless, the 1933 OS map (Figure 12) shows the breach in the garden wall had been widened and formalised with new walls on a line a few metres to the south-east and the central path reoriented at a right angle to the house front, all as surveyed. In addition, scarps [49] are parallel to the central path and appear to align with the outer walls of the new wings, so it seems most likely that the layout dates to the 1920s.

Much of south-west third of the walled garden is given over to a fenced enclosure formerly used by a nursery based on site and was not surveyed. This area appears to have been a productive garden in the 1920s/30s with regular rows of planting visible on an early photograph (Figure 58) and the 1934 APs (Figure 57). A line of trees to the north-east, visible in Figure 57, was probably to screen it from the house. Between this enclosure and the garden walls is an accessible strip 3.0-3.5m wide where a low, inward facing scarp [54] can be seen, which continued along the full length of the south-west wall. It was unclear if this was the remains of old planting beds or a path, or the build-up of debris from the wall, but the raised area was noticeably lower for several metres about halfway along the south-west wall, where there was a section of newer brickwork and the 1934 APs show a gate, which suggests beds. To the south-east of the fenced enclosure is an open area falling

Figure 59 – The cellar of Scadbury Park Mansion from the north, note the vault spring to the right, English bond brickwork is visible in places (Magnus Alexander 14/2/2018 © Historic England)

gently to the south-east. This is rough, neglected ground and few features can be seen, apart from some modern dumps adjacent to the fenced enclosure. There is a counterscarp [55] to the southeast of scarp [49] creating a well-defined ridge about 0.5m high at its southern end which petered out after about 7m. To the west of this a broad scarp [56] runs at a slight angle towards the corner of the walled garden and it seems that the ridge to the east was thrown up to give a level top to the scarp falling into the central area, suggesting that [56] pre-dated the laying out of the central area. ODAS had cut a small trench in the south-west of this area; no features were found, and it was back filled. In the far west section of the walled garden are the remains of a path edged with metal, which follows the line of the wall leaving a bed between it and the wall.

The north-east third of the walled garden is level and largely featureless. There is a low but well-defined ENE facing scarp [57] running roughly parallel to scarp [49] and about 3.3m away from it. To the immediate east of this are the remains of a weathered tarmac path roughly 0.9m wide as well as a short section of a similar and parallel path 16m to the north-east which is lost in shrub growth to the north-west. Between the two the ground is almost completely level with restricted plant growth and it is clear that this was the site of a tennis court indicated on the 1933 OS map (Figure 12) and visible on the 1934 APs (Figure 57). The only other earthworks here are some modern dumps of spoil to the north-east and an irregular hollow to the

Figure 60 – The western corner of the walled garden from the ENE showing the buttresses supporting the leaning north wall (Magnus Alexander, 14/2/2018, © Historic England)

north-west [58]. The latter is on the site of a light wooden building shown in 1933/4 but appears to be smaller and of recent origin so is probably unrelated.

To the south-east of the tennis court is a very steep scarp with stretches of wall visible [59]. The brickwork appears to be like that of the north wall and this probably marks the original south-eastern extent of the walled garden. Sections of more recent wall with piers at either end continued the line of this scarp to the south-west (the 1934 APs (Figure 92, Figure 57) show the low walls to either side were topped by railings and the piers apparently topped with vases or small statues) and beyond this the bottom of scarp [56] also appeared to be on this line. A second slighter scarp [60] runs on a parallel alignment a few metres to the south-east, however this extends north-east and south-west beyond the walled garden so is probably only indirectly related to it; perhaps a path around the outside of the garden, or a later boundary, both of which are suggested by the 1934 APs.

To the north-west of the tennis court is a substantial rectangular structure [61], 14.5m south-east/north-west and 16m south-west/north-east, and typically 1.2m high. This is crudely built of earth and other debris retained to the north-east and most of the north-west side by shuttered concrete, and elsewhere by sheets of corrugated iron, most of which have rusted away, held vertically by what appear to be sections of rail from a light railway, perhaps that used by the Marsham-Townshends during their excavation of the moat (Figure 61, Figure 62; see also

'Structural remains' above). There is no obvious entrance. In the east corner is a concrete structure of uncertain function that stands above the level of the rest but had a relatively small footprint. A concrete retaining wall runs north from this, around the north corner and continues for a few metres on the north-west side where some additional structural elements could not be made out due to dense brambles and dumped/collapsed material, but which feature sloping concrete sections. There are steps up the south-west side of the structure and stumps in the corners and centre of the roof and a mound slightly to the east of centre, between which several metal vents are visible. Adjacent earlier walls have also been reinforced by shuttered concrete. This is clearly a Second World War construction of some sort and evidence for defensive positions was seen elsewhere (below) but its function is not immediately apparent. ODAS are in possession of photographs of its construction and interior, which show that it contained several rooms, includes a ventilation system, water tank and toilets, and was apparently built as an air-raid shelter for the family/estate workers (pers comm). The small attached structure is thought to be a look-out point (but does not appear to be accessible from the rest of the structure), on top are the foundations of a gun-emplacement, and apparently there was an underground passageway linking it to the block-house next to Scadbury Park mansion (visible in the background of Figure 61). The steps up the side and the planting and mound on the roof are unusual features and though they could have been original camouflage, it seems more likely that after the war it was easier to incorporate the structure into the garden than remove it.

To the east is a largely featureless strip of open ground between the moat and the walled garden. The northern part of this area [62] has clear views across the moat and was probably always an integral part of the approach, effectively an outer court. The foundations of a shed and glasshouses visible on the 1934 APs lie to the north of this area, and the wall to the north is one of those with early foundations and various redundant features such as a blocked doorway. In the centre of this area is an open ODAS trench which has exposed a decorative pavement just below the surface, on the line of [17] to the east but earlier (above). To the south, the level area narrows as a broad fall from the walled garden to the west and the south-west corner of the moat and associated scarps, and a fence and path impinge from either side. The fall from the walled garden [63] consists of an upper steeper scarp separated from a more moderate scarp below by a slight terrace. It seems likely that the upper scarp was constructed but it is unclear if the lower scarp was, or if it is the result of erosion by traffic from the 'court' to the north. Two short steep scarps [64] to the north appear to have been cut into the upper scarp (their relationship to the lower scarp is obscured). This was the site of some steps depicted on the 1897 OS map (Figure 8), which suggests that the upper scarp of [63] pre-dates this.

The 1933 map (Figure 12) and the 1934 APs (Figure 57) show the path running through the centre of the walled garden continued south-east beyond it. The line of the path can be traced for several metres as inward facing scarps [65] apparently associated with a broad terrace, before disappearing into an area of dumped wood and dense vegetation. The 1934 APs show that the path continued for perhaps a further 10m with planting of some form to either side, as far an open lawned area. There is a cross path visible on the APs about halfway along the length of path south

Figure 61 – The Second World War structures in about 1940 viewed through the 'Tudor' arch to the south-east, the flare is on several contemporary negatives – clearly a faulty camera (BHC, 1080/2/1/17)

Figure 62 – The south-west side of the same structure from the south showing the metal revetment, garden steps and modern ramshackle sheds behind (Magnus Alexander, 14/2/2018, © Historic England)

of the walled garden and the 1933 OS map shows there was a sundial at this point. Although this area cannot be surveyed, scarps parallel with the walled garden [66] run into the dense vegetation to the ENE and WSW, and it is possible that these related either to the planting beds or the cross path. To the south, strong scarps up to 1.0m high [67] fall away to the south-west and south-east forming a well-defined corner marking the extent of the lawn which had been partially levelled. There is also a corner and a scarp falling away to the ENE, but the appearance was less coherent.

To the north-east of this are several parallel scarps [68] in addition to those mentioned above ([60] and [66]). These ran into the area of dense vegetation to the south-west and could not be traced but there was no obvious sign of any continuation beyond. To the north-east they ran into a large, modern dump [69] and earthworks associated with the track here. Although it is uncertain several of these scarps may have run through another area of dense vegetation to continue beyond as scarps [39] and [40].

Garden features south-west of the walled garden

In general, the ground rises steadily west of the walled garden to the limit of survey, beyond which it began to level out somewhat. It falls away more strongly to the south, the flank of the spur upon which Scadbury Moated Manor sits. There is therefore a moderate fall across this area from west to east, and a more marked fall to the south that should be borne in mind. There is also a fall to the north towards the road though this is of limited extent and only significant in the north-east corner of this area.

The area to the immediate south-west of the walled garden is dominated by a large rectangular depression on a similar orientation measuring about 40m north-west/south-east by 31m north-east/south-west (Figure 63). To the north-east, this is defined by a moderate scarp [70] that increases in height as the general topography rises, reaching about 0.6m high towards the north corner. This is separated from the walled garden by a featureless strip of ground with a uniform width of about 7.2m, though this narrows slightly to the north. The 1934 APs show that this housed a deep bed against the garden wall and a broad path to the west of this; an east facing scarp [71] and gully to the north [72] are probably also related to this path. The defining scarps to the north-west [73] and south-west [74] are both higher and steeper, reflecting the topography; in the north-west corner reaching a height of about 1.8m, though rising ground beyond gives the impression of greater height. A gully running to the immediate north of [73] is probably a relatively modern path. The south-east of the depression will be described below. The early OS maps show almost the entirety of this feature to be a slightly irregular sub-rectangular pond, though the 3rd edition of 1909 (Figure 9) suggests the water filled area had reduced in size.

Within the north corner of this depression is rectangular platform [75] measuring about 14m by 8m, and up to about 0.6m above the ground level to the south. This appears to be associated with a narrow terrace running along the north-east side of the depression at a similar level [76]. Within the south-east corner is a similar

sized platform [77], though this is lower at only about 0.2m high and below terrace [76], with a shallow, irregular hollow on its surface. Between them though, the two platforms and terrace define three sides of a shallow square hollow within the larger depression, probably secondary. A low rather uneven scarp to the west [78] may define the fourth side of this feature but could be related a broad, rather ill-defined gully running south towards what are probably the remains of a sluice (see [89] below). The ground here is much softer underfoot than elsewhere indicating a build-up of material suggestive of a silted channel. Within the square hollow is a circular depression [79] over 10m across, surrounding, and very probably associated with, a circular, concrete lined pond, 4.6m in diameter. A well-defined circular feature here is first shown on the 4th edition OS map of 1933 (Figure 12) so this can probably be associated with the Marsham-Townshends' works of the 1920s and 30s. The 1934 APs (Figure 92, Figure 57) indicate that this pond was within a square earthwork enclosure so the square hollow may also date from this period. The pond appears to have a piped overflow (the outlet was seen on the low ground to the south) but as noted above the square hollow is probably associated with an overflow channel so may in fact be earlier. The 1934 photographs show rectangular beds planted in this area; although they do not appear to align with the rectangular platforms described above, the whole area was clearly a garden extending the grounds of Scadbury Park Mansion. It is not clear if the larger earlier depression and pond was also a garden feature or if it had a more functional role. Its date also remains uncertain but as the overall form would appear to reflect and respect the walled garden it probably post-dates it.

Within the north-west corner of the larger rectangular depression is a ditch cut into the base of the main scarp with a bank inside this [80]. This may be a Second World War feature, perhaps a butt for small arms training. What appears to be a straight gully running along this side of the main hollow is visible on a 1934 aerial photograph (Figure 92, Figure 57) though, and it is possible that this is actually a remnant of this earlier feature. To the south was a massive circular hollow [81] cut into the side of the rectangular depression, the excavation of which may have obliterated the southern part of the linear feature above. It seems probable that this was a Second World War feature (it is not visible on the 1934 APs) perhaps intended to store fuel or ammunition, its position providing some safety to those in the entrenchments above in the event of an accident (below), if not necessarily the best defensive location should there have been an invasion from the Cray Valley. To the south of this was a short narrow gully [82] running from the more level area outside the depression down into it. What was probably a Second World War slit trench ([95] below) lay to the immediate south-west so the gully may have been intended to drain this though the relationship is awkward, and the gully appeared to be of more recent origin.

To the south-east of the large rectangular depression and at a considerably lower level is another large depression [83], this being circular and about 23.0m across, also with a centrally placed concrete lined pond which, although not shown on mapping, appears in a 1934 aerial photograph (Figure 57) and is probably of a similar date to the pond above. What is probably the outlet for the pond to the north-west was recorded to west. The circular depression has been cut into the side of the

Figure 63 – A general view from the west across the rectangular depression west of the walled garden with the circular pond visible in the centre (Magnus Alexander 22/02/2018 © Historic England)

ridge to the north (where the main scarp was up to 1.7m high), east and west. To the south some work appears to have been undertaken to raise the ground level though this is not well defined. A bank [84] curves around the south side of the depression but this appears to be a boundary rather than a dam. A well-defined gully [85] runs westwards from the base of the hollow steeply up the rising ground narrowing as it does so. This work is probably also from the inter-war period as earlier OS maps (up to 1909 (Figure 9)) show a rather irregular pond extending further to the south-east than the surveyed topography would allow. The 1934 photographs seem to show concentric beds and possible narrow terraces though these are generally less clear than in the area to the north. They may also show the family admiring the pond; there appear to be two adult figures and a child standing within the hollow and it is tempting to see these as Hugh, his second wife Laura, and their son Thomas. Within the hollow is an irregular island to the south of the central pond [86], defined by a C-shaped gully curving around its south side cutting slightly into the scarp of the larger circular depression. The most likely explanation for these features is that at some point in the post war era the drainage for the central pond failed leading to the broader hollow filling with water and silting up, and these features were perhaps created to provide a more interesting prospect or more diverse wildlife habitat.

Between the two ponds is a substantial dam that may also have acted as a causeway linking the area south of the walled garden to the ridge to the west. Circular

depression [83] appears to have been cut into what may originally have been a more moderately profiled earthwork. Above this is a moderate scarp [87] running south-west to north-east (not reflecting the larger, curving scarp to the south) and falling to the south-east. Above this again is a fairly level terrace, with a straight, steep and uniform south-west to north-east scarp above [88], typically about 0.9m high. To the south-west these features are cut by gully [85] but to the north-east scarp [88] turns a sharp right angle to run to the south-east for a short distance possibly also terminating the lower scarp; though a slight scarp [87a] continues beyond, curving around the main depression, this is probably erosion by foot traffic. Above scarp [88] the dam has a fairly level surface though the central area has apparently been eroded or cut through. To the west of this area a moderate scarp falls northward into the rectangular depression. A counterscarp creating a shallow ditch here may be a secondary cut intended to improve drainage. To the south-west is a well-defined, raised rectangular feature [89] with a narrow notch to the west. Given the position between the probable channel to the north and the head of the gully to the south it seems highly likely that this was a sluice controlling the water level in the upper pond and that [85] is an overspill gully. The disturbed central area may have been the result of this control ceasing during a period of neglect and the upper pond overtopping the dam as a result. To the east of the disturbed area is a low, south-west/north-east bank [90] running along the north side of the dam/causeway. This extends from the higher ground to the east partially across the lower area and although its function is uncertain, it is possible that it was a repair that was only partially successful. To the south and east of this are scarps continuing scarps [56] and [60] from the area of the walled garden and running out onto the dam, suggesting traffic from east to west and indicating its role as a causeway.

West of the gardens

To the west a broad gully [91] runs right through the survey area from the road in the north, initially SSE across the level top of the ridge before curving to the south-east and running obliquely down the southern flank of the ridge. South of a modern footpath the ground falls more slowly and the topography opens out somewhat before steepening again south of the survey area. Here it is more a terrace than a gully; there is a clear scarp on the north-east (upslope) side but to the south-west just a small, straight ridge, possibly a later boundary. The gully is overlain, and in places partially obscured, by numerous other features suggesting it was of some antiquity. A total length of over 120m was surveyed but it can easily be traced for a further 150m south-east as far as the edge of the modern housing around St Paul's Cray. Historic maps show that this was a track that turned to the south near the edge of the modern development running for a further 175m until it met another track running east to Gray's Farm almost a kilometre ESE of Scadbury Moated Manor (replaced by housing in the post war period but formerly at TQ466697). This track is shown on the Scatcliffe map of 1733/4 where it is described as 'Sunken Trackway' (Matthews 2016a, 51, Fig 4); effectively this was a holloway.

Between the hollow-way and the features described above is a relatively narrow strip of land, typically less than 20m across. This contains several features most of which do not appear to continue to the west beyond the holloway, suggesting that it was

a significant boundary. To the north, immediately south of the track to Scadbury Moated Manor from the west is a low mound or spur of material [92] with broad scarps falling away to north, east and south and a shorter scarp into the track gully to the west. There is also a fall to the north within holloway [91] but it is uncertain if this related to the mound or as part of a fall to the road. The origin and function of this feature is not known. To the south of this, a broad but slight east facing scarp [93] runs south, terminating at the track gully. A second similar though larger scarp [94] runs to the east of this, south from the north-west corner of the rectangular depression where it merges with the scarps of this feature, past hollow [81] which was cut into it, and then curves around to the south-west meeting the track gully at an approximate right angle. It seems likely that both these scarps are agricultural in origin, but this is uncertain and [94] creates a prominent spur with the track gully that may have had some other function. Curving around the foot of this 'spur' is a narrow gully [95] with a bank around its south-east side and a short fall away beneath this, which cut into, or overlie, the top of the track gully scarp. It seems likely that this was probably associated with the more substantial Second World War works to the west (below). The earthworks to the immediate NNE are rather confused and have probably been either modified or disturbed. It is possible that gully [82] is related but this is uncertain. To the east, a scarp curves around from [82], contouring above the probable sluice [89] and the head of overspill gully [85] for a total of about 11m, where it turns fairly sharply to the south-east for over 7m, the last few metres of forming a low bank, creating an approximately level rectangular area cut into the slope [96]. To the south-east is a south-east facing scarp (just possibly a continuation of scarp [87] to the east of the overspill gully) defining the limit of this feature in this direction suggesting that the ground may also have been levelled up somewhat. It seems most likely that these features relate to the gardens to the north and east, more specifically perhaps to the causeway/dam between the upper and lower ponds, but dense vegetation made it difficult to determine how or what their purpose might have been.

To the south, a modern footpath runs broadly east/west across the earlier hollow-way and has clearly disturbed its earthworks. Below scarp [96], an open, south-east facing scarp [97] runs towards the footpath which cuts it. There is also a second south facing scarp to the south where the footpath runs over holloway [91] and has been built up to level it somewhat. Beyond, [97] may continue as [107] or [111] but this is highly uncertain.

Some way to the south-east of [97], are two scarps, a slight, south-east facing scarp immediately above a slightly stronger scarp [98] and perhaps cut by it. The upper scarp runs on a slightly curving line between holloway [91] and the earthworks of depression [83]. The lower scarp also runs from the holloway but curved slightly around the south-east side of the circular depression, before straightening somewhat to run to, and probably beneath and so pre-dating, scarp [67]. Scarp [98] may be a relatively early feature, possibly a remnant of agricultural terracing along the flank of the ridge as seen to the north-east. The slight curve to the south suggests that it may have been related to the earlier pond to the north, as it approximately aligns with its depiction on the OS map of 1909 (Figure 9) and earlier.

South of the modern track, a moderate south-west facing scarp [99] runs along the centre of holloway [91] and curves around to the north-east defining a slightly raised area within the larger gully. On plan it appears as though the return of [99] aligns with scarp [98], and that these scarps were related, but this was not the impression in the field. Immediately to the south-east of this, also within the hollow-way, two steep scarps ran across it (the lower considerably steeper than the upper), between which was a deep hollow originally constructed with near vertical sides [100]. This would appear to be another defensive Second World War structure, an outlier to the more extensive works to the west.

On the ridge to the west and extending westwards along the top of the ridge flank continuously for well over 100m lie what are presumed to be defensive works of the Second World War. These were only surveyed at their eastern end where they impinged on the earthworks related to Scadbury Moated Manor. They were also partially surveyed by ODAS in 2016 (Matthews 2016a, 52, Fig 6) though their full eastern extent was not included.

The main element at the eastern end of this earthwork complex is a circular feature about 20m across [101]. This comprises a central hollow with enclosing semi-circular banks to north-west and south-east, a circular ditch outside this with an almost continuous bank beyond, only broken by gaps to the north, where the outer bank turned out and extended a few metres further north, and south. Beyond this outer bank is a second encircling ditch which is clear and complete on the western, uphill side where it wraps around the northern bank spur (though it was disturbed in the north-west quadrant), faintly visible as a ditch around the south-east quarter but existing only as an outer outward facing scarp on the north-east quarter, probably due to the topography. It extends into holloway [91] and runs along it for some distance, perhaps the result of spreading out the spoil from the construction of the northern bank spur and ditch, though it is slight, and it is possible that this conflates separate features. An active footpath runs through [101] from north to south but it seems likely that this exploits an original gap in the earthworks, as evidenced by the northern spur to the outer bank. Also, to the south the path follows a well-constructed gully apparently linking this feature to a second circular feature of similar scale; the likely original nature of this gully is reinforced by the presence of a small semi-circular bank with a hollow behind (west) [102], which could have provided an intermediate observation point, firing position or similar. It therefore seems likely that this large circular feature is the easternmost node in a series of connected features.

To the south, where the ground falls more steeply to the south-west, is a second circular feature of a similar size but somewhat simpler form [103]. This consists of a large central hollow with a continuous bank around the downhill sides; the eastern, southern and most of the western quarters. The bank appears to have been constructed from material thrown outward from the central hollow and has long scarps falling with the natural slope. On the uphill, north-west side there is a high, steep inner face, where the hollow had been cut into the ridge. Beyond this however the ground levels off markedly and a low bank is defined by a smaller outer ditch, much as seen around [101]. Once again, a well-constructed gully [104] runs west and

connects this feature to a rectangular hollow which was only surveyed at its south-east corner (though ODAS recorded its outline). There is also a similar semi-circular bank with a deep hollow behind it [105] mirroring [102] though more prominent and in better condition.

To the south, the outer bank of [103] overlies a SSE facing scarp [106] which runs from beyond the limit of survey in the south-west as far as the hollow-way, and a faint scarp beyond suggests that it may continue through gully. This scarp closely aligns with a linear feature shown on the 1909 (Figure 9) and 1933 (Figure 12) OS maps probably representing the edge of woodland, so may be the remains of a wood bank or perhaps the result of ploughing away from the wood margin.

