

Clare College, Cambridge

An Archaeological Evaluation



Craig Cessford



**CAMBRIDGE
ARCHAEOLOGICAL UNIT**



**UNIVERSITY OF
CAMBRIDGE**

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Craig Cessford

With contributions by Martin Allen, Val Fryer, Andrew Hall, David Hall,
Vicki Herring, Phil Mills, Vida Rajkovača, Simon Timberlake

Illustrations by Andrew Hall and Jane Matthews

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University of Cambridge

April 2015

Report No. 1286

Event Number: ECB4389

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SUMMARY

The Cambridge Archaeological Unit undertook an archaeological evaluation in December 2014 and January 2015 at Clare College, Cambridge, located principally in the Old Court and front court areas of the college. This consisted principally of four trenches covering 24 square metres; additionally a number of geotechnical window samples and test pits were monitored. The investigations provided information on the heights of natural deposits and revealed limited evidence for pre-collegiate activity. All four trenches successfully located structural remains associated with the western and eastern ranges of the medieval college that were probably constructed in the 14th century. This allows the location of the medieval college buildings to be accurately located. Although the medieval buildings had been heavily robbed, largely to foundation level, the nature of their surviving foundations was examined and material recovered from later demolition related deposits provides significant insights into the nature of the medieval college buildings. Assemblages of clay tobacco pipe, pottery, animal bone and other material recovered from the mid-17th to mid-18th century demolition related deposits probably relate primarily to the college population of this period and shed considerable light on their material culture, diet etc.

INTRODUCTION

An archaeological excavation was carried out by Cambridge Archaeological Unit (CAU) between the 15th of December 2014 and 22nd of January 2015 at Clare College Cambridge on behalf of the college (Figures 1–2). In addition a small watching brief took place on the 10th and 26th of March 2015. This represented the first archaeological investigations within the historic core of Clare College, as such the excavation aimed to determine the nature of the archaeological sequence and in particular was intended to attempt to locate the western and eastern ranges of the medieval college, whose location could be predicted with a reasonable degree of accuracy due to the existence of a 17th-century plan produced prior to the demolition of these structures. The excavation was carried out and this report produced in accordance with a brief produced by the archaeological consultant (Harris 2014) and a written scheme of investigation (WSI) written by the CAU (Dickens 2014). Although the work was not undertaken in relation to a current planning proposal the Cambridgeshire County Council Historic Environment Team was kept informed of the work.

Location, Topography and Geology

The historic core of Clare College is located to the east of the current line of the river Cam and lies on its former alluvial floodplain, with an underlying geological sequence of 1st terrace river gravels over Gault clay. The ground is generally level at 8.6–8.4m OD in the Old Court and the front court areas consists principally of grass with paths, cobbles and plant beds.

Archaeological and Historical Background

The general archaeological and historical background of Clare College has previously been considered in the brief (Harris 2014) and the WSI (Dickens 2014). No archaeological investigations have previously been undertaken in the historic core of the college, but a geophysical survey involving ground penetrating radar was undertaken in 2014 (Udyrysz and Richardson 2014). This identified several anomalies of probable and possible archaeological origin including some likely to be caused by structural remains of former buildings. Additionally, ongoing research into the documentary and cartographic evidence and standing buildings has kindly

been made available (Harris in prep). As a consequence this material will not be reiterated here; instead information pertinent to the excavation will be incorporated in the body of this report where appropriate. In broad terms archaeological investigations in the immediate environs have failed to reveal any significant Prehistoric, Romano-British or Early/Middle Saxon remains. Work to date has suggested that medieval Cambridge originated in the Castle Hill area and that occupation to the south and east of the river Cam commenced in the mid-10th century and spread relatively rapidly, particularly during the 11th century. There is documentary evidence that the site that became Clare College was previously occupied by two *messuages* (dwelling houses, possibly with outbuildings and land assigned to their use); these would presumably have had their frontages to the east along Milne Street and stretched to the river to the west. These *messuages* were acquired by the University in 1298 and became a college in 1326; this was initially known as University Hall but became Clare Hall in 1336/38. Given their location it is quite likely that these *messuages* possessed relatively substantial buildings that may have been constructed in stone and it is possible that these continued to be used for some time after the University acquired the site. The replacement of these structures with the medieval college buildings proper may have begun in c. 1338, although the evidence for this appears largely circumstantial and based on much later sources. In general 'Little or nothing can now be recovered concerning the original college' (Willis and Clark 1886, 78). There is documentary evidence for a fire in 1521 and some subsequent rebuilding (1523–35). The college was then completely rebuilt over a prolonged period beginning in the 17th century (1638–1719), plus a later phase of work on the chapel (1763–69), when the current buildings constructed.

Methodology

In total four west–east orientated trenches were excavated covering 24 square metres; three located in Old Court and one in the front court (Table 1). An additional fifth trench stipulated in the brief (there numbered Tr. 4) was omitted from the program to allow Tr. 3 to be extended. The four trenches were broadly in the locations outlined in the brief: Tr. 2 was extended to take account of the wall position and alignment identified in Tr. 1 and Tr. 3 was re-positioned to take account of the wall positions identified in Tr.s 1–2. At the request of the college gardeners Tr. 4 was moved to the south, so that it was located on the lawn rather than in the planting bed. The area of the trenches exceeds the total of 20.7 square metres outlined in the

original brief (Harris 2014, 7). Additionally the excavation of the upper portions of four geotechnical window samples and three test pits were monitored. A number of other proposed test pits have not yet been excavated at the time of writing.

Tr.	Extent (m)	Area (m ²)	Surface height after turf removed (m AOD)	Location	Figures in this report
1	5.0x1.5	7.5	8.38–8.45	Northern side of Old Court, eastern quadrant	3–5
2	6.0x1.25	7.5	8.49–8.52	Southern side of Old Court, eastern quadrant	6–8
3	2.5x1.2	3.0	8.46–8.49	Southern side of Old Court, western quadrant	9–11
4	4.0x1.5	6.0	8.50–8.54	Northern side of front court, eastern side	12–14
Total		24.0	8.38–8.54		

Table 1: Summary of excavated trenches

The turf from the trenches was removed by the college gardeners, subsequent to this all deposits were excavated by hand by CAU staff, as the college had stipulated that no mechanical excavation was permitted. Features were recorded using the CAU modified Museum of London Archaeology Service system (Spence 1994). Context numbers are indicated within the text in square brackets (e.g. [300]); all identifiable features have been assigned feature numbers denoted by the prefix F (e.g. F.100). Feature numbers are generally used in discussion in preference to context numbers and all significant contexts have been assigned to features. Both context and feature numbers have been ‘blocked’ by trench, so that Tr. 1 has context numbers starting at [100] and feature numbers starting at F.100, Tr. 2 starts at [200] and F.200 etc. All sections and plans were drawn at 1:10. Photographic recording was undertaken by the CAU photographer Dave Webb; it was entirely digital, with a stipulated minimum of 12 megapixel uninterpolated image size. The location of each trench was digitally recorded using a Leica TPS total station and major structural features were also recorded digitally as well as being hand planned. This survey was linked to the 2014 metric survey of the college. No features containing either waterlogged plant remains or dense concentrations of charred plant remains were identified in the field, as a result a number of bulk environmental samples were taken to provide spatial and temporal coverage from a range of feature types.

Due to the size of the trenches, timetable, health and safety constraints, the presence of structural remains that were preserved *in situ* and the depth of the archaeological sequence it was not possible to excavate the full depth of deposits. Each trench was excavated until structural remains associated with the medieval college or deposits

contemporary with these were exposed across the entire trench. Where possible sample excavation in smaller sondages continued below this depth, additionally the un-excavated sequences were profiled using a hand-operated screw auger.

All work was carried out in strict accordance with statutory Health and Safety legislation, the recommendations of FAME (Allen and Holt 2010) and in accordance with both a site specific risk assessment and the general CAU Health and Safety policy. The CAU site code is OCC14 and the event number is ECB4389, The site is located at NGR TL 4464 5842.

Archive

155 contexts from 46 features were recorded during the excavation of the trenches (this does not include the watching brief). Artefacts including pottery, clay tobacco pipe, glass, metalwork, ceramic building material, building stone, animal bone and oyster shell were recovered. The documentary records and accompanying artefacts have been assembled into a catalogued archive and are currently stored at the CAU offices pending final deposition.

RESULTS

The report is structured into four phases plus natural deposits, with artefactual and environmental information incorporated into these and the relevant documentary and other evidence presented. These phases are not necessarily precisely contemporaneous in all four trenches. Results from the watching brief are discussed separately. The phases are:

- Phase 1: Activity prior to the construction of the medieval college buildings (c. 11th to early/mid-14th century)
- Phase 2: the medieval college buildings (early/mid-14th to early 17th century)
- Phase 3: demolition of the medieval college buildings and construction of the current college (mid-17th to early/mid-18th century)
- Phase 4: the current college (early/mid-18th century to current day)

Natural

Natural deposits were only identified through augering and window sampling (Table 2). The results should be treated with some caution, in most instances it was impossible to auger through more than a few centimetres of the deposits identified as natural gravels and it is possible that in some instances these were archaeological rather than natural deposits. Given the likely degree of truncation of natural deposits by later human activity the levels recorded relate only to the surviving heights of natural deposits, rather than their original un-truncated heights. This later truncation means that the heights of surviving natural are likely to vary markedly over even short distances. Definite or probable 1st terrace river gravels were recorded as contexts [122], [226], [323], [444], [445], [462] and natural Gault clay was recorded as [324].

The results are in broad agreement for previous observations of the heights of the natural 1st terrace river gravels and Gault Clay on the eastern side of the Cam recorded at a number of other archaeological excavations. Although the observations were necessarily limited the evidence suggests that from east to west the upper surface of the Gault clay is relatively level in Window Sample 2 and Tr. 3, falls somewhat towards Window Sample 1 and then dips considerably between Window Sample 1 and Window Sample 3. Although speculative this hints at the edge of a river palaeochannel between Window Sample 1 and Window Sample 3, located somewhere in the vicinity of the current western range of the college. The pattern of results for the upper surface of the river gravels is complicated by the impact of later cut features, however one plausible scenario is that from east to west originally the surface of the gravels was relatively level between Tr.4 and Window Sample 1 and then fell markedly between Window Sample 1 and Window Sample 3 in a manner similar to the underlying Gault clay. No water-lain alluvial deposits appeared to be present in the auger holes, suggesting that if such deposits exist they only occur closer to the river in the area of the Master's and Scholars Gardens.

Location	Top of 1st terrace river gravels (m AOD)	Top of Gault clay (m AOD)
Tr. 1, AH 1	6.09	Unk.
Tr. 1, AH 2	6.12	Unk.
Tr. 2, AH 1	6.17	Unk.
Tr. 2, AH 2	Unk.	Unk.
Tr. 2, AH 3	6.47	Unk.
Tr. 3, AH 1	5.65	5.60
Tr. 4, AH 1	6.36*	Unk.
Tr. 4, AH 2	7.10	Unk.
WS 1	c. 6.9	c. 4.6
WS 2	c. 7.0	c. 5.4
WS 3	c. 6.1	c. 3.3

Table 2: Levels of natural 1st terrace river gravels and Gault clay, * - definitely truncated by cut feature. Data on window samples supplied by Listers Geotechnical Consultants. AH – Auger Hole, WS – Window Sample.

Phase 1: Activity Prior to the Construction of the Medieval College Buildings *Archaeological Sequences*

The exposure of activity prior to the construction of the medieval college buildings was extremely limited; these were typically only viewed in small sondages or through augering (Table 3). As a result they need to be treated with caution, in particular the distinction, between this and Phase 2 is not entirely clear. Tr.s 1–3 all display evidence of the presence of substantial cut features such as pits or ditches (F.107, 208, 211, 308), as well as some evidence for deliberately laid surfaces (F.106). In Tr. 4 there is evidence for two substantial cut features (F.412, 416), one of which is probably a cellared or partly-cellared structure (F.412), and a sequence of occupational layers that is c. 0.4m thick that includes two probable gravel surfaces (F.413).

Occupation in this part of Cambridge probably began during the 11th century, and by the late 13th century the area was occupied by two *messuages* that were purchased by the university. These buildings probably continued in use until some point in the 14th century, possibly in the 1330's, before purpose-built college buildings were constructed. These *messuages* almost certainly had their frontages to the east along Milne Street and stretched to the river to the west, wherever this was located during this period. The archaeological evidence, although limited and relatively poorly dated, broadly agrees with the documentary evidence; with Tr. 4 relating to

buildings, surfaces and other activity in the plot head area close to the Milne Street frontage and Tr.s 1–3 related to principally to large features in the plot tail area closer to the river.

Location	Highest Phase 1 deposits (m AOD)	Base of Phase 1 deposits (m AOD)	Typical thickness of deposits (m)
Tr. 1	7.72	6.09–6.12	1.6
Tr. 2	7.52	6.17–6.47	1.2
Tr. 3	6.63*	5.65	1.0
Tr. 4	7.51	7.10–6.36*	0.4–1.1m

Table 3: Observed levels and thicknesses of Phase 1 deposits, * - heavily truncated

Tr. 1: in Tr. 1 the apparent extent of Phase 3 truncation of the east of the western range building meant that the uppermost Phase 1 deposits were exposed and excavated, although lower deposits were only investigated through augering. The uppermost layer was a c. 80mm thick firm mid-grey sandy silty clay [116] (F.106) that probably represents a deliberately laid surface of some kind. This sealed a general levelling deposit of mid-brownish grey sandy silty clay [117] (F.106). This in turn lay over a firm pale orangish cream sandy mortar [118] (F.106): this was almost certainly a surface of some type although the extreme variation in its thickness of 0.07–0.32m indicates that it probably also acted as a levelling deposit. Earlier deposits in the sequence were only identified through augering and may represent either layers or fills, although given the thickness of the features and the lack of identifiable alluvial deposits it is more probable that they are fills of large cut features. These deposits included a greyish brown clay [119], a moist mid-reddish brown sandy clay [120] and a dark brownish grey silty clay [121] (all F.107).

Tr. 2: Phase 1 deposits were only revealed through augering, these may represent either layers or fills although given the thickness of the features it is more probable that they are fills of cut features. The deposits observed included a damp mid/dark brownish grey slightly silty/sandy clay [224] (F.208), a damp mid/dark brown slightly silty sandy clay [225] (F.208), a mid-grey clay with lenses of oyster shell and sandy mortar [229] (F.211) and a mid-grey sticky clay [230] (F.211)

Tr. 3: only a single Phase 1 deposit was revealed through augering. Given its thickness this is probably the fill of a feature. This was a damp mid-brownish grey silty clay [322] (F.308).

Tr. 4: the upper portion of some Phase 1 archaeology was exposed and a small sondage excavated through a feature. Elsewhere other deposits were only observed through augering. The feature revealed was a substantial vertically sided cut F.412: its dimensions are uncertain but it had caused substantial slumping of later deposits and appears to have been over 1.95m by 1.5m in extent and was probably 1.1m deep. It was filled with a series of deposits including a mid-greyish brown silty clay [441], a mid-greyish brown silty clay [442], an orangish brown gravelly sand [457] and a mid-greyish brown silty clay [443]. The portion of the cut [446] that was exposed was vertical and the feature must have had some form of lining for stability, either through robbing or decay: no trace of this lining survived. Stratigraphically F.412 could theoretically relate to the earliest stages of the Phase 2 construction of the medieval college buildings. Given its scale, proximity to the location of these buildings and location in the entranceway this seems extremely improbable: instead it appears to be a

Phase 1 feature that was probably extant immediately prior to Phase 2 construction and was backfilled in preparation for this. Depending upon when this construction took place this means that the pit relates either to the occupation of the site prior to it becoming to a college or to its use by the college during a period when the previous buildings continued to be utilised. Given the proximity of **F.412** to the location of Milne Street it must have been located near to the frontage. This is a relatively atypical location to dig cut features of this scale, as larger pits for tanning, retting and other industrial purposes that are known from other excavations in Cambridge would typically be located towards the rear of a property. Given the size, vertical sides and location of **F.412** the most probable explanation is that it represents a cellared or partly-cellared structure of some kind.

In addition to **F.412** another probably contemporary feature **F.416** can also be postulated. The Phase 2 construction deposits at the eastern corner of Tr. 4 consistently dip towards the south-eastern corner strongly suggesting the presence of a second underlying substantial cut feature. Other deposits associated with Phase 1 are a sequence of layers **F.413**. These consist of a c. 10mm-thick mid-brownish orange gravel surface [447], a mid-greyish brown silty clay deposit [448], a reddish-brown gravelly sand [449], a 20mm thick light yellowish brown gravel layer [450] that is probably a surface, a mid-greyish brown silty clay [451], a pale grey clay [459] and a moist reddish brown gravelly sand [461] which is probably the same as [449].

Finds and Environmental Evidence

Only a limited quantity of material was recovered from Phase 1 deposits, due to the limited nature of the investigations. As a result methodologies etc. are generally discussed with regard to Phase 3, which produced the bulk of the assemblages.

Iron

Craig Cessford

The iron items from Phase 1 deposits consisted solely of a single nail and one unidentifiable fragment (18g).

Pottery

Craig Cessford and David Hall

The only pottery from Phase 1 deposits derives from [441] (**F.412**) and consists of single sherds of 10th–12th century St. Neots-type ware (1g), 13th century Developed Stamford ware (1g) and 13th–14th century grey coarseware (8g). Residual material from later phases that probably relates to Phase 1 activity included a single sherd of

10th–12th century Thetford-type ware (39g). There was also some residual 13th–14th century material that might relate to Phase 1 but that could equally well derive from Phase 2.

Building Stone

Simon Timberlake

A small quantity of Collyweston stone roof slates was recovered from Phase 1 deposits (see Table 13). There were also a few pieces of building stone. These are Lincolnshire Limestone, possibly Upper Lincolnshire Limestone, with sparry limestone horizons that may be Weldon Stone from Northamptonshire.

F.106 [116]: two pieces, a fragment of roughly shaped and worn faced stone that is a crudely faced floor stone (120x75x55mm, 604g) and an unworked thin slab that is a piece of rubblestone fill (100x90x40mm, 504g).

F.106 [117]: unworked piece of rubblestone fill (150x95x40mm).

Plaster

Simon Timberlake

A small quality of plaster was recovered from Phase 1 deposits; this included a piece of painted wall plaster that is probably Romano-British.

A fragment of white-painted wall plaster from the base (floor level join) of an internal wall was recovered from sample 400 (**F.412 [441]**). The plaster consists of a white sandy lime-rich mortar containing small grit particles (<5mm), occasional broken-up crushed red tile (<2mm), and larger pieces of chalk or lime. This is a fairly typical plaster mix and dull cream-coloured whitewash that is typically associated with Romano-British painted wall plaster. If this is the case then it must be residual. Dimensions: 80mm long, 50mm high, 30mm thick, weight 90g. Painted wall plaster is a comparatively rare find from Romano-British sites around Cambridge, but the probability of the painted wall plaster fragments being Romano-British is high on account of the make-up of the fabric, with its small amounts of finely crushed red tile. The inclusion of tile is common to Roman plaster recipes, whether this be a wall plaster or in greater amounts in an *opus signinum* hardened plaster floor material. Both Vitruvius (in *De Architectura*) and Pliny (*Natural History*) describe the techniques of Roman wall plastering and the use of pigments in painting (Ling 1991). The softer pastel colours were sometimes painted onto the *secco* (or dry) plaster, although the final designs were usually painted directly onto the *fresco* (or fresh) plaster. Vitruvius for instance describes the composition and the making of pigments; the background whitewash (which this example almost certainly is) being composed of slaked lime. Also recovered were some small pieces and crumbs of a sand lime mortar with some small flint gravel inclusions (<10mm) weighing 50g (**F.106 [118]**).

Animal Bone

Vida Rajkovača

The small Phase 1 faunal assemblage came from a single context excavated from **F.106**, the majority of bone was identified as sheep/ goat or sheep-sized elements with cattle-sized, pig and chicken bone also present.

Environmental Remains

Val Fryer

A single sample from Phase 1 was floated and assessed (Tables 4–5). Most plant remains were charred, but de-watered roots and seeds were present. Plant macrofossils (including fragments of charcoal/charred wood) are generally scarce. However, individual grains of oats (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) are noted. Most are very poorly preserved, being severely puffed and distorted, and it is thought most likely that this degree of damage occurred during combustion at extremely high temperatures, possibly on repeated occasions. Weed seeds include charred specimens of brome (*Bromus* sp.) and an indeterminate brassica (Brassicaceae), and de-watered seeds of henbane (*Hyoscyamus niger*), a plant found on nitrogen rich soils and often associated with dung heaps. There are also charred nutlets of saw-sedge (*Cladium mariscus* - a plant often used as capping on thatched roofs) and a single small fragment of hazel (*Corylus avellana*) nutshell. Other plant macrofossils are scarce, but include an indeterminate culm node and a number of de-watered stonewort (Characeae) oogonia. The latter are most often seen in undisturbed marsh or riverine deposits. Dietary refuse, in the form of bone fragments, pieces of eggshell, fish bones are present and there were also numerous small fragments of burnt or fired clay. Although specific sieving for molluscan remains was not undertaken, shells of terrestrial and marsh/freshwater species are present, with the highest density occurring within the Phase 1 sample. It is of note that many within the latter are burnt, most particularly those specimens of the freshwater species *Bithynia* sp., *Planorbis planorbis* and *Valvata cristata*, all of which are commonly found within weed beds in ponds or streams or in small muddy pools. Why these are present is unclear, although it is, perhaps, most likely that the remains are largely derived from burnt roofing or flooring materials. In such instances, the fauna resident on plant materials imported to site for use as thatch or

flooring were often burnt along with their host plants. Although small, the assemblage from Phase 1 is more informative than that from Phase 3 (see below). It appears to be largely derived from burnt roofing or flooring materials, with the latter also possibly including cereals which were accidentally spilled during culinary preparation. This material may have formed part of a larger midden deposit including further dietary refuse and hearth sweep-out waste. The presence of de-watered seeds, roots and oogonia is of note, although it is unclear whether the deposit itself was waterlogged or whether these remains may, at least in part, be derived from one or more episodes of flooding.

Sample	400
Context	441
Feature	412
Cereals	
<i>Avena</i> sp. (grain)	x
<i>Hordeum</i> sp. (grain)	x
<i>Triticum</i> sp. (grains)	x
Cereal indet. (grains)	x
Herbs	
Brassicaceae indet.	x
<i>Bromus</i> sp.	x
<i>Hyoscyamus niger</i> L.	xw
Wetland plants	
<i>Cladium mariscus</i> (L.)Pohl	x
Tree/shrub macrofossils	
<i>Corylus avellana</i> L.	x
<i>Prunus</i> sp. (fruit stone frag.)	
Other plant macrofossils	
Charcoal <2mm	xxx
Charcoal >2mm	xx
Charcoal >5mm	xx
Charred root/stem	x
De-watered root/stem	xx
Indet. culm node	x
Indet. seeds	x
Characeae indet.	xx
Sample volume (litres)	12
Volume of flot (litres)	<0.1
% flot sorted	100

Table 4: Phase 1 plant remains. x = 1–10 specimens xx = 11–50 specimens xxx = 51–100 specimens xxxx = 100+ specimens, cf = compare fg = fragment w = de-watered b = burnt pmc = possible modern contaminant

Sample	400
Context	441
Feature	412
Other remains	
Black porous 'cokey' material	x
Black tarry material	
Bone	
Burnt/fired clay	xx
Eggshell	x
Fish bone	xx xb
Small coal frags.	x
Mollusc shells	
Woodland/shade loving species	
<i>Aegopinella</i> sp.	xcf
<i>Oxychilus</i> sp.	x
Open country species	
<i>Pupilla muscorum</i>	x
<i>Vallonia</i> sp.	x
<i>V. costata</i>	x
<i>Vertigo pygmaea</i>	x xb
Catholic species	
<i>Cepaea</i> sp.	xcf
<i>Euconulus fulvus</i>	xcfb
<i>Trichia hispida</i> group	x
Marsh/freshwater species	
<i>Anisus leucostoma</i>	x
<i>Armiger crista</i>	xb
<i>Bithynia</i> sp.	xxb
(operculi)	xb
<i>Carychium</i> sp.	x xb
<i>Lymnaea</i> sp.	x
<i>Pisidium</i> sp.	x
<i>Planorbis</i> sp.	xb
<i>P. planorbis</i>	x xb
<i>Succinea</i> sp.	x
<i>Valvata cristata</i>	x xb
Sample volume (litres)	12
Volume of flot (litres)	<0.1
% flot sorted	100

Table 5: Non-plant remains from Phase 1 sample (for key see Table 4)

Phase 2: the Medieval College Buildings

Archaeological Sequences

Structural remains of the medieval college buildings were located in all four trenches; with those in Tr.s 1–3 relating to the western range of the quadrangle and Tr. 4 relating to the eastern range (Table 6). These structural remains can be related to late 16th and mid-17th century plans (Figures 15–16) and an early 18th century ‘reconstruction’ drawing (Figure 17).

The nature of the investigations meant that very little dating evidence associated with the construction of the Phase 2 buildings was recovered. The limited quantities of pottery etc. directly associated with the construction was not closely dateable and can only be assigned a broad 13th–15th century range. The ceramic building material, both *in situ* and the material re-deposited in Phase 3, also only broadly dates the building remains as 14th–16th century. What the structural remains do indicate is that there is consistently evidence for only a single phase of medieval building in each trench and there is no particular evidence that the different trenches are of different date. There is also no evidence that the western and eastern ranges are of different date. It has typically been argued that the purpose built medieval college buildings were constructed in the 1330’s and there is nothing in the excavated evidence to contradict this. Equally there is nothing that rules out the buildings being constructed later in the 14th century or indeed dating to the 15th century.

Technically there is nothing that prevents the investigated structure post-dating the documented fire of 1521, when ‘the Master’s chamber and the college treasury burnt down, causing great loss of money, evidences, and other property’ (quoted in Willis & Clark 1886, 79). There is then documentary evidence for a sequence of building works including the kitchens and the chambers between it and the hall (1523), the hall and one of the Master’s chambers being moved (1524), the whole building belonging to the master being erected (1525), the building between the Master’s Chamber and the chapel (1528), the chapel and a party wall from the west door of the hall to a house by the river side (1535) (quoted in Willis & Clark 1886, 79). Indeed there is a quantity of 16th–17th century pottery from Phase 2 deposits linked to the construction of a wall in Tr. 3 (F.304; 5 sherds, 186g) and general construction related deposits in Tr.4 (F.414: 11 sherds, 120g). These could indicate that the Phase 2 structures relate to building after the fire of 1521, although for this to be correct it would mean that any earlier purpose built college structures were removed in their

entirety leaving no traces and also that no evidence of the impact of the fire survived. Also some of this 16th–17th century pottery relates to the eastern range, which is not documented as having been rebuilt in the 16th century.

