

**Archaeological Evaluation Report
3 Bubblestone Road,
Otford, Kent**

NGR: 552820 159107

ASE Project No: 220668

Site Code: OBU23

ASE Report No: 2023084

OASIS id: archaeol6-514904

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Abstract

An archaeological evaluation commissioned by RPS was conducted at 3 Bubblestone Road, Otford, Kent between the 27th March and 30th March 2023. Three archaeological test pits measuring 1m x 1m were excavated to a depth of 1m.

The site is located within the Scheduled curtilage of Otford Medieval Palace and specifically over the infilled western arm of the moat. The only archaeological finds, features or deposits encountered in the archaeological evaluation related to later post-medieval ground consolidation and a garden path, most probably that depicted on the 1st Edition Ordnance Survey map of 1869.

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1.0 INTRODUCTION

1.1 Site Background

- 1.1.1 Archaeology South-East (ASE) has been commissioned by Thomas Woollard to undertake an archaeological evaluation at 3 Bubblestone Road, Otford, Kent, hereafter 'the site' (centred on NGR 552820 159107; Fig.1).

1.2 Geology and Topography

- 1.2.1 The development proposals comprise construction of a single storey rear extension to the house at 3 Bubblestones Road. The site corresponds to the footprint of the proposed extension which comprises an area measuring 46m² situated to the rear of the existing house (Fig. 1).
- 1.2.2 According to the British Geological Survey 1:50,000 scale geological mapping available online, the natural geology of the site comprises Mudstone of the Gault Formation. There is no overlying drift geology for this area. Nearby archaeological works encountered archaeological strata at a depth of c.0.40m bgl and failed to attain geological substrate at the final depth of the trench, which was excavated to 1.2m bgl.

1.3 Planning Background

- 1.3.1 The site lies within the Scheduled curtilage of Otford Place (Scheduled Monument No: SM KE 9, HA 1005197).
- 1.3.2 A former planning application for a rear extension (21/00360/HOUSE) has been withdrawn pending a new application. The archaeological works have been undertaken as a requirement of Scheduled Monument Consent (HE Ref: S00243865).

1.4 Scope of Report

- 1.4.1 This report details the findings of the archaeological evaluation that was carried out between 27/03/2023 and 30/03/2023.

2.0 ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

- 2.1.1 A recent archaeological desk-based assessment has been undertaken for the site - the following section draws on the information contained therein. Please refer to that document for references and a full list of heritage assets identified to date in proximity to the site, a selection only of which are referred to in the following text by a number in bold, (**X**). Figure 1 shows the overall distribution of heritage assets and the location of assets in proximity to the site which relate to the Scheduled Monument, respectively.

2.2 Background by period

Prehistoric

- 2.2.1 A small Acheulian handaxe (**8**) was found in the vicinity of Otford Mount, c.900m north-east of the site.
- 2.2.2 A post hole containing Beaker pottery dating to the Late Neolithic – Early Bronze Age period has been identified within the vicinity of the site (**11**).
- 2.2.3 Several small Iron Age settlements are known along the Greensand, many of which can be associated with the 'Pilgrim's Way' (**9**). This prehistoric ridgeway runs through the village to the north of the site on an east - west alignment following the natural causeway of the southern slopes of the North Downs. Iron Age features (**10**) have been found at 22 Pilgrims Way and there is also cropmark evidence of a possible ring ditch (**12**).

Romano-British

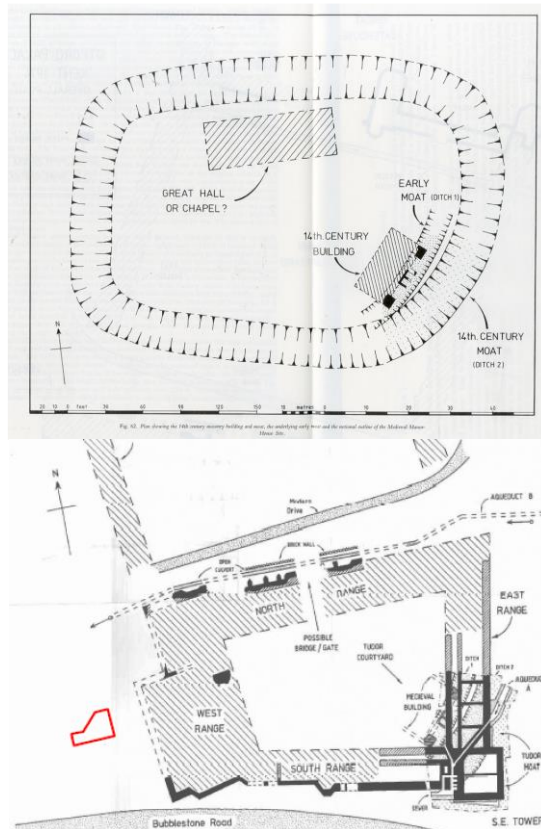
- 2.2.4 The Otford area was well established during the Roman period with several settlement sites and many Romano-British date findspots. The most significant of the sites is the Otford Villa (**6**), a SM to the east of the site which comprises a minor Roman villa which was partially excavated in the 20th century (List No. 1005155). It was probably built in the mid-1st century AD, and a kiln added a short time later. It is thought to have burnt down in the 2nd century although the courtyard remained in use and a cellar building may have been occupied in the 4th century (ibid).
- 2.2.5 To the west of the villa (**6**) excavations in 1934 identified the robbed out remains of a 1st-2nd century Roman building (**13**, TQ 55NW 7). Finds included a large number of hypocaust tiles long with other artefacts and was interpreted as another possible villa (ibid). Test pitting and geophysical survey in 2012-2014 appear to support this interpretation, identifying an anomaly of a winged corridor plan villa along with other buildings (ibid). To the west of the village a possible occupation site (**14**) and 1st-4th century cemetery (**15**) have been identified. Other Roman remains include a hut circle (**16**), cremation burials (**17**), a pit and ditch (**18**) and a farm building (**19**).