South of this the modern footpath mentioned above runs along the flank of the ridge, on a level curving north-east/south-west line. On its downhill (south-east) side is a clear scarp [107] serving to level the path up, though it is possible this is an earlier feature, not constructed specifically for this footpath. To the southwest is a narrow trench with a bank to its south-east [108], probably another slit trench associated with the Second World War works to the north. This appears to have been cut into the scarp falling from the footpath supporting the suggestion that it is an earlier feature. Scarp [108] gradually increases in height from west to east and just before it meets hollow-way [91] it curves slightly out to the south and then back to the north-east creating a low but definite terminus with a rise to the north which the footpath runs over; apparently once a low but solid mound [109] on the edge of the hollow-way. The mound or terminus is too damaged to offer a definitive explanation but it could be related to the transition between the clear south-west scarp of the hollow-way gully to the north-west and the much smaller ridge to the south-east; perhaps it marks the corner of a larger underlying feature. The scarp levelling up the path where it runs across the track gully (see [97] above) is rather different in character being on a slightly different orientation, lower, shorter and more uniform. The south-west side of [91] to the south-east is also rather different from that to the north-west being a narrow ridge rather than a broad inward facing scarp. Although scarp [107] appears to align with scarp [97] on the other side of the holloway, given the discontinuities highlighted it is likely that this was coincidental.

To the south a gully [110] runs downslope parallel to the larger track gully and a south-east facing scarp [111] runs away from this to the south-west. These were not fully surveyed but are likely to be agricultural in origin.

Discussion

The basic 16th-century layout of the site can be seen. The moat and island were clearly the core of the complex and probably housed the main high-status accommodation. It also seems highly likely that the moat was approached from the west; the topography means that this would always have been the widest and deepest arm of the moat and hence the most impressive façade and the stone corbels of a drawbridge are situated here, at the highest point on the island.

The approach route must have run along the ridge from the WSW on or very close to the line of the modern road from Chislehurst Common. This would first have passed (from west to east) a holloway running down the side of the ridge to the south-east [91]. The date of this is not known but it is at least of 18th-century date (according to map evidence) and if it connected the manorial site to a home farm on the lower ground to the south it could be considerably older. Immediately after this the approach would have passed the large rectangular pond depression on the south (defined by [70], [73] and [74]), though it is uncertain if this was present at such an early date.

After this the main route continued directly ENE passing between the 'gatehouse' a little to the north ([43]) and the walled garden to the immediate south (see [49] to [64]). The position of the 'gatehouse' excavated by ODAS seems a little awkward for this interpretation to be correct, particularly as there was formerly an ornate archway to the east and may have been a gatehouse on the island (above). It is probably more likely that this was either always associated with the home-farm, or it was a lodging block, providing additional accommodation to that in the manor house. The decorative diaper pattern brickwork in the north face of the north garden wall indicates that it was intended to be seen. It is not known where the original entrance to the walled garden lay but it may have been from the outer court to the east (below). Both lodging block and walled garden are likely to be of mid-16th-century date as demonstrated by the form of the brickwork, the ODAS excavations of the building and the apocryphal historical reference to a date stone of 1540 above the gateway. A second route probably branched off to the north in order to allow access to the aisled barn excavated by ODAS and assigned a broad 16th-century date, and probably other yards, stables etc.

The main approach then continued to the ENE through the gateway and into an outer court on the higher ground immediately adjacent to the moat. To the west this was defined by the gateway and associated wall, and there were signs that the walls of the surviving buildings to the north were built on earlier footings. To the east lay the moat, drawbridge with a probable gatehouse, and developed façade to the manor house. It is unknown if the court was enclosed to the south.

If the main public areas lay to the west, it seems that the area to the east of the moat may have been occupied by private pleasure gardens. What is notable about the layout of the two ponds close to the eastern extent of the site, is that constructing them in the location and on the alignment seen, necessitated cutting into the rising ground to the east and the construction of a substantial dam to the south. The obvious question is why, since by setting the ponds out differently the builders could have saved themselves considerable effort. It seems most likely that it was in order to align the ponds with the eastern arm of the moat, which suggests that the ponds were laid out as part of a designed landscape rather than being strictly functional (though doubtless they also had a utilitarian role). This in turn suggests that the area between the moat and the ponds may have been a part of the design and could have housed gardens of some form. Though no certain evidence for this was seen it is possible that some of the features surveyed, such as [32] or [38], could be surviving traces of earlier garden features. The linear form of the ponds is suggestive of an

ornamental canal, albeit in two parts. Everson (1998, 33-5, figs 17, 18) has identified a similar feature on a much grander scale at Whorlton Castle, North Yorkshire, which he suggests may be 14th century in date. Whilst little is known about Scadbury Moated Manor in this period, and this may be rather early, it seems reasonable to suggest a 15th or 16th-century date for the origin of these ponds and any associated gardens. The later 17th-century valuation of the estate (Hart et al 2016, 6) mentions fishponds and it is likely that these are they. The acquisition of the site by the Walsinghams in 1424 could provide a context for these works but much has been made of the visit of Elizabeth I in 1597. Parallels such as Kenilworth Castle suggest that a garden could have been created for the occasion, though on a much smaller scale, but the visit was brief and Elizabeth is said to have planted a fig tree near the western arch suggesting perhaps that this area was not the focus of her attention. This is not to rule out the presence of earlier fishponds, but the visible evidence suggests the ponds were a part of a later designed landscape.

The only other features which may have been relatively early were the scarps defining terraces running along the flank of the ridge to the south of the main complex (such as [39], [42], [68] and [98]). Though these probably had a complex history and were likely of multiple periods, some quite recent, some appeared to run beneath other features and been earlier.

Most of the surveyed features related to the Marsham-Townshends' inter-war works, which were extensive and remodelled much of the site (see above for features on the island). These remains are significant, as the remains of a relatively complete garden complex from the period, though they have been overshadowed by the Tudor history of the site. The remains on the moat island, and directly associated with the moat itself, are discussed in detail above. The dam surrounding the moat was enlarged at this time and it seems likely that it provided extensive views across the Cray Valley towards the Thames Estuary. In fact, views from many areas would have been impressive and a lot of the changes made may have been planned with this in mind.

The building to the north of the walled garden (originally Tudor) seems to have remained in almost continuous use, even after the manor house on the island was abandoned and demolished in the early 1700s. It known as Scadbury Park Mansion from the late 19th century and was first occupied by Hugh in the Edwardian period being extended by him in around 1920 to create a rather undistinguished villa ([44] and [45]). The public area north of the approach from the west may have been formalised ([47]), and the walled garden itself was remodelled. The central section of the north garden wall had probably been removed by the Marsham-Townshends in the Edwardian era, but this was enlarged in the inter-war period and remodelled to align with the new wings. Internally, the central third seems to have also been carefully aligned with the new wings of the house, the south-west third was in use as a productive garden and that to the north-east laid out as a tennis court. The south-east wall was also removed, probably in the Edwardian period but it is not certain this was the original garden wall, presumably to open the views but the date of this is uncertain. It is also possible that some of these 'removals' of the walls were actually collapses, the instability of the remains emphasised by the secondary buttresses in several places.

To the south-west and south-east of the walled garden the formal grounds were extended. From at least the 1734 Scatcliffe map until the late 19th century this area had contained two ponds but by 1934 these had been reduced considerably in size and the surrounding areas laid out with various planting beds. The area to the south-east of the walled garden appeared to contain productive planting but a rectangular area had been levelled up [67] and left open. It is uncertain what this was used for but again, the views would have been spectacular so it may have been a viewpoint or picnic spot, but the tennis court in the walled garden also suggests sports use such as an ad-hoc cricket wicket. A number of other features along the flank of the ridge would also appear to line up with features from this period visible on the 1933 map (Figure 12) and 1934 APs (Figure 92, Figure 57) but these may be from a range of dates and are unlikely to be very significant.

Several features are probably from the Second World War. The most extensive of these is a trench system running along the southern edge of the spur for 100m or so. Only the easternmost part of this was surveyed, as it impinged upon earlier features associated with the moated site. This comprises two large circular earthwork features ([101] and [103] connected by short trenches each with a small outwork attached ([102] and [105]) as well as a rectangular depression to the west but this was only partially surveyed. There is also a large excavated hollow possibly for storing fuel or ammunition [80], a possible small arms butt [80] and possible slit trenches ([95], [100], and [108]), presumably outlying defences. The function of this complex is uncertain; it probably related to the defence of London but is not referenced in the standard works and if not a part of a formal 'stop line' then all or parts may have been for Home Guard use or training. Adjacent to Scadbury Park Mansion is another Second World War structure, a substantial semi-sunken concrete building ([61]), again of uncertain function. This had planting on the top and steps up the side suggesting camouflage or, perhaps more likely, that it was taken into the garden in the post war era, probably by Hugh's son John. The raised oval feature in the walled garden ([53]) could also be from this period.

There then followed a long period of neglect and the only recent features surveyed were various spoil heaps and trenches, largely related to excavations by ODAS.

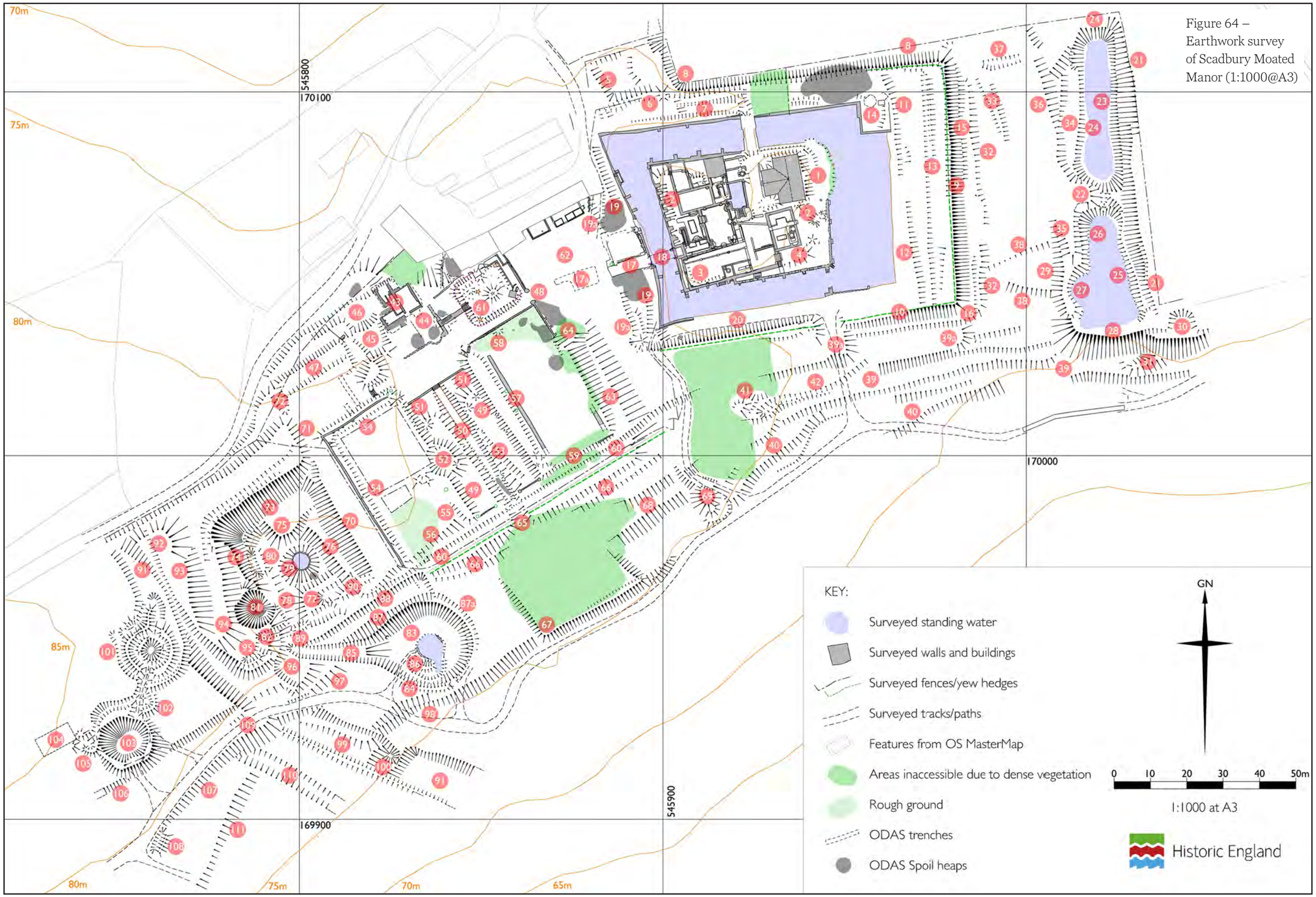

Figure 64 – Earthwork survey of Scadbury Moated Manor (1:1000@A3)

AERIAL PHOTOGRAPHIC AND LIDAR SURVEY AND ANALYSIS

Introduction and summary

Historic England's Aerial Investigation and Mapping team's contribution to the Scadbury Moated Manor project involved the investigation and analysis of a contextual area of six square kilometres around Scadbury (Figure 65).

The sources used included lidar (airborne laser scanning), and modern and historic aerial photographs. A total of 1,070 aerial photographs held in the Historic England archive were consulted for this project. In addition, digital vertical photography (such as that viewable online via Google Earth) was consulted. All archaeological features identified on these images were mapped and recorded. The various sources used, and the methodology followed, are discussed in detail in the Appendices.

Figure 66 shows all the features mapped. The majority of these were identified as earthworks on lidar or as structures on historic aerial photographs. Many of the earthworks seen are field boundaries, wood banks, lynchets, hollow-ways and quarrying. These range in date from the medieval period to the 20th century, including a range of features associated with the Second World War. These were largely structures (buildings, air raid shelters etc.) but included some earthworks. Some structures associated with the post-Second World War development of St Paul's Cray estate have also been mapped.

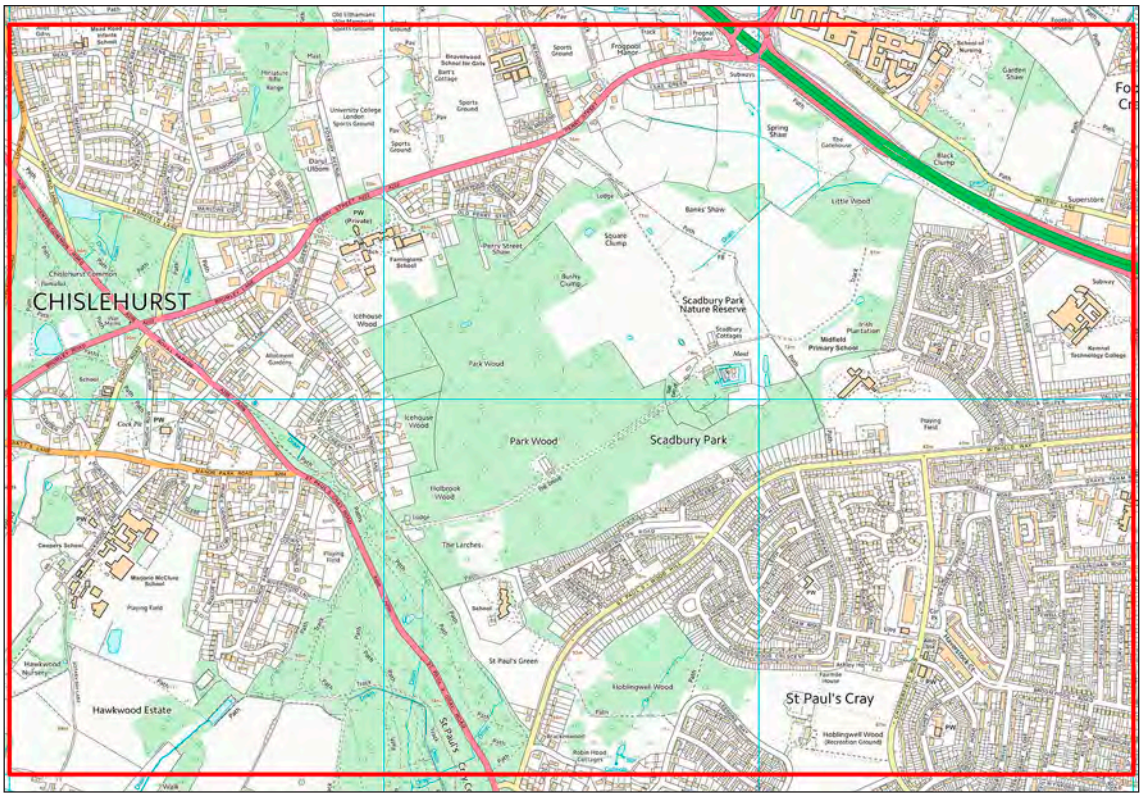

Figure 65 – Aerial Investigation and Mapping Team project area. © Crown Copyright and database right 2019. All rights reserved. OS Licence number 100024900

The distribution of features seen from the air is uneven across the project area. The earthworks identified are concentrated in the fields and woodland to the north and west of Scadbury Moated Manor and to the west across Chislehurst Common and St Paul's Cray Common. These earthworks were mainly identified on lidar and only a few earthworks could be clearly seen on the aerial photographs. This is largely because most of the available photographs were not taken during the winter months when conditions are best for the identification of earthworks. This may also help to explain why so few archaeological earthworks were identified on the 1940s aerial photographs across the area now occupied by the post-Second World War St Paul's Cray housing estate.

Changing land use, including the creation and later grubbing-up of orchards, coupled with the more recent creation of sports grounds and school playing fields is likely to have been responsible for the levelling of some earthworks. Some of those identified are very low and broad. These may be clearly seen on lidar but can be difficult to identify on the ground.

Even if features have been completely levelled, archaeological sites will survive beneath the surface. Sub-surface survival of archaeological features can be identified from the air through the formation of cropmarks. Cropmarks form when the lack of moisture puts the vegetation under stress. This affects both the colour and the rate of growth of plants over archaeological features and it is these changes that can be best seen form the air. However, only a few cropmarks were identified during this project,

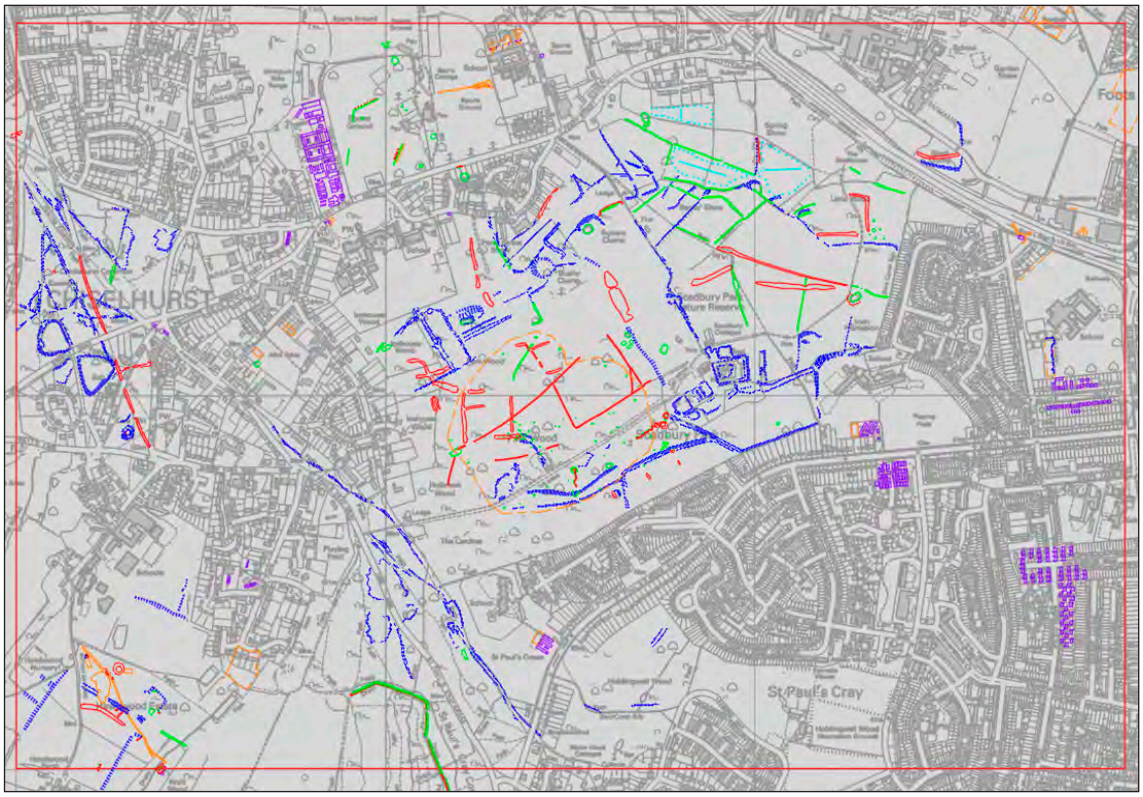

Figure 66 – All mapped features © Historic England. Base map © Crown Copyright and database right 2019. All rights reserved. OS Licence number 100024900, see Figure 111 for an explanation of the colours used

which may be due to several factors. The potential to see cropmarks is limited by the relatively small area of open ground within the project area. Much of the open land is grass and cropmark formation is slow in grass, when compared with other crops such as cereals, and they are unlikely to form unless there are extreme drought conditions.

Earthworks on the commons

Several earthworks have been identified on lidar across Chislehurst Common (west of Scadbury Moated Manor) and St Paul's Cray Common (to the south-west). Most of these are shallow hollow ways, which largely correspond to paths depicted on the 1897 OS map. Some of the paths marked on the 1897 map no longer survive, but a significant number remain in use today.

The hollow ways on St Paul's Cray Common follow its southeast-northwest orientation. Although fragmentary, the longest of these can be seen running for over 1km along the north-eastern edge of the common. This may have once connected with the route now defined by Royal Parade. Other, much shorter hollow ways are the remains of several alternative routes across the common, many of which probably evolved organically (Figure 67).

Chislehurst Common has a similar group of fragmentary, shallow hollow ways and some of these are presumably continuations of the routes seen to the southeast on St Paul's Cray Common. Also visible on the lidar is a low causeway 6m wide and about 30cm high. This can be followed from the southeast corner of Chislehurst Common for approximately 550m to the southern side of Centre Common Road. Several paths, School Road and Bromley Road cut this earthwork (Figure 68).

This causeway follows the line of a path depicted on the 1897 Ordnance Survey map and is still marked as a path today. The 1897 map shows a continuation of this path north of Centre Common Road, as far as the northern end of the common, but it is not clear if the causeway extended any further north. This northern continuation had become Heathfield Lane by 1938.

The commons would have been used for a variety of purposes including the grazing of animals and the exploitation of other resources such as the collection of firewood. Chislehurst Common was also the location of a post medieval cockpit. There are also earthwork traces of a mound that may be the remains of a Bronze Age barrow.

Digging also took place and the earthworks of a few gravel pits have been identified on the lidar. These can be extensive in area, although often quite shallow. On St Paul's Cray Common a shallow area of extraction approximately 200m by 100m can be seen (Fig 67). Although this quarry was not depicted by the OS in its entirety, the 1897 OS map shows an irregular outline 30m by 20m located within this larger area. A gravel pit is depicted on Chislehurst Common at the junction of Heathfield Lane and Ashfield Lane, on the 1897 and later OS map editions (Fig 68). This gravel pit is now water-filled and forms Chislehurst Pond. Earthworks to the southeast of this indicate that gravel was dug from a much larger area than that of the present pond.

