

# HCP 154

## Apartment 39 Railings Conservation, Hampton Court Palace

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*An Archaeological Watching Brief and Investigation*



*Accession Code: 3910040*

*National Grid Reference: TQ 15597 68451*

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JUNE 2019



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*Archaeological Watching Brief*

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## Summary

*Between February and March 2017 the Curatorial Department of Historic Royal Palaces undertook a watching brief in the Apartment 39 garden located in front of the south-west wing of Hampton Court Palace (TQ 15597 68451). The watching brief was undertaken as part of conservation works on the historic railings that delimit the garden. During the excavation phase of the project, a number of significant and unexpected archaeological remains were revealed including two well-preserved early Tudor brick buildings (Buildings A and B) partially surviving above foundation level. Eleven walls were recorded in association with the Tudor buildings. They were all of a similar build, though there was some evidence of phasing within the buildings. Both buildings produced clear dating evidence provided by architectural details and contextual material finds that confirmed a late 15<sup>th</sup> to early 16<sup>th</sup> century construction date. The remains of the buildings were only partially recorded as they extended northwards beyond the confines of the trench. Building A was composed of four internal spaces, two of them with evidence of the floor make-up and occupation levels. The southerly-most room of this building was a basement or cellar backfilled with demolition rubble, the floor level of which was never reached. Building B lay immediately west of Building A. Only one room was recorded with surviving evidence for floor, occupation, and make-up layers. Externally, the remains of a polygonal structure with three well-preserved faces abutted the east wall.*

*These buildings are difficult to interpret since there is no clear documentary record of their existence. However, they appear to be part of the Wolsey phase of occupation or possibly slightly earlier, and were likely demolished prior to the construction of the south west wing. This was among Henry VIII's later works, constructed in 1537. As part of an overhaul of the West Front it is probable that the buildings were demolished at this time and subsequently buried with demolition rubble to level the ground.*

*Approximately 6m to the south, a section of the Henrician Great Wall was recorded, the boundary wall running parallel with the river adjacent to Barge Walk. This wall was probably constructed around a similar time to the demolition of Buildings A and B.*

*Later, in the 18<sup>th</sup>-19<sup>th</sup> century, the buried remains of the Tudor buildings and the demolition rubble overlying them were partially truncated by a line of pits, likely associated with garden features during the early period of Grace and Favour residency.*

*The project also provided the opportunity to look more closely at the phasing of the railings surrounding Apartment 39. The removal of some of the plinth stones exposed the brick footings beneath, revealing three clear phases of build. The first dating to the early 18<sup>th</sup> century and extending from the moat wall up to the north-west turret of Apartment 39. The second phase corresponds to the extension of this initial boundary, located slightly out of alignment and extending 7.5m westwards. A final third phase was represented by a further westward extension of the railings in the late 19<sup>th</sup> century with the installation of a more simple railing style. Meanwhile the boundary alongside Barge Walk was replaced in 1879 with iron railings set in concrete blocks rather than the more traditional dwarf wall<sup>1</sup>.*

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<sup>1</sup> Jacques, (1998), p.6.

## 1 Location and Scope of work

- 1.1 The Curatorial Department of Historic Royal Palaces undertook an archaeological watching brief between February and March 2017 as part of the Apartment 39 Railings Conservation Project. The works were located on the West Front of Hampton Court Palace in the London Borough of Richmond-upon-Thames. The project was centred on National Grid Reference TQ 15597 68451. The site code assigned to this project was HCP 154. An accession number, 3910040, was allocated. It encompasses the physical, digital and paper archives associated with this project.
- 1.2 The conservation project was part of a larger scheme to maintain and conserve the railings at Hampton Court Palace. Specifically, the garden of Apartment 39 had become neglected over the years and the railings had been progressively damaged by encroaching vegetation and soil, causing extensive corrosion of the exposed metal surfaces. Furthermore, associated root activity had resulted in the fracturing, bending and displacement of stone plinths.
- 1.3 The project began with preliminary investigation and research in 2016 with a Statement of Significance<sup>2</sup> produced in January 2016. Archaeological investigation works were undertaken by HRP between April and July 2016 (HCP 44)<sup>3</sup> comprising 7 test trenches, 3 located along the line of the railings, 1 against the Barge Walk section of railings and three along the pathway in front of the conference room in the southern wing overlooking the garden (see section 4.16 for outline of findings). A petrological survey<sup>4</sup> of the railing plinth stones was undertaken by Pre-Construct Archaeology in August 2016. Measured survey of the railings was undertaken once the vegetation had been removed in autumn 2016.
- 1.4 Conservation work involved repairs to the stone plinths, repointing of open joints using lime mortar for small areas or replacing stones where a greater loss of fabric had occurred. Fifteen of the plinth stones were removed to enable repairs. Missing elements were reinstated; damaged pieces were repaired or replaced where corrosion and decline was too significant. Once all repairs, conservation and replacement works were completed, the railings were redecorated using a modern paint system to achieve maximum longevity.
- 1.5 As part of the conservation works, the late 19<sup>th</sup> century railings located at the western end of the garden were replaced with a new length of railings and stone plinths to match the adjoining historic railings. This phase of works involved the excavation of a 25m-long foundation trench around the perimeter the Apartment 39 garden. It was between 0.5m – 0.8m wide and excavated to an average depth of 0.7m, reaching 1.2m in some places where further archaeological investigation was required.

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2 Jackson, D, (2016). Apartment 39 Railings Statement of Significance. Historic Royal Palaces. Unpublished Report.

3 Stevenson, A, (2016). HCP 144, Apartment 39 Railings Conservation Project – An Archaeological Evaluation. Historic Royal Palaces. Unpublished report.

4 Hayward, K, (2016). Petrological Identification of a Curved Copping Stone: north facing elevation, West Front, South Wing, Hampton Court Palace. Pre-Construct Archaeology.



## 2 Aims and Methodology

### Aims

2.1 The research aims were:

- To record any further evidence relating to the 16th century wall segment identified during the archaeological evaluation (HCP 144).
- To record and define any evidence of the different phases of the railings.
- To record any evidence of the usage of the area prior to the establishment of the garden.
- To provide a drawn and photographic record of the existing plinth stones.
- To preserve by record any archaeological material uncovered as part of the project.
- To establish a broad phased plan of any archaeological remains revealed during the works.
- To prepare a fully illustrated report on the results of the archaeological watching brief proportionate to the findings and compliant with all relevant regulations, policy, guidance and good practice.
- To archive all documents, material and digital records created as a result of any archaeological investigations, with Historic Royal Palaces.

### General Methodology

- 2.2 Conservation is the overriding priority in all of HRP's aims and objectives; guided by strict in-house Conservation Principles. These include a commitment to the continued use and occupation of the palaces, but with minimum intervention to historic fabric. Any interventions are preceded by informed research and study of the physical and documentary evidence, and meticulous recording of the fabric before, during and after all work.
- 2.3 An application for Scheduled Monument Clearance at Hampton Court Palace was granted from Historic England for the proposed scheme of works (Scheduled Monument No: SM LO 83, HA 1002009, Ref: S00148329).
- 2.4 The HRP unique site code is written on all records, drawings, artefact bags and sample containers. The accession number is written on all finds labels and boxes and on the top-most sheet of each bundle of context sheets and drawings in the archive.
- 2.5 All archaeological deposits and features have been recorded on HRP pro forma record sheets and are each associated with a unique identifying number: contexts 1000-1096.
- 2.6 Any significant finds were reported immediately to the HRP Curator and Project Manager.
- 2.7 All archaeological work and the preparation for this report were conducted according to current best practice and accepted professional standards.

### Site Specific Methodology

- 2.8 Initial work involved the removal of the plinth stones along the northern edge of the Apartment 39 garden by Owlsworth IJP. These were numbered and laid out on planks. Prior to their removal, they were photographed *in situ*. The stone plinths were then examined for evidence of reuse, repair and any other interesting features. A

representative drawn record was made of each plinth type, including surface and profile drawings as required. A photographic record of each stone was also produced; including both general shots and details of any identified features (Figs. 18-21).

- 2.9 The iron railings were examined for any interesting features and a photographic record was produced. They were further inspected for features such as maker's marks after their removal.
- 2.10 After the removal of the plinth stones a 25m-long 'L'-shaped trench was excavated around the western end of the Apartment 39 garden by Owlsworth. However, after reaching a depth of 0.3m, substantial archaeological remains became apparent. HRP's Assistant Curator, Alexandra Stevenson took over the remainder of the excavation on the east-west branch of the trench. Once the magnitude of the archaeological remains was visible, it was decided and agreed by Historic England to excavate two further trenches extending south from the east-west branch of the main trench. The topsoil and subsoil were removed with a mechanical excavator under supervision by the Assistant Curator. The two additional trenches are referred to in this report as Extension 1 and Extension 2. An archaeological assistant, Daniel Heale, was sub-contracted on site for two weeks to provide some additional resourcing.
- 2.11 All archaeological features and deposits were investigated by hand and recorded in order to determine their date, form, extent, level of preservation and function, with emphasis on stratigraphic relationships between features and recovery of dating evidence. Where possible brick structures were excavated to the base of the foundation to determine the formation level.
- 2.12 The archaeological record consisted of three main components: a photographic, drawn, and written survey. The photographic survey consisted of general area shots, general and detail shots illustrating specific features, layers and structures, with and without photographic scales. A series of photographs were also taken to create a photogrammetric record of the trench and the archaeological remains, produced by Oxford Archaeology. The drawn survey consisted of a general overall plan at 1:50 of the trench layout in relation to the south wing of the West Front. A more detailed plan of the trench and archaeological remains was drawn at 1:20 and further detailed scale illustrations of specific layers, features and structures were drawn as overlays of this main plan. Trench sections were drawn systematically at 1:20 illustrating the overall stratigraphic sequences. Elevations of all brickwork were drawn at 1:20 or 1:10, as appropriate. Each illustration was drawn on archival stable permatrace with key features. The descriptive survey complemented the photographic and drawn surveys adding further information and details.

### **3 Archaeological Background**

- 3.1 Hampton Court Palace is a Scheduled Monument SM LO 83, HA 1002009. The palace, gardens and grounds form an archaeological and historical site of national importance. The historical background to Hampton Court is well documented and will not be repeated here.

#### **Brief historical background of the West Front**

- 3.2 The West Front has been the main land approach to Hampton Court Palace for more than five centuries welcoming multitudes of people. The view from this point, as is the case for the rest of the palace and its grounds, has evolved over the centuries, with the construction and subsequent destruction of a number of buildings, changes to the planting and trees, installation of railings and formalisation of footpaths. It has also been known

variously over the years as ‘Long Courtyard’ ‘Outer Green Court’ ‘Outer Court’, as well as Palace Yard and Barrack Yard.

- 3.3 Dominating the view is the Great Gatehouse, built by Cardinal Wolsey in the 1520’s, which would have been an even more imposing feature 500 years ago, soaring five stories into the sky. Yet during this period of construction and redevelopment, rather than having the appearance of a majestic sweeping forecourt, it is said that the West Front was littered with a plethora of workshops and storehouses resembling something more of a building site than a grand entrance to a royal palace<sup>5</sup>. It seems that these temporary workshops and storage buildings survived into Henry VIII’s phase of redevelopment until he took it upon himself to tidy the area in the 1530’s. During this period, he built the Outer Gate, later known as Trophy Gate, and a wall along the north side of the palace’s West Front, which enclosed the southern extent of the newly built Tiltyard.
- 3.4 The southern wing of the West Front was built between 1535 and 1536, and was used to contain a number of new lodgings as well as the palace’s public latrine, which in Elizabethan times became known as the ‘Great House of Easement’. The construction of this wing saw a return to the symmetry of the palace, which had been lost after the Great kitchens were built on the northern side of the palace in 1529-30. This redevelopment coincided with the construction of a new stone bridge spanning the moat, whilst further west, a series of service buildings were constructed at the closest point to the landing stages along Barge Walk, which would later be known as the Trophy Gate Buildings. A line of elms ran eastwards towards the southwest corner of the palace in front of a post and rail fence dividing Barge Walk from the palace, remaining there until the 1930’s.
- 3.5 The next major changes on the West Front occurred between 1558 and 1662. A view of the West Front painted by Dirk Stoop in around 1662 (Fig.24) shows the arrival of Charles II and Catherine Braganza and features a low wall, apparently with parapets, pinnacles and beasts surrounding the Apartment 39 wing. However, thus far, no surviving evidence of this wall has been found. In 1662, a timber cavalry barracks was constructed for Charles II against the southern wall of the Tiltyard. This was replaced in 1689 by the present day Barrack Block.
- 3.6 In around 1700, the moat was filled in and a circular sweep created in front of the palace’s western façade between the northern and southern wings with three radial paths projecting westwards including a Ragstone causeway leading up to the Outer Gate. The paths, causeway and sweep were all flanked with Portland stone bollards. This whole layout was presumably an attempt at imitating the *patte-d’oie* in the Fountain Garden (Longstaffe-Gowan, 2003). Several images from this period show a railing running between the two turrets on the west elevation of Apartment 39 (Fig.25, 26).

### **The Apartment 39 Garden Railings**

- 3.7 During the mid-18<sup>th</sup> century, records show that Apartment 39 was given over to Grace-and-favour accommodation as were the Tudor service buildings in the south-western corner of the forecourt. These would become known as the Trophy Gate Buildings and were subsequently fenced off with timber and iron railings, inside which small gardens were laid out. This is nicely illustrated by John Spyers’ sketch from c.1750 showing a peaceful village-like setting with green spaces, shrubberies, a small garden along the east end of the buildings and a pathway stretching along the northern façade (Fig.25).
- 3.8 A later John Spyers sketch depicting the West Front (Fig.26) clearly shows a set of simple railings in place by 1786. This extended from the southern side of the Great Gate House sweeping round in front of the south-west wing up to the north-west turret of Apartment

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<sup>5</sup> Longstaffe-Gowan, T, 2005. *The Gardens and Parks of Hampton Court Palace*. Francis Lincoln. London (p.102)

39. A further set of railings can be seen extending from the other side of the turret along the west face of the apartment. These railings can be seen in detail in a sketch from 1800 (Fig.27), showing a dwarf wall supporting two sets of iron railings. By the 1820's the configuration of the railings changed to extend all the way around the north-west turret of Apartment 39 creating a private enclosed garden for the Grace and Favour residents (Figs.28 and 29). Further changes were made in 1881-1882 when the garden in front of Apartment 39 was extended westwards as part of Princess Frederica of Hanover and Baron Von Pawel Rammingen's redevelopment of the nearby stable block. In 1910, the eastern section of the West Front railings were curtailed by the re-excavation of the moat.

### **Previous archaeological investigations**

- 3.9 Much of the area immediately in front of Hampton Court's West Front is given over to tarmac and has yet to be investigated, leaving our understanding of the archaeology here rather meagre. Nevertheless, several archaeological excavations on the north and south sides of the main approach to the palace over the last 40 years have enabled us to gain some insight.

#### **Installation of services, 1980**

- 3.10 In autumn 1980, an archaeological survey was undertaken prior to the excavation of a service trench located along the southern side of the West Front adjacent to the Barge Walk railings. Four test trenches were excavated revealing a number of archaeological remains of Tudor date. Remains of the 16<sup>th</sup> century Trophy Gate Buildings were uncovered in Area I located at the far south-western corner of the West Front. Five segments of 16<sup>th</sup> century walls were encountered as well as tile and brick floor surfaces. Segments of the 16<sup>th</sup> century Henrician Great Wall were exposed in Areas III and IV close to the west wing of the palace and adjacent to the Barge Walk railings.

#### **Toy Green Watching Brief, HCP 99**

- 3.11 In autumn 2012, Oxford Archaeology carried out a field evaluation in advance of the re-landscaping and reconfiguration of Toy Green and the Trophy Gate entrance to Hampton Court Palace. The evaluation revealed what is almost certainly the northern wall of The Toy Inn, together with a surviving remnant of an internal brick floor and a possible ancillary building or garden wall, which does not appear to be depicted on any of the surviving cartographic sources. A watching brief was later undertaken in February 2013 during the resurfacing and landscaping works. The works revealed evidence for multiple phases of landscaping, in addition to deposits that are likely to represent earlier surfaces to the west of the Trophy Gate. The bedding layers for these surfaces comprised of possible masons' waste, which may have originated from the yards and workshops known to have occupied Outer Green Court in the 16<sup>th</sup> and 17<sup>th</sup> centuries. In addition to these surfaces, a brick built cruciform structure was revealed immediately to the west of the Trophy Gate on the same alignment as a NE-SW aligned wall that was revealed during an earlier watching brief to the south. This element may represent a configuration of the Palace entrance predating the construction of the existing structure in 1701.

#### **Barge Walk Lighting Watching Brief, HCP 129**

- 3.12 In spring 2015, an archaeological watching brief was conducted by Assistant Curator Fiona Keith-Lucas (Historic Royal Palaces) in association with the installation of electrical cables along the Barge Walk. The excavation revealed the foundation level of the 19<sup>th</sup> century railings along Barge Walk, which was composed of concrete footings systematically placed along the line of the fencing.

### **Apartment 39 Railings Evaluation HCP 144**

- 3.13 Between April and July 2016, an archaeological evaluation was undertaken by HRP's Curatorial Department in advance of the Apartment 39 Railings Conservation Project. Seven trenches were excavated. The earliest and most significant archaeological feature observed was located immediately below the historic railing plinth foundation at its far western end. It consisted of a north-west/south-east aligned redbrick wall. The wall was truncated at the far north-western end. The wall's orientation was curious, as it did not align with any of the surrounding buildings or boundaries of the garden. At the time of the evaluation, it was uncertain whether the structure was a Tudor feature or evidence of an earlier 17<sup>th</sup> century wall surrounding Apartment 39. Several layers of demolition rubble containing predominantly Tudor brick were encountered above this feature.
- 3.14 The foundation of the upstanding railings extended 19.5m to the west before being truncated at the point where it curved towards the south, and where the later municipal style railings started. The stone supporting the railings was primarily made up of Portland stone (Whit Bed); however, the presence of Derbyshire Fossil Limestone in the large curved section of the railings was confirmed by petrological analysis (Hayward, 2016). This material from Derbyshire, according to Hayward, is only quarried in any quantity from the mid-19<sup>th</sup> century onwards whilst Portland Whit Bed would be often accessible during the 18<sup>th</sup> century. This may indicate a later repair and replacement of some of the weathered Portland stone plinths.

## **4 Stratigraphic description**

- 4.1 The results of the watching brief are presented below and have been separated into two sections for ease of comprehension. The first section provides a general description in ascending stratigraphic order of the buildings, features, layers and deposits uncovered within the confines of the trench. The second section provides a general description and typology of the historic plinth stones and a description of any evidence uncovered for the development of the line of the historic railings. It should be noted that this is not an exhaustive description, a detailed inventory of all contexts can be found in Appendix III and the stratigraphic matrix can be found in Appendix II.
- 4.2 Geological and archaeological features have been numbered from contexts 1000 – 1098, walls, structures and groups of features or deposits have been attributed Group Numbers (1-16) (Appendix III). The Buildings have been named A and B, with internal spaces numbered 1-5, a summary description of the buildings and spaces and the contexts associated with them can be found in Appendix III.
- 4.3 The trench excavated as part of this project was roughly ‘L’-shaped, and measured 25m in length. It required an overall depth of 0.7m for the installation of the new plinth stones and the brick footings. However, due to the unexpected extent of the archaeological remains, a depth of up to 1.2m was reached in some areas where further investigation was undertaken. The east-west branch of the trench contained the vast majority of the archaeology, and measured 10m in length. The north-south branch revealed markedly fewer structures and measured 13m in length. Two additional trenches were also excavated to gain a better understanding of the extent of the archaeology. These trenches extended from the east-west branch of the main trench. Extension I measured 3.75m in length, whilst Extension II was 4.5m in length.

### **Phase I**

- 4.4 Natural strata was not encountered during this archaeological investigation. A sterile, coarse, sandy, gravelly yellowish deposit was observed at the base of the east-west branch of the main trench in Space 3 (1078) and within the confines of Space 1 (1095) (Fig.4). This layer was likely a redeposited natural soil layer upon which Buildings A and B were constructed. Similar coarse gravel material was encountered in the north-south branch of the trench (1061), but contained small, eroded fragments of CBM, and abutted the foundations of the Henrician boundary wall (Wall 12).

### **Phase II – Early Tudor Occupation**

- 4.5 Substantial structural remains were encountered in the east-west branch of the main trench as well as in extensions I and II. Eleven structures (10 walls, 1 buttress) were recorded in this location, eight of which partially survived at elevation level. These structures formed one or two buildings (Building A and Building B) and would have functioned concurrently, though there were indicators of a reconfiguration of the internal layout.

### **Building A**

Building A was located at the eastern end of the trench on a north/east-south/west alignment, though its full extent was not determined. It was observed over a length of 3m (NE/SW) with its northern end located at an unknown distance beyond the northern limits of the trench. Three rooms were clearly defined, including Spaces 1, 2, and 3, and a

possible fourth room to the east, Space 4. Different phases of build were indicated by drawing evidence from the stratigraphic sequence, the orientation of the walls as well as how they physically related to one another.

### *Space 1*

- 4.6 Space 1 was the smallest of the rooms measuring 0.8m east-west. Its north-south extent was not recorded as it extended northwards beyond the confines of the trench. However, its southern extent was delimited by Wall 5, which was 1.22m in length and 0.28m in width (two bricks wide). Seven courses of brick survived with a maximum height of 0.46m. The bricks measured individually 240mm x 115mm x 50mm, though there were a number of half-bat bricks within the build of the wall. The brick fabric was friable with an uneven eroded texture. There were patchy remnants of wall render (1097) on the top two courses of the north face of the wall. The west and south faces of the wall were presumed to be externally facing since there was no evidence of structural remains to the south. No foundation level was discernible and it perhaps consisted of one or two courses of brick below the floor level within Space 1. At the base of the west and south faces was a layer of floor tiles (1093) (See Fig. 4). The mortar still attached to the edges would suggest that these continued as a layer, and is indicative of an external floor or yard surface, similar to that recorded at the base of the external face of wall elevation (1002) associated with Building B (see sections 5.17 and 5.18).
- 4.7 Wall 5 was bonded together with Walls 2 and 6 using an interlocking technique, which was particularly apparent where Walls 5 and 6 intersected, and could be seen clearly in plan. This difference in build compared to the other walls may reflect a secondary phase of construction. The effect was quite messy on the north face of Wall 5 as there was not a regular vertical line where the two walls met. However, the small fragments of mortar render (1097) seen adhered to a couple of bricks at the top of Wall 5 suggests that this untidiness would have been hidden. In contrast, the limit between the two walls was virtually imperceptible when viewed on the west facing profile (Fig.4), and this would seem to have been an exposed external wall.
- 4.8 Wall 6 was truncated by a later 18<sup>th</sup> century pit [1029] (see section 5.27/28), only existing as a scar in Wall 5 where its core was visible. At the base of this wall, projecting from the west profile was the same tile layer mentioned in the previous paragraph, (1093).
- 4.9 Wall 7 was a non-load bearing wall dividing Spaces 1 and 3, built abutting Walls 2 and 5. It was observed over a length of 0.7m measuring 0.38m in width, and was conserved to a height of 0.4m. Like Wall 5, there was no discernible difference between the elevation and foundation level. There were patchy fragments of wall plaster or render adhered to the brickwork on the west face from the second course of bricks and above (1098). The brick fabric was sandy and friable and in some cases powdery, containing occasional fragments of flint. The surface of the bricks was uneven and eroded, particularly on the east face. There were tiles present within the build of the wall, visible on the top course of bricks. The brickwork presented a header bond pattern with apparently randomly dispersed stretchers. The pointing was roughly executed on the west face and heavily weathered on the east face.
- 4.10 The remains of occupation layers associated with Building A were recorded in Space 1. Overlying the redeposited gravels (1095), at 8.15m OD, was a level homogenous soft yellow sand material containing flecks of charcoal (1074). It was 0.1m thick, and likely a bedding layer for a floor surface. Lying above this was a 0.24m thick dump of charcoal abutting Walls 5 and 7 (1010). A 40l sample of this deposit was taken (see section 7.55). The deposit was abundant in charcoal pieces, with a high proportion of roundwood, including fragments of oak, some birch and occasional alder and beech. Both these layers were truncated by pit cut [1029], associated with feature group 13.

### *Space 2*

- 4.11 Space 2 was located at the far southern end of Building A in Extension I, and was enclosed by Wall 1 to the south, Wall 2 to the west, and Wall 3 to the north (Fig.5). The eastern limit was not observed. The internal space measured 1.4m north-south.. Each wall elevation was of a similar build, observed over a maximum of seven courses of brick, measuring up to 0.31m in width. The walls were two bricks wide, composed of a mixture of full-size and half-bat bricks and occasional tiles. The bricks were friable and sandy in texture and had an uneven surface with rounded arises. They were bright orange/red in colour. The bonding material was composed of beige/white course gritty lime mortar, with inclusions of lime fragments. It was difficult to observe the brickwork pattern as most of the internal faces were covered with render, however where small patches were exposed it appeared to be predominantly header bond, with occasional stretchers dispersed randomly. All the walls were protected with a 15-20mm thick lime mortar render, which was preserved in patches. The render (1064) on Wall 1 was well preserved, covering the entire north face of the elevation. The segment of wall delimiting the north end of the room, Wall 3, appeared to have an opening. It seemed to be a deliberate feature of the wall rather than an area of damage. This was corroborated by the presence of a small patch of wall render on the east face of the wall. The floor level of Space 2 was never reached, despite being the deepest area of the whole excavation reaching a depth of 7.86m OD (1.2m below to the present ground level).

### *Space 3*

- 4.12 Space 3 was enclosed by Walls 3, 4 and 7. Its full extent, like Space 2, was not recorded as it extended northwards beyond the confines of the trench. Wall 4 signalled the eastern limit of the room but differed in construction and alignment to the other walls, being only one brick wide, (0.26m in width). It was recorded over a length of 0.9m with a conserved height of 0.28m over four courses of brick. The bricks individually measured 260mm x 110mm x 50mm and were of the same fabric as the other walls described above. The brickwork pattern was header bond and the pointing was roughly flush with the brickwork.
- 4.13 There were several make-up layers in Space 3, signalling at least two episodes of floor laying, with stratigraphy indicating the dismantlement of Wall 4 during the lifetime of Building A. The earliest deposit associated within this room was (1071), which appeared at around 8.20m OD. It was a loose mixed mid-orangey brown, sandy bedding layer with grey brown mottling, logged over a depth of 0.12m. It was overlain by (1069), which was the patchy remains of a compacted gritty mortar surface containing crushed fragments of CBM and three fragments of roof tile. The deposit was recorded over a depth 0.1m and overlain by (1066); a small patch of ashy silt containing frequent charcoal fragments, measuring no more than 0.05m in depth. This ashy material was characteristic of the occupation layers seen across Buildings A and B appearing repeatedly in three of the five internal spaces (Group 14). These fine layers or lenses were probably associated with the same episodes of deposition.
- 4.14 After this event, there was a deposition of a very soft yellow sand bedding material (1067) measuring 0.1m in depth. This was overlain by another accumulation of ashy charcoal material (1009), containing a number of iron nail fragments as well as a possible jug sherd in early post-medieval redware (c.1480-1600). At the interface with (1067) were numerous Flemish-style glazed floor tiles and eroded bricks. The ashy deposit partially overlay Wall 4, spilling over into Space 4, which indicates that the wall was demolished to this level during the occupation of the building, creating a larger space. This sequence of make-up layers was truncated by a later pit, [1020] (Group 13).



#### *Space 4*

- 4.15 Space 4 was located at the far eastern end of the trench. It was not clearly defined but it presented a similar stratigraphic sequence to Space 3. Its western limit was probably Wall 4. The earliest layer associated with the occupation of this space was a soft yellow sandy deposit, (1026), which appeared at approximately 8.21m OD. Above this, lay a large fragment of mortar measuring 0.4m x 0.4m, with a thickness of 0.03m, which was recorded during the evaluation phase of this project in 2016 (HCP 144). Lying above (1026) were two patches of ashy/sandy material (1025) and (1048), which were part of deposit Group 14.
- 4.16 A wall, which was recorded during the evaluation phase, numbered here as Wall 8, was located at the far eastern end of the trench. It was slightly out of alignment with the rest of the walls of Building A and only visible over a short distance. It was therefore difficult to understand its function. However, its build and fabric was consistent with all the other brick structures associated with Buildings A and B. It was two bricks wide, with a width of 0.37m and a recorded height of 0.4m. The wall was truncated by a later pit, [1027], and overlain by the 19<sup>th</sup> century railing plinth foundation (1028).

#### **Building B**

- 4.17 Building B was located 1.2m west of Building A and was orientated in a similar manner. As with Building A, its full extent was not exposed, continuing northwards beyond the confines of the trench. Exposed during this project was one room defined by Walls 10 and 11, a probable buttress structure (Group 9), as well as a possible yard area between Buildings A and B.

#### *Space 5*

- 4.18 The east-west extent of Space 5 was roughly 2.5m long; its north south extent was not defined. To the south, the space was delimited by Wall 10, which was broken into two segments, (1015), and (1016). There was no discernible foundation level. The wall was 2.6m in length and had a width of 0.4m. It survived up to a height of 0.5m, and up to eight courses of brick. The bricks were an orangey red colour, of a soft crumbly sandy fabric, and measured 250mm x 50-60mm x 120mm. The brickwork pattern was consistent with all the other walls recorded, presenting a header bond with occasional stretchers. The pointing had mostly weathered away, but where it remained visible, it appeared to be quite rough. The bonding material was a coarse sandy lime mortar. At the base of the wall was a line of tiles (1094) that probably corresponded to the floor level of Space 5.
- 4.19 Wall 11 abutted Wall 10 and was on a north-east/south-west alignment, recorded over a length of 0.96m before disappearing beyond the north limit of the trench. It was composed of a foundation (1073) and an elevation (1072). The base of the foundation was not reached, though it was recorded over 0.32m and four courses of brick. It was offset 100mm from the elevation. Most of the brickwork was concealed behind thick beige/white sandy lime mortar. A sequence of make-up and levelling layers was recorded abutting the foundation of Wall 11, consisting of compacted, coarse sandy gravels (1075), and (1068) (see Appendix II). The elevation of Wall 11 (1072) was conserved over eight courses of brick amounting to a height of 0.46m and with a width of 0.4m. The brick fabric contained fine aggregates as well as occasional large pebbles and stones. The brickwork pattern was similar to that observed in Wall 10. However, the mortar joints were better preserved in this wall with evidence of double-struck pointing on the upper two or three courses of brick. The bricks were remarkably soft and crumbly. A 20mm thick layer of mortar and crushed brick (1092), covered the offset foundation

(1073), and abutted the wall elevation (1072) at 8.16m OD. This was conserved over a short distance of 10-20cm, and was overlain by a 0.06m thick deposit of grey sandy ashy material containing frequent fragments of charcoal (1052) (Group 14). This was an occupation layer associated with Space 5 and was very similar to the ashy layers recorded in Spaces 3 and 4 in Building A. It contained a number of animal bone fragments including domestic cattle, pig, rabbit, goose and duck. Abundant fish remains were recovered from the dried residue of the sieved soil sample taken on site, and these included fragments from a number of different fish including sole, roach, *gadidae* (family of marine fish) as well as fragments of eel vertebrae. This deposit was overlain by (1018), a 0.12m thick layer of soft greenish light brown sandy silt containing flecks of mortar and micro-fragments of CBM. A number of interesting material finds were gathered from this deposit during excavation, including seven copper alloy objects associated with clothing, which were thought to be late medieval or early post-medieval in date. Sixty-three fragments of animal bone were also gathered (see Tables 6 and 7), as well as a few sherds of Cistercian-ware commonly used for smallish drinking vessels during the Tudor period.