Early Medieval (Anglo Saxon)

- 2.2.6 Otford was known during the Saxon period as 'Ottanford' and in the Domesday Book as 'Otefort'. It is possible that Otford drew its name from 'Otta's Ford' after the founder of the settlement that was sited at a convenient crossing point on the river. The Church of St Bartholomew's, Otford (7) is thought to contain late Saxon elements and may have been built shortly after 791, when Otford was granted to the Archbishop of Canterbury. Two famous Anglo-Saxon battles were fought at Otford; one in 773 between Offa, King of Mercia and Aldric, King of Kent, and the other in 1016, between the forces of Edmund Ironside and Cnut. Known archaeological remains of this date are limited to a cinerary urn and cremation (20) and a Middle Saxon rubbish pit (21).
- 2.2.7 In 790 or 791, Offa gave Otford, then known as 'Otteford', to the Archbishopric of Canterbury. Two Anglo-Saxon charters of 821 and 822 appear to convey a larger area to Wulfred, Archbishop of Canterbury. This is thought to include the area of what was to become the Great Park (22). It was the nucleus of an estate which was, by 1086, one of the largest of the archepiscopal demesne manors. The manorial centre may have been the same as that of the medieval moated complex discussed below. Otford remained in the archbishop's possession at the taking of the Domesday survey, in which it is recorded under the title of *Terra Archiepi Cantuariensis* (the land of the archbishop of Canterbury).

The Medieval Moated Complex

- 2.2.8 The medieval palace complex (23) was situated to the east of the site, and south of what is now Castle Farm. It was clearly of high status and is referred to as a 'palace' in Archbishop Peckham's Register of 1279-1292 the precursor to the 16th century palace, is included within the SM (1). The medieval complex was almost entirely demolished to make way for the palace constructed by Archbishop William Warham in the early 16th century.
- 2.2.9 Excavations in 1974 to the east of the site, in the general vicinity of 11 Bubblestone Road, recorded the remains of medieval buildings. Three phases of building were present before its destruction in the early 16th century. These buildings were situated within a moated enclosure which had two phases. Whilst difficult to precisely correlate with modern mapping a plan derived from the 1974 works would suggest the site lay just outside the moated enclosure to the west (insets 1 and 2 below). Stoyel's plan (inset 3 below) shows the moat in relation to the later palace; on this plan the site is located within the moat, and apparently at the location of a bridge. The archaeological excavation established the eastern arm of the moat to be c.15m wide at that point.



1. Schematic medieval plan (after Ward 1974)
2. Schematic medieval / Tudor plan (after Ward)



2. Extract of plan of Tudor Palace c. 1546 (Extract of DBA Fig. 6, after Stoyel 1985)

- 2.2.10 The standing walls (3) in the front gardens of nos. 5-11 Bubblestone Road are of random rubble. The list description identifies these as being of early 16th century date but Stoyel suggests these are the retained walls of the medieval chapel buildings. Similarly, those in the rear gardens (4), which form the southern side to a water conduit are probably those of the medieval great hall.
- 2.2.11 A small extension project that was undertaken at No. 5 Bubblestone Road in the 1970's, revealed the remains of the medieval manor house predating the palace. At 7 Bubblestone Road site visits would appear to have been undertaken by Otford Historical Society and a watching brief was carried during the construction of a conservatory to the rear of the property in c.2007. This work identified sections of mortared stone foundations containing fragments of medieval brick, demolition debris and a possible chalk surface. A 2017 trial pit on the drive of No. 7 also identified medieval structural remains and a buried soil. These structural remains were relatively shallowly buried, with the upper surface at less than 0.5m bgl.

The Tudor Palace

- 2.2.12 Much of the medieval house complex (23) was demolished on the orders of Archbishop Warham around 1514-18, to make way for a new palace. Some elements of older buildings were incorporated in the new design, including parts of the chapel and great hall (3 and 4). The size and scale of the palace was dramatic, rivalling Hampton Court. The site of the former medieval house complex (23), defined by its moat, was almost entirely occupied by a warren of buildings comprising an inner court and a massive new courtyard was added to the north. On the north side of this courtyard was the principal gatehouse with towers (partially surviving as 2), galleries running down the west and east sides (that to the west partly surviving as 5).
- 2.2.13 Three sides of the medieval moat are understood to have been retained: those to the west, south and north, the northern side subject to some alterations. The excavated evidence round the south-east tower shows the Tudor moat had been moved/enlarged. The dimensions and locations of the southern and western arms have not been determined, and unfortunately are not illustrated on historic mapping.
- 2.2.14 Robert Sidney (Sydney) of Penshurst Place acquired ownership in 1601 and the Sidneys made their home in the western side of the north range (now Castle Cottages 2, but the building thereafter gradually fell to ruin. It was sold on to Sir Thomas Smith in c.1618. The north-east tower was demolished in 1761 and the stone transported to build Knole Folly. Most probably the remaining palace was largely demolished, and the lands of the Greater Park (22) and Little Park (25; extending north and south of the village) disparked soon after the grant of them to Sir Thomas Smith.
- 2.2.15 The site remained ruinous thereafter and Otford Palace (1) became a Scheduled Monument in 1928 (List No. 1005197), although the extents of the original scheduling are unknown. In 1935 Sevenoaks Rural District Council purchased '... the greater part of the Palace site and remains' in order to

protect them and retain them as open space¹. The southern part of the Palace, including the site, remained in private hands, and under development. In 1934 William Blount Collier was granted permission to develop the estate at Bubblestone Road². These new properties, including No. 3, are shown on the 1938 map (DBA Fig. 11). The correspondence relating to the sale to the council mentions the extant walls (including **3** and **4**) at what is now Bubblestone Road and that they were beginning to be cleared. This clearance seems to have ceased at around this time and the remaining upstanding walls retained. Development along Bubblestone Road continued through the mid to late 20th centuries, reaching its current extents by 1981.

2.6 Research Aims and Objectives

2.6.1 The general objective of the archaeological work is to ensure that any deposits, features, artefacts or ecofacts of archaeological interest exposed by the evaluation are recorded, interpreted and reported on to appropriate standards and to enable appropriate mitigation methods.