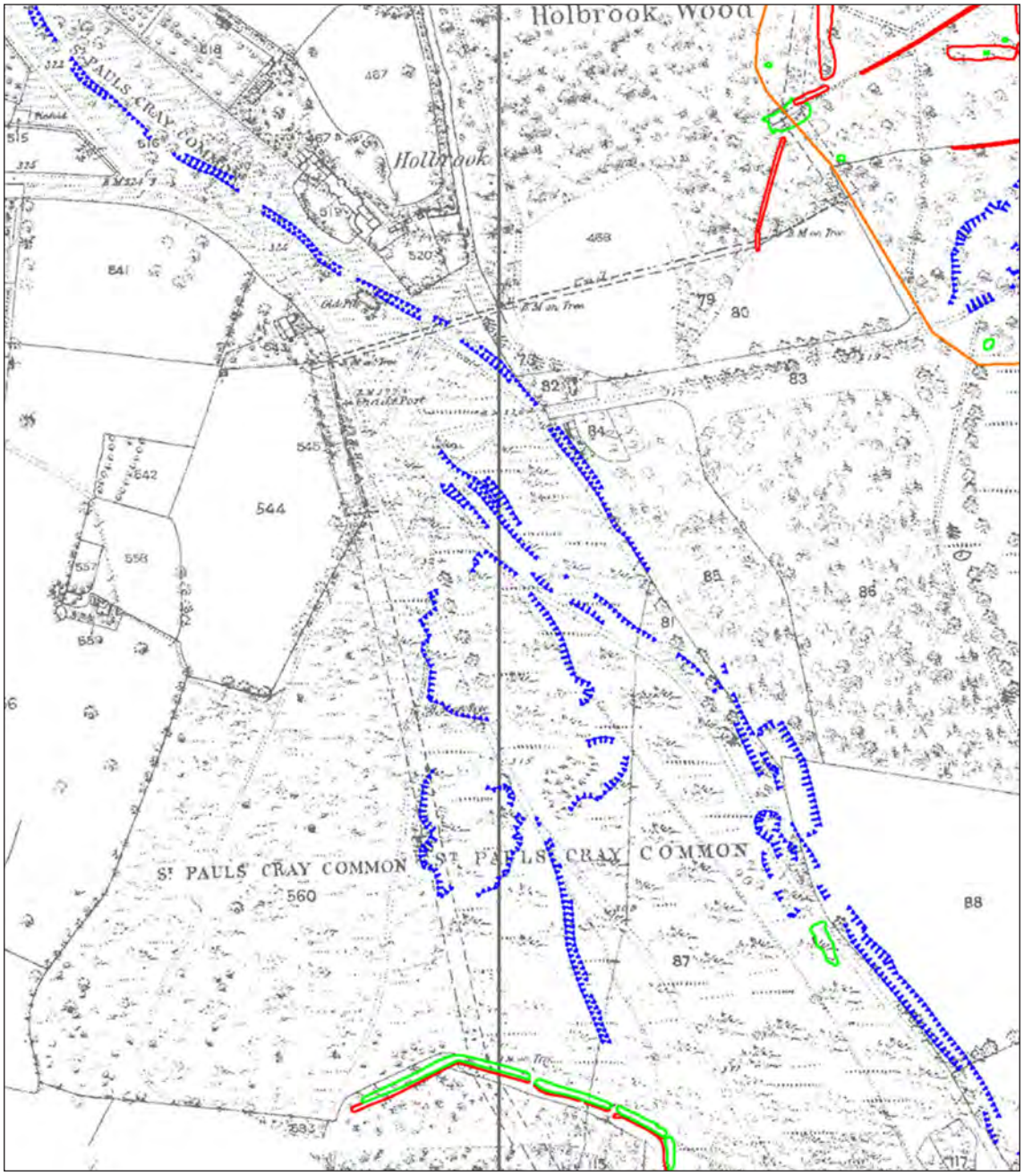

Figure 67 – The mapping of earthworks on St Paul's Cray Common depicted against an extract of the 1897 OS map. Mapped features © Historic England. Base map © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024

The earthworks of two further possible former gravel pits are to the south, located either side of Bromley Road (Figure 69). The two on the northern side of the road are divided by a causeway. The 1897 OS map depicts this area as marsh and by 1897 the depression to the west had become a pond. The depression to the east is still depicted as marsh on the modern OS map. The 1897 map also shows a small area of marsh on the south of the road, which approximately coincides with the earthworks of another possible gravel pit. The presence of marsh at these locations suggests that they had fallen out of use as gravel pits long before the late 19th century. Another

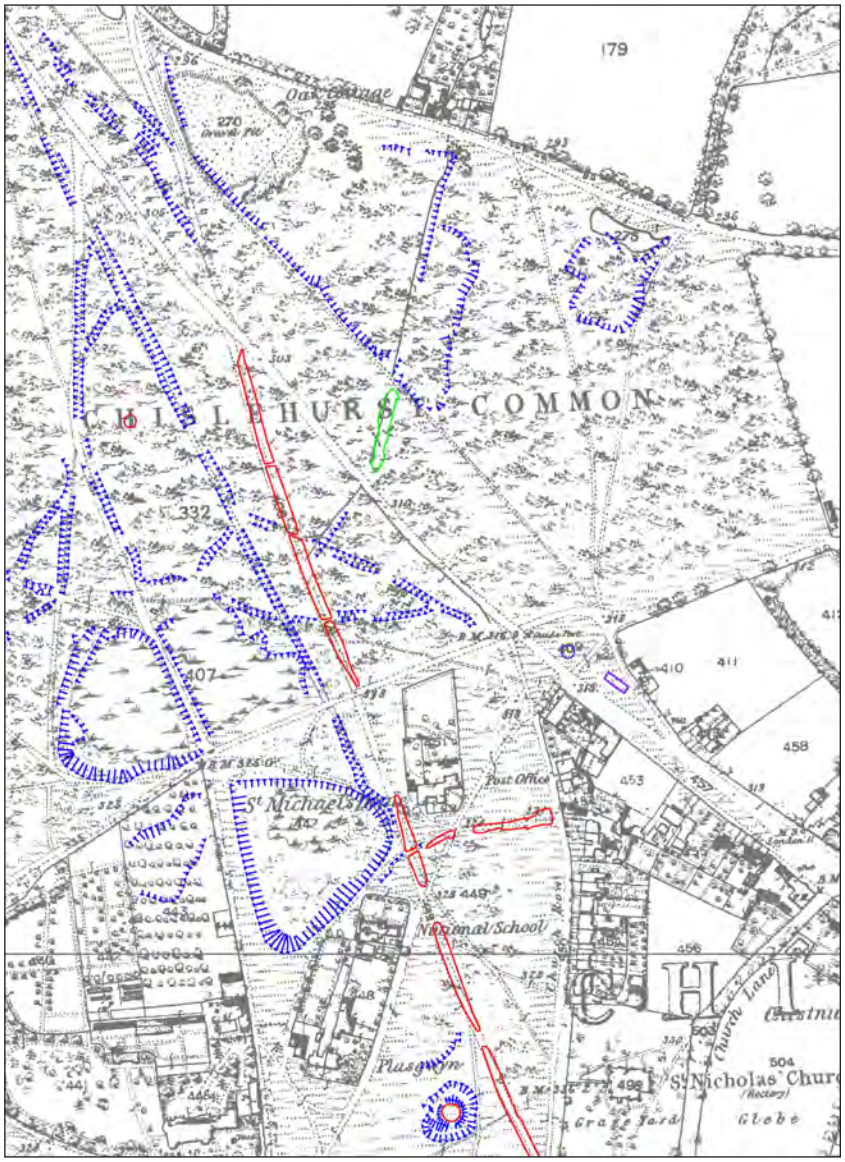

Figure 68 – The mapping of earthworks on Chislehurst Common, including a causeway and a possible Bronze Age barrow (both in red) overlaid on an extract of the 1897 OS map. Mapped features © Historic England. Base map © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024

possible gravel pit is the depression to the west of the church within which the post-medieval cock pit was constructed (Figure 70).

Wood banks

Four woods, Park Wood, Icehouse Wood, Holbrook Wood and The Larches join and form a large area of woodland to the west of Scadbury Moated Manor. Icehouse Wood lay in the north, Holbrook Wood in the centre, north of the drive to Scadbury, with Park Wood to the east, and The Larches to the south. These are depicted on the 1897 OS maps and the extent of these combined woods largely matches the unnamed woodland depicted on the OS Original Series one-inch mapping dated 1805-1819. The exact boundaries of the contiguous woods are not defined and although the various OS editions show the names in slightly different locations these are probably simply labelling decisions, unlikely to reflect any changes on the ground. For example, in 1897, Icehouse Wood seems to occupy the whole of the northern 200m of this woodland but by 1939 Park Wood appears to have incorporated part of

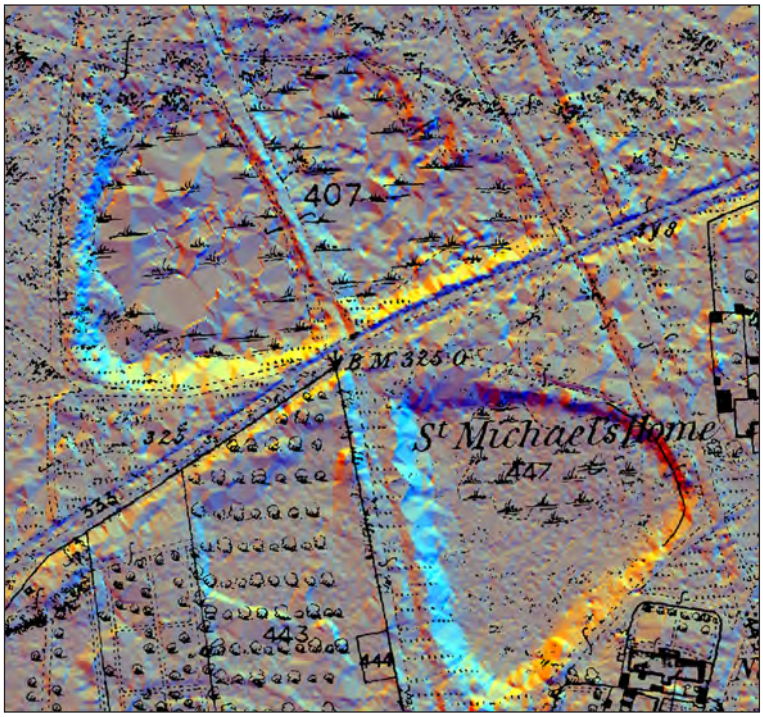

Figure 69 Gravel pits either side of Bromley Road seen on lidar, with an extract of the 1897 OS map. Map © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024. LIDAR TQ4470 Environment Agency DTM 2017 © Environment Agency copyright 2017. All rights reserved

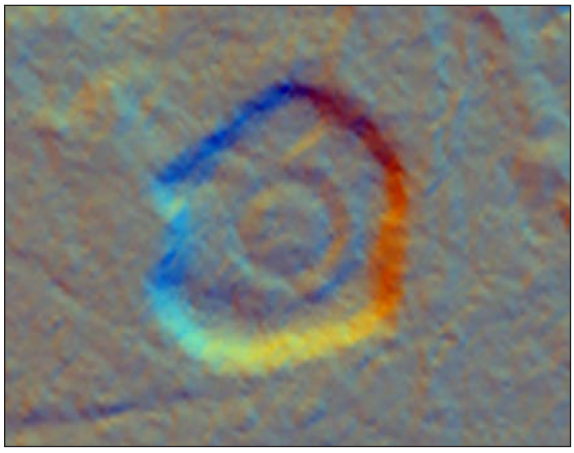

Figure 70 –The circular cockpit within a possible former quarry seen on lidar. LIDAR TQ4469 Environment Agency DTM 2017 © Environment Agency copyright 2017. All rights reserved

Icehouse Wood, which itself looks to have been extended south occupying much of what was previously Holbrook Wood; all of this would have been meaningless on the ground. Some of these changes may however reflect changing land ownership. Since the 1950s, this area of woodland was extended northwards and now incorporates smaller woods or copses named Bushy Clump, Square Clump and Perry Street Shaw. As a result, a continuous band of woodland extends from St Paul's Cray in the south to Perry Street in the north.

Lidar has revealed several narrow banks within this woodland, predominantly within the current boundary of Park Wood. These earthworks partly define the eastern boundary of Park Wood, but also form subdivisions of the woodland, probably related to their management. Some of these follow the line of boundaries and paths depicted on the 1890s OS map editions and on Gudsell's 1810 map (Figure 71). Another group of earthwork banks are also visible within Park Wood, on a different orientation and not clearly related to any mapped features. They are

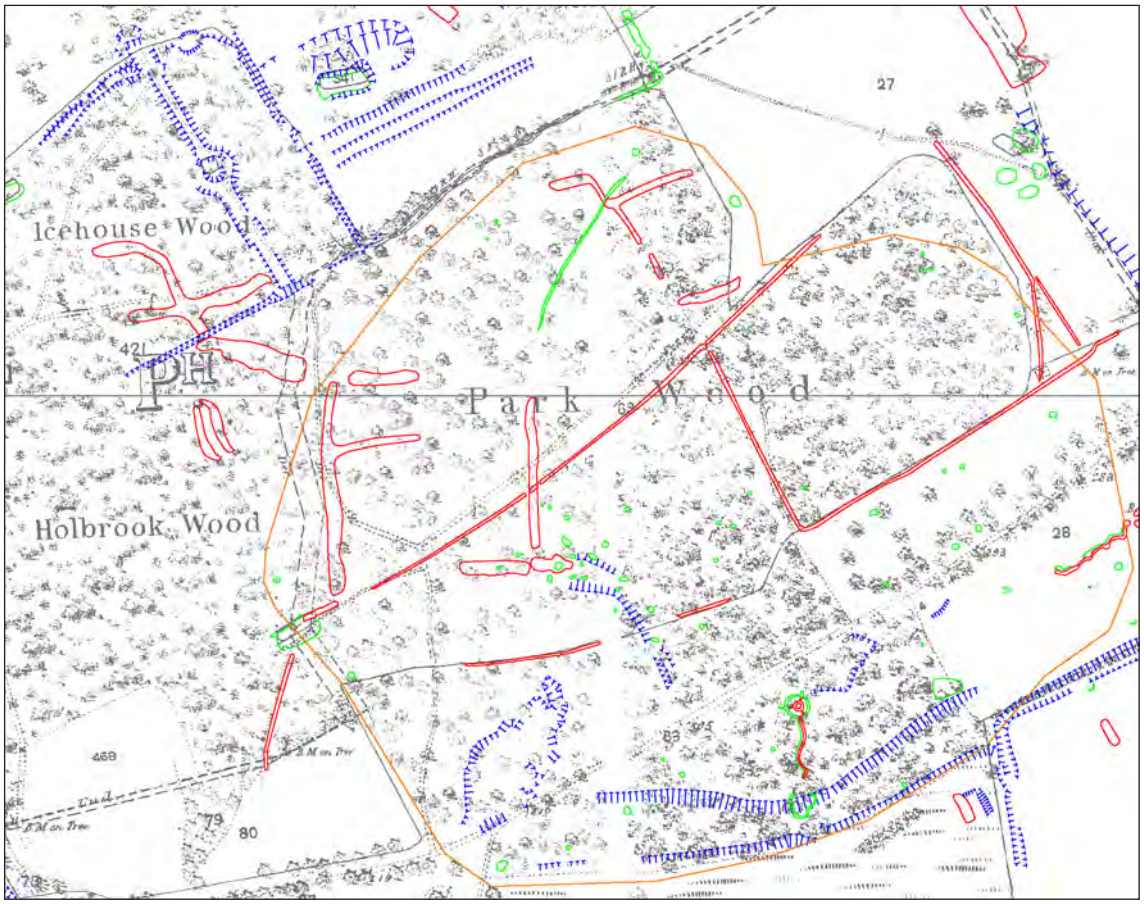

Figure 71 – The mapping of earthworks within woodland overlaid on an extract of the 1897 OS map. Mapped features © Historic England. Base map © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024

degraded and survive as low and wide earthworks and are possibly the remains of field boundaries pre-dating the woodland or earlier patterns of management.

Icehouse Wood

The lidar has revealed earthworks within what was the 1890s boundary of Icehouse Wood (Figure 72). These consist of a path aligned north-west/south-east, which extends across uneven ground and is defined by a combination of embankments and cuttings. From the northern end of the wood, a causeway leads downslope creating a level path 6m wide and between 50cm and 1m above the ground. A little over halfway along this path is a pond. This pond is approximately 80cm deep and measures 17m by 13m. The causeway crosses what may be a watercourse, seen on lidar but not marked by the OS. South of this possible watercourse, the ground rises slightly, and it is here that the pond is located. The path divides and passes on both sides of the pond re-joining on the opposite side. The southern continuation of the path is formed by a cutting and then an embankment. The total length of this earthwork is 180m. Based on measurements derived from the lidar, the path ends approximately 2m higher than the ground to the south (Figure 73). The name Icehouse Wood suggests that these earthworks may be associated with the production and storage of ice, but no icehouse site has been identified in this survey,

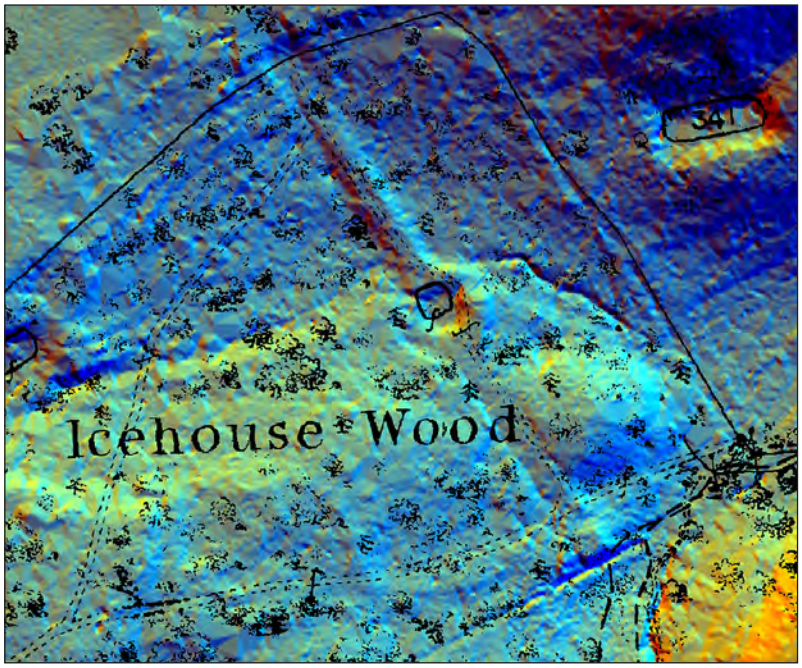

Figure 72 – Earthworks within Icehouse Wood seen on lidar 16 direction hillshade model 50cm resolution overlain with an extract of the 1897 OS map. Map © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024. LIDAR TQ4570 © Environment Agency copyright 2017. All rights reserved

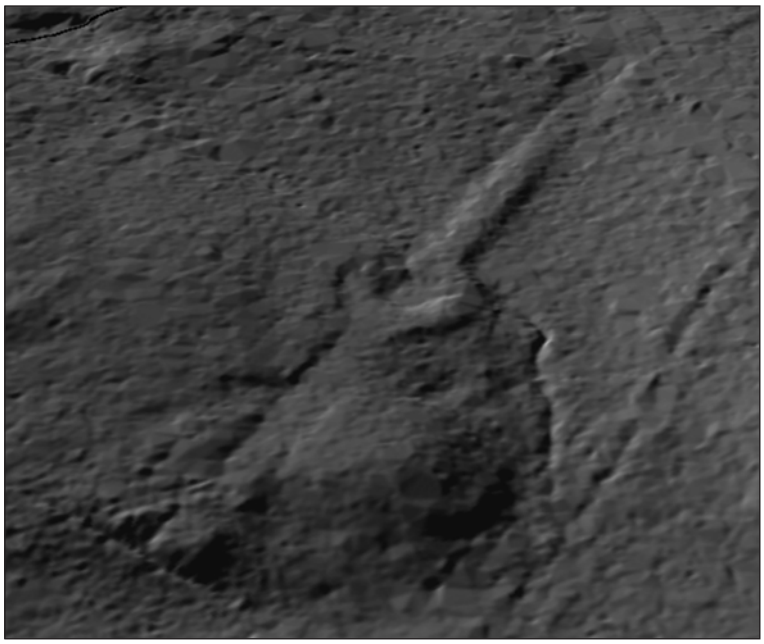

Figure 73 – Oblique view of the causeway seen on lidar. LIDAR TQ4570 © Environment Agency copyright 2017. All rights reserved

and the pond and pathway are perhaps more likely to be garden or parkland features. This area of woodland formerly belonged to Farringtons so these features may relate to the history of that property rather than of Scadbury Manor estate (ODAS, pers comm).

Scadbury Park lynchets

Evidence of arable farming in the form of lynchets has been identified on lidar and these earthworks are concentrated at the northern end of Scadbury Park, immediately south of Perry Street (Figure 74). Here the ground slopes away to the south and east and a series of lynchets are arranged along both these slopes.

These lynchets create long narrow fields approximately 40m-50m wide and up to 260m long.

Except for the eastern end, which is under pasture, this area is now within woodland, but was largely fields and then a mixture of fields and orchards until the mid-20th century. The lynchets are not complete; some have been cut through by later paths or damaged by quarrying. Those parts that have survived have been selectively re-used as later boundaries. In a very few places a current boundary coincides with the line of a lynchet. A lynchet was used to define part of the 19th-century boundary to an area of woodland called Perry Street Shaw. Although now largely incorporated into a larger area of woodland, part of the lynchet does coincide with the boundary between the wood and an area of pasture.

Field boundaries

Many of the earthworks identified relate to field boundaries that are depicted on the late 19th-century OS maps. Others are not depicted on historic OS maps, although there are clues to their existence. There are several examples where lines of trees mapped by the OS correspond with a low earthwork boundary seen on lidar (Figure 75). Other boundary features correspond with the former parish boundary between Chislehurst and St Pauls Cray (Figure 76).