Given the limited nature of the archaeological investigations it appears safest to remain with the prevailing orthodoxy that the college buildings that began to be replaced in 1638 were largely those constructed in the early–mid 14th century, but the possibility that they are significantly later has not been disproved.

Location	Highest structural remains (m AOD)	Heights of surfaces (m AOD)	Lowest height of structural remains, including footings, observed (m AOD)
Tr. 1	8.0	7.5 (secondary floor inside building)	7.3
Tr. 2	7.8	8.1 (cobbles in quad), 7.7 (floor inside building)	7.3
Tr. 3	7.6	7.6 (floor inside building)	6.9
Tr. 4	8.0	7.7 (cobbles in gateway)	7.5

Table 6: Observed heights and of Phase 2 structural remains and surfaces

The western range is identified on the *c.* 1638 plan as comprising the Master's Lodge at the northern end (where Tr. 1 was located) and the Hall at the southern end (where Tr.s 1–2) were located. The results in the three trenches present a relatively consistent picture. The pattern of walls in Tr.s 2–3 indicates that these were located on the northern side of the cross-passage of the hall. This allows the building remains to be accurately located and aids the tying in of the *c.* 1638 plan. The structural remains all appear to relate to a single phase of construction, with no sign of any rebuilds. The structure was semi-cellared; this is effectively because the ground height in the quadrangle to the east was *c.* 0.6m higher than the area to the west. This indicates that the college had landscaped the area into a series of broad level terraces, which stepped lower towards the river. The depth of the wall foundations appears to have varied between *c.* 0.8 and *c.* 1.2–1.4m and they were constructed from a mixture of Clunch blocks, red bricks and Clunch rubble. Evidence from Tr.s 2–3 indicates that the western range was *c.* 9.7m wide (*c.* 32ft) overall with an internal width of *c.* 8.55m (*c.* 28ft).

Relatively little evidence survives for the upper portions of the walls, although it was clear that at least the lowest courses of these were constructed of squared Clunch and Barnack stone blocks. Whilst the internal floors had been entirely robbed the material that was dumped back over them suggests that they were made of tile

and brick. The material dumped during Phase 3 contained relatively high quantities of brick and Collyweston stone slates, plus smaller amounts of ceramic roof and floor tile and fragments of Clunch and Barnack stone. This suggests that much of the roofs was covered in Collyweston stone slates, some of which have traces of having been mortared in place. The relatively low quantities of ceramic roof tile suggest that this was probably not used extensively except perhaps on the ridges of the roofs. As there is no evidence that the footings of buildings were robbed the large quantities of bricks recovered indicates that these were also used relatively extensively in the building superstructure. The presence of chamfered and voussoir (wedge-shaped) bricks suggest that these may have been employed in doorways, windows or similar features. The range of ceramic building remains fabrics present indicates that there were at least two major building operations, whilst it is possible that one of these relates to pre-college buildings this is relatively unlikely. It also appears unlikely based on the evidence that these two operations relate to different ranges or buildings at the college. Instead it seems most probable that all the ranges were effectively constructed in a single building operation, at least as far as the ceramic building material is concerned, and that the second operation relates instead to repairs, alterations and extensions. Whilst in the beginning the ceramic building materials would have been a relatively uniform red, the different fabrics being visually largely indistinguishable from a distance, over time the addition of yellow fabrics would have created a more mixed visual impression, especially as some of these were roof tiles.

The eastern range has no identified function on the plan of c. 1638; it possessed an entranceway from Milne Street located towards its northern end providing the main access route into the college. The wall in the north-eastern corner of Tr. 4 represents the western end of the northern side of this entranceway whilst the cobbles must be the surface in the entranceway. This allows the building remains to be accurately located and aids the tying in of the c. 1638 plan. In terms of constructional material and form the walls of this range appears to be broadly similar to those of the more intensively investigated western range. The main difference appears to be that the eastern range has much shallower footings, probably because of the presence of more stable underlying deposits at a higher level in the area of the eastern range.

Tr. 1: Due to later truncation the Phase 2 structural remains in Tr. 1 were the least well preserved. The only surviving element was a north-south aligned wall [127] (F.103). The base of this c. 0.35m wide wall consisted of a course of squared Clunch blocks. Above this there was a core of mortared Clunch rubble with an internal western face of squared Clunch and Barnack stone blocks, typically c. 0.25m

by 0.17m in extent and 0.14m thick, and an external eastern face of handmade red bricks laid on their long axis and 225mm long 50–55mm thick. All the elements of the wall were set in the same friable pale cream coloured sandy mortar. The nature of the wall indicates that this was a semi-cellared building and the external brick face was below ground level.

Tr. 2: The structural remains in Tr. 2 consisted of a semi-cellared building at the western end of the trench and an area of cobbling to the east of this. The building at the western end of Tr. 2 consisted of north–south aligned wall (F.206), west–east aligned wall (F.207) and an area of internal flooring (F.205). Only the uppermost robbed out surface of [219] (F.206) was revealed, which was 0.56m wide and consisted of two rows of squared and faced Clunch blocks set in a pale cream coloured sandy mortar. More of wall F.207 was revealed, and this was set in a large construction cut [223] backfilled with friable pale grey and white crushed sandy silty mortar [222]. The lower portion of the wall [220] consisted of an outer (southern) face of handmade red bricks 225mm long 50–55mm thick laid on their long edge in a rather rough simple English bond and set in a pale cream coloured sandy mortar. Behind this there was a core of Clunch rubble set in identical mortar; it is unknown whether there was another layer of bricks on the inner (northern) side as this was not revealed. Although it was impossible to be absolutely certain, the wall footings were c. 1.2–1.4m thick. The wall proper was 0.32m wide and incorporated squared Clunch and Barnack stone blocks and some red handmade bricks similar to those in the footing. The internal floor had been robbed, so that only a bedding layer of firm pale cream coloured sandy mortar [221] (F.205) survived. All of the structural remains appear to be of a single phase, although wall F.206 butts against wall F.207 (and was therefore constructed later) whilst floor F.205 post-dates both walls, this is purely a short term constructional sequence.

To the east of the building there was an area of cobbling (F.204). The cobbling was c. 4.3m wide and consisted of well-laid firmly packed cobbles [217] typically 0.08–0.16m long, 0.08–0.10m wide and 0.10m thick. The cobbles were laid over a thin c. 10mm-thick bedding layer of brownish orange sand [218]. The cobbles partly overlay the construction cut for walls F.206 and F.207 and presumably ran right up to the walls. Around 0.3m from the eastern end of the cobbling there was a row of larger cobbles creating a form of edging. At the very eastern end of the cobbles there were some angled stones and brick fragments: these created an edge for an area of mid-greyish brown silty clay [227] (F.209), and this soil-like deposit presumably marks the start of an area of lawn. Although only revealed in section and through augering there is evidence that the cobbles were not the first surface associated with the building. At the western end a sequence of thin deposits F.212 consisting of a dark brownish grey silty clay [231], a mixed mid-brown silty clay [232] and a pale yellowish brown silty sand [233] were revealed. Whilst these may layers may simply relate to the construction of the cobbling it is more likely that they relate to earlier phases of surface. At the eastern end of the trench under [227] at a depth of c. 0.2m there was a c. 0.35m-thick layer of pale cream coloured sandy mortar containing occasional Clunch and brick fragments [228] (F.210). This appears to be the make-up for an earlier phase of surface.

Tr. 3: The structural remains in Tr. 3 consisted of a semi-cellared building at the western end of the trench consisting of north–south aligned wall F.304, west–east aligned wall F.305 and internal flooring F.306. F.304 was created in a large flat bottomed construction cut [319]; there was a c. 0.2m thick bedding layer of pale brown clayey silty mortar [321] beneath the wall footings [316]. The footings consisted of two courses of large squared Clunch blocks and three courses of handmade red bricks

225mm long 50–55mm thick laid on their long edge in a rather rough simple English bond and set in a pale cream coloured sandy mortar. The very uppermost portion of the footings was obscured by a mortar lip. Due to extensive robbing the exact width of the wall proper is unclear; it was at least 0.28m wide and consisted of squared Barnack stone blocks. Lying to the west of this there was a c. 0.22m-wide strip of mortar, with impressions where something had been removed. These might either be more of wall [316], in which case the wall would be c. 0.50m wide, or, alternatively, there may have been a row of bricks or tiles along the edge of the base of the wall. Given the good face of the Barnack stone blocks along this side and the fact that the contemporary bricks in the footings are 225mm long, a brick edging appears more probable. After the wall footings were built the rest of the construction cut was backfilled with mid greyish brown silty clay [315] and [314]. In the uppermost part of the cut there were some mixed thin banded deposits [320] (F.307), which probably represent 'trample' during construction. Much less of the west–east aligned wall [317] (F.305) was revealed: this was c. 0.62m wide and built from squared Clunch and Barnack stone blocks set in a pale cream coloured sandy mortar. The internal floor [318] (F.306) had been robbed, leaving only the bedding layer of pale cream coloured sandy mortar.

Tr. 4: The structural remains in Tr. 4 consisted of a wall located in the north-eastern corner of the trench (F.411) and an area of cobbles to the south of this (F.415). In addition a sequence of deposits linked to the construction of the building was investigated (F.414). The wall F.411 was located in the north-eastern corner of the trench and only partially revealed. It was within a large vertically-sided construction cut [439]; the footings consisted of a deposit of pale brownish cream coloured sandy mortar beneath two courses of roughly shaped Clunch blocks set in the same pale brownish cream coloured sandy mortar [437]. In total the footings were only c. 0.4m deep, and this may be because they came down onto a layer of reddish-brown gravelly sand [449]/[461] that the builders deemed stable enough. After the footings were built the rest of the cut was filled with pale yellowish-brown gravelly sand [436]. The only elements of the wall proper that survived were two squared Clunch blocks [438].

The cobbled surface F.415 that lay to the south of wall F.411 had suffered considerable disturbance from later features. It comprised a firm greyish-brown sandy gravel bedding layer [455] and some firmly-set rounded cobbles that are typically c. 0.1m by 0.05m in extent and c. 0.08m thick [419]. Lying over the cobbles was a firmly packed layer of mid-yellow sand [418], whilst it is impossible to be certain it is possible that these were a bedding layer for a second phase of surfacing that was later robbed.

A considerable sequence of distinctive construction related deposits F.414 were investigated. Although they inter-digitated to a degree there was a general distinction between layers deposited in the western and eastern halves of the trench. Some of these construction-related deposits were deposited prior to construction of wall F.411, whilst others lay over its footings. The lowest construction-related material observed at the western end of the trench was [454] a mid-greyish brown silty clay that was overlain by a pale grey clay [453] and then by a loose pebbly rubble deposit [440]. This was sealed by [431] a mixed deposit dominated by distinctive bright yellow sand, with a deposit of light grey clay over it [432]. Over this there was c. 15mm thick light grey silt deposit [429] that had formed a very hard crust/surface and appears to be a deliberate attempt to form a working surface. The next layer was a mid-brownish grey silty clay [424], which was cut by a shallow posthole

or possibly post-pad F.410 (cut [428], fill [427]). This feature was broadly oval and 0.48m by 0.38m in extent with a maximum depth of 0.14m and filled with a mixed mid-grey clay. Above F.410 was a series of thin inter-digitating bands of pale orangish cream coloured mortar, yellowish sand, light grey clay, dark greyish brown silty clay and mid-grey decayed Clunch [423] that represents a classic building site sequence. There was then a highly distinctive layer of light grey/white crushed Clunch that had achieved a paste-like consistency [422], and finally above this there was a layer of pale brown clayey sandy crushed mortar with horizons of pale grey crushed Clunch within it [415]. In the eastern part of the trench the earliest deposits were only revealed through augering and a small sondage. The earliest deposits were a mid-greyish brown silty clay [458] and a mixed mid greyish brown clayey silt [435]. These were overlain by a firm pale grey clay with white mottling [434], which appears to be a deliberately laid temporary surface. The next layer was a mid-greyish brown silty clay [433].

Finds and Environmental Evidence

The nature of the Phase 2 deposits mean that relatively little material other than structural components were recovered, although a small quantity of material was recovered from the fills of construction cuts. As a result methodologies etc. are generally discussed with regard to Phase 3, which produced the bulk of the assemblages. The exception to this relates to structural material. The vast majority, if not all, the structural materials deposited during Phase 3 must relate to the Phase 2 college buildings. As a result they will be discussed here, in conjunction with the *in situ* Phase 2 structural material. The building materials identified through either *in situ* remains or their presence in the Phase 3 deposits include building stone, Collyweston roof slates, bricks, ceramic roof tiles, ceramic floor tiles, stone cobbles, mortar, window glass and lead. It must be remembered that both the *in situ* remains and the material in the Phase 3 deposits are biased samples and cannot be taken as entirely representative of the material used in the medieval and early post-medieval college buildings. It is likely that a considerable quantity of material was reused and recycled during the rebuilding of the college: such material is likely to be either under-represented or absent from the archaeological record.

Iron

Craig Cessford

The only Phase 2 ironwork was heavily corroded key of medieval form [433] (F.414) (see Figure 18.1), a large rectangular plate [315] (F.304) and an unidentifiable fragment.

Pottery

Craig Cessford and David Hall

The small assemblage of pottery from Phase 2 deposits (22 sherds, 465g) consists of a mixture of fabrics datable to the 13th–15th centuries (Table 7) and the 16th–17th centuries (see Table 15). Additionally some 13th–15th century material from Phase 3–4 deposits probably derives from Phase 2 activity.

Fabric	Local dating floruit	Phase 1 count	Phase 1 weight (g)	Phase 2 count	Phase 2 weight (g)	Phase 3 count	Phase 3 weight (g)	Phase 4 count	Phase 4 weight (g)	Total count	Total weight (g)
Grey coarseware	13th–15th	2	8	3	18			1	14	6	40
Pink coarseware	13th–15th					2	14			2	14
Red coarseware	13th–15th			2	86					2	86
Brown/buff coarseware	13th–14th							2	11	2	11
Developed Stamford	13th	1	1							1	1
Medieval Ely Ware	13th–15th			1	55					1	55
Brill	13th							1	32	1	32
Total		3	9	6	159	2	14	4	57	15	239

Table 7: All 13th–15th century pottery by phase

Animal Bone

Vida Rajkovača

Animal bone was recovered from four Phase 2 features (F.207, 304, 307, 414); the assemblage generated 90 assessable specimens. Livestock species dominated, especially ovicapra which account for more than all other species combined, with cow, sheep, pig and chicken present. There was some bird bone and an especially interesting find is a coracoid from [320] (F.307) identified as swan, recorded with two fine blade insertions and a cut mark.

Oyster Shell

Craig Cessford

A small quantity of oyster shell was recovered from Phase 2 deposits (488g). This material has not been examined in detail, but is highly fragmentary and detailed analysis is likely to provide relatively little information.

Ceramic Building Material

Phil Mills

The ceramic building material (CBM) was examined by context, with material separated into different fabrics (based on x50 examination of fresh breaks) and forms, and further grouped by the presence of residues such as sooting, glaze or mortar. The material was catalogued using the following attributes recorded: fabric, form type, form code, weight (in grams), number of fragments, number of corners, complete width or length measurements (in mm), evidence of burning, reuse, mortar, presence of decoration such as glaze and any further comments. Due to the large quantity of fragments of brick and tile recovered during the evaluation, the small size of many fragments and the repetitive nature of much of the assemblage it was quantified and some material discarded on site. In total 955 brick fragments weighing 292.1kg and 575 tile fragments weighing 42.85kg were discarded, leaving 109 fragments weighing 51kg for analysis (Tables 8–9). The analysed material included 54 fragments of brick and 44 fragments of tile.

Previous archaeological excavations in Cambridge, particularly at Grand Arcade, have produced a small number of 13th–14th century imported Low Countries bricks, along with more local handmade sandy bricks of uneven dimension. These were largely produced in the area around Ely, which was a significant regional centre, with some less common ‘Eastern Counties’ material of unknown origin also present. The earliest surviving brickwork in Cambridge is in the vault of the bone-hole of St. Mary the Less, dated to c. 1350, and there is documentary evidence for the use of brick at King’s Hall in 1375–76 and Gonville and Caius College in c. 1390 (RCHM(E) 1959, c). The fine quality of brickwork veneer with traces of diamond or diaper patterning at Queen’s College of 1448–49 is the earliest surviving extensive use of exposed brickwork in Cambridge (RCHM(E) 1959, c). The production of brick and tile in Ely is partially related to the pottery industry and excavations at Potters Lane have revealed evidence for peg tile production in the 13th–14th centuries, with production of crested ridge tiles and small thick floor tiles in the 15th century (Spoerry 2008, 27–29, 64). There is also evidence for medieval brick and tile production at Shippea Hill Farm, where stacked bricks and tiles were recorded (Cra’aster *et al.* 1965, 147). Bricks that were 9in long, 4in wide and 2in thick were found in large regularly laid 10ft square stacks, while 11in long by 6 1/6in wide tiles with two holes were found stacked on edge lengthways in 15ft long rows. The earliest documentary evidence for production dates to the second half of the 15th century, when there was a ‘tyle kylne close’ at Barton Farm (Lucas 1993, 157). Prior to this there are records that in 1339 bricks and tiles were imported to Ely from King’s Lynn and Wisbech (Lucas 1993, 157), bricks were also supplied to Ely from Emneth in 1355–56 (Lucas 1993, 157). The clays in the vicinity of Ely include Kimmeridge Clay, Gault Clay and alluvial clay (Gallois 1988). It has been argued that bricks made from the different clays can be identified by their different colourings; with Kimmeridge Clay products being reddish brown, alluvial clays a range of ‘brindled or mottled hues’ and Gault clays buff or white (Lucas 1993, 158). In fact it appears likely that all the Ely products are made from the Kimmeridge Clay (Firman 1998), but the Ely fabrics can be split into five broad groups (which can themselves be further subdivided).

The earliest material present in the assemblage is likely to be the roof tile in the red Kimmeridge source clay (fabric TZ17), which whilst not the earliest fabric associated with the industry around Ely would appear to be relatively early and is probably 13th–15th century in date. The Phase 2 collegiate buildings appear to be built using brick and tile from alluvial clay sources, (fabrics TZ15 and TZ15.2), which is

important in the 14th–16th centuries. Material from Gault and particularly Gault and alluvial mixes sources is present from the 13th century at least, but is particularly important in the 16th–17th centuries, which would appear to agree with the phasing here. The latest material is from [125] (F.103), which whilst broadly of similar dimensions of most of the other bricks, was more regularly finished and had wiped surfaces, suggesting perhaps a 17th century date.

This is a small group of material, which is compatible with an early to mid-14th century date for the construction of the medieval college buildings, but does not rule out a later date. The assemblage may include reused elements from a demolished high status pre-college structure, as well as the medieval college buildings. All of the material was supplied by the industries centered on Ely. Bricks were handmade and of a variety of sizes, although there is increasing standardization into the 17th century. There is some material such as plain floor tile and glazed and crested ridge tile associated with high status structure(s) in the assemblage. There are also bricks and roof tiles in yellow and red clays, which may have been used deliberately in the structure when first built but probably represents a number of additional building phases.

The brick was handmade and of varying thickness. The majority would fit within a date range of 14th–16th century, with nothing necessarily coming from the 17th century or later, with the exception of a brick from [125] (F.103) (see above). This brick was an *in situ* part of the floor of the Phase 3 structure, which re-used the buildings of the medieval western range. There were number of brick sizes represented in the assemblage, this range is exaggerated by the handmade nature of the majority of these bricks. Unusual forms of note include two chamfered bricks, with chamfers on the longitudinal axis ([108] and [110] (F.102)). There is also a voussoir with a longitudinal taper reused in a wall ([220] (F.207)), this probably represents reuse of a brick that broke during the initial construction of the building.

There are a few ridge tiles, with splashed green glazed, which would be associated with a high status building of c. 14th–16th century date ([310] (F.302), [314] and [315] (F.304)). There are also two fragments of crested ridge tile ([106] (F.101) and [440] (F.414)) which have a longer date range. Both the glazed ridge tiles and crested ridge tile were found in Phase 3 demolition deposits and Phase 2 deposits linked to the construction of the medieval college buildings. The concentration of the green glaze ridge tile in Tr. 3 is of note.

There were five floor tile fragments. All were plain, but two had traces of glaze along their edges. There were 18 fragments of peg tile, in both red and yellow clays. There were also 16 fragments of flat tile that were almost certainly from peg tile. There was a group of material from [213] (F.202), which were embedded in plaster and may have been coursing elements from a wall.

Three examples had possible sooting traces on them (brick LZ15.2 B1.1 from Phase 2 construction [314] (F.304), LZ15.2 B1.1 from Phase 2 demolition [424] (F.414) and an over fired example from Phase 3 [420] (F.408)). There are substantial numbers of pieces which show evidence of reuse, in the form of thick mortar covering breaks in the original form. The majority are from demolition deposits, but there was an example from Phase 2 wall [220] (F.207) and construction [222] (F.207). There were ten fragments of reused brick and tile from [102] (F.100), as well as ten from [213] (F.202).

All the CBM conforms with the known supply of material to medieval Cambridge. The material is all from the industries around the Ely region with examples of the main clay deposits being used: Alluvial, Kimmeridge, Gault and Gault and alluvial. This material derives from a relatively restricted building sequence and so gives us new insights into CBM supply to this site. No examples of the 13th–14th century imported Low Countries bricks or the ‘Eastern Counties’ bricks noted elsewhere in Cambridge were present, which is consistent with the suggested end date of the 14th century of that fabric. The alluvial fabric TZ17 would appear to be an early fabric, perhaps starting in the 14th century and finishing in the 16th century. Its use for the glazed and crested ridge tiles might be residual from the demolition of pre-college buildings, but more probably relates to the collegiate buildings. All the bricks from Phase 2 were formed from alluvial fabrics and only two forms noted.

The roof tile in Phase 3 is mainly the Kimmeridge TZ17 as well as the alluvial TZ15 and TZ15.2. It seems likely that these were from two building operations. These tiles are all red in colour. There is a single yellow tile in the Gault and alluvial mixed fabric TZ42.5 from demolition/levelling layer [435] (F.414). This could derive from a later patch on one of the earlier buildings, or it could be a breakage from later construction.

The sources exploited are much wider in Phase 3, although it seems probable that the alluvial and Kimmeridge materials are residual – reused builder’s rubble from the demolition of the earlier structures. Clearly the Gault and Gault and alluvial

mixed clays were now being brought in for both bricks and roof tile which would have produced a clear yellow contrast from the earlier red buildings.

Brick and Floor Tile Fabrics and Supply

Only brick and floor tiles from the alluvial sources, LZ15 and LZ15.2 and only forms LZ15.2 B1.1 and B1.2 were noted in Phase 2. Phase 3 shows the addition of Gault and mixed Gault and alluvial sourced bricks, although LZ15.2 remains the dominant fabric in both phases. It should be noted that a large quantity of this material was reused (evidenced by mortar over breaks), presumably from an earlier structure.

Alluvial sources: This is a red sandy fabric. There are two fabrics in the assemblage which belong to this class: LZ 15 which is a fine grained well levigated variant (levigate: to reduce a substance to a fine powder or smooth paste using liquid) and the slightly less well levigated and often higher fired version LZ15.2.

LZ15: This comprised three fragments of floor tile with thickness between 25–30mm with sharp regular arrises (the line formed by the meeting of two surfaces at an exterior angle). One was from Phase 2 construction layer [315] and two were from Phase 3 demolition layers [111] and [414].

LZ15.2: There was one floor tile fragment in this fabric and five brick forms noted. Only two brick forms were noted in Phase 2: B1.1 from construction layer [304] and demolition layer [424] and B1.2 from wall [220].

B1.1 (19 examples): a slop moulded brick with dimensions of 220x100x45mm. It has fairly regular faces with occasional creasing, with fairly sharp arrises.

B1.2 (5 examples): a slop moulded brick, with regular faces. It has dimensions of 242x115x58mm. It has fairly regular fairly straight arrises. Most had a deep pressure mark along the top surface along a stretcher.

B3.1 (1 example): a short wide handmade moulded brick with dimensions of 130x50mm with a length greater than 120mm. It has irregular faces and fairly regular sharp arrises.

B5.1 chamfered brick (2 examples): a handmade brick with a chamfer along stretcher edge, deep pressure mark along stretcher side, surfaces wiped but with grass impressions.

FL 5.2: A plain glazed mosaic tile with dimensions of 130x130x30mm.

Kimmeridge Sources: there is a single fabric, TZ17, in this group which is an early (13th–15th century) red fabric with a grey core. The only examples is a fragment of a floor tile 30mm thick with sharp edges and traces of brown glaze splash from Phase 3 demolition [406].

Gault sources: there is a single fabric in this group, LZ42.1, which are described as being buff or white (Lucas 1993).

B1.2 (2 examples): a sand hand moulded brick with dimensions of 220x115x40mm it has fairly irregular fairly sharp arrises. There are striations on the upper surface and occasional blow holes and cracking. The base is sandy and there is abundant creasing on sides

Gault and Alluvial mix: this fabric, LZ42.5, does not display the pure yellow colour that perhaps should be expected with pure Gault bricks, and comprise a mixture of red and yellow lenses, in varying amounts depending on fabric, and inclusions.

B1.1 (2 examples): One example is a slop moulded brick with dimensions of 220x105x50mm with regular straight faces and regular sharp arrises. The second is a handmade hand-shaped brick 200x88x45mm. It is fairly regular, with very rounded arrises, irregular top surface, uneven header and stretchers with a sandy irregular base.

B1.2 (1 example): a sand hand moulded brick with dimensions of 220x115x40mm it has fairly irregular fairly sharp arrises. It has striations along the top and occasional blow holes and cracking.

Roof Tile Fabrics and Supply

In Phase 2 the majority of tile fragments are from Kimmeridge sources (fabric TZ17). There are also a substantial number from the alluvial source (fabrics TZ15 and TZ15.2). There is a single example of the yellow Gault source roof tile. In Phase 3 the yellow Gault tile is the most common, but the fine alluvial tile (fabric TZ15) has also increased its presence. The coarser alluvial tiles (fabric TZ15.2) and the Kimmeridge source tiles (fabric TZ17) have declined markedly. Only peg tiles with squared holes are noted in Phase 2, whereas as square and round holes are broadly equivalent in quantity in Phase 3.

Alluvial sources: as with the brick this is a red sandy fabric with two variants noted: a fine grained one TZ15 and a coarser variant TZ15.2.