2.6.2 Site specific research aims are identified as follows:

- What, if any, potential remains for the presence of prehistoric or Roman period deposits, or has the site been subject to truncation arising from medieval construction phases?
- Is there evidence for deposits relating to the early medieval arch-episcopal manorial complex?
- Is there evidence for deposits or structures connected to the multi-phase medieval arch-episcopal manorial complex, possibly just outside the moated enclosure or in the moat?
- Does the site lie within the moat of the adjacent Tudor palace, and/or is there any structural evidence, possibly including a bridge across the moat?
- If within the moat, do the deposits encountered relate to the occupation or demolition of the palace? If the former, can careful retrieval of intact bone and environmental sampling contribute to an understanding of dietary or productive regimes relating to its occupation

2.6.3 Site-specific research aims are proposed below with reference to the South-East Research Framework (SERF):

- The evolution of settlement [SERF, Middle Bronze Age/Iron Age]
- Landscape, environment and settlement evidence [SERF, Roman]

¹ Mentioned in Historic England archive documentation accessible at [Archive – Archbishop's Palace Conservation Trust \(otfordpalace.org\)](https://www.otfordpalace.org/) (Accessed July 2021)

² Correspondence relating to the Palace and Abstract of Title – as above.

Medieval

- Consider the role of ecclesiastical palaces within the pattern of elite residences designed for defence and display by the major gentry from an early period. Developments during the period in defensive walls and structures associated with private and ecclesiastical houses as well as towns (e.g. Canterbury, Chichester) can also be seen as affording protection from within the region as much as without [SERF Medieval, 8]
- Can the investigation provide evidence to complement existing data regarding relative chronology of regional moated sites. *'Jones thinks it 'probable' that the Sussex examples at least follow a pattern 'demonstrated' by studies elsewhere and that 'most were constructed between AD1150 and 1500 with a period of rapid expansion between AD1200 and 1325' (1999: 51). This may be a model to test and fine-tune on a regional scale'* [SERF Medieval, 10]
- The purpose of 'moated sites' in the region and beyond remains a subject of debate which would benefit from the accruing of more detailed evidence. Among other things, insecurity, climate deterioration (see Clarke 1984 on this and other views) and 'geographical suitability' (Barber 2008a: 66) can be taken into account in terms of their development and distribution [SERF Medieval, 11]

Post-medieval

- A number of Royal and ecclesiastical houses/palaces exist in the region: 11 Royal houses were situated in Surrey alone by the time of the death of Henry VIII. The most notable excavations are those at Nonsuch, which have given a good insight into the nature of both the buildings and associated material culture (Biddle 2005), and the Archbishop's Palace at Otford (Philp 1984a), both sites demonstrating the massive nature of the remains associated with sites of this type. Can the investigation add anything to our understanding of this important building complex? [SERF Post-medieval, 10].
- Give due consideration to the significance of the continuation of use of the moated site from the medieval to post-medieval period, and aspect of study which has ... *in the past has often been treated lightly by the medieval archaeologist* [SERF Post-medieval, 10].
- During the 16th century the increased desire for comfort and its easier attainability for the wealthier are demonstrated in the new style of large stately houses built across the region. These sites offer the opportunity to study the changing fashions and comforts of the upper class houses and study this level of society which until now has mainly been undertaken using historical sources alone. Sampling of appropriate deposits for plant and animal remains has the potential to shed insights into the diet of the occupants, providing an often illuminating comparison to the historical sources (Ayres 2011; Locker 2005). [SERF Post-medieval, 9].

3.0 ARCHAEOLOGICAL METHODOLOGY (Figure 2)

3.1 Archaeological Fieldwork

- 3.1.1 The evaluation involved the hand excavation of three 1m x 1m test pits, targeting development impacts. All three pits were dug to their maximum depth of 1m.
- 3.1.2 All test pits locations were scanned prior to excavation using a Cable Avoidance Tool (CAT) operated by accredited ASE personnel.
- 3.1.3 Test pit 2 was repositioned due to concrete underneath the previously removed patio slabs. This could not be removed by hand, so the test pit was repositioned to the north-west of its proposed WSI location.
- 3.1.4 All trenches were excavated by hand under archaeological supervision, removing no more than 100mm at a time until a depth of 1m was reached.
- 3.1.5 All spoil was placed on plastic sheeting away from the areas of excavation.
- 3.1.6 All deposits, were recorded using standard ASE context sheets with colours recorded by visual inspection only. A digital photographic record was made of the trenches.
- 3.1.7 Test pits were located and levelled using a GPS and tied into the Ordnance Survey.
- 3.1.8 Spoil heaps and trench bases were scanned by eye, for unstratified artefacts.
- 3.1.9 All recording and planning was conducted according to the methodology in the WSI (ASE 2023).
- 3.1.10 All test pits were backfilled by hand.

3.3 Archive

3.3.1 The site archive is currently held at the offices of ASE and will be deposited at a local museum in due course. The contents of the archive are tabulated below (Table 1 and 2).

Context sheets	3
Section sheets	0
Plans sheets	0
Colour photographs	0
B&W photos	0
Digital photos	11
Context register	0
Drawing register	0
Watching brief forms	0
Trench Record forms	3

Table 1: Quantification of site paper archive

Bulk finds (quantity e.g. 1 bag, 1 box, 0.5 box 0.5 of a box)	0
Registered finds (number of)	0
Flots and environmental remains from bulk samples	0
Palaeoenvironmental specialists sample samples (e.g. columns, prepared slides)	0
Waterlogged wood	0
Wet sieved environmental remains from bulk samples	0

Table 2: Quantification of artefact and environmental samples

4.0 RESULTS

- 4.0.1 All test pits were dug to the depth of 1m. No natural geology was encountered in any of the three test pits.
- 4.0.2 Various made ground deposits were recorded in all three test pits to the depth of 1m. Each test pit is described below.