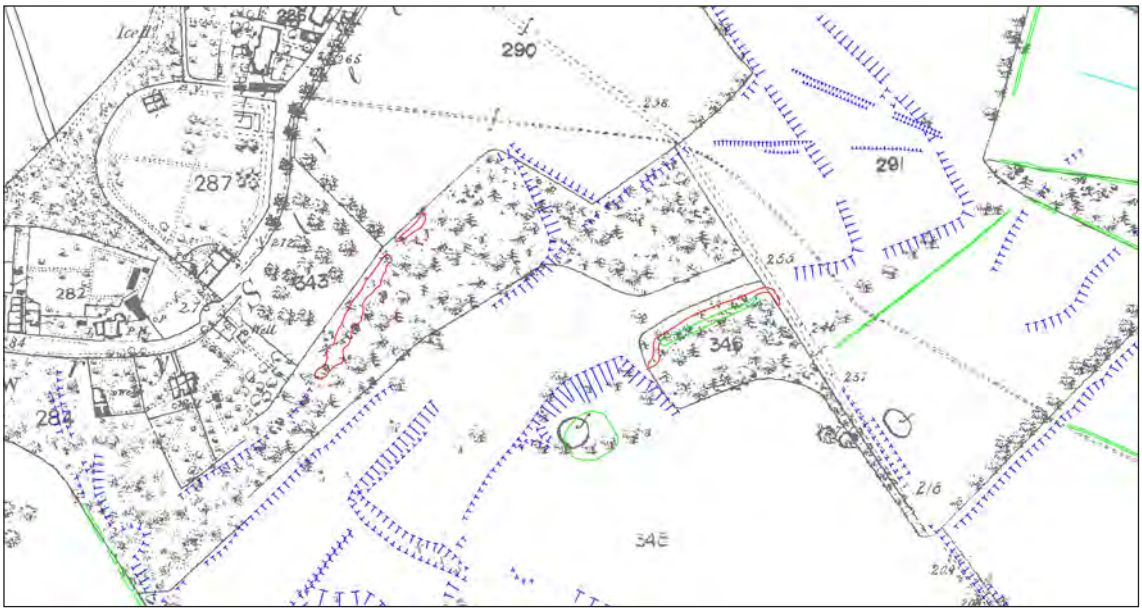

Figure 74 – The mapping of lynchets south of Perry Street overlain on an extract of the 1897 OS map. Mapped features © Historic England. Base map © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024

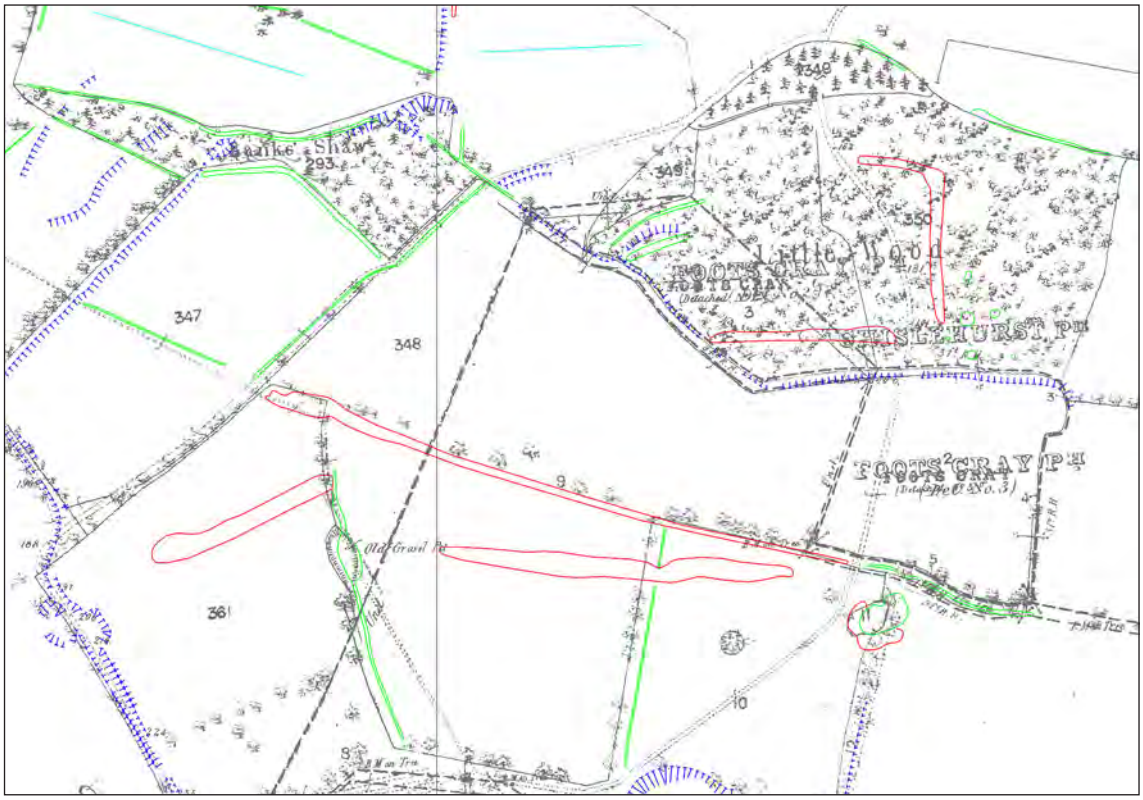

Figure 75 – The mapping of earthwork boundaries south-west of Little Wood (north-east of Scadbury Moated Manor) over an extract of the 1897 OS map. Mapped features © Historic England. Base map © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024

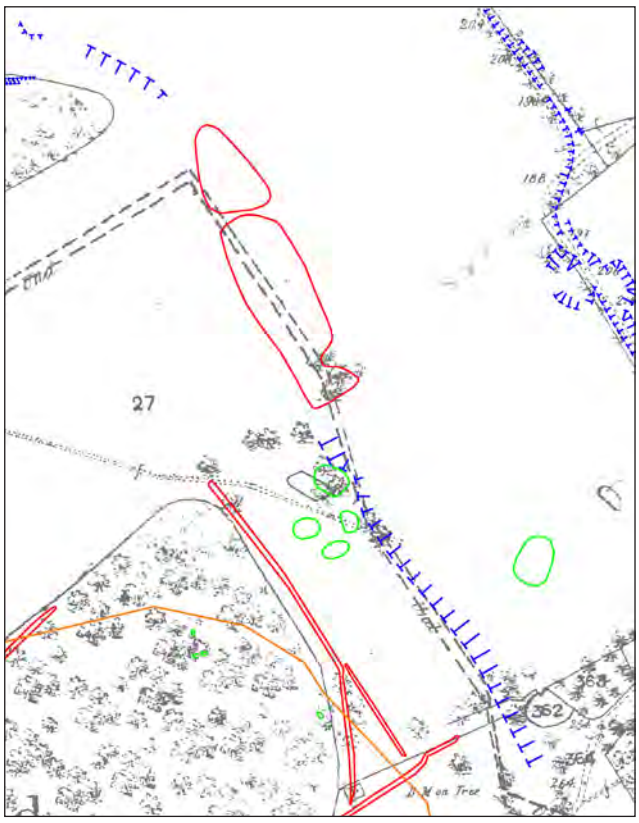

Figure 76 – The mapping of a lynchet and bank along the line of the Chislehurst and St Paul's Cray parish boundary (north-east of Scadbury Moated Manor) with an extract of the 1897 OS map. Mapped features © Historic England. Base map © and database right Crown Copyright and Landmark Information Group Ltd (All rights reserved 2019) Licence numbers 000394 and TP0024

Second World War

One Royal Air force (RAF) aerial reconnaissance flight was undertaken across the project area in 1944. Several features have been identified on these aerial photographs and others taken in late 1945-1946. Some of these, such as air raid shelters, are clearly associated with the war, but it is less certain what some other structures were used for. The lack of aerial photographs taken during the early years of the war makes it impossible to provide a more detailed chronology for the construction or evolution of these sites. As most of these were demolished before the first post-war OS map revisions, the aerial photographs may provide the only evidence for some of these structures.

Camp

A military camp or government establishment was identified on RAF aerial photographs taken in August 1944 (Figure 77). This was situated on Foxbury Avenue, 1km to the north-west of Scadbury Moated Manor, adjacent to the sports ground with a controlled entrance on Perry Street. It is not known what this camp was built for, or the exact date it was built, but is assumed to have had some government or military function. The site continued in use after the war and subsequent aerial photographs show that it underwent some changes during this time (Figure 78). The earliest post-war map was published in 1959 and this named the site Foxbury. By 1971 the camp had been reduced in size with the demolition of the buildings in the northern half of the site. These were replaced with Coed Bel, a government hostel for engineering apprentices under the Royal Ordnance Apprentice Scheme (*Lost Hospitals of London*). The remaining buildings of the camp were depicted on the 1976 OS maps. These were subsequently demolished and are not shown on the 1992 map revision.

Wartime buildings

A second area of possible wartime activity was identified within the adjoining gardens of three large houses on Manor Park Road, to the west of St Paul's Cray Common. The houses were first named on the 1960 OS maps as Harley, Walpole and Pelham (Pelham was subdivided by 1960 into West, Upper and East Pelham). Three buildings, one in each of the three gardens to these houses, are first seen on the 1944 RAF aerial photographs (Figure 79 and Figure 80). The largest building was at Harley, built to the south of the house. It measured 31m by 6m and had a pitched roof. Immediately to the west was Pelham, in front of which was a building 19.5m by 6.5m, also with a pitched roof. The third building was constructed in the garden to the rear of Walpole, to the north of Harley. This building had a flat roof and followed an unusual plan; the main body was 19m long by 2m wide, but it had three transepts, one at each end and one at the centre, possibly entrances. These increased the width to 4.5m. Hints of interconnecting pathways suggest these buildings formed a single complex.

The building at Pelham was the first to be demolished; it was still standing in 1951 but had gone by 1954. The subdivision of Pelham House into three may have been

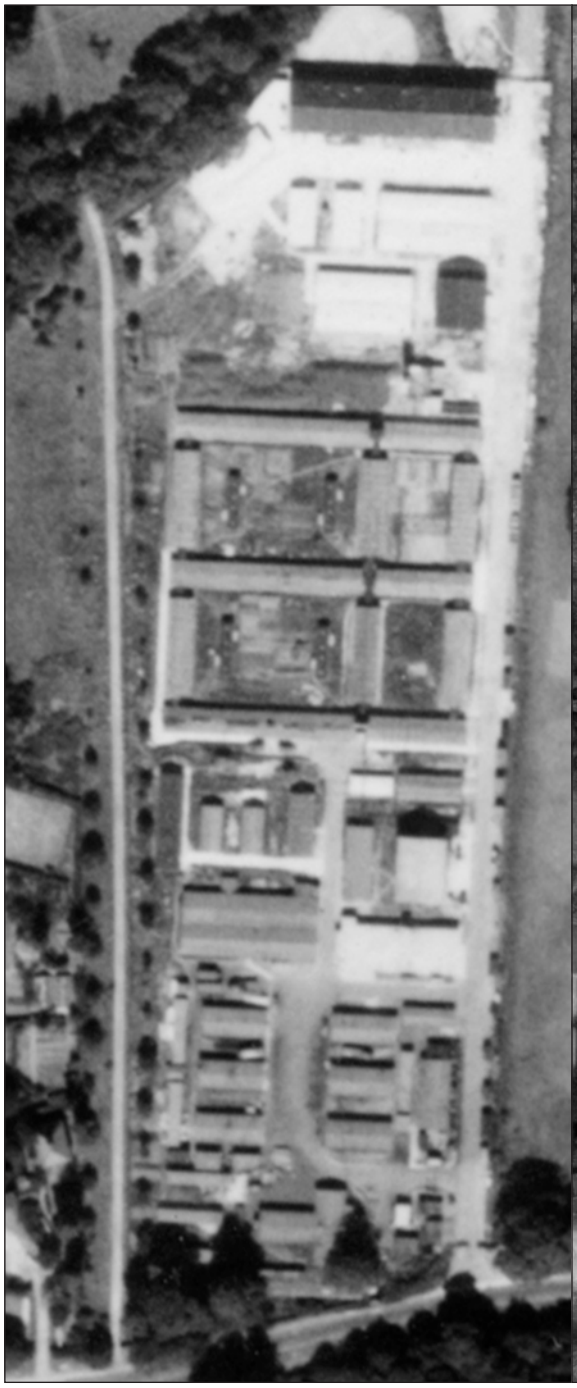

Figure 77 – Wartime camp on Perry Street/ Foxbury Avenue in 1944. Detail of RAF/106G/ LA/30 RP 3081 07-AUG-1944. Historic England Archive (RAF Photography)

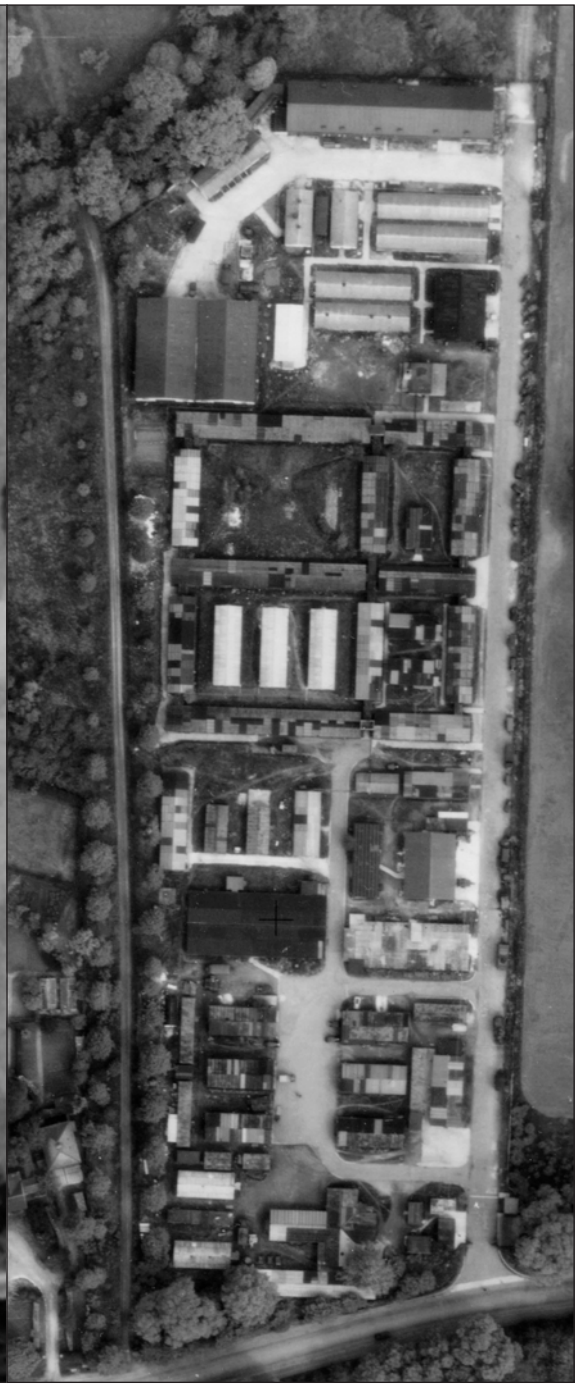

Figure 78 – Camp on Perry Street/Foxbury Avenue in 1951. Detail of RAF/58/689 Vp3 5021 23-MAY-1951. Historic England Archive (RAF Photography)

the reason it was demolished at this time. The remaining two buildings were still present on 1954 aerial photographs, but demolition presumably took place later that decade as neither appears on the 1961 aerial photographs or the 1960 OS map.

A building following the same design as that seen in the garden of Walpole was first identified on 1944 aerial photographs over 1km to the north-west of the Manor Park

Figure 79 – Manor Park Road Detail of RAF/106G/ LA/1339 RV 6142 29-MAR-1946. Historic England Archive (RAF Photography)

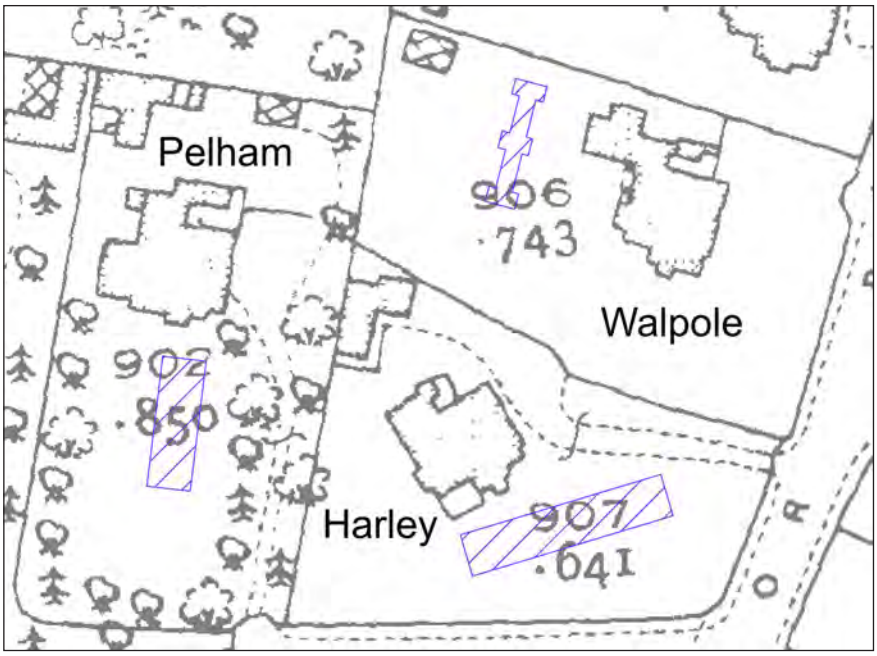

Figure 80 – Manor Park Road mapping of three building shown in previous figure on 1938 OS map

Figure 81 – War-time building in the garfden of Chesham House. Detail of RAF/106G/ UK/1339 RV 6309 29-MAR-1946. Historic England Archive (RAF Photography)

Road group. This building (Figure 81) was situated in the back garden of Chesham House, Wilderness Road, outside this project area. It had been demolished by 1947.

A similar arrangement of a wartime building within a private garden was also seen in 1944 to the north of Manor Park Road. This building was in the garden of a house off Ashfield Lane (unnamed on pre-war OS maps but named Farringtons Junior School on the 1959 edition). It had a pitched roof and measured 34m by 6m. It had been demolished by 1951, perhaps coinciding with the conversion of the house into a school (Figure 82 and Figure 83).

The presence of these wartime buildings suggests that the associated houses were requisitioned during the war, but further work would be required to establish if this was the case and which ministry or branch of the armed services was involved. There is documentary evidence that some buildings within Chislehurst were requisitioned, such as Farringtons School (*Farringtons School*). However,

Figure 82 – Farringtons Junior School site. Detail of RAF/106G/UK/1339 RV 6304 29-MAR-1946. Historic England Archive (RAF Photography)

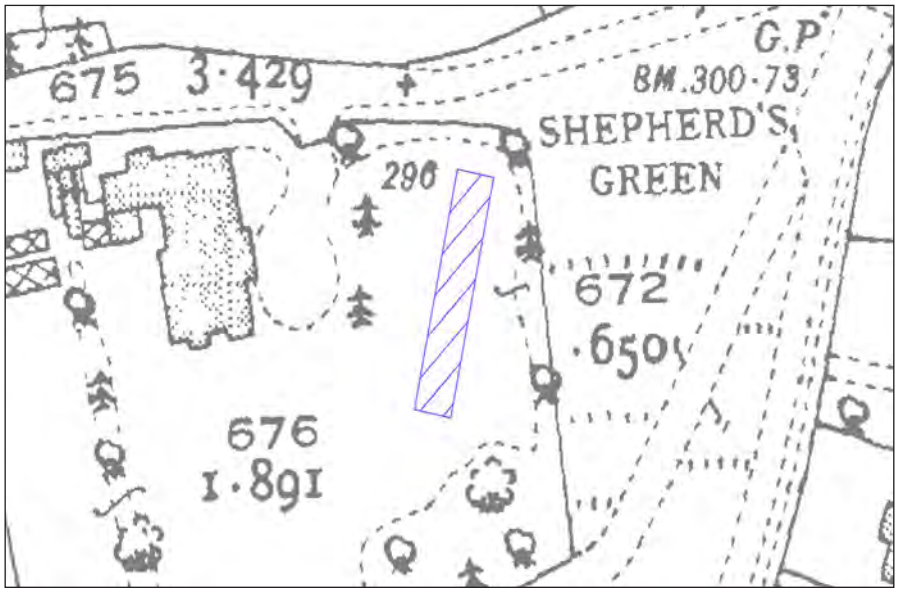

Figure 83 – Farringtons Junior School site. Mapping of building shown in Figure 82 on 1938 OS map

there is little on the aerial photographs to indicate the requisition of the school. Small buildings at one of the school entrances, only seen on 1944 and 1946 aerial photographs, may be associated with the school's wartime role. The proximity of the camp on Foxbury Avenue to Farringtons School also raises the possibility that the two sites were part of a single establishment.

Air raid shelters

Public surface shelters

Two earth-covered air raid shelters were located at the northern end of Chislehurst Common, between the High Street and Ashfield Lane, south of the pond (Figure 84). Because these were earth-covered it is not possible to determine their exact size, but they were in the region of 15m by 5m. This matches the approximate dimensions of many of the public surface shelters built from 1939. Those on Chislehurst Common had a single entrance with a projecting porch creating an L-shaped plan. A third public surface shelter was seen on Royal Parade (Figure 85). This also measured approximately 15m by 5m but had no earth-covering or porch.

Air raid precautions in Britain had their origins in the creation of the Air Raid Precautions (ARP) department in 1935 and initially the department was concerned with offering guidance and encouragement to local authorities to prepare for air raids (Dobinson 2000, table III). Legal compulsion came with the passing of two pre-war acts: the 1937 Air Raid Precautions Act and the 1939 Civil Defence Act (ibid 27; 53). Despite these preparations, the government considered public air raid shelter provision insufficient, and in August 1939, further powers were given to local authorities in the expectation of increasing public shelter provision (ibid 86). It is possible that the three air raid shelters identified were built in 1939 as a result.

Figure 84 – Air raid shelters on Chislehurst Common. Detail of RAF 106G/LA/1339 RV 6307 29-MAR-1946. Historic England Archive (RAF Photography)

Figure 85 – Rectangular air raid shelter (right) and circular Emergency Water Supply (left) on Royal Parade. Detail of RAF/106G/LA/1339 RV 6264 29-MAR-1946. Historic England Archive (RAF Photography)

School shelters

It is likely that the provision of air raid shelters for schools was also the responsibility of local authorities. An article published in the *Faversham Times and Mercury* almost three months before the outbreak of war (10 June 1939, 2 Col C 'Air raid protection at schools') discusses two circulars on *Air Raid Protection at Schools* issued in the previous months by the Board of Education. According to this article, Kent County Council 'had already taken the necessary financial action for the provision of protection at schools where protection is considered to be necessary and possible, and model plans have been prepared for trench units, which will be capable of adaptation and extension to meet circumstances of individual schools'. Two schools within the project area had air raid shelters visible on 1944 aerial photographs*:* Cray Valley Technical School for Boys, now Kemnal Technical College and Chislehurst and Sidcup County Grammar School for Girls, now Chislehurst School for Girls.