- 4.20 Constructed against the east faces of Walls 10 and 11 was a remarkably well preserved polygonal brick-built structure (Group 9). It appeared at just 0.12m below the current tarmac surface, at approximately 8.7m OD. The structure comprised a foundation (1081) and elevation (1002). It was truncated by a later pit [1004] (Group 13), partially damaging the east face, and destroying both the northeast and north faces. The base of the structure was not reached, however a linear trench was excavated running along the base of its east face (Fig. 11), which enabled the characterisation of the upper three courses of the foundation. The brick was a typical early Tudor fabric; deep orangey red in colour, uneven surface texture, rounded arises, friable and rather crumbly. The bonding material was a beige sandy lime mortar with frequent lime nodules. There was no pointing work at foundation level; indeed, much of the brickwork was obscured by mortar. The foundation was offset 100mm from the east-facing elevation, and extended 0.4m southwards to align with the south face of the elevation. Overlying the offset foundation were two layers of floor tile (1096) each 20mm thick, and bonded together with lime mortar. The tiles extended from the east and southeast faces of Structure 9, aligning neatly with the south elevation in an east-west direction. Some of the tiles along the north-south alignment had the remains of mortar on their edges, suggesting their continuation at least in an eastwards direction.
- 4.21 The elevation of Structure 9 survived up to a height of 0.5m over eight courses of brick. It was a polygonal structure measuring 1m in width (east-west) and with a length of 1.07m (north-south). Three finished faces survived and a brick rubble core. Dog-leg bricks were used for the corners. The regular shaped bricks measured 240mm x 60mm x 110mm and were an orange/red colour. The pointing was neat, though was weathered in most places. The base of the structure's elevation was obscured by patchy layers of mortar, possibly the remnants of a wall render.

### **Phase III – Henrician/mid-16th century**

- 4.22 Phase III corresponds to the demolition of Buildings A and B and the construction of the 16<sup>th</sup> century Henrician “Great Wall” delimiting the southern extent of the palace. The occupation layers, and walls of both Buildings A and B were overlain by a series of rubble and demolition deposits.
- 4.23 In Building A, the occupation layers within Spaces 3 and 4 were partially overlain by a sandy silty mortar-rich layer (1012). Analysis of the sample collected on site produced three fragments of render with preserved impressions of split wattles and staves. It was uncertain whether the fragments originated from the wattle and lath panel infill of a partition wall or formed the base for ceiling plaster.

- 4.24 Space 2 was filled with a substantial dump of demolition rubble (1038), the base of which was never reached. A sample of the deposit was collected and was shown to contain predominantly 16<sup>th</sup> century brick rubble (Brick Types A and B). The deposit also produced one fragment of unidentifiable animal bone, one nail fragment, one Flemish-style bottle green glazed floor tile, three fragments of roof tile, and one residual sherd of 19<sup>th</sup> century whiteware.
- 4.25 Overlying these deposits, and burying Buildings A and B, was a horizontal dump of demolition material seen across the entire east-west branch of the trench as well as in Extensions 1 and 2. These included: (1001), (1047), (1019), (1050) (Fig.13). This layer was a loose mid-brown silty sand rubble deposit containing large quantities of brick and tile as well as a two fragments of triangular-shaped architectural oolitic limestone (in 1001).
- 4.26 At the far southern end of the north-south branch of the trench, a damaged segment of the Henrician boundary wall or “the Great Wall” was uncovered (Wall 12) (Fig.12). The wall was recorded at foundation (1076) and elevation (1034) level. The base of the foundation was not reached and only the top three courses of brick on the north face were recorded. The foundation was 0.74m wide and was offset 0.2m from the elevation. The brick fabric was orangey red in colour with a sandy texture and an uneven surface. Individually the bricks measured an average of 230mm x 50mm x 115mm. The brickwork pattern was English Bond and the bonding material was composed of a white sandy lime mortar. The pointing technique was not clear, as much of the mortar was eroded. Above this footing was elevation (1034), which was constructed with the same brick type and arranged in the same bond pattern. Only the north face survived over four courses of brick, the south face was destroyed in the 1980’s by the installation of services.

#### **Phase IV – c.18th century**

- 4.27 The next phase of activity is represented by a series of sub-square pits (Feature Group 13) truncating the walls and occupation layers of Buildings A and B as well as the demolition layers overlying them.
- 4.28 There were four clearly defined pit cuts ([1027], [1020], [1029], and [1004]) that were aligned along the northern edge of the east-west branch of the trench (Fig. 14). They appeared at approximately 8.67m OD. The morphology of these pits was similar; each one was sub-square in plan with steep sides measuring between 1.20m and 2m in diameter at the top. The base was not reached in any of these features, one of which was excavated to a depth of 0.9m [1020]. At the bottom of pit cut [1020] was deposit (1033), whilst pit cut [1027] was filled at the bottom with deposit (1031). These deposits were presumably a primary fill and were similar in nature, composed of loose coarse brown sand with a few fragments of CBM and occasional stones. Each of the pits was backfilled with demolition rubble originating from the material overlying Buildings A and B (1032), (1021), (1030), and (1005). A possible fifth pit [1063] truncated Wall 10, however, this feature was not clearly defined.
- 4.29 At the base of the far southern end of the north-south branch of the trench, a very loose sandy deposit (1087) was encountered. The deposit was likely the fill of a pit feature, however, no cut was recorded. The deposit contained frequent fragments of charcoal but most notably a considerable assemblage of artefacts consisting of pottery and glass sherds, animal bone, and clay pipe all closely dated to the mid-18<sup>th</sup> century. This layer was overlain by loose rubble material associated with the demolition of the Tudor boundary wall (Wall 12).

### **Phase V – C. 19<sup>th</sup> century**

- 4.30 The penultimate phase of activity that was recorded during this watching brief can be seen predominantly at the far southern end of the north-south branch of the trench just beyond the Henrician boundary wall and adjacent to the Barge Walk Railings.
- 4.31 At 8.55m OD, an area of gravelly, pebbly concrete was uncovered (1058). It was preserved over a length of 1.1m and appeared to be a base or pad upon which structures (1059) and (1060) were built. Structure (1059) was a brick footing recorded over a length of 1.3m, a width of 0.3m and a height of 0.2m over two courses of brick. The bricks were frogged, with a smooth surface and were a pinkish red/brown colour, individually measuring 230mm x 100mm x 60mm. The bonding material was a hard white cementitious lime mortar, and the pointing was untidy, suggesting this feature was not exposed. Located 0.3m to the west, was structure (1060), a separate brick footing, which had been truncated at its north end. It was recorded over a length of 0.5m, a width of 0.4m and over 4 courses of brick amounting to a height of 0.4m. The bricks were frogged and were red in colour, individually measuring 230mm x 110mm x 60mm. The bonding material was a gritty cementitious lime mortar.
- 4.32 These structures were overlain by a mid-orangey/brown silty sand topsoil, (1054), which also overlay the Tudor wall foundation (1076) and elevation (1034). The deposit was cut by a linear bedding trench [1035], which appeared at 8.69m OD. It was recorded over a length of 3.6m with a depth of 0.4m, and was filled with a dark greyish/brown friable homogenous silty material (1036). Located 1.6m northwards, another potential garden feature was recorded. The cut [1055] was concave in profile, 1.5m long (N-S) and 0.4m in depth. The fill (1056) was a similar consistency and colour to (1036) and contained no diagnostic material.

### **Phase VI – 20<sup>th</sup> century**

- 4.33 The final phase of activity recorded during this watching brief was associated with the installation of modern services, contemporary topsoil layers and the tarmac surface currently in use on the circular sweep on the palace's West Front. The installation of the services at the southern end of the east-west branch of the trench truncated a large portion of the Henrician boundary wall described in section 5.23.

## **5 A description of the historic railings and plinth stones**

- 5.1 The *in situ* railing plinth and foundation is a 21m curvilinear line beginning at the gate adjacent to the crenelated moat wall and extending 6m beyond the north-west turret of Apartment 39. Beyond this point, the structural remains have been truncated and replaced with a simple paling composed of wrought-iron pickets with a base rail.
- 5.2 In order to undertake conservation and repair work on the stone plinths, some had to be removed from position (Figs. 17-20). This action provided the opportunity to record the morphology of the plinth stones, and to check for any interesting features such as stonemason's stamps or tool marks. The removal of the plinth stones also exposed two sections of the brick footings (Fig.16).

### *Brick footings*

- 5.3 The brick foundation supporting the plinth stones appeared to be composed of two separate units, Wall 15 and Wall 16. The earliest section, Wall 16, was recorded over a length of 3.5m, beginning immediately east of the gate perpendicular with the north-west turret of Apartment 39 and presumably running eastwards up to the gated entrance into the Apartment 39 garden adjacent to the moat. The section of footing exposed (1082)

was 0.34m, wide and composed of reddish plum coloured bricks of a sandy fabric. The bonding material was a hard gritty mortar containing flint inclusions and occasional small lime nodules. A sample of the brick was collected and was found to be most akin to HCP Brick Type I or J, which indicates a late 17<sup>th</sup> to early 18<sup>th</sup> century date and places this early section of railing in Phase IV of the overall phasing of the site.

- 5.4 The later section (Wall 15), was located west of Apartment 39's north-west turret, and was recorded over a length 7.5m. It was slightly out of alignment in comparison to (1082), situated roughly 10cm further north. The footing was also wider at 0.45m, constructed with pinkish orange bricks containing some fine sandy inclusions. Some of the bricks were frogged. Individually they measured 220mm x 100mm x 60mm. The bonding material was a coarse sandy lime mortar with fine gravel inclusions. The structure was recorded in elevation during the evaluation works in 2016. It was constructed over four courses of brick arranged in header bond, measuring 0.32m in height. The footing appeared to be early 19<sup>th</sup> century in date, placing this second phase of railing in Phase V of the overall phasing of the area.

#### *Plinth stones*

- 5.5 The stonemasons (Owlsworth) undertaking the conservation work numbered the historic plinth stones from 1 to 25, including 1a-1d which encompassed the gate threshold (Fig.17). Plinths 10-13 and 15-25 were removed for repair, enabling a study of their form. The plinth stones varied in length but were generally of a similar width, between 0.4m and 0.43m (measured from the base). They were in varying states of repair; some were heavily weathered, with flaking stone and fracturing clearly visible. Petrological analysis undertaken in 2016 by Pre-Construct Archaeology identified two types of stone, Portland Whit Bed stone and Derbyshire Fossil Limestone. The latter are the only known examples of this type of stone used at Hampton Court Palace.
- 5.6 Four main plinth stone types were identified (Figs. 18-21), and these were generally physically grouped together bar one exception.

#### *Type I*

- 5.7 Type I was a group of nine Portland stone plinths located at the western end of the historic section of railing (plinths 15-18, and 21-25). This plinth type had a symmetrical profile. Most of these stones were heavily weathered with incomplete profiles. There were vertical tool marks visible on the sides of most of the stones mostly concentrated around the base. Plinth 21 had a mason's mark chiselled into the west face, (Fig. 18), and Plinth 22 had a 'V'-shaped mason's mark at the base of its west face.

#### *Type II*

- 5.8 Type II was made up of a group of seven plinth stones located immediately west of the main gate into Apartment 39 (plinths 1-2, 4-8), and one isolated plinth stone of this type towards the western end of the railings (Plinth 20). Plinths 1, 2, 4 and 5 were Portland stone, whilst Plinths 6-8 and Plinth 20 were Derbyshire Fossil Limestone (see Fig.19). The Derbyshire Fossil Limestone plinths appeared to be less prone to mossy growths than the Portland stone, but both materials presented signs of damage including cracks and fracturing. There were signs of reuse on Plinth 5 with the presence of four infilled sockets. The plinths had an asymmetrical profile. Only plinth 20 was removed for conservation, the others were repaired *in situ*.

#### *Type III*

- 5.9 Type III was composed of five Portland stone plinths (10-14) located immediately east of the gate access into the garden (Fig. 20). Plinth 14 served as a support for the gate railing. These plinth stones had a much more rounded form than the other plinth types. Their profile was asymmetrical, with a half-bullnose moulding on the north side. The

surface was generally smooth, whilst there were vertical tool marks visible on the east and west faces. Plinths 10 and 12 had possible mason's marks on their west faces, both a 'V' symbol.

*Type IV*

- 5.10 Type IV was a group of six rectangular Portland stone blocks that served as backstay supports (1a, 1b, 1d, 3, 9, and 19). Only Plinth 19 was removed for repair, the others were repaired *in situ*.

## 6 Specialist Reports

### **The pottery - John Cotter - (Oxford Archaeology)**

#### *Introduction and methodology*

- 6.1 A total of 59 sherds of pottery weighing 1523g were recovered from six contexts. All of this is of post-medieval date. All the pottery was examined and spot-dated during the present assessment stage. For each context the total pottery sherd count and weight were recorded on an Excel spreadsheet, followed by the context spot-date which is the date-bracket during which the latest pottery types in the context are estimated to have been produced or were in general circulation. Comments on the presence of datable types were also recorded, usually with mention of vessel form (jugs, bowls etc.) and any other attributes worthy of note (e.g. decoration etc.). Post-medieval pottery fabric codes noted in the comments field or mentioned below are those of the Museum of London (MoLA 2014), which can be applied to most post-medieval types in south-east England.

#### *Date and nature of the assemblage*

- 6.2 The pottery assemblage is in a fairly fresh but mostly fragmentary condition. One or two complete or near-complete vessel profiles survive and some complete vessel bases. Ordinary domestic and horticultural pottery types are represented. The pottery is described in some detail in the spreadsheet and therefore only briefly summarised below.
- 6.3 Three contexts (1009, 1018 and 1031) have been spot-dated c 1480-1600 by the presence of a few sherds of Cistercian-type ware (Fabric CSTN) a shiny black-glazed fine redware commonly used for smallish drinking vessels during the Tudor period. The sherds here appear to come from three small cups with flaring rims and a drinking jug or mug with a cylindrical neck. A possible jug sherd in early post-medieval redware (PMRE, c 1480-1600), also occurs in (1009). It may be significant that these contexts do not contain any clay pipes (ie. they probably date before c 1600).
- 6.4 Context (1087) has been spot-dated c 1720-1750(?). This produced a fairly cohesive group of early/mid-18<sup>th</sup> century wares including parts of three cylindrical tankards in three different types of early English salt-glazed stoneware, namely Staffordshire white stoneware (SWSG, c 1720-1780), Staffordshire-type white-dipped stoneware (SWSL, c 1710-1760) and early Nottingham stoneware (NOTS, c 1700-1800). The presence of three tankards in this context, and a fairly large group of clay pipes (c 1700-1730?), might suggest that all or part of this context originates from a place of social drinking and dining, such as a dining room, kitchen or drinking house. Two vessels in English tin-glazed ware (TGW) are also present including a (very fragmentary) fineware dish profile decorated in the style of Chinese porcelain, and a rim from a small white-glazed ointment pot. Sherds from at least five other 'kitchenware' vessels occur in this context - all in post-medieval red earthenware (PMR). These include a deep bowl, a jug or two and part of a tripod pipkin (cooking pot) with heavy external sooting from the fire.
- 6.5 Context (1000) produced the largest context assemblage (30 sherds, 872g). This produced a range of commonplace 19<sup>th</sup>-century tableware and kitchenware, including plates and dishes in transfer-printed whiteware (TPW) and a cylindrical preserve jar in

refined whiteware (REFW), the latter bears a common maker's mark on the base dating it, approximately, within the period c 1875-1925. Given that nearly all vessels from this context are 19th century, it is surprising that most of the clay pipes from here are considerably earlier - mainly from the first half of the 18th century. A few other late pottery types are detailed in the catalogue.

### ***Recommendations***

- 6.6 The composition of the assemblage is typical of post-medieval and late post-medieval pottery assemblages in the wider London area and, apart from the comments above, is fairly unremarkable. The early 18th-century vessels from (1087) may have originated from an area of social dining/drinking and the fairly large number of clay pipes from here also supports this suggestion. No further work on the assemblage is recommended.



## **The clay tobacco pipes - John Cotter – (Oxford Archaeology)**

### ***Introduction***

- 6.7 The excavations produced a total of 208 pieces of clay pipe weighing 803g from five contexts. These have been catalogued and recorded on an Excel spreadsheet. The catalogue records, per context, the spot-date, the quantity of stem, bowl and mouth fragments, the overall sherd count, weight, and comments on condition and any makers' marks or decoration present. Pipe bowls have been dated with reference to Atkinson and Oswald's (1969) typology for clay pipes in London. References in the catalogue to known bowl types are abbreviated, in line with common usage (e.g. AO25 = Atkinson and Oswald Type 25). The material is described in some detail in the spreadsheet and therefore only briefly summarised below.

### ***Date and nature of the assemblage***

- 6.8 The assemblage is in a fairly good but fragmentary condition. There are several complete pipe bowls present and several fairly long and fresh pieces of pipe stem up to 92mm long. Many other pieces, however, (including bowls) are slightly abraded and/or slightly discoloured by burial conditions. It is likely that some pieces were redeposited and residual to some extent (particularly in Context (1000), but the fairly large size and reasonably good condition of many pieces suggests they may not be far removed from where they were used and first discarded. In total, there are 176 pieces of stem, 28 bowl fragments (representing 27 bowls) and 4 mouthpieces. Material from the mid-17th to the 19th century is present, but the bulk of the assemblage dates to the 18th century, and more specifically to the first half of the 18th century.
- 6.9 Two complete 17th-century bowls are residual in 19th-century context (1000). These comprise a bowl of c.1640-1660 and one c.1660-1680, both plain and unmarked. Context (1000) produced 22 pieces of pipe (144g) including 19 bowls, nearly all of which are residual/redeposited. The latest material in this context is two pieces of 19<sup>th</sup> century pipe stem and a bowl of c.1780-1830 with a maker's mark 'W/K' on either side of the heel or spur. The maker has yet to be identified but this is the latest pipe bowl from the site assemblage. Most of the bowls from (1000) date to the first half of the 18th century and include some identical bowl forms and marked pieces to those in (1087); it seems likely therefore that they are derived from the latter context - which is considered in more detail below.
- 6.10 Context (1087) produced the largest context assemblage from the site (61 pieces, 255g, 7 bowls). All the bowls from (1087) are of almost identical type - a standard London area type (AO25) with broad dating of c.1700-1780, the most common type from the site. The examples with surviving rims (from this and other contexts) all appear to have button-trimmed ('bottered') rims, which should date them before c.1720/30, after which knife-cut or wire-cut rims became the norm. On this basis the pipe assemblage in (1087) has been assigned a spot date of c.1700-1730. The form of the shallow heel and the lettering of the maker's marks on the heels also have an early 'look' which places them, most likely, within the first half of the 18<sup>th</sup> century. This agrees rather well with the date of c.1720-1750 for the pottery assemblage from (1087). The pipes, as well as the pottery, therefore, form quite a cohesive group. At least five individual maker's marks are present on the 18<sup>th</sup> century pipes from (1087) and from other contexts on the site. Despite a search of the main references for London and Surrey (Atkinson and Oswald 1969; Oswald 1975; Higgins 1981), none of the maker's marks here can be positively identified to a named maker - although the likelihood (indicated by parallels) is that they are Surrey makers

whose identities have yet to be established. Further research would be needed to identify these makers - more than can be offered in the present assessment. The marks and some of their parallels (all on Type AO25 bowls) are described below:

- **R/T**: There are five examples with this mark - all from (1000). A parallel from Epsom has been illustrated but the maker is unidentified (Higgins 1981, Fig. 33.4). Two others are known from Kingston-on-Thames (ibid. 233; not illus.).
  - **S/H**: Two examples (from 1000 and 1087). A parallel from Oatlands has been illustrated (Higgins 1981, Fig. 37.9). Two others were identified by the present author from the Magic and Kitchen Garden at Hampton Court (HCP 104 (824) and (1304); Cotter 2013).
  - **R/C** (or **R/G?**): One example (from 1087). The mark looks more like R/C but the 'C' could conceivably be a slightly chipped 'G'. An 'R/G' marked pipe of this date from Coulsdon has been illustrated (Higgins 1981, Fig. 29.11).
  - **H/S**: One example (from 1087). No known parallel at present.
  - **H/\***: One example (from 1087). The second (surname) letter appears as a very small elongated blob - possibly an 'S' or an 'I'. It may be a blundered product of the H/S maker above - or by a different maker? No parallel known at present.
  - **I/R**: One example (from 1087). No known parallel at present.
- 6.11 In addition to the initialled marks above, there are two other pieces of note (also 18<sup>th</sup> century). One of these is a complete bowl with a single moulded pellet on either side of the heel in the position normally occupied by a maker's mark (1087). A damaged bowl base from (1000) has 50mm of surviving stem, which is decorated with a spiralling line of milling, or rouletting.

### *Summary and recommendations*

- 6.12 This is a cohesive assemblage of pipes mainly dating from the first half of the 18th century. At least five initialled maker's marks of this date are present and an additional mark on a bowl of c 1780-1830. Although one or two published parallels (from Surrey) are known, the identity of these makers had yet to be established. It is recommended that a proper publication report on this assemblage should be produced at some future stage. This would require further, more detailed, research - possibly including documentary-based research (parish registers, wills etc.). The identity of these pipe makers, once established, would shed light on the source of clay tobacco pipes supplied to the inhabitants of Hampton Court during the 18th century and beyond, as well as providing a very useful dating tool for future researchers.

## **Metals - Ian R Scott – (Oxford Archaeology)**

6.13 There are 62 metal objects (135 fragments), which comprise 53 iron objects (126 frags) and eight copper alloy objects, and one probable pewter object. The iron objects include 49 nails (94 frags) which all appear to be hand forged. Nearly half the nails come from context 1048 which in addition to five single nails, produced four fused clumps of nails containing perhaps 16 nails giving a total of 21 nails but also 23 nail fragments (Nos 31-51). The nails cannot be closely dated. Other finds are limited in number. There are three iron structural items (Nos 2-4) all from context 1000 (topsoil) and probably relatively modern in date. The same context produced a curved edge fragment possibly from small pewter plate possibly mirror (No. 1). The most interesting finds are those from context 1018, which include six cu alloy lace chapes (Nos 14-19), which could be late medieval or early post medieval in date, and a cast cu alloy double hooked fastener with herring bone pattern on its shank (No. 13). This is probably of similar date to the lace chapes. Another fastener for clothing is the cu alloy wire loop fastener (No. 24) from context 1021, which again is almost certainly of late medieval or early post medieval date.

### • **Context 1000**

- (1) Rim, perhaps from a small flat dish or plate, or possibly from a circular mirror? Has a thickened edge. Broken on the inner concave side. Pewter or tinned cu alloy. L extant: 59mm
- (2) Hinged or pivoting latch or catch, comprising one bar flattened as a lever at one end, and with triangular extension or catch at the other end. The bar is attached to and pivots on flat metal strip with circular extension at one end. It also has at least one nail hole. Some form or door, window or shutter catch. Fe L: 195mm; W: 114mm. Fe
- (3) Clamp formed from two rectangular plates pierced at each end and linked by a rivet at one end. A nut and bolt would have secured the opposite ends. Both side strips are bent from where they have been clamped around a bar or strut. Fe. L: 80mm; W: 64mm.
- (4) Bolt, with square head and long shaft probably originally with a cut thread at the open end, but now corroded. Below the head is washer. Fe. L: 170mm.
- (5) Nail, hand forged, with small square domed head (3 x refitting frags). The stem tapers to chisel tip. Fe. L: 128mm

### • **Context 1001**

- (6) Nail with large with flat (?) head and tapered square section stem. Fe. L: at least 85mm.
- (7) Nail with small flat head, almost complete. Fe. L: 52mm.

- **Context 1009**

- (8) Nail with L-head, or L-staple, fragment. Encrusted with corrosion. Fe. Not measured.
- (9) Nail, flat circular head; incomplete; and nail stem fragment (no refit). Fe. Not measured
- (10) Nail with flat (?) head, (3x refitting fragments). Fe. L: c 60mm. Sample <10>  
Undiagnostic fragments (x 4) Fe. Sample <10>

- **Context 1010**

- (11) Nail with flat (?) head, encrusted with corrosion. Fe. L: c 50mm. Sample <1>  
Nail stem fragment attached to burnt wood (charcoal). Fe. Not measured. Sample <1>

- **Context 1011**

- (12) Nail with flat head, almost complete. Fe. L: 65mm.

- **Context 1018**

- (13) Double hooked fastener with herringbone pattern on the body and tapered pointed hooks at each end. Fastener for clothing. Cu alloy. L: 43mm.
- (14) Lace chape, narrow tapered with butted seam. Has no pin hole. Cu alloy. L: 26mm
- (15) Lace chape, broad tapered, with butted seam and closed at tip. Slightly flattened at open end. Has no pin hole. Cu alloy. L: 32mm.
- (16) Lace chape, small tapered with butted or overlapped seam and closed tip. Has no pin hole. Slightly flattened. Cu alloy. L: 20mm
- (17) Lace chape, small broad tapered with butted or overlapped seam and pinhole, and open tip. Cu alloy. L: 24mm.
- (18) Lace chape, small broad tapered with butted seam and pinhole. Point partly closed. Cu alloy. L: 22mm.
- (19) Lace chape, small narrow and tapered with butted seam and pinhole, and open tip. Cu alloy. L: 20mm.
- (20) Nail, flat near circular head, stem tapers to a point. Fe. L: 62mm.
- (21) Nail, flat near circular head, stem tapers to a point. Encrusted with corrosion. Fe. L: 75mm.
- (22) Nail, flat near circular head, broken stem. Fe. Not measured.
- (23) Nail, with small head or no head, possibly head missing. Almost complete. Fe. L: 100mm.

- **Context 1021**

- (24) Wire loop fastener, circular loop with twisted closure. For clothing. Cu alloy. L: 15mm, loop D: 11mm.
- (25) Nail with flat or slightly domed head, incomplete. Fe. Not measured.
- (26) Nail with small flat head, possibly domed, almost complete. Fe. L: c 66mm.

- **Context 1038**

Nail stem fragment. Fe. Not measured.

- **Context 1046**

- (27-30) Nails (x 4) with flat near circular heads, 1 x almost complete. L: 57mm; 3 x incomplete; plus 2 x stem fragments (no refit). Fe.

- **Context 1048**

- (31-34) Nails (x 4) with flat or slightly domed heads, three complete. L: 95mm (x1); c 60mm (x 2); one incomplete. Not measured; 14 x stem fragments (no refits).
- (35-50) Nails (x 16), with flat or slightly domed heads corroded or fused together in four clumps. Fe. Not measured
- (51) Nail with flat head, almost complete. Fe. L: c 50mm; and 9 x stem fragments (no refit). Sample <3>  
Undiagnostic fragments (x 14). Fe. Sample <3>

- **Context 1052**

- (52-53) Nails (x 2) Nail, with small flat head and tapering stem complete. L: 60mm; Nail with flat circular head, incomplete; and 3 x stem fragments (no refit). Fe.
- (54-57) Nails (x 4) Nail with flat circular head, complete, encrusted. L: c 110mm; Nail with small flat head and clenched stem complete. L: c 100mm; Nail possible flat head, almost complete, but encrusted. L: c 70mm; Nail possibly flat head, complete. L: 57mm; and 2 x stem fragments (no refit). Fe.
- (58-61) Nails (x 4) with flat heads, 1 x nail near complete. L: c 65mm; 1 x nails, complete. L: 60mm; 1 x nail, complete. Fe. L: 40mm; 1 x nail, incomplete. Not measured; 10 x nail stem fragments (no refit). Not measured. Fe. Sample <2>  
Nail stem fragment? Fe. Not measured. Sample <2>  
Undiagnostic tiny fragments of iron (x 9). Fe. Sample <2>

- **Context 1087**

- (62) Ring, plain (2 x refitting frags). Fe. D: 60mm.

**Table 1:** Summary Quantification of Metals by context and Function (object and fragment counts)

Context	Nails		Personal		Misc		Query		Structural		Undiagnostic		Total	Total
	Count	Frag	Count	Frag	Count	Frag	Count	Frag	Count	Frag	Count	Frag	Count	Frag
1000	1	1					1	1	3	3			5	5
1001	2	2											2	2
1009	3	6									0	4	3	10
1010	1	2											1	2
1011	1	1											1	1
1018	4	4	7	7									11	11
1021	2	2	1	1									3	3
1038	0	1											0	1
1046	4	6											4	6
1048	21	44									0	14	21	58
1052	10	25									0	9	10	34
1087					1	2							1	2
<b>Totals</b>	<b>49</b>	<b>94</b>	<b>8</b>	<b>8</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>27</b>	<b>62</b>	<b>135</b>

***Introduction and methodology***

- 6.14 An assemblage of ceramic building material (CBM) amounted to 171 fragments weighing 80.7kg was recovered from various layers and wall structures. This includes bricks sampled from in situ structures. The assemblage comprises bricks, which account for the largest component, the remainder being roof and floor tile. The material was well preserved with several complete or near complete examples of all forms present reflected in the high mean fragment weight of 539g. In addition, much of the remaining brick and tile had two complete dimensions surviving.
- 6.15 The assemblage has been recorded on an Excel spreadsheet, which forms part of the archive. The material has been assigned to Museum of London (MoL) fabric categories, where possible, based on comparative samples held by OA. Bricks have been assigned to the Hampton Court Palace (HCP) brick typology (Ford 1991), based on complete dimensions and general character, but without direct comparison to actual examples. Spot dating has taken into account the dating assigned to the HCP brick typology and to MoL fabrics. The assemblage is summarised by form and fabric in table 1 below.

***Bricks***

- 6.16 Brick dominated the assemblage comprising 68 pieces weighing 56053g, accounting for 67.5% (by weight) (44% by count) of the assemblage. The range of brick types and fabrics are limited with only HCP types A and I/J represented together with a modern special. The majority were classified as HCP type A in fabric MoL3030. The range of sizes for these groups is summarised in table 2 and presented graphically in Figures 1-3.
- 6.17 The type A bricks exhibit a wide range in dimensions somewhat wider than the standard recorded in the HCP brick typology. This is a reflection in the variations in size encountered in hand made bricks at this period and differential shrinkage resulting during firing. Frequently the bricks are thinner at the edges than in the middle: for some bricks thickness was recorded as a range where the variation from edge to centre was significant. For the charts the average of the range was used for each brick. The bricks generally exhibited a crude rough finish and a general lack of uniformity. Twelve bricks had evidence of indented borders, which take the form of a shallow rectangular recess running along one or more edges in the upper surface usually 4-12mm wide and less than 4mm deep though one was exceptionally large at 17mm wide and 9mm deep. They are usually regarded as indicative of stock moulding. One brick had a finger/thumb mark on the base surface from handling and ten others had scattered grass or straw stem impressions on the base or side surfaces. Three bricks had vitrified flared headers for diaper work.
- 6.18 The type A bricks are associated with Wolsey or pre-Wolsey structures and are generally accorded an early 16th century date, which is within the broader date range AD1450-1700 assigned to the MoL fabric.
- 6.19 Cream lime mortar (type M1) attached to the surfaces was noted attached to 21 bricks, mostly the remnants of a layer of bedding mortar on which the brick had been laid, but in some cases, it appeared to form a render over the stretcher or header face.
- 6.20 Two partial bricks of HCP type I or J from context 1082 were made in fabric MoL3332, a purplish maroon sandy fabric with cream streaks and speckling and containing a scatter of small clinker inclusions. Whilst also of a fairly rough finish, they were more even and regular with more angular arrises compared to the type A bricks. The pair were of very similar size measuring 64-65mm thick and 100-100mm wide. This type is dated to the

late 17th – early 18th century at Hampton Court and is consistent with the dating of the fabric (AD1666-1900).