4.1 Test Pit 1

Context	Type	Interpretation	Length m	Width m	Depth m	Height AOD
1/001	Layer	Topsoil	1	1	0.16	
1/002	Layer	Chalk Capping	1	1	0.12	
1/003	Layer	Made ground	1	1	0.14	
1/004	Layer	Made ground	1	1	0.35	

Table 3: Test Pit 1 list of recorded contexts

- 4.1.1 Test Pit 1 was located at the east of site, placed nearest the property boundary and fence line. It measured 1m in length, width and depth.
- 4.1.2 A layer of post-medieval made ground comprised of dark brown, silty clay [1/004] was encountered at the base of the test pit and measured 0.35m in depth. This deposit extended below the base of the test pit and contained a mix of animal bone, 19th century pottery and clay pipe stems, post-medieval roof tile and one small fragment of residual Roman brick.
- 4.1.3 Above this was another band of post-medieval made ground [1/003], similar to [1/004] it was a lighter brown and only measured 0.14m in depth. A few sherds of pottery dating to post-1840, 19th century glass, post medieval roof tile and a metal horse bit were recovered from this context.
- 4.1.3 Sealing the made ground layers was a thin band of chalk [1/002], which acted as a capping layer. No finds were encountered in this deposit.
- 4.1.4 Sealing the chalk capping layer was a garden topsoil [1/001]. A dark brown soil with shingle inclusion underneath the turf. No finds were encountered in this deposit.

4.2 Test Pit 2

Context	Type	Interpretation	Length m	Width m	Depth m	Height AOD
2/001	Layer	Topsoil	1	1	0.17	
2/002	Layer	Levelling deposit	1	1	0.29	
2/003	Path	Brick path	1	1	0.08	
2/004	Layer	Chalk capping	1	1	0.33	

2/005	Layer	Sand	1	1	0.12	
2/006	Layer	Made ground	1	1	0.11	

Table 4: Test Pit 2 list of recorded contexts

- 4.2.1 Test Pit 2 was located at the centre of site, originally placed over concrete; it was moved north to avoid the patio and other obstructions. It measured 1m in length, width and depth.
- 4.2.2 A layer of made ground was encountered at the base of the test pit comprising dark brown, silty clay [2/006] similar to that observed in Test Pit 1. This deposit measured 0.11m in thickness and extended below the base of the test pit.
- 4.2.3 Above this made ground layer was a thin band of fine-grained sand [2/005], measuring 0.12m in depth. No finds were encountered in this deposit.
- 4.2.4 Sealing the made ground layers was a thick band of chalk [2/004], which acted as a capping layer. This comprised of chalk rubble with brick and roof tile fragments dating from the medieval to post-medieval period [2/004].
- 4.2.5 Placed directly onto the chalk capping layer [2/004], a brick surface [2/003] was recorded. The surface was laid one course deep and constructed from irregularly shaped half bricks, with dimensions of c.150mm x 120mm x 60mm. Probing of the adjacent ground suggested that the bricks formed a path extending on a roughly north-west-south-east alignment (Figure 2).
- 4.2.6 Sealing the brickwork was a levelling deposit [2/002], comprised of shingle, and other crushed stone material and formed a hard surface for the dark brown garden soil [2/001] to be placed on. No finds were encountered in this deposit.

4.3 Test Pit 3

Context	Type	Interpretation	Length m	Width m	Depth m	Height AOD
3/001	Layer	Topsoil	1	1	0.15	
3/002	Layer	Levelling deposit	1	1	0.05	
3/003	Layer	Chalk, made ground	1	1	0.80	

Table 5: Test Pit 3 list of recorded contexts

- 4.3.1 Test Pit 3 was located at the west of site, placed within a flowerbed. It measured 1m in length, width and depth.
- 4.3.3 The main fill of Test Pit 3 was a layer of made ground comprised solely of chalk [3/003] at a thickness of 0.8m which contained 17 fragments of medieval and post-medieval roof and floor tile fragments and 19th century glass.
- 4.3.4 Sealing the chalk made ground was a levelling deposit [3/002], comprised of shingle, and other crushed stone material which formed a hard surface for the dark brown garden soil layer [3/001] to be placed on. No finds were

encountered in this deposit.

5.0 THE FINDS

5.1 Summary

- 5.1.1 A small assemblage of finds was recovered during the evaluation at 3 Bubblestone Road, Otford. All finds were washed and dried or air dried as appropriate. They were subsequently quantified by count and weight and bagged by material and context. The hand-collected bulk finds are quantified in Table 6. Two iron objects were assigned unique Registered Find numbers, detailed in section 5.11. All finds have been packed and stored following ClfA guidelines (2014).

Context	Pottery	Weight (g)	CBM	Weight (g)	Stone	Weight (g)	Slag	Weight (g)	Iron	Weight (g)	Bone	Weight (g)	Clay Tobacco Pipe	Weight (g)	Glass	Weight (g)	Shell	Weight (g)
1/003	2	10	1	126					5	150					5	71		
1/004	8	31	13	3036	1	1555	1	3	2	13	23	176	2	7			1	8
2/004			65	3871							3	245						
3/003			18	773											19	479		
Total	10	41	97	7806	1	1555	1	3	7	163	26	421	2	7	24	550	1	8

Table 6: Quantification of hand-collected bulk finds

5.2 The Pottery by Stephen Patton

- 5.2.1 A total of ten pottery sherds (41g), dating to the 19th century, were recovered from two separate contexts. Two sherds of white ware with transfer prints are from fill [1/003], with one sherd having a blue print and dating from c. 1840 onwards, and the other having a green print typical of the latter half of the 19th century. The remaining eight sherds (31g) from fill [1/004] are pieces of banded white ware also dating to the 19th century. The pottery is of no archaeological significance other than indicating that the feature that they are from dates to the Victorian period.

5.3 The Ceramic Building Material by Rae Regensberg

- 5.3.1 A moderate assemblage of ceramic building materials (CBM), consisting of 97 fragments collectively weighing 7,806g, was collected from four contexts at the site; [1/003], [1/004], [2/004] and [3/003]. Although a small quantity of Roman CBM was recovered, these all showed signs of reuse. The bulk of the material appears broadly post-medieval but there were a small sample of bricks that have an early post-medieval date, as well as some later post-medieval roof tile. A large percentage of the CBM was clearly reused. The assemblage is mix of material that appears to have been reused, or redeposited from the original location, in these contexts.