At Kemnal Technical College (Figure 86) there were six separate entrances to earth-covered air-raid shelters built against a slope to the south-west of the school building. The shelters occupied an area approximately 100m by 30m. The settling of the soil visible on the 1948 aerial photograph suggests that the shelter consisted of a 'Z' pattern of structures. Tennis courts now occupy the area of these shelters, which may survive below ground (Figure 87).

A similar arrangement of shelters was provided for Beaverwood School for Girls (Figure 88). Although they followed a different layout, they too occupied an area approximately 100m by 30m and were accessed via six entrances. Wartime allotments were dug on the earth covering these shelters. This area has since been built over and it is not clear from the aerial photographs if anything survives below ground.

Figure 86 – School air raid shelters in the grounds of what is now Kemnal Technical College. Detail of AFL 61760/EAW020725 24-Dec-1948 © Historic England (Aerofilms Collection)

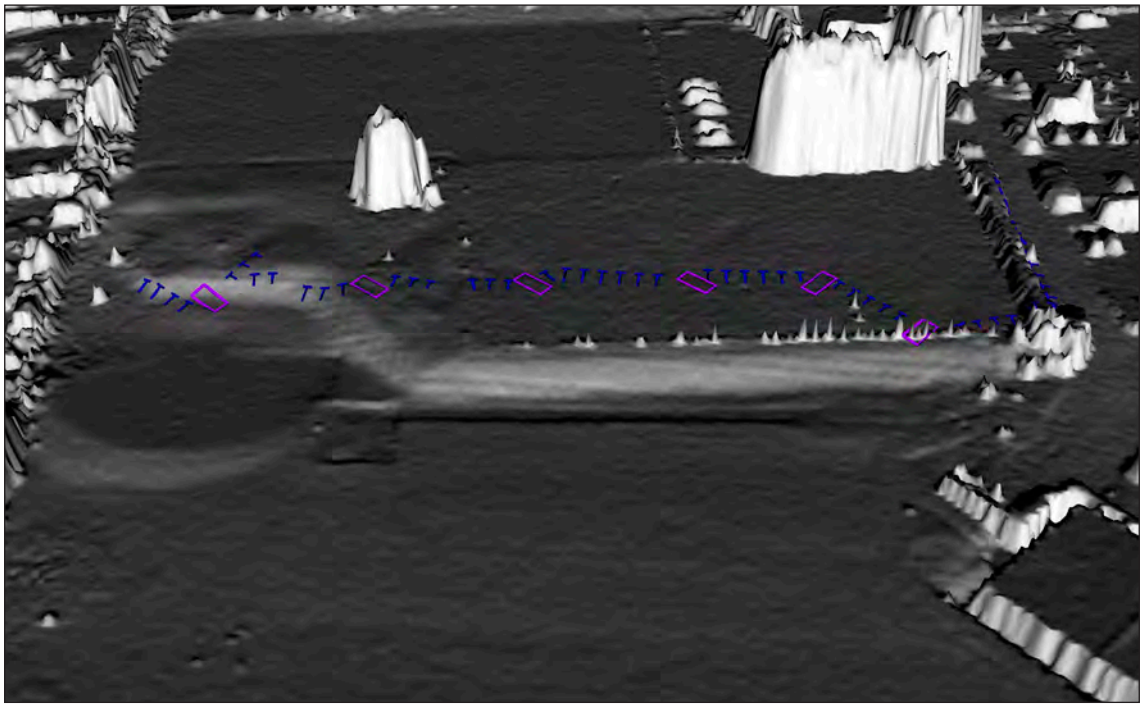

Figure 87 – Lidar of the site of the air raid shelters seen in the previous figure. The raised area of ground has been extended. The coloured mapping indicates the original slope and shelter entrances. The tall, pale jagged features are trees

Emergency water supply

One of the problems encountered by Britain's fire brigades during the Blitz was the failure of the water supply during air raids when then the water mains were ruptured. A solution to this problem was the provision of permanent reservoirs of water throughout towns and cities (Demarne 1989 58-65). These reservoirs were known as an Emergency Water Supply (EWS). A national scheme for EWS provision

Figure 88 – School air raid shelters in the grounds of what is now Beaverwood School for Girls. The six entrances are outlined in purple. Detail of RAF/106G/LA/1339 RV 6301 29-MAR-1946. Historic England Archive (RAF Photography)

was carried out from August 1941 onwards after the amalgamation of the country's numerous fire brigades into the National Fires Service (ibid).

Three circular EWS have been identified within the project area. One was located opposite Chislehurst School for Girls and measured 9m in diameter (Figure 89). A second EWS, 8m in diameter, was located within the grounds of Bettington House in Perry Street. The third was also 8m in diameter and located on an area of open ground between Bromley Lane and Centre Common Road/Royal Parade (Figure 85). All three were first seen on the 1944 aerial photographs. The Perry Street EWS had been dismantled by 1946, the other two by 1947.

Bomb damage

Two forms of evidence for air raids were identified on the historic aerial photographs: bomb craters and damaged buildings. A limited chronology of these raids can be determined from aerial photographs. Some bomb damage is present by August 1944 and subsequent air raids caused damage visible on aerial photographs taken in 1946. Farm buildings and offices at Scadbury Moated Manor suffered bomb damage late in the war and aerial photographs show both the pre-war extent of the site and the damage caused to some of these buildings.

Figure 90 shows buildings on Bull Lane, including the Workmen's Club, and Royal Parade in August 1944. By this date the building on the corner of these two roads

Figure 89 – Circular Emergency Water Supply (EWS) photographed in 1946 opposite what is now Chislehurst School for Girls. Detail of RAF/106G/LA/1339 RV 6301 29-MAR-1946. Historic England Archive (RAF Photography)

(near bottom left of both Figure 90 and Figure 91) was already roofless, presumably the result of an air raid. Figure 91 shows the same area in1946 and illustrates the effect of a subsequent raid late in the war. The aerial photograph shows a 15m diameter crater between the garden to a house (now called The Chestnuts) and the roofless Workmen's Club. The most noticeable damage was to the club and this building was eventually demolished. Buildings at the rear of what is now Faulkner House were destroyed as were those within the ground of The Chestnuts. The crater was filled-in by 1951.

Scadbury Moated Manor

Aerial photographs taken in 1934 illustrate some of the work undertaken by the owners of Scadbury Moated Manor in the early decades of the 20th century (Figure 92; see also Figure 57, Figure 13). They provide detailed views of Scadbury Park Mansion, farm buildings and structures, as well as an overview of the gardens and detail of the planting. These photographs were taken just before the construction of the reconstructed hall on the island in 1936-7 (Archer 2015).

Scadbury Moated Manor, including the recently reconstructed hall on the moated island can be seen on a vertical aerial photograph taken in 1944 (Figure 93) and the reconstructed hall can be seen in more detail in an oblique aerial photograph taken in 1949 that shows its eastern elevation (Figure 94). However, by this date some of the buildings at Scadbury (notably an estate barn) had been damaged or destroyed as a result of a strike by a V1 flying bomb in March 1945 (Archer 2015).

Figure 90 – Workmen's Club in 1944 before air raid. The building bottom left appears to be roofless by this date, perhaps due to enemy action. Detail of RAF/106G/LA/30 RP 3082 07-AUG-1944. Historic England Archive (RAF Photography)

Figure 91 – Workmen's Club and surrounding area after air raid. Detail of RAF/106G/UK/1339 RV 6265 29-MAR-1946. Historic England Archive (RAF Photography)

Figure 92 – Scadbury Moated Manor seen form the south-east in 1934. AFL193407/EPW045613 JUL-1934 © Historic England (Aerofilms Collection)

Figure 93 – Scadbury Moated Manor in 1944. Detail of RAF/106G/LA/30 RS 4233 07-AUG-1944. Historic England Archive (RAF Photography)

Figure 94 – The reconstructed hall, Scadbury Moated Manor in 1949. Detail of AFL 61921/ EAW026819 03-Oct-1949 © Historic England (Aerofilms Collection)

The first aerial photographs taken showing the effects of this air raid were taken a year later in March 1946 (Figure 95). Although no obvious crater can be seen on this aerial photograph, the image suggests that the bomb struck a point within the farmyard to the north of Scadbury Park Mansion. This damaged or destroyed the north-eastern part of the house and by 1946 this part of the house appears to have been largely cleared away. The vicinity of the bombsite shows white on the 1946 aerial photograph, which may indicate activity associated with site clearance and

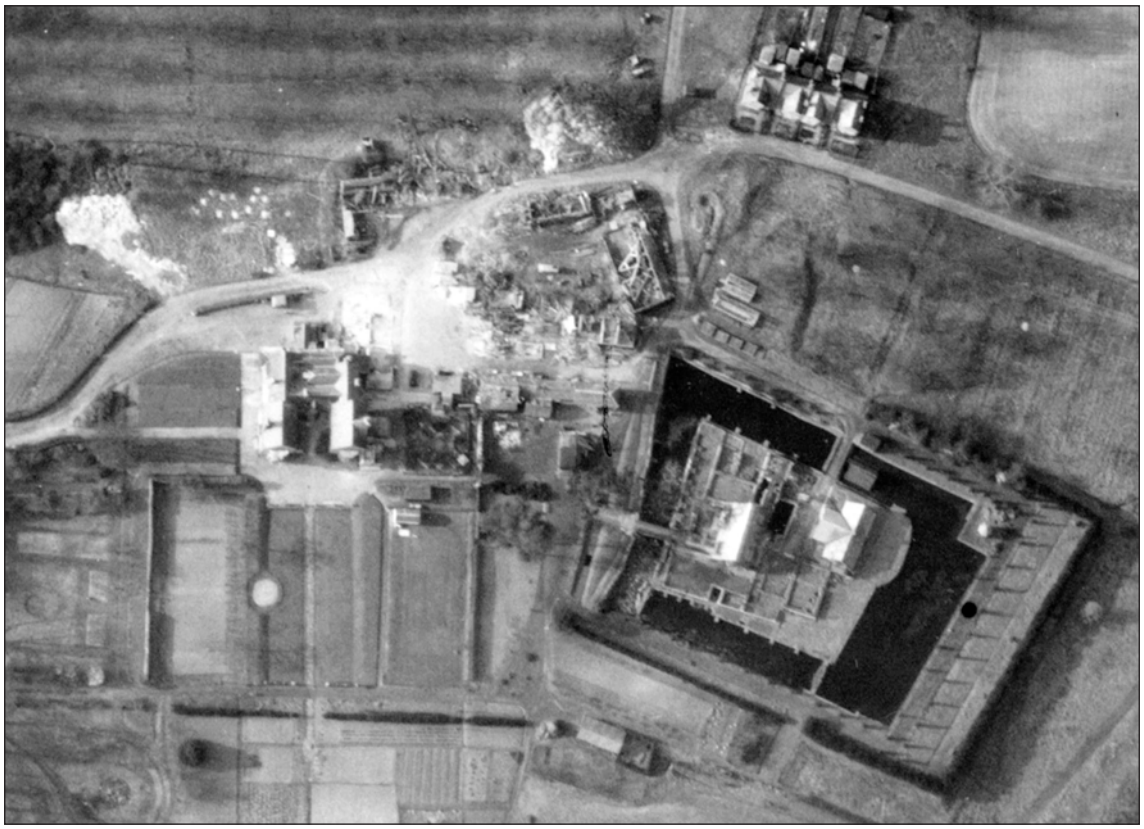

Figure 95 – Scadbury Moated Manor after air raid. Detail of RAF/106G/UK/1339 RV 6148 29-MAR-1946. Historic England Archive (RAF Photography)

Figure 96 – Detail of Figure 95 showing damaged and destroyed buildings. Detail of RAF/106G/UK/1339 RV 6148 29-MAR-1946. Historic England Archive (RAF Photography)

Figure 97 – Some bomb damaged buildings still visible at Scadbury Moated Manor in October 1949. Detail of AFL 61921/EAW026819 03-Oct-1949 © Historic England (Aerofilms Collection)

presumably the filling-in of the crater. Blast damage from the explosion can be seen to the north and east and largely destroyed Scadbury Moated Manor's range of farm buildings. The aerial photograph taken in 1946 shows badly damaged but still upstanding elements at the extreme north-west and the extreme eastern side of the range of buildings including the collapsed roof timbers of the estate barn (Figure 96). The site had been partially cleared by 1949, although some ruins remained (Figure 97).

Military trenches and firing ranges

A series of possible Second World War trenches located to the south-west of Scadbury Moated Manor can be seen on aerial photographs and lidar. Much of this area is wooded and the only photographs taken during the war are from an August 1944 sortie (Figure 98) when the trees were in full leaf and as a result, very little can

Figure 98 – This 1944 photograph shows a worn path along the length of the firing range. Trees obscure the view of the earthworks seen in Figure 100 and Figure 101 (A and B on this figure). Detail of RAF/106G/LA/30 RS 4235 07-AUG-1944. Historic England Archive (RAF Photography)

Figure 99 – Firing range to the west of Scadbury Moated Manor, detail of RAF/106G/LA/1339 RV 6148 29-MAR-1946. Historic England Archive (RAF Photography)

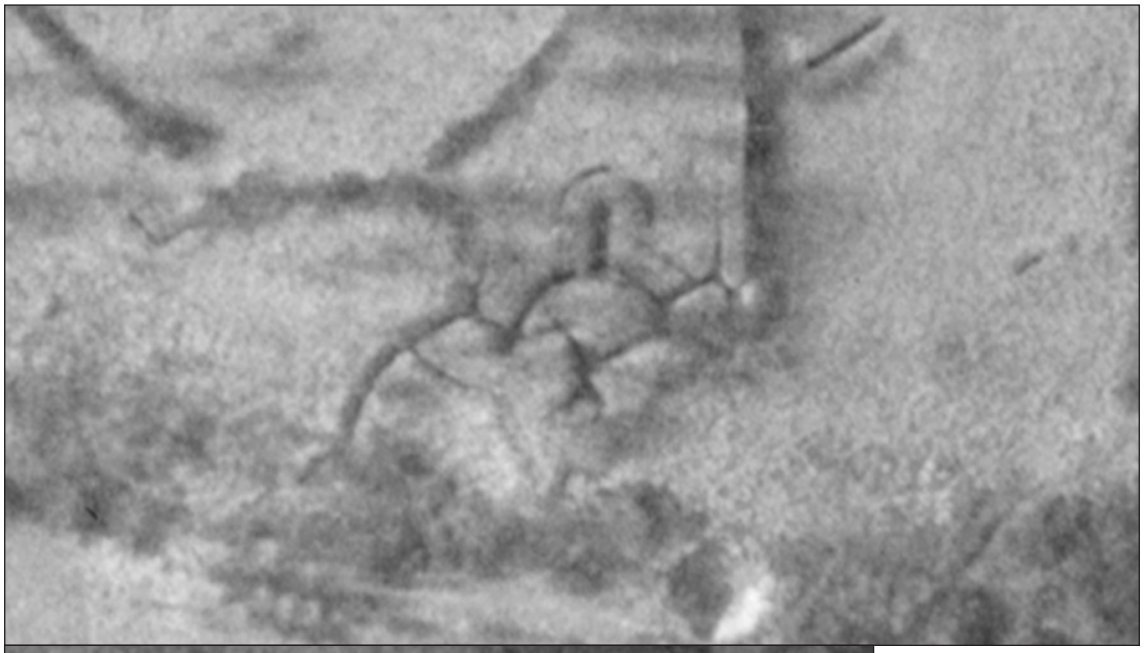

Figure 100 – Trenches to the west of Scadbury Moated Manor, detail of RAF/106G/LA/1339 RV 6148 29-MAR-1946. Historic England Archive (RAF Photography)

Figure 101 – Curving trenches to the west of Scadbury Moated Manor, detail of RAF/106G/LA/1339 RV 6148 29-MAR-1946. Historic England Archive (RAF Photography)

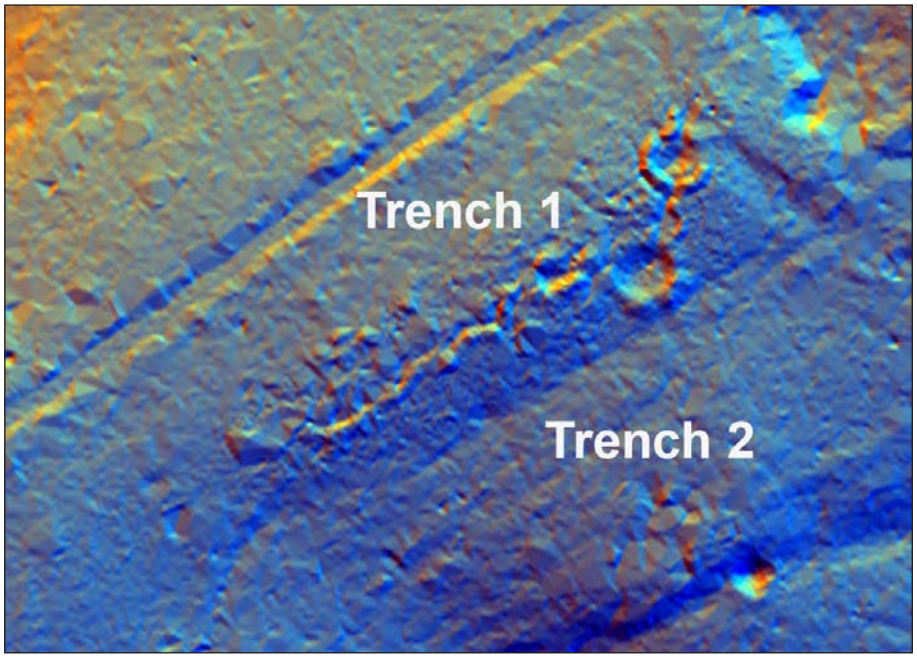

Figure 102 – Second World War trenches south-west of Scadbury, trench 2 cannot be seen in detail but is the same feature shown in Figure 100. LIDAR TQ4569 © Environment Agency copyright 2017. All rights reserved

be seen. The clearest evidence of wartime activity is the firing range south-west of Scadbury and the single worn pathway along its length. The firing range can be seen in more detail in Figure 99.

Aerial photographs taken in March 1946 provide a better view of some of these features as the trees were not in leaf. Figure 100 and Figure 101 show a series of trenches and a possible gun emplacement. Some of these features can be seen on lidar, although the detail is generally not as good as that seen on the 1946 aerial photographs (Figure 102).

A second firing range was located within Hawkwood Estate. In addition to the firing range there were several slit trenches and other earthworks thought to be associated with military training. Presumably established during the war, these had been demolished by October 1946 (Figure 103).

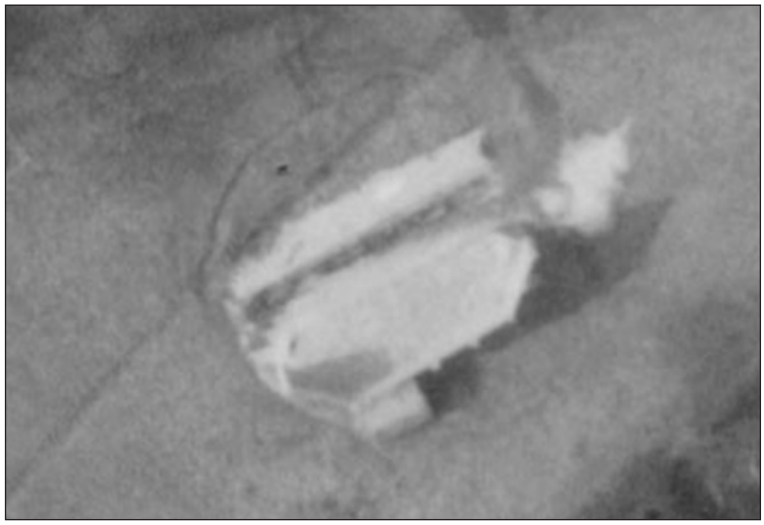

Figure 103 – The butts of a firing range in Hawkwood Estate seen in March 1946. Detail of RAF/106G/LA/1339 RV 6140 29-MAR-1946. Historic England Archive (RAF Photography)

Allotments

The campaign to encourage the keeping of allotments commenced during the first weeks of the Second World War under the famous 'Dig for Victory' slogan (Crouch and Ward 1997, 75). The earliest Second World War aerial photographs of the project area were taken in 1944 and these show several pre-war and wartime allotments.

Some of these allotments occupy waste ground, such as those dug on empty building plots between houses on Valley Road or at schools (Figure 88). Others were dug on playing fields, but in each case, only part of the playing field was turned over to allotments and the remainder retained for sport. This balance between food production and recreation is also seen at the Workmen's Club where half of the bowling green was converted to allotments during the war (Figure 91 and Figure 90). A similar compromise between the benefits of recreation, in terms of health and morale and the need to increase food production during wartime is seen elsewhere in the country, such as Worthing, West Sussex, and Marble Hill, Twickenham (Carpenter 2008, 50; Alexander & Carpenter 2017, 57).

SYNTHESIS

Origins and early history

Scadbury is an Old English name of Anglo-Saxon origin. It seems likely that it referred to the slightly rounded raised end of the ridge to the east of the moated site, the *beorg* or 'rounded hill' of the second element, with a descriptive first element of some sort. This topographic name may well have lent itself to a nearby contemporary farmstead, perhaps in the Cray Valley, but it is possible that it only ever referred to the spur, from which the later moated site took its name.

The moat

The scheduling text provides a useful summary of the currently accepted state of knowledge for moated sites in England:

> There are about 6,000 known moated sites in England. They consist of wide ditches often water-filled and enclosing one or more islands on which stood domestic or religious buildings. In some cases, the islands were used for horticulture. Many moated sites, which had their origin in the medieval period, became prestigious aristocratic and seigneurial residences in the C16 and C17. The moat, which originally had been a practical military defence, is thought to have been latterly intended as a status symbol. The peak period during which moated sites were built was between about 1250 and 1350 and by far the greatest concentration lies in central and eastern parts of England. However moated sites were built throughout the medieval period, are widely scattered throughout England and exhibit a high level of diversity in their forms and sizes. They form a significant class of medieval monument and are important in the understanding of the distribution of wealth and status in the countryside. Many examples provide conditions favourable to the survival of organic remains.

Excavations on and around the moat island have indicated that occupation began in around 1200 with no evidence for any earlier use of the site. Whilst the moat could have been somewhat later, this seems unlikely. Scadbury would appear to be typical for Kentish moated sites. The approximately rectangular island measured about 45x35m (0.16ha) and the spring fed moat, had an average, though variable width of about 7.5m. Based upon research in the early 1980s the majority of moats studied were rectangular and spring fed, and the most frequent size for the enclosed island (36%) was 0.15-0.25 ha, though the moat arms are relatively narrow (Hollobone 1985). The same study suggests that Scadbury may be relatively early amongst Kentish moats, though few examples could be dated.