- 6.21 One fairly modern brick (context 1005), probably of 20th century date, was made in a brownish red hard dense fine sandy clay containing a scatter of coarser quartz sand. It is classified as a ‘special’: it had been made in a mould having an end formed to an asymmetrical chevron. It measured 63mm thick and 101mm wide. On one bedding face was part of stamp: "[.../] 134", presumably the manufacture’s identifier or catalogue number. The form may have been intended for use in decorative brickwork such as dogtooth type dentilation under the eaves or as a stringcourse.

### ***Floor tiles***

- 6.22 Several glazed floor tiles of Flemish type were recovered, including three complete or near complete examples. Nearly all were found in layer 1009, except for one fragment from layer 1038. They measured 25-30mm (c 1") thick and 213-219mm square. One fragment measuring 35mm thick hints that a larger size of tile was also present. They had been glazed with a mottled brown/amber, dark brown or green glaze; one had a more opaque yellow colour though no slip had been applied first and the colour appears to result from the light pink colour of the clay fabric. The bases were plain and unkeyed. Five of the tiles had a nail hole in one or two corners: in the complete tiles, there were two nails in adjacent corners. Those with only one or no nail holes present were incomplete, but it is probable that originally when complete all had the same arrangement. The nail holes were rectangular or oval measuring 4-5mm long by 2mm wide and 6-7mm deep. This feature is often taken to be an indication that the tile was a Flemish import, though such features also occur in some locally made products. The tiles were made in three fabrics identified as FL1, FL2 and FL3, as it was not possible to compare them to the full range of MoL fabrics for this type of floor tile. FL1 was orange - red laminated clay, containing a moderate density of medium quartz sand, cream marly clay pellets and laminations. It may be equivalent to MoL2318. FL2 was orange red, fine sandy slightly micaceous clay containing a low density of medium quartz sand <0.4mm evenly distributed and a scatter of red iron oxide grits <1mm. This may be equivalent to MoL2323. FL3 was a light pinkish red fine sandy micaceous clay, with frequent laminations, frequent coarse angular cream marly clay inclusions up to 17mm and red ferruginous argillaceous pellets up to 12mm. (This does not appear to match the descriptions of any of the MoL fabrics for Flemish floor tiles.)
- 6.23 Tiles of this sort were usually used in a chequerboard pattern contrasting the light and dark colours. They first make an appearance imported from the Low Countries in the late 14<sup>th</sup> – early 15<sup>th</sup> century and their trade continued in large quantities into the 16<sup>th</sup> century and ultimately until c 1800, during which time there is a gradual increase in size and locally produced tile replaced imports. The tiles from this assemblage are probably of late-15<sup>th</sup> to 16<sup>th</sup> century date and are similar to examples found at HCP158 and HCP159.

### ***Roof tiles***

- 6.24 Flat rectangular roof tile formed 43% of fragments (22% by wt) of the assemblage. A high proportion could be identified as peg tile and it is probable all pieces represent tiles of this type. They were made in a typical hard red clay fabric with sparse sand (MoL2276) with fine moulding sand on the underside, except for one in fabric MoL2271, effectively the same fabric but with coarser moulding sand. Details of the more complete peg tiles are tabulated in table 4. Most had a fairly rough finish often quite lumpy and with fine striations lengthways from smoothing with the strike. Several had a narrow ridge formed probably from a nick or crack in the strike used for smoothing off the clay. The base surface was rough varying from fairly even, sometimes deliberately trimmed smooth to pitted and irregular. The tiles measured 11-16mm thick with the main peak at 13-14mm (Figure 5). Fifteen tiles had a complete width with a range from 145mm (5½") to 182mm



(7 <sup>3</sup>/<sub>16</sub>"") (Figure 6). Only two full lengths survived or 260 and 280mm. The range of tile sizes may denote different sizes were in use. However, excluding the two extremes of width, the size variation is comparable to a group of hand-made post-medieval tiles measuring 152-175mm wide and 244-270mm long used together on a single roof (originally from the medieval church at Cholderton and subsequently School House, Cholderton, Wilts: unpublished data recorded by the author). This suggests that there is no reason to suppose the tiles from the site came from more than one building.

- 6.25 Peg holes occurred on 21 tiles. The most common form was circular or oval holes measuring 13-19mm diameter often tapering to 8-13mm at the base. A thickened halo around the base of the peg hole formed by surplus clay from the peg hole was present in eight instances measuring between 24 and 35mm in diameter. Three of these additionally had thickening on the top surface as well. Less common were square or diamond shaped holes, depending on whether they were punched perpendicular or diagonal to the tile: several of these had rounded corners. They measured 12-16mm wide and occasionally tapered to a more rounded base. Only one was encircled by a thickened halo on both top and base surfaces 30-33mm in diameter. Two fragments had unusual non-standard triangular peg holes apparently cut with a knife or blade: they measured 13 x 16mm and 12 x 13mm. Using a knife would not be efficient method in contrast to punch, which would require a single thrust to create the hole as opposed to three with a knife. It seems likely this was an emergency measure following the breakage or loss of a punch. The peg holes were centred 10-35mm from the top edge, with 20-25mm being preferred and 30-54mm from the side edges. Where two peg holes survived on a tile the distance between varied from 47 to 90mm.
- 6.26 Markings on the tiles were uncommon, formed incidentally during production. Most frequent were fingertip depressions from handling, which occurred on four tiles and ranged from a single fingertip to an arc of four fingertips. Impressions included occasional grass or straw stems on the base of one tile. More unusual were paw prints of small dog or cat (context 1011, Id.18): one near complete example measuring 36mm wide by over 37mm long: the front edge is just missing but there is possibly the tip of a claw associated with right hand pad. The second paw print occurs at the edge of tile and as a result is partial and smeared but with two definite claw marks. Other linear smear marks across the tile, one running from the second paw mark suggests movement, possibly a cat attempting to catch its prey, rather than a dog.
- 6.27 Three tiles had been burnt and blackened along the edge suggesting they had been re-used in the floor of a hearth or oven.
- 6.28 Dating roof tiles is necessarily broad as there is little change in size or characteristics from their inception until mechanisation of production during the 19th century. The fabric is dated from 1480 to 1800 and square or diamond peg holes are more commonly found in the early post-medieval period. A late fifteenth-sixteenth century date is probable.

### ***Conclusions***

- 6.29 The ceramic building material is predominantly of late 15th-16<sup>th</sup> century date, contemporary with the Tudor activity at Hampton Court. The Type A bricks are associated with the Wolsey constructions and the roof and floor tile are compatible with such a date. Virtually all the building material forms a coherent contemporary suite of roofing, flooring and bricks indicative of a brick-built structure with tiled roof and chequerboard tiled floor. The evidence of burning on the edges of some roof tiles indicate the presence of hearth, oven or fireplace with floors constructed of roof tiles set on edge a standard practice continuing from the medieval period. Whilst the brick and roof tile are locally made products from the London area, the floor tile is likely to be imported from the Low Countries.

6.30 The only firm evidence of later activity comes from the two bricks of late 17th-early 18th century date and the modern brick. The roof tile from context 1038 has a slightly neater finish, which may indicate a slightly later date, perhaps 17th century.

**Table 2:** Quantification of CBM and mortar by form and fabric

<i>Count</i>						
<i>Fabrics</i>	<i>Brick</i>	<i>Floor</i>	<i>Roof</i>	<i>Indet</i>	<i>Mortar</i>	<i>Total Nos</i>
MoL3033	78			3		68
MoL3032	2					2
Modern	1					1
FL1 (?MoL2318)		3				3
FL2 (?MoL2323)		4				4
FL3		3				3
FL?		1				1
MoL2271			1			1
MoL2276			72	1		69
U				2		2
M1					13	13
M1a					77	77
M2					1	1
<b>Total</b>	<b>81</b>	<b>11</b>	<b>73</b>	<b>6</b>	<b>91</b>	<b>262</b>
<i>Weight</i>						
<i>Fabrics</i>	<i>Brick</i>	<i>Floor</i>	<i>Roof</i>	<i>Indet</i>	<i>Mortar</i>	<i>Total Wt (g)</i>
MoL3030	49930			3		49933
MoL3032	2574					2574
Modern	1061					1061
FL1 (?MoL2318)		2940				2940
FL2 (?MoL2323)		2305				2305
FL3		1775				1775
FL?		2055				2055
MoL2271			80			80
MoL2276			17992	4		17996
U				12		12
M1					132	132
M1a					1663	1663
M2					0	0
<b>Total</b>	<b>53565</b>	<b>9075</b>	<b>18072</b>	<b>19</b>	<b>1795</b>	<b>82526</b>

**Table 3:** Brick sizes

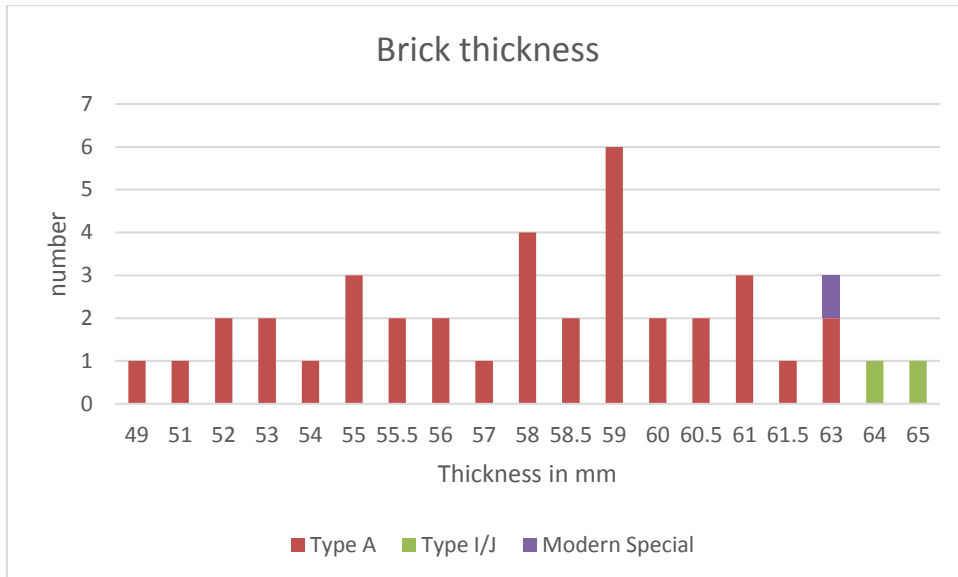
<i>Brick type</i>	<i>Fabrics</i>	<i>Nos</i>	<i>Thickness</i>	<i>Width</i>	<i>Length</i>
HCP type A	MoL3033	59	43 [1 <sup>11</sup> / <sub>16</sub> " ] - 64 [2½"]	115 [4½"] - 132 [5 <sup>3</sup> / <sub>16</sub> "]	232 [9 <sup>1</sup> / <sub>8</sub> "] - 260 [10¼"]
HCP type I/J	MoL3032	2	64-65 [2½"]	100-103 [4"]	>180mm
Special	Modern	1	63 [2½"]	101 [4"]	>130mm

**Table 4:** Floor tile sizes and significant characteristics

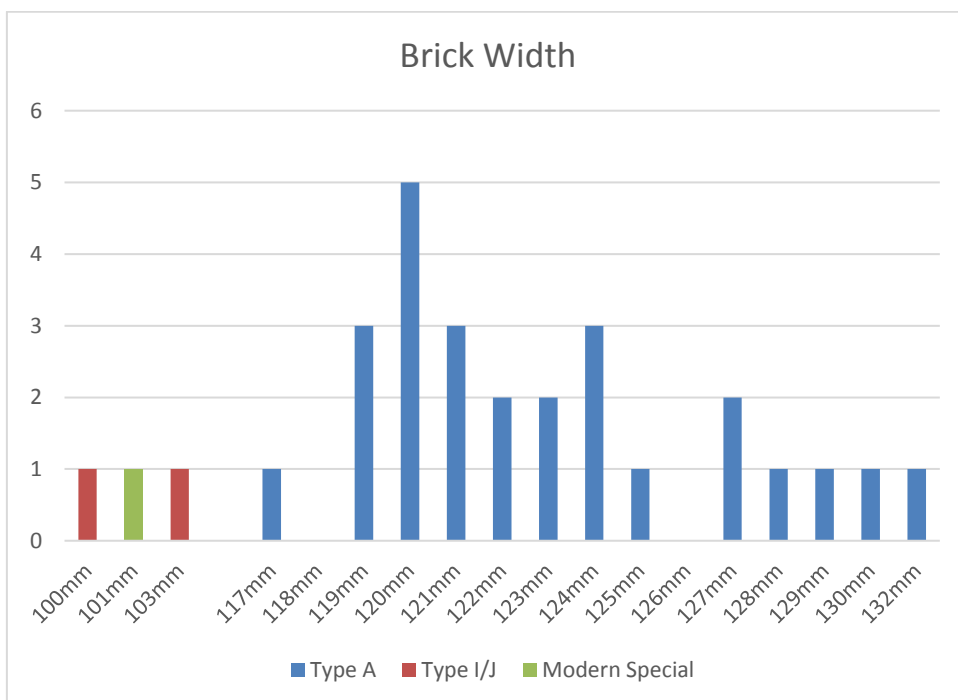
<i>Id</i>	<i>TH mm</i>	<i>W mm</i>	<i>L mm</i>	<i>TH ins</i>	<i>W ins</i>	<i>L ins</i>	<i>Fabric</i>	<i>Glaze</i>	<i>Nail hole</i>
14	25	210-215	213	1"	8 ½"	8 ½"	Unid	Mottled dark brown thinning to amber	1 oval
16	26	>82	>110	1"	0	0	FL1 ?MoL2318	Mottled reddish brown and green	1 rectangular
11	28	217	217	1 ⅛"	8 <sup>7</sup> / <sub>16</sub> "	8 <sup>7</sup> / <sub>16</sub> "	FL1 ?MoL2318	Dark brown	2 rectangular
15	28	217	>125	1 ⅛"	8 <sup>7</sup> / <sub>16</sub> "	0	FL3	Opaque yellow with dark brown mottles and speckles	0
13	29	219	>80	1 <sup>3</sup> / <sub>16</sub> "	8 <sup>5</sup> / <sub>8</sub> "	0	FL1 ?MoL2318	Dark brown - black	1 rectangular
17	29	>120	>150	1 <sup>3</sup> / <sub>16</sub> "	0	0	FL3	Mottled dark brown and amber	0
12	30	215	215	1 <sup>3</sup> / <sub>16</sub> "	8 ½"	8 ½"	FL2 ?Mol2323	Mottled amber – brown – dark green	2 rectangular
63	35	>115	>132	1 ⅜"	0	0	FL2 =?Mol2323	Dark bottle green	0

**Table 5:** Roof tile sizes

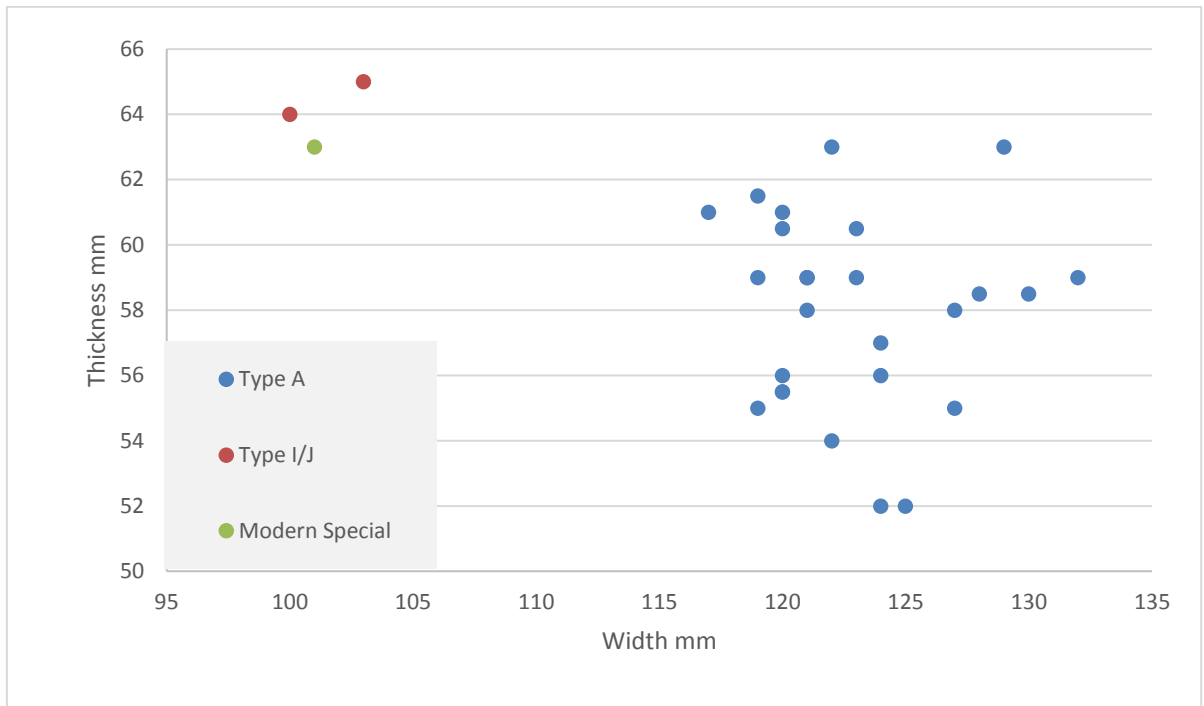
<i><b>Id</b></i>	<i><b>Ctx</b></i>	<i><b>Form</b></i>	<i><b>Nos</b></i>	<i><b>Wt g</b></i>	<i><b>Th mm</b></i>	<i><b>W mm</b></i>	<i><b>L mm</b></i>	<i><b>Th ins</b></i>	<i><b>W ins</b></i>	<i><b>L ins</b></i>	<i><b>Peg holes</b></i>
61	1018	Flat	1	688	13	145	>210	½"	5⅞"	>8¼"	Lower half of (peg) tile.
64	1038	Flat	1	652	14	150	>180	½"	5 <sup>15</sup> / <sub>16</sub> "	>7¼"	Lower half of (peg) tile.
22	1014	Peg	1	336	15	151	>125	9/16"	5 <sup>15</sup> / <sub>16</sub> "	-	2 circular peg h. 15-16mm dia
20	1013	Peg	1	884	13	152	260	½"	6"	10¼"	1 circular peg h 15mm dia. Nr complete.
66	1040	Peg	15	1950	11- 16	152	>105	7/16", ½", 5/8"	6"	-	3 tiles with 4 diamond peg h 13-16mm w
24	1014	Flat	3	749	14- 16	152	>120	9/16", ½"	6"	-	Lower part of tile
23	1014	Peg	1	457	14	154	>145	½"	6⅞"	-	2 Peg h sub-square /sub-diamond 12-15mm w
18	1011	Peg	1	737	15	155	>215	9/16"	6⅞"	>8 ½"	2 diamond peg h 14-16 x13mm
5	1001	Peg	3	998	13-14	156	>183	½"	6⅞"	>7¼"	1 circular peg h 15mm
6	1001	Peg	2	730	15	158	280	9/16"	6¼"	11"	2 oval peg h 19x15 & 11x13+
62	1030	Flat	3	1004	14 -15	160	>150	9/16", ½"	6 <sup>15</sup> / <sub>16</sub> "	-	Lower section
68	1041	Flat	2	679	13-14	167	>135	½"	6⅞"	-	Lower end
67	1040	Peg	1	618	14	168	>125	½"	6⅞"	-	2 circular peg h 13mm
70	1069	Peg	3	543	13-15	170	>165	½"	6¾"	>6¼"	2 circular peg h 17-18mm
4	1001	Flat	1	1118	13-16	182	>215	½"	7 3/16"	>8½"	Lower end



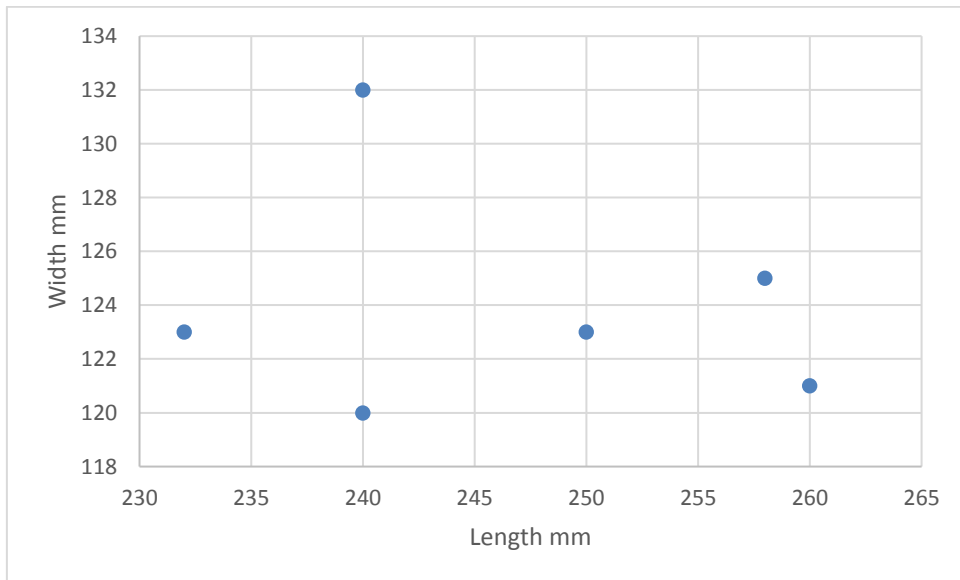
**Graph 1:** Number and range of thickness in mm of all bricks



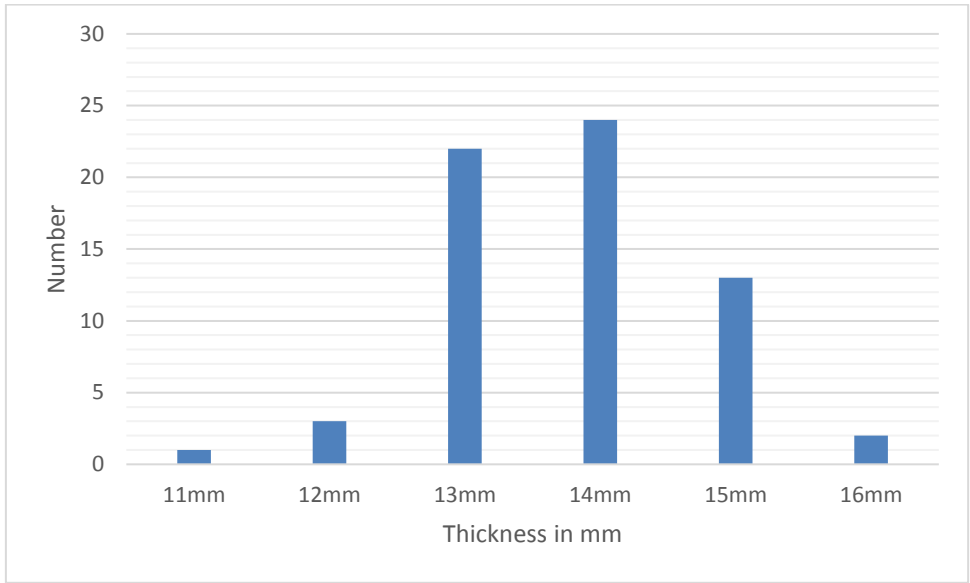
**Graph 2:** Number and range of width in mm of Type A bricks



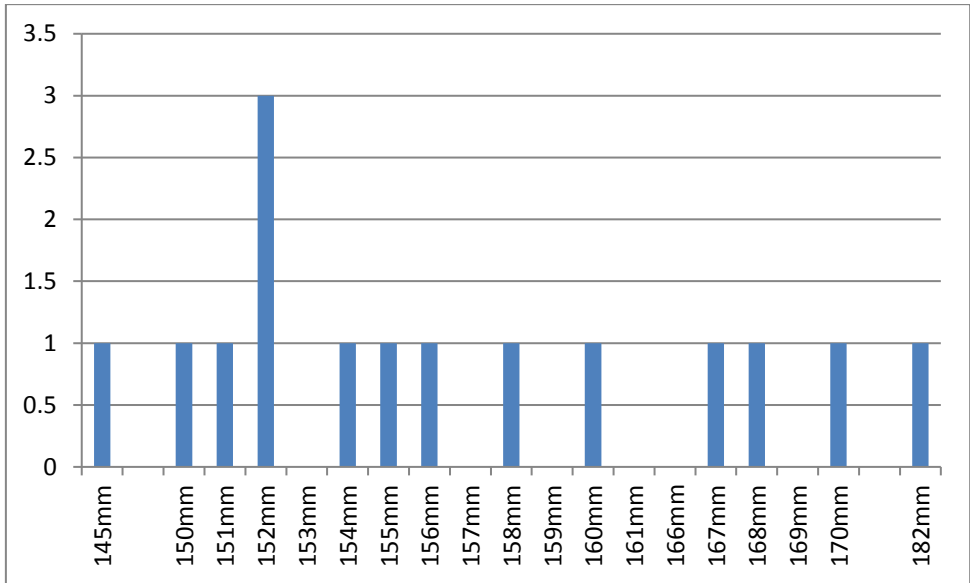
**Graph 3:** Plot of thickness:width of Type A bricks with two possible sub-groups ringed defined by width



**Graph 4:** Plot of width:length of Type A bricks and ringed as for the groups in figure 3



**Graph 5:** Number of peg tiles in relation to tile thickness



**Graph 6:** Number of peg tiles in relation to tile width



**Wall plaster and mortar - Cynthia Poole – (Oxford Archaeology)**

- 6.31 Mortar samples were taken from nine structures or contexts, mostly walls (60 fragments, 1582g) and a further 31 fragments (213g) was recovered during excavation. In addition, much of the ceramic building material (CBM), both brick and roof tile, had mortar attached. The assemblage has been quantified and recorded on the basis of macroscopic characteristics. It is not known whether the samples were taken with specific questions in mind. The assemblage is recorded in the same Excel file as the CBM.
- 6.32 The mortar was all broadly of the same type M1: this was a cream, white or buff, lime mortar containing moderate - high density of clear, translucent brown or opaque milky quartz sand <0.5mm, rare black sand and sometimes white chalk or lime balls generally 1- 4mm, but occasionally up to 9mm.
- 6.33 Much of the mortar derived from bedding layers between bricks. These took the form of thin slabs 6-21mm thick usually with a fairly flat surface both sides sometimes retaining fragments or red residue from the bricks. Thicker more irregular pieces up to 40mm thick and forming lumps 40-55mm in size sometimes with irregular depressions probably from gravel, are likely to derive from the wall core or rubble foundation. A few pieces of bedding layer retained evidence of the pointing, which was of double struck form. This was the standard form of pointing during the 16th and early 17th century at Hampton Court, used in conjunction with the type A bricks (and also types B-E). Similar bedding layers remained attached to a large number of the bricks, unsurprisingly as many of these had been sampled from wall structures. Some of the roof tile, which had similar layers of bedding mortar attached, appears to have been re-used in walling.
- 6.34 A small quantity of render was also collected. Two small thin fragments from context 1052 measured 5 and 7mm thick and had flat even surfaces on both sides forming a plaster skim surfacing a primary render, resulting in the flat back face. The front face was smooth and had been painted white. A thicker fragment of render from ctx 1064 had a smooth flat exterior face and rough flat back with remnants of red brick adhering indicating this formed the mortar render 15-19mm thick directly surfacing the brick wall.
- 6.35 A group of three fragments sampled from ctx 1012 formed the render for a timber-framed wall with wattle and lath panel infill. All three pieces exhibit the same structural characteristics. They derive from the edge of a panel of mortar render, which preserve the impressions of split wattles and staves. The main uprights, which run parallel to the wall edge, are squared staves c 8-11mm wide and up to 27mm, or more, wide. At right angles were impressions of split or round wood wattles or laths up to 22mm, or more, wide and set 25-30mm apart with a thick ridge of mortar between the pairs on each fragment. The fragments were 39-49mm thick in total: the laths were 21mm from the wall face and split wattles or laths were 26-38mm from the wall face. All the fragments had a trail of grass or straw stem impressions caught between the mortar and the wattles/laths. These laths and wattles do not appear to be interwoven in the manner of a wattle and daub panel infilling the studwork of a timber framed wall. Although these pieces could derive from an internal partition wall, the arrangement of the staves and laths suggest they may have been nailed into place and are more likely to have formed the base for ceiling plaster.

**Stone - Ruth Shaffrey - (Oxford Archaeology)**

***Description***

- 6.36 A total of nine pieces of stone were retained and submitted for analysis. These were all examined with the aid of a x10 magnification hand lens, and worked stone recorded into a Microsoft Excel spreadsheet entitled HCP154-stone-data.xlsx.
- 6.37 The undiagnostic stone comprises a piece of slate, probably from roofing, but lacking any diagnostic features (1000). There is also a slab of tufa (1001), a block of Kentish Rag with flat faces and a block of Reigate stone that all lack diagnostic features or tool marks, but were probably used structurally.
- 6.38 One ashlar block (1000) with two remaining faces (1522g) and four triangular ashlar blocks are all of the same stone type (two from 1038 and two from 1001). This is a same spar prominent oolitic limestone, with occasional bands of fragmental shell and quartz veins. The ooids are mostly weathered out leaving fine 'skins' behind. This seems likely to be a Bath stone type or Cotswold oolitic limestone but there has not been time within the remit of this project to compare to reference material. All the blocks are incomplete but the surviving original faces retaining saw marks.

***Recommendations***

- 6.39 The undiagnostic stone can be discarded but it may be desirable to keep the dressed blocks and at least one should definitely be kept in case the opportunity arises for further analysis of the stone type.

**Glass - Ian R Scott - (Oxford Archaeology)**

6.40 The glass assemblage is small comprising just 17 sherds comprising 12 sherds of vessel glass and 5 sherds of window glass. The glass was recovered from just two contexts. Context 1000 produced five sherds of vessel glass. The glass from context 1000 is mixed in date as might be expected. Context 1087 produced seven sherds of vessel glass and five sherds of window glass.

- **Context 1000**

- (1) **Beer bottle**, base from a bottle made in three-piece mould. Has moulded base. Very dark olive green ('black') glass. D: 65mm, mid to late 19<sup>th</sup> century.
- (2) Wine bottle, lower body and base of a bottle made in a dip mould. Conical push up and pronounced basal sag. Very dark olive green ('black') glass. D: 83mm. Late 18<sup>th</sup>- or early 19<sup>th</sup>-century.
- (3) Square section bottle. Two body sherds (no refit) in light green glass. Probably 19<sup>th</sup> century or early 20<sup>th</sup> century, but no diagnostic features
- (4) Cylindrical bottle, sherd from upper body and rounded shoulder in very pale green glass. Probably machine moulded. 20<sup>th</sup> century.