TZ15: There are nine fragments of tile in this fabric. This includes one example of a peg tile with a round hole, and one example of a peg tile with a square peg hole.

TZ15.2: There are seven fragments of tile in this fabric.

Ely Kimmeridge Sources: There is a single fabric TZ17. This is a red fabric with a grey core and lime inclusions. There are 12 fragments of tile in this fabric, including four fragments from three different glazed ridge tile, including two crested ridge tiles, and five fragments from peg tiles with squared peg holes.

Gault sources: There is a single fabric TZ42.1. This is a yellow fabric, with common quartz. There were two fragments of roof tile in this fabric, with one example of a peg tile with a round peg hole.

Gault and Alluvial mix: There is a single fabric TZ42.5. This is a mixed yellow fabric with lenses of red clay. There were 12 examples of roof tile in this fabric, with three peg tiles with round peg holes and two peg tiles with square peg holes.

Detailed Fabric Descriptions

LZ15: a red (Munsell: 2.5YR5/8) hard fabric with a sandy feel irregular fracture, with inclusions of moderate poorly-sorted medium to coarse sub angular black iron stone, abundant poorly-sorted fine sub angular quartz (Previously Mills in Cessford *et al* 2006 fabric Ely 30).

LZ15.2: a red (Munsell: 2.5YR5/8) hard sandy feel irregular fracture, with inclusions of moderate well-sorted medium sub angular black iron stone, abundant well-sorted fine sub angular quartz, abundant moderately-sorted medium sub angular shell. (Previously Mills in Cessford *et al* 2006 fabric Ely 6)

LZ17: This is a red fabric with a grey core having common lime inclusions (Previously Mills in Cessford *et al* 2006 fabric Ely 22)

LZ42.1: A yellow (Munsell: 2.5YR8/6) soft sandy feel irregular fracture, with inclusions of sparse well-sorted medium sub angular grog, and sparse well-sorted medium sub angular limestone (Previously Mills in Cessford *et al* 2006 fabric Ely 19).

LZ42.5 A light red core with very pale brown surface (Munsell: 2.5YR6/8 10YR7/5) hard smooth feel fine fracture, with inclusions of moderate moderately-sorted medium rounded mica, sparse moderately-sorted medium sub angular quartz, moderate moderately-sorted medium sub rounded shell and moderate poorly-sorted medium angular voids. (Previously Mills in Cessford *et al* 2006 fabric Ely 5)

TZ15 This is a red sandy variant of ELY06. ELY 6 A red (Munsell: 2.5YR5/8) hard sandy feel irregular fracture, with inclusions of moderate well-sorted medium sub angular black iron stone, abundant well-sorted fine sub angular quartz, abundant moderately-sorted medium sub angular shell (Previously Mills in Cessford *et al* 2006 fabric Ely 30).

TZ15.2 A red (Munsell: 2.5YR5/8) hard sandy feel irregular fracture, with inclusions of moderate well-sorted medium sub angular black iron stone, abundant well-sorted fine sub angular quartz, abundant moderately-sorted medium sub angular shell (Previously Mills in Cessford *et al* 2006 fabric Ely 30)

TZ17: This is a red fabric with a grey core having common lime inclusions, used for making peg and hip tiles. (Previously Mills in Cessford *et al* 2006 fabric Ely 22)

TZ41.1: A very pale brown with pale yellow margins (Munsell: 10YR8/4 2.5YR7/3) hard granular feel irregular fracture, with inclusions of abundant moderately sorted medium sub angular shell and moderate moderately-sorted medium angular voids (Previously Mills in Cessford *et al* 2006 fabric Ely 2; Ely Gault clay Lucas 1993)

TZ42.5: A light red core with very pale brown surface (Munsell: 2.5YR6/8 10YR7/5) hard smooth feel fine fracture, with inclusions of moderate moderately-sorted medium rounded mica, sparse moderately-sorted medium sub angular quartz, moderate moderately-sorted medium sub rounded shell and moderate poorly-sorted medium angular voids (Previously Mills in Cessford *et al* 2006 fabric Ely 5).

Phase	Feature	Context	Fabric Code	Function	Form code	No.	Wt. (g)	Length (mm)	Width (mm)	Thickness (mm)	Soot	Mortaring	Reuse	Comments
3	101	106	TZ15	Ridge Tile		1	16							Crested ridge tile, brown glaze
3	102	108	TZ15	Tile		2	476			16		Y	Y	
3	102	108	LZ15.2	Brick	B1.1	1	914		110	48				
3	102	108	LZ42.5	Brick	B1.1?	1	1040		125	58				
3	102	108	LZ15.2	Brick	B5.1	1	1214		103	60				A chamfer along stretcher, pressure mark on top, surfaces wiped but with grass impressions.
3	102	108	LZ15.2	Brick	B1.1	1	2430	232	122	50				Pressure mark
3	102	110	TZ42.1	Tile		1	406			14		Y	Y	Charcoal in mortar
3	102	110	TZ15	Tile		1	481		16	14		Y	Y	Tile in mortar, charcoal in mortar
3	102	110	LZ42.5	Brick	B1.0	2	710			50		Y	Y	
3	102	110	LZ15.2	Brick	B3.1	1	1874		130	58		Y	Y	
3	102	110	LZ15.2	Brick	B1.2	1	1920		122	43		Y	Y	
3	102	110	LZ15.2	Brick	B5.1	1	2032	250	120	50		Y		Chamfer chipped upper surface, pressure mark
3	102	111	TZ42.1	Tile	PT1.0	1	53					Y	Y	
3	102	111	LZ15	Floor tile		1	392			25				White wash
3	102	111	TZ15.2	Tile		1	428					Y	Y	High fired
3	102	111	LZ42.5	Brick	B1.2	1	485		115	40		Y	Y	
3	102	111	LZ42.5	Brick	B1.1	1	561		110	40		Y	Y	

3	102	111	LZ15.2	Brick	B1.2	1	1532		112	50		Y	Y	Pressure mark on stretcher side.
3	102	111	LZ15.2	Brick	B1.2	1	2038	220	120	48		Y		Pressure mark on edge
3	101	113	LZ15.2	Brick	B1.1	1	834		110	45				Pressure mark/along stretcher side
3	104	123	LZ15.2	Brick	B3.1	1	819		140	58				From <i>in situ</i> wall, possible floor tile
3	103	125	LZ42.2	Brick	B1.2	1	1514	235	110	40				From <i>in situ</i> floor
3	202	213	LZ15.2	Brick	B1.1	1	58			45		Y	Y	
3	202	213	LZ15.2	Brick	B1.1	1	465			45		Y	Y	
3	202	213	LZ15.2	Brick	B1.1	1	683			45		Y	Y	
3	202	213	LZ15.2	Brick	B1.1	1	734		110	45		Y	Y	
3	202	213	TZ42.5	Peg Tile	PT00	1	773		14			Y	Y	Heavily mortared both sides. One surface smooth, possible base plate?
3	202	213	TZ42.5	Tile		3	1152					Y	Y	Embedded in mortar course
3	202	213	M00	Mortar		6	1252							Possible underlay for wall plaster
3	202	213	LZ15.2	Brick	FL5.2	1	1430		170	25		Y	Y	Heavily mortared on both sides if used as a floor tile than covered over.
2	207	220	LZ15.2	Brick		1	147							From <i>in situ</i> wall footing, reused

2	207	220	LZ15.2	Brick	B1.2	1	1846		115	50		Y	Y	From <i>in situ</i> wall footing, tapers out along long axis, 130mm wide at 170 mm point external length 205mm
2	207	222	TZ17	Peg Tile	PT2.1	3	514					Y	Y	Square peg tile
2	207	222	TZ15.2	Tile		3	1964							Possible roof tile embedded in a lot of mortar
3	302	310	TZ42.5	Peg Tile		1	45							
3	302	310	TZ42.5	Tile	PT1.0	1	85							
3	302	310	TZ15	Peg Tile	PT2.1	1	110							Red
3	302	310	TZ42.5	Tile	PT1.0	1	131							
3	302	310	TZ42.5	Peg Tile	PT2.0	1	138							
3	302	310	TZ42.5	Peg Tile	PT1.0	1	209					Y		
3	302	310	TZ42.5	Peg Tile	PT2.0	1	227					Y		
3	302	310	TZ17	Ridge tile		1	262							Green glaze on surface, splash
3	302	310	TZ15	Peg Tile	PT1.1	1	287							
3	302	310	TZ15	Tile		2	425					Y		
3	302	310	TZ17	Peg Tile	PT2.1	2	431					Y		
3	302	310	LZ15.2	Brick	B1.1	1	923		110	45		Y		Uneven wiped surfaces, pressure mark parallel to stretcher on top
3	302	310	LZ15.2	Brick	B1.1	1	1126		110	45		Y	Y	Straw marks on base
3	302	310	LZ15.2	Brick	B1.1	1	1224		110	45		Y		

2	304	314	LZ15.2	Brick		1	118							
2	304	314	TZ17	Tile		1	128							
2	304	314	TZ15	Floor tile		1	159			20				
2	304	314	LZ15.2	Brick		2	186							
2	304	314	TZ17	Ridge tile		2	213							Green glaze on one
2	304	314	LZ15.2	Brick	B1.1	1	235			48				
2	304	314	TZ15.2	Tile		3	270							
2	304	314	LZ15.2	Brick		1	401			32				
2	304	314	LZ15.2	Brick		7	527							
2	304	314	LZ15.2	Brick	B1.1	5	730			50	Y			
2	304	315	TZ17	Tile		1	71					Y	Y	Some glaze, splash
2	304	315	TZ15	Tile		1	126					Y		
2	304	315	LZ15	Floor tile		1	137			30				
3	406	414	TZ15	Peg Tile		1	68					Y		
3	406	414	TZ42.5	Tile		1	114					Y		
3	406	414	LZ15	Floor tile		1	189			30		Y		
3	406	414	LZ42.1	Brick	B1.2	1	654		110	50				
3	406	414	LZ17	floor tile		1	706			30				Brown glaze
3	406	414	LZ15.2	Brick	B1.1	1	768		110	50				Pressure mark on top along stretcher
3	408	420	LZ15.2	Brick	B2.4	1	272			40				Pressure mark along top stretcher
3	408	420	LZ15.2	Brick	B1.1	1	596		110	45	Y			Over fired, purple
2	414	424	LZ15.2	Brick	B1.1	1	691		110	42	Y			
2	414	424	LZ15.2	Brick		1	846			60				
2	414	435	TZ17	Tile		1	26							
2	414	435	TZ42.5	Tile		1	42							
2	414	440	TZ17	Ridge tile		1	56							Crested, thick green glaze

Table 8: Catalogue of analysed CBM

Phase	Context	Spot date	Count	Wt. (g)	Corners
3	106	14th+	1	16	0
3	108	14th–16th	6	6074	20
3	110	14th–16th	7	7433	18
3	111	14th–16th	7	5512	25
3	113	14th–16th	1	834	0
3	123	14th+	1	819	4
3	125	17th	1	1514	8
2	220	14th–16th	2	1993	4
2	222	13th–18th+	6	2478	0
3	213	13th+	10	7673	14
2	314	14th–16th	36	5697	11
2	315	13th–18th+	3	275	3
3	310	12th–16th	16	5639	21
2	424	13th–16th	2	1537	0
2	435	13th–18th	2	113	1
2	440	14th–16th+	1	56	0
3	414	14th–16th	6	2448	11
3	420	14th–16th	2	868	0

Table 9: Spot-dates for contexts based upon CBM

Building Stone

Simon Timberlake

The building stone relevant to the Phase 2 structures includes some small samples taken from *in situ* blocks (Table 10) plus some fragments recovered from Phase 2 and Phase 3 deposits (Table 11). The identified material consists of various types of Upper Lincolnshire Limestone (Inferior Oolite) rubble stone and paving stone (5.76kg retained, 11.0kg discarded on site), and a smaller amount of Clunch and chalk walling stone (1.11kg retained, 17.1kg discarded on site). In addition several *in situ* blocks provisionally identified as Barnack stone were identified on site, which, due to their positions, could not be removed or sampled without causing unacceptable levels of damage to surviving structural remains.

Cat.	F.	Context	Dimensions (mm)	Weight (g)	Lithology	Source
74	105	127	45 long	34	Lower Chalk?	Cambs.
125	207	220	Largest 30	10	Clunch (Lower Chalk)	Cambs.
124	207	220	40	16	Lower Chalk	Cambs.
121	206	219	Largest 40 long	28	Clunch (Lower Chalk)	Cambs.
220	411	436	60 long	50	Upper Lincolnshire Limestone (shelly oosparite) Ketton Stone	Ketton, Rutland.
220	411	436	60 long	50	Clunch (Lower Chalk)	Cambs.

Table 10: Samples of stone from *in situ* blocks

Cat.	F.	Context	Phase	Material	Worked	Size (mm)	Weight (g)	Lithology	Source?
15	101	109	3	Crudely faced floor stone	Knapped and shaped block with very well worn surface	90x130x60	1022	Upper Lincolnshire Limestone oolite	Northants?
15	101	109	3	Cobble	Knapped and shaped block with very well worn surface	110x80x30	400	Grey Liassic (Marlstone) oomicrite	NorthantsL incs.?, poss Badby Stone
22	101	113	3	Cut building stone (wall), possibly moulded	Sawn on two sides, narrow bolster chisel (30mm) other	100x100x70	722	Clunch	Cambs.
283	304	314	2	Rubblestone (building foundation/wall core)	Crudely shaped	100x80x65	648	Middle–Upper Jurassic limestone (fossil <i>Entolium corneolum</i> and <i>Pteroperna</i> sp)	
285	406	414	2	Cut building stone (freestone)	Sawn on four sides, broken end of sill/ moulding	70x40x30	140	Oolitic limestone (grainstone) Upper Lincolnshire Limestone (Ketton Stone)	Ketton, Rutland.
216	408	420	3	Rubblestone used for building?	Unworked but crudely shaped	250x140x50	2276	Upper Lincolnshire Limestone (Mid Inf Oolite)	Probably Weldon, Northants
225	414	423	2	Rough stone	Unworked?	85x75x50	250	Clunch	Cambs.

Table 11: Building stone from secondary contexts in Phase 2 and Phase 3

Previous work in Cambridge, notably at the Grand Arcade site (Samuel in Cessford and Dickens in prep), has revealed that Clunch (47%) and Oolitic limestone (46%) appear to be the dominant stone types used during the medieval and post-medieval periods. Other stones that have been identified include Weldon stone, Barnack stone, Ancaster freestone, Alwalton marble and possibly Hornton stone. In several instances these derive from elements that stylistically pre-date the earliest use of a type of stone type in Cambridge known from surviving buildings or documentary sources (Purcell 1967). The most commonly recovered stone from the Clare College investigations was Clunch (also known as Burwell stone and Totternhoe stone) is a greyish white chalk, often with a greenish tinge, which was quarried at Barrington, Burwell, Cherry Hinton, Eversden, Haslingfield Isleham, and Reach. Excavations at Isleham have revealed evidence for 11th–16th-century Clunch extraction and processing with quarry pits and associated tanks to soak the stone (which is cut into blocks with a large two-handled saw when wet), plus wells to provide water (Newton 2010). Clunch was referred to locally as ‘white stone’ and was used in most stone buildings at Cambridge prior to the 15th century (Purcell 1967, 24–28). Its fine grain means that it is capable of taking very delicate carving and although its high porosity and high water absorption means that its resistance to weathering is limited its performance is strongly related to its depth in the bed, the way the stone is extracted, seasoned, and laid in the building so that some Clunch can acquire a remarkable toughness. It is suitable for external work where not exposed to dripping water or damp and it lasts well if whitewashed. Clunch was utilised for the richly carved tracery at the Lady Chapel of Ely Cathedral and for internal work at Barnwell and Barrington churches (Hughes and Hughes 1909, 113–14).

The majority of the Oolitic limestone identified from excavations in Cambridge was Barnack stone (Alexander 1995, 115–16), a hard crystalline pale yellow limestone, which is robust enough for external purposes but whose hard coarse texture makes it unsuitable for delicate or detailed mouldings. Barnack stone was utilised in Cambridge from the first half of the 12th century onwards (RCHM(E), 1959, xcix) and was frequently employed from the late 13th century onwards (Purcell 1967, 29–34). The evidence from Grand Arcade indicates that it was being used in the late 12th and early 13th centuries. Weldon Stone from the Weldon-Corby area of Northamptonshire is known to have been used in Cambridge from 1446 onwards (Purcell 1967, 35–42). However the Grand Arcade excavations revealed the use of petrologically confirmed Weldon stone stylistically dated to *c.* 1300–1400 (Samuel in Cessford and Dickens in prep). Ketton stone is documented as being used in

Cambridge from the late 15th century onwards, but the earliest substantial documented use is in the 17th century (Purcell 1967, 48–53).

Almost all of the building stone recovered appears to have been crudely dressed or knapped to shape, the few exceptions to this being a number of fragments of bolster chisel-faced Clunch blocks, which were probably the facing stones for walls or buildings, plus a single small block of carefully sawn oolite (probably Ketton Stone) which may well form part of a fine tracery moulding.

Plaster

Simon Timberlake

The lumps of wall plaster recovered from **F.408** are a relatively coarse lime plaster fabric contained inclusions of chalk, flint grit and charcoal. On the surfaces of one piece there are traces of pargeting (scored lines) (see Figure 18.2). The pargeting suggested that this was a first plaster layer (or render) upon which a finer (and probably final) plaster finish had been applied. This is typical of later medieval and post-medieval buildings. An altogether cruder type of vernacular plaster made from a mixture of slaked lime and crushed chalk (Clunch) was recovered from **F.102**. This is more commonly found making up the wattle wall panels of later medieval and post-medieval timber-framed buildings. The lime mortar, which includes strips detached from the pointing or cementing of stone walls, cannot easily be dated although it is not modern and pre-dates the 19th century.

F.102 [111] sample **100**: 17 surface fragments of wall plaster composed of a puddled Clunch, sand and grit, with flint gravel and lime in a layer up to 25mm thick pressed onto a woven wattle lath framework (impressions only). Weight 224g.

F.104 [124]: one piece of plaster with a smooth flattened surface, and inclusions of lime/ chalk and flint gravel (<5mm). Weight 36g (60x45x15mm).

F.408 [420]: four large pieces (140x90x50 mm; 110x110x40mm; 90x80x40mm; 55x40x25 mm) of lime plaster containing small inclusions of flint grit (<3mm), chalk or lime (<5mm), and charcoal (<2mm). Weight 1076g. One of the pieces has a pargeted surface consisting of a pair of scored lines (10mm apart) meeting at right angles, with a single cut lozenge inside. Probably a plaster underlay layer of a wall. There was also one piece of quite abraded painted wall plaster with traces of a trowel-swept finish, and possibly the weathered remnants of a yellow-painted surface on this. Dimensions: 90mmx60mmx30mm (thick), weight 90g.

Mortar

Simon Timberlake

Mortar samples were taken from several Phase 2 walls and floors:

Wall **F.105 [127]**: eight small pieces of a sandy mortar and plaster plus many crumbs. Weight 20g.

Floor **F.205 [221]**: two pieces (and crumbs) of a lime-rich sandy mortar with an attached plaster surface. Weight 24g.

Wall **F.206 [219]**: One piece of lime-rich sandy mortar. Weight 18g (55x25x15mm thick = the mortar line in between bricks or stone in a wall).

Wall **F.207 [220]**: Crumbs of mortar. Weight 12g.

Lead

Andrew Hall

The bulk of the lead consists of window comes, these are all milled with distinctive reeding within the channels dating their manufacture to post 1600 (Egan 2005). Several of the comes from **[108]** originate from a window holding rectangular panes of glass measuring 110mm in height by an unknown length. There were also some D-shaped ties, used for attaching the window comes to the iron window frame (Egan 2005). It is likely that much of the lead from the medieval buildings was recovered and melted down for reuse; some evidence for this comes from the presence of a lead casting spill.

Phase 3 Lead

F.101 [106]: a length (80mm) of flattened window lead came.

F.102 [108]: a collection of lead window comes of varying lengths. Several of the comes originate from a window holding rectangular panes of glass measuring 110mm in height by unknown length. The assemblage also contains a length of lead tie, of D-shaped form.

F.202 [209]: 50mm length of lead strip of 9mm width and 2mm thickness.

F.302 [310]: a length of lead window tie of d-shaped section, measuring 65mm in length by 5mm width.

F.101 [112]: two small fragments of lead window comes, maximum dimensions 13x6mm.

F.202 [209]: two small fragments of lead window comes, maximum dimensions 25x7mm.

F.302 [309]: a tiny lead casting spill, 10x4mm.

Window Glass

Vicki Herring

Window glass made up the majority of the glass from Phase 3, with 114 fragments from at least 13 window panes (Table 12). All of the fragments appear to be parts of square, rectangular or triangular panes and are of varying shades of green glass.

Some fragments show weathering and thicker patina at the edges where they would have been held by lead comes. Feature **F.102** which produced a high quantity (53 shards) of the window glass for this phase also produced a quantity of Flat-H lead comes forming the framework for square/rectangular panes of glass. Decorative windows with rectangular panes of different shades of green glass of this type remain in some of the earlier college buildings, such as in some of the windows in the buildings around the First Court of Christ's College. The demolition of the medieval college would account for the dominance of window glass over vessel glass in Phase 3,

Context	Thickness and shape	Colour
101	1x1.5mm	Dark green
102	34x 1mm	Light green
	15x1mm, square	
	1x2mm, square	Blue/green
	2x1.5mm, triangular	Light green
202	34x1mm, varied shapes	Olive green
	1x1mm	Light green
	9x1mm	
	4x1.2mm, triangular	
	2x1.5mm	
302	5x1.5mm, square	Olive green
	4x1.2mm, square	Light green
	2x2mm. square	Blue/green

Table 12: Window glass from Phase 3 deposits

Phase 3 Window Glass

[112] F.101: 12x8mm. 1.5mm thick. Dark green.

[111] F.102: <30mm. 1mm thick. Light green. 34 small shards. Thick patina. Heavy weathering.

[111] F.102: <80mm. 1mm thick. Light green. 15 shards. Thick patina. Heavy weathering. Largish fragments of square panes.

[111] F.102: 44x38mm. 2mm thick. Blue/green. Thick patina. Heavy weathering. Square original shape. Grozed edge/corner.

[110] F.102: <43mm. 1.5mm thick. Light green. 2 shards. Thick patina. Heavy weathering. Triangular original shape. One fragment shows edge patina, possibly from lead comes.

[212] F.202: <29mm. 1mm thick. Olive green. 34 small shards. Thick patina. Heavy weathering. Possible shaped pieces from decorative edge patina possible showing position of lead comes.

[209] F.202: 23x14mm. 1mm thick. Light green. Thick patina. Heavy weathering.

[212] F.202: <17mm. 1mm thick. Light green. 9 small shards. Thick patina. Heavy weathering. Edge patina in places possibly where lead comes rested.

[212] F.202: <42x<23mm. 1.2mm thick. Light green. 4 shards. Thick Patina. Heavy weathering. Remaining edges (edge patina possibly from lead comes) show that the pieces were originally triangular.

[209] F.202: <42x<36mm. 1.5mm thick. Light green. 2 shards. Patina and weathering.

[309] F.302: <8mm. 1.5mm thick. Olive green. 5 small shards. Thick patina. Heavy weathering. One visible edge (8mm).

[310] F.302: 1.2mm thick. Light green. 4 shards. Thick Patina. Heavy weathering. 2 shards show rough, Grozed edges.

[310] F.302: 2mm thick. Blue/green. 2 shards. Patina and weathering. Possible grozed edges visible.

Collyweston Stone Roof Slates

Simon Timberlake

A considerable quantity of Collyweston stone roof slates (394 pieces, 91.4kg) was recovered. This material was largely discarded on site, but a small quantity of the more complete examples was retained for specialist identification (Tables 13–14). This confirmed that it was Collyweston Slate from Northamptonshire; this is not a true slate but a fissile Jurassic limestone. Collyweston slate was present in all four trenches and it occurs in all four phases, although the vast bulk of the material derives from Phase 3. This stone was used for roofing in Cambridge area during the Romano-British period, and subsequently during the medieval period it was used in Cambridge as early as the 1280's when 'slatestone of Peterborough' was used to roof the castle (Sharp 1983). There is then documentary evidence for its use by the colleges throughout the medieval and post-medieval periods. The presence of Collyweston slate in deposits ascribed to Phase 1 indicates that it was in use prior to the construction of the earliest college buildings. However, it is clear that the bulk of the assemblage derives from the roofs of Phase 2 college buildings that were demolished during Phase 3. The slates are of elongate or lozenge shape with carefully knapped edges and pick-made nail holes, there are frequent traces of

mortar indicating that they were mortared in place. The quantities of material recovered suggest that Collyweston stone slates was the principal covering of the roofs of the college buildings, although ceramic roofing materials were also employed. Typically Collyweston slate was mined underground in galleries; the softer rock beneath this bed being removed in order to undermine the fissile sandstone, which then collapsed, the pieces then being removed to surface and allowed to split and part naturally over winter as a result of frost-action. Amongst this assemblage of generally larger-sized slates (some 240-260mm long (lateral width) with others half this size (140mm wide)), we see the use of lozenge-shaped slates, the typical shape of slates hung within the roof valleys of the more complex roof types with dormers.

Phase	Count	Weight (kg)
1	31	8.1
2	8	3.6
3	313	72.5
4	42	7.2
Total	394	91.4

Table 13: Collyweston slate by phase

Cat.	Feature	Context	Tr.	Phase	Worked	Dimensions (mm)	Weight (g)	Fossils
279	302	310	3	3	Elongate shaped and carefully knapped edges with pick-made nail holes	1) 240x140x10 2) 130x135x10 3) 160x140x20 8-10mm nail hole	1910 (690+454+766)	<i>Meleagrinnella echinata</i>
156	302	309	3	3	Elongate and horizontal rectangular with carefully knapped edges with pick-made nail holes	1) 340x260x30 2) 260x130x20 10mm nail hole	3860 (2864 + 996)	<i>Gervillella</i> sp
272	102	108	1	2	Elongate shaped and carefully knapped edges with pick-made nail holes	1) 200x140x10 2) 130x120x10	788 (496 + 292)	<i>Gervillella acuta</i> and <i>Gresselya</i> sp.
273	102	111	1	3	Elongate shaped and carefully knapped edges with pick-made nail holes -	240x190x15 10-7mm nail hole	1600	
276	207	222	2	2	Lozenge-shaped slate for roof valleys?	150x125x10 8mm nail hole	236	

Table 14: Retained Collyweston stone roof slates

Phase 3: Demolition of the Medieval College Buildings and Construction of the Current College

Archaeological Sequences

Substantial deposits relating to the demolition of the buildings of the medieval college were identified in all four trenches. The demolition of the medieval college buildings was a long term process and this is confirmed by the artefactual evidence and stratigraphic sequences. Demolition almost entirely removed all walls down to foundation level leaving only a few blocks. Internal floors were also removed and in some locations specific robber events continued below foundation level. In Tr. 4 there was evidence for the construction of scaffolding to aid demolition; no such features were discovered in the other trenches although this absence is not necessarily meaningful. There is also evidence that some external surfaces were also removed. During the demolition/construction process substantial quantities of material were deposited over the site, raising and levelling the ground surface. Some of these deposits were classic robbing deposits, consisting largely of unwanted crushed mortar and brick and tile fragments. There were also substantial ashy silt deposits that appear to represent the rake-out from fireplaces and chimneys; this appears to represent opportunistic dumping of material that needed to be disposed of. There were also some substantial clayey deposits; these appear to represent material that was deliberately deposited in specific locations to improve stability. Whilst this may represent the deliberate importation of material from elsewhere, it is likely that at least in part it is material from elsewhere on the college site that was dug out during the creation of new foundations and basements.