Smaller moated sites, as opposed to castles, are common in many areas, particularly Bedfordshire, Cambridgeshire, Suffolk and Essex; they are however relatively rare in the south-east of England (see for example Roberts and Wrathmell 2002, 57).

Nevertheless, they are known; a study during the early 1980s identified 200 in Kent (Hollobone 1985), comparable to the average across the East Midlands (Lewis et al 2001, 114). The nearest reliable examples are at Eltham Palace, 5.3km to the north-west, was moated in 13th century, albeit on a rather grander scale than Scadbury Moated Manor; and the same distance in the opposite direction, a moat partially survives just north of Crockenhill. Further away, Ightham Mote 21km to the south-east survives in good condition and may provide a close comparator for the manor house.

The functions of moats were varied. A desire for security may have been one reason for investment in moat-digging (Historic England 2018b, Fig 2, 3), but not all moats were defensive or even occupied by dwellings and their roles and development are likely to be complex. Practical considerations such as drainage must have been important in some situations (though unlikely at Scadbury) but status appears to have been an element in their take up (Muir 2004, 174-5), particularly lower down the social order with small moats being occupied by quite petty lords or prosperous peasants (Lewis et al 2001, 120).

Scadbury Moated Manor is clearly in a marginal location relative to contemporary settlement and core agricultural areas; it is notable that the parish boundary rather awkwardly encloses the moated site. Such a location is common: 'Some moats were part of the fabric of nucleated villages, but most had a place in patterns of dispersed settlement' (Dyer and Everson 2012, 17). Where located close to settlement moats may have served to emphasise 'the spatial and social distinction between manor and village, lord and villagers' (McDonagh 2007, 198), but in marginal areas they were probably occupied by 'lords (often minor lords) ... participating in assarting with peasants, but also no doubt helping to organise and encourage the clearance of wood and waste' (Lewis et al 2001, 172), presumably to their own benefit. This might explain the rapid rise to prominence of the owners of Scadbury in the century or so after its foundation; from obscurity in the early 13th century, by 1301 John de Scathesbury was the fifth richest man in the Hundred (see 'Known history' above).

Structural remains

As discussed above, around 1200, domestic architecture of any significant status tended to comprise a group of discrete, but closely associated, structures focussed on a central hall, the key internal space. The orientation of the hall also defined a distinction between the high end where the lord and family lived (featuring a solar block and often a chapel), and the low end, the preserve of the servants (with service buildings such as the pantry, buttery and kitchen). During the 13th and 14th centuries the various elements tended to become more closely integrated into a coherent whole, often around a central courtyard, though key buildings such as the kitchen, and sometimes the chapel, tended to remain separate. Another development during this period was an increase in household size and a consequent need for more space, which was highly likely to have been the case at Scadbury Moated Manor given the demonstrable increase in the wealth of the family in the early 14th century. This was a driver in structural integration, to make better use of the available space

on the island, but also led to development off the island, for example the creation of new entrance courts, or stable yards.

Unfortunately, little is known of the early layout of Scadbury Moated Manor. The presence of the later standing structures across the site means that ODAS excavations have uncovered little direct structural evidence on the moat island which pre-date the later brick phases. Though the flint wall is likely to be medieval, its length suggests a degree of structural integration unlikely to have been original, and its fabric a possible 14th-century date. From the topography and prevailing weather conditions in the south-east of England it seems likely that the formal approach was always from the west, the hall probably lay in the centre of the island, in the area known as such today (though it is possible that this was a courtyard), and the service areas were to the east. The long axis of the original hall probably lay along the slope, perhaps explaining the slightly oblique orientation of the 'hall' today, but it is not known where the manor house's high and low ends lay. There was a priest, and very probably a chapel, at Scadbury in this period, though exactly where is unknown, and ODAS recorded large quantities of roof tile in the probable service area suggestive of a demolished stand-alone building, most likely a kitchen. No evidence for any medieval (or more strictly pre-Tudor) structural remains off the island has been identified.

The wider landscape

The association of moated sites with 'other appurtenances of lordship' such as fishponds is common (Creighton and Barry 2012, 66) and there are two pairs of ponds at Scadbury Moated Manor, to the east and west of the main complex. Once again however, there is no firm evidence that these are medieval, and the moat would probably have been sufficient to provide fish to the household. Those to the east form a pair but seem more likely to be 15th or 16th century in date, though this does not rule out earlier ponds on the same site. Those to the west are undated and not necessarily contemporary with each other or those to the east; on balance they are probably later than those to the east, but this is just an impression.

It has been suggested above that the moated site formed a base from which the surrounding area could be assarted (clearing woodland and bringing rough ground into cultivation) and exploited. As such, the basis of the Scadbury Manor estate's medieval economy would have been both agriculture and woodland management. Arable would have been focussed on better quality soils on lower, level ground such as in the Cray valley but Scadbury Moated Manor was probably peripheral to these areas and arable is likely to have been in discrete assarts. On poorer quality soils and ground too steep to plough, pasture, wood-pasture or woodland would have dominated. Whilst no certain evidence for these activities has been identified as part of this project, it is possible that some features thought to be from later periods had their origins at this time, such as the degraded banks identified from lidar in the woods to the west of Scadbury (below), though whether these represent fields assarted and since reclaimed by the woodland, or wood management itself is not known.

The Tudor period

Most of the brickwork visible on the island is of 20th-century date but almost all appears to have been built upon extensive brick footings from the Tudor period (below). 20th-century works mean that much reliance has had to be placed upon contemporary photographs and surveys rather than field evidence, particularly within the moat.

The moat

The west arm of the moat was extensively remodelled in this period to create an impressive entrance façade, but it is likely that this took a century or so to reach its final form. The northern part of the west moat island wall is probably the most extensive survival from this period and one of the earliest elements to be rebuilt in brick, sometime in the second half of the 15th century. This would make it quite an early example of manorial brickwork in south-east England, particularly at this social level, and one of the first brick elements at Scadbury Moated Manor. In its final form both the inner and outer sides of the moat were revetted with substantial brick walls descending vertically into the moat. The island was accessed via a drawbridge, which appears to have been replaced with a fixed bridge by the end of the rebuilding, probably through an arched gatehouse on the island.

It is also highly likely that the north and south arms of the moat were internally and externally revetted in brick during this period though less evidence for this is visible. Nevertheless, the remains of the Undercroft suggest that the inner wall of the north arm may have stood over 2m above the moat's surface and descended straight into it as did the west wall. No evidence for brick revetment of the eastern arm is known, it may never have been present as this was probably the low status end of the site, but it could also have been lightly built as the topography meant that strong walls were not required. Any remains may have been lost or concealed by works relating to the use of this arm as a pond in the 19th century or possibly during the Marsham-Townshends' works (below).

Structural remains

The structural remains on the island from this period are complex and difficult to interpret. Multiple phases can be identified, at least three in some places, but none could be dated, nor could phases in one area be related to those in others, so more than three phases of brickwork are possible across the site. Although evidence abounds and a general plan of the manor house footings can be reconstructed, it remains difficult to say much more than above about the use of space on the island; the entrance was probably from the west, the hall probably lay in the centre of the island and the service areas probably lay to the east, but which was the high and which the low end remains uncertain. Later evidence and ODAS's excavations do strongly suggest that a standalone kitchen was demolished in this period, to be replaced by one integrated into the main buildings, though again it is uncertain where this lay.

The wider landscape

The rebuilding of the western arm of the moat to create a more impressive façade, commencing in the later 15th century, implies that there may have been some form of outer court at this time though no evidence for this survives. To the north however, ODAS excavated the remains of a substantial structure, thought to be the estate barn, which they dated to the 16th century. This suggests that the home farm lay here in this period. Some of the other surviving structures in this area clearly incorporate earlier remains in their walls and whilst the date of these is uncertain, based upon evidence elsewhere on the site, it is at least possible that some are from this period (as demonstrated by Hart 2005).

Scadbury Park Mansion, which remained in use after the manor house was demolished (below) and survived well into the 20th century, appears to have had 16th-century origins, based upon surviving brickwork in the cellars. It has been described as the 'gatehouse', but this seems unlikely as the early core, as reflected by the cellars, lies at least 10m to the north of the main access route from the west, and is closer to the home farm, mentioned above; perhaps it was a farmhouse or accommodation block of some sort. To the south of this lies the walled garden the surviving elements of which are also constructed in typical 16th-century brickwork, including decorative diaper work on the north side of the north wall, no doubt intended to enhance the approach. The brick gateway, which had a two-centred arch until quite recently, appears to be integral to the walled garden and is said to have had a date stone reading 1540, which would be in keeping with the surviving fabric. The arch and adjacent walls, the possible surviving walls to the north, and the west arm of the moat would between them have defined three sides of an outer court, though no sign of any southern side was seen. It has been suggested above that such a court might have been present in the later 15th century, it was more certainly in place by the mid-16th.

The ponds to the east form a coherent pair which would have functioned as a single small complex and it seems probable that they were fishponds, but they may have been more. What is notable is that to be positioned as they are required considerable effort to cut back into the natural slope to the north-east and build out from it to the south. Changing the orientation and/or placing the ponds side by side would have allowed for a complex of the same size and in the same place with much less effort. The orientation and alignment therefore appear deliberate and it is notable that they are on a very similar alignment to the eastern moat arm and, given the later modifications to this side of the moat, may have been more closely aligned in the past. This suggests that they could have formed part of a coherently designed landscape, perhaps arranged to appear as an ornamental canal defining the eastern side of a garden to the east of the moat. These ponds have generally been attributed to the 16th century, but there is no evidence for this. Similar ponds have been identified elsewhere, some thought to date from the 14th century, so they could be medieval. Although a later date seems more likely, development of the manor house in the 16th century seems to have concentrated on island and the western approach so perhaps a garden here pre-dated these works.

The ponds to the west of the complex are undated and may not be contemporary with one another. They were much larger features in the past and the outer earthworks of the northern pond appear to broadly align with the walled garden so they may post-date its construction, though it is possible that an existing pond was remodelled. Little can be said about the southern pond and it is uncertain if either pond existed in this period.

The economic foundation of all rural manors remained agricultural in this period though as noted above, the balance between arable and pasture, and the nature, extent and location of any field systems is unknown. In many areas, the enclosure of common fields accelerated in this period, but the location and topography of Scadbury Moated Manor probably means that there were never large open fields to be enclosed in the vicinity and the extent and survival of commons suggest that pasture may have been more important.

Woodland management would have continued to be as important in many ways as agriculture though the location and extent of woodland at this time is unknown. The woodland depicted on 19th-century OS maps is classified as 'Ancient Woodland' by Natural England (Historic England corporate GIS), meaning that they have been continuously wooded since 1600 (though a block in the centre is thought to have been replanted at some point). Woods of this age are however likely to have been wooded in earlier centuries though this can be hard to demonstrate. Nearby Petts Wood, at the south end of St Paul's Cray Common, is thought to have been named after William Pett who left it in his will of 1577 (GLAAS: UID 071617) for example. Whilst it is probable that the better defined of the woodbanks identified from lidar are post-medieval, it is possible that the more degraded banks are from this period, though they may represent former fields rather than wood management.

The early modern period

During the 17th and early 18th centuries there appears to have been little substantial development at Scadbury Moated Manor. It is known that some work took place however, for example hearth tax returns show that fireplaces were added and blocked or removed at various times, and ODAS revealed a pavement in the outer court laid in around 1700.

The 1727 Inventory paints a detailed picture of the manor house towards the end of its life. On the ground floor there was an entrance through a gatehouse, two parlours, one of which was adjacent to the privy garden, the hall, a service wing with an integrated kitchen, a yard, three cellars, and a brewhouse and dairy, probably standalone. Above were several bedrooms, generally arranged in suites of paired dressing rooms and bedrooms or servants' bedrooms and main bedrooms. Storage rooms appear to have been dotted about the manor house. Within this it is possible to see a high-end/low-end divide, probably reflecting the medieval origins of the house, and upstairs there may have been a female/male division. However, it is once again difficult to relate this picture to the remains on the island and though it is tempting to locate the high-end/female side of the house to the south, and the

low-end/male side of the house to the north, there is only circumstantial evidence to support this. As with earlier periods it is tempting to place the hall in the centre of the island in the area known as such today, but this is not certain. We can be more confident though, that the gatehouse stood above the eastern bridge abutment, the three cellars were the Undercroft and the Large and Small Cellars, and that the brewhouse/dairy probably lay in the area now known as the 'kitchen'.

The estate seems to have been leased out from the early 18th century, if not earlier, and it has been suggested that at the time of the inventory the manor house was empty. The overall impression is of a lack of interest from the family and that the house was declining for many years before its eventual demolition in 1738. The manor house would have been deeply unfashionable, and the constricted nature of the site prevented its expansion or the opening out of the grounds. The 'gatehouse' to the west appears to have been leased as a farmhouse with the estate and occupied by the tenant farmer. Some of the leases concerned mention this farmhouse and a kitchen garden to its south which must be the walled garden. The farmyard probably still lay to the east and north of the farmhouse, between it and the manor barn.

The western ponds are undated. The northern pond was the larger and more regular of the two with even more substantial earthworks than those of the eastern ponds. It appears to have been aligned with the Walled Garden so probably post-dates it. Though it could still have been constructed in the late Tudor period little is known of developments in the 17th century and it could equally date from this period. The southern pond appears to have been less regular and its earthworks are less significant than the northern. It is likely to be secondary to it, but this is uncertain. Their function is equally uncertain.

From immediately west of the ponds, a holloway runs south-east down the scarp slope before being swallowed up by the post war outskirts of St Paul's Cray. Previously this had joining a track east to Gray's Farm formerly south-east of Midfield School's playing field. The track was marked as a 'Sunken Trackway' on the Scatcliffe map of 1734, which implies that it was of some antiquity even at this date. It suggests a direct relationship between Scadbury Moated Manor and the farm, and its nature and origin remain open, but the de Scatheburys held land in St Paul's Cray, which may have become Gray's Farm and it is also possibly that a route from the medieval settlement at the former Walsingham School (now Spring Shaw Road; see Appendices) to Chislehurst used this route (ODAS, pers comm).

Nothing has been said above about any park on the Scadbury Manor estate, as no physical evidence for one, such as surviving lengths of pale, has been identified, though some surviving field boundary banks may have been used for the purpose. In the medieval and Tudor periods parks did not usually surround the manor house of their owner; instead they were commonly to one side of it and could be located some distance away. It was only in the 17th and 18th centuries that the ideal of the house at the centre of its surrounding park emerged, something which was usually achieved by expansion of an existing park or the creation of a new one (Croom 2018, 241-4). Isolated documentary references may therefore be of little value without

mapped evidence, which first appears for Scadbury in the 18th century. In many cases the park which can be reconstructed from these late sources forms a coherent plan with a curvilinear boundary, and an earlier date can be suggested with a degree of confidence, but at Scadbury there is some doubt as to the location and extent of the park and no certain plan has been reconstructed to date. The layout that it has been possible to reconstruct is of a park running along either side of the spur upon which Scadbury Moated Manor sits, from St Paul's Cray Common in the west to Gray's Farm in the east, though it is uncertain how far north and south it extended (Janet Clayton, ODAS, pers comm).

There is no evidence for a park at Scadbury in the medieval period and it seems unlikely that the de Scathebury family would have had the status to create one. Nor does there appear to have been a park during most of the Tudor period; it seems likely that if Thomas Walsingham I or II had a park it would have been mentioned in surviving documents. In the first half of the 17th century however, Thomas IV was the keeper of the park at Eltham ('Known history' above) which could have provided stock, and Thomas V was keen on hunting (see Webb et al 1899) which would provide a motive for the creation of a park. There seems to have been a park by 1656 as an indenture of that date mentions a warren of conies breeding within the impaled park. The park was retained by the Bettensons as documents from their period of ownership refer to a park of 400 acres stocked with deer, conies, and cattle, with coppice wood round about the park, which was well paled, the paling worth £300. This pale survived, at least in part, until 1705 when it was mentioned in the beating of the bounds of Chislehurst reprinted in Webb. The deer may have gone by the time of Edward Betenson's death in 1733, and the park seems to have been more of a generalised amenity area (and leased farm) whilst the Townshend family lived at Frognal (Janet Clayton ODAS, pers comm).

Active woodland management probably continued to supply local needs during this period, on much the same basis as it had for centuries (Rackham 1990, 97). It is unclear when the wood banks mapped from lidar were created but the better-defined examples are likely to be from this period.

Within Icehouse Wood, the causeway identified in lidar data (see Figure 73), is likely to be from this period. It consists of a low levelled feature about 6m wide and 180m long extending across a shallow valley, with quite abrupt termini, and at its approximate centre is an oval hollow which lidar shows the causeway completely encircles. It seems likely that this was a ride or walk of some form connected with the leisure use of the area but ODAS note that Icehouse Wood probably belonged to the Farringtons estate before it was reabsorbed into the Townshend portfolio in the 19th century (pers comm) so may have little relationship with the Scadbury Manor estate. This feature first appears on the OS 1st edition maps surveyed in 1862 though by this date there are signs of decay as the path was only depicted running around the east side of the pond; though it was probably in use (by residents of Chislehurst if the mapped paths are any indication) it does not appear to be being maintained. The woods belonged to the Scadbury Manor estate in the 19th century (Tithe Apportionment IR29/17/87) but the family were living at Frognal by this

time, 1.5km to the east, and the estate was being managed on a commercial basis, so the creation of this feature after the manor house was abandoned in the early 18th century seems unlikely. It is not clear when it went out of use, as later OS editions were based on revisions, which may not have reassessed the woodland, until the survey of 1959 when it was omitted.

Demolition and neglect

Recent research by ODAS has shown that the manor house was demolished in 1738 (see 'Known history' above). Later, the family moved to nearby Frognal House which became their seat for the next 150 years; Scadbury became just part of their estates.

The role of the moated sited during this period is unknown, though initially it probably served as a source of building materials for Danson Park in Bexley, and possibly for work on the 'gatehouse' to the west, explaining the limited remaining fabric on the island. By the late 19th century there was a track onto the island suggesting some use was made of it, probably agricultural, and the Undercroft was serving as a boathouse, probably related to the use of the eastern moat arm which appears to have been maintained as a pond, separate to the rest of the moat.

In the wider landscape the 'gatehouse' seems to have remained in use as the tenant farmer's or site manager's house. The walled garden served as the kitchen garden to the site manager's house in the late 19th century and probably had for many years. The ponds held water in the late 19th century, and there is no reason to think that they hadn't in the 18th century as well. Those to the east had something close to the surviving form but those to the east were considerable larger than seen today.

The broader estate was leased during the 18th century and taken back in hand in the 19th so the land remained in cultivation and is unlikely to have been neglected. It is also likely that woodland management would have continued much as before, though it is possible that some woods were neglected by the late 19th century (Rackham 1990, 99) and the woodland appears to be established on late 19th-century OS maps.

Reoccupation and redevelopment

Although Hugh Marsham-Townshend lived at Scadbury Park Mansion between 1904 and 1912 all the dateable works appear to fall in the interwar period. Initially he set up the estate as commercial orchards, building the Apple Store on the moat island. He then extended Scadbury Park Mansion with two substantial extended wings and moved back in in about 1920, having spent the war in London. With the estate on a sound economic footing and the mansion to their liking the Marsham-Townshends then set about the grounds.

Work appears to have initially focussed on the moat, re-excavating it and rebuilding and repointing existing retaining walls and building up new walls on existing foundations to the north, west and south. To the east where the moat had been used

as a separate pond for many years, the new revetment was in timber and it is unclear if any earlier foundations existed or survived. It is likely that this work has severely compromised early waterlogged deposits, but it does not rule out their survival in isolated areas. On the island the working process appears to have been much the same. the Marsham-Townshends cleared vegetation, emptied the cellars and tidied up existing brickwork, clearing loose bricks and stacking them up, apparently for re-use. He also appears to have removed some secondary Tudor (or perhaps 17th century) work such as in the Large Cellar. He then built dwarf walls on the surviving wall bases, meaning that much of what can be see today reflects the underlying remains, the exception being the 'kitchen' area, which today appears to be a single rectangular structure but which probably overlies the remains of several structures of different phases. the Marsham-Townshends incorporated planters into many of his new walls and added others across the island creating numerous discrete areas and walks. His final significant act appears to be to have had a medieval timber frame taken from a nearby building re-erected in the centre of the island to create the reconstructed hall. The Undercroft continued in use as a boathouse, another was erected over the moat immediately east of the causeway onto the island, and in several places, steps facilitated access to the moat, all suggesting that boating on the moat was a popular pastime. There must have been some conflict between the leisure use of the moat and island and the presence of the Apple Store but it is possible that this was only an issue in the Autumn, and the store may not have been in use once the garden was established; it acted as a workshop during the erection of the reconstructed hall and a blast shelter during the war.

Elsewhere, the Walled Garden was remodelled tying it more symmetrically to the redesigned mansion and creating the tripartite division visible today; a central section connecting the house, through the walled garden, to the flanks of the ridge beyond, with a tennis court to the east and a kitchen garden to the west. It is not known when this was laid out, but it must have been after the building of the 1920 wings and before the 1933 OS maps. To the south of the walled garden there also appear to have been productive areas as well as an open area from which to enjoy the views. To the west the ponds were also remodelled to create two clearly defined enclosures with much reduced ponds and semi-formal beds within each. It is likely that this took place within the same timeframe as the remodelling of the walled garden. There is little evidence for any work taking place to the east of the moat other than some apparently functional planting and the addition of a few sheds or similar visible on APs.

This is the period when it is most likely that effective woodland management ceased; across the country most woods stopped being coppiced between 1900 and 1930 (Rackham 1990, 99). There is some evidence for coniferous planting between the 2nd and 3rd edition OS maps (revised 1895 and 1908 respectively) but no sign of felling and the presence of a pheasantry to the south of the drive to Scadbury Moated Manor on the 4th edition maps (revised 1930), and the recollections of Mr Biggs ('Known history' above), show that the woodland had been given over to shooting in the inter-war period, if not earlier.

The Second World War

The prominent position of Scadbury Moated Manor, on high ground on the eastern approaches to London, made it almost inevitable that the area would play a role during the war. Scadbury does not appear to have been on one of London's formal defence lines and there is little evidence for any 'hard' military defences in the vicinity though there seems to have been a pillbox to the north of Scadbury Park Mansion (Matthews 2016a, 49). A substantial blockhouse was added to the south-east of the mansion, possibly a disguised pillbox and to the immediate east was a contemporary air-raid shelter. During 1940-44 Scadbury was the local Home Guard base and both features were probably used by them. There are however numerous earthwork features surviving from this period including trench lines, isolated foxholes and other small emplacements. The extent to which these were intended to be used for defence is unclear, they may have been primarily for training, several firing ranges and butts certainly so.