- **Context 1087**

- (5) **Wine bottle**, short tapered neck from a squat wine bottle with cracked off fire-softened rim and applied horizontal string rim. Dark green glass. Free blown. Remains sealing wax (or lead) band directly below string rim. This includes an apparent small near circular panel with raised border. Early 18<sup>th</sup> century
- (6) Wine bottle, shoulder/neck sherd probably from a broad cylindrical (?) bottle. Free blown. Dark green glass. Similar glass to ID10, but no refit and probably from a different vessel form. Early to mid-18<sup>th</sup>-century
- (7) Wine bottle, lower body and base of wine bottle with vertical mould lines, and base embossed with '9' or '6'. Made in two-piece mould with separate base plate. Dark green glass. D: 78mm. 19<sup>th</sup> century
- (8) Flask or bottle. Two refitting thin walled body sherds in pale olive green glass. Free blown vessel. Perhaps from same vessel as heel sherd ID 8. Possibly 18<sup>th</sup> century but no datable features.
- (9) Flask or bottle, sherd from base/heel of free blown vessel. Possibly same vessel as thin-walled body sherd (ID 7) in similar pale olive green glass. Possibly 18<sup>th</sup> century.
- (10) Stemmed glass. Plain stem from a drawn trumpet-shaped stemmed glass. Colourless glass. Could be 18<sup>th</sup> century.
- (11) Window glass. Four non-refitting sherds of similar thickness near colourless glass with similar pale blue iridescent weathering. Th: 1.5mm. Not closely datable, but not modern.
- (12) Window glass. Single thin sherd almost colourless window glass with iridescent weathering. Th: 1mm. Not closely datable, but not modern.

## **Animal Bone - Lee G. Broderick – (Oxford Archaeology)**

### ***Introduction***

- 6.41 A total of 172 animal bone specimens were recovered from the site (Table 6), all collected by hand and mostly in moderate condition, although this was variable (Graph. 7).

### ***Description***

- 6.42 The most common species identified were domestic cattle (*Bos taurus taurus*) and caprine (sheep [*Ovis aries*] and/or goat [*Capra hircus*]), both of which were present in five out of the nine contexts. Pig (*Sus scrofa domesticus*), rabbit (*Oryctolagus cuniculus*), domestic goose (*Anser anser*), domestic fowl (*Gallus gallus*), duck (*Anas platyrhynchos*), rock dove (*Columba livia*) and a wader/gull were also present. The latter was similar in shape to black gull and kittiwake but was considerably shorter than the gull specimens in the author's reference collection.
- 6.43 There was extensive evidence for butchery practice in the assemblage, which consisted principally of chop marks. These were commonly axial chops through vertebrae and oblique chops through the epiphyses of long bones, both of which suggest an industrialised approach to butchery, which emphasised speed of portioning over particular cuts of meat.
- 6.44 Scavengers appear to have played a limited role in the deposition of the assemblage, although both dog and rodent gnawing was observed. There was also very limited potential for biometric studies.
- 6.45 Ageing data was provided though epiphyseal fusion – no teeth or other cranial elements were recovered from the assemblage, which itself suggests that it is principally table waste. For the most part this provides a mixed picture without any discernible patterns. The bird bones are a notable exception to this, with all of them coming from adult individuals. Other exceptions were pig, which were all unfused, suggesting a young individual (itself no great surprise since pigs are only kept for their meat and reach slaughter weight in around a year) and domestic cattle. The domestic cattle specimens were generally fused, suggesting older individuals but the specimens from context (1087) were all unfused. Although large, these had the appearance of neonatal bone and so probably result from the consumption of veal (one of the bones, a radius, also had a chop mark).

### ***Conclusions***

- 6.46 The assemblage is likely the result of table waste and reflects a relatively wealthy diet, including veal and game. Given the small size of the assemblage, it is difficult to draw any further conclusions.
- 6.47 The assemblage should not be considered for retention and no further work on the assemblage is recommended.

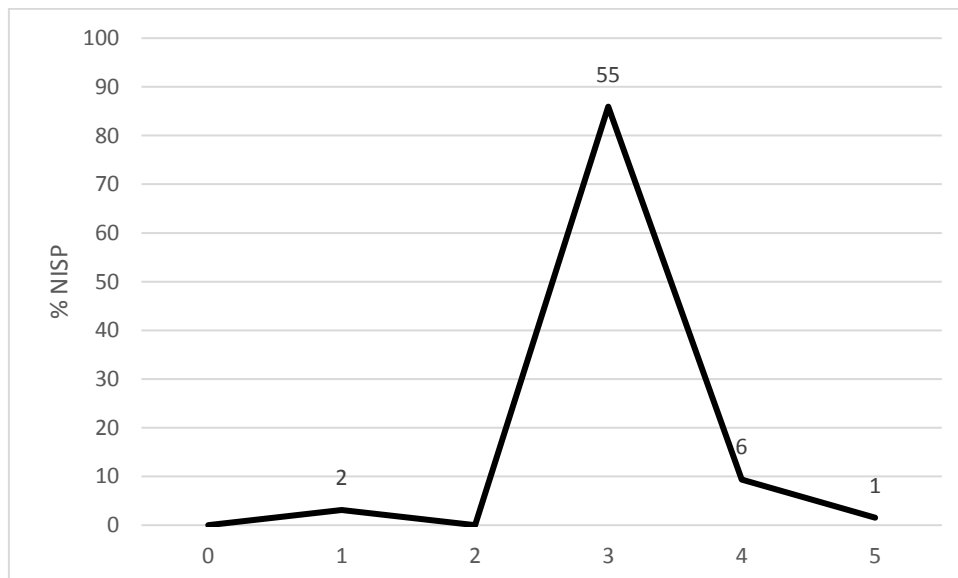
**Table 6:** Total NISP (Number of Identified Specimens) and NSP (Number of Specimens) figures per context from the site.

	1000	1009	1011	1018	1037	1038	1046	1052	1087
domestic cattle	4		1	8	3				10
domestic cattle?									1
caprine	13	1		3			2		8
pig	3			1					
rabbit				5					1
medium mammal	12			18				2	8
large mammal	14		1	20					11
<b>Total Mammal</b>	46	1	2	55	3	0	2	2	39
bird				2					
greylag/domestic goose				1					
domestic goose				3					
domestic duck/mallard								5	
domestic fowl		1		1					
rock dove				1					
wader/gull									1
<b>Total Bird</b>	0	1	0	8	0	0	0	5	1
<b>Total NISP</b>	46	2	2	63	3	0	2	7	40
<b>Total NSP</b>	46	4	2	63	3	1	2	7	44

**Table 7:** Non-taxonomic data recorded from specimens in the assemblage.

	<b>Butchery marks</b>	<b>Pathologies</b>	<b>Gnawed</b>	<b>Burnt</b>	<b>Ageing data</b>	<b>Biometric data</b>
domestic cattle	9		3		18	2
domestic cattle?					1	
caprine	6	3	3		17	3
pig	2		1		3	
red deer	1					
rabbit					5	
medium mammal	6					
large mammal	6	1				
<b>Total Mammal</b>	30	4	7	0	44	5
domestic goose			1		3	1
domestic duck/mallard					4	
domestic fowl					1	1
<b>Total Bird</b>	0	0	1	0	8	2
<b>indet.</b>				1		
<b>Total</b>	30	4	8	1	52	7

**Graph 7:** Condition of identified specimens (Behrensmeier 1978, 150–162)



**Table 8:** NSP and total mass per context.

<b>Context</b>	<b>NSP</b>	<b>Mass (g)</b>
0	34	334
1000	47	946
1009	9	61
1011	2	128
1018	78	1886
1037	1	42
1038	4	3
1046	2	66
1052	7	18
1087	49	852

**Fish Bone** - *Rebecca Nicholson – (Oxford Archaeology)*

- 6.48 Small quantities of well-preserved fish bone were recovered from the dried residues of sieved soil samples and identified with the aid of the author's comparative collection.
- 6.49 Sample <1> from context (1010) included a single small gadid precaudal vertebra, probably whiting (*Merlangius merlangus*) as well as 43 indeterminate fragments mostly of fin rays and spines.
- 6.50 The most abundant fish remains came from sample <2>, from context (1052). This sample included five eel (*Anguilla anguilla*) vertebrae as well as a small cyprinid infrapharyngeal bone, probably roach (*Rutilus rutilus*), two small gadid caudal vertebrae (*Gadidae*) and two sole (*Solea solea*) caudal vertebrae and about 30 fragments of spines and fin rays.
- 6.51 A single scale from a small pike or picarel (*Esox lucius*) came from sample 3 (1048) as well as three indeterminate bone fragments.
- 6.52 Sample 10 (1009) included a left premaxilla from a fairly small tub gurnard (*Chelidonichthys lucerna*) of about 30cm total length.
- 6.53 It is difficult to interpret such a small assemblage, but it seems likely that all these fish were prepared in the kitchens, with the range of sea and freshwater fish consistent with medieval dining in a reasonably affluent urban setting.



**Marine Shell - Rebecca Nicholson - (Oxford Archaeology)**

- 6.54 Marine shell was recovered from four contexts by hand collection and from the dried residue of sieved soil sample Small quantities of well-preserved fish bone were recovered from the dried residues of the sieved soil samples and was identified with the aid of the authors comparative collection.
- 6.55 All of the hand-recovered shells are European flat oyster (*Ostrea edulis*) while mussels (*Mytilus edulis*) and a juvenile, cockle (*Cerastoderma* sp.) were recovered from the sieved samples (Table X) demonstrating the necessity of sieving to recover the smaller and more fragile marine molluscs.
- 6.56 Most of the shells are in good condition and the majority of the oyster valves in context 1087 are complete, or nearly so. A range of sizes are present, but most of the shells are of the traditional rounded form. There are few examples of irregularly shaped shells that would be indicative of collection from wild, crowded beds, although a number of shells have evidence for an abrupt change of growth, marked by a change of shape and spacing of growth bands in the hinge, which may reflect a change of habitat during the life of the oyster. Perhaps due to humans re-laying for “fattening” (see Campbell 2010). Some shells are large and heavy suggesting that exploitation of the beds was not intensive.
- 6.57 There is very little evidence of encrustations or parasitic infestations on or within the shells although several shells in (1087) have evidence of gastropod boring and there are two examples in the same assemblage of damage by the sponge *Cliona celata* (as illustrated by Winder 2010). There is no clear evidence for polychaete worm tunnelling. It is therefore likely that some level of oyster management was practiced. Several oyster valves in (1087) had evidence for small adhering shells, including juvenile oysters, more of which may have been removed during washing of the shells. These would suggest growth on shell cultch. Two valves have opening notches and a third has internal cut marks, in all cases suggesting that the oysters were opened fresh.
- 6.58 Both oysters and mussels would have been eaten, but the tiny cockle is likely to have been accidentally introduced, perhaps within seaweed used to pack the containers in which the other shellfish were transported. Oysters and mussels frequently occur in medieval urban deposits and it is clear that shellfish were eaten by rich and poor alike.

**Table 9:** Numbers of marine shell valves

Context No.	Sample No.	Total weight of shell (g)	Oyster left valve	Oyster right valve	Other valves
1000		134	2	1	
1001		12		1	
1009		20	2		
1087		1743	36	20	
1010	1	100	3	4	1 tiny cockle
1052	2	10			5 mussels
1048	3	7	2		

### **Environmental Samples - Julia Meen – (Oxford Archaeology)**

- 6.59 Four bulk environmental samples from Hampton Court Palace (Apartment 39 Railings Excavation, HCP154) were brought to Oxford Archaeology South to be processed for charred plant remains and small artefacts. Each sample was processed using a modified Siraf-type water flotation machine. Sample volumes are given in Table 1. Flots were collected in a 250µm mesh and heavy residues were sieved to 500µm. Both flots and residues were dried and the residues were sorted by eye. An initial scan of each flot by S. Cook showed that no charred plant remains other than charcoal were present in any of the samples, so further analysis was confined to examination of the charcoal.
- 6.60 For each sample, the number of charcoal fragments of potentially identifiable size in each of three size fractions (>10mm, 10-4mm and 4-2mm) was recorded, in order to assess the availability of suitable material and also to indicate the level of fragmentation. A selection of 25 fragments of charcoal was then analysed from each sample to evaluate the range of tree taxa present, and a record was made of notable characteristics (ie presence of heartwood, roundwood, and, where a complete cross section was present, number of annual rings). Identification of wood taxa was made by fracturing each charcoal piece and examining the transverse, radial and tangential sections for diagnostic anatomical characteristics. Identifications are given in Table 1, and are made with reference to Schweingruber (1990) while nomenclature follows Stace (2010).
- 6.61 Sample <1> (1010) was extremely abundant in charcoal, containing a high volume in particular of charcoal 10mm and greater in size. A high proportion of these larger fragments was visibly roundwood, often with intact cross sections, and further recording of this material could be undertaken to record wood diameter and a count of annual growth rings. This data might provide information on local woodland management practices. Species identification of the smaller fragments showed just over half of those examined were oak (*Quercus* sp.), with a lesser proportion of birch (*Betula* sp), and occasional alder (*Alnus glutinosa*) and beech (*Fagus sylvatica*). The analysis confirmed that almost all of the diffuse porous items were from roundwood, although many of the oak fragments contained tyloses within their vessels, which demonstrate that they are from heartwood.
- 6.62 Sample <2> (1052) produced a flot much smaller in size, with a high proportion of charcoal fragments less than 4mm in size. As with sample <1>, over half of the examined fragments were oak, mostly heartwood although one small twig with at least five annual rings was noted. The remainder were mostly of the Betulaceae family, whose anatomical similarities can make it difficult to differentiate between species. Most were confirmed as hazel (*Corylus avellana*), but two items are provisionally identified as the more unusual hornbeam (*Carpinus betulus*). This distinction was made on the presence of particularly large pits, relatively short radial files, frequent biseriate and triseriate rays alongside uniseriate, and, in particular, on the absence of scalariform perforation plates which the other native Betulaceae possess. A further item was identified as belonging to the Pomiodeae, a group of closely related taxa, which are difficult to distinguish from anatomical characteristics, and a fragment, which is tentatively identified as rose (*Rosa* sp). This fragment had wide compound rays but relatively sparse vessels. Almost all of the non-oak items were roundwood.
- 6.63 Samples <3> and <10> both produced very small flots, and in each case a high proportion of the potentially identifiable charcoal has been examined. Sample <3> (1048) contained a mix of three ring porous taxa: oak, ash (*Fraxinus excelsior*) and elm (*Ulmus* sp.). All three trees can grow to substantial sizes. Sample <10> (1009) was strongly dominated by elm, with occasional oak. Elm is durable only if kept damp, limiting its use as a timber (Edlin 1973:54), and it was not commonly used as an industrial fuel (Gale 2003).

However, it was traditionally used for pumps, sluices and in the construction of ships, and for making tools and furniture (Edlin 1973:55-56).

**Table 10:** Identified charcoal from HCP154

<b>HCP154</b>	<b>Sample No.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>10</b>
	<b>Context No.</b>	<b>1010</b>	<b>1052</b>	<b>1048</b>	<b>1009</b>
	<b>Volume Processed</b>	37L	16L	7L	4L
	<b>No. items &gt;10mm</b>	>1000	41		
	<b>No. items 10-4mm</b>	>1000	52	29	28
	<b>No. items 4-2mm</b>	>10000	300	42	21
<b>Rosaceae</b>					
Pomoideae	hawthorn/wild service/ whitebeam/rowan/ apple		1 r		
cf <i>Rosa</i> sp	cf rose		1 r		
<b>Ulmaceae</b>					19
<i>Ulmus</i> sp	elm			8	2
cf <i>Ulmus</i> sp	cf elm				
<b>Fagaceae</b>					
<i>Fagus sylvestris</i>	beech	1 r			
<i>Quercus</i> sp.	oak	14 (h, r)	14 (h, r)	12 (h)	2 h
<b>Betulaceae</b>			1 r		
<i>Betula</i> sp.	birch	8 (r)			
<i>Alnus glutinosa</i> (L.) Gaertn	alder	2 r			
cf <i>Carpinus betulus</i> L.	hornbeam		2 r		
<i>Corylus avellana</i> L.	hazel		6 (r)		
cf <i>Corylus avellana</i> L.	cf hazel			1	
<b>Oleaceae</b>					
<i>Fraxinus excelsior</i> L.	ash			3 (r)	
ring porous					2
indet				1 r	
<b>TOTAL</b>		<b>25</b>	<b>25</b>	<b>25</b>	<b>25</b>

## 7 Discussion

The archaeological investigations undertaken as part of the Apartment 39 Railings Conservation Project, provided some valuable insight into a group of hitherto unknown early Tudor buildings. The majority of the structural remains were located in the east-west branch of the excavated trench, though a section of the Henrician Great Wall was exposed at the far southern end of the north-west branch of the trench, as well as later structures related to the evolution of the Barge Walk railings.

It was possible to draw a clear picture of the overall stratigraphic sequence on site with parallels evident between one feature and another. The sequence indicated six main phases of activity, each of which are discussed below.

### *Phase I – levelling*

- 7.1 No natural topography was exposed during this project; however, a number of coarse sandy gravel deposits with occasional small fragments of CBM and charcoal flecking were exposed at between 8.05m OD and 8.27m OD. This may represent re-deposition of natural silty sandy gravels for the purpose of levelling the area. Extensive levelling of the site during the late 13<sup>th</sup> century has consistently been recorded across Hampton Court Palace, most recently in 2017 during evaluation work undertaken by OA in advance of the first phase of the Ring Main Project (HCP 159), and also during the Base Court resurfacing project in 2009 (HCP 62)<sup>6</sup>. However, the silty sandy gravelly nature of the deposit recorded during this project is quite different in composition to the more clayey medieval deposits. It is more likely that these gravel deposits relate to a later phase of levelling in the late 15<sup>th</sup> to early 16<sup>th</sup> centuries. Indeed, a comparable deposit was recorded during the Base Court excavations, which was presumed to have served as a means to consolidate the area, as well as in part functioning as a working surface during construction for the main phase of the Wolsey ranges.
- 7.2 The depth and the true character of these deposits in the Apartment 39 Garden were not studied since excavation did not extend beyond this level.

### *Phase II – c. early 16<sup>th</sup> century activity*

- 7.3 Built directly on top of the sandy gravels were a number of early Tudor brick walls and structures that formed one or possibly two buildings. It could not be ascertained whether there were in reality two buildings or one single block, given the restricted excavation area, but for the purpose of this project, the structures were divided into Building A and Building B. Although the full extent of the buildings was not revealed, it was nonetheless possible to determine their southern limit, which did not appear to extend more than 2m beyond the southern edge of the main trench.
- 7.4 Despite disturbance by later intrusions, Buildings A and B survived relatively well. The appearance and composition of the *in situ* building material and the construction methods of the walls and structures were consistent. This consistency was also reflected in the brick assemblage gathered onsite, which was dominated largely by Type A bricks, generally associated with Wolsey or pre-Wolsey structures (early 16<sup>th</sup> century). There were tiles present within the build of most walls, as well as evidence of double-struck pointing at elevation level, where mortar joints were well preserved. These two practices were often used in conjunction with one another during the Tudor period as a means to rectify the problem posed by the irregularity of the brick size.

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<sup>6</sup> “Extensive levelling of the area predominantly using sterile clayey sand represents the first major phase of activity recorded on site. This horizon appears consistently through the site and seems to have been laid directly on top of natural.” (OA 2009)

### *Building A – structural observations*

- 7.5 Building A was the eastern-most group of structural remains, comprising of Spaces 1, 2, 3, and 4. The building was not perfectly symmetrical, but of the seven walls associated with the building, Wall 4 was most noticeably out of alignment (Fig.3). This generalised but negligible misalignment is perhaps not surprising. Absolute symmetry may not have been a main concern as long as the building retained its structural integrity. The more significant misalignment of Wall 4 can be explained by the fact that it served almost certainly as a footing for a partition wall, dividing Spaces 3 and 4. It was built differently to the other walls, being only one brick wide, and there was no differentiation between a foundation and an elevation level. Furthermore, it appears that the partition was demolished at some stage during the life of the building as the footing was overlain by (1009), which was the second phase in a sequence of occupation layers within Space 3.
- 7.6 Further evidence for changes in layout within the construction of Building A was indicated by the relationship between the south and west walls of Space 1 (Walls 5 and 6), and how Wall 5 interacted with Wall 2, (the west wall of Space 2). This small space or alcove may have been added later by tying in the newer wall (Wall 5) into the existing Wall 2 using what appears to be a toothing out or interlocking technique. Walls 5 and 4 were bonded together in this same way.
- 7.7 Wall 8 was the eastern-most segment of wall recorded, and may have been the back wall of Spaces 3, 4, and 1, though this is entirely conjectural, as it had no physical relationship with any other structures. However, it was broadly aligned with the other north-west/south-east orientated walls, and was constructed with the same materials using similar construction methods.
- 7.8 All the internal spaces within this building were small, but Space 1 was particularly narrow with a north/west-south/east width of 0.8m. This suggests that it may have been a storage space within a larger room, or a recess of some kind, perhaps part of an oven or hearth as hinted by the charcoal dump recorded inside (1010).
- 7.9 Space 2 appeared to be a basement or cellar within the building, the interior of which was filled with demolition rubble (1038). This material was hand-excavated to a depth of 0.56m. The base of this room was never reached. The internal walls were covered with a hard white lime mortar render, which also partially extended over the east-facing profile of Wall 3 indicating that there may have been an opening within the north wall of this room. However, there was no sign of any steps down into this basement room. A similar opening was recorded in the opposite wall (Wall 1), but the rather more rough appearance of the brick would suggest this was caused by damage rather than being a structural feature.
- 7.10 Between Building A and B was a small open space, possibly a small courtyard. Evidence suggested that this area was once laid to tiles, with indicative remains seen projecting from the external walls of Buildings A (Fig.4) and from Structure 9 (Fig.11) associated with Building B. The potential courtyard surface was recorded at c. 8.12m OD, rising slightly towards the west.

### *Building B – structural observations*

- 7.11 Building B was located 1.2m to the west of Building A. Only one room was exposed. It differed in one major way to Building A in that there was a polygonal structure (Structure 9) built against Wall 11. It was built on the south-east corner of the building and was truncated on its northern side by the cut of a later feature, pit [1004]. Despite this, the structure survived well, presenting three skilfully finished facades, though much of the pointing had been disturbed by shrub and tree roots. The elevation sat upon an offset foundation, on top of which were two layers of tiles, which presumably were the remains of an external floor surface akin to the tiles seen projecting from the profile of Wall 6 (Building A). It is difficult to interpret without further excavation, but the sheer size of the structure and the quality of its build indicates that this is more than a simple out-building. There are several possibilities, for example, it may be an earlier building re-used and

repurposed during construction works. If this was a buttress, it may be that the building had more than one floor level. Only further investigation and study would provide additional clues.

#### *Occupation layers associated with Buildings A and B*

- 7.12 Evidence for internal occupation layers was recorded in four of the five spaces exposed during the watching brief. From one room to another the stratigraphic sequence was consistent, with gravel levelling deposits forming a component of the internal floor structures. In Spaces 3, 4 and 5 there were sequences of compacted sandy bedding material overlain by an accumulation of fine silty/ashy charcoal layers (Group 14).
- 7.13 In Space 3, there was evidence for at least two different phases of floor make-up, each time overlain by the characteristic ashy charcoal material (Group 14). The latest deposit in the sequence (1009), extended over Wall 4 and into Space 4. Several Flemish-style glazed floor tiles as well as a number of eroded bricks were recorded at the interface between (1009) and the overlying collapsed mortar material, (1012). Whilst it is unlikely that these tiles represent an *in situ* floor surface due to their sporadic placement, they almost certainly relate to the occupation and activities associated with Building A. The tiles recorded from this layer were likely of late 15<sup>th</sup> – early 16<sup>th</sup> century, and were similar to examples found during recent excavation in the Royal School of Needlework, Apartment 12 (HCP 159), and during evaluation and excavation work for Phase I of the Electrical Ring Main Project in the Cloister (HCP 163). One possibility is that floor tiles were being stored or prepared in this building before being used in the main palace.
- 7.14 Two of the ashy deposits associated with (Group 14) were sampled, (1052, and 1009). Deposit (1009) in Space 3/4, though produced a small flot, was dominated by fragments of elm, with occasional oak. Elm, as indicated in Julia Meen's environmental report (see section 7), was generally not a wood used for fuel and was not a durable material when kept dry. Conversely, it was often used in the construction of ships, pumps and sluices because this type of wood becomes more resilient and resistant to decay when kept damp. It was also commonly used in the making of tools or furniture. Deposit (1048) unusually contained two fragments of hornbeam, which is an extremely hard wood not commonly used in general carpentry, but more often used to make boards and tool handles, where an extremely tough wood is required. Other woods contained in the flots included hazel wood, often used to make wattle or fencing, rosewood and pomoideae. This ashy deposit also contained 102 fragments of metal (in contexts 1009, 1048, 1052), mostly consisting of iron nails.
- 7.15 Banked up against the southeastern corner of Space 2 was a dump of charcoal (1010). There was no evidence for *in situ* burning, but the charred remains may potentially originate from a nearby hearth or oven. The existence of hearths, ovens or fireplaces in Buildings A and B is further corroborated by the presence of several roof tiles that presented signs of burning and blackened edges; it was common from the medieval period onwards to use tiles set on edge in the floors of hearth features. A wide variety of wood was contained in the charcoal dump in Space 1, including oak, birch, alder and beech, all timbers alongside elm, commonly used in everyday Tudor furniture. The significant quantity of charcoal, and the numerous iron nail fragments identified in the internal occupation deposits of Buildings A and B suggests that these buildings had a utilitarian function, perhaps a workshop, or warehouse. According to Darrah (1992), most 16<sup>th</sup> and 17<sup>th</sup> century furniture made of beech, elm, ash or alder would have been burnt either when the piece was worm-eaten or rotten for instance, or perhaps when something better and more up-to-date presented itself, the latter perhaps being likely.
- 7.16 The accumulation of internal occupation deposits in Building A and the lack of any evidence suggesting otherwise, indicates that the floors in this building were a simple compacted earth surface. Conversely, firm evidence of a solid *in situ* floor surface was recorded in Space 5 in Building B, where the remains of a tile layer (1092) was seen abutting Wall 11 above the foundation level at 8.14m OD. A similar layer of tiles was recorded beneath the return wall (Wall 10) at the same height. Overlying this floor was the characteristic ashy deposit (Group 14), followed by a build-up of sandy loamy greenish light brown material, which contained a variety of objects

contemporary with the construction/occupation of the building, including six copper alloy lace chapes and a cast copper alloy hooked fastener with herringbone pattern on its shank. All these objects were dated to the late medieval to early post-medieval and are consistent with a late 15<sup>th</sup>-early 16<sup>th</sup> century date.

- 7.17 The difference in the type of floor surface recorded in Buildings A and B is not necessarily anything to do with status but perhaps says more about the function of the buildings. The ‘new mason’s lodge’ and a nearby stable, for example, mentioned in Works Accounts in 1535, had a tiled floor: “*15 loads of plain tile to tile the mason’s new lodge (and the stable adjoined to the Carpenter’s Yard)*”<sup>7</sup>. A solid surface would have been much easier to clean in a space where large amounts of waste material was being generated. Conversely, an earthen floor may have been sufficient for an area used for storage.

#### *How do Buildings A and B relate to the Palace?*

- 7.18 The buildings were on a north/east-south/west orientation, which neither compared with any of the extant buildings of Hampton Court Palace, nor Daubeney’s southern range building buried beneath Clock Court; excavated in 1966-67 and in 1973-4. However, they were on a comparable alignment to the Wolsey era ‘mason’s lodge’ (building BG1420), uncovered during the Base Court Resurfacing works, which reused and remodelled a 14<sup>th</sup> century barn or warehouse building, slightly modifying its original alignment (OA 2009) (Fig.22). The brick fabric of the east and west walls of this rectangular building were comparable in appearance to those recorded in Buildings A and B, though the mortar appeared noticeably different in colour - in Buildings A and B it was more creamy/sandy white than the brown mortar of the mason’s lodge. Though further study is required, preliminary studies by Oxford Archaeology indicated that the “mason’s lodge” building was constructed in the Late Medieval Period possibly at the beginning of the 16th century, and was subsequently demolished in the 1520’s, presumably replaced by the ‘new mason’s lodge’ in the 1530’s.
- 7.19 A similar story may be attributed to buildings A and B, which also seem to have been relatively short-lived. Though it is impossible at this stage to know precisely when the buildings were constructed and subsequently demolished, it seems probable that their existence coincided with the relentless building works and expansion of Hampton Court during the Wolsey and Henrician periods. Simon Thurley believes that many of the yards, storehouses, and workshops required during this busy redevelopment period would have been sited on the West Front, though it is unclear where the evidence for this statement derives from. It is also suggested that these were subsequently cleared away during the later phases of Henry VIII’s building works, specifically in 1535-6. This was a period when the West Front was undergoing an overhaul. A new gate was erected where today’s Trophy Gate stands, a wall was constructed on the north side extending from the gate all the way to the palace creating a new forecourt known as ‘Outer Green Court’. A wing matching the northern kitchen gatehouse was constructed on the south side, which returned symmetry to the western elevation, whilst at the same time a great stone bridge was built across the moat. It is logical therefore to assume that any outbuildings were cleared to enhance the splendour of the main land entrance to Hampton Court within this newly formed forecourt. The outbuildings discovered during the Apartment 39 Railings Conservation Project may well have been part of this clean-up project.

#### **Phase III later Henrician period - 1530-1540’s**

- 7.20 Phase III corresponds to the demolition of Buildings A and B and the construction of the Henrician Great Wall; two events that probably occurred at a similar time around the mid/late 1530’s.
- 7.21 Much of the building rubble that resulted from the demolition of the buildings was used as levelling material, filling the remainder of the internal spaces. This dump of material was seen clearly as a

layer in section overlying all the in situ structures (1001) and as a dump deposit in Space 2 (1038). The material was dominated by Type A bricks, and roof tiles with very little variation or contamination from later deposits.

- 7.22 The Tudor boundary wall was exposed at the southern end of the north-south branch of the trench, parallel with the Barge Walk railings. The brick fabric was slightly different from that which was recorded in Buildings A and B, and was most akin to Brick Type C, which is a Henrician Stock Brick and is consistent with the brick type recorded in the Little Banqueting House garden wall further east, which was once part of the Henrician ‘Great Wall’<sup>8</sup>. The section of wall recorded during the present watching brief was heavily truncated by services installed in the 1980’s. It is not known precisely when the ‘Great Wall’ was constructed, though it appears to have been built during the later phases of Henry’s building works based on the brick type. Wyngaerde’s 1558 sketch of Hampton Court Palace and surrounds provides evidence for this wall, showing the buildings that also once stood along the banks of the Thames in line with the palace boundary (Fig.22).