5.3.2 All the material was recorded by form, weight, complete dimensions (when present) and fabric and entered into an Excel spreadsheet. Fabrics were identified with the aid of a x20 binocular microscope, and site specific fabric codes have been applied using the following conventions: frequency of inclusions (sparse, moderate, common, abundant); the size of inclusions, fine (up to 0.25mm), medium (0.25-0.5mm), coarse (0.5-1.0mm) and very coarse (larger than 1.0mm). Fabric descriptions are provided in Table 7. Museum of London Archaeology fabric codes (2014a, 2014b, 2014c) have been referenced for several of the fabrics identified at the site. All of the material has been retained for the present.

Fabric	Description
R1	Fine orange fabric with sparse to no inclusions. Some mica, occasional quartz and very sparse fine oxidised material.
R2	Cream fabric with abundant medium rose quartz and rose quartz mould sand.
B1	Orange to red fabric, slightly powdery with sparse fine to medium quartz and medium black oxidised material.
T1	Orange fabric with moderate medium and coarse calcareous material, sparse fine to medium quartz - some areas/streaks with moderate to common quartz, and sparse medium oxidised material.
T2	Fine orange fabric with sparse fine to medium quartz. Most have rose quartz mould sand.
T3	Orange fabric with moderate to common fine to medium quartz, sparse fine to medium black oxidised material and sparse coarse calcareous material.
T4	Orange to light orange fabric with sparse inclusions but includes some rose quartz and has rose quartz mould sand. Some sparse very fine black speckle in areas.
T5	Orange fabric with moderate very fine and fine calcareous speckle, sparse to moderate fine to medium quartz - some areas/streaks with moderate to common quartz, and sparse medium oxidised material. Maybe related to T1
T6	Cream fabric with sparse fine to medium quartz.
T7	Orange fabric with common medium quartz, and sparse very fine black grains.
FT1	Cream/white fabric with abundant medium quartz.

Table 7: CBM fabric descriptions

5.3.3 One corner fragment of Roman brick in the R1 fabric was recovered from context [1/004]. The fabric is very similar to the MOLA 2452 fabric (Museum of London Archaeology 2014a), which was commonly used, and manufactured between AD 50 and AD 160 (Museum of London Archaeology 2014b). The brick is 37mm thick with grey core and some opus signinum remaining, and knife trim on one side. Lime mortar on broken edges, however, indicates reuse. A small fragment of flue tile, also in fabric R1, was collected from the same context. The flue tile has comb keying, and, like the Roman brick, lime mortar on broken edges. There was also one fragment of possible Roman tile in the R2 fabric. It is neat and well fired, 22mm thick and has rose quartz mould sand. The fabric has some similarities to the Eccles group of Roman fabrics, however, it is possible that it is post-medieval floor tile, with only one sample, it is difficult to confirm. The fragment was collected from context [3/003].

5.3.4 The majority of the assemblage consisted of flat roof tile. There was a wide

range of fabrics but 65% of the tile was in the close to sterile, fine orange T2 fabric. The T2 tile varied quite widely in form and firing, and ranged in thickness from 8mm to 13mm, no other dimensions were measurable due to the fragmented state of the assemblage. A notable quantity of the tile, particularly from context [2/004], had lime mortar on broken edges, which indicates reuse. Considering the size of the fragments, it is probable that it was reused as rubble fill. Tile in the other fabrics was similarly varied and, except for fabric T5 with 12 fragments, had six or fewer individual fragments. All of which were small, fragmented pieces, many with lime mortar on broken edges like the T2s. One connecting feature between fabrics T2, T4 and T5 was the use of rose quartz mould sand.

5.3.5 Flat roof tile is notoriously difficult to date as it remains consistent in manufacture through both the medieval and post-medieval periods (excluding a few diagnostic characteristics that were not present in this assemblage e.g. glaze, certain fabrics). However, there were two T2 fragments with diamond shaped peg holes, which are indicative of a post-medieval date. These were collected from contexts [1/003] and [1/004].

5.3.6 Thirteen pieces of brick were recorded, all in the powdery, red 'Tudor' type fabric, B1. Pieces recovered from context [2/004] were 115mm in width and between 52mm and 58mm in dimension. They also had very pitted and bumpy base, deep creasing on the stretchers, and rounded arrises. These features are all characteristic of early post-medieval brick. The fabric is also similar to the MOLA 3033 brick, which has a 1450 to 1700 date range (Museum of London Archaeology 2014c). Several neater fragments were also recovered, which were neater in form, however, they were close to vitrified so it is not possible to be sure of the fabric. These were also recovered from context [2/004] and have a post 1666 date. Several of the bricks had lime mortar on broken edges, again indicating reuse. Lastly, one piece of floor tile was collected from context [3/003]. It was very neat, well fired, and was covered in a grey lime mortar. This has a later post-medieval date.

5.4 The Clay Tobacco Pipe by Stephen Patton

5.4.1 Two pipe stems weighing total of 7g were retrieved from fill [1/004]. They are well made and have no decoration. One stem is 76mm in length, 8-6mm in diameter as it tapers, and the bore hole is 2mm in diameter. The other stem is 38mm in length, 6-5mm in diameter as it tapers, and has a 2mm bore hole. Both stems are typical of 19th century clay pipes.

5.5 The Glass by Stephen Patton

5.5.1 Two contexts produced fragmentary glass shards during the evaluation. Weighing a total of 550g, the glass is all indicative of being from the 19th century or later. The five shards (71g) from [1/003] are from a round clear coloured and mould formed bottle, most likely a sauce or toiletry bottle.

5.5.2 Glass from at least four vessels and one fragment of a heavy pane (total 479g) were recovered from [3/003]. Ten shards are from a round aqua-marine coloured and mould formed bottle. The sub circular base has a shallow sub circular kick-up, and it is most likely from a mineral water or beer bottle from

the 19th century.

5.5.3 Five shards are from a rectangular clear coloured and mould formed bottle. The base has a shallow circular kick-up, and they are most likely from a toiletry, medicinal or whisky bottle. Two of the shards are from a sauce or toiletry bottle which had a thick wall and was aqua-marine in colour, but the glass is notably light and almost clear.