In Chislehurst several wartime buildings were constructed in the grounds of houses on Manor Park Road and Ashfield Lane suggesting that they may have been requisitioned for war-time use. A possible camp was also identified on Foxbury Avenue. Situated on the eastern approaches to London the area was vulnerable to air raids. The structures at Scadbury Park Mansion may have included air raid shelters (though the cellars were substantial) and the Apple Store seems to have been reinforced for this purpose, perhaps for the residents of the workers' houses to the north. Other shelters have been located in and around Chislehurst, notable at two schools. Other defensive structures identified included three emergency water supplies. Bomb damage has also been recorded including that to the mansion when it was hit by allegedly the last V1 to cause any damage in England, destroying several buildings and part of the house.

After the war

After the war little changed at Scadbury Moated Manor. Following the repair and rebuilding of some of the damage inflicted by the V1 in the late 1940s the site on the island seems to have slowly declined and following the death of the final resident owner, who had no children of his own, and the destruction by fire of Scadbury Park Mansion in 1976, was never occupied again. The mansion was demolished in the 1980s and the reconstructed hall dismantled. The development of London, and the surrounding settlements, particularly St Paul's Cray to the south, led to increasing leisure use of the area and pressure on the site. Since 1982 ODAS have been working to understand, publicise and conserve Scadbury Moated Manor.

CONCLUSIONS

At the outset of this project four key Objectives were set (see 'Introduction'). These can be broken down into the following (with indicators of how these have been achieved):

- Identify the extent of 20th-century works (see 'Structural remains...' above)
- Identify any surviving earlier elements (see 'Structural remains...' above)
- Assess their significance (see 'Assessment of significance' below)
- Support the planning of future consolidation schemes (survey of the remains on and around the moat; the analytical earthwork survey; associated working photographs; the orthophotographic survey, see Appendix)
- Place these remains in their immediate context (see 'Analytical Earthwork Survey' above)
- Identify the most significant elements of the site (see 'Assessment of significance' below)
- Place the site in its broader landscape context (see 'Aerial photographic and lidar survey and analysis' above)
- Provide information relating to the significance of the park (see 'Assessment of significance' below)
- Provide the information required for on-going management and interpretation of the site (this report plus additional survey and photographic data)

Assessment of significance

The 20th-century works on and around the island have more significance than simply overlying and marking earlier work. Together they define an interesting, early 20th-century garden design, made more so by being based on Tudor wall footings. As such they must have some level of heritage significance. A comparative analysis between Scadbury Moated Manor and other gardens of the period would help to determine the level of this significance.

The earlier works are more clearly significant, as has been recognised by the scheduling of the site in 2013. The scheduled area includes the outer earthworks of the moat, the moat and the island, and extends to encompass the eastern fishponds. Although the Walled Garden, 'gatehouse' and western ponds are all mentioned in the description they are not designated. The reasons for this scheduling have been summarised as:

- Survival: the island and moat survive well; the island containing archaeological features and the moat containing water on four sides. The fishponds are water-filled and survive well with their archaeological deposits intact;
- Potential: although a small percentage of the features on the island have been excavated, this excavation has also shown the potential for more archaeological information to be recovered. The fishponds and moat retain silt deposits containing archaeological information and environmental evidence about the moated site and fishponds and the landscape in which they were constructed;

- Historical evidence: there is a considerable body of historical information relating to the site and to the Walsingham family who were its owners from the C15 to C17;
- Diversity: many components of a classic moated site are present, and it is a good example of its type;
- Group value: the moated site and fishponds relate to each other and to contemporary buildings in the vicinity.

The ability of the moat to retain water on all sides is entirely the result of the 20th-century interwar works on site which are also likely to have removed, or compromised any surviving, medieval or Tudor silt deposits.

There are a range of significant elements across the site. Apart from those within the Scheduled area they include:

- The standing and buried remains of the Walled Garden and other directly associated walls, and the remains of the 'gatehouse', which although in poor condition are clearly a part of the complex as a whole
- The surviving 19th-century buildings of the farm complex which appear to have been built upon earlier elements that could relate to earlier periods
- The western ponds which although of uncertain date and function are likely to preserve waterlogged deposits containing evidence that may answer these questions
- The Second World War earthworks to the south-west, currently undesignated and not within the Archaeological Priority Area, are also an unusual survival.

Across the Scadbury Park estate as a whole, most features are large scale and do not appear to be particularly vulnerable. There are a range of minor features in the wider landscape, mainly in the woodland where they have been protected from agricultural activity. Many appear to relate to the Second World War, and some have had an initial inspection by ODAS, but it would be beneficial to understand these better, not only in terms of their history but also their condition and vulnerability. The single most unusual feature is the causewayed path or ride in Icehouse Wood which merits further research.

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APPENDICES

Archaeology

National Record for the Historic Environment

Two Palaeolithic flint axes and a Mesolithic example have been recovered from the gravel terraces of the Cray valley (NRHE UID: 1078486; NRHE UID: 966278; NRHE UID: 1213285). To the south-west a possible Early Bronze Age enclosure was excavated prior to the construction of St Barnabus Cray church, though this now recorded as destroyed (NRHE UID: 407645).

Two Romano-British sites have been identified in the Cray valley to the ESE. A Romano British settlement of mainly 1st and 2nd century AD date with finds of later coins was identified in the inter-war period (NRHE UID: 407682), and a 1st to 2nd century cemetery and 3rd- to 4th-century occupation material including coins were found in 1954 during the cutting of a river channel; an Iron Age brooch was also found (NRHE UID: 407591). Given their proximity it is tempting to relate the two but, settlement separations of less than 1km were not unusual in the Romano-British period and there is a chronological mismatch.

The manor house itself is recorded as Scadbury Park (NRHE UID: 408029; NMR Number: TQ 47 SE 19). The only other medieval record is that for the Church of St Paulinus, St Pauls Cray, the earliest fabric of which is 12th century (NRHE UID: 407630). It is noted however, that the south range of Frognal House contains a 15th-century timber framed building (NRHE UID: 1194813).

By far the largest group of post-medieval records relate to Frognal House. In addition to the main house itself these include an early 18th-century stable adjacent to it (NRHE UID: 513222), an early 17th-century house in a different location (NRHE UID: 513223), an early 18th-century conservatory on the same site (NRHE UID: 513224), the site of an early 17th-century icehouse (NRHE UID: 513225), and a well house (NRHE UID: 513226).

A house known as 'Stephen's' was apparently mentioned in 1594 and may have been moated; it is now known as 'Manor House' but this seems to be a late name (NRHE UID: 407725).

Most of the remaining entries are listed buildings. Chesil House is of 18th-century date and listed Grade II* (NRHE UID: 966028), Sidcup Place, is a mansion house and stables of about 1775 listed Grade II (NRHE UID: 1091725), and Kemnal Manor School was built in 1938 and is listed Grade II (NRHE UID: 1012938).

Two Cold War sites have been recorded. `The Bunker', just over 1km to the north-east, was a Cold War Regional Seat of Government (NRHE UID: 1413747). ODAS believe this site may have been misplaced (pers comm). 'The Glasshouse', almost

1.5km to the north-west, was a former 1950s War Room redeveloped in around 2000 into a luxury home (NRHE UID: 1111962).

The final record was to the site of a dene hole (NRHE UID: 407658), 'a class of excavations, found in chalk formations in England, consisting of a shaft sunk to the chalk, and there widening out into one or more chambers' (monument type thesaurus) and may be of a very broad range of dates.

Greater London Archaeological Advice Service

Events

As of January 2017, the Greater London Archaeological Advisory Service (GLAAS) had a record of 29 events within 1500m of Scadbury Moated Manor. Most related to the development control (planning) process and consisted of desk based assessments and evaluations, often with one following on from another (for example at the former Coca Cola site, Sidcup, where desk based assessment in 2014 (GLAAS Event ID: ELO15399) was followed by evaluation in 2015 (GLAAS Event ID: ELO15399). Results were often inconclusive with few features revealed and those examined often broadly dated or undated. Consequently, evaluations rarely progressed to excavation, the exceptions being at the former Walsingham School, St Pauls Cray, where evaluation in 1995 (GLAAS Event ID: ELO9041) progressed to excavation in 1996 (GLAAS Event ID: ELO9042) and at Queen Mary's Hospital, Sidcup, where in 2014 a 'strip, map and record' excavation (GLAAS Event ID: ELO14559) followed on from desk based assessment earlier in the year (GLAAS Event ID: ELO14046). These events are not particularly informative as to the archaeology of the area.

There appear to be two duplicate records for the excavations on the moat island that commenced in 1986 (GLAAS Event ID: ELO2550, ELO11632) and a third record for later work on the island in 1990-5 and 2002-7 (GLAAS Event ID: ELO11536). There are also records for the excavation of the estate barn in 1995 (GLAAS Event ID: ELO1437), Scadbury Park Mansion to the west thought to be based upon a Tudor gatehouse excavated in 1997-9 and 2006-7 (GLAAS Event ID: ELO7974), and an area to the north-west of the moat examined in 2001-2 (GLAAS Event ID: ELO6439).

Monuments

The primary record for Scadbury Moated Manor includes the full scheduling description and little other information (HER No: MLO49078), a second record adds little (HER No: MLO56846). The primary record also makes passing reference to the adjacent fishponds, noting that they are 'probably 16th century in date' though no source was given. There are also records for the site of the manor barn (HER No: MLO67856), the Tudor archway (HER No: MLO56363) and the possible Tudor gatehouse and later farmhouse and mansion (HER No: MLO99158). The wider park also has an entry (HER No: MLO103750) as does the 19th-century listed lodge mentioned above (HER No: MLO79545).

Of the remaining records, 27 are for listed buildings. Of these the most significant (Grade II*) are:

- The medieval parish church of St Nicholas, Chislehurst; dated to circa 1460 but with earlier work, restored in 1557, enlarged in 1849 and again in 1858 and 1896 (HER No: MLO79401).
- Frognal House; mainly of 17th- to 18th-century construction but containing the remains of 15th and 16th-century structures as well as later additions. In 1917 it became a hospital for First World War soldiers, pioneering the use of plastic surgery (HER No: MLO79201).
- The 18th-century Chesil House (HER No: MLO79606).

Of the less significant listed buildings (Grade II) one is recorded as medieval, 'The Manor House', Chislehurst, a timber-framed house greatly restored and enlarged in the 19th century (HER No: MLO79614); also recorded in the NHRE as 'Stephens' (above), where it is suggested that it is entirely 19th century in origin, which contradicts this information; ODAS believe from an external inspection that it probably contains early elements (pers comm). Two other timber framed buildings are of uncertain date but may be medieval, though a later date is more likely: Abury (HER No: MLO78517), and Saxby's (HER No: MLO79487). Of the remainder, two are described as 17th century, seven as 18th century, seven as 19th century, four as 20th century and one simply as post-medieval. A further six records are of locally listed buildings.

Four of the records are for 'parks' (in addition to Scadbury Park above) though this term is broad, and the records are all rather different:

- St Nicholas Churchyard; changes were made to the boundaries in 1861 and an extension added in 1890 though the current layout is the same as that of 1861 (HER No: MLO103746). Although this entry relates primarily to the churchyard it discusses the church and noted the presence of a small Saxon window visible above the west door, and that the Norman font was still used, neither of which was mentioned in the listed building entry above. It also noted the presence of the 'Scadbury Chapel at the east end of the north aisle ... traditionally used by the Lords of the Manor of Scadbury, many of whom were buried in the vaults under the chapel from medieval times up until the late C19th'. It also records that 'Thomas Walsingham purchased Scadbury Manor in 1424, and that the rebuilding of the church in 'Perpendicular' style has been attributed to his son, also Thomas. ... The Walsingham Memorial is in the north-east of the Chapel'.
- The grounds of Sidcup Place; although the house dates from 1743 the landscape is predominantly 19th century overlaid by 20th-century municipal planting, but the bones of the design may well be 18th century (HER No: MLO103674).
- Sidcup Green is a small area of common which was developed in the late 18th Century to complement the building known as Manor House (HER No: MLO103665), it is adjacent to the above.
- Petts Wood to the immediate south-west of Scadbury Park was acquired during 20th century for public open space in two parts, the first opening in 1927 and the second in 1954 (HER No: MLO107393).

Five HER records are for find spots. These note the recovery of archaeological finds without any meaningful context, for example material recovered from topsoil during stripping (such as HER No: MLO778003). Although the finds themselves might be of interest, one is a Palaeolithic handaxe (HER No: MLO14716) and two are Palaeolithic flints (HER No: MLO64527; HER No: MLO8452), their lack of context reduces their significance considerably.

The only other prehistoric site recorded is of a probable Bronze Age enclosure at St Barnabus Cray 1km to the SSE (HER No: MLO16900). This is the same site as NRHE UID: 407645 above. There are no Romano-British or Anglo-Saxon monument records other than the re-positioned window at Chislehurst Church (HER No: MLO103746) and a passing mention at Kemnal Manor Upper School (HER No: MLO79536).

Of particular relevance to Scadbury Manor are the medieval records. Although none is particularly close to Scadbury they provided a context and indicate contemporary sites. Frognal House, about 1km to the north-east of the moat, has been mentioned several times already. This almost certainly had medieval origins and was broadly contemporary with Scadbury though may have originated as early as 1100 (HER No: MLO23389). A probable medieval well was located in the garden during development led investigations in 1998, though most medieval material was residual, and most features post medieval (HER No: MLO75400). In 1995, development led work at the former Walsingham School (now Spring Shaw Road) about 500m to the south-east of the moat revealed a wide range of medieval features including ditches and gullies, scoops and pits, stakeholes, postholes and post pads, and hearths (HER No: MLO64529, MLO64530, MLO64533, MLO64534) (a report is available online at: https://www.kentarchaeology.org.uk/arch-cant/vol/117/excavation-medieval-site-walsingham-school-st-pauls-cray-bromley-1995). Later work, in 1996, revealed two buildings and large amounts of roof tile, and concluded that this was a medieval farmstead from the late 12th/early 13th century (HER No: MLO70018).

Other records are for landscape features that may be medieval in origin. They include a record for Pett's Wood to the south-west - the name records a Tudor owner but the wood itself was probably managed from much earlier (HER No: MLO72068) and a bank within the wood thought to be medieval and perhaps related to its management (HER No: MLO72051). A series of banks and lynchets in the valley below Hawkwood (HER No: MLO72037) may have originated as the field systems of farmsteads preceding its establishment as a country house in the 18th century; such remains are commonly medieval in origin. On St Paul's Cray Common is some shallow, wide ridge and furrow of uncertain date (HER No: MLO72059) and some earthworks that may have been a field system (HER No: MLO25702,) both of which may have been medieval, but this is less certain.

The post-medieval records comprise Homewood House, 800m to the north-west, which was originally built in about 1630 for a city alderman but was replaced by a Georgian house (HER No: MLO8898), the site of an 18th-century summer house in Chislehurst 1km to the west (HER No: MLO72064), and 1200m to the NNW

the Chislehurst Cemetery opened in 1912 (HER No: MLO103882). The 18th/19th-century formal gardens and kitchen gardens of Frognal House were also revealed during development led work in 1998 (HER No: MLO76520). There were three records for First World War hospitals in Chislehurst: Pelham Auxiliary Hospital, Manor Place (HER No: MLO107177), Holbrook Auxiliary Hospital, Holbrook Lane (HER No: MLO107027), and The Gorse Auxiliary Hospital, Manor Park (HER No: MLO107380). Three probable air raid shelters from the Second World War were found during a GPR Survey in 2003 at Orchard Primary School Oxford Road (HER No: MLO71599). Other post-medieval records were for features revealed during development led archaeological investigations and not particularly informative: (HER No: MLO61917), (HER No: MLO75011).

Five of the records were for a group of undated dene holes located a few hundred metres to the south-east of Scadbury Moated Manor (HER No: MLO72328 to MLO72332). Another lay 500m further to the south (HER No: MLO14356), apparently the same site as NRHE UID: 407658 above.

Methodologies

Aerial investigation

Although Scadbury Moated Manor is the focus of this project, the archaeological scope for the aerial investigation was to identify and map all archaeological features identified on the aerial photographs or lidar dating from the Neolithic to the 20th century. These sites may be visible as cropmarks and/or earthworks, but Second World War sites are often seen as structures on historic aerial photographs. Readily available documentary sources, such as historic maps, and synthesised background information on the area (published material, Historic England Historic Environment Records) were also consulted.

The aerial survey of Scadbury Moated Manor and its environs used both aerial photographs and Environment Agency lidar to build-up a picture of the evolution of this landscape. The lidar survey was flown in 2017 and the aerial photographs are a mixture of modern and historic images, the oldest taken in 1925. Together, they represent a resource to identify and better understand archaeological sites and landscapes. Historic England's Aerial Investigation and Mapping team undertook a detailed analysis of these sources. This is complex process as both sources show a wide range of features, not all of which are archaeological. Once the archaeological features are identified they are interpreted, mapped and recorded, sometimes from more than one source. The completed archaeological map therefore includes collated information from a combination of modern and historic sources. The archaeological remains were largely seen as earthworks and structures. A small number of buried remains were seen as cropmarks. As historic sources were used, some of the sites recorded have been subsequently ploughed level, demolished, buried or built over.

Lidar

Airborne laser scanning, more commonly known as lidar (**li**ght **d**etection **a**nd **r**anging), has proved an invaluable tool for archaeological survey (Historic England 2018a). For this project Environment Agency lidar at either 50cm or 1m resolution was used for analysis and mapping; in addition, ODAS and NM Group kindly allowed us to consult the results of their 2015 lidar survey of the Scadbury area. This was undertaken by NM Group in February 2015 at a resolution of 50cm.

Lidar usually involves an aircraft-mounted pulsed laser beam, which scans the ground from side to side. The laser pulses bounce off the ground and features on the surface, and the speed and intensity of the return signal is measured. 'First return' is the term used to describe the first beams to bounce back, whether they hit the ground, a rooftop, tree canopy or bushes. Other beams will follow a path between the leaves and branches bouncing back from the ground (or a surface that allows no further progression), known as 'last return'. This data capture creates a 'point cloud', essentially individual points floating in space, which is then processed to create a precise Digital Elevation Model.

There are two primary forms of Digital Elevation Model. One is the digital surface model, which is effectively the result of the first return and reflects the highest points of the survey, i.e. treetops, buildings etc. The digital terrain model (DTM) is what remains once the data has been processed using algorithms that classify the nature of the various returned points into those on the ground and those off ground thereby creating a 'bare earth' model without trees or buildings. The denser the vegetation, the fewer laser pulses reach the ground, which affords less clarity to the DTM results. For the Scadbury area, the DTM was the primary source for mapping, as it was necessary to 'strip away' the woodland that occupies a significant part of the project area in order to see the archaeology beneath.

The lidar was visualised in several ways. The data was viewed live in Quick Terrain Reader, which allowed real-time manipulation of the view, false-lit sun angle and height exaggeration. Additionally, 2D visualisations of the data were produced using Relief Visualization Toolbox 1.3 (© Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU) 2016).

A number of visualisations were created, the most commonly used being 16-direction hillshading (Figure 104), where the data is lit from multiple directions to allow better definition of earthworks on different orientations. This visualisation is the easiest to read and interpret with the human eye, giving a more understandable representation of the landscape as features are visible as light or shade, as in a photograph. Several other forms of visualisation, such as slope and local relief model, processed the data in different ways. Openness (Figure 105) emphasises the height difference between points enhancing the visibility of cut and large sloping features. For more information on lidar visualisations see Historic England 2018a.

Aerial photographs

Most of the photographs consulted are held in the Historic England Archive. This important national collection includes historic and modern aerial photographs in monochrome and colour. They consist of negatives, prints and digital only images. Archaeologists took many of these photos, but the majority were taken by the RAF. Irrespective of the age, format or origin of these photographs, the collection is primarily organised by the camera angle when the photo was taken, and all photographs are categorised as either being vertical or oblique.

Vertical aerial photographs

Vertical aerial photographs are taken from cameras mounted facing straight down on a single run, or sortie. The aircraft follows a set course and takes a run of photographs, each frame overlapping the previous image by approximately 60%. An adjoining run will also overlap the previous one to ensure complete coverage of any given area. This overlap allows these photographs to be viewed stereoscopically, producing a 3D perspective with the aid of a stereoscope. Vertical photographs appear similar to maps but are not uniformly to scale across the entire frame. Before features can be transcribed from these images, vertical photographs are rectified.

