Eton College Courtyard Resurfacing Work, Windsor, Berkshire

Archaeological Watching Brief Report

March 2017

Client: Eton College

Issue No: 1
OA Reference No: ETONSWB2
NGR: SU 96701 77909

oxfordarchaeology
southsouthsouth

Client Name:	Martin Ashley Architects / Eton College
Client Ref No:	-
Document Title:	Eton College Courtyard Resurfacing Works, Windsor, Berkshire
Document Type:	Archaeological Watching Brief Report
Issue/Version Number:	1
Grid Reference:	NGR SU 96701 77909
Planning Reference:	-
Invoice Code:	ETONSYWB
OA Job Number:	6260
Site Code:	ETONSY15
Receiving Museum:	Eton College Museum
Museum Accession No.:	-
Event No.:	-

Issue	Prepared by	Checked by	Approved by	Signature
1	Carl Champness Senior Project Manager and Ashley Strutt (Site Supervisor)	Carl Champness Senior Project Manager Toby Martin Project Officer	David Score Head of Fieldwork	

Document File Location: \\Server1\invoice codes \e_codes\ETONSYWB
Graphics File Location: \\Server1\invoice codes \e_codes\ETONSYWB
Illustrated by: Matt Bradley

Janus House
Osney Mead
Oxford OX2 0ES
t: +44 (0) 1865 263800 e: info@oxfordarch.co.uk
f: +44 (0) 1865 793496 w: oxfordarchaeology.com
Oxford Archaeology Limited is a Registered Charity No: 285627

Table of Contents

List of Figures

List of Plates

Eton College Courtyard Resurfacing Works, Windsor, Berkshire

Archaeological Watching Brief Report

Summary

Between June and August 2016 Oxford Archaeology were commissioned by Martin Ashley Architects on behalf of Eton College, Windsor, to undertake an archaeological watching brief during resurfacing and drainage works in the main school courtyard.

The resurfacing work did not impact beyond the sandy foundations of the modern cobbled surface, leaving buried undisturbed deposits unaffected. The only archaeological features identified were the red brick foundations of the Grade I listed Eton College Chapel. These foundations were only revealed to the level of the first brick course and following recording they were left undisturbed and reburied.

The drainage and heating pipe excavations were dug within the original cuttings of the post-medieval services and therefore also did not impact undisturbed deposits. The work, however, provided a valuable insight into the post-medieval sequence of the changing surfaces and drainage features of the courtyard.

The remains of a brick culvert drainage system was found during the watching brief and it is known that a number of these were installed in the 19th century. The installation of the drains, as well as pipes for the heating system, will have previously directly impacted upon any underlying archaeological deposits. Evidence of several phases of collapse and repair of the drainage culverts were identified. Evidence for potentially earlier red brick built drains were also seen within the monitoring work of the eastern area of the courtyard but could not be fully characterised due to the small size of these investigations.

During these excavations the foundations of a postulated colonnade or loggia was found along the north side of the courtyard. Later resurfacing work in this area failed to reveal any remains of the columns supporting the roof. The foundations were identified along the length of the courtyard running east to west and aligned with the first arch of the later western colonnade. The position of the foundations and potential date of the bricks are consistent with a postulated 17th-century colonnade or loggia associated with the Lower School.

During the lifting of the flagstone paving a stoneware bottle was discovered in a small pit just inside the present colonnade in the south-west corner of the courtyard. The colonnade forms the western side of the courtyard and the Henry VI chapel on the southern side. When examined, the otherwise empty bottle was found to contain a group of seven early stone gaming marbles. The bottle's maker's mark suggests a manufacture date between 1831-1834, probably 1832-1834 – the middle years of King William IV's reign. The nature of the find seems to suggest that they were deliberately buried by a schoolboy. This is a rare and fine example of an early 19th-

century toy found from a closely dated context that is worthy of display within a museum.

1 INTRODUCTION

1.1 Scope of work

1.1.1 Oxford Archaeology (OA) was commissioned by Martin Ashley Architects on behalf of Eton College, Windsor to undertake an archaeological watching brief during resurfacing works associated with the replacement of the historic school courtyard.

1.1.2 The work was undertaken following recommendations by Roland Smith, Planning Archaeologist, Berkshire Archaeology, detailing the Local Authority's requirements for work necessary to discharge the planning condition; this document outlines how OA implemented those requirements.

1.1.3 Resurfacing and drainage works were taking place across the courtyard with proposed new cobbles/set more appropriate, in traditional construction as well as of a scale and colour to the setting of the Grade I listed buildings of the school. A previous watching brief on trial holes within the courtyard identified only minimal impact associated with the proposed works (OA 2016a). However, the deeper drainage excavations and main resurfacing works may reveal earlier shallow remains within areas of the courtyard associated with a former colonnade and clock tower. A targeted watching brief was therefore maintained on the deeper drainage runs and within specific areas of the courtyard.

1.2 Location, geology and topography

1.2.1 The area of proposed development is located at Eton School, Windsor, Maidenhead NGR SU 96701 77909 (Figure 1). The courtyard is made up of an area of cobbled surfaces located between the stone paths that make up the historic courtyard of the school. The courtyard is surrounded by the historical school and college chapel (Plates 1 and 2).

1.2.2 The underlying geology of the site is mapped by the British Geological Association as Seaford Chalk bedrock (BGS website 1:25,000). The bedrock is overlain by sandy gravels of the Shepperton Member, superficial deposits formed up to 2 million years ago in the Quaternary Period.

1.3 Archaeological and historical background

1.3.1 The archaeological and historical background to the site was previously outlined in the Heritage Statement (Martin Ashley Architects 2015) and is only briefly summarised below.

1.3.2 Eton College was founded by King Henry VI in 1440, and modelled on Winchester College, as a charity school to provide free education to poor boys. The boys would then have gone on to attend King's College, Cambridge which was founded one year later. One of Henry's intentions was to create a spectacular building. The College Chapel for example was to have the longest nave in Europe. But when King Edward IV deposed him in 1461, all grants to the school stopped and most of its treasure and assets were confiscated. The construction of the chapel was stopped and it is therefore less than half of its intended size, which was originally intended to extend across the main road through Eton.

1.3.3 As the school was still under construction, its completion depended on wealthy benefactors, and building work resumed in 1517 under Roger Lupton. The gate house at the west range of the cloisters carries his name. In 1670 Provost Allestree closed the western side of the school yard, between Lower School and Chapel (remodelled and completed in 1694 by Matthew Bankes). The College Library was the last significant addition to the south range of the cloister from 1725-1729 by Thomas Rowland.