#### **Phase IV – 18<sup>th</sup> century**

- 7.23 Phase IV corresponds to a period in the 18th century when the palace’s function was changing. No longer being used by the royal court, the palace was being used as a Grace and Favour residence by the 1760’s.
- 7.24 Phase IV was characterised by the presence of a line of sub-square pits (Feature Group 13) that systematically truncated Buildings A and B as well as the later demolition rubble. Although these pits did not contain any dateable material, it is likely that they are 18<sup>th</sup>/19<sup>th</sup> century in date. They were located on the footprint of the later 19<sup>th</sup> century railings surrounding the Apartment 39 Garden, and may be the scars left by a line of shrubs or small trees planted prior to the creation of a formal boundary around Apartment 39. The pits were too small, too close together and were on the wrong alignment to be associated with the line of ancient elm trees that were planted in the Tudor period. Furthermore, these trees were not felled until the 1930’s.
- 7.25 It is clear from pictorial sources that there has been some form of railing running westward from the main palace building up to the north-west turret of the Apartment 39 wing from at least the late 17<sup>th</sup> century/early 18<sup>th</sup> century. This can be confirmed and elaborated upon by looking at the foundation supporting the railing plinths. The brick footings exposed during this project were clearly composed of two separate units, the earliest phase (Wall 16), runs eastwards towards the moat wall from the gate adjacent to the north-west turret. This narrow portion of wall was composed of distinctive rose/plum coloured bricks, which were found to be most akin to Brick Type I or J suggesting that the footing was constructed in the late 17<sup>th</sup> to early 18<sup>th</sup> century. The appearance of these bricks was similar to those recorded on the Little Banqueting House and the Sutlery component of the Barrack Block, both of which were built at the very beginning of the 18<sup>th</sup> century. It is clear from pictorial evidence that once the moat was infilled by the end of the 17<sup>th</sup> century, a boundary around Apartment 39 was created. However, rather than being a simple fence as would seem to be suggested by John Spyers’ 18<sup>th</sup> century views of the West Front (Fig.24, 25), it had a brick foundation indicating a more substantial structure probably much like the current configuration. In fact, a railing and dwarf wall are clearly illustrated in a sketch of the West Front from c.1800, showing a boundary extending from the west front of the palace up to the north-west turret of Apartment 39 (Fig.26). A further set of railings is visible immediately in front of the western façade of the apartment behind which is an arrangement of shrubs, creating some privacy and a small garden area for the Grace and Favour occupants of the apartment. The configuration of these railings appears to have remained roughly the same until a larger, more formal garden was laid out in the early 19<sup>th</sup> century.
- 7.26 At the far southern end of the main excavated trench, a collection of broken household materials was uncovered on the last day of excavation in close proximity to the Barge Walk Railings. It

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8 Tuberville, A, 2011. Hampton Court Palace Banqueting House Wall. Oxford Archaeology. Unpublished report (P.6)



contained a cohesive assemblage of pottery sherds, glass, clay pipe and animal bone. The pottery sherds were closely dated to between c.1720-1750 and included fragments of three cylindrical tankards, two English tin-glaze vessels, a fineware Chinese-style porcelain dish fragment, and the rim from a small white glazed-ointment pot, part of pipkin and various jug and bowl fragments. The clay pipe fragments uncovered were also closely dated to between c.1700 and 1730. Almost all the pipe bowls that were uncovered were identical in shape some of which had makers marks stamped on the heels, though these were not matched with any known clay pipe makers of the local area. The deposit also produced seven sherds of vessel glass, and five sherds of window glass, much of which was dateable to the 18<sup>th</sup> century. Although no cut feature was recorded, it is likely that this mid-18<sup>th</sup> century domestic refuse was discarded in a pit, and originated from a nearby area possibly the Trophy Gate Buildings, Toy Inn or perhaps even Apartment 39 itself.

### **Phase V – 19<sup>th</sup> century**

- 7.27 In the first half of the 19<sup>th</sup> century, a small enclosed garden was created all the way around Apartment 39; a sketch by Rawlinson in 1820 shows that by this time the railings appear to have extended around the turret on the north-west corner of Apartment 39 (Fig.28). A later sketch from September 1826 illustrates a similar configuration when Housekeeper, Lady Emily Montagu, was resident (Fig.29). This 19<sup>th</sup> century reconfiguration was again confirmed by the archaeology exposed during this project. A later segment of railing foundation (Wall 15) abutted the earlier 18<sup>th</sup> century footings (Wall 16), extending 7.5m westwards from the north-west turret of Apartment 39. This section of brickwork was wider than the earlier Wall 16, and was composed of a visibly different and later brick type. Furthermore, the phase II foundation abutted the phase I brickwork at the point where the original railings appeared to make a right angle to adjoin the north-west turret of Apartment 39. The railings were then extended 7.5m westwards before making a southwards turn towards Barge Walk. However, the north-south extent of the early 19<sup>th</sup> century railing foundation was later truncated, probably as a result of being dismantled when the garden was further extended around 60 years later.
- 7.28 In 1881, when HRH Princess Frederica of Hanover and Baron von Pawel Rammingen were residents in Apartment 39, the garden was further extended towards the west as part of the redevelopment of the stable block to the south of the apartment. Rather than creating a continuation of the classic low plinth and rail design, a simpler design was erected, comprising of a cross rail supporting a line of pickets, with double-pronged uprights driven into the ground at regular intervals. This heavily degraded section of railings was removed during the conservation project.
- 7.29 The Barge Walk railings were also established at a similar time, though slightly earlier in 1879. These were erected as part of the redevelopment of the West Front after the demolition of the Trophy Gate Buildings. The dwarf wall apparently having fallen out of fashion, the Barge Walk boundary consists of wrought iron railings set in concrete blocks. At the far southern end of the north-south branch of the excavated trench, one of these concrete blocks sat immediately above a buried brick structure (1059), possible associated with an earlier 19<sup>th</sup> century configuration of the Barge Walk boundary.

### ***The Plinth stones***

- 7.30 As part of the watching brief, the stone plinths supporting the railings were recorded. This enabled the identification of three main plinth types, and a fourth type grouping together the rectangular blocks used as backstay supports. Plinth Type I was found above the Phase II brickwork (Wall 15), presumably the original plinth stones installed in the early 19<sup>th</sup> century. Plinth Type III was located above the section of exposed 18<sup>th</sup> century brick footings. Both Type I and III were Portland stone. Plinth Type II were all studied in situ and located at the eastern end of the historic railings, apart from one isolated plinth (20) located at the western end. These plinth stones were a mix of Portland stone and Derbyshire Fossil Limestone. According to Kevin Hayward, Portland Whit Bed stone was easily accessible in the 18<sup>th</sup> century, and was used to support the original 18<sup>th</sup> century railings. Conversely, Derbyshire Fossil Limestone was essentially only quarried from around the middle of

the 19<sup>th</sup> century. With this in mind, it would seem that repairs were made in the mid-late 19<sup>th</sup> century, replacing weathered and damaged Portland stones with Derbyshire Fossil Limestone, possibly at the same time as the configuration of the railings was being altered for the third time.

## **8 Conclusion**

- 8.1 When unexpected archaeological remains are uncovered during a watching brief at Hampton Court Palace, it is often difficult to interpret their precise function and date, mostly due to the confined nature of the investigation. However, in this exceptional case, small targeted excavation areas were opened up providing the opportunity to gain a better depth of understanding. Luckily, the stratigraphy, ecofactual and artefactual data were rich and consistent with one another, providing a glimpse into the existence of previously unidentified buildings located on the West Front of Hampton Court Palace.
- 8.2 The early Tudor buildings discovered during this project were confirmed to be c. late 15<sup>th</sup> – early 16<sup>th</sup> century and constructed either during Daubeney's tenure (1495-1514) or during Cardinal Wolsey's tenure of Hampton Court Palace (1514-1529). Whilst the orientation did not match any of the extant buildings, their alignment was similar to that of the late 15<sup>th</sup> century 'mason's lodge' uncovered during excavations in Base Court in 2009. Similarities in the construction material, date and orientation of this building may indicate both a similar date and industrial function for Buildings A and B. Their position, close to both the riverside and the ever-growing palace, would have made an ideal place to receive, craft, store and dispose of a variety of building materials. Evidence provided by the internal occupation deposits certainly point towards a utilitarian function. Yet the dominating buttress-type feature associated with Building B suggests that it was much more than a simple workshop or warehouse.
- 8.3 The investigation work also made it possible to refine our understanding of the development of the garden and enclosed area surrounding Apartment 39. An alignment of sub-circular pits roughly along the line of the later railings, truncated the Tudor buildings and the demolition rubble overlying them. They may be a series a tree pits or garden features that were subsequently removed when the railings were erected. There was no dating material associated with these features, but they probably date to c.18<sup>th</sup> – 19<sup>th</sup> century.
- 8.4 Studying the plinth stones and revealing the brick footings beneath them, confirmed that the earliest railings were erected at the beginning of the 18<sup>th</sup> century with three major modifications and repairs over a period of over 150 years until 1881.

## **9 Recommendations**

- 9.1 Whilst the function of these buildings remains uncertain, the newfound knowledge of their existence means that any future work in the area would provide further opportunities to study these features. Opening up a larger excavation area northwards, eastwards and westwards would certainly be helpful in furthering our understanding regarding the purpose and layout of these buildings. However, a much less invasive approach to furthering our understanding could be to undertake a geo-physical survey of the area, such as Ground Penetrating Radar survey.
- 9.2 Further exploration of the Works Accounts may also provide some additional insight, particularly looking at the purchase and type of timbers during the early 16th century, and their uses in the palace. It would also be interesting to compare accounts of other known workshop type buildings at Hampton Court Palace, such as the 'new mason's lodge'. Alongside this, further detailed analysis of the flots obtained from the environmental samples may provide additional information.
- 9.3 A large quantity of clay pipes, glass and pottery closely dated to the first half of the 18th century was discovered. This material, in particular, the clay pipes, should be studied in conjunction with other objects of a similar date found during excavations at Hampton Court Palace. Six makers'

stamps or marks were recorded on the clay pipes from this assemblage but none could be positively linked to known London or Surrey makers of the period. Further research may help to identify these makers, and comparisons could be made with other clay pipes in Hampton Court Palace's collection.

## 10 Archive, Artefacts, and Ecofacts

- 10.1 The paper archive consists of the site documentation including: context register and sheets (1000-1098), group register (1-16), Drawing register (1-32), 16 scale plans, 18 sections, 5 scale profiles, photograph register, finds and environmental registers, various site notes. Other documentation include various research materials, finds reports.
- 10.2 The digital Archive includes scanned copies of all site documentation, digitised versions of the main site plan, report figures including digitised versions of all wall elevations, digital photographs (294 Jpegs/Tiffs), photograph inventory with a brief description of each photograph, specialist reports, site report, research material including paintings, photographs and unpublished documentation, stratigraphic matrix, administrative documents, email correspondence, plinth stone inventory.
- 10.3 A substantial number of finds were uncovered during the project. Contexts where artefactual material was uncovered are listed below. Detailed specialist reports can be found in Section 7, corresponding tables containing further descriptions and details of artefactual and ecofactual material can be found in the digital archive.

Context	Material	Object
1039	Stone	Architectural element
1007	Brick sample	Sample of brick from elevation
1015	Brick sample	Sample of brick from elevation
1009	CBM	Flemish-style glazed floor tiles, brick
1009	Fe	Nails
1009	Shell	
1009	Animal bone	various
1038	Pot	Fragments
1044	Pot	Fragments
1038	Fe	Nails
1046	Fe	Nails
1018	Animal bone	various
1030	Clay Pipe	
1052	Fe	Nails
1000	Fe	Nails and gate fixture
1031	Pot	Fragments
1048	Fe	Nails/various
1000	Clay Pipe	
1009	Pot	
1036	Clay Pipe	
1046	Animal bone	Various
1018	Pot	Fragments
1038	CBM	Glazed floor tiles and brick
1000	Glass	Bottle fragments
1011	Fe	Nails
1069	CBM	Roof tiles
1018	Cu	Fish hook?/other
1006	Brick sample	Sample of brick from elevation
1018	CBM	Brick, tile
1041	Tile sample	Sample of tiles from elevation
1037	Clay Pipe	
1037	Animal bone	various
1013	CBM	Tiles
1030	CBM	Brick/tile

1000	Shell	Oyster shell
1021	Fe and Cu	
1000	Pot	China fragments
1000	Animal bone	various
1001	CBM	Tiles/brick
1002	Brick sample	Sample of brick from elevation
1072	Brick sample	Sample of brick from elevation
1011	CBM	Brick/tile
1011	Animal bone	various
1000	CBM	Brick, tile
1038	Stone	Architectural elements
1040	CBM	Brick/tile
1014	CBM	Brick/tile
1005	CBM	Brick/tile
1082	Brick sample	Sample of brick from foundation
1087	Glass	Bottle, jar fragments
1087	Pottery	Fragments various
1087	Clay pipe	Stems and bowl
1087	Fe	
1087	Animal bone	various
1087	Oyster shell	Shells
1000	Architectural stone	
1018	Animal bone and metal	

10.4 Environmental samples are listed below:

Sample No	Description	Context No	No. of Bags
1	Charcoal sample	1010	4
2	Ashy/charcoal deposit	1052	3
3	Ashy Charcoal deposit	1048	1
4	Mortar sample	1041	1
5	Mortar sample	1002	1
6	Mortar sample	1006	1
7	Mortar sample	1015	1
8	Mortar and plaster sample	1012	1
9	Mortar render sample	1064	1
10	Ashy charcoal deposit	1009	1

10.5 The physical, digital and paper archives will be deposited according to the HRP *Deposition of Archaeological Excavation Archives Guidelines 2015*.

# 11 Illustrations

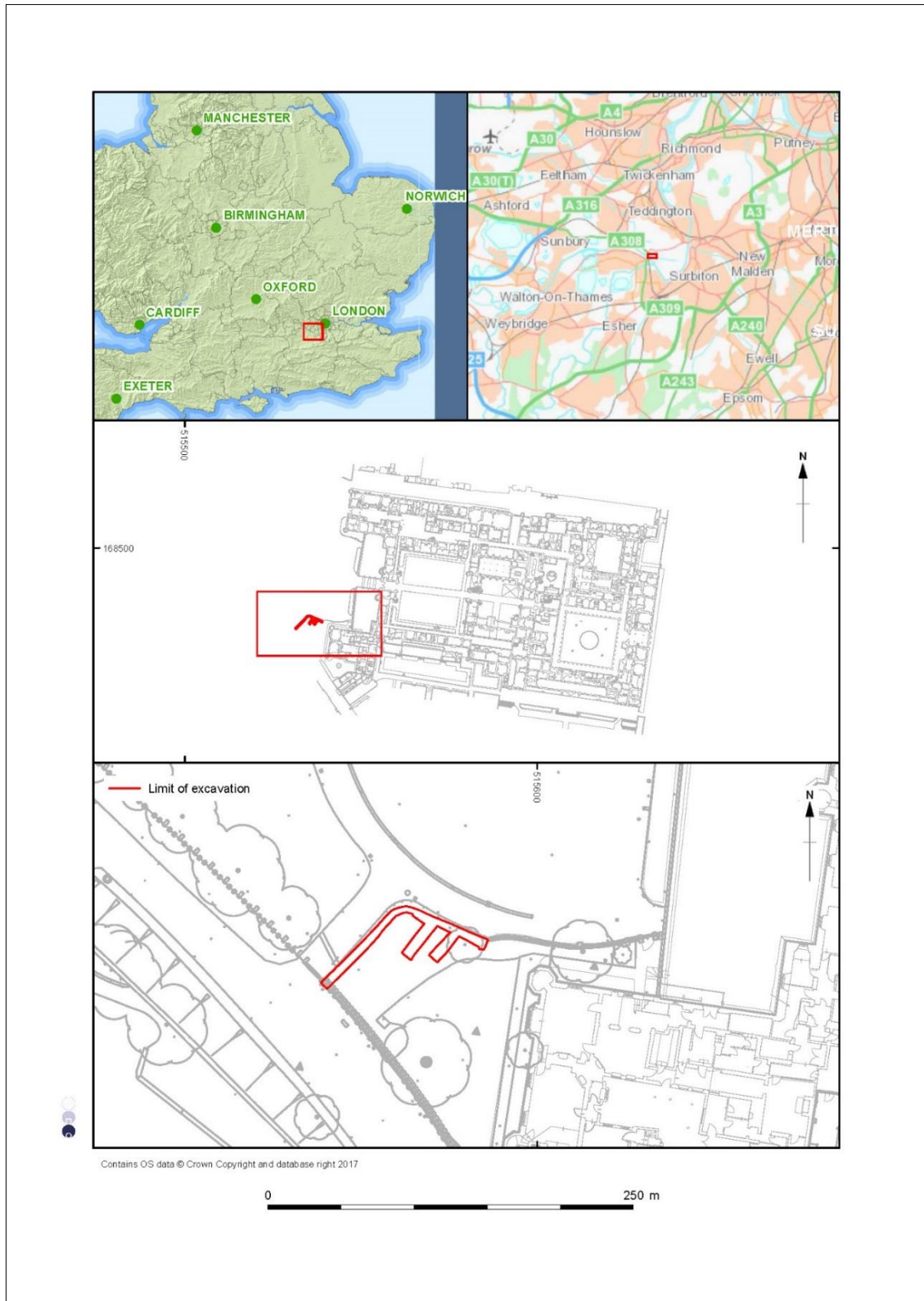


Figure 1: Site location. (Illustration by Oxford Archaeology)

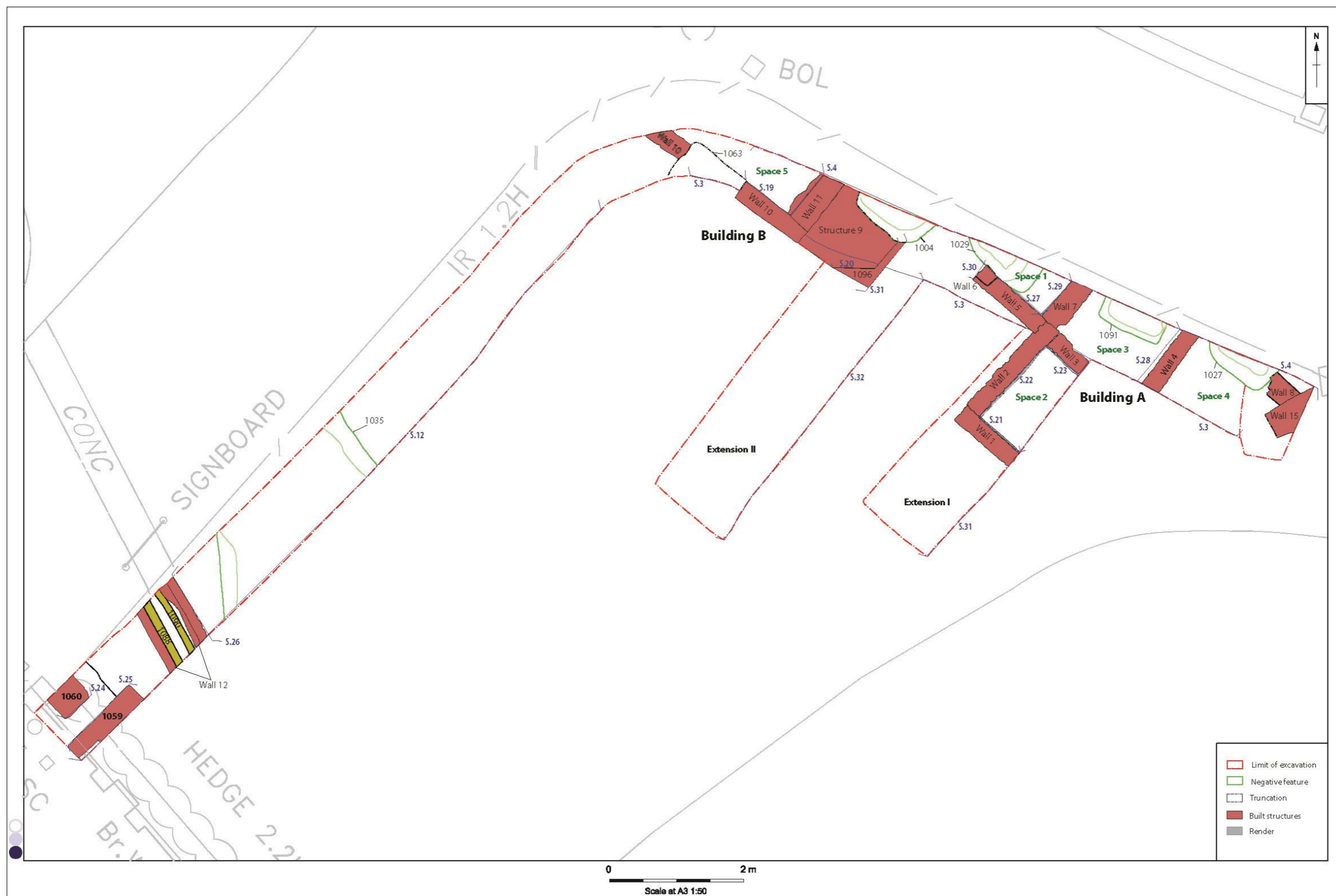
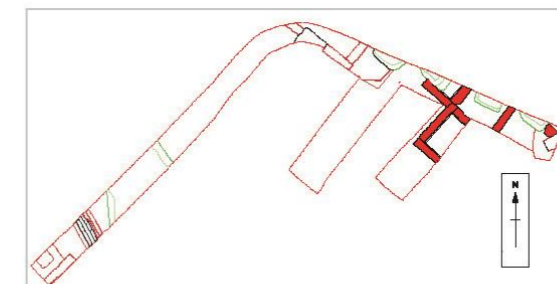
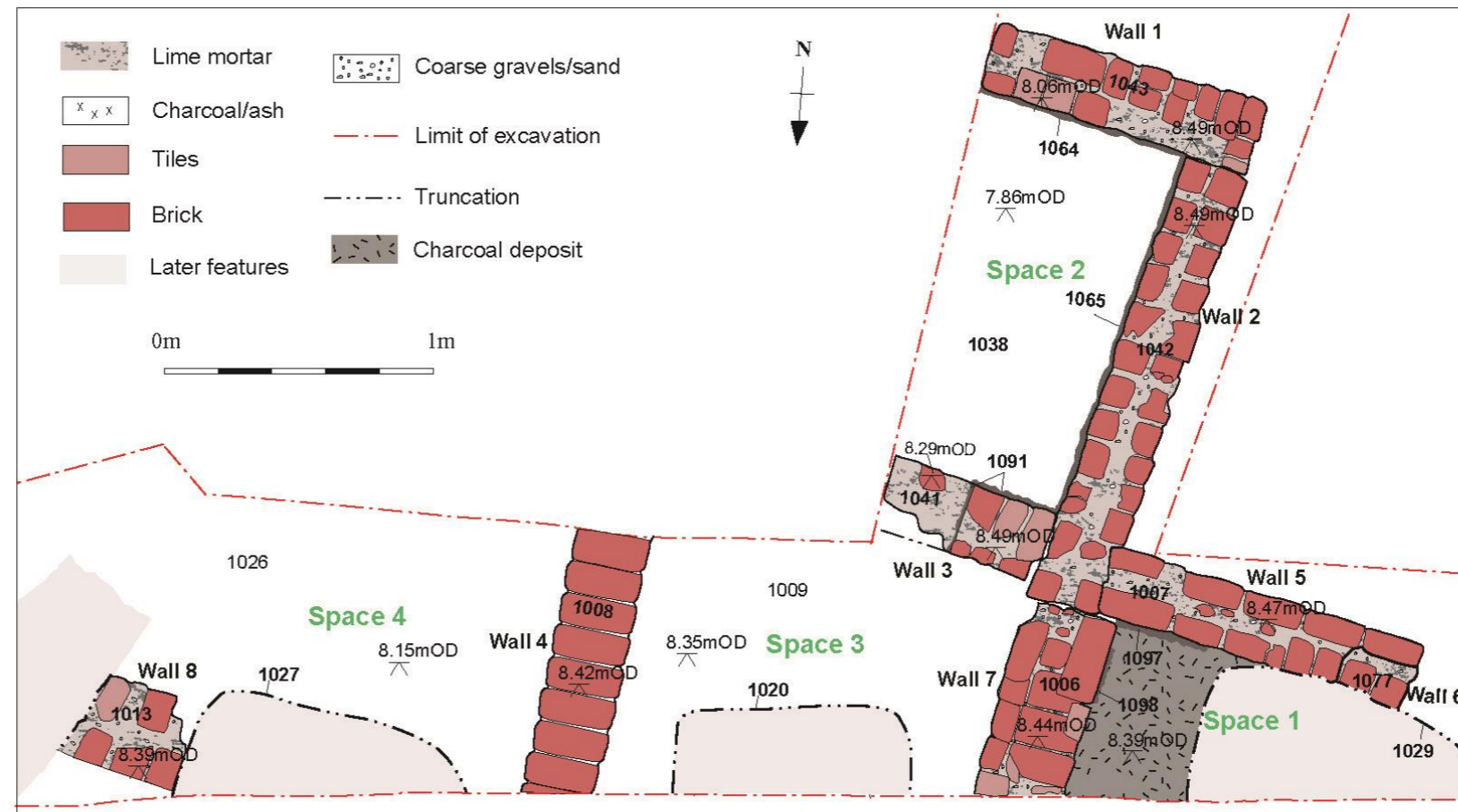


Figure 2: Plan of excavated area showing main archaeological features. (Illustration by Oxford Archaeology, edited by A. Stevenson)

**Building A**



**Figure 3:** Building A. Top: Space 1 excavated to base of wall. Bottom left: Looking south, Space 3 and 1 and basement Space 2. Bottom right: intersection between Walls 2, 3, 5, and 7. (Illustration by A.Stevenson)



### Space 1

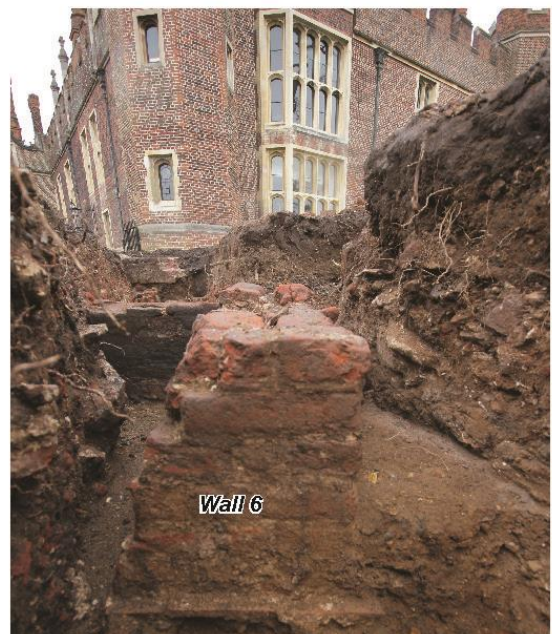
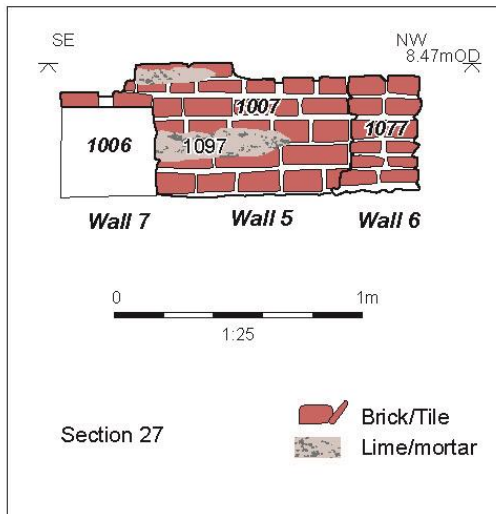


Figure 4: Bottom left - tiles (1093) at the base of Wall elevations (1007) and (1077). (Illustration by C.Rousseaux, edited by A.Stevenson).

Space 2

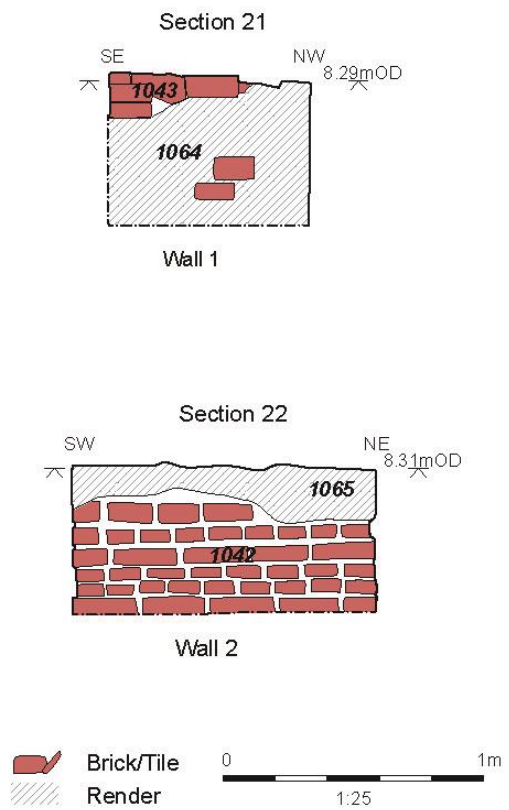
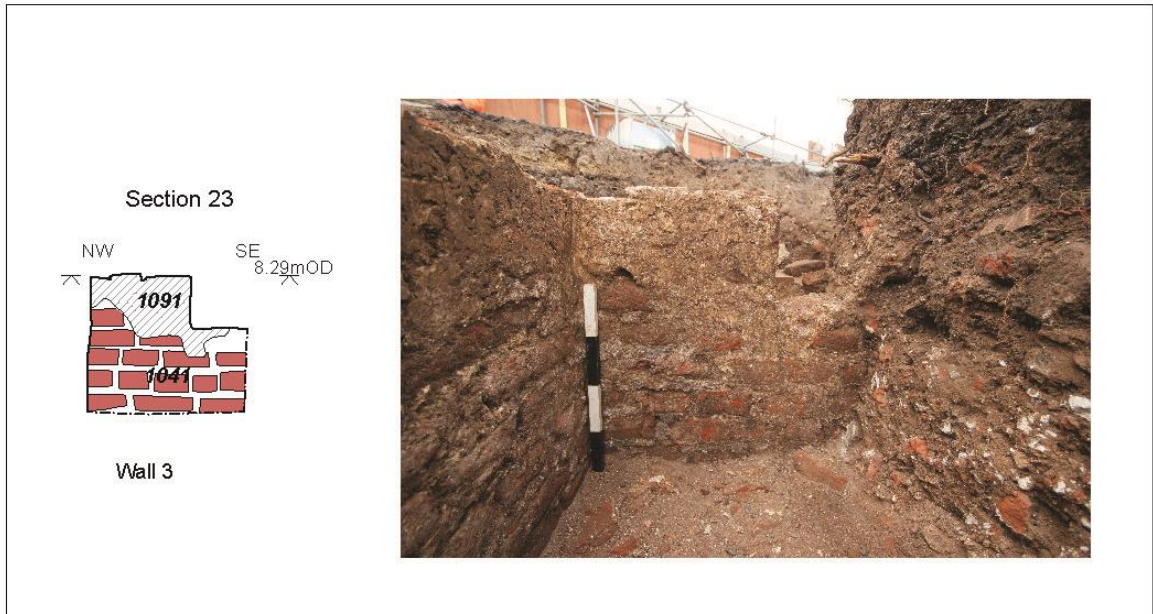
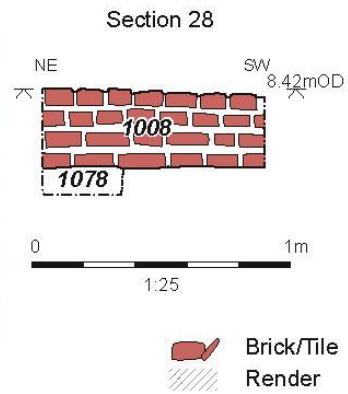


Figure 5: Top: view of opening in Wall 3. Bottom: looking north towards Space 2 (Illustrations by C. Rousseaux).