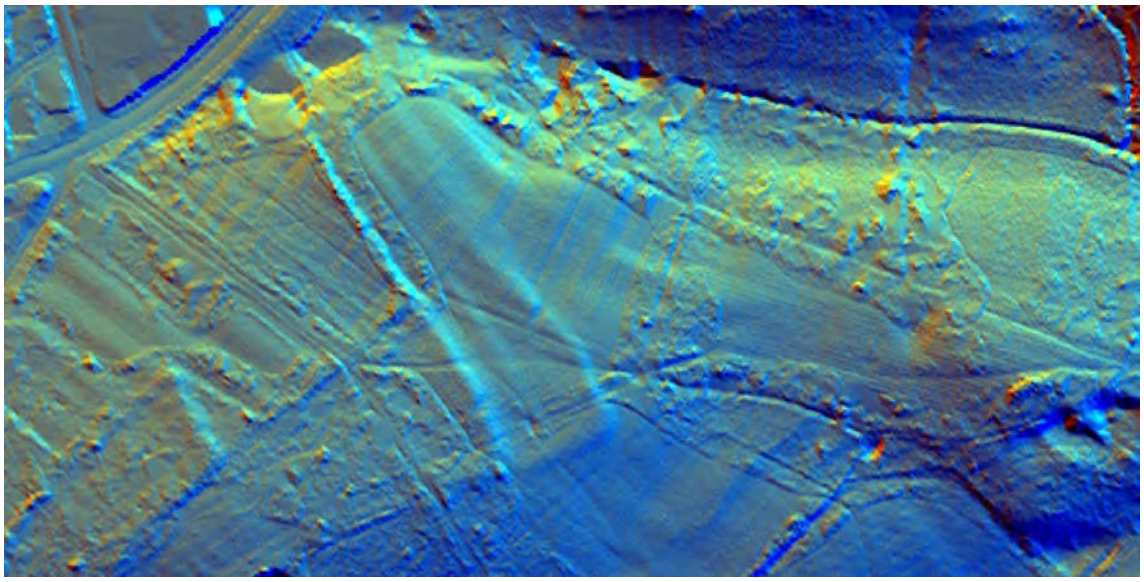

Figure 104 – 16 direction hillshade lidar. LIDAR TQ47SE © Environment Agency copyright 2018. All rights reserved

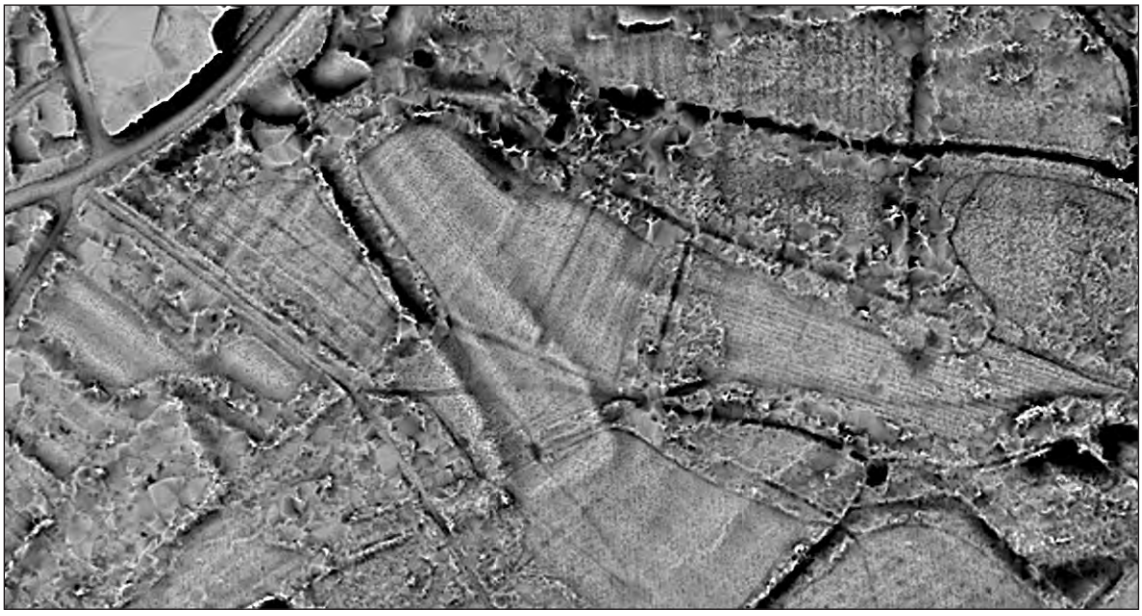

Figure 105 – Openness Positive lidar. LIDAR TQ47SE © Environment Agency copyright 2018. All rights reserved

The vertical aerial photographs used in this project consist of prints and digital images. The earliest vertical photographs of Scadbury Moated Manor in the Historic England archive were taken by the RAF in August 1944. This sortie contains the only photographs of the Scadbury area taken during the Second World War. The RAF also photographed various parts of the project area in 1945-7 and they continued to fly sorties in 1951, 1952, 1954, 1955, 1960, 1961 and finally in 1963.

Figure 106 is a typical example of an RAF vertical photograph. It was taken on the 7th August 1944 and shows Scadbury Moated Manor to the right of the centre of the image. Most of the land to the north and east of the moat is orchard, with woodland

to the west. The bottom of the photograph shows earlier fields partially built over with the initial development of St Paul's Cray housing estate. Some of the figures in this report are details of images such as this.

The coverage varies year by year. For example, Historic England only holds ten photographs of the Scadbury area taken in 1945 but has 125 photographs taken in 1946. RAF sorties flown between 1945 and 1949 were undertaken as part of

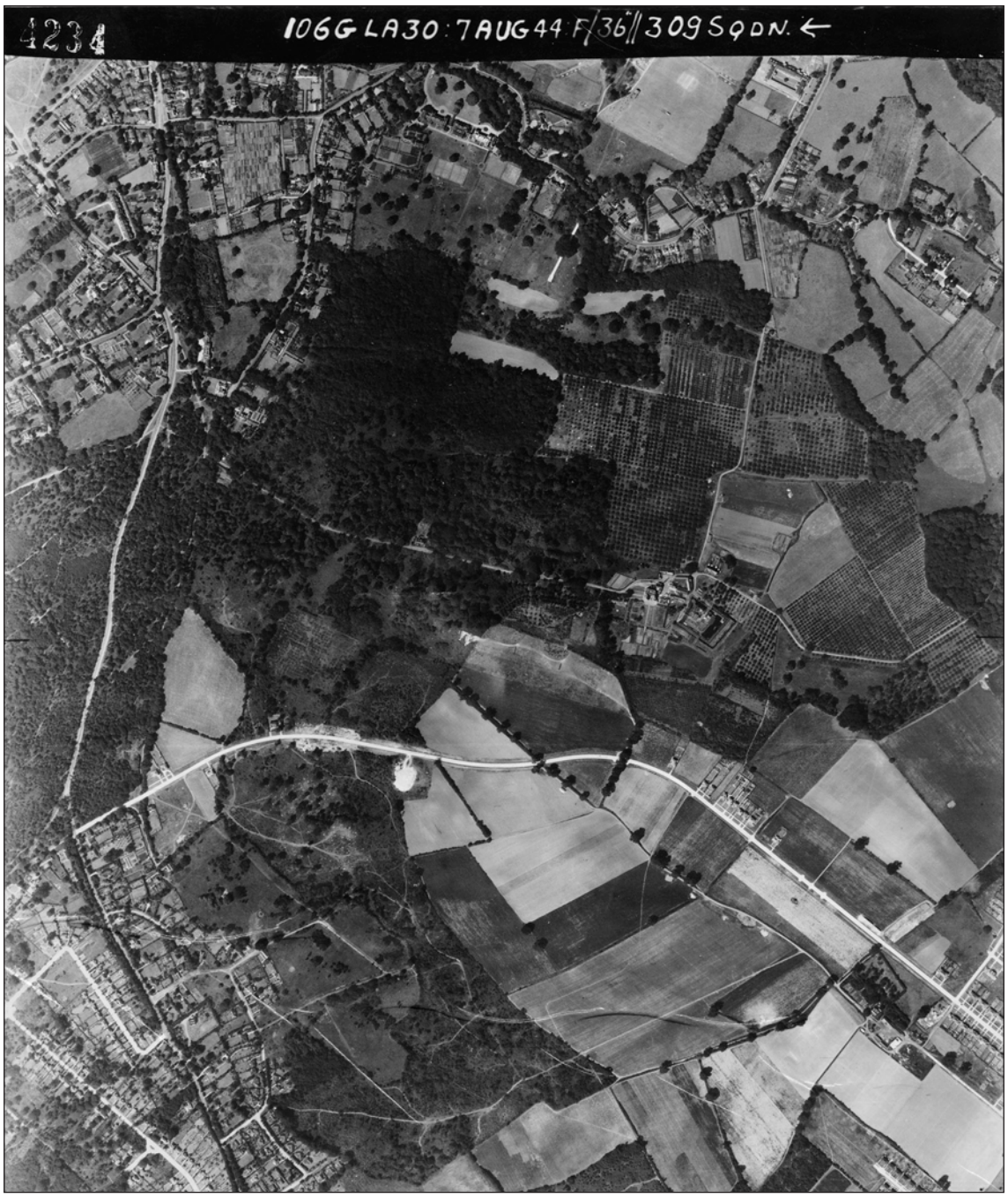

Figure 106 – A 1944 RAF vertical photograph, Scadbury Moated Manor can be seen just right of centre, the sortie information is along the top of the frame: 106GLA30 7-AUG-1944 309 SQDN [RAF] frame number 4234. Historic England Archive (RAF Photography)

a national aerial survey of Britain called *Operation REVUE*. The OS used these photographs to create a series of air mosaics at a scale of 6 inches to the mile (1:10,560). These were used to revise the OS maps, but the mosaics were also used by those involved in town and country planning to supplement existing maps.

The RAF flew its final sorties over Scadbury Moated Manor in 1963, but from 1955, private companies such as Meridian Airmaps Limited and Fairey Surveys Ltd also flew sorties. Further flights were undertaken in the late 1960s, 1971 and 1980. From the 1980s the OS took aerial photographs of the Scadbury area, most recently in 2004 (based on the collection held in the Historic England archive).

Next Perspectives Aerial Photography for Great Britain, supplies Historic England with digital vertical photographs. Since the 1990s, a variety of companies have been commissioned to provide vertical photographic coverage of the country including Scadbury Moated Manor. Much of this output is viewable online via providers such as Google Earth.

Oblique aerial photographs

Oblique aerial photographs are taken looking across the landscape at an oblique angle. They may be taken automatically from cameras mounted in an aircraft or with a handheld camera. There are no RAF oblique photographs of Scadbury Moated Manor, but the private company, Aerofilms Ltd, did photograph different parts of the Scadbury area from 1925 onwards. In 2007, Historic England acquired the English coverage of the Aerofilms collection, and these images are now routinely consulted as part of our aerial survey work. In addition, most of these aerial photographs have been scanned and are available to view online via the *Britain from Above* website (https://britainfromabove.org.uk).

The earliest aerial photograph of the project area was taken by Aerofilms in 1925 which shows St Nicholas Church and Chislehurst Common (Figure 107). Other Inter-war Aerofilms photographs include a sequence of Farringtons School taken in May 1929. These are general views, but the images are of a high resolution and much detail can be revealed when the image is enlarged (Figure 108). A sequence of general views across the area was taken on July 1934, and some detailed images of Scadbury Moated Manor, although unfortunately these are damaged (see for example Figure 92)

Post-war Aerofilms taken in 1948 and 1949 show building work underway on St Paul's Cray. They also provide views of since demolished sites such as Gray's Farm, which was demolished in advance of the development of St Paul's Cray estate (Figure 109).

Historic England, and its predecessors, carried out a programme of aerial reconnaissance photography, from the 1960s to the present, using handheld cameras in high-winged small aircraft (Figure 110). This forms the core of the

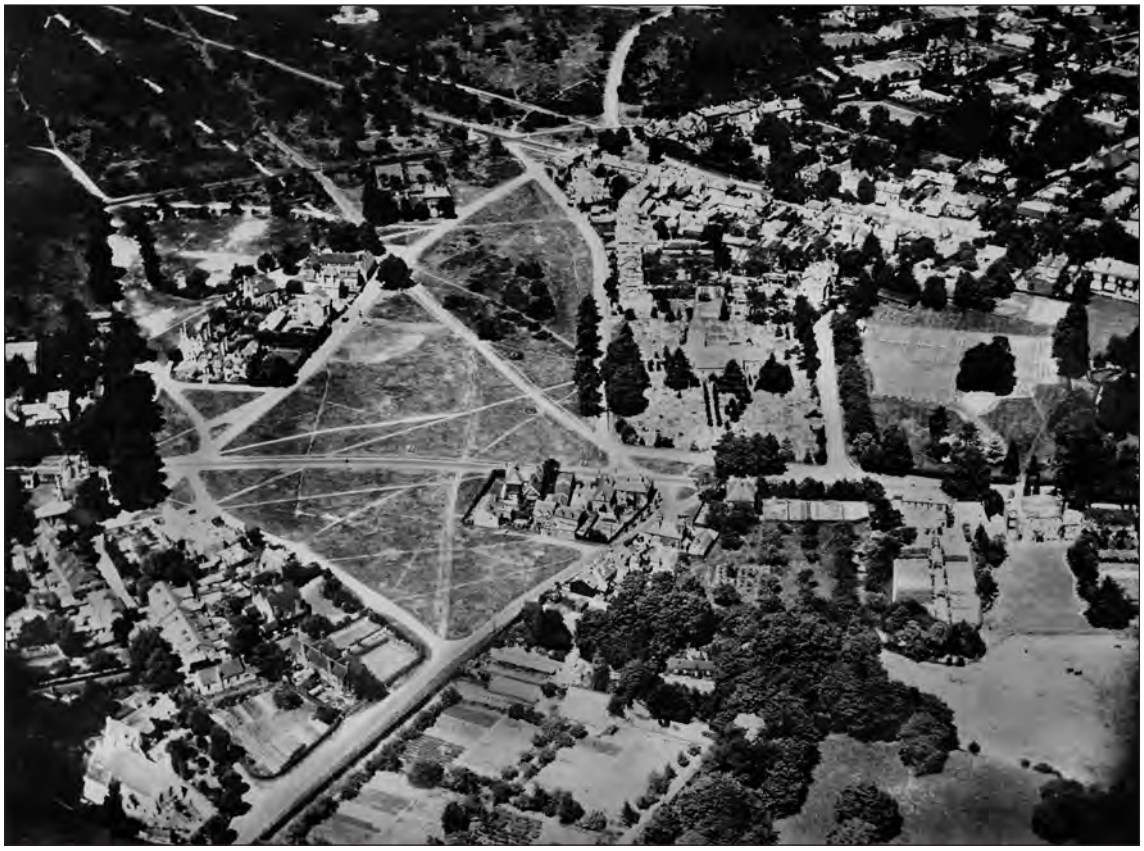

Figure 107 – Aerial photograph of Chislehurst Common taken in June 1925 (Detail of EPW013273 JUN-1925 © Historic England (Aerofilms Collection))

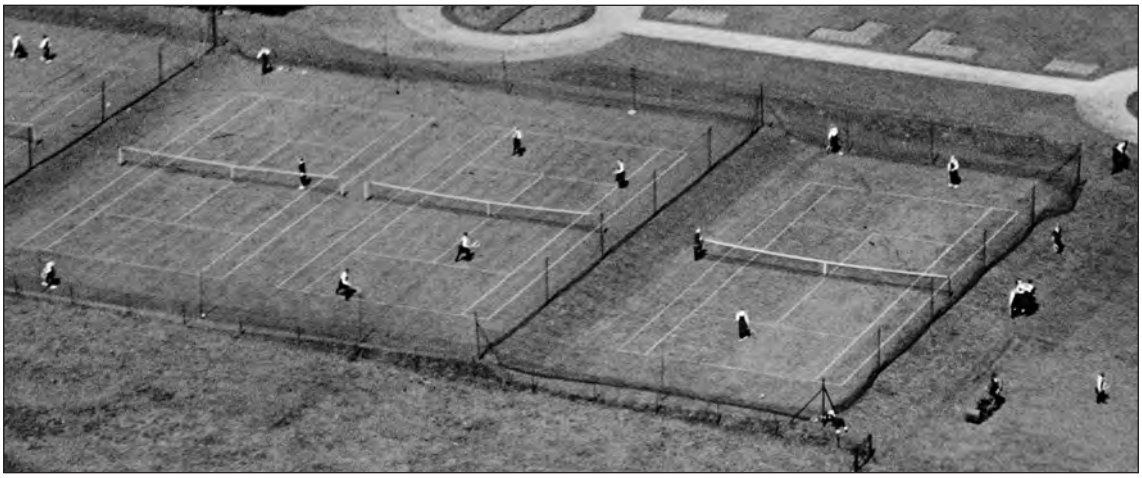

Figure 108 – Pupils playing tennis 1929 (Detail of EPW026610 MAY-1929 © Historic England (Aerofilms Collection))

Historic England oblique aerial photograph collection and includes archaeological, architectural and landscape subjects. These targeted aerial photographs were taken with a specific purpose in mind, including recording new discoveries, providing a different perspective on known sites or recording condition. These will nearly always contain archaeological or architectural information in contrast to the surveys carried

Figure 109 – Gray's Farm seen in 1948. Since demolished, Horsell Road now runs through this site (Detail of EAW020724 24-DEC-1948 © Historic England (Aerofilms Collection))

Figure 110 – Historic England oblique of Scadbury Moated Manor taken 2012 (NMR 27533/32 29-SEP-2012 © Historic England Archive)

out for non-archaeological purposes (such as the vertical photographs mentioned above) which rely on serendipity to record the historic environment.

Rectifying images

Photographic prints showing archaeological features are scanned into a computer. As these are not of uniform scale across the frame, they need to be rectified and geo-referenced to match the OS map. This is done using the Aerial 5.36 program. The rectification process involves matching of features on a 1:2,500 OS digital map (the control) with the same features on the scanned aerial photograph. This gives an overall accuracy of plotted features of 2m or less to the true ground position dependent on the accuracy of the OS map. A DTM was incorporated into the calculation to compensate for undulating terrain. The lidar and many of the vertical photographs were already georeferenced so could be imported directly into our mapping software.

Mapping

Archaeological features were transcribed from rectified photographs and lidar visualisations using AutoCAD Map 3D 2015 software. These were mapped on different layers based on the original form of the feature (bank, ditch, structure etc; Figure 111). This provides a basic understanding of the form of features that is unlikely to change. Other information, such as site type, date, main sources, evidence (for example earthwork/cropmark/structure) is also attached to the mapped features.

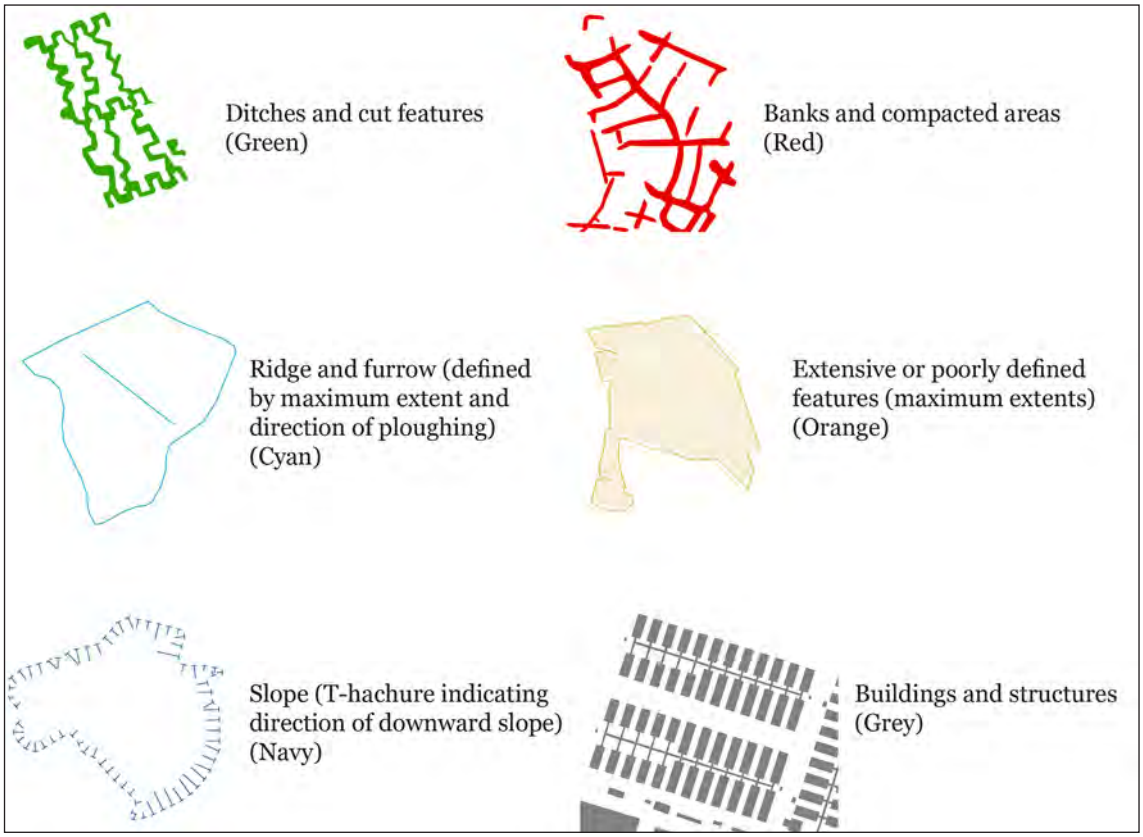

Figure 111 – Aerial photography/lidar mapping layers and conventions

A monument polygon was drawn around groups of features corresponding to a single archaeological site or 'monument'. Each archaeological site was assigned a number corresponding to the monument record in the Historic England Historic Environment Record (HEHER).

Recording

Each archaeological site was described in a monument record in the Historic England Historic Environment Record. Each record consists of a description of the archaeological site and an index of its type (wood bank, air raid shelter etc), its period (medieval etc) and the main evidence (earthwork, cropmark etc). The main sources were listed including aerial photograph, lidar, historic map or written source where relevant.

Accessing the data

Aerial photographs and digital or hard copy of the mapping is available from the Historic England Archive. The records can also be accessed online via Heritage Gateway (https://www.heritagegateway.org.uk/gateway/).

Analytical Earthwork Survey

Due to dense woodland over much of the survey area, the primary survey method adopted was by Total Station Theodolite (TST). A Trimble R8 survey grade Global Navigation Satellite System (GNSS) receiver was used to establish known control points for TST survey. The position of the control points was adjusted to the National Grid Transformation OSTN15 via the Trimble VRS Now Network RTK (Real Time Kinetic) delivery service. This uses the OS's GNSS correction network (OSNet) and gives a stated horizontal accuracy of +/- 0.01-0.015m per point, vertical accuracy being about half as precise.

A few areas were surveyed directly by GNSS receiver, notably the moat island, but this was limited due to tree cover. Most of the survey was undertaken using a Trimble 5600 TST by taking radiating readings from a series of stations in sequence to form two main closed loops or traverses with a few additional stations where necessary to fill in detail not visible from the main stations. As the traverses were based upon GNSS control survey was directly to OS National Grid, later adjusted for errors using proprietary Trimble software. Overall accuracy is comparable to GNSS though, unlike GNSS, decreases with length of traverse and distance between surveyor and station.

The survey data was downloaded into proprietary software to process the traverses and field codes and the data transferred into AutoCAD software for editing and plotting for checking in the field. Corrections and some small areas of additional survey were undertaken at this time by measuring in from known features using tapes. These were edited or added in AutoCAD.

The orthophotographic survey

A sample of the survey product is reproduced overleaf, showing the west moat island wall. It is reproduced here at A3, approximately 1:60; the original is 1:20 at A0.

78.0 m

76.0 m

74.0 m AOD

ELEVATION 74 NORTH

78.0 m

76.0 m

74.0 m AOD

ELEVATION 74 NORTH

76.0 m AOD

ELEVATION 75

MAIN TITLE SCADBURY MANOR
TOWN ORPINGTON
COUNTY GREATER LONDON

SUBSIDIARY ORTHOPHOTOGRAPHY

TITLE SHEET 12

SCALE 1:20

0 0.5m 1.0m 1.5m 2.0m 2.5m

NOTES:

The level datum is tied to Ordnance Datum using OSGB GPS observations

LOCATION

SURVEY BY
THE DOWNLAND PARTNERSHIP LTD
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FOR
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ENGLISH HERITAGE

DIGITAL FILE NAME: SCD17012.DWG	AutoCAD 2007
SURVEYED: RA	November 2017
CAD: BL	December 2017

SCALE	MONUMENT NO.	SURVEY NO.
1:20		17/122/1P

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