In Tr.s 1–3, which relate to the western range of the medieval college, there is strong evidence, particularly from the clay tobacco pipes, that some of the demolition process began *c.* 1640–1660 and the latest identifiable stages of the process date to *c.* 1680–1710. Detailed building accounts record the construction of the southern range of the new buildings, which must have had an impact on the old western range, in 1640–42, but the medieval western range was still partly standing in *c.* 1683 and, possibly, as late as 1693. As there is no evidence for the Master's Lodge in the retained part of the western range in *c.* 1683 and the new southern range built in 1640–42 included temporary accommodation for the master it is possible that the northern part of the western range (Tr. 1) was demolished first. The evidence suggests that the medieval college building in this area was demolished in *c.* 1640–1660, but that at some later point in the 17th century a semi-cellaried brick structure during the 17th century, which reused elements of the earlier medieval college

building. The date of this is unclear, but it must have occurred during the demolition/construction process, presumably for use by either the builders or members of the college. This secondary structure was then demolished and backfilled c. 1680–1710. The archaeological evidence from the southern part of the range (Trs. 2–3) indicates that it was demolished in the mid-17th century, the presence of pipes typologically dated to c. 1640–1660 and c. 1660–1680 in the same deposits suggesting a date of c. 1650–70. This is hard to reconcile with the documentary evidence that refers to demolition in 1683 of two chambers over the hall screen and three more studies in a garret room above. References to division of the 'late' hall, Combination Room and butteries into chambers in 1693 are less problematic as they may well relate to temporary rooms rather than survival of a significant part of the medieval west range at that late date.

In contrast in Tr.4, which relates to the eastern range of the medieval college, there is evidence from both the ceramics and the clay tobacco pipe that the Phase 3 deposits contain material of early/mid-18th century date and are no earlier than c. 1720. The eastern range of the new college buildings was the first element to be constructed in 1638–41 and there is documentary evidence that the demolition of the medieval eastern range took place in 1640–41, when there are two payments for 'pulling down of the east end of the college' (Harris pers. comm.). Later in 1673 there are numerous payments in the building accounts for construction of the present gate piers on the street frontage and for walls along the street frontage and running back to the current eastern range (Harris pers. comm.). Both of these events are too early to relate to the excavated deposits: instead it appears likely that the deposits relate to the construction of the current chapel in 1763–69. This suggests that this area acted as a builder's yard during the construction of the chapel to the north and that during this process any 17th-century demolition-related deposits were removed.

Tr. 1: In Tr. 1 the Phase 3 deposits can be divided into three stages; the robbing of a substantial area to the east of the existing building and the deposition of a considerable quantity of material (**F.101**), the robbing of the existing building and construction of a new structure (**F.103–104**) and finally the robbing and backfilling of this second structure (**F.102**).

To the east of the building the first event of **F.101** was a general horizontal truncation cut [**115**], the reason for this cut is uncertain although it may in part have been to retrieve a cobbled surface similar to that exposed in Tr. 2. The lowest fill in this cut was a c. 30mm-thick band of firm mid-greyish brown silty sand [**114**], which appears to represent a temporary 'trample' surface that presumably built up during a period when demolition activities were taking place in the vicinity. Over this was [**112**]/[**113**], a dumped layer of pale greyish brown sandy silt, which was in turn covered by a thick deposit of orangish brown sandy gravel [**109**]. Above this there was a mid/dark greyish brown silty

clay [107] and then a deposit composed almost entirely of mortar and brick and tile fragments [106]. The final deposit in this sequence was a mid-brownish grey clayey silt containing frequent mortar and brick fragments [104].

Turning to the building area later truncation means that there is very little evidence for the initial demolition of the medieval college building. The existing wall (F.105) was substantially robbed [128] (F.104) leaving only a few of the lower courses. Above this a new wall was constructed [123] (F.104). The surviving elements of this consisted of two to three courses of red brick laid on their long axis in a rather irregular English bond. The bricks were red handmade bricks 225mm by 110–120mm in size and 50–55mm thick. These bricks appear to be the same form and fabric as those used in the earlier medieval college building and in some cases broken fragments representing around half to three quarters of a brick had been used indicating that the wall was built from reclaimed material. These bricks were set in a firm pale cream coloured sandy mortar. Although this wall made use of the remaining portion of the wall of the earlier medieval college building it was considerably off-set, lying 0.25m with its eastern edge lying 0.25m to the east of the earlier wall. The western face of this wall and the surviving portion of the earlier wall were faced with a thin skim of firm pale brownish cream coloured sandy mortar [124] (F.104). Inside the building the floor was re-laid, this consisted of a bedding layer of firm pale brownish cream coloured sandy mortar [126] (F.103) with bricks laid on edge over this [125] (F.103). These bricks were of different form and fabric, being 235mm by 110mm in extent and 40mm thick with a variable yellow/orange coloured fabric and are probably of 17th century date (see above). This type of brick was not found elsewhere during the archaeological investigations, either *in situ* or in demolition deposits, suggesting that they represent a contemporary type rather than reused medieval bricks. This semi-cellaried building might have fulfilled several functions. It might represent a structure that the builders constructed for themselves to use for storage, accommodation or other purposes, alternatively it may represent a temporary structure for use by the college for accommodation other purposes during a period when it was necessitated by the destruction of other buildings.

When this building went out of use (F.102) the earliest event of is a general truncation cut [129], which removed the upper portion of wall [123] and its associated wall plaster [124]. This cut also truncated the extant element of earlier wall [127] and removed much of the floor [125]. Cut [129] is in some respects a composite of several separate robbing events that cannot be stratigraphically separated. A series of fills were then deposited within the remnant of the building; the earliest of these was [110]/[111], a mid-grey clay with frequent mortar. Above this was [108] there was a layer overwhelmingly composed of crushed mortar plus brick and tile fragments. The final deposit in this sequence was [105] a very dark grey deposit comprising ash and fireplace/chimney rake-out.

Tr. 2: In Tr. 2 there was substantial robbing of the building at the western end of the trench (F.202), with more restricted evidence for robbing in the external area to the east (F.203). In the area of the building there was a substantial robber cut [214] (F.202), which removed almost all the walls to foundation level and the internal floor surface. In addition this robber cut continued much deeper in the south-western corner of the trench: the reason for this is unknown but it could relate to the removal of some structural element located outside the trench. This lowest deposit in this 'pit' was a mixed banded deposit consisting predominantly of dark, effectively black, silty ash with frequent inclusions [212] that appears to be composed principally of fireplace/chimney rake-out. Above this

there was a thick deposit of firm mid-grey clay [211]. To the north of this over the robbed out floor area was a deposit of pale creamy orange silty sand with frequent tile inclusions [213], which appears to represent the unwanted material from robbing the floor. Sealing both [211] and [213] was a mixed banded deposit consisting predominantly of dark effectively black silty ash with frequent inclusions [209]/[210] that appears to be composed principally of fireplace/chimney rake-out.

In the external area to the east the cobbled surface was left *in situ*, however there was a shallow linear cut close to the south side of the trench [216] (F.203) filled with a very variable deposit [215]. This robber-cut aligns well with the entranceway in the building to the west, suggesting that this area had a higher quality surface such as stone flagstones that was deemed worthy of the effort of robbing unlike the cobbles. A series of layers (F.201) were then deposited over the cobbles and the robbed area to the south of them. This sequence consisted of a mid-grey silty clay [208], a thin intermittent deposit of black ashy material [207], a thin intermittent deposit of crushed white mortar [206] and another deposit of mid-grey silty clay [205]. Finally there was a layer covering the entire trench: this was a mid-brownish grey silty clay with frequent mortar and brick inclusions [204].

Tr. 3: In Tr. 3 there was substantial robbing of the building at the western end of the trench. In addition whatever surface existed covering the external area to the west was also robbed. The walls of the building were robbed effectively to foundation level. To the south of these the robbing [313] (F.303) extended even deeper and was backfilled with a mid-brownish grey clay [312]. Prior to the general dumping of material in the area (F.302) there was a thin deposit of dark effectively black silty ash [311] that appears to be composed principally of fireplace/chimney rake-out. The first general layer was a layer composed of pale brownish cream coloured friable crushed mortar plus moderate quantities of brick fragments [310]. Above this was a dark brownish grey effectively black silty ash [309] that appears to be composed principally of fireplace/chimney rake-out. The sequence of layers above this (F.301) appears less related to demolition activities: instead they probably represent a deliberate attempt to raise the level of this area in a stable manner by depositing a series of clayey layers. This began with a mid-brownish grey slightly silty clay [308], followed by dark brownish grey slightly clayey silt [307], a mid brownish grey sticky clay [306] and a sticky mid brown clay [305]. The final deposit was a rather different discontinuous pale brownish orange gravelly sand [304], which probably represents a very temporary surface used during demolition or construction work nearby.

Tr. 4: In Tr. 4 the earliest Phase 3 events were three postholes; F.407–409. F.407 and F.409 were both located on the southern side of the trench, and one probably replaces the other although the relative sequence could not be identified. F.407 (cut [417], fill [416]) was circular and 0.35m in diameter and 0.34m deep. The posthole was filled with a mid-greyish brown clayey silt with brick fragments and stones concentrated around the edges representing packing around the post. F.409 (cut [426], fill [425]) was probably circular and is c. 0.60m in diameter and 0.45m deep. The posthole was filled with a mid-greyish brown clayey silt with stones concentrated around the edges representing packing around the post. F.408 ([cut [421], fill [420]) F.408 ([cut [421], fill [420]) was located on the northern side of the trench; it was probably circular and is c. 0.60m in diameter and 0.45m deep. The posthole was filled with a mid-greyish brown silty clay with brick fragments and stones concentrated around the edges representing packing around the post. Posthole F.408 was cut into the corner of the buildings wall footings, probably avoiding the wall proper, and presumably represents some form of scaffolding erected to aid with the demolition process. The walls and floor of the building were then

truncated effectively to foundation level [456] (F.406). A deposit of mid-greyish brown silt containing frequent Clunch fragments and occasional brick fragments was deposited over the robbed out floor and walls [452](F.406). The next deposit was a layer of mid-greyish brown silty clay [414] (F.406) covering the entire trench. This was followed by two relatively nondescript layers [404] and [403] (F.406).

Finds and Environmental Evidence

A considerable quantity of material was recovered from Phase 3 deposits. This is a significant assemblage, but the nature of the material is somewhat problematic for two reasons. Firstly, given the trench-based nature of the investigations relatively few deposits were excavated in their entirety as the majority were extensive layers or fills that extended well beyond the limits of the trenches. This means that we are only dealing with a small sample of any depositional group. Secondly, who generated the material; does it relate to the members of the college, the builders involved in the construction work or a mixture of the two? Both these issues are crucial to understanding the assemblages. Structural materials recovered from Phase 3 deposits have already been discussed under Phase 2, as the overwhelming majority of such items must relate to the college buildings of this phase (see above).

Pottery

Craig Cessford and David Hall

A relatively small (267 sherds, 3092g) but still significant assemblage of pottery was recovered from Phase 3 deposits. There was a small quantity of residual 13th–15th material (six sherds, 159g); the rest of the material is 16th–18th century in date (Table 15). Additionally it appears that almost all the 16th–18th century pottery from Phase 4 deposits represents re-deposited Phase 3 material. As a result the material will be discussed as a single group (including 16th–17th century material from Phase 2). All of the fabrics are well-known types that occur frequently locally and will not be discussed in detail.

One noteworthy element is the dominance of Frechen stoneware over Raeren stoneware. Production at Raeren and importation into Britain peaked in the late 15th and early 16th centuries and by c. 1550 it had been largely supplanted by Frechen. Westerwald stoneware does not appear in Cambridge until the 17th century and

continues in use until the 19th century. The material from the assemblage has either cobalt blue or cobalt blue plus manganese purple decoration; pieces with manganese post-date *c.* 1650. 17th-century Westerwald pottery is relatively rare in Cambridge and these pieces represent a relatively significant discovery. The tin-glazed earthenware is largely plain, although a few sherds do have simple blue decoration. As far as can be determined it all post-dates the beginning of production of this ware in London in *c.* 1570 and is probably all 17th century as identifiably later characteristics are missing. Potters probably began experimenting with Staffordshire-type white salt glazed stoneware *c.* 1685 but the ware was not properly developed until *c.* 1720. It then continued in popular use until *c.* 1780 and was still manufactured on a reduced scale until *c.* 1830. All of the material recovered post-dates *c.* 1720. Notably Staffordshire-type white salt glazed stoneware was only recovered from Tr. 4, where it was found in both Phase 3 and Phase 4 deposits. The Chinese export porcelain included the base of a late 17th–early 18th century tea bowl or beaker ([414] F.406; Phase 4) in Tr. 4. It has exterior Batavian-type glaze, with traces of green enamel suggest *famille verte* decoration, and an interior central floral motif (Andrew Hall pers. comm.). It is relatively unusual to find Chinese export porcelain of so early a date in Cambridge. There was also a sherd from a mid-18th century saucer with blue and white decoration from ([404] F.406; Phase 4). Very little 19th-century material was recovered, but there were single sherds of Bone China (1794+) and whiteware (1805+) from Phase 4 deposits.

Fabric	Local dating floruit	Phase 2 count	Phase 2 weight (g)	Phase 3 count	Phase 3 weight (g)	Phase 4 count	Phase 4 weight (g)	Total count	Total weight (g)
Glazed Red Earthenware	16th–17th	3	50	113	1383	31	404	147	1837
Plain grey	16th–17th	3	32	5	24	4	96	12	152
Plain red	16th–17th	9	217	2	15	2	12	13	244
Raeren stoneware	Early 16th–18th	1	7	1	17			2	24
Broad Street Bichrome	16th–17th			8	148	3	18	11	166
Iron Glazed	16th–17th			7	232	2	23	9	255
Frechen stoneware	15th–early 16th			37	585	9	168	46	753
Siegburg stoneware	15th–early 16th					1	29	1	29
Westerwald stoneware	17th–19th			18	216	3	21	21	237
Tin-glazed earthenware	Late 16th–early 19th			65	356	26	141	91	497
Staffordshire-type white salt glazed stoneware	Early–late 18th			7	53	15	79	22	32
Chinese export porcelain				1	10	2	11	3	23
Staffordshire-type slipware	17th–18th					1	5	1	5
Nottinghamshire/Derbyshire-type stoneware	18th					2	11	2	11
Bone China	1805+					2	16	2	16
Whiteware	1820+					1	3	1	3
Total		16	306	264	3039	104	1037	384	4284

Table 15: 16th–19th century pottery

Clay Tobacco Pipes

Craig Cessford

The archaeological excavations produced a moderately sized assemblage of clay tobacco pipe, totalling 663 pieces and weighing 3219g with a total stem length of 23.351m (Table 16). The bulk of the material was recovered from Phase 3 deposits (62.7% by count, 68.4% by weight) and much – but not all – of the material from Phase 4 deposits is probably re-deposited from Phase 3 deposits. As a result the entire clay tobacco pipe assemblage will be discussed as a single group. The excavation material equates to a minimum of 95 clay tobacco pipes (MNI: Minimum Number of Items). This represents the fourth largest assemblage from an archaeological investigation in Cambridge and is the largest from a collegiate investigation. The bowls were classified according to Oswald's simplified general typology (1975, 37–41), modified slightly based upon the author's unpublished research on clay tobacco pipes from Cambridgeshire. Stem bore dating has not been undertaken as the assemblage does not warrant this form of analysis. Based upon bowl typology, makers' marks and decoration the earliest material in the assemblage dates to the early 17th century (*c.* 1600–40) whilst the latest material need be no later than the mid-18th century (*c.* 1750) with definitely 19th century material – which typically dominates clay tobacco pipe assemblages from Cambridge – entirely absent.

The presence of clay tobacco pipe fragments in a context indicates a date of the late 16th to early 20th centuries (*c.* 1580–1910), although in Cambridge clay tobacco pipe fragments are generally rare in deposits prior to 1620 and after 1890. The clay tobacco pipe industry in Cambridge has been subject to two major studies, which provide lists of pipe-makers (Cessford 2001a; Flood 1976), although both are now somewhat out-of-date. The earliest clay tobacco pipes recovered archaeologically from Cambridge, dating to *c.* 1580–1630/40, were probably produced in London. Following on from this almost all pipes recovered from Cambridge were produced locally within the town until the mid-19th century, when a few pipes from Broseley (Staffordshire), London and Glasgow occur, all of which probably post-date Cambridge being linked into the railway network in 1845. Initially the pipe-making industry in Cambridge was dispersed around several parishes in the historic core of the town. Following the Eastern or Barnwell Fields Inclosure Act of 1807 Cambridge expanded rapidly eastwards, and pipe-making came to be almost exclusively concentrated in this area by the 1820's, with the exception of one kiln.

Site	Location/type of site	Count	Weight (g)	MNI	Reference
Clare College	Collegiate	663	3219	95	This report
Jesus College	Collegiate	449	1992	50	Cessford in Newman and Webb 2011, 33
132–36 Newmarket Road, Harvest Way and Eastern Gate Hotel	Barnwell suburb	2558 (1296+878+384)	8011 (3361+3578+1072)	274 (109+126+39)	Cessford in Atkins in prep A; Cessford in Atkins in prep B; Cessford in Newman 2013, 85–87
Grand Arcade plus Christ's Lane	Barnwell Gate suburb	1807 (1501+306)	9960 (6970+1495)	256 (220+36)	Cessford in Cessford 2007, 352–56 Cessford in Newman 2007, 84–85
Cornfield Court plus Old Divinity School	Town centre street block	422 (212+210)	2361 (1522+839)	105 (75+30)	Cessford in Newman 2008, 224–29 Cessford in Cessford 2012, 95, 106
Merton Hall	Private residence	165	Unk.	22	Meckseper 2014

Table 16: Clay tobacco pipe from Clare College and selected other Cambridge assemblages.

In total 68 bowls could be typologically dated (Table 17), this can also be expressed as a decadal frequency (Table 18). The typologically earliest material recovered dates to *c.* 1600–40 and the latest to *c.* 1730–80.

Type	Dates	MNI
4	c. 1600–40	5
5	c. 1640–60	28
6	c. 1660–80	21
7	c. 1660–80	2
9	c. 1680–1710	9
10	c. 1700–40	1
12	c. 1730–80	2
Total	c. 1600–1780	68

Table 17: Clay tobacco pipes dated based upon bowl typology, examples dated based upon pipe-makers' marks are not included as this would distort results

Decade	Adjusted decadal bowl count
1600's	1.25
1610's	1.25
1620's	1.25
1630's	1.25
1640's	14.0
1650's	14.0
1660's	11.5
1670's	11.5
1680's	3.0
1690's	3.0
1700's	325
1710's	0.25
1720's	0.25
1730's	0.65
1740's	0.2
1750's	0.2
1760's	0.2
1770's	0.2
1780's	0.2

Table 18: Quantities of clay tobacco pipes deposited per decade, based upon bowl typology

The initials of three pipe-makers are represented on four of the 95 pipes; these are probably the London pipe-maker John Bower and the Cambridge pipe-makers James Kuquit and William Phipos. This represents a relatively low proportion of pipe-makers' names/initials (4.2%); this is due to the temporal profile of the assemblage as marking was rare in the 17th century. There are three decorated pipes; one of two from London and one fragment of a bowl with the Royal Arms.

I/B: a type 5 (c. 1640–60) bowl with the initials I and B impressed into the base of the heel was recovered from [209] (F.202; Phase 3). This is probably the London pipemaker John Bower who is attested in a charter of 1638 (Oswald 1975, 131).

I/K: a bowl of unknown type from [414] (F.406; Phase 4) has the mould imparted initials I and K on the sides of the heel. Such pipes are common locally, both in Cambridge and nearby villages. The mark is usually associated with type 12 bowls (c. 1730–80) and relate to the local Cambridge pipe-maker James Kuquit, who is first attested in 1713 and died in 1750. James worked at 11 Sidney Street (Cessford 2001b) and was one of the few early/mid-18th century Cambridge pipe-makers to mark his products.

W/P: two pipes with the mould imparted initials W and P on the sides of the heel were recovered; one from [410] (F.403; Phase 4) comes from a bowl of unknown form whilst the other from [414] (F.406; Phase 4) is type 12 (c. 1730–80) and has a sun design stamped in relief on the base of the heel. These pipes were almost certainly manufactured by the local Cambridge pipe-maker William Phipos, who is first attested in 1719 (although he is not specifically described as a pipe-maker) and had died by 1740. Similar pipes although not particularly common have been recovered from several sites in Cambridge and nearby villages.

Royal Arms: a fragment of a bowl decorated with the Royal Arms, with just fragments of the lion and unicorn 'supporters' surviving, was recovered from [404] (F.406; Phase 4). Pipes with armorial decoration were produced in some numbers (c. 1740–1850; see Atkinson and Oswald 1980) but are rare in Cambridge. Given the rarity of pipes with the Royal Arms it is possible that the pipe represents a form of political statement denoting royal sympathies. The front of the bowl is unusual as it is plain, whereas most instances with Royal Arms have some form of decoration over the mould line.

Eight-rayed mark: a bowl of unknown from [414] (F.406; Phase 4) has an eight-rayed mark stamped in relief on the base of the heel. This is likely to be a London product of (c. 1640–60) and is therefore residual.

The clay tobacco pipes represent one of the largest groups recovered from an archaeological investigation in Cambridge and the largest from a collegiate context. The overwhelming majority of the assemblage is of mid-17th century date and the assemblage represents the largest group of material of this date from Cambridge, with the most significant group prior to this being 16 from an inn-related assemblage at Corfield Court (Cessford in Newman 2008, 224–29). Given the modest scale of the trench-based investigations at Clare College the implication is that thousands, of clay tobacco pipes were deposited during Phase 3. It is likely that the majority of these derive from members of the college, although it is possible that some component of the assemblage derives from the workmen at involved in the demolition/re-building.

Vessel Glass

Vicki Herring

Fragments of eight vessels were recovered from Phase 3 features (window glass from Phase 3 deposits is discussed under Phase 2). These were all utility bottles, most of which were most likely 'onion' shaped, dating to *c.* 1680–1700, and contemporary with the latter stages of the demolition of the college (Table 19).

Feature	Type	Object	Technique	Colour	Date
201	Vessel	Utility bottle	Free blown	Olive green	
202	Vessel	Unknown		Olive green	
302	Vessel	Utility bottle		Black	17th/18th
406	Vessel	Utility bottle – ‘Onion’		Black	Late 17th/early 18th
	Vessel			Green	Late 17th/early 18th
	Vessel			Dark olive green	1680–1700
	Vessel			Green	1680–1700
	Vessel			Olive green	Late 17th– early 18th

Table 19: Vessel glass from Phase 3 features

Phase 3 Vessel Glass

[205] F.201: Utility bottle. Olive green. Free blown. Form unclear. 1 base shard and 1 neck shard. Part of high, rounded base kick. Thick patina.

[209] F.202: Form unclear. Olive green. Free blown. 9 small body shards of thin, delicate vessel. Undiagnostic.

[311] F.302: Utility bottle. Black. Free blown. Form unclear. Base shard. Thick patina. Rounded base kick. 17th/18th century.

[414] F.406: Utility bottle. Black. Free blown. Form unclear, probably 'Onion'. Base shard. Thick patina. Rounded base kick with possible sand pontil scar. Late 17th/early 18th century.

[414] F.406: Utility bottle. Green. Free blown. Form unclear, probably 'Onion'. Base shard. Thick patina. High, rounded base kick with sand pontil scar. Late 17th/early 18th century.

[414] F.406: Utility bottle. Dark olive green. Free blown. Form unclear, probably 'Onion'. 3 base shards, 2 re-fitting neck/rim shards and 3 body shards. Thick brown patina. High rounded base kick with sand pontil scar. Short tapered neck with applied rim just below the lip. 1680–1700.

[414] F.406: Utility bottle. Green. Free blown. Form unclear, probably 'Onion'. 3 base shards of which 2 re-fit and 15 body shards. Thick opalescent patina. High, rounded base kick with possible sand pontil scar. 1680–1700.

[414] F.406: Utility bottle. Olive green. Free blown. Form unclear. 9 body shards. Thin brown patina. Late 17th/early 18th century.

Coin and Jettons

Martin Allen and Andrew Hall

One coin and two or three jettons were recovered. 16th-century jettons are common finds in both rural and urban post-medieval archaeological contexts. They would probably had a variety of uses, such as gaming tokens, counters on exchequer boards, or even as small change. Both were of some age when deposited, indicating either an extended use-life or the re-deposition of earlier items.

- 1) A small 17th-century hammered silver coin 9mm in diameter and weighing *c.* 1g was recovered (**F.202 [209]**). It has a rose motif on both obverse and reverse and can be identified as a halfpenny of Charles I, produced by the tower mint 1625–42.
- 2) Tournai *c.* 1500–21, obverse XPC D'NS LAVDETV' around IhS, reverse DNS IHS XPC DEVS or similar around cross pattée with lis in each angle (Mitchiner 1988, no's 767–72), 27mm diameter, 2.41g (**[204] F.201**).
- 3) Nuremberg, copper alloy jetton, *c.* 1500–50, anonymous rose/orb type (Mitchiner 1988, no's 1227–47), 25mm diameter, 1.71g (**[204] F.201**).
- 4) Six heavily corroded fragments from a copper alloy disc were recovered (**[212] F.202**). The postulated diameter of the disc (*c.* 27mm) suggests these may be fragments from a jetton, but no surface detail is visible.

Copper-Alloy

Andrew Hall

Four copper alloy items were recovered; these included an *aiglet* and two pins pin, but the most impressive items were a decorated mount/fitting (Figure 18.3) and a book clasp (Figure 18.4).