5.5.4 Finally, in terms of bottles, there is a single shard from a most likely 19th century toiletry bottle. It is a rectangular, light blue and mould formed bottle whereby the base has a shallow rectangular kick-up. Lastly there is a shard from a thick (7mm) clear pane of glass with tapering edges and partial corner surviving. It is most likely a pavement light, but it does not incorporate a prism, which indicates a date prior to 1890 when prisms became popular.

5.6 The Geological Material by Stephen Patton

5.6.1 A single piece of dressed Kentish ragstone (1555g) was recovered from fill [1/004]. It has been shaped into a corner, with tool marks being evident on both flat surfaces, but the more prominent marks are diagonal along the side. It is not evident from which building the stone may have originated, and it appears to have been simply discarded along with other refuse into the feature.

5.7 The Metallurgical Remains by Stephen Patton

5.7.1 A single piece of slag glass (3g) was recovered from fill [1/004]. Slag glass is produced when iron ore is resmelted, and this practice was common during the early part of the 20th century. The fragment is small and simply represents the presence of industrial waste.

5.8 The Bulk Metalwork by Rae Regensberg

5.8.1 A small assemblage of seven iron items weighing 163g were collected during the evaluation. Five of these were composed of fragments of a circular cannister or tin in context [1/003], most likely from the same item. Context [1/004] contained a piece of iron wire with a circular section measuring 4mm in diameter, and an incomplete, general purpose, Fe nail with rectangular sectioned shank and flat, rectangular head (15 x 12mm).

5.9 The Animal Bone by Emily Johnson

5.9.1 A small assemblage of faunal material was hand-collected from two contexts (Table 8). Specimens were generally moderately well-preserved.

Context	Total	Cattle	Caprine	Pig	Large mammal	Medium mammal	Indeterminate
1/004	23	1	1	1	3	2	15
2/004	3	1			2		
Total	26	2	1	1	5	2	15

Table 8: Taxa abundance per context by the Number of Identifiable Specimens (NISP). Refitting specimens were counted as one

5.9.2 Context [1/004] contained a number of identifiable specimens. These included a cattle maxillary premolar, which was in wear, and two tibia diaphyses identified as caprine (sheep/ goat) and pig. Additionally large and medium mammal vertebra, scapula and diaphysis fragments were recorded, alongside indeterminate specimens. Many of the specimens showed evidence of recent fragmentation. The tibia identified as caprine had sawing butchery to the diaphysis, and cleaver butchery was additionally identified on the pig specimen.

5.9.3 Context [2/004] yielded three animal bone specimens. This included a fused distal cattle left humerus, and a fragment of large mammal scapula and rib. The cattle humerus exhibited signs of peri-mortem fracture and butchery of the distal epiphysis using a cleaver.

5.10 The Shell by Stephen Patton

5.10.1 The only shell from the evaluation is a single right oyster valve from fill [1/004]. It is slightly abraded and there are no signs of parasitic damage. The shell weighs 6g, measures 60mm from dorsal to ventral margin and approximately 50mm from anterior to posterior margin. Oysters as a source of food were cheap and plentiful during the 19th century and their shells being with datable finds from this period is not unusual.

5.11 The Registered Finds by Rae Regensberg

5.11.1 Two finds were assigned a Registered Find number. RF <1> is an iron horse curb bit recovered from context [1/003]. Similar curb bits date from the 18th century onwards. The bit is 226mm long, 157mm wide and the 18mm thick. The second Registered Find, RF <2>, is a miscellaneous iron ring/collar with a small, rounded protrusion on the inner surface. The ring weighs 327g, is 138mm in diameter, 4mm wide and 26mm thick. This item could have a wide range of uses, and is of medieval to post-medieval date.

5.0 DISCUSSION AND CONCLUSIONS

5.1 Overview of stratigraphic sequence

- 5.1.1 No natural geology was encountered in any of the three test pits and each exhibited made ground at varying depths. The topsoil ranged in depth from between 0.15m-0.17m and made ground deposits from 0.05m-0.8m.
- 5.1.2 The methodology, as set out in the WSI (ASE 2023), was successfully employed during the evaluation. The conditions on site were conducive to confident and efficient identification and recording of the natural deposits and as such it is considered that this evaluation and report have successfully achieved its general objective.

5.2 Deposit survival and existing impacts

- 5.2.1 All of the site was considerably built up from any potential natural geology and each test pit exhibited post-medieval/modern made ground underneath the garden soil, all of which exceeded the 1m depth. No trace of potential medieval archaeology was encountered.
- 5.2.2 In Test Pit 2 a late post-medieval surface or path comprising re-used early post-medieval bricks was found c.0.45m below the existing ground surface. It's alignment was traced by probing through the overlying deposits; it continued to the south-east, just to the south of Test Pit 1 (Figure 2).
- 5.2.3 The brickwork was placed directly on top of a chalk backfill or capping layer, also observed in both Test Pit 1 and 3. This deposit appeared to be thickening to the west. In Test Pits 1 and 2 it overlay a layer of silty clay which in both instances extended beyond the base of the test pits. In Test Pit 1 later post-medieval finds were recovered from this deposit. These deposits likely relate to the consolidation of ground over the former palace moat.
- 5.2.4 This brick path roughly aligns with a garden feature depicted on the 1st Edition Ordnance Survey map of 1869 (Figure 3).

5.3 Consideration of research aims

- 5.3.1 Due to the lack of any medieval or earlier archaeology none of the specific research aims can be addressed, but the general objectives of have been achieved.
- 5.3.2 The evaluation provided evidence for later post-medieval ground consolidation and a probable 19th-century garden path.
- 5.3.3 No evidence for prehistoric or Roman, medieval, nor any deposits related to the Tudor palace were encountered in the evaluation.

5.4 Conclusions

- 5.4.1 The only archaeological finds, features or deposits encountered in the archaeological evaluation relate to later post-medieval ground consolidation and a garden path depicted on the 1st Edition Ordnance Survey map.