1.3.4 In 1844 John Shaw Jr, the surveyor of Eton, designed New Buildings. Tablets in the cloister and Chapel commemorate the dead Etonians of WWI. During WWII, part of Upper School was destroyed together with many windows of the Chapel, the latter were replaced mainly during the 1950's.

1.3.5 The current courtyard surface finish was installed in 1990 with Purbeck stone paths spanning diagonally across paved flint areas, framed with rived washed cobbles along the paths.

2 Project Aims and Methodology

2.1 Aims

2.1.1 The general aims and objectives of the watching brief were:

- To determine the location, extent, date, character, condition, significance and quality of any archaeological remains within the Site
- To assess vulnerability/sensitivity of any exposed archaeological remains
- To determine the potential of the site to provide palaeoenvironmental and/or economic evidence
- To provide sufficient information on the archaeological potential of the site to enable the archaeological implications of any proposed developments to be assessed
- To disseminate the results through the production of a site archive for deposition with an appropriate museum and to provide information for accession to the Berkshire HER

2.1.2 Site specific research questions:

- Identify any archaeological remains or artefacts that may be revealed underneath the cobbled surfaces
- Identify any further evidence that might help shed additional light on the history and development of the college
- Identify any pre-college deposits or remains

2.2 Methodology

2.2.1 This work involved the removal and replacement of the existing cobbled surface within the courtyard and the repair to the existing drainage culverts (Figure 2). The surface was removed by hand and machine under archaeological supervision. The underlying deposits were examined and recorded before the new surfaces were installed (Plates 3 and 4).

2.2.2 Excavation and recording was undertaken in line with the CIFA current Standard and Guidance for Archaeological Watching Briefs (CIFA 2015), and the procedures outlined in the WSI (OA 2016b).

3 RESULTS

3.1 Description of deposits

3.1.1 A series of intermittent visits were made during the resurfacing and drainage work at the College.

3.1.2 The results of the watching brief are described in detail below with specialist finds and environmental reporting within the Appendices A and B.

3.2 Watching brief courtyard resurfacing work

3.2.1 No significant archaeological features were revealed during the course of the watching brief of the resurfacing work of the gravel paths. The majority of these excavations only revealed the sandy foundations of the existing cobbled surface and therefore did not impact upon any undisturbed ground (Plates 3 and 4).

3.2.2 The only archaeological feature identified was the red brick foundations of the Grade I listed College Chapel. These foundations were only revealed to the first brick course which were not disturbed by these works. They were reported on in detail within the previous archaeological watching brief (OA 2016a). Following recording, the foundations were reburied.

3.3 Watching brief on the drainage and heating works

3.3.1 A brick culvert drain system was observed within the drainage excavations along the northern side of the courtyard. This was deemed to be of significant interest due to the postulation of a previous colonnade structure within the northern limits of the courtyard.

Brick Culvert system (late 18th century to 19th century)

3.3.2 An arched brick culvert system was observed during the new drainage repair excavations (Figure 3; Plate 5). The lower courses of the culvert drainage system appeared to be largely red brick work although their bonding appeared to be weak. The brick work consisted of three courses thought to be from the original construction phase with further courses forming an arched roof. The arched roof was found to be in a poor state of repair.

3.3.3 The original culvert was constructed with fairly soft handmade orange-red bricks with rare coarse flint inclusions (length: 212mm, width: 108mm, thickness: 65mm). They had crinkled/creased sides and remnants of a mould impression at one end. The unfrogged bricks date from the late 18th or early 19th centuries.

3.3.4 Later repairs to the brickwork had been made using London-type stock bricks with a shallow rectangular frog on the upper surface. These weighed 2,379g (length: 230mm, width: 104mm, thickness: 68mm). Typically these were of a light purplish-brown hard fabric with random flint inclusions. The surfaces have a leached yellowish colour. They broadly date from 1815-1850.

3.3.5 Two sections of the culvert in the north-west corner of the courtyard were repaired with concrete slabs replacing the arch drain top. The rest of the system including the inspection holes and drain repairs most likely occurred during the resurfacing work in the 1950's. It was noted that the repairs to the drains largely centred on the upper parts of the brick structures with a change being observed between the style of brick and bonding. The inspection holes were placed at regular intervals along the length of the main drain. Two of these were found during the excavation of the cobbled surface. It was found that these had been replaced, possibly during the last resurfacing phase of the courtyard.

3.3.6 During the drainage excavations along the northern side of the courtyard smaller drains were seen to enter the larger drain culvert from the north. These are thought to have been used to allow water from the building's down-pipes to drain into the main system. These appear to have been added later but at the time of the watching brief appeared to have gone out of use due to a build-up of silt and other material.

Sedimentary sequence

3.3.7 The main culvert trench was excavated to a maximum depth of 1.15m particularly where access to the inspection holes required reconstruction which enabled the stratigraphy below the cobbled surface to be recorded. The top cobbled layer (21) was made of flint cobbles 0.16m in depth set in a layer of coarse brownish yellow sand. The flint cobbles were seen to butt up to a surface of red cobbles which formed an edge to the grey cobbles (22) which formed the paths across the yard. The latter cobbled layer was found to be 0.17m in depth and also set within a layer of coarse sand. These layers covered a thick layer of light grey brown coarse sand (23) which was 0.08m in depth which was thought to have been used to level the ground surface in preparation for the upper layers.

3.3.8 Below the top cobbled surface a number of earlier surfaces or their remains were observed. The first was a 0.09m layer of concrete (24) which extended laterally in the section for 0.60m. Below this was a 0.05m thick layer (25) of mid brown sandy silt and then a light grey concrete layer (26) 0.09m thick which extended for 0.55m. This overlay a layer of mid brown grey sandy silt (27) with c 55% inclusions of demolition material, which may have been the result of made ground from earlier building work, although no dating was recovered to confirm this. Below this layer was a 0.45m thick layer (28) of mid to dark grey brown sandy silt with c 15% building material, overlying a 0.24m thick dark brown sandy silt deposit (29) which was considered to be undisturbed deposits.

3.3.9 In the north-west corner of the courtyard the cut of a pit [15] was observed within the section of the trench excavated to allow access to the brick culvert. No dating was recovered but it is thought to be relatively modern as it was seen to cut through occupation layers. The pit measured 0.30m in width and 0.45m in depth. The pit contained one fill (16) of dark grey brown clayey sandy silt with moderate inclusions of charcoal, demolition material and animal bone. This fill appears to have been the result of deliberate backfilling.