Space 3

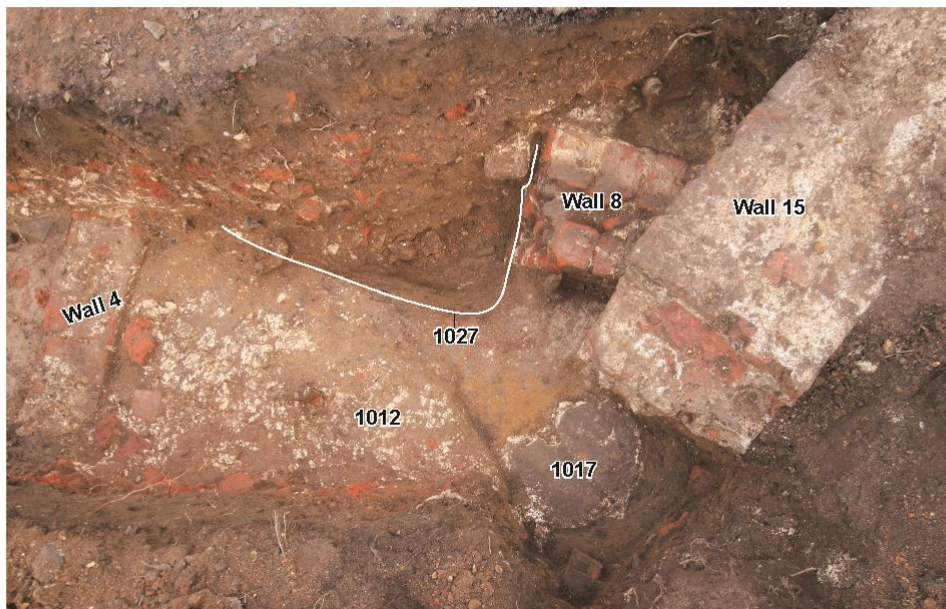


Wall 4

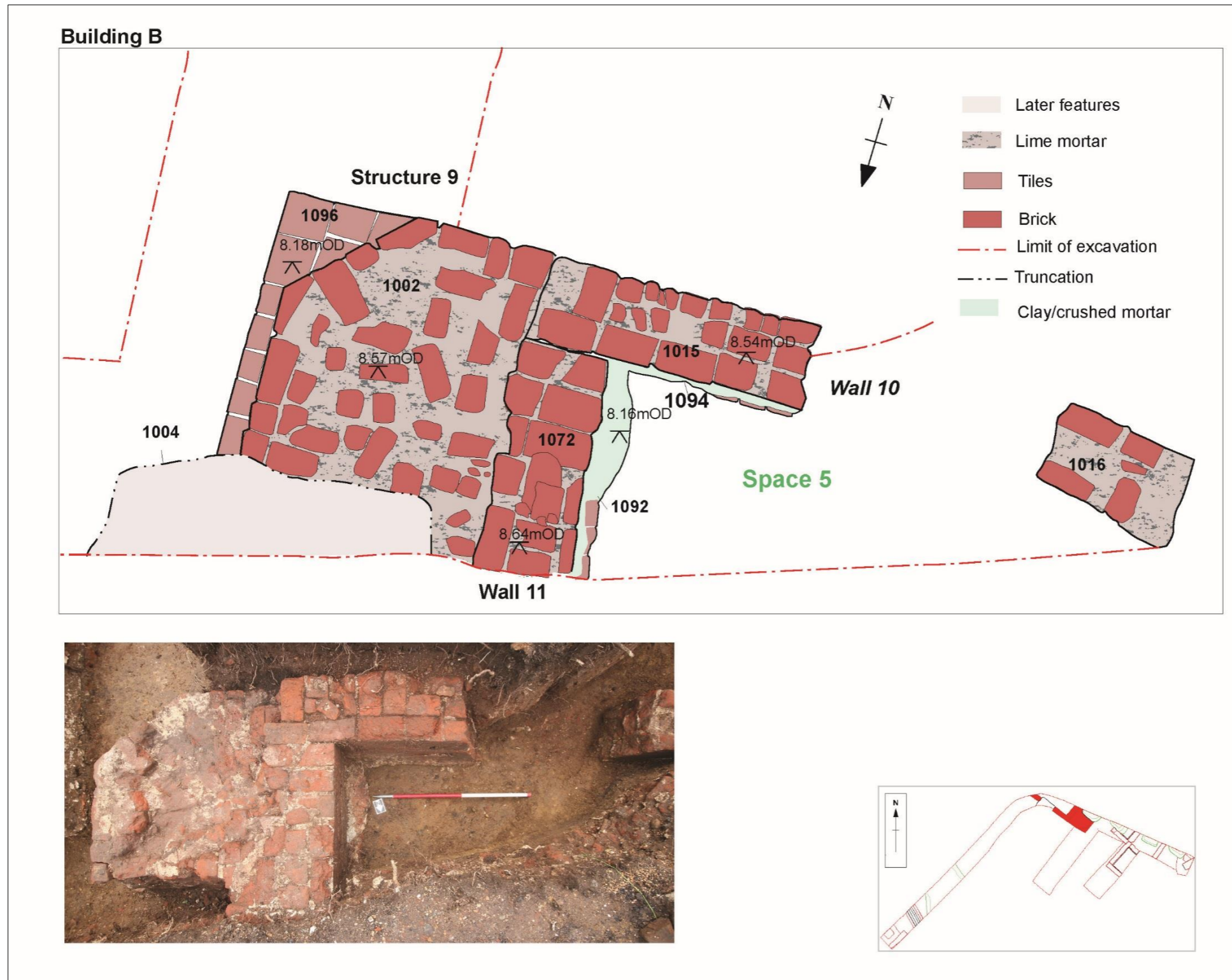


**Figure 6:** Top right: Space 3 and deposit 1009 with Flemish-style glazed tiles. Top right: Wall 4 partially overlain by deposit 1009. (Illustration by C. Rousseaux).

Space 4



**Figure 7:** Top: Wall 8 overlain by Wall 15, and truncated by pit 1027. Bottom: overhead shot of Space 4, collapsed plaster layer 1012



**Figure 8:** Space 5 in Building B with Structure 9 against Wall 11. (Illustration by A. Stevenson).



Walls 10 and 11, and Structure 9 as seen in plan from the south



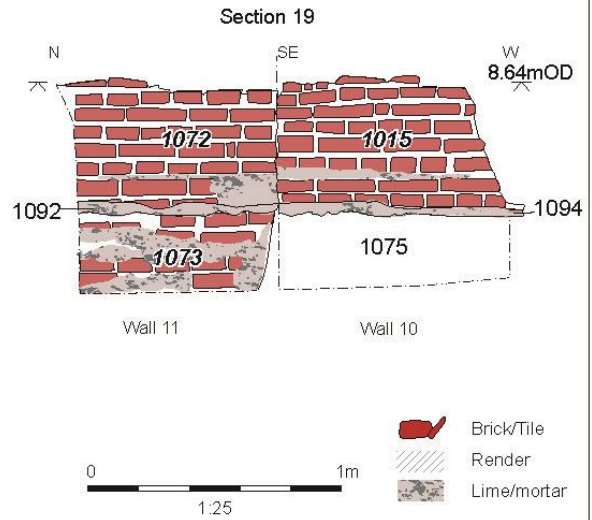
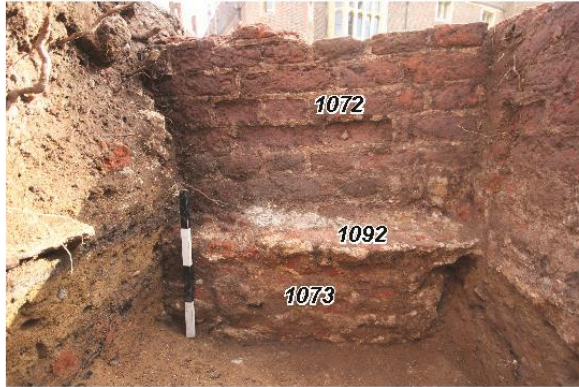
North-facing elevation of Wall 10, segment 1015



North-facing elevation of Wall 10, segment 1016

**Figure 9:** Wall 10, Building B.

West-facing elevation of Wall 11



Wall 11 as seen in plan from the north

Figure 10: Wall 11, Building A. (Illustration by C. Rousseaux, edited by A.Stevenson).

Structure 9

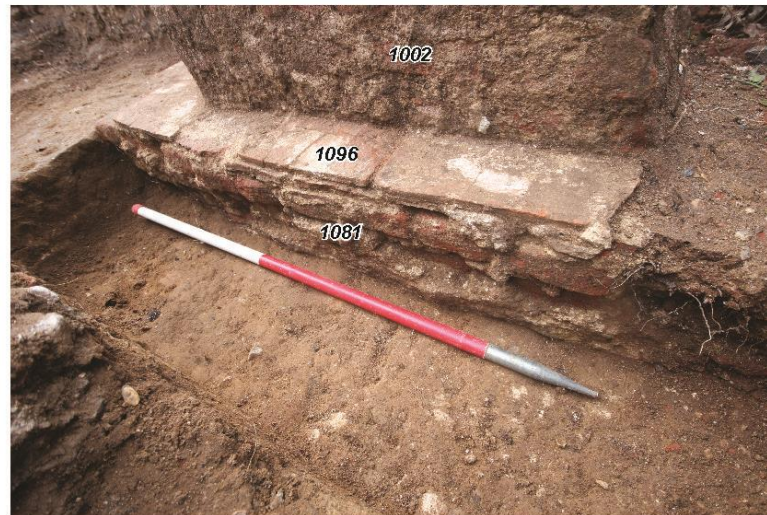
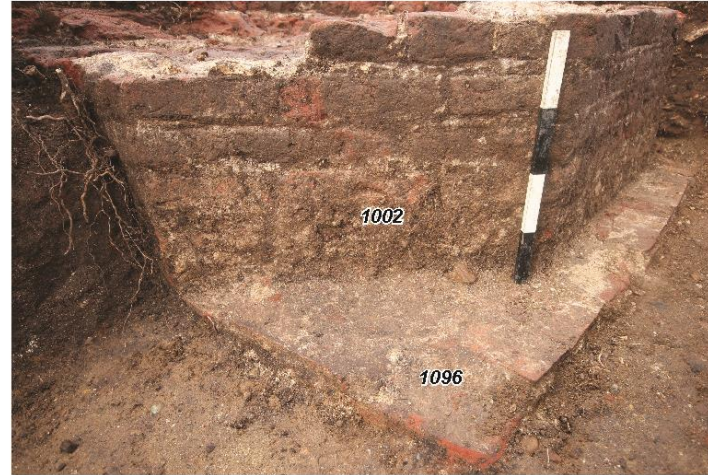
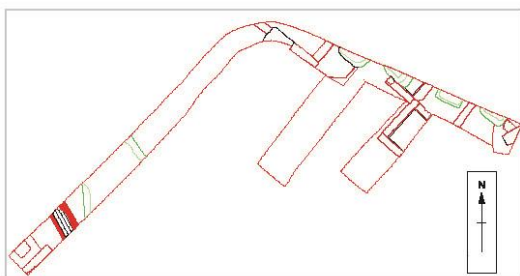
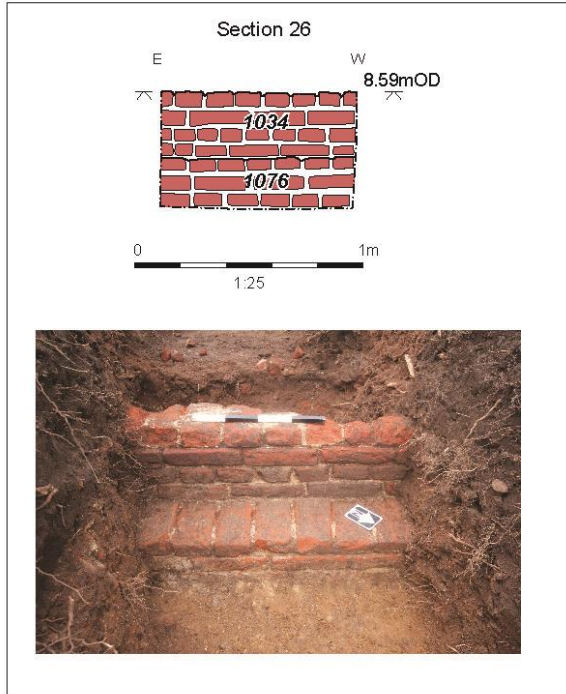
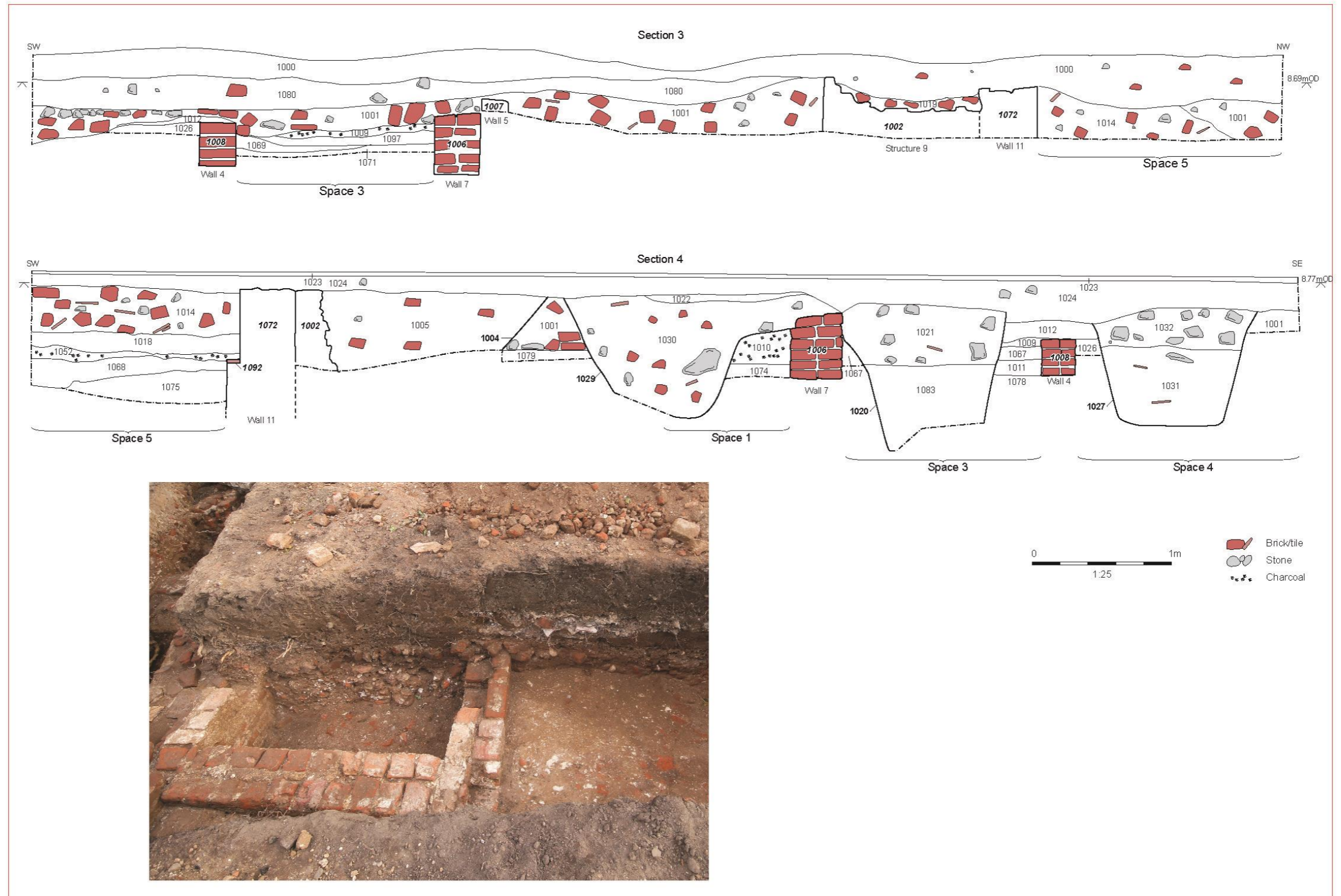


Figure 11: Top left: looking west towards Structure 9. Top right: south-east face of Structure 9. Bottom: foundations beneath Structure 9





**Figure 12:** Henrician Great Wall, Wall 12. Top: north-facing elevation. Bottom: south facing elevation truncated by 20th century service. (Illustration by C. Rousseaux).



**Figure 13:** North and south facing sections of the east-west branch of trench and shot of Space 2 from the west, looking at the demolition dump in section. (Illustration by C. Rousseaux, edited by A.Stevenson).



**Figure 14:** Tree pits (Group 13), cutting through the demolition rubble and Tudor archaeology.



**Figure 15:** Looking south towards the Barge Walk railings and Structures 1058, 1059, and 1060.



**Figure 16:** Left: Wall 16 and Wall 15 in the background. Right: Wall 15 overlying Tudor Wall 8 (images from HCP 144).

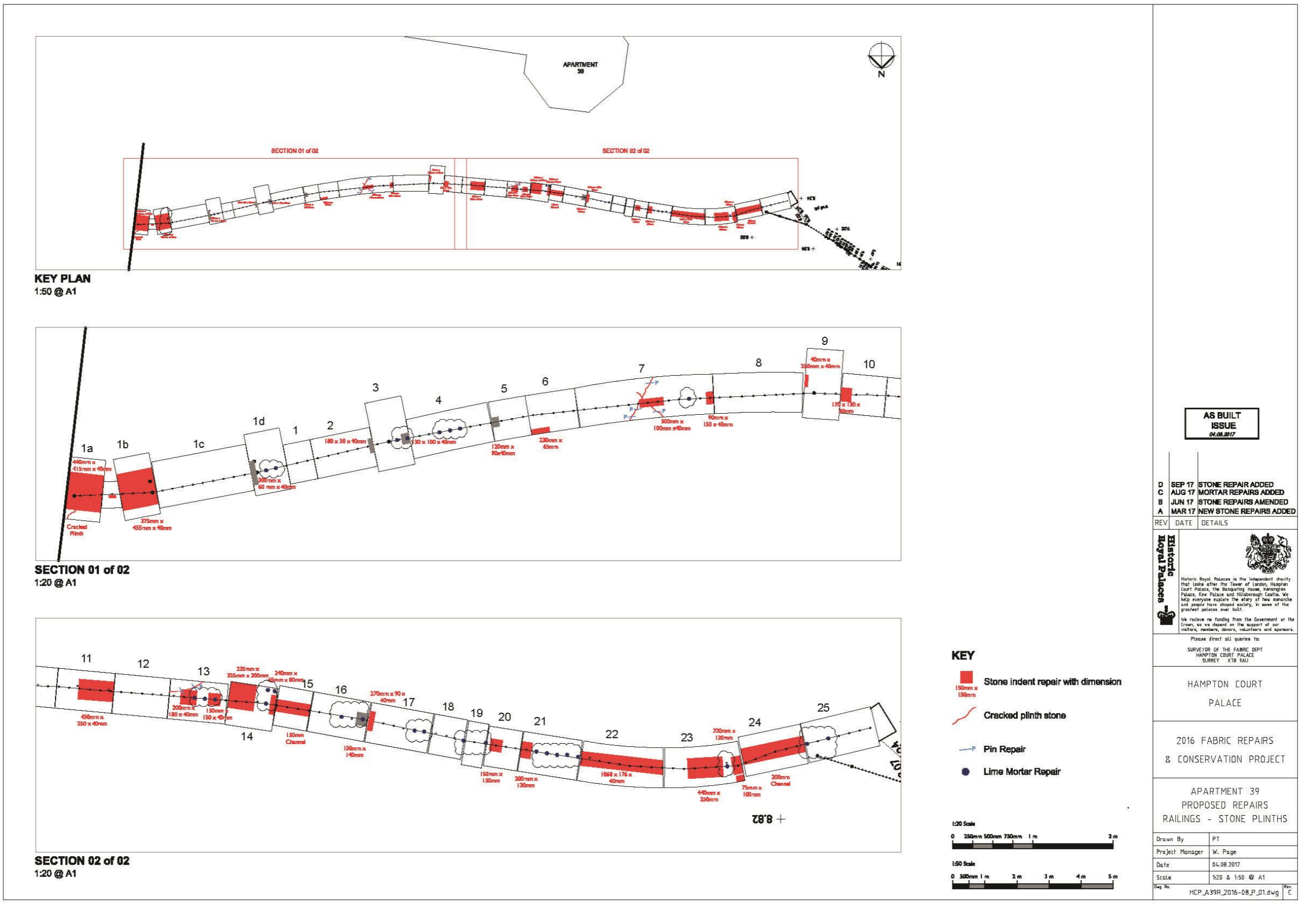
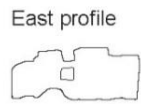
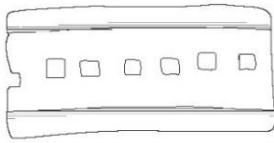


Figure 17: Location plan of the plinth stones

**Type I plinth stones  
(Portland stone)**

Plinth 25



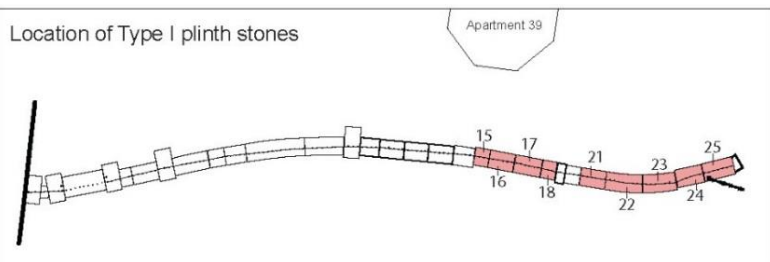
Plinth 22



Plinth 18

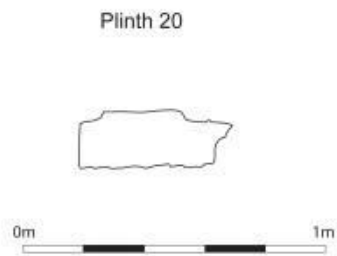


Plinth 21, west profile

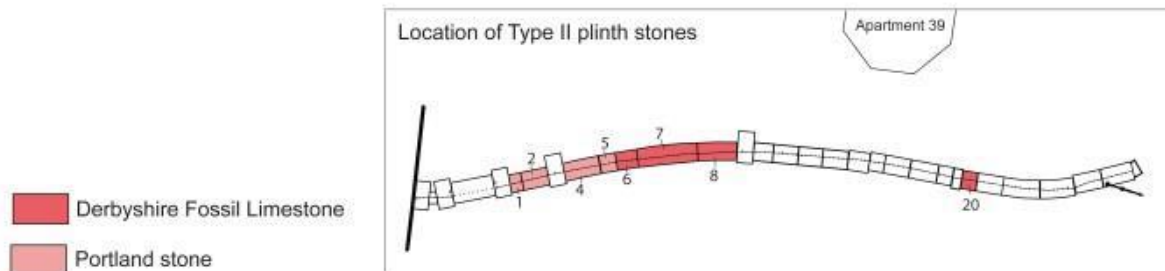


**Figure 18:** Type I plinth stone location and profile

**Type II plinth stones**  
(Derbyshire fossil limestone and Portland stone)



Plinths 6, 7, and 8 in situ

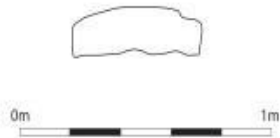


**Figure 19:** Type II plinth type location and profile, and stone type



Type III plinth stones  
Portland stone

Plinth 12



Type III plinth stones in situ, before conservation

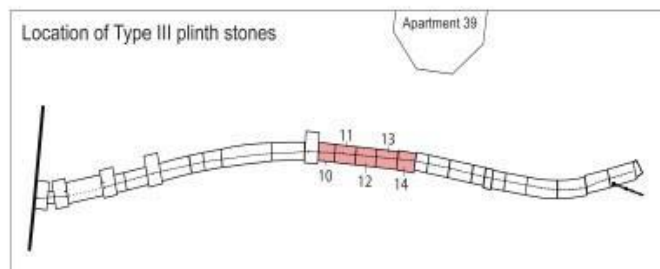


Figure 20: Type III plinth stone profile and location

Type IV plinth stones  
Portland stone

Plinth 19



Plinth 3

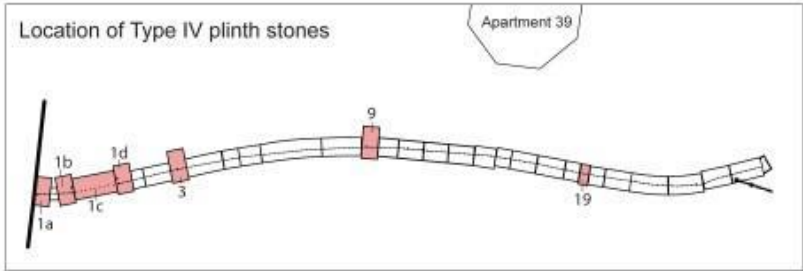
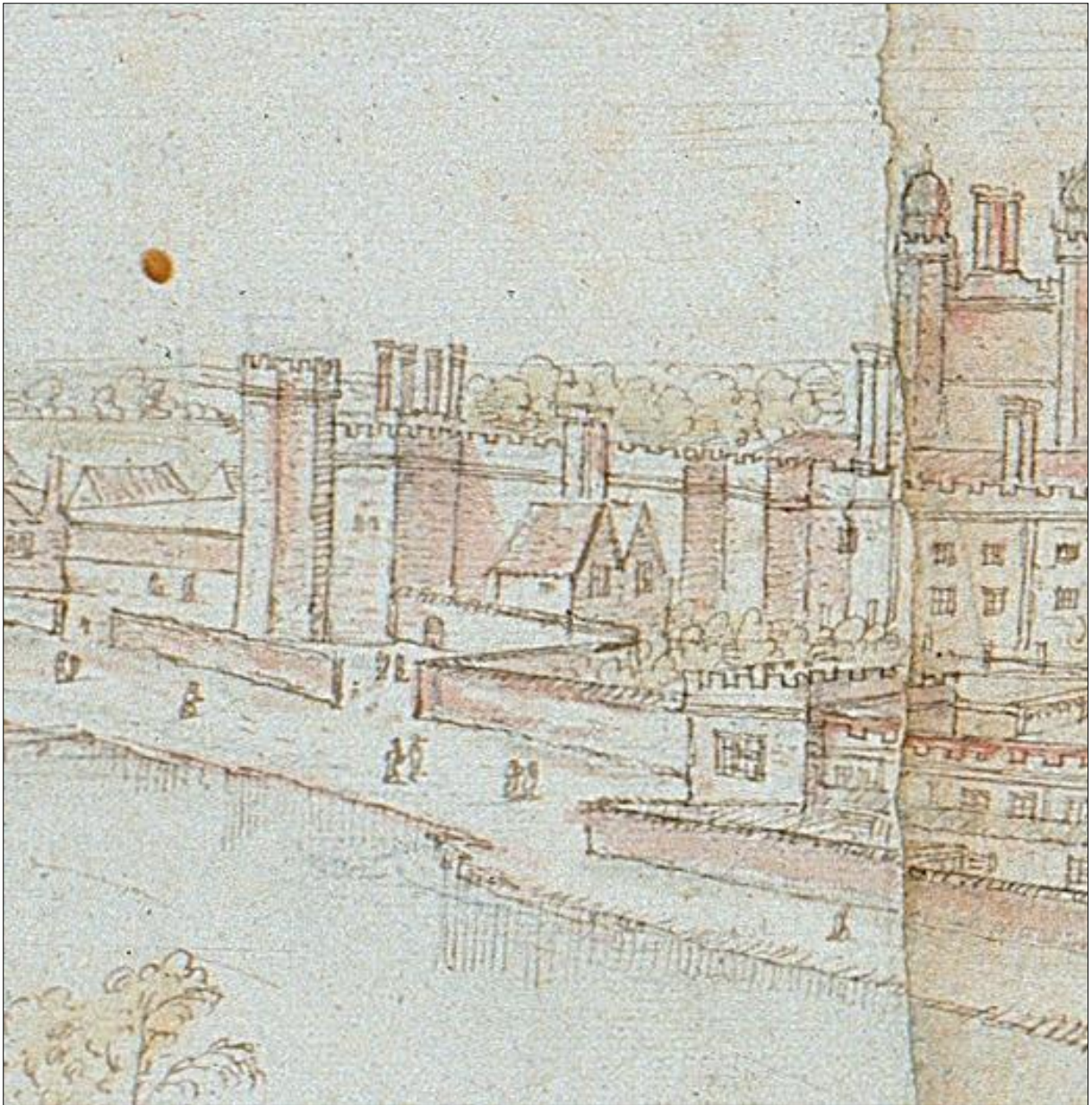


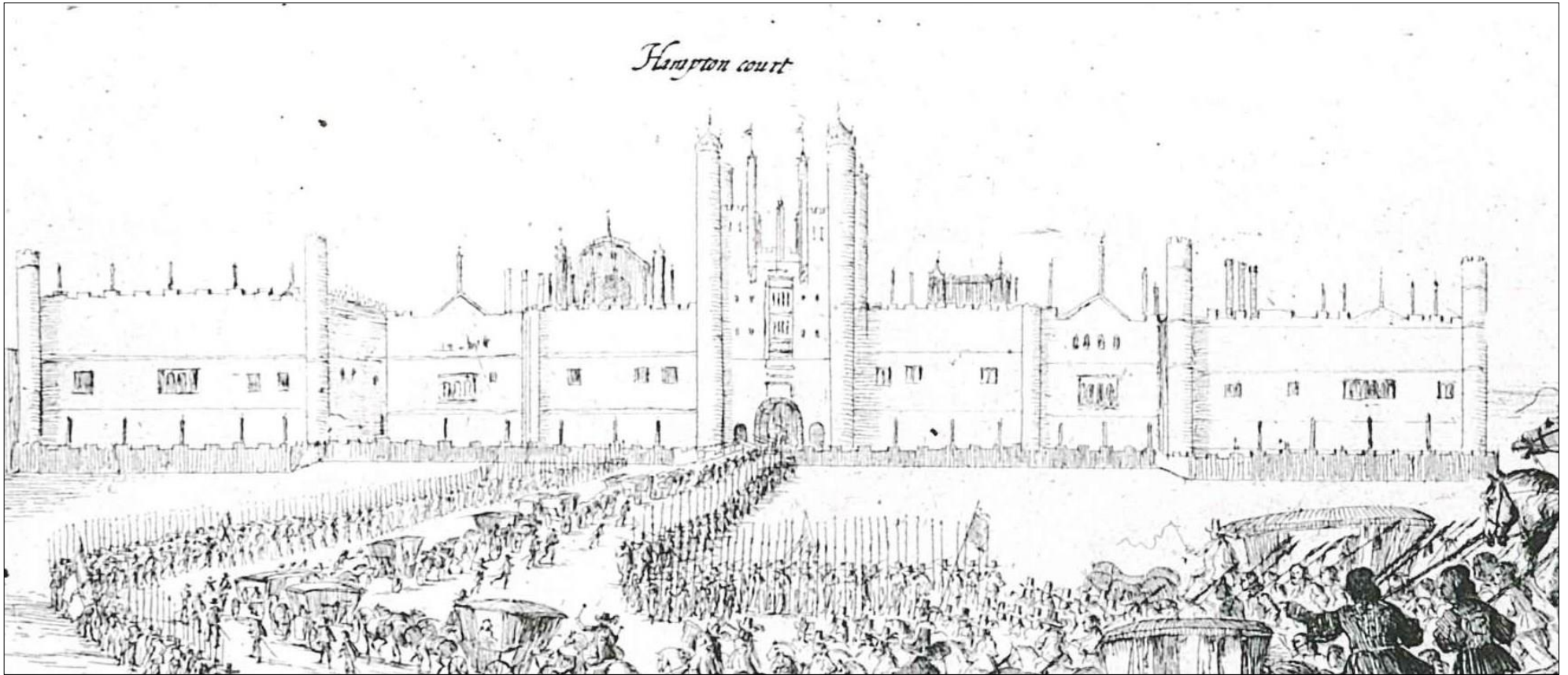
Figure 21: Type IV plinth stone location and form