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HER Summary

Site code	OBU23					
Project code	220668					
Planning reference	N/A					
Site address	Bubblestone Road, Otford, Kent					
District/Borough	Sevenoaks					
NGR (12 figures)	552820 159107					
Geology	Mudstone of the Gault Formation					
Fieldwork type	Eval Y	Excav	WB	HBR	Survey	Other
Date of fieldwork	27 th March 2023					
Sponsor/client	Thomas Woollard					
Project manager	Paul Mason					
Project supervisor	Jake Wilson					
Period summary	Palaeolithic	Mesolithic	Neolithic	Bronze Age	Iron Age	
	Roman	Anglo-Saxon	Medieval	Post-Medieval Y	Other	
Project summary (100 word max)	<p><i>An archaeological evaluation commissioned by RPS was conducted at 3 Bubblestone Road, Otford, Kent between the 27th March and 30th March 2023. Three archaeological test pits measuring 1m x 1m were excavated to a depth of 1m.</i></p> <p><i>The site is located within the Scheduled curtilage of Otford Medieval Palace and specifically over the infilled western arm of the moat. The only archaeological finds, features or deposits encountered in the archaeological evaluation related to later post-medieval ground consolidation and a garden path, most probably that depicted on the 1st Edition Ordnance Survey map of 1869.</i></p>					

OASIS ID (UID): archaeol6-514904

Project Name: Evaluation at Bubblestone Rd

Activity type: Evaluation

Project Identifier(s): 220668

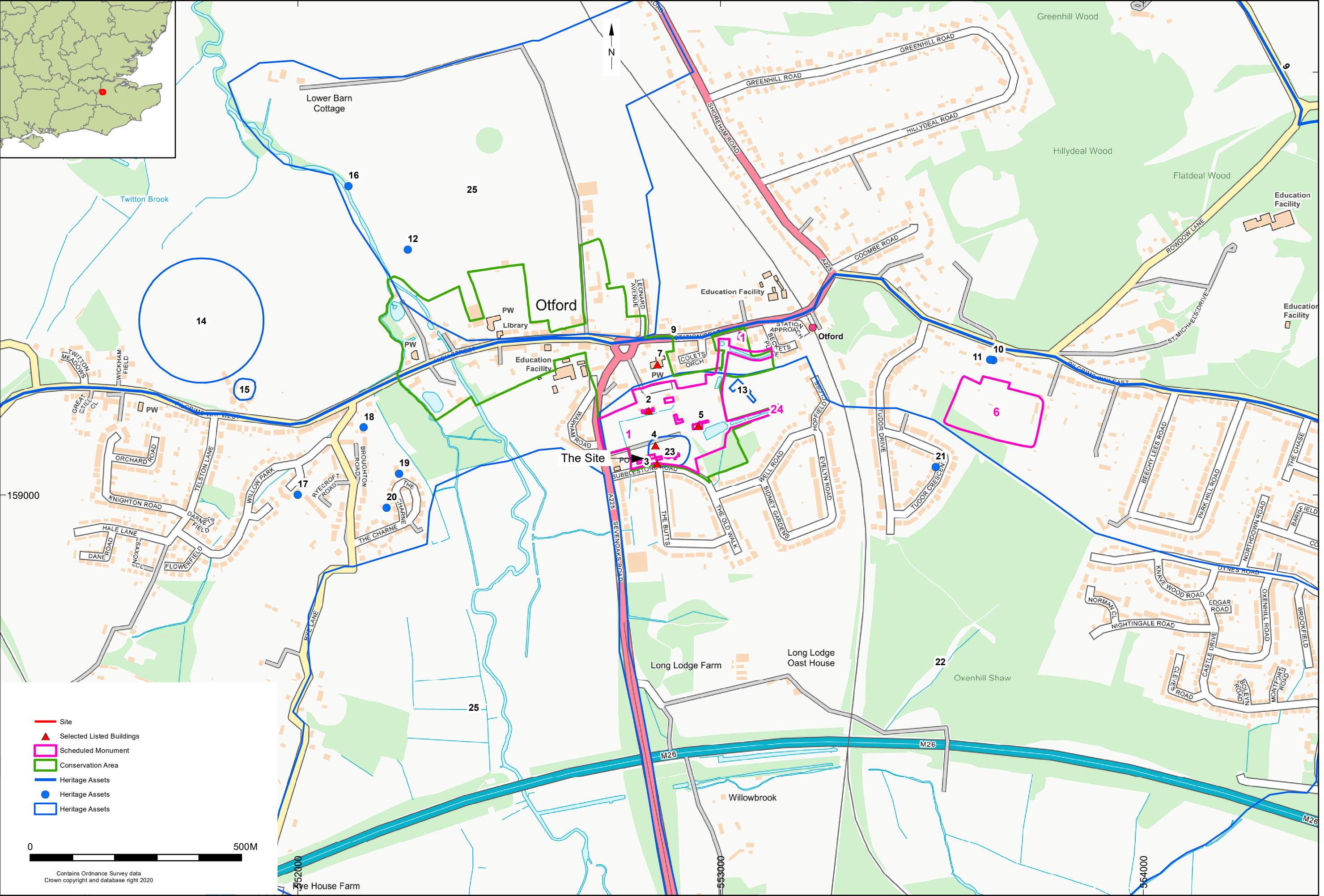
Reason for Investigation: Planning requirement