Southern heating duct

3.3.10 The drainage excavations along the southern side of the courtyard as well as the north-south aligned lengths of the system were inspected at intermittent intervals during the course of the watching brief. As with the northern section, the main culvert was found to be in a similarly poor condition although no sections of the arched top had been replaced by concrete slabs (Figure 4).

3.3.11 In two locations structures were found to indicate that an earlier culvert/drainage system had been replaced by the one currently in use (Plate 8). Both were observed on the eastern side of the school yard. The first constituted an overflow tank blocked with brickwork observed elsewhere, possibly when a sewage pipe was put through the top of the structure. In the south-eastern area a narrow red brick channel (Plate 7) was observed to run on a different alignment to the system in current use. This appears to have been subject to some form of repair before being built through by the current system.

3.3.12 During the course of the excavation of the heating duct trench no archaeology was seen due to the trench being placed over the previous drainage system. However, due to the larger size of the pipes the trench was made 0.20m deeper and wider to accommodate the new system. The trench extended from the south-east corner and ran along the southern side of the school yard and extended under the culvert in the south-western corner to enter the building under a door heading north. A short section of the trench went into the chapel which also had to be extended due to the size of the pipe, also requiring the angle of the trench to be changed. No other evidence of archaeological features or remains of structures were observed along the course of the heating duct.

Remains of a colonnade or loggia

3.3.13 The trenching along the route of the culvert on the northern side of the courtyard was also of a depth which enabled the presence of the brick foundations of a potential colonnade or loggia to be observed (Figure 3). However, due to the trench only being opened to allow access to the drain system the foundations were not fully exposed. Further work which took place to remove the cobbled surface was not of sufficient depth to allow observation of any other colonnade remains at ground level.

3.3.14 The red brick foundations were identified along the length of the courtyard running east-west and aligned with the first arch of the western colonnade. The position of the foundations and potential date of the bricks are consistent with a postulated 17th-century colonnade or loggia associated with the Lower School in the Historical Heritage Statement (Martin Ashley Architects 2015).

3.3.15 The foundations were constructed of handmade bricks with a loose lime mortar. The bricks were of a soft orange-red sandy fabric with rare coarse flint inclusions (length: 250mm, width: 110mm, thickness: 65mm). They had crinkled/creased sides and remnants of a mould impression. Dating of handmade brick is not precise but a broad 17th-century date may be assumed.

3.4 Finds summary

3.4.1 A very small quantity of artefactual material was recovered during the watching brief. The range of material included pottery, ceramic building material (CBM) and animal bone. A fuller description of the finds can be found in Appendix A and environmental material within Appendix B.

3.4.2 A sample of bricks was recovered from the culverts and the brick foundations to help provide dating evidence.

3.4.3 A stoneware bottle was found just inside the colonnade in the south-west corner of the courtyard. The colonnade forms the western side of the courtyard and the Henry VI chapel forms the southern side. More precisely, the find spot lay between the two southernmost stone piers of the classical colonnade (Plate 9), and closer to the northern one. The bottle and its contents were exposed when workmen lifted a flagstone here. It seems to have been found in a small pit dug into the rubble underlying the flagstone paving. When examined, the otherwise empty bottle was found to contain a group of seven early stone gaming marbles (Plate 10).

3.4.4 The bottle has datable marks suggesting a manufacture between 1831 and 1834, probably between 1832 and 1834 – the middle years of the reign of King William IV.

3.5 Environmental summary

3.5.1 A single sample was taken from a dark deposit from the main post-medieval drain in the schoolyard.

3.5.2 There is very little obviously modern material present in this flot, which consists of mostly small and tiny fragments of charcoal unsuitable for species identification. Fragments of cereal grain are frequent although the majority is clinkered and unidentifiable to a species, probably as a result of high temperature burning. Four grains were in better condition and identifiable as barley (*Hordeum* sp.), although these were still not particularly well preserved. In addition two small fragments of chaff were observed but these could not be further identified due to their small size and poor condition. Additional material in the form of a single small fragment of hazelnut shell, six badly fragmented grass seeds (Poaceae), five fragmented oat/brome (*Avena*/*Bromus*) grains and two unidentified wild plant seeds were recovered.

3.5.3 The charred assemblage is consistent with domestic cooking waste that appears to have been discarded down the drainage system.

4 Discussion

4.1.1 The watching brief on the main resurfacing work of the courtyard confirmed that undisturbed ground and archaeological deposits were not impacted by these works. The excavation and replacement of the drainage and heating pipes were within the original cuttings of the post-medieval services and therefore also did not impact undisturbed deposits. The work however, provided a valuable insight into the post-medieval sequence of changing surfaces and drainage features of the courtyard.

4.1.2 The remains of the brick culvert drainage system was found during the watching brief and it is known that a number of these were installed in the 19th century. The installation of the drains, as well as pipes for the heating system, will have previously directly impacted upon any underlying archaeological deposits. Evidence of several phases of collapse and repair of the drainage culverts was identified. Evidence for earlier brick-built drains was seen within the monitoring work of the eastern area of the courtyard but could not be fully characterised due to the small size of the investigations.

4.1.3 The drainage excavations also provided the opportunity to investigate the sequence of potential colonnade foundations identified during repair works following World War II bombing. Evidence of a post-medieval colonnade or loggia running along the front of the Lower School was suggested along the northern edge of the courtyard. The monitoring work has provided the most comprehensive evidence for the 17th-century colonnade or loggia associated with the Lower School. No evidence of the colonnade bases was found during the resurfacing work, which may suggest that they were removed during the later resurfacing working.

4.1.4 The blacking bottle and stone marbles found within the pit next to the current colonnade provide an interesting and rare insight of activity within the courtyard. The blacking liquid (made from graphite) was used to blacken and polish boots, iron fireside grates and ovens. Cylindrical blacking bottles of identical shape continued to be manufactured up until c 1900. The complete vessel found here is a fine example of an early blacking bottle with a nice clear (and closely datable) maker's mark, indicating a date between 1832-1834. It was found deliberately buried or hidden and contained the seven stone gaming marbles described below. We can envisage the blacking bottle was originally used possibly to polish boots and was later reused to store the marbles. It seems likely

therefore that they were deliberately buried by a schoolboy, possibly as a type of time-capsule or with every intention of returning.