**Figure 22:** Plan illustrating the alignment of some of the different phases of building at Hampton Court



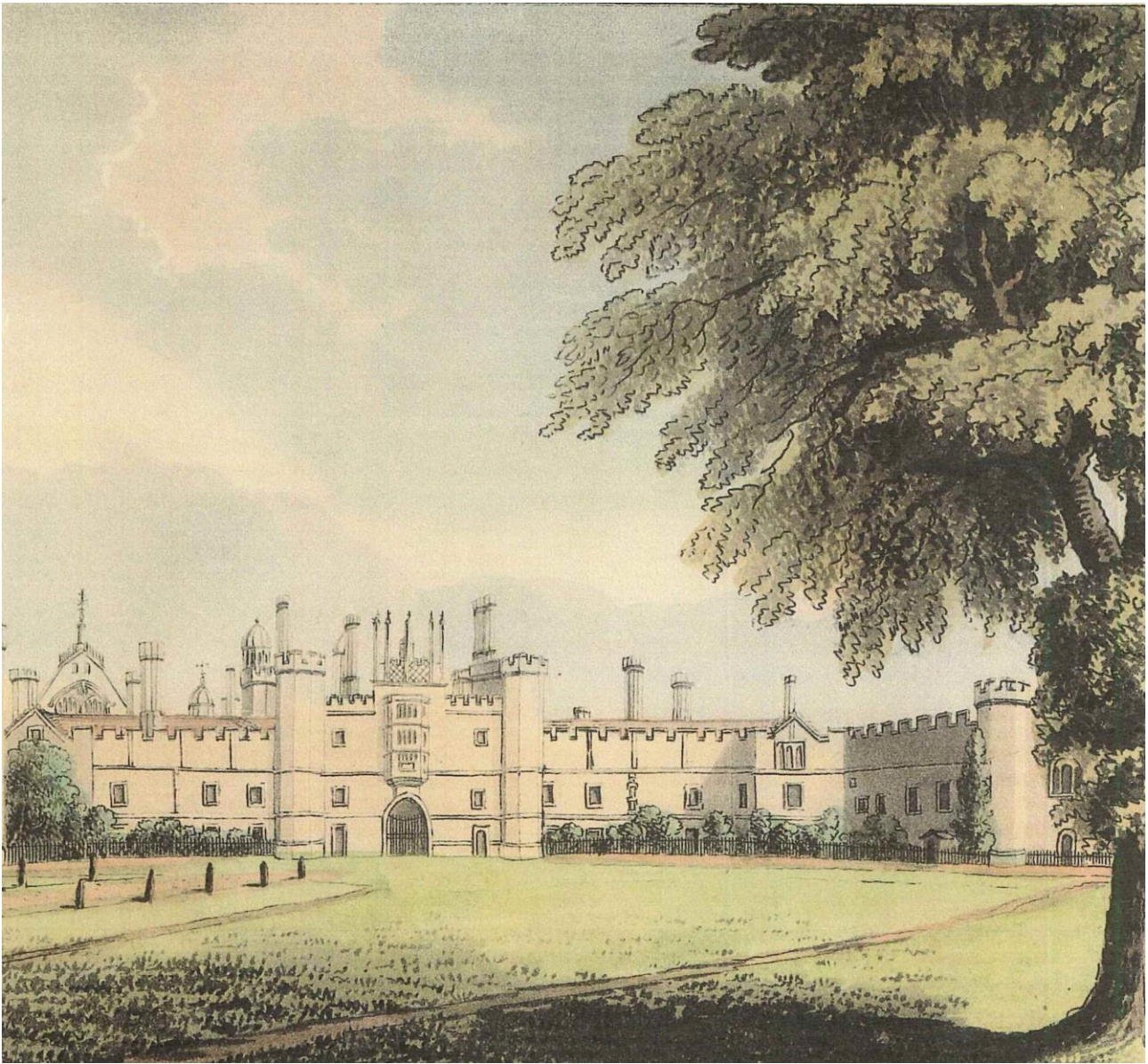
**Figure 23:** Extract from Wyngaerde's view of Hampton court Palace from the south, showing the West Front as walled space or courtyard, c.1558. © Ashmolean Museum.



**Figure 24:** 1662, Dirk Stoop sketch showing the arrival of Charles II and Catherine of Braganza. A crenelated wall can be seen in front of the palace



**Figure 25:** John Spyers view of the West Front looking towards the Trophy Gate Buildings, c.1750. © Orleans House Gallery



**Figure 26:** John Spyers sketch of the West Front c.1786. © Historic Royal Palaces



**Figure 27:** Sketch of Hampton Court Palace from the west, showing a dwarf wall with railings around Apartment 39, c.1800. © Historic Royal Palaces





**Figure 28:** The West Front viewed from the south, showing the railings extending around the north-west turret of Apartment 39, Rowlandson, 1820. ©V&A.



**Figure 29:** View of Apartment 39 in 1826. ©Orleans House Gallery.

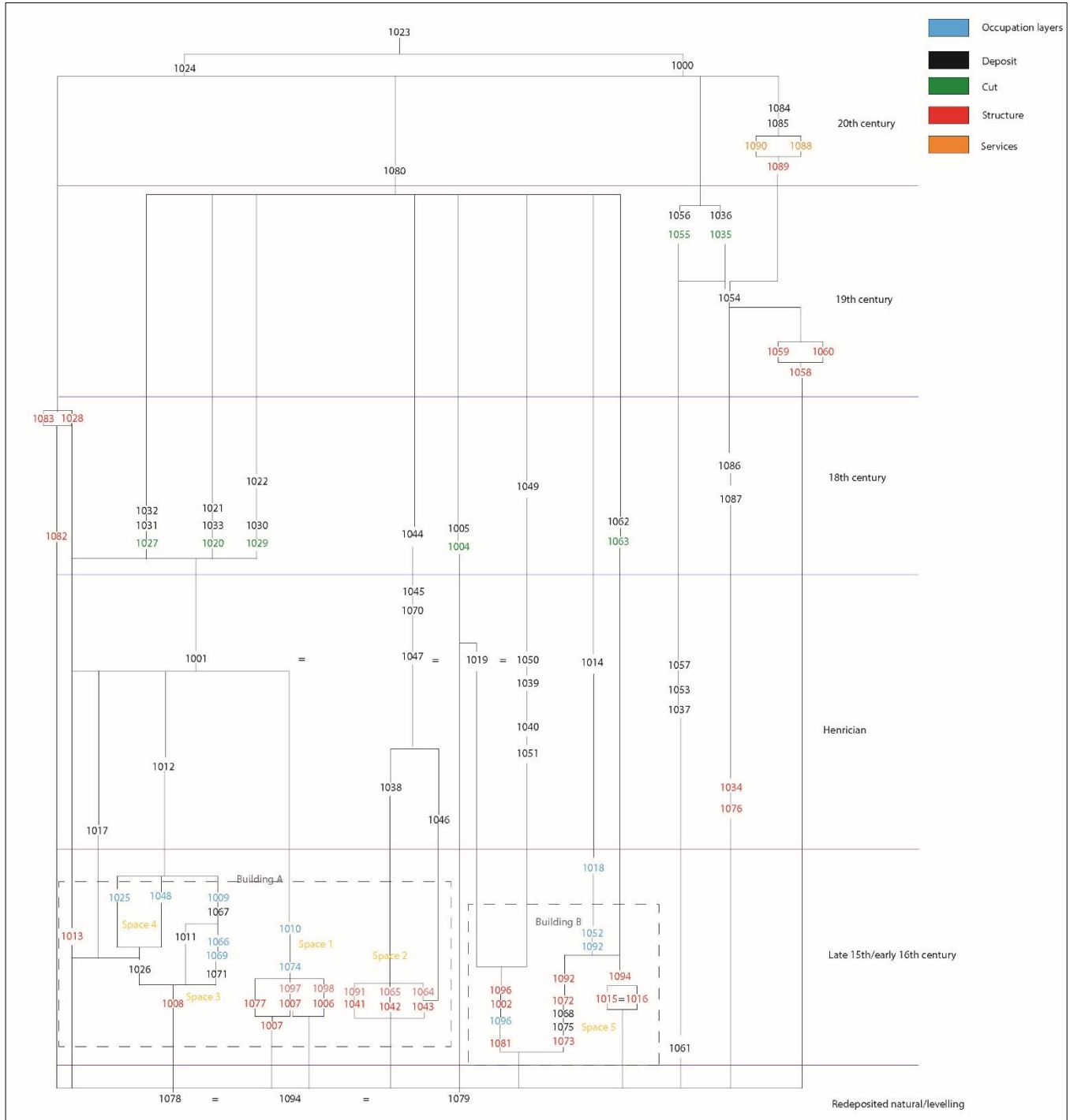
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# 13 Appendix I

## Stratigraphic Matrix



14 Appendix II

Inventories

Context inventory

Context No.	Group	Space	Type	Description	Levels (m. OD)		Dimensions (m)			Sample No.	Finds	Date
					Highest	Lowest	N-S	E-W	Thickness/depth			
1000			Deposit	Topsoil associated with the Apartment 39 Garden							Fe, clay pipe, oyster shell, glass, pottery, animal bone, CBM	19/20thC
1001			Deposit	Loose mid-brown silty sand with a high quantity of demolition rubble. At the interface between the topsoil and 1002 is a lens of fine gravel and stones	8.67	8.25			0.4		Glass, CBM, pottery, fe, clay pipe	16thC
1002	9	5	Masonry	Polygonal brick structure with three conserved faces and a rubble core; 8 courses of brick, with dog-leg bricks used at the corners; average brick size: 240mm x 110mm x 60mm; bonding material was a coarse gritty sandy lime mortar, beige/white in colour; evidence of double struck pointing. Truncated by 1004	8.7	8.18	1.07	1.1	0.5	5		15/16thC
1003												
1004	13		Cut	Sub-square tree pit truncating Structure 9, filled by 1005, equivalent to cuts 1020, 1029, 1027	8.69		1.4	0.4	0.6+			18thC
1005	13		Fill	Fill of 1004, loose dark, orangey brown, silty sand, containing small fragments of CBM, and fragments of mortar, overlain by 1024	8.69		1.4	0.4	0.6+		CBM	18thC
1006	7	1 and 3	Masonry	NE-SW aligned brick wall elevation, functioning with 1007 and dividing Spaces 1 and 3. Orangey red powdery bricks, friable texture with occasional flint inclusions; weathered and uneven surface; average measurement 250mm x 115mm x 50mm, with presence of half-bat bricks. Cream/beige coarse sandy lime mortar with lime nodules. Elevation recorded over 7 courses, with some tile included in the make-up, overlies 1094	8.45	8.09	0.7+	0.38	0.4	6		15/16thC
1007	5	1	Masonry	NW-SE wall elevation, south limit of Space 1, two bricks wide; bricks: 240mm x 115mm x 50mm, with a number of half-bat bricks; fabric friable, uneven weathered surface, 7 courses of brick. Patchy remnants of wall plaster on the north face, west and south faces probably external, layer of tiles at the base of west and south faces; overlies 1094	8.47	8.13	1.22	0.28	0.46			15/16thC
1008	4	3 and 4	Masonry	Narrow NW-SE partition wall, overlain by 1012, 1026, 1011, 1009; Bricks: 260mm x 110mm x 50mm; coarse sandy lime mortar, one brick wide, 4 courses of brick sitting on a layer of coarse gritty lime mortar 3-4cm thick, sits above 1078	8.42	8.11	0.9+	0.26	0.28			15/16thC
1009	14	3	Deposit	Ashy soft grey sand layer with flecks of charcoal and small fragments of CBM; overlain by 1012, 1001. At the interface between this layer and 1067 are several eroded bricks and Flemish-style glazed tiles	8.35	8.3	1.4	0.7+	0.05	10	Fe, glazed tiles, bricks, pottery	15/16thC
1010		1	Deposit	Charcoal-rich layer overlain by 1080, abuts 1006, 1007; lumps of charcoal and wood present, cut by 1029, overlies 1074	8.39	8.17		0.44	0.24	1	Pottery, CBM	15/16thC
1011		3	Deposit	Coarse pebbly dark brown silty sand levelling material containing occasional fragments of CBM and micro-fragments of charcoal	8.19	8.09		0.53	0.2		CBM, animal bone, fe	
1012		3 and 4	Deposit	Mortar deposit - probably collapsed wall or ceiling plaster, truncated by 1027, 1020, overlain by 1024	8.43	8.37	1.3	0.5	0.1	8	Mortar	16thC
1013	Wall 8	4	Masonry	NW-SE elevation at the eastern end of the trench, recorded during the evaluation phase, 5-6 courses of Type A brick, overlain by 1082, truncated by 1027	8.47	8.1	0.4	0.34	0.4+		CBM	16thC

1014			Deposit	Loose but dense demolition rubble and sandy sediment below 1000 and 1024, abuts 1072, 1015, overlies 1018, associated with Space 5	8.74	8.37	1.6		0.37		CBM	
1015	10	5	Masonry	Elevation built on 1068, NW-SE orientated truncated by unknown feature; bricks: 250mm x 50-60mm x 120mm, soft, crumbly orangey red bricks, coarse sandy lime mortar with lime nodules, 7-8 courses, pointing eroded, layer of tiles at the base, same as 1016	8.57	8.07	1.14	0.4	0.5	7		15/16thC
1016	10	5	Masonry	Small segment of wall elevation, same as 1015, 4 courses of brick survive	8.4	8.09	0.46	0.37	0.26			15/16thC
1017		4	Deposit	Large fragment of mortar, possibly collapsed ceiling or wall plaster, overlain by 1012	8.17	8.14	0.4	0.4	0.03			
1018		5	Deposit	Sandy loamy greenish light brown deposit with flecks of mortar and fragments of CBM; banked up against 1072 and 1015, contained a number of copper objects	8.43	8.28	1.7		0.12		Pottery, copper, animal bone, CBM	15/16thC
1019												
1020	13		Cut	Sub-square tree pit, truncates 1011, 1067, 1009, 1012, filled by 1021 and 1033	8.57	7.56+		1.2	1+			18thC
1021	13		Fill	Fill of 1020, loose mid-orangey brown loamy sand containing large quantities of CBM	8.57	8.17		1.08	0.42		Fe, Cu	18thC
1022		1	Deposit	Thin lens of powdery lime, overlaying 1005, overlain by 1024, seals pit 1029	8.71	8.67	1.3		0.04			
1023			Layer	Tarmac	8.87				0.02-0.04			20thC
1024			Deposit	Mixed loose make-up layer below 1023	8.86				0.12-0.2			
1025	14	4	Deposit	Ashy sandy loam layer with flecks of charcoal, recorded during the evaluation phase	8.27		0.6	0.2	0.04		Glass, fe	15/16thC
1026		4	Deposit	Soft sandy layer	8.15				0.13+			15/16thC
1027	13		Cut	Sub-square tree pit, filled by 1031	8.57	7.77	1.04	0.36	1			18thC
1028	15			Railing plinth foundation, same as 1083.	8.79	8.39	0.43		0.4			18/19thC
1029	13		Cut	Sub-square tree pit, filled by 1030 and 1022, sealed by 1024, cuts 1010, 1006, 1074, 1001, 1079	8.77	7.87		1.02	0.9			18thC
1030	13		Fill	Loose loamy sand, mid to yellow brown, contains high quantity of rubble material, occasional small stones	8.74	7.77		1.02	0.9		Clay pipe, CBM	18thC
1031	13		Fill	Fill of 1027, friable mid orangey grey sandy silt with a high concentration of CBM	8.27	7.77	1.04	0.36	0.6		Pottery	18thC
1032	13		Fill	Upper fill of 1027, friable mid-orangey brown clayey silt with a high concentration of CBM	8.57	8.27	1.04	0.36	0.38-0.4			18thC
1033	13		Fill	Primary fill of 1020, loose coarse brown sand with small fragments of CBM, mortar and lime fragments, occasional stones, overlain by 1021	8.17	7.56		0.8	0.6+			18thC
1034	12		Masonry	Elevation of Henrician Great Wall, unfrogged red-brick; bricks measure: 230mm x 50mm x 115mm; eroded mortar joints, beige, coarse/gritty sandy lime mortar, 4 courses of brick, overlies 1076	8.59	8.32		0.7+	0.28			16thC
1035			Cut	Linear feature, possibly a bedding trench, aligned NW-SE; filled by 1036, cuts 1054	8.69	8.19	3.6	1	0.4			
1036			Fill	Fill of 1035, friable dark grey brown silt with occasional stone inclusions, homogenous	8.69	8.19	3.6	1	0.4		Clay pipe	18thC
1037			Deposit	Spread of fragmented CBM in N-S section of trench, overlies 1061	8.49	8.09	5	1	0.4		CBM, clay pipe, animal bone	
1038		2	Deposit	Firm dark reddish brown silty sand containing large quantities of demolition rubble, overlain by 1047	8.67	8.01+	1.4	0.76	0.36		CBM, pottery, animal bone, Fe, stone	16thC
1039			Deposit	Patch of lime and mortar overlying 1040	8.41		0.6	0.5	0.2		Stone	
1040			Deposit	Crushed/compacted brick rubble overlain by 1039	8.31		3.5	1	0.1		CBM	
1041	3	2	Masonry	NW-SE wall elevation recorded over 9 courses of brick; bricks: 250mm x 50mm x 110mm; south face has lime mortar render (1091), an opening is apparent but not fully exposed, bonding material is a coarse gritty lime mortar; overlain by 1047	8.61	7.97	0.28	0.62	0.54	4		15/16thC

1042	2	2	Masonry	SW-NE wall elevation with two faces, east face recorded over 9 courses and covered with wall render; comprised of half-bat bricks measuring 130-170mm in length, full size bricks are 230-240mm; rough pointing on external face.	8.61	7.97	1.4	0.31	0.56+			15/16thC
1043	1	2	Masonry	NW-SE elevation with 3 faces, north face is protected by wall render; orangey red bricks, uneven texture, weathered, 250mm x 120mm x 50mm, top course is partly composed of tiles	8.57	7.97	0.3	1.1	0.46+			15/16thC
1044			Deposit	Friable mid-brown to green homogenous silty sand with occasional stone inclusions - associated with the abandonment of Buildings A and B and the relaying of the surface, overlain by 1080, overlies 1045	8.81	8.54	3	1	0.2		Pottery	
1045			Deposit	Demolition rubble located in Extension 1, overlain by 1044	8.7	8.48	2.4	1	0.2			
1046												
1047			Deposit	Friable dark greyish brown sandy silt containing large quantities of demolition rubble - spread of demolition material associated with the destruction of Buildings A and B; overlain by 1070, overlies 1038	8.59	8.31	4	1	0.5			
1048	14	4	Deposit	Patch of sandy ashy material with fragments of charcoal and several iron nails; overlies 1026, overlain by 1012	8.23	8.19	0.4	0.32	0.04	3	Fe	15/16thC
1049			Deposit	Loose dark blackish grey silty sand containing a large quantity of stones and gravel recorded in Extension 1, overlies 1050	8.84	8.76			0.2			
1050			Deposit	Friable dark brownish grey silty sand with a high quantity of demolition rubble - associated with the demolition of Buildings A and B	8.51	8.21	5	1	0.3			16thC
1051			Deposit	Firm light orangey brown silty sand with occasional fragments of CBM and angular stones, abuts 1096	8.29		2.3	2	0.08			
1052	14	3	Deposit	Dark grey ashy layer with frequent fragments of charcoal, fe nails and small fragments of charcoal	8.29	8.25	2.1	0.5	0.04	2	Fe	15/16thC
1053			Deposit	Loose dark reddish brown silty sand containing moderate amount of stone, located in the north south branch of the trench	8.75	8.46	4.6	1	0.2			
1054			Deposit	Friable mid-brown silty sand, cut by 1035, located close to the Henrician Great Wall	9.04	8.41	2	1	0.4			
1055			Cut	E-W linear feature with a concave profile, either a ditch of bedding trench, observed in section in the N-S branch of the trench, filled by 1056	8.75	8.38	1.5	1	0.4			
1056			Fill	Loose dark greyish brown silt with occasional small stones; fill of 1055	8.75	8.38	1.5	1	0.4			
1057			Deposit	Loose mid orangey brown sandy silt containing frequent angular stone and CBM material - demolition material associated Buildings A and B	8.75	8.51	1.5	1	0.16			
1058			Masonry	Layer of gritty concrete upon which 1059 and 1060 have been built	8.55	1.1	1					
1059			Masonry	Wall foundation composed of pinkish brown frogged bricks bonded together with a cementitious lime mortar	8.76	8.55	1.3	0.3	0.2			
1060			Masonry	Foundation for a wall or pier, bricks: 230mm x 110mm x 60mm, red frogged bricks			0.5	0.4	0.4			
1061			Deposit	Sandy gravels recorded in N-S branch of trench, similar to 1068, contains anthropic material, possibly levelling layer	8.17							15/16thC
1062	13?		Fill	Rubbly heterogeneous fill of 1063 - fill of tree pit? Limits not clear								
1063	13?		Cut	Cut of unknown feature - probably a garden feature; cuts 1016, 1015								
1064	1	2	Masonry	Beige/white coarse sandy lime mortar render containing small lime nodules, adhered to the north face of 1043					0.01	9		15/16thC
1065	2	2	Masonry	Beige/white coarse sandy lime mortar render containing small lime nodules, adhered to the east face of 1042, only conserved against the top two courses of brick					0.01			15/16thC
1066	14	3	Deposit	Friable black charcoal silt deposit with grey mottling	8.21	8.19	0.4	0.2	0.05			15/16thC
1067		3	Deposit	Very soft grained sand bedding layer; overlain by 1009	8.37	8.27		0.3	0.1			15/16thC



1068		5	Deposit	Compacted bedding layer composed of friable coarse yellow sandy and clayey lenses, overlies 1075	8.21	8.11			0.1			15/16thC
1069		3	Deposit	Friable mid-yellowish white crushed mortar and CBM layer - compacted floor level?	8.15		0.4	0.4	0.1		CBM	
1070			Deposit	Loose mid orangery brown silty sand, containing demolition rubble, overlain by 1045, overlies 1047	8.52	8.36	1.4	1	0.16			
1071		3	Deposit	Loose mixed mid-brown sand with greyish brown mottling, bedding layer for 1069	8.23							
1072	11	5	Masonry	NE-SW elevation; top of the wall is badly damaged by rooting; conserved over 8 courses of brick, brick: 250mm x 120mm x 50mm, very crumbly orange bricks with fine aggregates mixed in and occasional large pebbles; mortar joints are thick and uneven, up to 1.5cm thick, flush pointing at the base with double-struck pointing evident on the top two courses, abutted at the base by a layer of mortar and tiles, sits above foundation 1073	8.67	8.21	0.96	0.4	0.46	8		15/16thC
1073	11	5	Masonry	Wall foundation below 1072, offset 0.1m from the elevation, recorded over 4 courses of brick	8.21	7.9			0.32+			15/16thC
1074		1	Deposit	Dark brown soft sand with orange mottling containing small to medium fragments of CBM and flecks of charcoal, frequent gravels and pebbles	8.15				0.12+			
1075		5	Deposit	Coarse, compacted dark orangey brown sand with micro-fragments of charcoal and eroded fragments of CBM; cut by 1062, overlain by 1058, similar in nature to 1011	8.1	8						
1076	12		Masonry	Three courses of a brick foundation associated with the Henrician boundary wall, overlain by elevation 1034, offset 0.2m from the elevation; English Bond pattern, bricks: 200-220mm x 110mm x 50mm, truncated by 1089	8.31			0.74	0.2+			16thC
1077	6	1	Masonry	Small truncated segment of NE-SW wall interconnected with 1007, layer of tiles at the base of the wall; truncated by 1029, built on 1095, 6 courses of brick recorded	8.48	8.1	0.12	0.28	0.48			15/16thC
1078			Deposit	Coarse sandy yellow gravels similar to 1079, below 1008, redeposited natural used as levelling material	8.05							
1079			Deposit	Compact gravel layer similar to 1078, probably levelling material	8.27							
1080			Deposit	Green loamy layer recorded in the east-west branch of the trench at the interface between 1000 and 1001 - possibly associated with the development of the Apartment 39 garden	8.69	8.48			0.16			
1081	9		Masonry	Foundation level below 1002, recorded over 3 courses of brick, offset 10cm from the elevation, brickwork obscured by mortar, no pointing, bricks were a deep orangey red colour, crumbly texture, foundation extended 0.4m southwards to align with south face of the polygonal elevation	8.2				0.25+			15/16thC
1082	16		Masonry	Phase I of the extant railings surrounding Apartment 39 (section furthest east); bricks pinkish red, no frog, with coarse gravel inclusions 220mm x 10mm x 60mm; bonded together by a hard cementitious lime mortar, lies 20cm further south than 1083					0.34			18th C
1083	15		Masonry	Phase II of the extant railings surrounding Apartment 39; composed of orangey red bricks with fine gravel inclusions, frog visible in some bricks, quality of bonding material varies, some is soft and crumbly other areas seem to be hard and coarse with gravel inclusions					0.45		19thC	
1084			Layer	Concrete layer associated with pipe installation, above 1085			0.7	0.4				20thC
1085			Deposit	Loose sandy silty brown soil at the base of the cut for pipe 1088	8.39				0.2			20thC
1086			Deposit	Loose rubble material originating from the Tudor boundary wall, demolition associated with the installation of services	8.39	8.07			0.34			
1087			Deposit	Very loose, dry, dark brown silty sand continuing a large assemblage of artefactual material	8.07						Pottery, CBM, clay pipe, animal bone, glass, Fe	1720-1750
1088			Service	East-west pipe	9.05	8.95						1980/81
1089			Cut	Installation trench for service pipe, contains 1088, 1085, 1084	8.07				0.8			

1090			Service	Service pipe	8.47	8.35						1980/81
1091	3	2	Masonry	Mortar render protecting the internal face of elevation 1041					0.01			15-16thC
1092		5	Masonry	Layer of tiles and thick reddish lime mortar with sticky green clayey patches; abuts elevation 1072, overlies [1073]	8.16				0.07			15/16thC
1093	5 & 6		Masonry	Layer of tiles projecting out from elevations 1007 and 1077 - possible remains of a courtyard surface	8.11	8.09			0.03			15/16thC
1094	10	5	Masonry	Layer of tiles and mortar either against 1015 or underneath - likely floor level of this space	8.15							15/16thC
1095		1	Deposit	Redeposited gravels used as levelling	8.07							15/16thC
1096			Masonry	Two layers of tile overlying the foundation of Structure 9, [1081] and abutting the elevation 1002. The two layers may represent repair work, bonded together with lime mortar	8.18		1.12	0.1-0.5	0.04			15/16thC
1097	5	1	Masonry	Small fragmented remains of wall plaster against the north face of elevation 1007					0.01			15/16thC
1098	7	1	Masonry	Small fragmented remains of wall plaster against the west face of elevation 1006					0.01			15/16thC

*Photograph inventory*

<b>Shot No.</b>	<b>Description</b>	<b>View</b>	<b>Scale (m)</b>	<b>Author</b>
1	Looking north-east prior to excavation	E	N/A	AS
2	Line of historic railings after removal of plinth stones	E	N/A	AS
3	Line of historic railings after removal of plinth stones	E	N/A	AS
4	Looking west, Apartment 39 railings	W	N/A	AS
5	Looking west, Apartment 39 railings	W	N/A	AS
6	Context 1083, plinth stone foundation	S	0.5	AS
7	Context 1083, looking east	E	N/A	AS
8	Context 1083	S	0.5	AS
9	Context 1084	S	0.5	AS
10	Looking south towards the Apartment 39 garden	S	0.5	AS
11	Looking east along the line of the railings	E	1	AS
12	Main gate threshold	S	0.5	AS
13	Main gate threshold	S	1	AS
14	Main gate threshold	S	0.5	AS
15	Detail of gate fixtures around the gate threshold	S	0.5	AS
16	Plinths 1 and 2 in situ	S	1	AS
17	Plinth 3 in situ	S	0.5	AS
18	Plinth 4 in situ	S	1	AS
19	Plinth 5 in situ	S	0.5	AS
20	Plinth 6 in situ	S	0.5	AS
21	Plinth 7 in situ	S	1	AS
22	Plinths 6, 7, and 8 in situ	S	1	AS
23	Plinth 8 in situ	S	1	AS
24	Plinth 9 in situ	S	0.5	AS
25	Plinth 10 in situ	S	0.5	AS
26	Plinth 11 in situ	S	0.5	AS
27	Plinth 12 in situ	S	0.5	AS
28	Plinth 13 in situ	S	0.5	AS
29	Plinth 14 in situ	S	0.5	AS
30	General view of gate leading to the Apartment 39 garden	S	N/A	AS
31	General view of gate leading to the Apartment 39 garden	N	N/A	AS
32	Working shot of stone masons (Paul in shot)	E	N/A	AS
33	Foundation 1082	N	N/A	AS
34	General view of E-W branch of trench, Wall 4 in foreground, 7 in mid-ground, and Structure 9 in background, contexts 1012, 1009, 1027, 1020	W	1	AS
35	Wall 4, contexts 1012, 1009, 1001	S	0.5	AS