Organisation Responsible for work: Archaeology South-East

Project Dates: 27-Mar-2023 - 30-Mar-2023

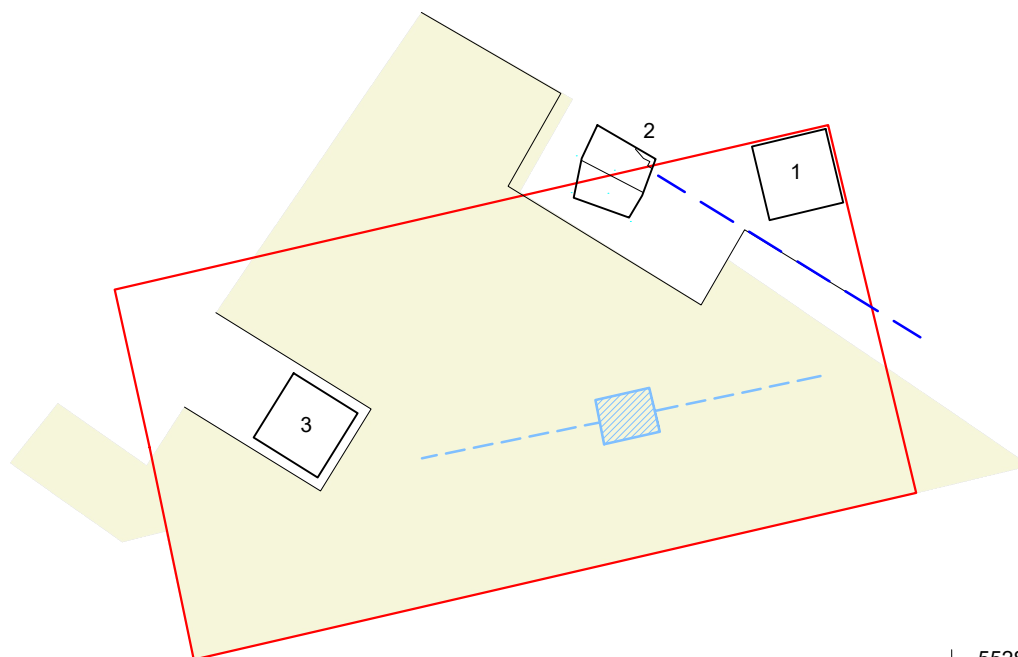
Project Methodology: Three archaeological test pits measuring 1m x 1m were excavated to a depth of 1m

Project Results: The site is located within the Scheduled curtilage of Otford Medieval Palace and specifically over the infilled western arm of the moat. The only archaeological finds, features or deposits encountered in the archaeological evaluation related to later post-medieval ground consolidation and a garden path, most probably that depicted on the 1st Edition Ordnance Survey map of 1869.



+ 552817, 159094

+ 552830, 159094



+ 552830, 159085

- Area of extension
- Test pits
- Projected line of path
- Location of drain cover and projected route
- Existing patio

0 2m



TP 1 facing south-east

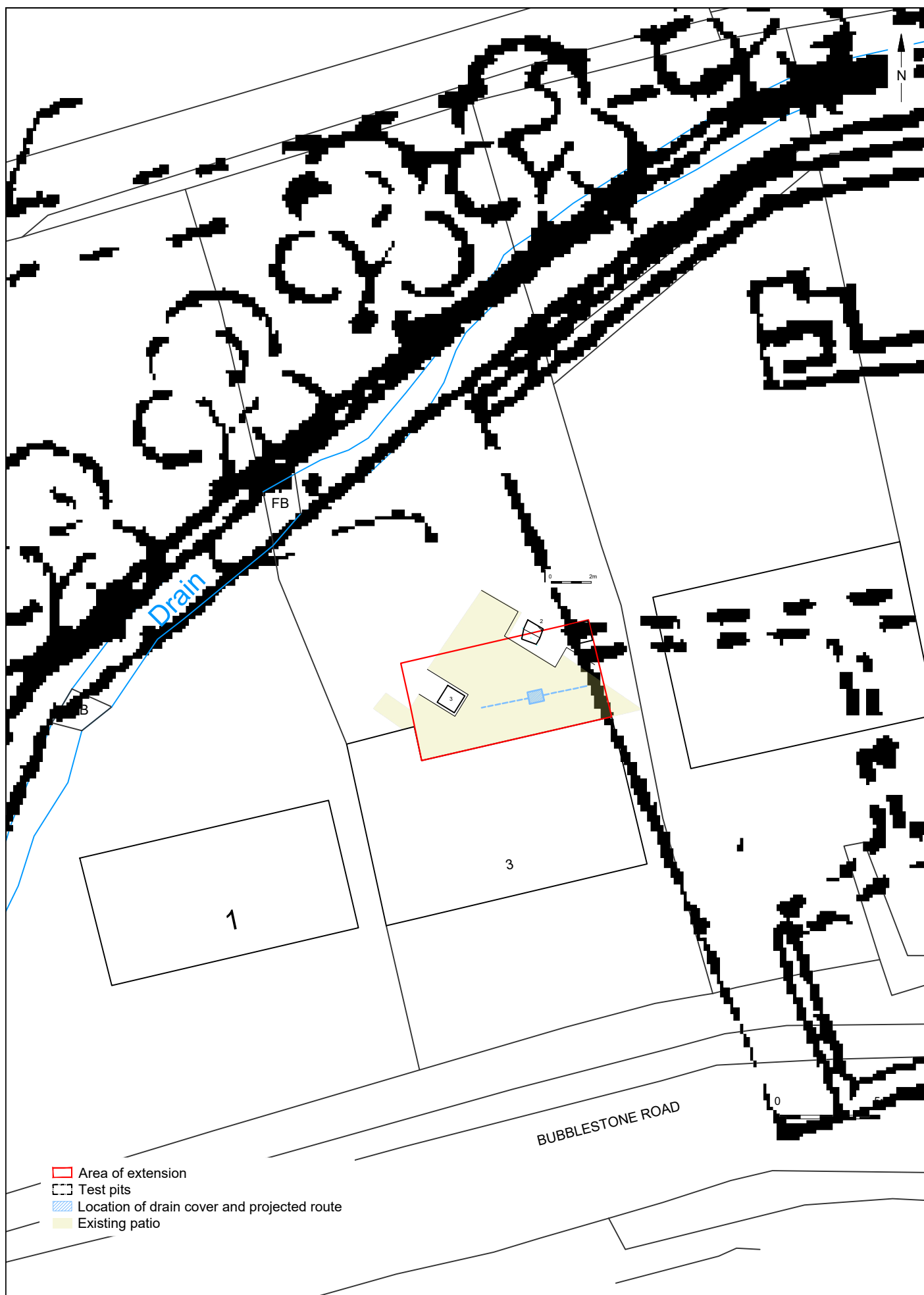


TP 2 facing north-east



TP 3 facing south-east

© Archaeology South-East		3 Bubblestones Road, Otford, Kent	Fig.2
Project Ref: 220668	April 2023	Plan and Photographs of Test Pits	
Report Ref: WB	Drawn by: ARC		



© Archaeology South-East		3 Bubblestones Road, Otford, Kent	Fig.3
Project Ref: 220668	April 2023	Plan of Test Pits with 1st edition OS map from 1869	
Report Ref: WB	Drawn by: ARC		

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