4.1.5 Archaeological excavations, especially in built-up areas, occasionally turn up an early gaming marble or two but it is very rare to find a cache of early marbles such as this in such a well-dated container. Research into old encyclopaedias and books on the history of children's games showed that nearly all the polished stone marbles found on 18th- or 19th-century sites in Britain were made from limestone or marble from sources in the Alps, mostly southern Germany (Bavaria), and to a lesser extent northern Italy (Cotter 2002). While some marble-making mills were located in these areas, great quantities of stone were also transported down the Rhine to Holland (mainly Rotterdam) and fashioned into marbles there before export to Britain. The dating evidence from sites in Canterbury suggests imported stone and stoneware marbles were already common by the late 17th century. The demand for stone marbles seems to have gradually died-out in the second half of the 19th century as they were replaced by marbles of pottery, porcelain and glass, most of which were made in Britain.

4.1.6 Caches of gaming marbles, probably lost over time through gaps in the floorboards, have been found at a few other school sites. The earliest of these is a group of ten marbles of local stone and ceramic from excavations at the Free Grammar School, Coventry, in contexts dated to c 1545-1558. Seventeen imported stone marbles came from excavations at the Poor Priests' Hospital in Canterbury, a medieval building used as a school for Bluecoat boys from c 1600 until 1881. A remarkable group of 83 marbles, dating from the 19th century, was found under the floorboards of St Giles's Church in Colchester, Essex, probably lost by choirboys. None of the latter however was of stone. Eighty-one were of fired clay, two of wood, and a hazelnut may be a replacement for a lost piece (ibid., 45).

4.1.7 The cache of gaming marbles from Eton College is, as far as we know, the only one deliberately buried in a container. The jar and marble set are a rare and fine example of a 19th-century children's toy, and are worthy of being displayed within a museum.

5 REFERENCES

Cotter, J P, 2002 Losing your marbles: post-medieval gaming marbles of pottery and stone from Canterbury excavations, in *Canterbury's Archaeology 1997-98*, **22**, 43-48, Canterbury. Available online at https://issuu.com/alfalfa2/docs/canterburys_archaeology_1997_1998 [accessed March 2017]

Martin Ashley Architects, 2015 *Brief heritage statement: local borough council application for access improvements to Eton College, Windsor*, unpublished report by Martin Ashley Architects, London

English Heritage, 2006 The management of research projects in the historic environment: the *MoRPHE* project managers' guide. Available from: https://historicengland.org.uk/images-books/publications/morphe-project-managers-guide/ [accessed March 2017]

Chartered Institute for Archaeologists, 2015 S*tandard and guidance for an archaeological watching brief*, Reading. Available from http://www.archaeologists.net/codes/cifa [accessed March 2017]

Oxford Archaeology 2016 Eton College Courtyard Resurfacing Works Windsor Berkshire Archaeological watching brief report.

Oxford Archaeology, 2016b *Written scheme of investigation for an archaeological watching brief*, Eton College, Windsor, Berkshire, unpublished report by Oxford Archaeology, Oxford

APPENDIX A. FINDS SUMMARY

A.1 A buried 19th-century stoneware bottle, containing stone gaming marbles

by John Cotter

A.1.1 During resurfacing of the courtyard of Eton College in Summer 2016 workmen found a stoneware bottle just inside the colonnade in the south-west corner of the courtyard. The colonnade forms the western side of the courtyard and the Henry VI chapel the southern side. More precisely, the find spot lay between the two southernmost stone piers of the classical colonnade, and closer to the northern one. The bottle and its contents were exposed when workmen lifted a flagstone here. It seems to have been found in a small pit dug into the rubble underlying the flagstone paving. When examined, the otherwise empty bottle, was found to contain a group of seven early stone gaming marbles; it seems more than likely therefore that they were deliberately buried by a schoolboy. For whatever reason, he never came back for them.

A.1.2 The stoneware bottle (Context 20, Small Find No. 1). Manufactured 1817-1834. This has not been separately catalogued but is fully described below.

A.1.3 *Metrical data.* One complete vessel (weight: 392g). Height: 139mm. Rim diameter: 60mm. Base (and body) diameter: 64mm. Height to shoulder (carination): 97mm. Internal rim diameter: 39mm.

A.1.4 Light brown salt-glazed stoneware blacking bottle (London Fabric code: ENGS). Typical cylindrical body with a sharply angled (carinated) shoulder. Above this a steep flaring neck and a plain thickened flat-topped rim with a slight external bevel and a sharp angular lip. Clearly wheel-thrown. Quite heavy in the hand, and thickly potted (10mm thick at the rim). Flat base with a slightly bevelled basal angle. The cylindrical body is very slightly waisted (concave) in the middle. In perfect condition apart from a slight modern chip on the surface of the rim at one point revealing a fine, dense, light grey, stoneware fabric beneath. It has an even covering of salt glaze all over externally with a blank circular area (diam. 45mm) on the underside of the base – probably a stacking mark from the rim of a smaller bottle. External salt glaze mainly light grey and transparent but with subtle light brown tones here and there, particularly on the neck, shoulder and near the base. The inside of the vessel has a much darker brown (possibly feldspathic?) glaze covering, probably applied in liquid form as an iron-rich glaze slip (liquid clay). Some of this has dribbled out onto the top of the rim (probably when the maker was swilling it around in liquid form to obtain an even coverage). A few small grazes or facets occur here and there on the outside of the vessel, possibly made with a bladed tool while the vessel was still leather-hard and unfired, and before glazing.

A.1.5 On the lower wall, and as far as the base, is a large ‘tombstone’-shaped impressed maker’s mark, stamped at a slight angle. It is 48mm wide at the base and 38mm high. The whole inscription is in serifed capitals and reads: ‘IMPROVED STONE WARE GLAZED INSIDE/ GREEN,/ LAMBETH./ BLACKING/ BOTTLE.’ (the slashes / here indicate a separate line). The first five words (forming the arc) are in smaller letters (c 3mm tall) and more crowded; the enclosed words (from ‘GREEN’ onwards) are larger (4.5mm tall) and more widely spaced. Separating the last four words is a horizontal bar or divider.