F.406 [414]: a cast circular mount/fitting or cover of 28mm diameter, with traces of a central iron fixing to the reverse. The mount is silvered or tinned to the side and upper surface, with the latter decorated with engraved scroll work in the form of a stylised palm tree within a milled border. No parallels for this mount have been found within the published finds corpuses, and therefore its specific function cannot be ascertained. However, it is well made and decorative, and stylistically it most likely dates to the 16th or 17th centuries. Weight 34g.

F.202 [209]: a small book clasp 31mm in length by 7mm max. width, weight 10g. The clasp has two extended loops holding a clasp bar. The plate tapers to a sharp point at the opposing end. Through the plate there are two holes retaining bent tacks or rivets. The upper surface is sparsely decorated with parallel incised lines towards the clasp bar end. A close parallel is recorded from London (Egan 2005) and suggests a 16th-century date. Such clasps were attached to the bindings to keep the book closed and therefore protect the contents. Initially it was hoped that this clasp might match examples on bindings within the Fellows' Library. However, it is believed that the first recorded library, which was built *c.* 1420–30, and its contents were destroyed by the fire of 1521 and the early books within the current collection were apparently 'brought in' to form the library collection *c.* 1720 (Dr John Guy

pers com.) and the present Fellows' Library was finally fitted out in 1729. The clasp was found with an unrelated small copper alloy pin of 24mm in length.

F.201 [205]: a rolled sheet *aiglet or* lace-end, 20mm in length, of slightly tapering cylindrical form and straight face to face seam. These would be attached around the ends of plaited textile or leather laces to protect the ends from fraying and facilitate threading. Examples from sites in London fall with the date range of the 14th to 15th centuries (Egan and Pritchard 2002).

F.302 [309]: 16mm length of pin shank, <1g in weight.

Iron

Craig Cessford

Ironwork included 57 nails in a range of sizes from small to medium, but no very large examples plus eight unidentifiable lumps. There were no large nails which is intriguing given the wealth of other structural material from Phase 3 deposits as these might have been anticipated if large structural timbers had been present. Four contexts produced blade fragments, all probably from knives and there was one possible staple.

Building Materials

The majority of the building materials recovered from Phase 3 deposits have already been discussed under Phase 2 (see above). There are, however, a few pieces that relate directly to Phase 3. These include:

Sample of mortar bedding from floor **F.103 [126]**: two pieces (plus crumbs) of a lime-rich sandy mortar with an attached plaster surface. Weight 30g.

17th century brick from **F.104 [123]** (see above).

Animal Bone
Vida Rajkovača

The excavations resulted in the recovery of a faunal assemblage totalling 1261 assessable specimens and weighing 11988g. The majority of the bone was recovered by hand (Table 20; 997 specimens or 79.1%), and the remainder came out of heavy residues following the processing of the environmental bulk soil samples (264 specimens or 20.9%). The assessment offers a brief outline of the results, quantification and the characterisation of the assemblage.

Hand-recovered material	Phase				Total
	Phase 1	Phase 2	Phase 3	Phase 4	
Contexts	1	9	27	6	43
Fragments	21	90	808	78	997
Heavy residues	Phase 1	Phase 2	Phase 3	Phase 4	Total
Contexts	1		5		6
Fragments	80		184		264

Table 20: Context and fragment count per phase.

The zooarchaeological investigation followed the system implemented by Bournemouth University with all identifiable elements recorded (NISP: Number of Identifiable Specimens) and diagnostic zoning (amended from Dobney & Reilly 1988) used to calculate MNE (Minimum Number of Elements) from which MNI (Minimum Number of Individuals) was derived. Identification of the assemblage was undertaken with the aid of Schmid (1972), and reference material from the Cambridge Archaeological Unit. Most, but not all, caprine bones are difficult to identify to species, but it was possible to identify a selective set of elements as sheep from the assemblage, using the criteria of Boessneck (1969) and Halstead (Halstead *et al.* 2002). Ageing of the assemblage employed both mandibular tooth wear (Grant 1982; Payne 1973) and fusion of proximal and distal epiphyses (Silver 1969). Taphonomic criteria including indications of butchery, pathology, gnawing activity and surface modifications as a result of weathering were also recorded when evident.

Surface condition was variable, but it was mostly rated as quite good to good (Behrensmeyer 1978). Some 117 specimens were recorded with minimal weathering (Table 21; 11.7% of the hand-recovered assemblage). Burnt bone formed a negligible part of the assemblage with 50 specimens showing signs of charring or calcination

(3.9%). Some 3.5% of the hand-recovered bone were affected by rodent or carnivore gnawing (N=35), represented by a wide range of elements.

	Phase 1		Phase 2		Phase 3		Phase 4	
	Contexts	Fragments	Contexts	Fragments	Contexts	Fragments	Contexts	Fragments
Preservation								
Good	1	21			8	173		
Quite good			5	54	10	565	4	67
Moderate			4	36	9	70	2	11
Quite poor								
Poor								
Mixed								
Total	1	21	9	90	27	808	6	78

Table 21: State of preservation by context and fragment.

As shown in Table 22, the overwhelming majority of fauna came from Phase 3. The overwhelming prevalence of the three main 'food species' clearly reflects a heavy economic reliance on domestic resources, where sheep/ goat is the core food producing species with cattle and pigs making a smaller but consistent contribution (Table 22).

Taxon	Phase 1			Phase2			Phase 3			Phase 4		
	NISP	%NISP	MNI	NISP	%NISP	MNI	NISP	%NISP	MNI	NISP	%NISP	MNI
Cow				5	11.6	1	39	10.5	3	12	30.8	1
Ovicaprid	10	83.4	2	30	69.8	4	252	67.9	21	19	48.7	3
Sheep				2	4.6	1	16	4.3	6	2	5.1	1
Pig	1	8.3	1	2	4.6	1	20	5.4	1	2	5.1	1
Horse							2	0.5	1	1	2.6	1
Dog/ fox										2	5.1	1
Rabbit							12	3.2	2			
Chicken	1	8.3	1	2	4.6	1	20	5.4	2	1	2.6	1
Domestic goose							2	0.5	1			
Mallard							1	0.3	1			
Swan				1	2.4	1						
<i>Galiformes</i>							4	1.1	1			
<i>Rallidae</i>							1	0.3	1			
<i>Waders</i>							1	0.3	1			
<i>Anseriformes</i>				1	2.4	1	1	0.3	1			
Sub-total to species	12	100		43	100		371	100		39	100	
Cattle-sized	1			23			83			16		
Sheep-sized	8			21			329			23		
Bird n.f.i.				3			22					
Fish n.f.i.				.			3					
Total	21			90			808			78		

Table 22: Number of Identified Specimens and Minimum Number of Individuals for all species: breakdown by phase; the abbreviation n.f.i. denotes that the specimen could not be further identified.

As a whole, ovicapra are dominant, both within the NISP and MNI, especially during the Phase 3 which marks the demolition of the medieval college buildings and construction of the current college. This sub-set also generated the widest range of species, and an especially broad range of bird species, for an assemblage of this size. Quantitatively the most substantial sub-set came from the sub-set corresponding to Phase 3. The bone amounted to over 80% of the hand-recovered bone and two-thirds of the entire site assemblage. Ten features contained faunal material (F.101, 102, 106, 201–02, 301–03, 406, 409). F.302 was especially rich in animal bone, producing 343 specimens or 42.4% of the sub-set. To illustrate the quantity of bone waste coming from this feature, F.302 generated 34% of the hand-

recovered assemblage. Ovicapra were the dominant species, like the rest of the assemblage, in this case making up just under one-third of the sub-set. If we take the unidentifiable sheep-sized elements into account, this prevalence is even greater.

The smallest three sub-sets produced little or no ageing or measurable data. The quantitatively most substantial sub-set marked by Phase 3 contained a small number of mandibles of cattle, sheep/ goat and pig. All three cattle mandibles were aged to 0-1 months, usually an indication of on-site rearing. It is difficult to tell if that really had been the case here, though it does prove animals were kept if not on site, then locally. A single pig mandible was aged to 2-7 months of age, and the sheep mandible gave the age at death of 4-6 years. Though the overall preservation of the bone was good, only two complete and measurable specimens were recorded: sheep/ goat radii from [315] (F.304). One gave the shoulder height estimation of 59.5cm and the other 63.9cm. The good preservation allowed for a great number of butchery marks to be recognised. Overall, the percentage of bone with butchery marks was quite high, ranging from 23-31% (Table 23) of the hand-recovered assemblage. Marks from all stages of carcass processing were recorded, the most common being the splitting of carcasses down the sagittal plane into left and right portions. This was visible on a series of vertebrae, as dorso-ventral chops down the sagittal plane. The majority of these chops were off-centre, indicating the blades were not sharp or heavy enough to cut through the dense vertebra centrum. Although present in some prehistoric assemblages, this butchery technique was extremely rare until the 16th century when it becomes increasingly important (Maltby 1979).

Phase	Species	Number of specimens	% of NISP affected
1	Ovicaprid	4	40.0
	Sheep-sized	1	0.0
Total Phase 1		5	23.8
2	Cow	2	40.0
	Ovicaprid	16	53.3
	Cattle-sized	7	0.0
	Sheep-sized	3	0.0
Total Phase 2		28	31.1
3	Cow	7	17.9
	Ovicaprid	118	46.8
	Chicken	7	35.0
	<i>Anseriformes</i>	1	100.0
	Cattle-sized	21	0.0
	Sheep-sized	88	0.0
	Bird n.f.i.	1	0.0
Total Phase 3		243	30.1
4	Cow	5	41.7
	Ovicaprid	9	47.4
	Horse	1	100.0
	Cattle-sized	5	0.0
	Sheep-sized	1	0.0
Total Phase 4		21	26.9

Table 23: Number of specimens and the percentage of NISP affected by butchery.

Heavy residues were studied from six samples (Table 24), from Phase 1 and five from Phase 3. The two largest bone deposits from site (F.202, 302) also generated bigger quantities of bone as heavy residues, with 88 and 70 specimens consecutively. Combined, this figure corresponds to *c.* 60% of all bone from heavy residues. Fish remains were particularly significant and their recovery puts an emphasis on the overall importance of environmental sampling. Apart from fish, livestock species, rabbit and chicken are once again the prevalent species and seem to have formed an important part of the college's dietary regime.

Taxon	Phase 1	Phase 3
	NISP	NISP
Cow		2
Ovicaprid	1	2
Pig	1	2
Cat		1
Chicken		1
Rabbit		1
<i>Waders</i>		1
Cod?	1	
<i>Cyprinid</i>	7	
Frog/ toad		11
Sub-total to species	10	21
Cattle-sized		1
Sheep-sized	8	65
Rodent-sized		5
Bird n.f.i.	6	13
Fish n.f.i.	37	45
Mammal n.f.i.	19	34
Total	80	184

Table 24: Number of Identified Specimens for all species from heavy residues, by phase.

The Clare College faunal assemblage is an important addition to the growing corpus of knowledge about the medieval and post-medieval Cambridge. The quantity of animal bone retrieved from a relatively small area is both quantitatively substantial and quite varied in terms of species present. The assemblage's association with the college gives us an important opportunity to learn about the range of exploited species, the character of animal use, the nature of food consumption and deposition. The overwhelming dominance of sheep/goat, especially sheep (Table 22), is in keeping with expected patterns for the period. The remainder of the assemblage is made up of other domesticates, rabbit and chicken. Preliminary identification of bird bones from the assemblage shows a relatively varied range: chicken and other closely related *Galliformes*, geese, ducks (mallard), *Rallidae* (coot family), small waders and probably *Passerines*, though these will need to be subject to specialist analyses. The fish assemblage also appears to be varied with probably cod, pike and smaller cyprinids (perch and roach) present.

The most suitable comparative assemblage for the Phase 3 material is the slightly earlier Trinity College kitchens assemblage (Rajkovača in Newman 2011). The range of species is almost identical, with the main difference being the abundance of rabbit remains in the Trinity College kitchens assemblage, where they were almost as

common as ovicapra. The Clare College assemblage showed a heavy reliance on sheep, birds and fish, and appears to have been 'processed' to a greater degree.

It is recommended that further identifications of bird and fish species are made. This will improve our understanding of use of these two faunas. Given the assemblage's lack of biometrical and ageing data, the area which could benefit from further study is butchery and body-part representation and distribution. In-depth analysis of butchery marks will help paint a picture of food procurement strategies and consumption, the food imports and trade, as well as social and cultural dietary preferences. The assemblage's capacity also lies in its potential to play a role in a future synthetic analysis of similarly dated assemblages from medieval and post-medieval Cambridge.

Oyster Shell

Craig Cessford

A moderate quantity of oyster shell was recovered from Phase 3 deposits (6193g), there was also some material in Phase 4 deposits (2838g) that appears to represent material largely re-deposited from Phase 3 deposits. This material has not been examined in detail; it varies in preservation and further study is likely to provide relatively little information.

Environmental Remains

Val Fryer

Six samples were submitted for assessment, five from Phase 3 (Tables 25–26) and one from Phase 1 (see above). The samples were bulk floated by CAU and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x16 and the plant macrofossils and other remains noted are listed in Tables 25–26. Nomenclature within the table follows Stace (2010) for the plant macrofossils and Kerney and Cameron (1979) and Macan (1977) for the mollusc shells.

Plant macrofossils (including fragments of charcoal/charred wood) are generally scarce. Wheat (*Triticum* sp.) was noted but most cereal remains are very poorly preserved, being severely puffed and distorted, and it is thought most likely that this degree of damage occurred during combustion at extremely high temperatures,

possibly on repeated occasions. Weed seeds are particularly scarce, A charred fragment of sloe type (*Prunus* sp.) fruit stone is noted within the assemblage from sample 200. Charcoal/charred wood fragments are present throughout, although rarely at a very high density. Other plant macrofossils are scarce,

The Phase 3 samples are generally large (0.5–0.9 litres in volume) and almost entirely composed of black porous and tarry residues and small pieces of coal. It is though most likely that the porous and tarry residues are all by-products of the combustion of the coal, with much of the material probably being derived from fireplaces/hearths within the college. Dietary refuse, in the form of bone fragments, pieces of eggshell, fish bones/scales and part of an oyster shell, are also present along with small flakes of glass. Although specific sieving for molluscan remains was not undertaken, shells of terrestrial and marsh/freshwater species are present within all assemblages.

In summary, the Phase 3 assemblages are a challenge to interpret with any degree of accuracy as they are so limited in composition. Much of the material would appear to be derived from hearth/fireplace waste which was either dumped as backfill or deposited as ground make-up. Plant macrofossils are so scarce that it is difficult to suggest any particular source for them, although some may derived from twists of straw or dried herbage used to kindle the fires. As none of the assemblages contain a sufficient density of material for quantification (i.e. 100+ specimens), no further analysis is recommended.

Sample	100	101	200	201	300
Context	111	112	209	212	309
Feature	102	101	202	202	302
Cereals					
<i>Triticum</i> sp. (grains)		xcf			
Cereal indet. (grains)			xcffg	x	
Herbs					
<i>Sinapis</i> sp.		x			
Tree/shrub macrofossils					
<i>Prunus</i> sp. (fruit stone frag.)			x		
Other plant macrofossils					
Charcoal <2mm	x	xxxx	xx	xxx	x
Charcoal >2mm		xx	xx	xx	x
Charcoal >5mm		x	x	x	
Charred root/stem				x	x
Sample volume (litres)	14	14	14	14	14
Volume of flot (litres)	<0.1	<0.1	0.5	0.9	0.5
% flot sorted	100	100	25	12.5	25

Table 25: Phase 3 plant remains. x = 1–10 specimens xx = 11–50 specimens xxx = 51–100 specimens xxxx = 100+ specimens, cf = compare, fg = fragment, w = de-watered, b = burnt, pmc = possible modern contaminant

Sample	100	101	200	201	300
Context	111	112	209	212	309
Feature	102	101	202	202	302
Other remains					
Black porous 'cokey' material	xx	x	xxxx	xxxx	xxxx
Black tarry material	xxx	x	xxxx	xxxx	xxxx
Bone	x	x	x	x	x
Burnt/fired clay		x			
Eggshell	x			x	
Fish bone	x	x	x	x	x
Glass	x	x			
Marine mollusc shell				x	
Small coal frags.	xxxx	x	xxxx	xxxx	xxxx
Small mammal/amphibian bones	x	x			
Textile/fibre				xpmc	
Vitreous material	x	x			
Mollusc shells					
Woodland/shade loving species					
<i>Clausilia</i> sp.		x			
<i>Discus rotundatus</i>		x			
<i>Oxychilus</i> sp.		xcf			
Zonitidae indet.		x			
Open country species					
<i>Pupilla muscorum</i>		x			
<i>Vallonia</i> sp.		xx	x	x	
<i>V. costata</i>		x			
Catholic species					
<i>Cochlicopa</i> sp.					x
<i>Trichia hispida</i> group	x	xx	x		x
Marsh/freshwater species					
<i>Bithynia</i> sp.					xb
(operculi)				x	
<i>Gyraulus albus</i>				x	
<i>Valvata cristata</i>				x	
Sample volume (litres)	14	14	14	14	14
Volume of flot (litres)	<0.1	<0.1	0.5	0.9	0.5
% flot sorted	100	100	25	12.5	25

Table 26: Non-plant remains from Phase 3 samples (for key see Table 25).

Phase 4: the Current College

Archaeological Sequences

All four trenches were located within grassed areas as shown on various historic maps (Figure 19). The lawn sequences associated with the lawns in Old Court revealed in Tr.s 1–3 were remarkably uniform (F.100, 200, 300). In each case they consisted of turf, topsoil, subsoil and a dark levelling deposit. Excluding the c. 40mm of turf removed by the college gardeners prior to excavation these deposits were 0.25–0.32m thick. The lawn sequence (F.400) of the front court was rather different as it lacked the dark levelling deposit present in Old Court; instead there were some paler levelling deposits (F.406). In total this sequence was c. 0.40m thick. In contrast to Old Court a number of contemporary cut features were present within the trench in the front court. These included a 19th century drain (F.402) which is depicted on a plan entitled ‘Drainage of the North Side of the College’ dated 1914, a late 19th–early 20th century planting hole (F.403) and a posthole (F.405). Rather more ambiguous is a relatively shallow square pit (F.404) that is no earlier than c. 1760. This could potentially relate to Phase 3 activity, which appears to be associated with the construction of the chapel in 1763–69 (see above), but it appears more likely that it relates to Phase 4.

Location	Current Ground surface (m AOD)	Basal height (m AOD) of Phase 4 deposits
Tr. 1	8.5	8.3
Tr. 2	8.55	8.25
Tr. 3	8.5	8.3
Tr. 4	8.55	8.3

Table 27: Observed levels of Phase 4 deposits

Finds and Environmental Evidence

Very little material was recovered from Phase 4 deposits; the layers directly associated with the current lawn in particular appear almost to have had material systematically removed from them. Additionally several types of material such as pottery, clay tobacco pipe and building materials appear to principally represent re-deposited Phase 3 material and have therefore been dealt with already (see above).

Iron

Craig Cessford

Iron from Phase 4 deposits consisted of six nails, one unidentifiable piece, one blade fragment probably from a knife and one long thin bar with a loop at the end.

Lead

Andrew Hall

A single lead item was recovered from Phase 4 (F.406 [403]). It is a pressed, sheet lead alloy (possibly pewter) disc of 31mm diameter, with a concentric ring. This could be a mount, but it appears to lack any means of attachment and could alternatively be a toy plate or dish. Of unknown date.

Vessel Glass

Vicki Herring

The Phase 4 glass is dominated by vessel glass which is much more mixed in date and type compared to that of Phase 3, ranging from free-blown utility bottles and vials of early 18th-century date through to moulded mineral water bottles of the late 19th–early 20th century (Table 28). This is consistent with the everyday use of these types of vessels within the college over time rather than being related to any specific event. There is much less window glass from this phase and the fragments that are present are of better quality and almost colourless glass, suggesting that they relate to the latter part of this phase.

Feature	Type	Object	Technique	Colour	Date
200	Vessel	Utility bottle	Free blown	Olive green	1700–25
400	Vessel	Mineral water Hamilton	2 piece mould	Light green	1840–1900
	Vessel	Mineral water Cylindrical	2 piece mould		Late 19th
	Vessel	Mineral water Cylindrical	2 piece mould or ABM	Colourless	
	Vessel	Mineral water Cylindrical			
	Vessel	Utility bottle Multi-faceted	Moulded	Light green	Late 19th
	Vessel	Wine glass		Colourless	Late 19th/early 20th
402	Vessel	Utility bottle Cylindrical	Free blown	Olive green	18th/early 19th
403	Vessel	Utility bottle		Olive green	18th
	Vessel			Light green	
	Vessel	Utility Vial Cylindrical			
404	Vessel	Utility bottle Squat- cylindrical/Cylindrical	Free blown	Blue/green	1760–1810
	Vessel	Utility bottle		Dark olive green	18th
	Vessel	Utility Vial Cylindrical		Light blue/green	
406	Vessel	Utility bottle	Moulded	Olive green	Late 19th/early 20th
	Vessel	Utility bottle Cylindrical		Colourless	
	Vessel			Blue/green	
300	Window	1x1.5mm		Light green	
403	Window	2x1.5mm		Very pale green	
404	Window	1x1mm			
	Window	6x1mm		Light green	
	Window	3x1.2mm			

Table 28: Glass from Phase 4 features

Phase 4 Vessel and Window Glass

[203] F.200: Utility bottle. Olive green. Free blown. Form unclear - possible 'Onion'. 5 base shards and 2 shoulder/neck shards. Low, wide base kick. Early 18th century (1700–25).

[402] F.400: Hamilton Mineral water bottle. Light green. 2 piece mould. Torpedo shape. Body shard. Mineral water bottle. Thin opalescent patina. Remains of embossing on body but not enough for identification. 1840–1900.

[402] F.400: Mineral water bottle. Light green. 2 piece mould. Unclear form. Body shard. Body embossed '....ATE....'. Late 19th century.

[402] F.400: Mineral water bottle. Colourless. 2 piece or ABM. Form unclear. Body/neck shard. Embossed rows of dots around lower neck. Late 19th/early 20th century.

[402] F.400: Mineral water bottle. Colourless. 2 piece or ABM. Form unclear. Neck shard. Late 19th/early 20th century.

[402] F.400: Utility bottle. Light green. 2 piece mould. Form unclear - Mutli-faceted. Body shard. Late 19th century.

[402] F.400: Wine glass. Colourless. Form unclear. Stem/bowl fragment. Hexagonal stem. Incomplete, plain rounded bowl base (possibly 'Cup'). Late 19th/early 20th century.

[408] F.402: Utility bottle. Olive green. Free blown. Form unclear. Body shard. Patina. 18th/early 19th century.

[410] F.403: Utility bottle. Olive green. Free blown. Form unclear. Base shard and 2 neck/rim shards. Thick patina. Low, rounded base kick with sand pontil scar. Applied ring below lip. 18th century.

[410] F.403: Utility bottle. Olive green. Free blown. Form unclear. 2 base shards and 6 body shards. Thick patina. 18th century.

[410] F.403: 39mm diameter. Utility vial. Light green. Free blown. Form unclear - cylindrical. Thick opalescent patina. High, pointed base kick with blow-pipe pontil scar. 18th century.

[410] F.403: Utility bottle. Colourless. Moulded. Form unclear - cylindrical. Body shard. Late 19th/early 20th century.

[412] F.404: Utility bottle. Blue/green. Free blown. Form unclear - squat cylindrical-cylindrical? 3 re-fitting base shards, 1 neck/shoulder shard and 7 body shards. Thick patina. High, rounded base kick with sand pontil scar. c. 1760–1810.

[412] F.404: Utility bottle. Dark olive green. Free blown. Form unclear. 3 re-fitting rim/neck pieces and 13 body shards. Thin or no patina. Short, tapered neck with applied rim just below the lip. 18th century.

[412] F.404: 45mm diameter. Utility Vial. Light blue/green. Free blown. Form unclear - cylindrical. Base. Thin opalescent patina. High, rounded base kick with blow-pipe pontil scar. 18th century.

[403] F.406: Utility bottle. Olive green. Free blown. Form unclear. 1 base shard and 1 body shard. Patina. 18th century.

[403] F.406: Utility bottle. Colourless. Moulded. Form unclear. Body shard. Late 19th/early 20th century.

[403] F.406: Utility bottle. Blue/green. Moulded. Form unclear. Base shard. Late 19th/early 20th century.

[430] n/a: Utility bottle. Olive green. Free blown. Form unclear. 9 base shards, some re-fitting. Thick patina. Low rounded base kick with sand pontil scar. ?1750–1810.

[303] F.300: 36x26mm. 1.5mm thick. Window. Light green. Thick opalescent patina.

[410] F.403: 30x27mm. 1.5mm thick. Window. Very pale green. 2 shards. Thin opalescent patina.

[412] F.404: 38x21mm. 1mm thick. Window. Very pale green. 1 shard. Thin opalescent patina.

[412] F.404: <35mm. 1mm thick. Window. Light green. 6 shards. Opalescent patina.

[412] F.404: <47mm. 1.2mm thick. Window. Light green. 3 shards. Thick, dark patina. Heavy weathering.

Animal Bone

Vida Rajkovača

A small quantity of animal bone was recovered from Phase 4; this consists of material from discrete features as animal bone from general deposits was not retained. Ovicaprid, cow, sheep, pig, horse, dog/fox and chicken are present.

Watching Brief

Two test pits (TP.s 1–2) dug against the northern wall of the Master's Garden revealed that in both locations the wall continued below ground surface (c. 7.7m AOD) for over 1.2m (Figure 20). The bricks and mortar were the same as the wall above ground, with no evidence for earlier builds. Both walls stepped out becoming slightly wider at several points and the lowest courses encountered were visibly more roughly laid and mortared. No sign of any construction cut was discernible in either test pit. Beside the wall the layers observed consisted of a relatively simple sequence as far as could be determined. This consisted of topsoil ([501], [508]) and subsoil ([502], [509]) overlying a deposit containing significant quantities of mortar flecks and fragments plus brick and tile fragments ([503], [510]). This deposit may possibly relate to the construction of the wall, or more generally to the rebuilding of the college in the 17th–18th centuries. Beneath this there were some nondescript mid brown sandy silty clay layers ([504], [505], [511], [513]), with the only distinctive deposit observed being a brownish orange silty gravelly sand [512]. The finds recovered during the excavation of the test pits, which are effectively unstratified, include pottery of predominantly 16th–17th century date, clay tobacco pipe of 17th–18th century date and a possible coin. This material is not included in the overall quantifications.