A.1.6 The addition of the words ‘BLACKING BOTTLE’ dates it to the period 1817-1834, during which time blacking bottles had to be marked thus if they were to be exempt from

Excise Duty (Askey 1981, 133, 147-8). The mark is identical to Derek Askey's Type 1 mark for the maker Stephen Green of Lambeth (ibid., 216), but with the addition of the words 'blacking bottle'. Askey speculated that because the Type 1 mark omits the maker's Christian name, it might arguably belong to Stephen Green's father James, who ran the stoneware pottery at 54 Princes Street, Lambeth, until his death c 1825 (ibid., 133, 181-3). This cannot be correct, however, as more recent research shows the words 'GLAZED INSIDE' do not appear on stoneware bottles until after c 1831 (i.e. after James was dead) when the technique of internal (feldspathic or 'Bristol') glazing was first used on London stonewares (Green 1999, 159, 162-5). Lambeth stoneware firms did not advertise interior glazing until 1831-33 (ibid, 165); and did so because it was a novelty – inside glazing made a stoneware vessel completely leak-proof. It was almost impossible to salt-glaze the inside of a bottle-shaped vessel because the cloud of vapour carrying the glazing agents through the kiln could only cover its outer surfaces, but as the new 'Bristol' glaze was relatively expensive, cheap salt glazes continued to be applied to the outside of stoneware vessels until the start of the 20th century. The significance of all this is that the Eton bottle has two very closely datable marks which must date it to the years 1831-1834, and probably to the years 1832-1834 – the middle years of King William IV's reign. Although other bottles with exactly the same mark as this one must exist in some collection somewhere, they are unlikely to be very common, given the small window of time during which they would have been produced. Blacking bottles, produced in their millions, were not recycled and were probably disposed of very soon after use, so it is likely that the bottle here was buried not very long after manufacture.

A.1.7 Blacking liquid (made from graphite) was used to blacken and polish boots, iron fireside grates and ovens. Cylindrical blacking bottles of identical shape continued to be manufactured up until c 1900. The complete vessel here is a fine example of an early blacking bottle with a nice clear (and closely datable) maker's mark. It was found deliberately buried, or hidden, and contained the seven stone gaming marbles described below.

Gaming marbles

A.1.8 The seven marbles (weight 49g) range in weight from 4 to 8g, and from 14.5 to 17mm in diameter (1x 14.5, 2x 15.5, 2x 16, 2x 17mm). They are all made from very hard, mostly light grey, banded limestone or – in the case of the hardest and finest – perhaps from a low-grade marble. Early marbles really were made from 'marble', hence the name. Glass marbles, which took over by the 20th century, seem to have been produced from about 1850 onwards. Ceramic marbles made of pottery, stoneware and later porcelain were also common until glass ones took over. Four of the marbles here (the smallest) are light grey in colour and while perfectly spherical and fairly smooth they are clearly not polished like the other three and probably never were. The smallest exhibits a little bit of wear and tear but the rest are in good condition. The two largest marbles are in a slightly darker brownish-grey stone with defined 'horizontal' banding – like the grain pattern in a piece of wood – and with a fairly good quality polish. Probably the most attractive one is of medium size (16mm) and made from a much denser, finer, dark brown 'marble' with strongly defined banding – like a small dark brown planet with attractive coffee-coloured layers at the 'poles'. It is also the most polished of the set. There can be little doubt that marble manufacturers sought out the best finely banded stone and cut them in a certain way to achieve the most attractive effect. Elsewhere, the best marbles with the most attractive combination of colour, banding and polish could

look like little planets (Jupiter, for example), and were the most highly prized (known as ‘alleys’ or ‘taws’). The dark brown one here probably falls into this category.

A.1.9 Archaeological excavations, especially in built-up areas, occasionally turn up an early marble or two but it very rare to find a cache of early marbles such as this and – as luck would have it – in such a well-dated container. The author was lucky enough to have researched and published a fairly large group of early stone and ceramic marbles found on various sites in Canterbury, Kent, in the 1980s and ‘90s (Cotter 2002). Research into old encyclopaedias and books on the history of children’s games showed that nearly all the polished stone marbles found on 18th- or 19th-century sites in Britain were made from limestone or marble from sources in the Alps, mostly southern Germany (Bavaria), and to a lesser extent northern Italy. While some marble-making mills were located in these areas, great quantities of stone were also transported down the Rhine to Holland (mainly Rotterdam) and fashioned into marbles there before being exported to Britain. The dating evidence from sites in Canterbury suggests imported stone and stoneware marbles were already common by the late 17th century. The demand for stone marbles seems to have gradually died-out in the second half of the 19th century as they were replaced by marbles of pottery, porcelain and glass, most of which were made in Britain.

A.1.10 Caches of gaming marbles, probably lost over time through gaps in the floorboards, have been found at a few other school sites. The earliest of these is s group of ten marbles of local stone and ceramic from excavations at the Free Grammar School, Coventry, in contexts dated to c 1545-1558. Seventeen imported stone marbles came from excavations at the Poor Priests’ Hospital in Canterbury, a medieval building used as a school for Bluecoat boys from c 1600 until 1881 (no other information currently available). A remarkable group of 83 marbles, dating from the 19th century, was found under the floorboards of St Gile’s Church in Colchester, Essex, probably lost by choirboys. None of the latter however was of stone, 81 were of fired clay, two of wood, and a hazelnut may be a replacement for a lost piece (ibid., 45). The cache of gaming marbles from Eton College is, as far as we know, the only one deliberately buried in a container. It is to be hoped that both marbles and container will be put on display in the College Museum.

A.2 Assessment of the ceramic building material (CBM)

by John Cotter

A.2.1 Four complete or nearly complete 19th-century bricks (total weight 9550g) were sampled from a brick culvert (Context 3). They are briefly described below. No further work on them is recommended.

Frogged bricks: c 1815-1850?

A.2.2 Two complete identical London-type stock bricks with a shallow rectangular frog on the upper surface. The undamaged one, without mortar adhering, weighs 2379g. Length: 230mm, Width: 104mm, Thickness: 68mm. Typical light purplish-brown hard fabric with random flint inclusions. The surfaces have a leached yellowish colour. On the ‘clean’ example the shallow frog has a faint impressed mark in the centre (possibly the letter ‘N’, ‘M’ or ‘W’ followed by a dot or full-stop).

Unfrogged handmade red bricks: Late 18th or early 19th century?

A.2.3 One complete, fresh, example (weight 2789g), quite neatly made. Fairly soft orange-red sandy fabric with rare coarse flint inclusions. Length: 212mm, Width: 108mm, Thickness: 65mm. The incomplete example is cruder and has more crinkled/creased sides and remnants of a mould impression at one end. One side is very weathered/worn and one end is similarly worn (missing). It may therefore be older than the previous one and perhaps reused?

A.3 Assessment of pottery and CBM from sieving

by John Cotter

A.3.1 Context (10), Sieved Sample <1>. This produced a smallish flake of orange sandy flat ? roof tile (4g). This is featureless apart from a dead flat surface. It is probably of post-medieval date - perhaps 18th-19th century? The sample also includes two small body sherds (4g) of medieval pottery. The sherds have a fine sandy grey fabric with moderate white inclusions of crushed shell and shelly limestone, and sparse inclusions of coarse angular flint. The sherds are too small to assign to a known fabric type/code, but medieval shelly wares are fairly common in the Windsor area between the 12th and 14th centuries.

A.4 References

Askey, D, 1981 *Stoneware Bottles: 1500-1949*, Brighton

Cotter, J P, 2002 Losing your marbles: post-medieval gaming marbles of pottery and stone from Canterbury excavations, in *Canterbury's Archaeology 1997-98*, **22**, 43-48, Canterbury. Available online at https://issuu.com/alfalfa2/docs/canterburys_archaeology_1997_1998 [accessed March 2017]

Green, C, 1999 *John Dwight's Fulham Pottery: Excavations 1971-79*, English Heritage Archaeological Report **6**, London

Museum of London Archaeology, 2014 *Medieval and post-medieval pottery codes*, London. Available from http://www.mola.org.uk/resources/medieval-and-post-medieval-pottery-codes [accessed March 2017]

APPENDIX B. ENVIRONMENTAL SUMMARY

B.1 Charred plant remains

By Sharon Cook

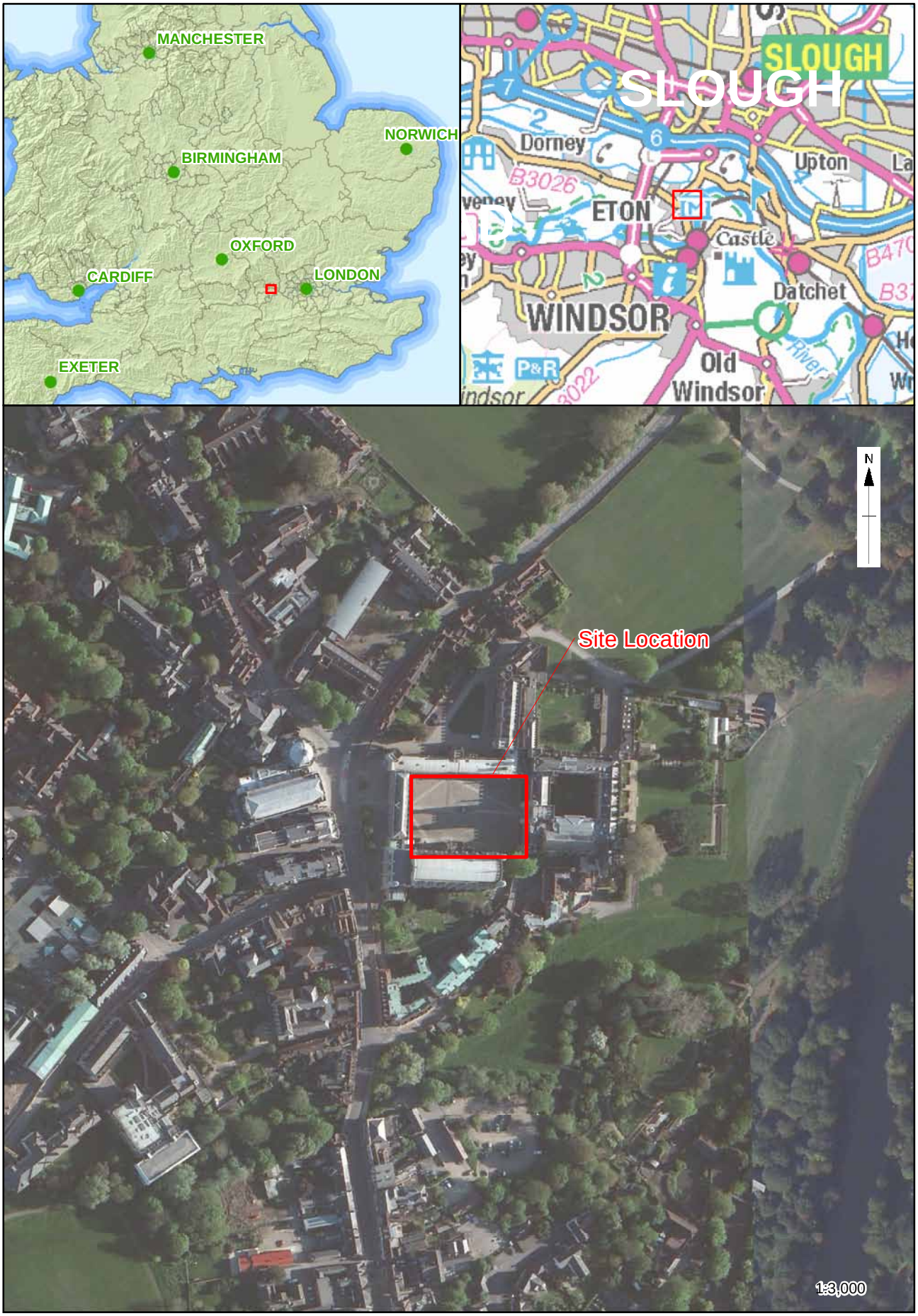
B.1.1 A single sample was taken from a dark deposit within one of the post-medieval culvert in the school yard. Sample <1> (10) was a dark greyish brown (10YR 4/1) loamy sand with occasional sub-angular stones, it was 10 litres in volume.

B.1.2 There is very little obviously modern material present in this flot, which consists of mostly small and tiny fragments of charcoal unsuitable for species identification. One or two fragments of charcoal are potentially large enough to identify further, although they are not ideal for this purpose. Fragments of grain are frequent although the majority is clinkered and unidentifiable to species, probably as a result of high temperature burning. Four grains were in better condition and identifiable as barley (*Hordeum* sp.), although these were still not particularly well preserved. In addition two small fragments of chaff were observed but these could not be further identified due to their small size and poor condition. Additional material in the form of a single small fragment of hazelnut shell, six badly fragmented grass seeds (Poaceae), five fragmented oat/brome (*Avena*/*Bromus*) grains and two unidentified wild plant seeds were all observed within the flot.

B.1.3 The charred assemblage is consistent with domestic cooking waste that appears to have been discharged down the drainage system.