Watching brief finds

Test pit 1 [506]: pottery 16th–17th century plus 19th century flower pot, clay tobacco pipe type 06 c. 1660–80 (MNI 1), type 09 c. 1680–1710 (MNI 2), and c. 1680+ (MNI 1)(total MNI 5), glazed floor tile.

Test Pit 2 [514]: pottery 16th–17th century, clay tobacco pipe 1680+ (MNI 1) (total MNI 2), vessel glass mixed but all c. 1650+.

TP 3 dug against the northern wall of the north passageway revealed that services had removed most archaeological deposits in the area and rendered observation of the archaeological sequence problematic. The current wall continued below ground surface for only a short distance with two courses of brickwork [515]. These two

courses of brickwork, plus the lowest above ground course, are rather different to the rest of the wall as the bricks are only c. 50mm thick (compared to c. 65mm thick for the rest of the wall) and include bricks in both red and yellow fabrics (whereas those in the main body of the wall are uniformly red). This wall then rested on a firm c. 40mm thick band of mortar [516]. Beneath this was a c. 0.58–0.62m thick deposit of firmly mortared red brick rubble, which appears to be a foundation for the current wall built using rubble from a demolished earlier wall or structure [517]. Brick from this deposit was sampled for potential future fabric analysis. Observation of deposits beneath this was particularly difficult, but there was a c. 0.35m thick deposit composed predominantly of white mortar fragments plus occasional brick fragments with mid brown silty clay [518]. It is unclear if this deposit represents a general demolition related layer or is a lower part of the wall footings. Finally the lowest c. 0.5m of deposits, which extended to c. 1.6m below ground level, appears to consist of a homogenous mid/dark greyish brown silty clay [519]. There was no evidence for any *in situ* remains of earlier phases of walls and all the deposits appear to relate to a single phase of wall.

Test Pit 3 finds [520]

The small quantity of material that was recovered consisted of 19th century glass, 18th–19th century pottery and clay tobacco pipe.

DISCUSSION

The evaluation at Clare College proved remarkably successful at elucidating certain key aspects of the archaeological sequence, although its trench-based nature meant that it was of necessity only able to properly address certain aspects of the sequence. Due to practical considerations the main foci of the investigations were concerned with revealing Phase 2 structural remains and excavating Phase 3 demolition/construction related deposits, and this is reflected by the temporal profile of the ceramics recovered which are relatively sparse for the earlier phases of the sequence (Table 29).

Period	Date range	Phase	Count	Weight (g)
Saxo-Norman	10th–12th	1	2	40
Medieval	13th–15th	Principally 2, plus some 1	15	239
Post-Medieval	16th–19th	Principally 3, plus some 2 and 4	384	4284
Total			401	4563

Table 29: All ceramics by broad period

Although little of the pre-collegiate sequence was revealed (Phase 1) the augering in particular has confirmed that a significant depth of deposits associated with this phase survives and that there is a high archaeological potential (Figure 21). There are suggestions that some of the ceramic building material may derive from high status pre-collegiate building(s), the evidence for this is, however, inconclusive and the material could all relate to purpose built collegiate structures. Medieval college buildings (Phase 2) were present in all four trenches, in particular the identification of the wall dividing the hall of the western range from the cross-passage (Tr.s 2–3) and the southern wall of the northern portion of the eastern range (Tr.4) allows the archaeological remains to be extremely closely related to the cartographic evidence. The dating of the Phase 2 college buildings identified remains somewhat moot, whilst they may well have been constructed in the 1330's as has traditionally been argued there is no evidence to absolutely contradict them being built later in the 14th or even the 15th centuries. Indeed it is even possible that they post-date the fire of 1521 (see discussion below) although this appears unlikely. What has been demonstrated is that the surviving structural remains in each individual trench relate to a single constructional phase and there is no evidence that the remains in different trenches are of significantly different dates. As far as can be determined the remains uncovered from the western and eastern ranges are not of significantly different date, although the possibility cannot be entirely ruled out given that only a small portion of the eastern range was revealed in Tr.4.

A combination of the *in situ* remains of the medieval college buildings (Phase 2) and material recovered from the later demolition/construction related deposits (Phase 3) provides a considerable amount of insight into the nature of the college buildings. The western range in particular had substantial well-built footings constructed of a mixture of stone and brick. The stone was predominantly Clunch, but stone from Barnack, Ketton and Weldon was also employed. Although previous investigations have indicated the use of brick in Cambridge at this date the scale of its employment at Clare College was unexpected if the Phase 2 structures, this is especially true if they are indeed early–mid-14th century, but would still be true even if they were 15th century. This brick was entirely obtained from kilns on the Isle of Ely.

Whilst the geophysical survey identified as the ‘probable’ remains of buildings (Udyrysz and Richardson 2014, fig. 27) these did not correspond to the location of the wall footings identified in the trenches (see Fig. 2). Some of the anomalies identified as ‘possible’ remains of buildings do probably correspond to the location of medieval buildings, however these do not form a coherent pattern and the correspondence may be fortuitous. Given the good preservation of substantial footings it is unclear why these are not readily discernible on the geophysical survey. It is also unclear what produced the anomalies interpreted as ‘probable’ remains of buildings, whilst there are deposits of rubble etc. in the vicinity of these they were no denser than similar deposits elsewhere in the excavated trenches.

The evidence from the western range indicates that the college had landscaped the area into a series of broad level terraces that stepped lower towards the river, in effect modifying but still broadly reflecting the underlying pattern of the natural topography which sloped downwards towards the river. This meant that western range was level with the ground surface in the Master’s Garden area to the west but partially sunken with regard to the ground surface in the main quadrangle area to the east. The robbing of the internal floor surfaces suggests that these were tiled and a few fragments of floor tiles were recovered. The nature of the above-ground walls is less clear. Even allowing for the fact that much of it would have been reused relatively little stone was recovered. There were, however, significantly greater quantities of brick fragments. Whilst these may have been from foundations, none of the excavated trenches produced evidence for the significant robbing of foundations, suggesting that the above-ground structures may have incorporated significant quantities of brick. The presence of both chamfered and voussoir bricks indicate that these were employed for doors and window openings, or possibly as cappings to

walls such as the crow-stepped gable of the western range. Internally the walls were probably largely plastered and there is evidence for windows made up of square, rectangular or triangular panes with lead comes, which were introduced or more probably replaced earlier windows after 1600. The most common roofing material recovered were fragments of Collyweston stone roof slates, but there is also evidence for the use of ceramic peg tiles, plus ridge tiles splashed with green glaze and crested ridge tiles. Externally there is evidence for a wide pathway of well laid cobbles around the sides of the main quadrangle. The cobbles are probably glacially in origin and were probably obtained during the clearance of material from fields around Cambridge. Similar cobbles were also employed in the entranceway to the college.

Interpretations of the scale and impact of the fire documented in 1521 and various building works between 1523 and 1535 have varied (Harris 2014, 5). No definite *in situ* evidence for this was identified during the excavation (assuming that the Phase 2 structural remains do not relate to it) and there was also a lack of other material that might be associated with this fire. Given that this fire occurred at the Master's Chamber and the College Treasury in the western range the lack of evidence suggests that the impact was probably relatively minor.

Whilst there is no evidence for major secondary building phases there are indications of repairs, alterations and extensions during the existence of the Phase 2 collegiate buildings. In particular there is evidence for relatively late replacement of the windows after c. 1600 and the ceramic roof tiles also indicate some later phases of work. This is unsurprising given that the Phase 2 buildings were in existence for several centuries.

The investigations also produced significant quantities of material culture discarded during the demolition of the medieval college and the construction of its successor. Whilst it is possible that some of this material relates to the workmen employed on the demolition and construction work, the bulk probably derives from the members of the college. As such it represents one of the best insights into mid-17th to mid-18th century collegiate material culture from Cambridge. There were no major 'clearance' style dumps of material culture, although this does not preclude the existence of such deposits elsewhere on the site, instead the material appears to relate to the normal day-to-day discard of unwanted or broken material. The most common material deposited was rake-out from fireplaces and chimneys, and both the medieval college and its successor must have possessed dozens of chimneys that required regular cleaning. In the late 19th century in Britain ashes/cinder accounted

for around 80% cent of domestic waste (quoted in Lucas 2002, 13) and it is likely that the figure was similar in the mid-17th– mid-18th centuries. Thrown away with this rake-out was food waste in the form of unwanted animal bones and oyster shell, which shed light on the diet of the period. There were also small quantities of ceramics that presumably relate to occasional breakages. These are generally typical fabrics and forms of the period although there is a suggestion that relatively plain white tin-glazed earthenware and colourful stoneware from Westerwald may have been particularly favoured, as these appear more prevalent than on contemporary domestic sites excavated in Cambridge. Clay tobacco pipes were particularly common and appear to have been frequently discarded. The Clare College investigations produced 4284g of 16th–19th century pottery and 3219g of clay tobacco pipe, a ratio of 1.3:1. In contrast the ratio at Grand Arcade, which provides a form of domestic ‘baseline’ for Cambridge, is 8.7:1 (60591g pottery, 6970g clay tobacco pipe). This suggests that smoking may have been more prevalent in a collegiate context, but might also reflect different modes of deposition. There were also fragments of glass utility bottles, which probably contained wine. Notable individual finds include a copper alloy book clasp, which is particularly interesting in a collegiate context although such finds are relatively common on sites of all types of the period, and a decorated mount. There is also evidence for the loss of coinage and jettons, the latter of which may have had quite a long lifespan. The demolition and construction related contexts in Tr. 4 are noticeably later than those in Tr.s 1–3. This means that the two assemblages indicate changes in collegiate material culture over time. Notable changes include how much more common glass bottles became (three in Tr.s 1–3 versus five in Tr. 4) and changes in ceramics, with Staffordshire-type white salt glazed stoneware only present in Tr. 4.

Although on a relatively limited scale the archaeological investigations have greatly improved our understanding of the layout and nature of the medieval collegiate buildings, their demolition and the material culture associated with the 17th–18th century college. This allows the archaeological deposits to be modelled to a certain degree (Figure 21) informing the impact of potential future development at the college. This modelling could potentially be improved by incorporating data from other archaeological and geological investigations in the vicinity.

ACKNOWLEDGEMENTS

The work was commissioned by Clare College, University of Cambridge, and we are grateful for the assistance of the buildings manager Deborah Hoy, the gardening staff particularly the head gardener Stephen Elstub and the maintenance staff particularly Andy Brewer. The archaeological consultant Roland Harris provided much valuable help and insight during both fieldwork and post-excavation. Whilst the project was not formally monitored, Kasia Gdaniec Senior Archaeologist of the Cambridgeshire County Council Historic Environment Team was kept informed of progress and visited the site. Alison Dickens was the project manager for the CAU; the excavation team consisted of the author and Matt Williams. The site was surveyed by John Moller and photography was undertaken by Dave Webb. The report graphics were produced by Andrew Hall and Jane Matthews and Roland Harris kindly commented upon a draft of the text.

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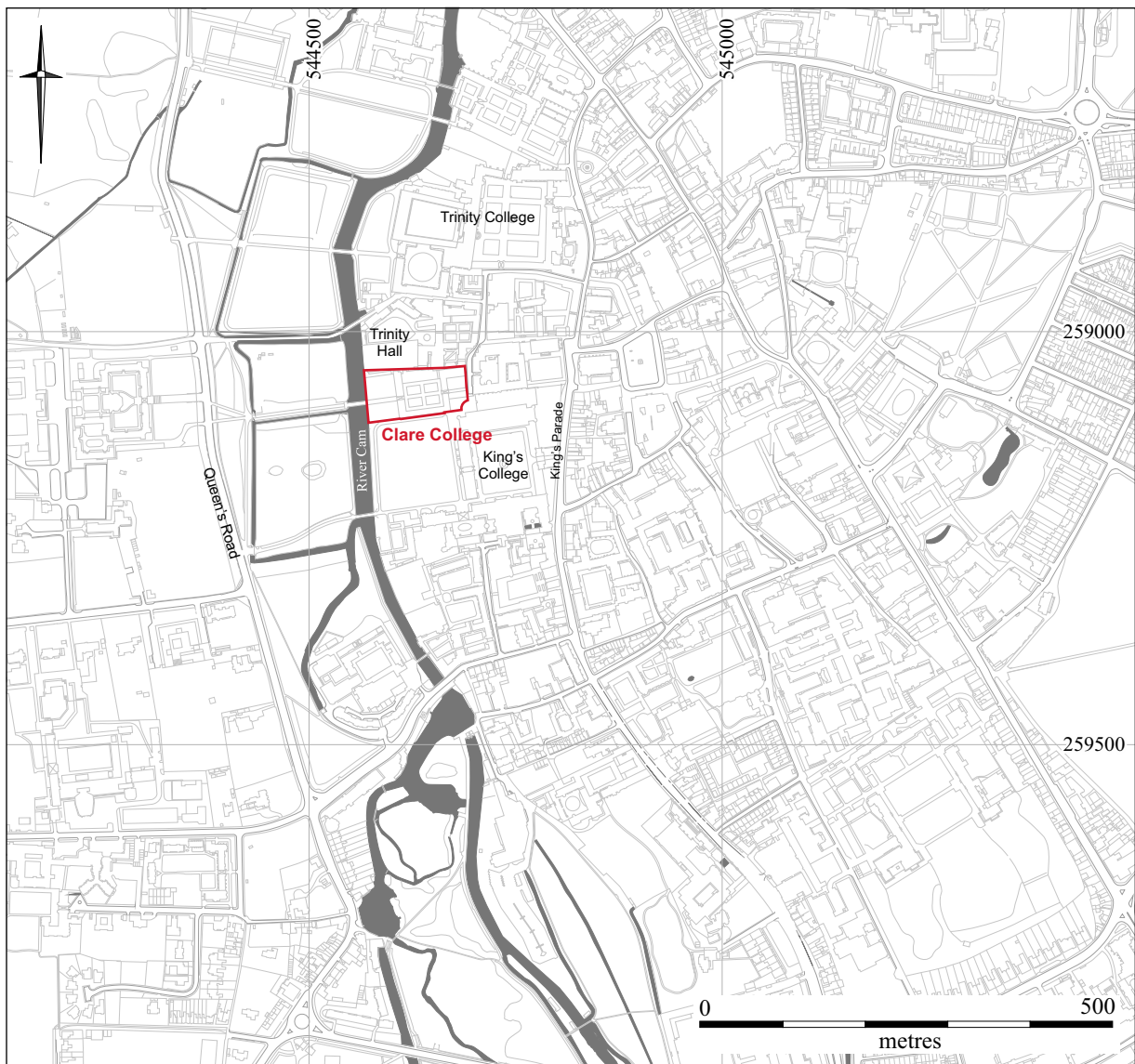
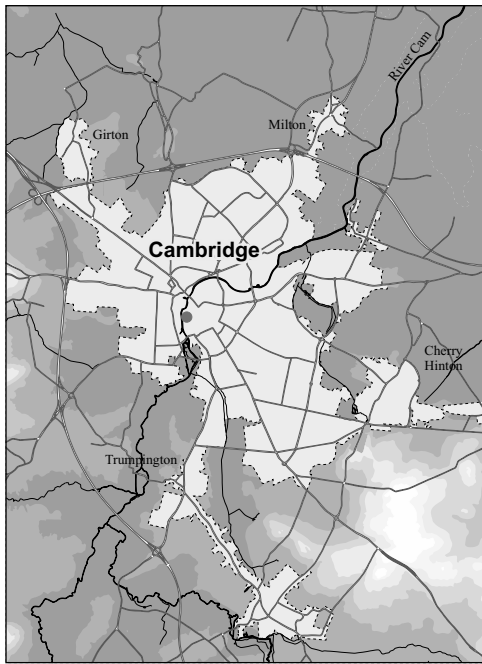