APPENDIX C. SUMMARY OF SITE DETAILS

Site name:	Eton College Courtyard Resurfacing Works, Windsor, Berkshire
Site code:	ETONSY15
Grid reference:	NGR SU 96701 77909
Type of watching brief:	Intermittent
Date of project:	01/08/16
Summary of results:	*The second phase of work carried out during intermittent visits from 7th June 2016 to 15th August 2016 covered the resurfacing work and exposure and repair of the brick culvert drainage system. The culvert drainage system was found to be in varying conditions with original brickwork having evidence of later repairs. During the excavation the foundations of a 17th-century colonnade was found along the north side of the courtyard. The trench along the northern side of the school yard was excavated to a depth that allowed the exposure of layers indicating earlier surfaces, made-ground and original undisturbed deposits. Later work in this area failed to reveal any remains of the columns supporting the roof. The works also uncovered an early 19th-century stoneware bottle and marble set within a small pit just inside the historical colonnade in the south-west corner of the courtyard.*
Location of archive:	The archive is currently held at Janus House and will be made available on the ADS and OA grey literature library in due course under accession number ETONSY15



X:\e\Eton College Coutyard WB\010Geomatics\03 GIS Projects\Eton Courtyard _figure_1_021215.mxd*matt.bradley*02/12/2015

Figure 1: Site location

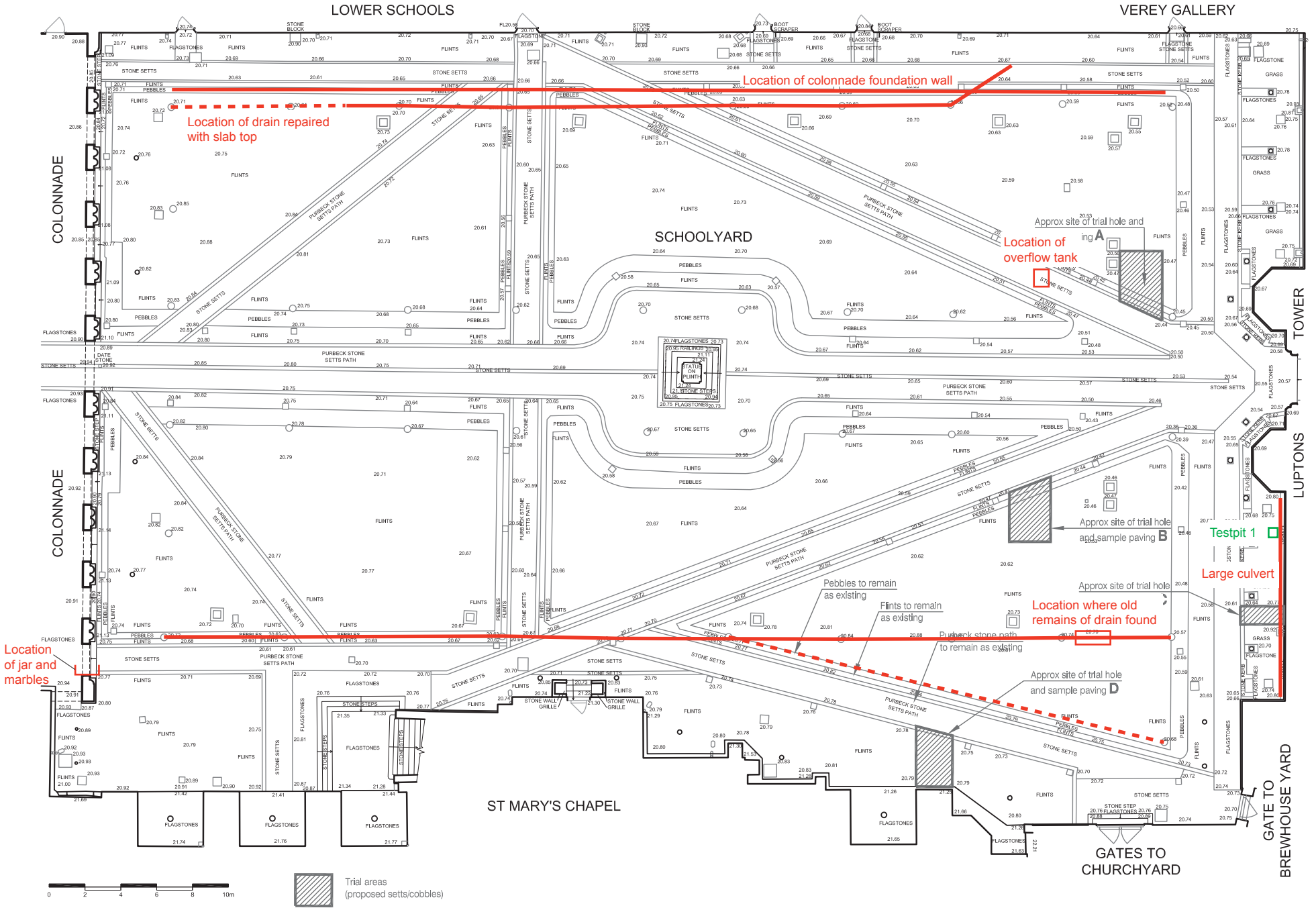
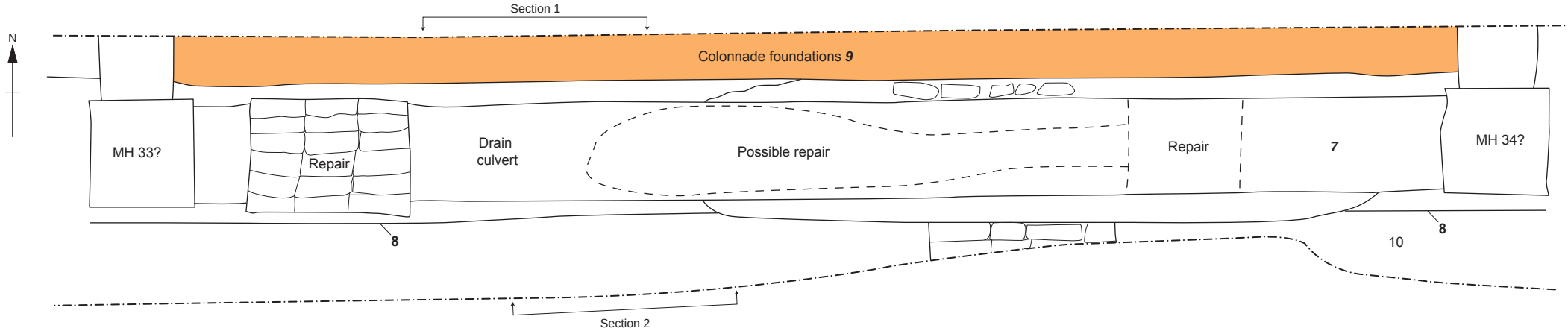


Figure 2: Location of Watching brief



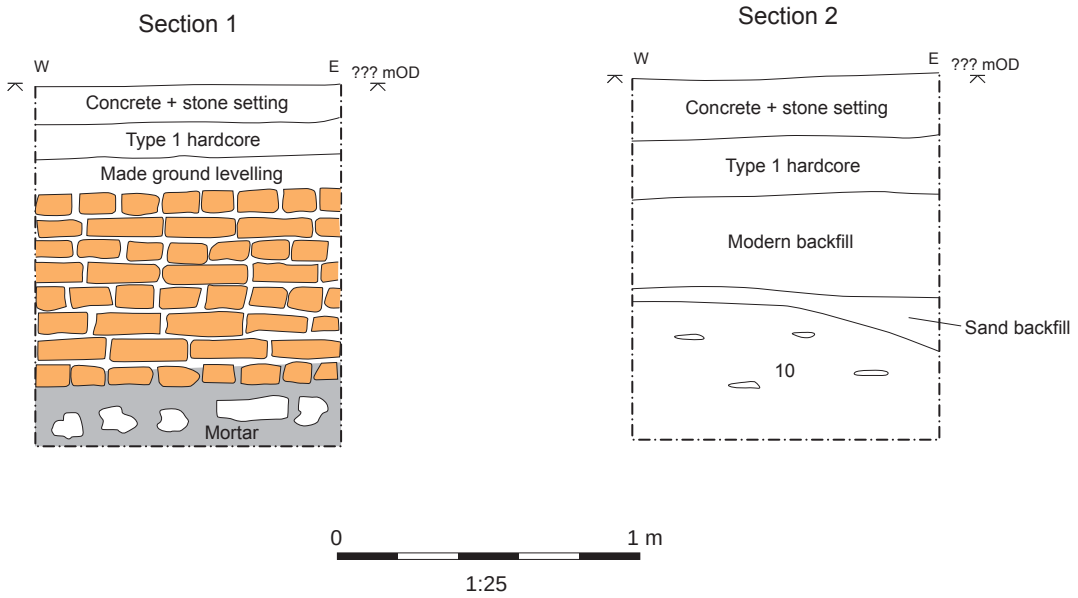
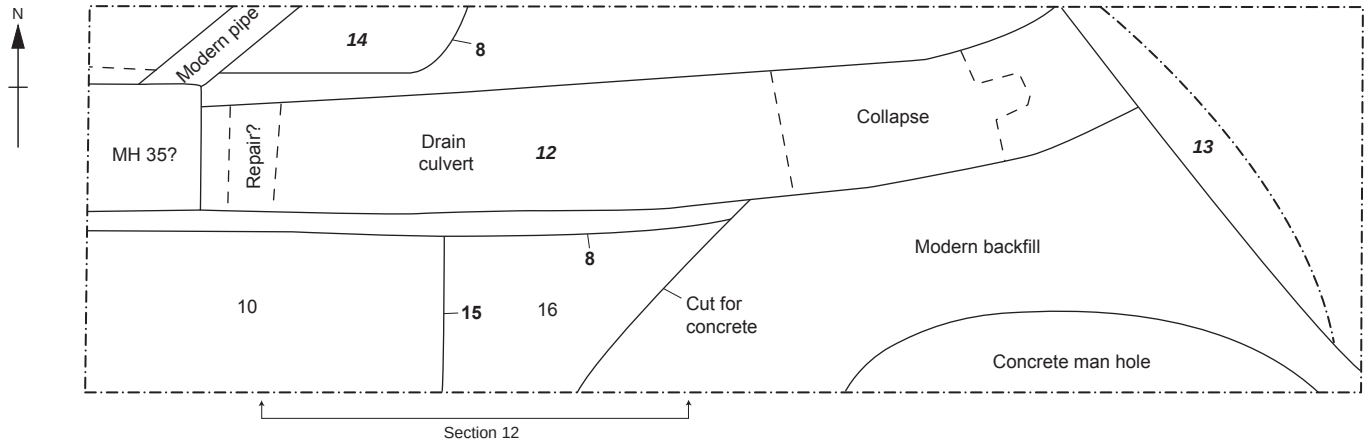
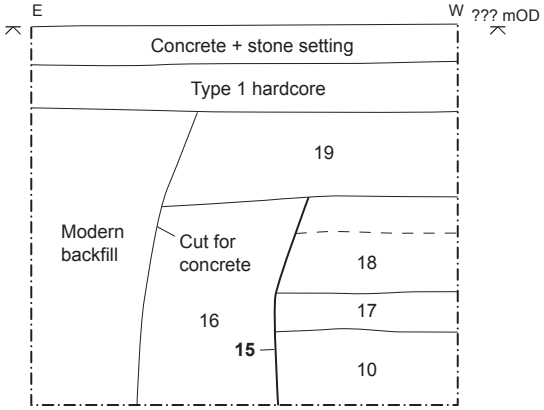


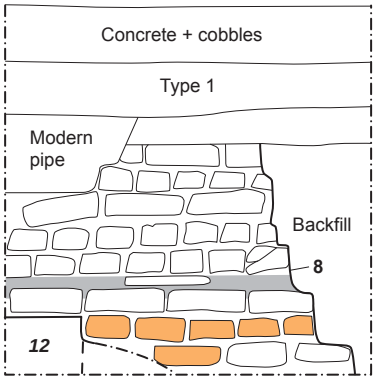
Figure 3: Sections and plan of the colonnade section



Section 12



Elevation ***14***



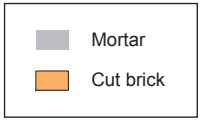


Figure 4: Section and plan of culvert section

Plate 1: Eton College courtyard showing the College Chapel (looking southwest)

Plate 2: Eton College courtyard showing the current gravel surface and stone paths (looking northwest)

Plate 3: Monitoring of the removal of the existing cobbled surfaces (looking northwest)

Plate 4: Sandy base of the cobbled surface (looking east)

Plate 5: Excavations of the main drainage culvert (looking west)

Plate 6: Red brick foundations of a possible 17th- century colonnade or loggia (looking north)

Plate 7: Brick drain located on the southern eastern corner of the courtyard (looking south)

Plate 8: Repaired culvert sections with signs of early drainage at the base

Plate 9:Excavations of a pit under the colonnade southwest corner

Plate 10: Early 19th century stone blacking bottle and marble set

Head Office/Registered Office/ OA South

Janus House
Osney Mead
Oxford OX2 0ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarchaeology.com
w: http://oxfordarchaeology.com

OA North

Mill 3
Moor Lane
Lancaster LA1 1GF

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: oanorth@oxfordarchaeology.com
w: http://oxfordarchaeology.com

OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
e: oaeast@oxfordarchaeology.com
w: http://oxfordarchaeology.com