Figure 1. Site location



Figure 2. Trench, test pit and window sample locations

 Geophysical anomalies interpreted as probable remains of buildings

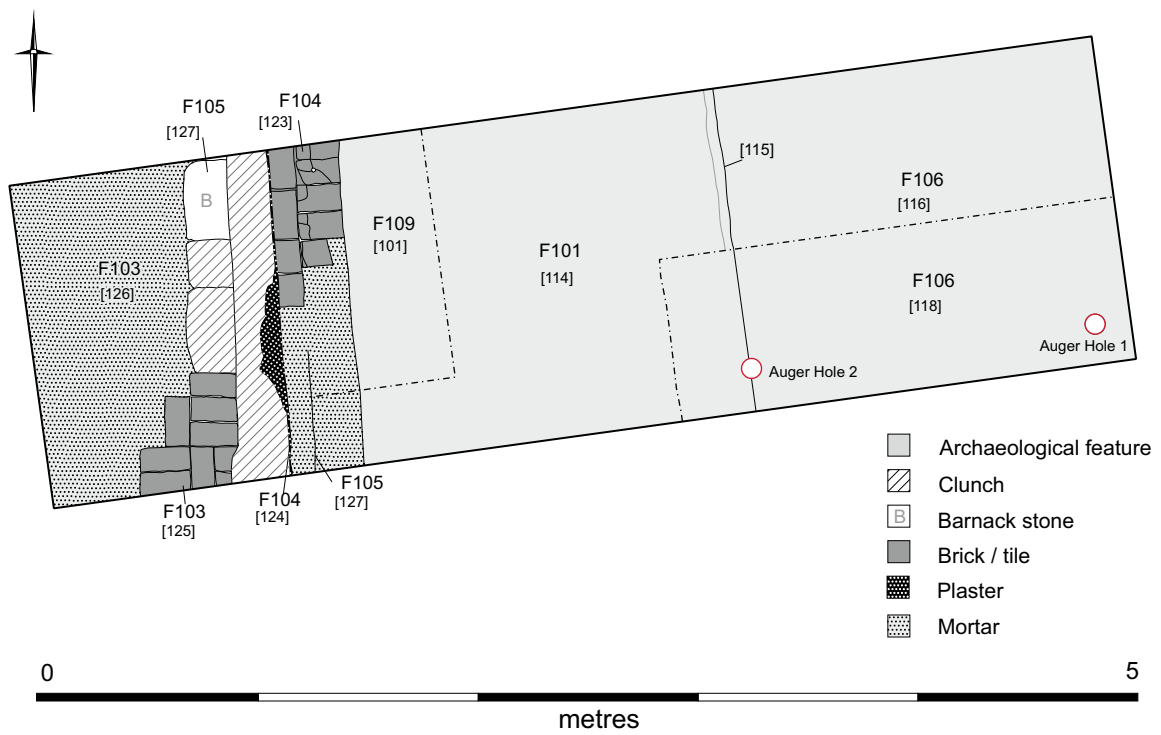


Figure 3. Plan of Trench 1 and photograph looking east

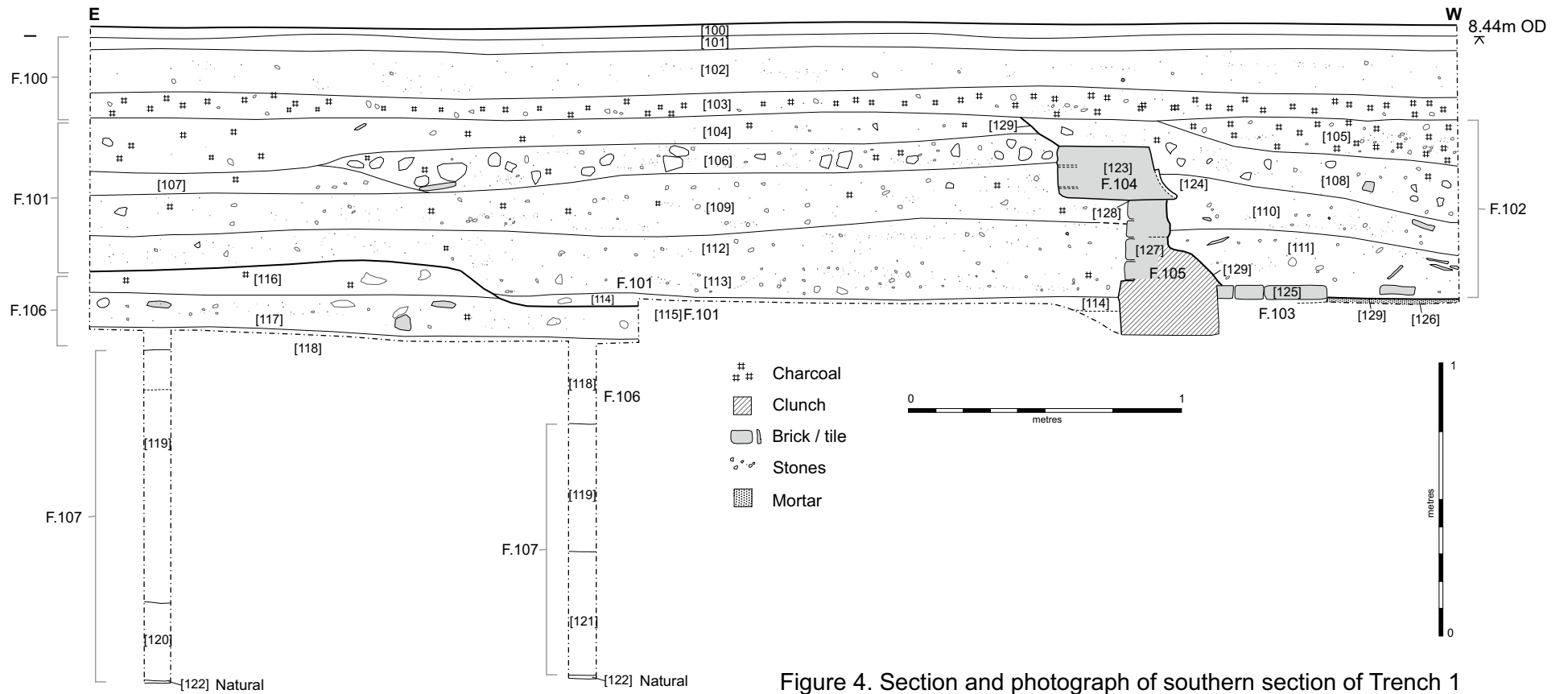


Figure 4. Section and photograph of southern section of Trench 1



Figure 5. Photographs of Trench 1



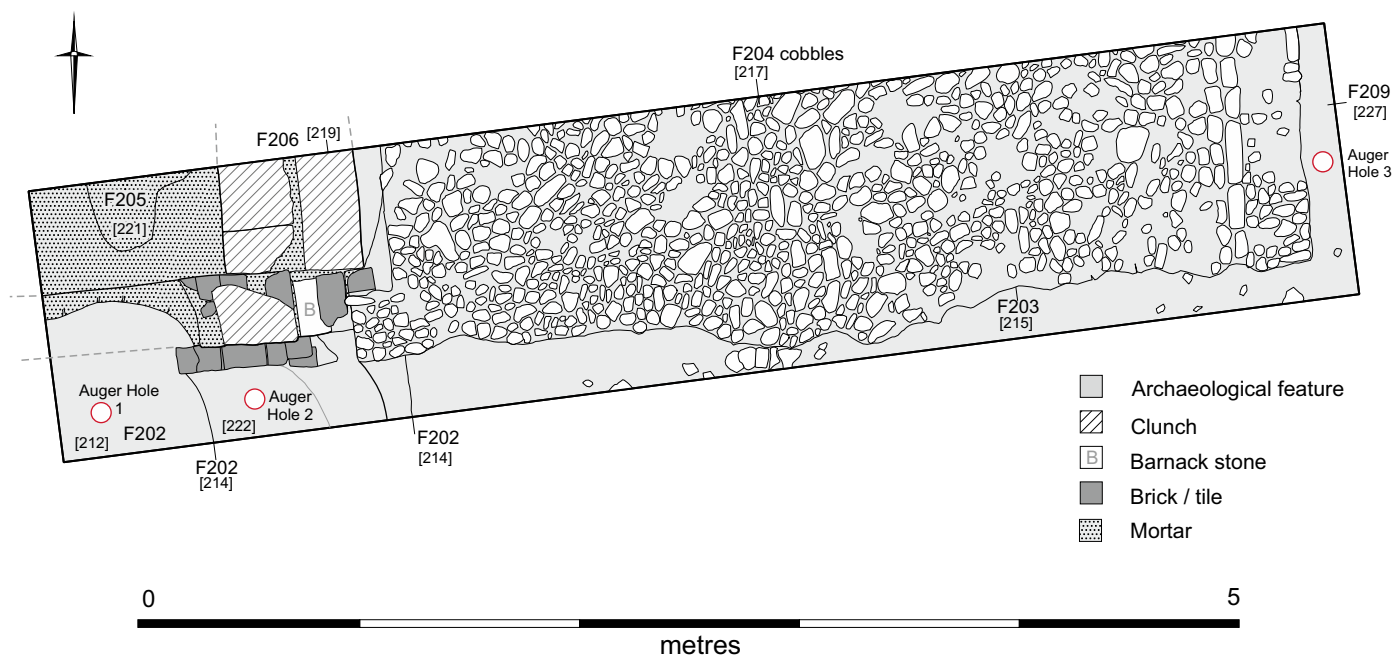


Figure 6. Plan and photograph of Trench 2

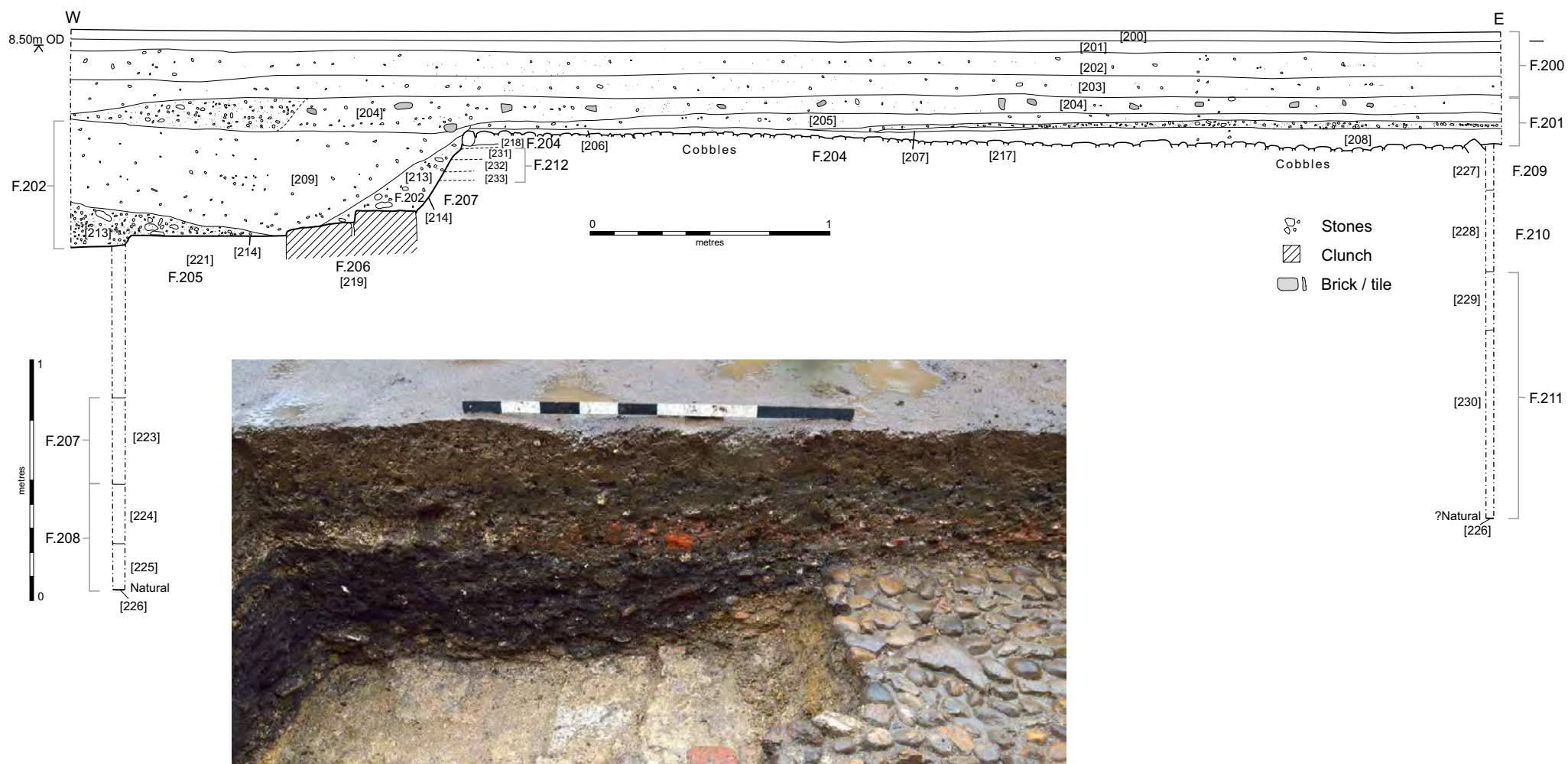


Figure 7. Section and photograph of northern section Trench 2



Figure 8. Photographs of Trench 2

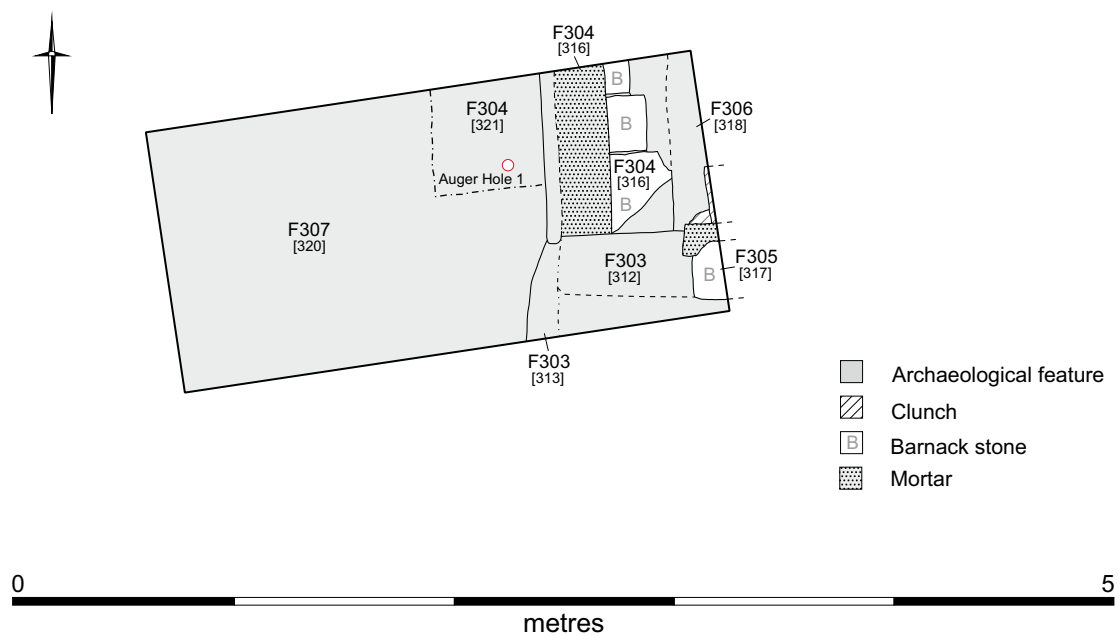


Figure 9. Plan and photograph of Trench 3

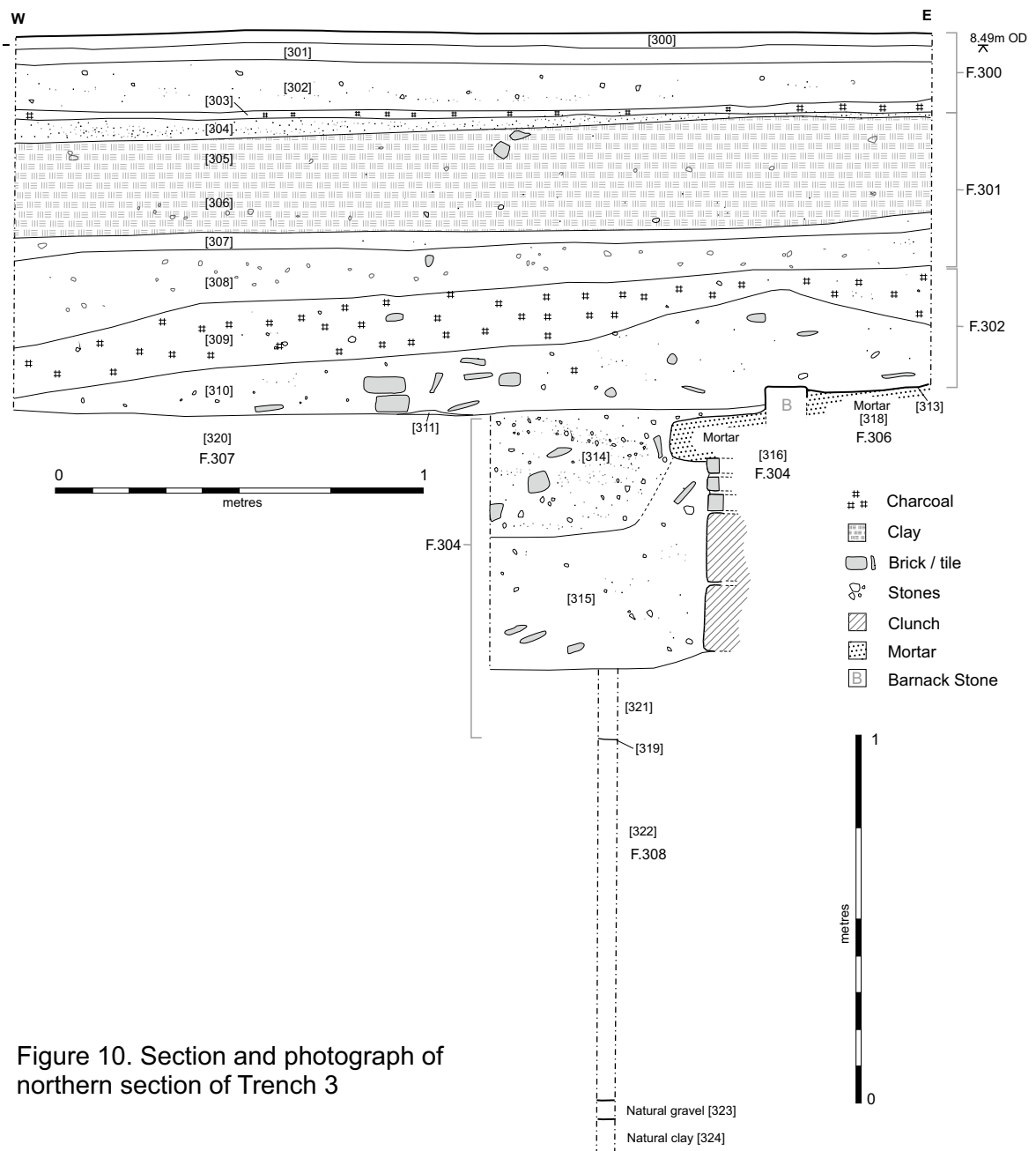
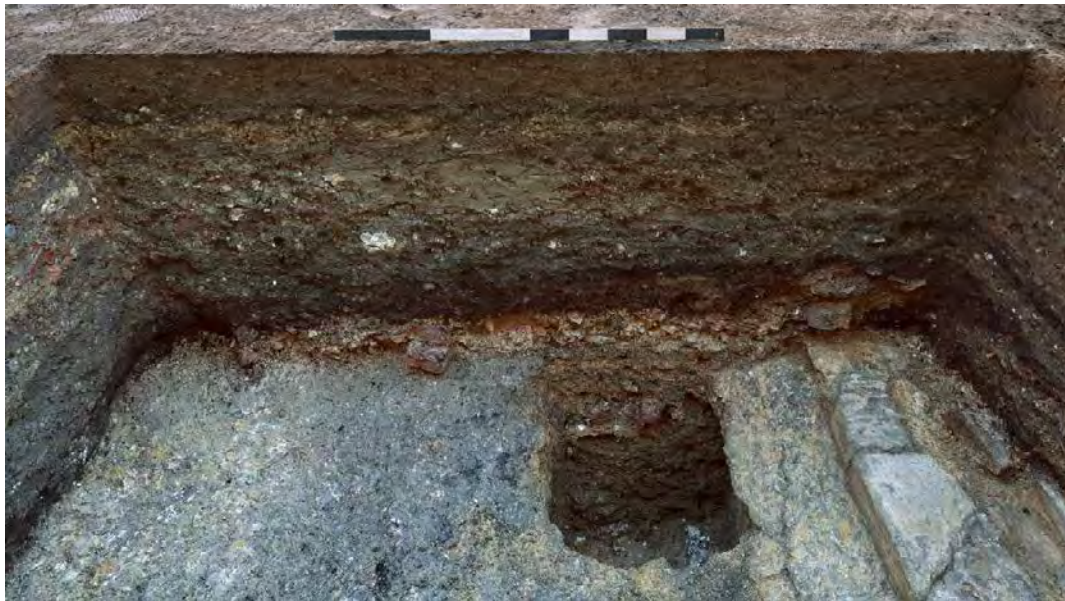


Figure 10. Section and photograph of northern section of Trench 3



Figure 11. Photographs of Trench 3

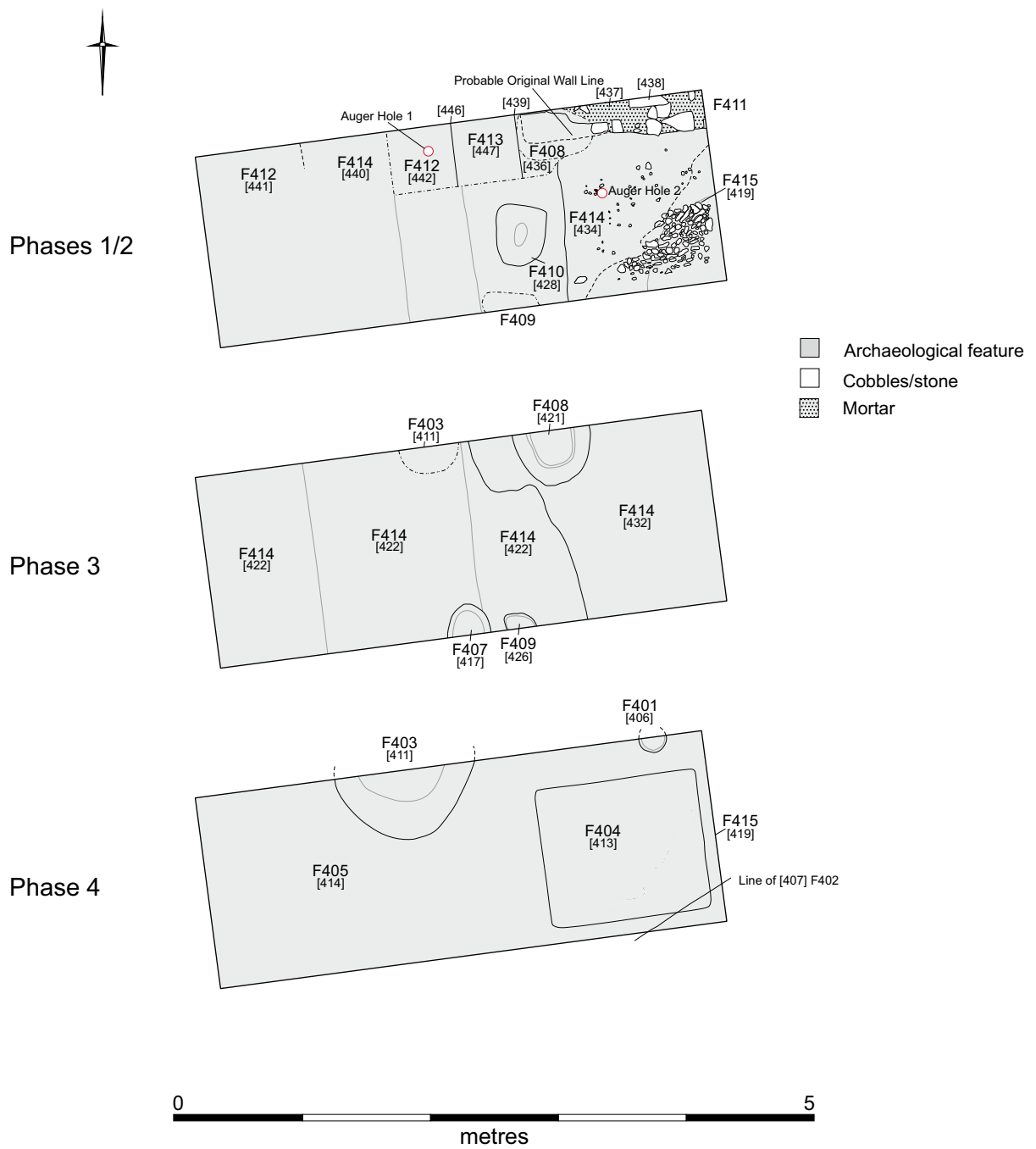


Figure 12. Plans of Trench 4

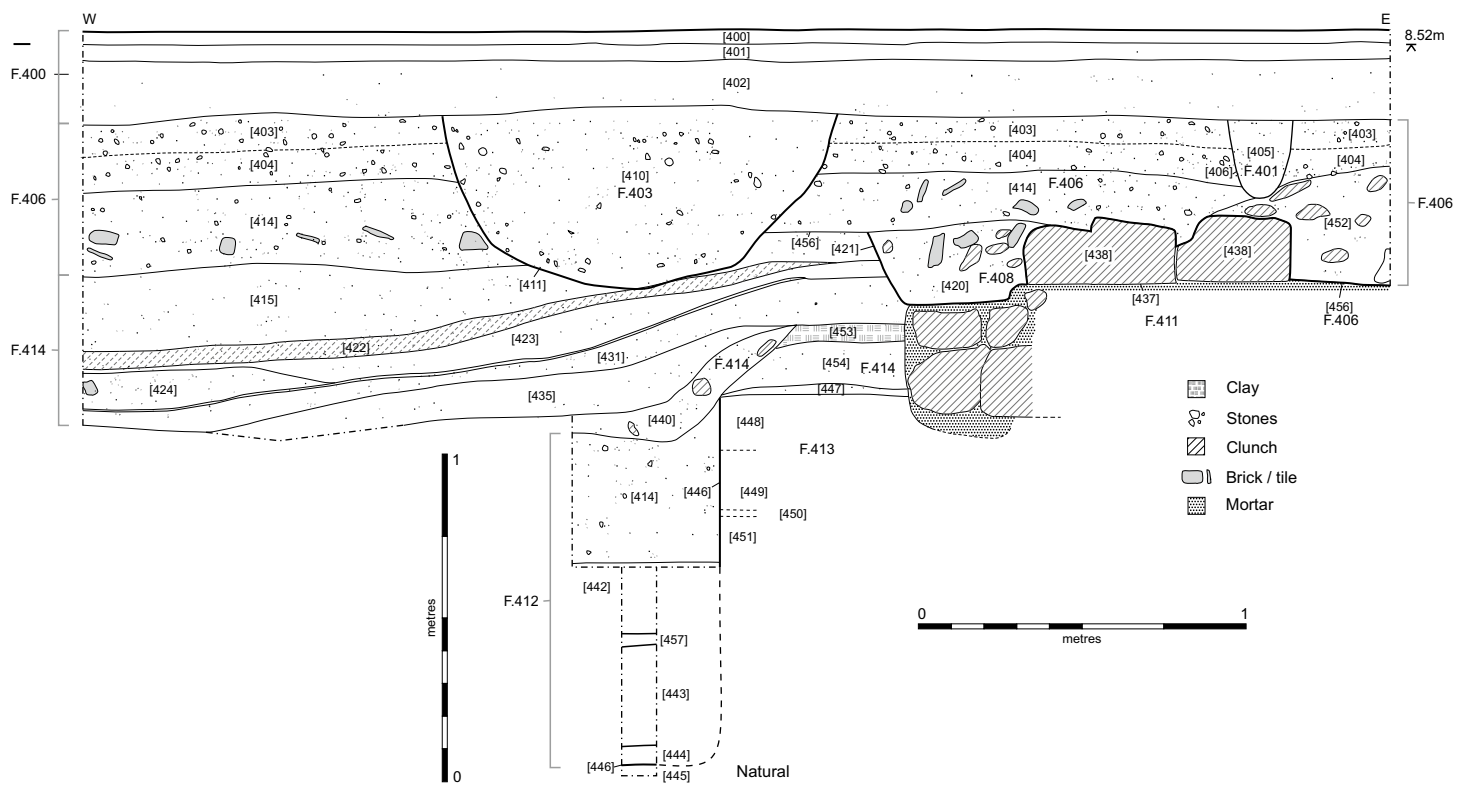


Figure 13. Section and photograph of northern section of Trench 4



Figure 14. Photographs of Trench 4

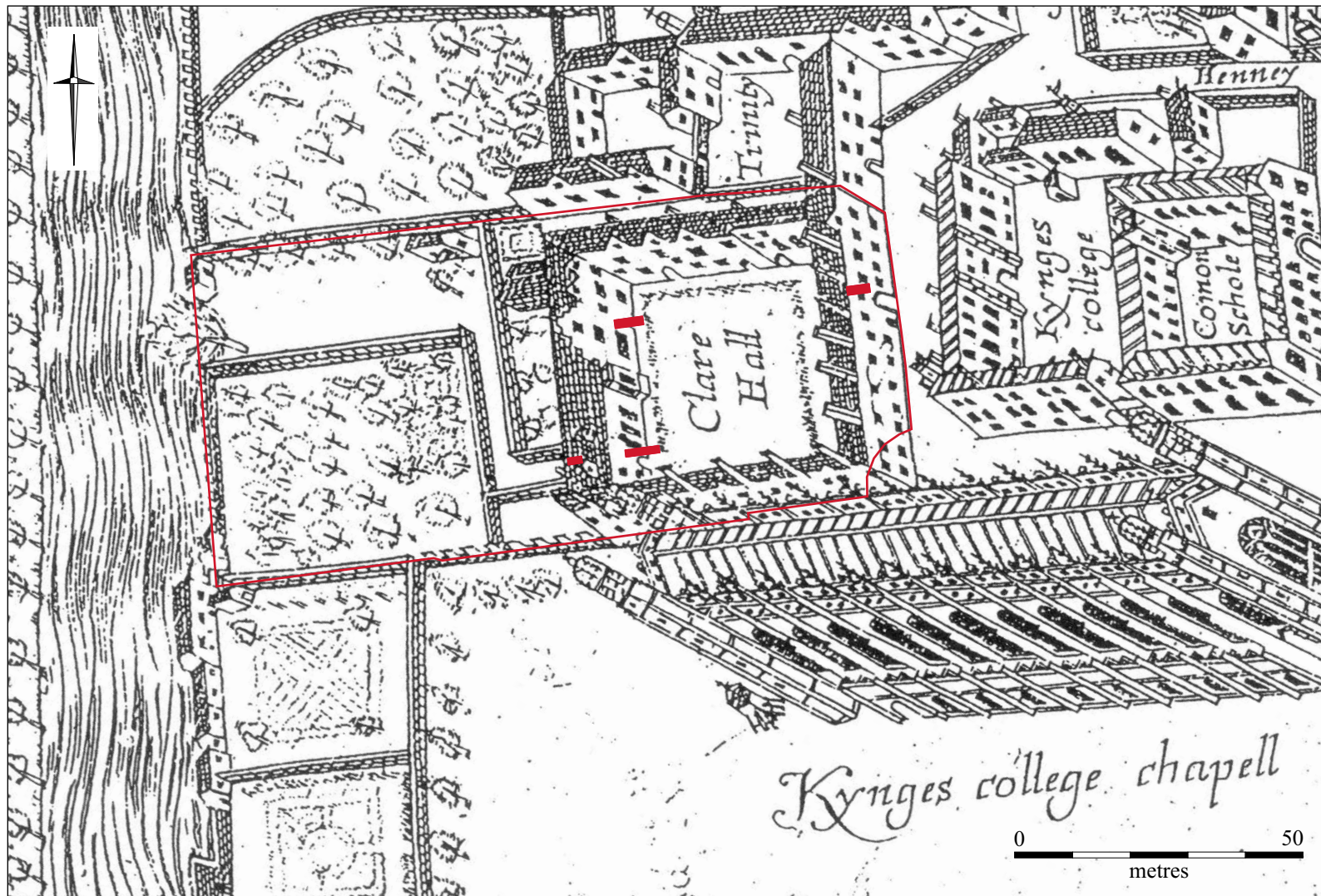


Figure 15. Portion of a 1592 plan of Cambridge by John Hammond



Figure 16. Plan depicting the college prior to demolition c. 1638

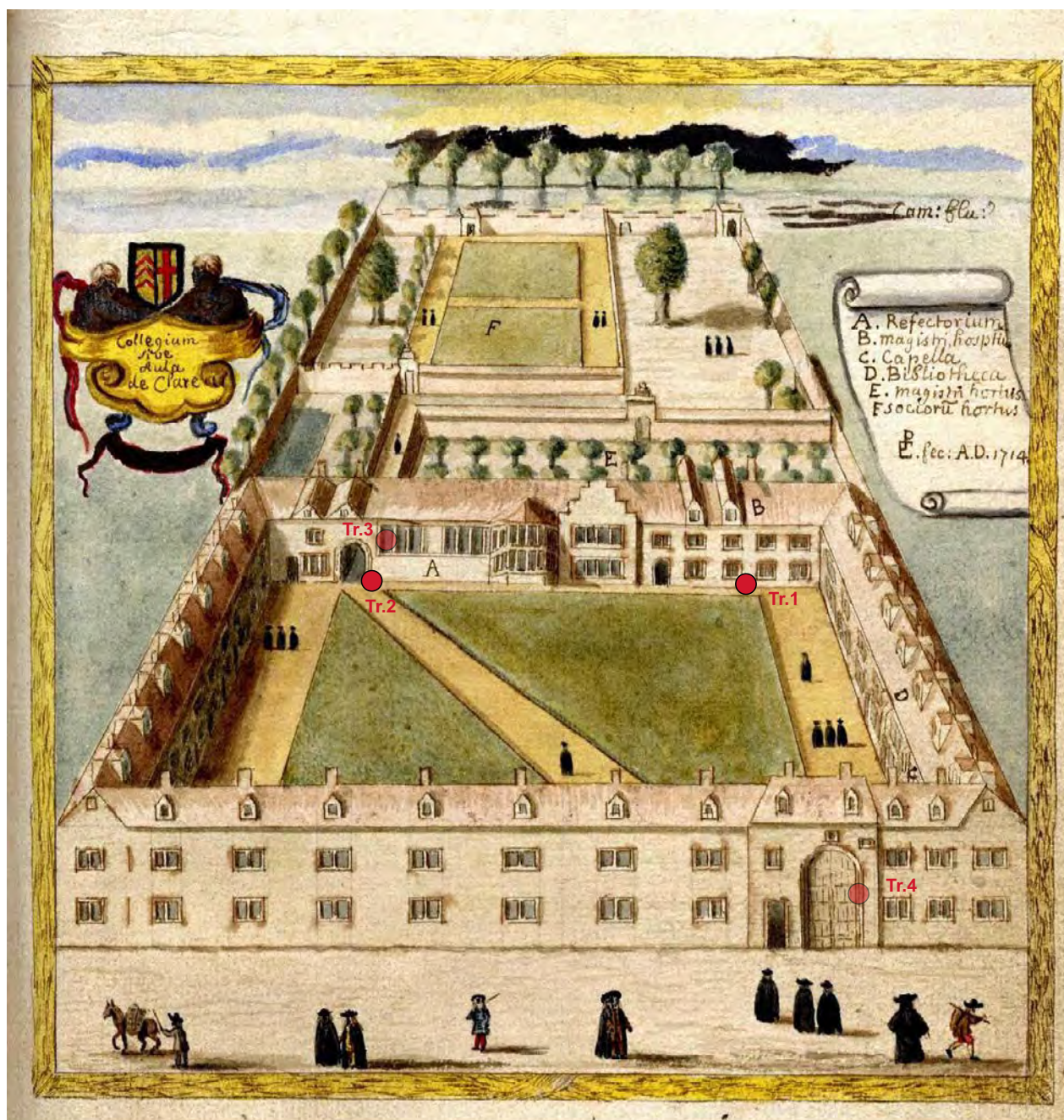


Figure 17. 'Reconstructed' depiction of the college prior to demolition drawn by Edward Prideaux



Figure 18. Photographs of selected finds

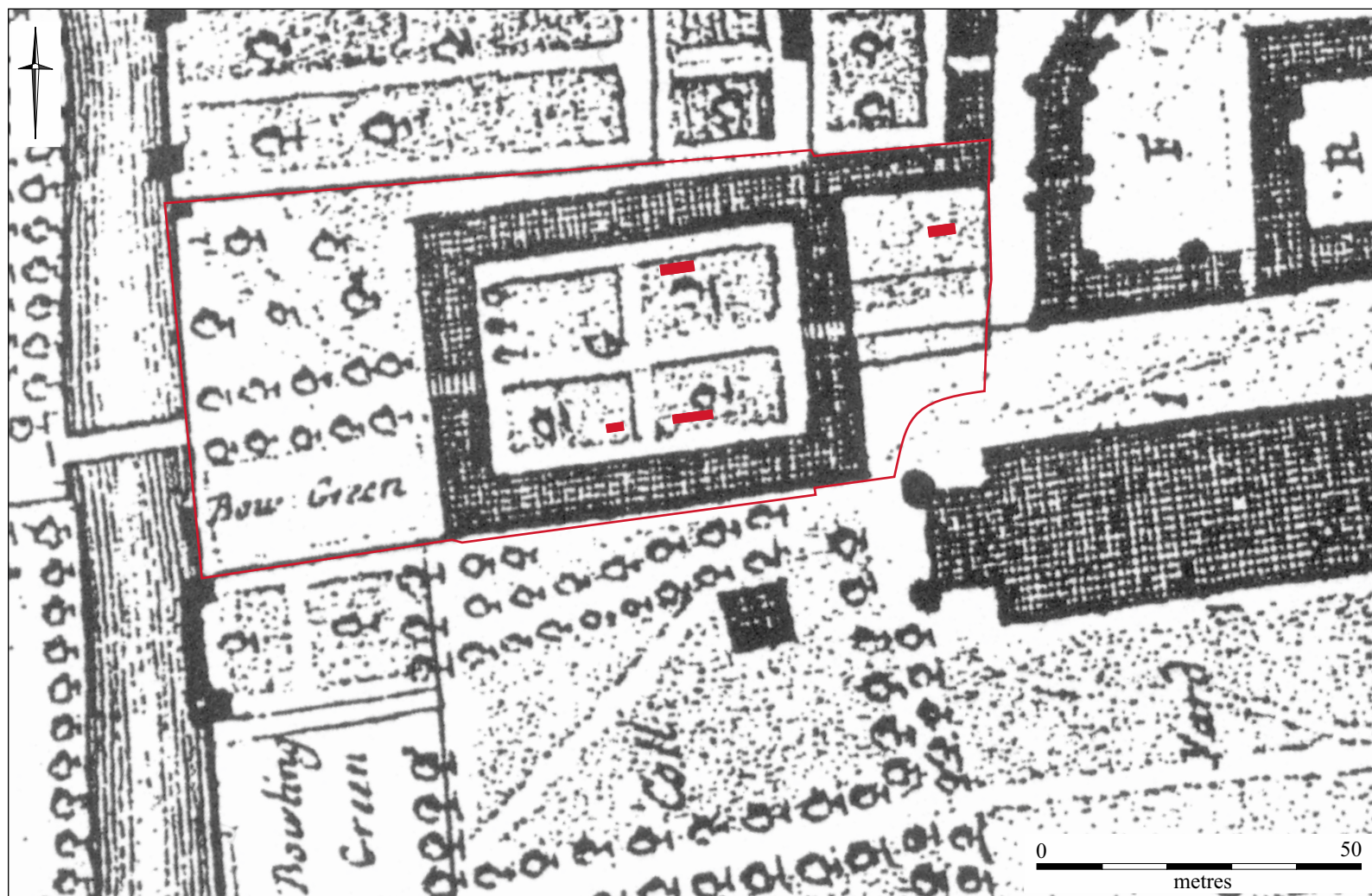


Figure 19. Portion of a 1688 plan of Cambridge by David Loggan

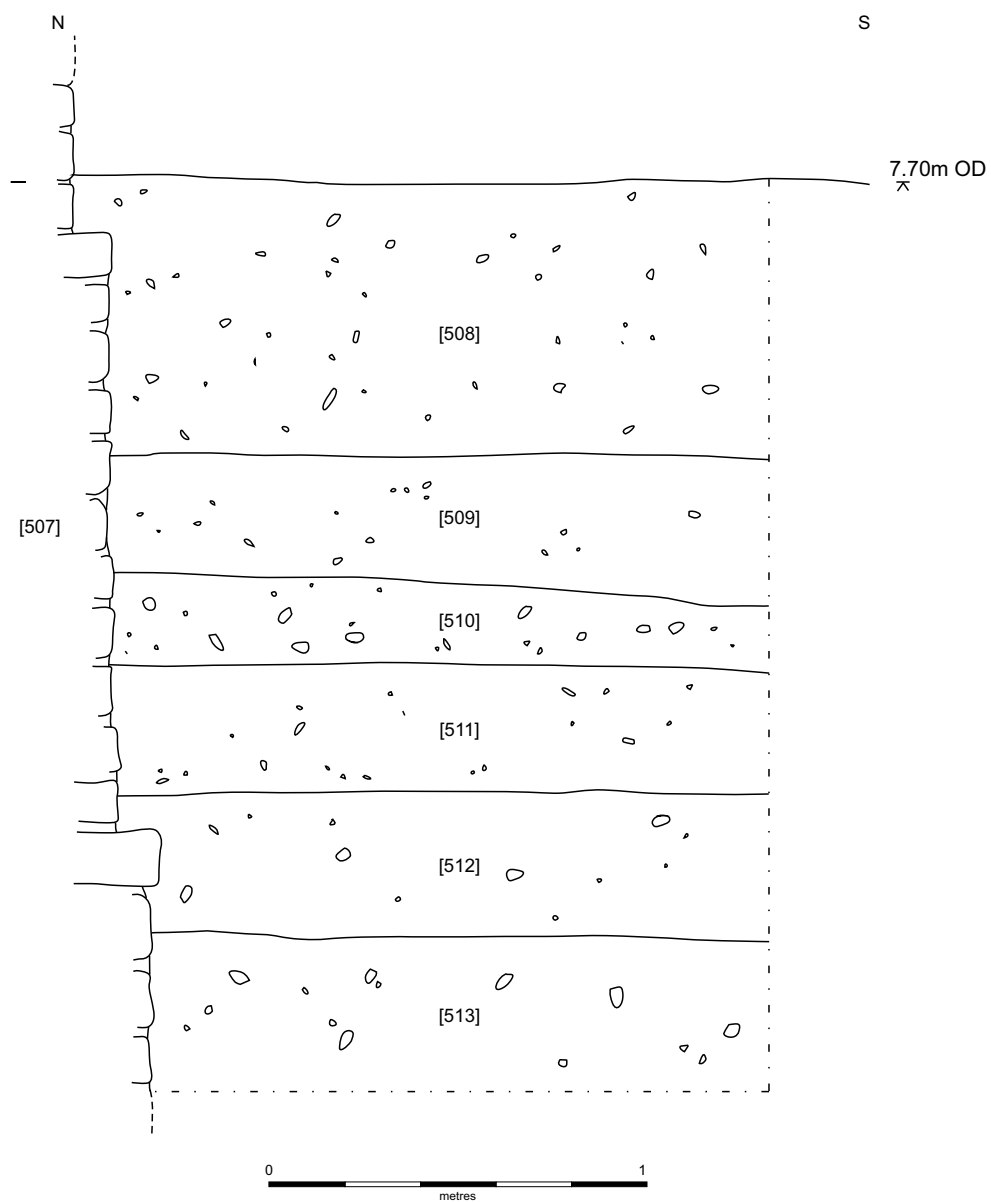


Figure 20. West facing section of Test Pit 2

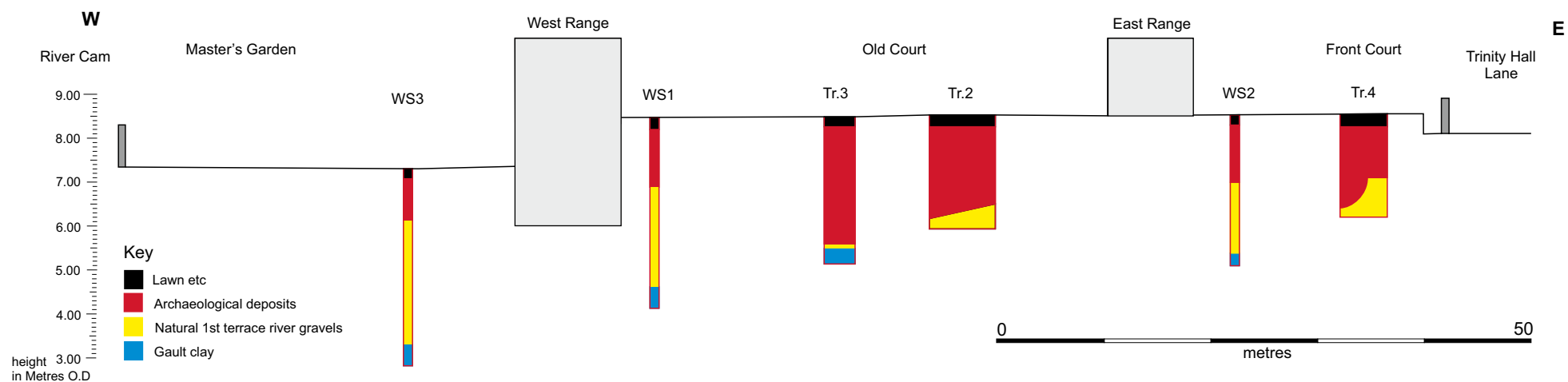
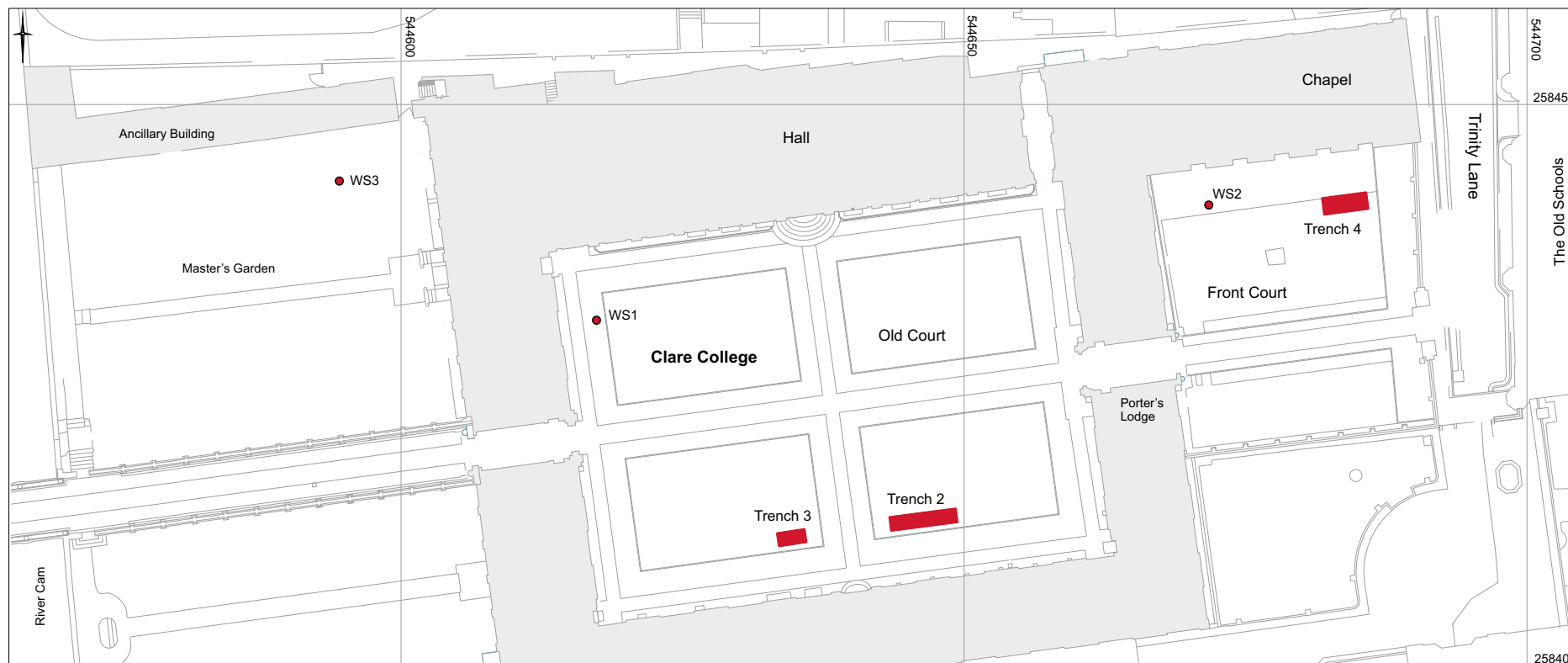


Figure 21. Plan with composite section of archaeological investigations, showing underlying deposits in area (NB vertical scale exaggerated)

APPENDIX 1: CONTEXT LIST

Dating abbreviations: CBM – ceramic building material, Gl – glass, Pt – pottery, TP – tobacco pipe,

Con.	F.	Tr.	Context type	Dating evidence	Phase
100	100	1	Turf		4
101	100	1	Topsoil		4
102	100	1	Subsoil	Pt 16th–17th	4
103	100	1	Levelling layer	TP 1580+, Pt 1650–1900	4
104	101	1	Demolition/levelling layer		3
105	102	1	Demolition/levelling layer	TP 1580+, Pt 15th–early 16th	3
106	101	1	Demolition/levelling layer	CBM 14th+, lead 17th+, TP 1640–60, PT 16th–17th	3
107	101	1	Demolition/levelling layer		3
108	102	1	Demolition/levelling layer	CBM 14th–16th, lead 17th+, TP 1660–80, Pt 17th–19th	3
109	101	1	Levelling layer	TP 1580+, Pt 16th–17th	3
110	102	1	Demolition backfill	CBM 14th–16th, TP 1680–1710, Pt 17th–19th	3
111	102	1	Demolition backfill	CBM 14th–16th, TP 1680–1710, Pt late 16th–18th	3
112	101	1	Levelling layer	Lead 17th+, Pt 16th–17th	3
113	101	1	Levelling layer		3
114	101	1	Trample' surface		3
115	101	1	General cut		3
116	106	1	Surface/bedding layer		1
117	106	1	Levelling layer		1
118	106	1	External surface		1
119	107	1	Layer or fill		1
120	107	1	Layer or fill		1
121	107	1	Layer or fill		1
122	N/A	1	Natural (gravel)		Natural
123	104	1	Wall	CBM 14th+	3
124	104	1	Wall plaster		3
125	103	1	Floor	CBM 17th	3
126	103	1	Floor make-up		3
127	105	1	Wall		2
128	104	1	Robber cut		3
129	102	1	Robber cut		3
130	N/A	1	Unstratified finds		Mixed
200	200	2	Turf		4
201	200	2	Topsoil		4

202	200	2	Subsoil		4
203	200	2	Levelling layer	Gl 1700–25, TP 1660–80, Pt 16th–17th	4
204	201	2	Demolition/levelling layer	Jettons 1500–21/1500–50, TP 1660–80, Pt 16th–17th	3
205	201	2	Demolition/levelling layer	Aiglet 14th–15th, TP 1660–80, Pt 16th–17th	3
206	201	2	Demolition/levelling layer		3
207	201	2	Demolition/levelling layer		3
208	201	2	Demolition/levelling layer	TP 1660–80, Pt 16th–17th	3
209	202	2	Demolition/levelling layer	Coin 1625–42, lead 17th+, book clasp 16th, TP 1660–80, Pt late 16th–17th	3
210	202	2	Demolition/levelling layer	TP 1580+, PT late 16th–17th	3
211	202	2	Demolition/levelling layer	PT 16th–17th	3
212	202	2	Demolition/levelling layer	TP 1600–40, Pt 16th–17th	3
213	202	2	Demolition/levelling layer	CBM 13th+	3
214	202	2	Robber cut		3
215	203	2	Demolition/levelling layer		3
216	203	2	Robber cut		3
217	204	2	Cobbled surface		2
218	204	2	Cobbles make-up		2
219	206	2	Wall		2
220	207	2	Wall	CBM 14th–16th	2
221	205	2	Floor make-up		2
222	207	2	Construction cut fill	CBM 13th–16th	2
223	207	2	Construction cut		2
224	208	2	Layer or fill		1
225	208	2	Layer or fill		1
226	N/A	2	Natural (gravel)		Natural
227	209	2	Buried soil		2
228	210	2	Surface		2
229	211	2	Layer or fill		1
230	211	2	Layer or fill		1
231	212	2	Layer		2
232	212	2	Layer		2
233	212	2	Layer		2
234	N/A	2	Unstratified finds		Mixed
300	300	3	Turf		4
301	300	3	Topsoil		4
302	300	3	Subsoil		4
303	300	3	Levelling layer	TP 1680–1710, Pt 16th–17th	4
304	301	3	Trample' surface	TP 1680–1710	3

305	301	3	Levelling layer		3
306	301	3	Levelling layer	TP 1660–80, Pt 16th–17th	3
307	301	3	Levelling layer	TP 1660–80, Pt 16th–17th	3
308	301	3	Levelling layer	TP 1640–60, Pt late 16th–17th	3
309	302	3	Demolition/levelling layer	TP 1640–60, Pt late 16th–17th	3
310	302	3	Demolition/levelling layer	CBM 12th–16th, TP 1640–60, Pt 16th–17th	3
311	302	3	Demolition/levelling layer	Gl 17th–18th, Pt late 16th–17th	3
312	303	3	Demolition/levelling layer	Pt 16th–17th	3
313	303	3	Robber cut		3
314	304	3	Construction cut fill	CBM 14th–16th, Pt 15th–16th	2
315	304	3	Construction cut fill	CBM 13th–18th+, Pt 16th–17th	2
316	304	3	Wall		2
317	305	3	Wall		2
318	306	3	Floor make-up		2
319	304	3	Construction cut		2
320	307	3	Construction layers		2
321	304	3	Construction cut fill		2
322	308	3	Layer or fill		1
323	N/A	3	Natural (gravel)		Natural
324	N/A	3	Natural (clay)		Natural
325	N/A	3	Unstratified finds		Mixed
400	400	4	Turf		4
401	400	4	Topsoil		4
402	400	4	Subsoil	Gl late 19th–early 20th, TP 1680–1710, TP 1700–40	4
403	406	4	Levelling layer	Gl late 19th–early 20th, TP 1580+, Pt 16th–17th	3
404	406	4	Levelling layer	TP 1740–1850, Pt mid-18th	3
405	401	4	Posthole fill		4
406	401	4	Posthole cut		4
407	402	4	Drain cut fill	1820+	4
408	402	4	Drain cut fill	TP 1680+, Pt 1720–80	4
409	402	4	Drain cut		4
410	403	4	Planting hole fill	TP 1710–40, GL late 19th–early 20th, Pt 1720–80	4
411	403	4	Planting hole cut		4
412	404	4	Fill of square feature	Gl 1760–1810, TP 1730–80, Pt 1720–80	4
413	404	4	Square cut		4
414	406	4	Demolition/levelling layer	TP 1710–50, Gl late 17th–early 18th, mount/fitting 16th–17th, Pt 1720–80	3
415	414	4	Construction/levelling		2

			layer		
416	407	4	Posthole fill		3
417	407	4	Posthole cut		3
418	415	4	Bedding layer		2
419	415	4	Cobble surface		2
420	408	4	Posthole fill	CBM 14th–16th+	3
421	408	4	Posthole cut		3
422	414	4	Construction/levelling layer		2
423	414	4	Construction/levelling layer	Pt 16th–17th	2
424	414	4	Construction/levelling layer	CBM 13th–16th, Pt 16th–17th	2
425	409	4	Posthole fill	Pt 16th–17th	3
426	409	4	Posthole cut		3
427	410	4	Posthole fill	14th–15th	2
428	410	4	Posthole cut		2
429	414	4	Construction surface		2
430	N/A	4	Unstratified finds		Mixed
431	414	4	Construction/levelling layer		2
432	414	4	Construction/levelling layer		2
433	414	4	Construction/levelling layer	Medieval key	2
434	414	4	Construction surface		2
435	414	4	Construction/levelling layer	CBM 13th–18th, Pt 13th–14th	2
436	411	4	Construction cut fill		2
437	411	4	Wall footings		2
438	411	4	Wall		2
439	411	4	Construction cut		2
440	414	4	Construction/levelling layer	CBM 14th–16th+, Pt 14th–15th	2
441	412	4	Pit fill	Pt 13th–14th	1
442	412	4	Pit fill		1
443	412	4	Pit fill		1
444	N/A	4	Natural (gravel)		Natural
445	N/A	4	Natural (gravel)		Natural
446	412	4	Pit cut		1
447	413	4	Layer		1
448	413	4	Layer		1
449	413	4	Layer		1
450	413	4	Layer		1

451	413	4	Layer		1
452	406	4	Demolition/levelling layer		3
453	414	4	Layer		2
454	414	4	Layer		2
455	415	4	Cobble make-up		2
456	406	4	Robber cut		3
457	412	4	Pit fill		1
458	414	4	Construction/levelling layer		2
459	413	4	Layer		1
460	413	4	Layer		1
461	413	4	Layer		1
462	N/A	4	Natural (gravel)		Natural

APPENDIX 2: FEATURE LIST

F.	Cut	Fill(s) etc.	Type	TPQ	Phase
100		100-03	Current lawn	1650+	4
101	115	104, 106-07, 109, 112-14	Demolition/levelling	1600+	3
102	129	105, 108, 110-11	Demolition/levelling	1680+	3
103		125-26	Floor	1600+	3
104	128	124	Wall		3
105		127	Wall		2
106		116-18	Surface		1
107		119-21	Layers		1
200		200-03	Current lawn	1700+	4
201		204-08	Demolition/levelling	1660+	3
202		209-14	Demolition/levelling	1660+	3
203	216	215	Robber cut		3
204		217-18	Cobbled surface		2
205		221	Floor		2
206		219	Wall		2
207	223	220, 222	Wall	1300+	2
208		224-25	Layers		1
209		227	Buried soil		2
210		228	Surface		2
211		229-20	Layers		1
212		231-33	Layers		2
300		301-03	Current lawn	1680+	4
301		304-08	Demolition/levelling	1680+	3
302		309-11	Demolition/levelling	1640+	3
303	313	312	Robber cut	1500+	3
304	319	314-16	Wall	1300+ (later pottery probably intrusive)	2
305		317	Wall		2
306		318	Floor		2
307		320	Construction deposits		2
308		322	Layer or fill		1
400		400-02	Current lawn	Late 19th+	4
401	406	405	Posthole		4
402	409	407-08	Drain	1820+	4
403	411	410	Planting hole	Late 19th+	4
404	413	412	Square pit	1760+	4
405			Void		
406	456	403-04, 411, 452	Demolition/levelling	1740+ (later glass probably intrusive)	3

407	417	416	Posthole		3
408	421	420	Posthole	1300+	3
409	426	425	Posthole	1500+	3
410	428	427	Posthole	1300+	3
411	439	436–38	Wall		2
412	446	441–43, 446	Large pit	1200+	1
413		447–51, 459–61	Layers		1
414		415, 422–24, 429, 431–35, 440, 453–54, 458	Construction deposits	1300+ (later pottery probably intrusive)	2
415		418–19, 455	Cobbled surface		2
416		None	Putative pit		1
N/A		122, 226, 323, 444–45, 462	Natural gravel		N/A
N/A		324	Natural clay		N/A
N/A		130, 234, 325, 430	Unstratified finds		N/A

OASIS FORM

OASIS ID: cambridg3-209952

Project details

Project name Clare College, Cambridge

Short description of the project

The Cambridge Archaeological Unit undertook an archaeological evaluation in December 2014 and January 2015 at Clare College, Cambridge, located principally in the Old Court and front court areas of the college. This consisted principally of four trenches covering 24 square metres; additionally a number of geotechnical window samples and test pits were monitored. The investigations provided information on the heights of natural deposits and revealed limited evidence for pre-collegiate activity. All four trenches successfully located structural remains associated with the western and eastern ranges of the medieval college that were probably constructed in the 14th century. This allows the location of the medieval college buildings to be accurately located. Although the medieval buildings had been heavily robbed, largely to foundation level, the nature of their surviving foundations was examined and material recovered from later demolition related deposits provides significant insights into the nature of the medieval college buildings. Assemblages of clay tobacco pipe, pottery, animal bone and other material recovered from the mid-17th to mid-18th century demolition related deposits probably relate primarily to the college population of this period and shed considerable light on their material culture, diet etc.

Project dates Start: 15-12-2014 End: 22-01-2015

Previous/future work No / Not known

Any associated project reference ECB4389 - HER event no. codes

Any associated project reference OCC14 - Contracting Unit No. codes

Type of project Field evaluation

Site status None

Current Land use Residential 2 - Institutional and communal accommodation

Monument type BUILDING Medieval

Monument type PIT Medieval

Significant Finds POTTERY Medieval

Significant ANIMAL BONE Medieval

Finds	
Significant Finds	TILE Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	METALWORK Post Medieval
Significant Finds	CLAY TOBACCO PIPE Post Medieval
Methods & techniques	"Augering","Targeted Trenches"
Development type	Not recorded
Prompt	Voluntary/self-interest
Position in the planning process	Pre-application
Project location	
Country	England
Site location	CAMBRIDGESHIRE CAMBRIDGE CAMBRIDGE Clare College
Postcode	CB2 1TL
Study area	24.00 Square metres
Site coordinates	TL 4464 5842 52.204574134 0.11688903281 52 12 16 N 000 07 00 E Point
Height OD / Depth	Min: 8.50m Max: 8.60m
Project creators	
Name of Organisation	Cambridge Archaeological Unit
Project brief originator	Consultant
Project design originator	Alison Dickens
Project director/manager	Alison Dickens
Project supervisor	Craig Cessford
Type of	University of Cambridge

sponsor/funding body	
Name of sponsor/funding body	Clare College
Project archives	
Physical Archive recipient	Cambridgeshire County Archaeology Store
Physical Archive ID	OCC14
Physical Contents	"Animal Bones","Ceramics","Environmental","Glass","Metal","Worked stone/lithics"
Digital Archive recipient	Cambridgeshire County Archaeology Store
Digital Archive ID	OCC14
Digital Contents	"Animal Bones","Ceramics","Environmental","Glass","Metal","Stratigraphic","Survey","Worked stone/lithics","other"
Digital Media available	"Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient	Cambridgeshire County Archaeology Store
Paper Archive ID	OCC14
Paper Contents	"Animal Bones","Ceramics","Environmental","Glass","Metal","Stratigraphic","Survey","Worked stone/lithics","other"
Paper Media available	"Context sheet","Drawing","Matrices","Photograph","Plan","Report","Unpublished Text"
Project bibliography 1	
Publication type	Grey literature (unpublished document/manuscript)
Title	Clare College, Cambridge An Archaeological Evaluation
Author(s)/Editor(s)	Cessford, C
Other bibliographic	Cambridge Archaeological Unit Report 1286

details

Date	2015
Issuer or publisher	Cambridge Archaeological Unit
Place of issue or publication	Cambridge
Description	Soft cover, comb-bound, c. 21 figures, c. 115 pages
Entered by	Craig Cessford (cc250@cam.ac.uk)
Entered on	29 April 2015