36	Wall 4, contexts 1012, 1009, 1002	W	0.5	AS
37	Wall 4, contexts 1012, 1009, 1003, Walls 7 and 5 in background	W	0.5	AS
38	Detail of 1001, 1000	S	0.5	AS
39	Contexts 1001, 1009	S	0.5	AS
40	Space 3, context 1009, 1020	S	0.5	AS
41	Space 1, Walls 5, 7, 6, charcoal deposit 1010, tree pit 1029	S	0.5	AS
42	Space 1, Walls 5, 7, 6, charcoal deposit 1010, tree pit 1029	S	0.5	AS
43	Looking SE, Space 1 in foreground, demolition rubble 1001	SE	N/A	AS
44	Spaces 1 and 3, contexts 1009, 1020, 1029, 1010	S	N/A	AS
45	Detail view of Wall 7	S	0.5	AS
46	Walls 5, 7, 2, and 3	S	N/A	AS
47	Walls 5, 7, 2, and 3, Space 1	W	0.5	AS
48	Space 3, context 1009, 1020	W	0.5	AS
49	Top of Structure 9, looking east	E	N/A	AS
50	Top of Structure 9	S	N/A	AS
51	Spaces 3 and 4, contexts 1017, 1028, 1013, 1012, 1008, 1009, 1021, 1020	W	N/A	AS
52	Space 1	E	N/A	AS
53				
54	Space 5, 1072, 1015, 1018	E	0.5	AS
55	Space 5, 1072, 1015, 1018	E	0.5	AS
56	Structure 9, tree pit 1004	E	0.5	AS
57	Detail of north face of Wall 5	S	0.05	AS
58	Structure 9	W	N/A	AS
59	Angle formed by Walls 10 and 11	SE	N/A	AS
60	Spaces 3 and 4, contexts 1017, 1028, 1013, 1012, 1008, 1009, 1021, 1020	E	N/A	AS
61	Spaces 1 and 3	E	N/A	AS
62	Space 4, 1012, 1028, 1008, 1017	N	N/A	AS
63	Space 4, 1012, 1028, 1008, 1017	S	N/A	AS
64	Spaces 3 and 4	S	N/A	AS
65				
66	Space 5, context 1018, Walls 11 and 12	E	0.5	AS
67	Structure 9	S	0.5	AS
68	East-west branch of trench	E	0.5	AS
69	Structure 9, Space 5, 1018	S	0.5	AS
70	Space 1	S	0.5	AS
71	Space 3	E	0.5	AS
72	Tree pit, cut 1020, fill 1021, deposit 1009	N	0.5	AS
73	Space 3, context 1009, cut 1020, Space 1, Walls 7, 5, 6, 4	N	0.5	AS
74	Space 1 in foreground, Space 3 in mid-ground, and space 4 in background	E	0.5	AS

75	Detail of north face of elevation 1007 (Wall 5)	S	0.5	AS
76	Detail of east-facing elevation of 1002	W	N/A	AS
77	Truncated section of 1002	W	N/A	AS
78	West elevation of 1072 (Wall 11), and deposit 1018	E	N/A	AS
79	North elevation of 1015 (Wall 10)	S	N/A	AS
80	Tree pit cut 1029 in Space 1	N	0.5	AS
81	Tree pit cut 1029 in Space 1	N	0.5	AS
82	Tree pit cut 1029 in Space 1	N	0.5	AS
83	Tree pit cut 1029 in Space 1	S	N/A	AS
84	Excavated pit 1020	N	1	AS
85	Excavated pit 1020, 1033, 1021	N	1	AS
86	Excavated pit 1020 seen in plan	N	1	AS
87	Pits 1027 and 1020	W	1	DH
88				
89				
90	Oblique view of pit 1027	NE	1	DH
91	Pit 1027 and Wall 8	N	1	DH
92	Pits 1027, 1020, and 1029	W	1	DH
93	General view of N-S branch of the trench	S	1	DH
94	General view of N-S branch of the trench, Wall 12 in background	S	1	DH
95	Wall 12, contexts 1034, 1076	S	0.5	DH
96	Wall 12, contexts 1034, 1076	S	0.5	DH
97	Space 3, interface between 1009 and 1067	W	0.5	AS
98	Space 3, interface between 1009 and 1067	S	0.5	AS
99	Space 3, interface between 1009 and 1067, Space 2 in background	S	0.5	AS
100	Contexts 1040, 1039, 1002	S	1	DH
101	Contexts 1040, 1039, 1002	N	1	DH
102	Detail of 1040	N	1	DH
103	Structure 9	W	0.5	DH
104				
105	Structure 9	S	0.5	DH
106	Structure 9	S	N/A	DH
107	Structure 9 and general view of Extension 2	S/SE	N/A	DH
108	Structure 9	SW	N/A	DH
109	Structure 9, contexts 1002, 1092	N	1	DH
110	West facing section in Extension 2	E	1	DH
111	West facing section in Extension 2	E	1	DH
112	West facing section in Extension 2 - oblique view	SE	1	DH
113	West facing section in Extension 2 - oblique view	NE	1	DH
114	West facing section in Extension 2	E	1	AS

115	Layer 1001 in section, Space 4, context 1048	S	1	AS
116	Layer 1001 in section, Space 4, context 1048, 1008	W	1	AS
117	Layer 1001 in section, Space 4, context 1048, 1008	N	1	AS
118	Space 3, interface between 1009 and 1067, 1008, 1006, 1014, 1042	S	1	AS
119	Spaces 4, 3	W	1	AS
120	Space 1 excavated, Spaces 3 and 4 in background	E	1	AS
121	Space 3	E	1	AS
122	Context 1048	W	0.5	AS
123	Wall 7	W	0.5	AS
124	Wall 7 and Space 3	W	0.5	AS
125	Wall 7, east-facing elevation	W	0.5	AS
126	Walls 5, and 6, north facing elevation	S	0.5	AS
127	Walls 5, and 6, north facing elevation	S	N/A	AS
128	Walls 5, 6, and 7 in plan	E	0.5	AS
129	Walls 7 and 5 in plan	S	0.5	AS
130	West elevation of 1006 (Wall 7)	E	0.5	AS
131	West elevation of 1006 (Wall 7)	E	N/A	AS
132	Angle formed by Walls 7 and 5	SE	N/A	AS
133	Intersection between walls 3, 2, 5, and 7	S	N/A	AS
134	Intersection between walls 3, 2, 5, and 7	S	N/A	AS
135	Profile of Wall 6 (double struck-pointing)	E	0.05	AS
136				
137	Profile of Wall 6 (double struck-pointing)	E	N/A	AS
138	Extension 1, Space 2	S	1	AS
139	Space 2	N	1	AS
140	Space 2	N	1	AS
141	South facing elevation 1041 (Wall 3), wall render 1091	N	0.5	AS
142	North facing elevation 1043, (Wall 1), wall render 1064	S	0.5	AS
143	East-facing elevation 1042 (Wall 2), wall render 1065	W	0.5	AS
144	Detail of wall render 1065	W	0.5	AS
145	Section 13, extension 1	E	0.5	AS
146	Section 13, Space 2	E	1	AS
147	Section 13	SE	0.5	AS
148	Walls 1, 2, and 3	N	0.5	AS
149	Wall 1 in plan	N	0.5	AS
150	Space 2	N	0.5	AS
151	Section 13, extension 1	E	0.5	AS
152	East facing section in Extension 1	W	N/A	AS
153	Extension 1	E	N/A	AS
154	Wall 5 in profile and Wall 6	E	0.5	AS

155	Wall 5 and 6, tile layer 1097	SE	0.5	AS
156	Space 5, Walls 10 and 11, contexts 1068, 1052	S	1	AS
157	Space 5, Walls 10 and 11, contexts 1068, 1052	W	1	AS
158	Space 5, Walls 10 and 11, contexts 1068, 1052	W	1	AS
159	Space 5, Walls 10 and 11, contexts 1068, 1052	S	N/A	AS
160	Space 5, Structure 9, Walls 10 and 11, contexts 1068, 1053	S	N/A	AS
161	Wall 10, elevation 1016 in profile	W	0.3	AS
162	Wall 10, elevation 1016, oblique view	NE	N/A	AS
163	Wall 10, elevation 1016, south face	N	0.3	AS
164	Space 5	E	0.5	AS
165	Space 5	E	0.5	AS
166	South facing section adjacent to elevation 1072	N	N/A	AS
167	Detail of south facing section adjacent to 1072	N	N/A	AS
168				
169	Space 3, contexts 1066, 1069	S	1	DH
170	Space 3, contexts 1066, 1069	S	1	DH
171				
172	South facing section (S.4), Space 3, Pit 1020, 1024, 1021, 1083, 1012, 1009, 1067, 1011, 1078	N	1	DH
173	Space 5, Structure 9, Walls 10 and 11, Floor 1092/1094, 1068	S	1	AS
174	Angle formed by 1072, 1015, Floor 1092/1094	S	0.5	AS
175	Elevation 1073, Floor 1092, 1068	E	0.5	AS
176	Detail of elevation 1072	E	0.5	AS
177	Structure 9, Walls 10, 11	E	N/A	AS
178	Structure 9, Tile floor 1096	SW	N/A	AS
179	South-east elevation of 1002, tiles 1096	NW	0.5	AS
180	East elevation of 1002	W	0.5	AS
181	Space 3, context 1069, 1071	S	0.5	DH
182	Space 3, context 1069, 1071	S	0.5	DH
183	Space 3, context 1069, 1071	E	0.5	DH
184	West elevation of Wall 7	E	0.5	DH
185	West elevation of Wall 7	E	0.5/0.3	DH
186				
187	Detail of west elevation of Wall 7	E	0.3	AS
188				
189	Elevation 1072, Floor 1092, Foundation 1073	E	0.5	AS
190	Angle formed by Walls 10 and 11	SE	N/A	AS
191	North facing elevation of Wall 10	S	0.5	AS

192	Detail of south-facing section adjacent to Wall 11	N	0.5	AS
193	Context 1038 in section (Space 2)	E	1	DH
194	South-facing section adjacent to Wall 11			AS
195	Elevation 1072, Floor 1092, Foundation 1073			AS
196	Plinth 25 in plan			AS
197	Plinth 25 - West-facing profile (when in situ)			AS
198	Plinth 25 - East-facing profile (when in situ)			AS
199	Plinth 24 being worked; profile			AS
200	Plinth 24, north side			AS
201	Plinth 24 west profile			AS
202	Plinth 23 west profile			AS
203	Plinth 23 north side			AS
204	Plinth 23 east profile			AS
205	Plinth 22 in plan			AS
206	Plinth 22 east profile			AS
207	Plinth 22 west profile			AS
208	Plinth 22, detail of marking			AS
209	Plinth 21, west profile, mason's mark			AS
210	Plinth 21 in plan, being worked			AS
211	Plinth 21, east profile			AS
212	Plinth 20 in plan			AS
213	Plinth 20, west profile			AS
214	Plinth 20, east profile			AS
215	Plinth 19 in plan			AS
216	Plinth 19, profile			AS
217	Plinth 19, north side?			AS
218	Plinth 18 in plan			AS
219	Plinth 18, west profile			AS
220	Plinth 18, east profile			AS
221	Plinth 17			AS
222	Plinth 17, west profile			AS
223	Plinth 17, east profile			AS
224	Plinths 16 and 15 in plan			AS
225	West profile of plinth 15			AS
226	East profile of plinth 16			AS
227	Plinth 14 in situ			AS
228	Plinth 14 in situ			AS
229	General view of plinth 14			AS
230	Plinth 13 in plan			AS
231	Plinth 13, west profile			AS
232	Plinth 12 in plan			AS
233	Plinth 12, west profile			AS
234	Plinth 12, east profile			AS



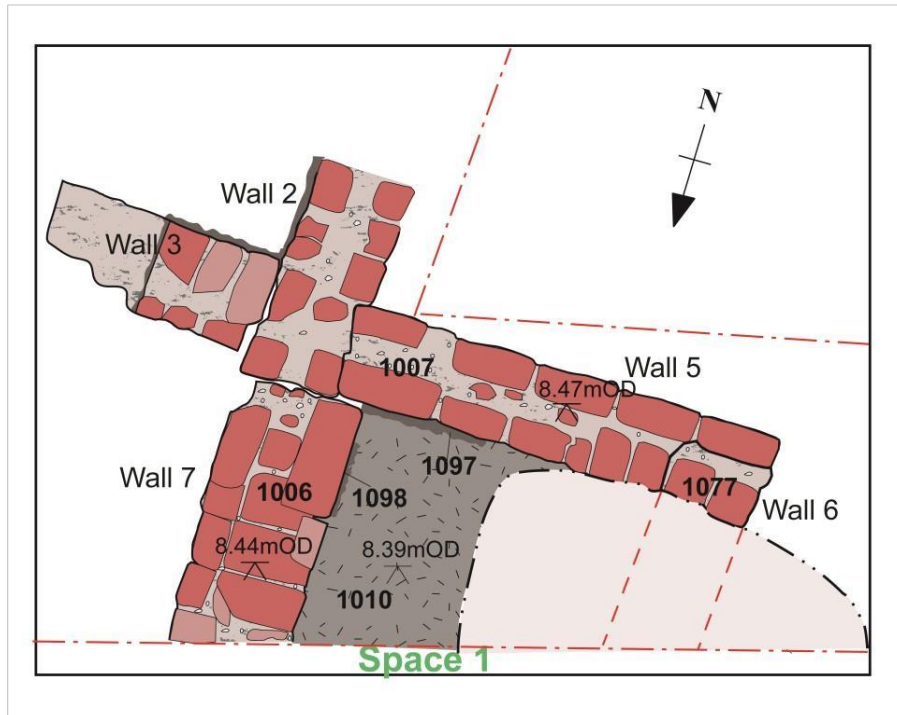
235	Plinth 11 in plan			AS
236	Plinth 11, west profile			AS
237	Plinth 11, east profile			AS
238	Plinth 10, west profile			AS
239	Plinth 10 in plan			AS
240	Plinth 10, east profile			AS
241	General view of site			AS
242	General view of site			AS
243	Plinth foundation 1028			AS
244	Plinth foundation 1083			AS
245	Detail shot of 1083			AS
246	Plinth foundation 1083			AS
247	Plinth foundation 1082 and 1083			AS
248	Plinth foundation 1082			AS
249	Plinth foundation 1082 in plan			AS
250	Relationship between 1082 and plinth 14			AS
251	West-facing elevation 1006	E	N/A	AS
252	South-facing elevation 1007	S	N/A	AS
253	Structure 9, floor 1096, foundation 1081	W	1	AS
254	Foundation 1081	SW	1	AS
255	Detail view of foundation 1081	W	N/A	AS
256	Detail view of foundation 1081	SW	N/A	AS
257	Structure 9, east facing elevation	SW	N/A	AS
258	Structure 9, Walls 10 and 11 in plan	W	N/A	AS
259	Trench excavated at the base of 1002	N	N/A	AS
260	South-east elevation of 1002, tiles 1096	NW	N/A	AS
261	Wall 1060, base 1058	S	N/A	AS
262	Structure 1059	S/SE	N/A	AS
263	Wall 1060, structure 1059, base 1058, Barge Walk railings	S	0.5	AS
264	Wall 1060, structure 1059, base 1058, Barge Walk railings	E	0.5	AS
265	East elevation of 1060	W	0.3	AS
266	North profile of 1060	S	0.3	AS
267	West elevation of 1059, oblique view	SE	N/A	AS
268	North profile of 1059	S	N/A	AS
269	Section 13	E	0.5	AS
270	Detail view of Section 13	E	0.5	AS
271	Section 13	E	0.5	AS
272	Oblique view of Section 13	NE	0.5	AS
273	Structure 5 in plan	S	N/A	AS
274	Relationship between Structure 9 and Wall 11	S	N/A	AS
275	Walls 10, 11, Structure 9	W	N/A	AS
276	Walls 10, 11, Structure 9	N	N/A	AS
277	Wall 12 truncated by service	E	0.5	AS

278	Wall 12 truncated by service	S	0.5	AS
279	Wall 12 truncated by service	N	0.5	AS
280	Wall 12 truncated by service	N	0.5	AS
281	Wall 12 truncated by service	N	0.5	AS
282	East-facing section in north-south branch of trench	W	0.5	AS
283	Backfilling trench	SE		AS
284	Backfilling trench	S		AS
285	Backfilling trench	SW		AS
286	Painted railings			AS
287	Forge mark			AS
288	New plinth stones in place	W		AS
289	New plinth stones in place	W		AS
290	Historic plinth stone repaired (Plinths 25, 24)	E		AS
291	Restituted plinth stones	SW		AS
292	Restituted plinth stones	SW		AS
293	Restituted plinth stones	SW		AS
294	General site view	N		AS

## 15 Appendix III

### A summary of the internal spaces in Buildings A and B

#### *Space 1, Building A*



**Internal measurements:** 0.86m x 0.6m

#### **Walls:**

- **Wall 5:** South wall of Space 1; tied into Wall 7, full extent preserved, 1.22m in length, up to 0.46m in height, 0.28m wide.

#### *Contexts:*

[1007] – Elevation, 7 courses of Type A brick, with some half-bat bricks and tiles

[1097] – Fragment of lime mortar render on north face

[1093] – Tiles at the base of wall seen beneath west profile

- **Wall 6:** West wall of Space 1, tied into Wall 5, almost entirely truncated by pit [1029], survived 0.12m in length, up to 0.48m in height and 0.28m wide.

#### *Contexts:*

[1077] – Elevation, 6 courses of Type A brick survive

[1093] – Layer of tiles at the base of the wall, recorded on west profile

- **Wall 7:** East wall of Space 1; divides Spaces 1 and 3; abuts Walls 2 and 5, northern extent extends beyond the limits of the trench. Recorded over a length of 0.7m, up to 0.4m in height, 0.38m wide.

#### *Contexts:*

[1006] – Elevation, 7 courses of Type A brick

[1098] – Fragments of lime mortar render on west face

**Occupation deposits:**

(1010) – charcoal dump/ rake-out (Sample [1])

(1074) – gravel levelling layer, part of floor structure

*Space 2, Building A - Basement or cellar room*

**Internal measurements:** 1.40m x 0.8m+,  
0.56m+ height (excavated from top of the wall).

**Walls:**

- **Wall 1:** South wall of Space 2; abutted by Wall 2; east extent located beyond the confines of the trench. Length: 1.1m +, 0.3m wide. Height: 0.46m+ (full extent not excavated).

*Contexts:*

[1043] – Elevation, Type A brick, and tiles

[1064] – Lime mortar render against north face

- **Wall 2:** West wall of Space 2; abuts Wall 1. Length: 1.4m, width: 0.31m.

*Contexts:*

[1042] – Elevation – 9 courses of Type A brick recorded

[1065] – Lime mortar render

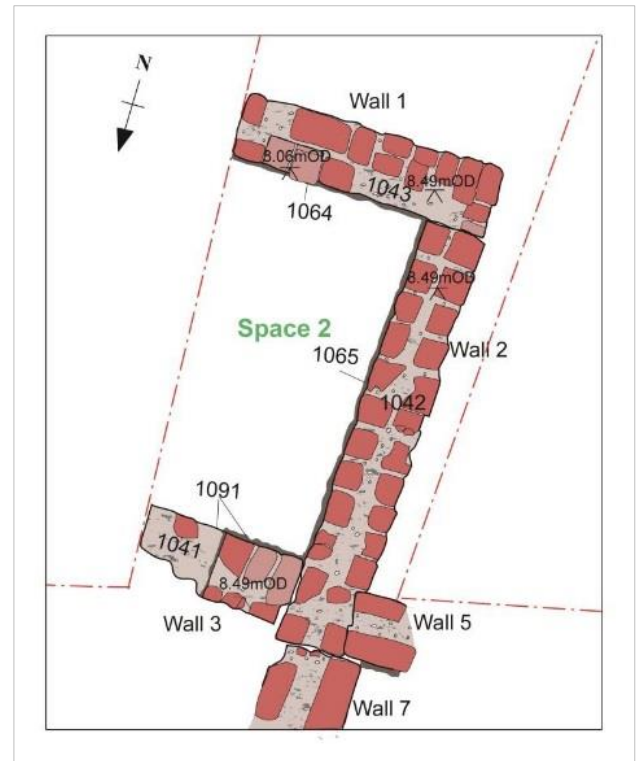
- **Wall 3:** North wall of Space 2, also the division between Spaces 2 and 3; abuts Wall 2, eastern extent located beyond the confines of the trench. Possible opening in the wall. Length: 0.62+, width: 0.28m.

*Contexts:*

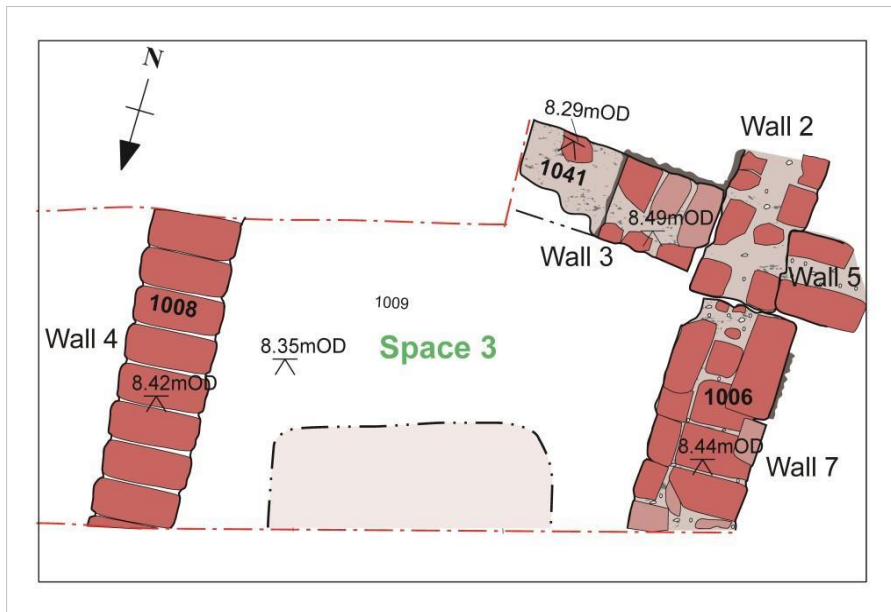
[1041] – Elevation, 9 courses of Type A brick and tiles recorded

[1091] – Lime mortar render

No occupation deposits recorded, space backfilled with demolition rubble (1038).



### Space 3, Building A



**Internal measurements:** 1.4m x 1m +

#### **Walls:**

- **Wall 3:** See Space 2
- **Wall 4:** NW-SE aligned partition wall between Spaces 3 and 4. Length: 0.9m extends north and south beyond the confines of the trench, width: 0.26m, height: up to 0.28m.

#### *Contexts:*

[1008] – Wall footing, 4 courses of Type A brick survive, one brick wide.

- **Wall 7:** See Space 1

#### **Occupation deposits:**

(1052): Part of Group 14. Dark grey ashy layer with frequent fragments of charcoal, Fe nails and small fragments of charcoal (Sample [2]).

(1066): Part of Group 14. Friable black charcoal silt deposit with grey mottling

(1067): Very soft grained sand bedding layer; overlain by 1009

(1069): Friable mid-yellowish white crushed mortar and CBM layer – possible compacted floor level

(1071): Loose mixed mid-brown sand with greyish brown mottling, bedding layer for 1069

(1009): Part of Group 14. Ashy soft grey sand layer with flecks of charcoal and small fragments of CBM. At the interface between this layer and 1067 are several eroded bricks and Flemish-style glazed tiles. (Sample [10]).

### Space 4, Building A



**Internal measurements:** Unknown

**Walls:**

- **Wall 8:** Small segment of wall, orientated NW-SE, also recorded during evaluation work. Possibly north wall of Spaces 4 and 3. Length: 0.4m+. Width: 0.34m. Height: 0.4m.

*Contexts:*

[1013] – Elevation and/or foundation (not clearly defined), 5-6 courses of Type A brick, overlain by [1082], truncated by [1027]

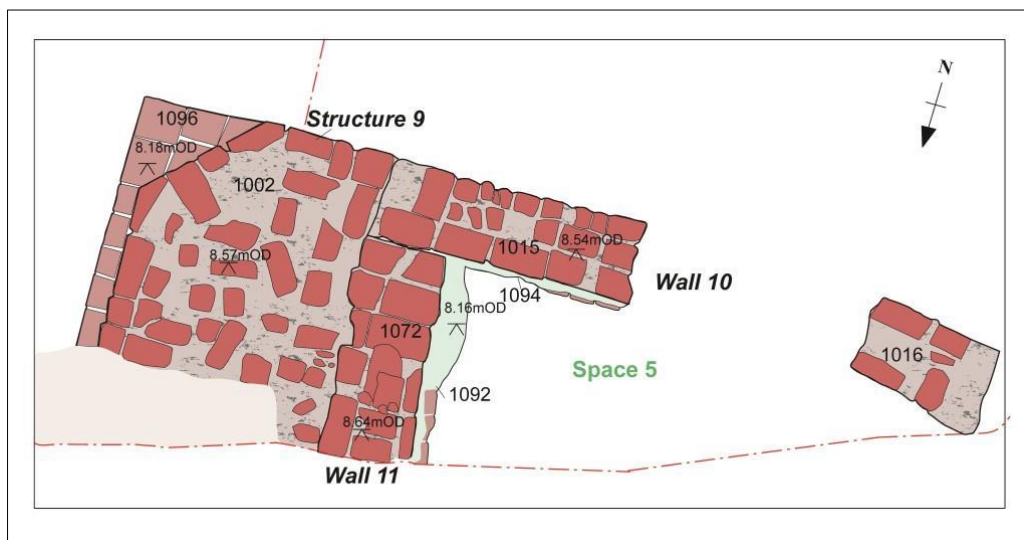
- **Wall 4:** See Space 3.

**Occupation deposits:**

(1025): Part of Group 14. Ashy sandy loam layer with flecks of charcoal, recorded during the evaluation phase.

(1048): Part of Group 14. Patch of sandy ashy material with fragments of charcoal and several iron nails; overlays 1026, overlain by 1012 (Sample [3]).

*Space 5 and external area to the east, Building B*



**Internal measurements:** c.2m x 1m+

### Walls

- **Wall 10:** South wall of Space 5, orientated NW-SE truncated by an unknown feature. Length: 2.6m (full extent recorded). Width: 0.34m. Height: 0.5m.

#### *Contexts:*

[1015] – Elevation built on top of (1068), 7-8 courses of Type A bricks, pointing eroded, layer of tiles projecting at the base, 1.16m in length.

[1016] – Elevation, same as [1015], 0.4m in length 0.26m in height, 4 courses of brick.

[1094] – Layer of tiles and mortar beneath and/or against north face of Wall 10, only associated with context [1015]

- **Wall 11:** East wall of Space 5, orientated NE-SW; extended beyond the limit of the trench, abutted Wall 10, abutted by Structure 9. Length: 0.82m. Width: 0.4m.

#### *Contexts:*

[1072] – Elevation, conserved over 8 courses of brick, Type A brick, flush pointing at the base with double-struck pointing evident on the top two courses, abutted at the base by a layer of sticky clay/silt mortar and tiles

[1073] – Foundation below [1072], offset 0.1m from elevation, 4 courses of Type A brick recorded over 0.31m

- **Structure 9:** Polygonal structure abutting Wall 11. Three conserved faces recorded in elevation with foundation below. Length: 1.3m+, width: 1m.

#### *Contexts*

[1002] - Polygonal brick structure with three conserved faces and a rubble core; 8 courses of brick, survived up to 0.5m in height, with dog-leg bricks used at the corners, double struck pointing survived in some places, Type A bricks, truncated by [1004].



[1081]- Foundation below [1002], recorded over 3 courses of brick, offset 10cm from the elevation, brickwork obscured by mortar, no pointing, Type A bricks; foundation extended 0.4m southwards to align with south face of the polygonal elevation.

**Internal Occupation deposits and floor structures:**

[1092] - Layer of tiles and thick reddish lime mortar with sticky green clayey patches; abuts elevation [1072], overlies [1073], located in Space 5

**External floor structures:**

[1096] - Overlying the offset foundation [1081] were two layers of floor tile, each 20mm thick, bonded together with lime mortar. The tiles extended from the east and southeast faces of Structure 9, aligning neatly with the south elevation in an east-west direction. Some tiles had the remains of mortar on their edges, suggesting their continuation at least in an eastwards direction – possible courtyard surface.

**Table of grouped features**

<b>Group Number</b>	<b>Building</b>	<b>Space</b>	<b>Contexts</b>	<b>Description</b>
1	A	2	1043, 1064	South wall of Space 2
2	A	2	1042, 1065	West wall of Space 2
3	A	2	1041, 1091	North wall of Space 2
4	A	2/3	1008	Partition wall between Space 2 and 3
5	A	1	1007, 1097	South wall of Space 1
6	A	1	1077, 1093	West wall of Space 1
7	A	1/3	1006, 1098	Wall between Spaces 1 and 3
8	A	4	1013	North wall of Space 4
9	B	N/A	1002, 1081, 1096	Buttress structure supporting wall 11
10	B	5	1015, 1016, 1094	South wall of Space 5
11	B	5	1072, 1073	East wall of Space 5
12	N/A	N/A	1034, 1076	Great Wall
13	N/A	N/A	1004, 1005, 1029, 1030, 1022, 1020, 1023, 1083, 1021, 1031, 1032, 1027	Series of aligned pits, probably garden features
14	A/B	2/3/5	1009, 1052, 1025, 1048, 1066	Ashy deposit - internal occupation layer
15	N/A	N/A	1083, 1028	Phase II railings
16	N/A	N/A	1082	Phase I railings

## 16 Appendix IV

### Oasis Data Form

OASIS FORM - Print view

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# OASIS DATA COLLECTION FORM: England

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**OASIS ID: historic9-339702**

#### Project details

Project name	Apartment 39 Railings Conservation - Hampton Court Palace
Short description of the project	A watching brief was undertaken as part of conservation and restoration works on the historic railings that delimit the Apartment 39 garden on the West Front of Hampton Court Palace. During excavation works, a number of significant and unexpected archaeological remains were revealed including two well preserved brick buildings. Both buildings produced clear dating evidence provided by architectural details, stratigraphic data and contextual material finds that confirmed a late 15th/early 16th century phase of construction. The buildings were likely demolished in the mid-16th century. Tudor buildings and the demolition rubble overlying them were partially truncated by a series of pits, probably associated with garden features during the early period of Grace and Favour residency in the mid-18th century. The project also provided the opportunity to look more closely at the phasing of the railings surrounding Apartment 39. The removal of some of the plinth stones exposed the brick footings beneath, revealing three clear phases of build.
Project dates	Start: 01-02-2017 End: 30-03-2017
Previous/future work	Yes / Not known
Any associated project reference codes	HCP 154 - Sitecode
Any associated project reference codes	HCP 144 - Sitecode
Type of project	Recording project
Site status	Scheduled Monument (SM)
Current Land use	Other 5 - Garden
Current Land use	Other 8 - Land dedicated to the display of a monument
Monument type	RAILINGS Post Medieval
Monument type	PALACE Medieval
Significant Finds	BRICK Medieval
Significant Finds	BRICK Post Medieval
Significant Finds	ANIMAL BONE Medieval

<http://www.oasis.ac.uk/form/print.cfm>

28/06/2019

Significant Finds POT Medieval  
 Significant Finds POT Post Medieval  
 Significant Finds CLAY PIPE Post Medieval  
 Significant Finds GLASS Post Medieval  
 Significant Finds FLOOR TILE Medieval  
 Investigation type ""Watching Brief""  
 Prompt Scheduled Monument Consent

**Project location**

Country England  
 Site location GREATER LONDON RICHMOND UPON THAMES RICHMOND UPON THAMES  
 Apartment 39 Railings  
 Postcode KT8 9AU  
 Study area 0 Square metres  
 Site coordinates TQ 15597 68451 51.402789750307 -0.337964209363 51 24 10 N 000 20 16 W  
 Point  
 Height OD / Depth Min: 7.56m Max: 9.13m

**Project creators**

Name of Organisation Historic Royal Palaces  
 Project brief originator Historic Royal Palaces  
 Project design originator historic Royal Palaces  
 Project director/manager William Page  
 Project supervisor Alexandra Stevenson  
 Type of sponsor/funding body Historic Royal Palaces

**Project archives**

Physical Archive recipient Historic Royal Palaces  
 Physical Archive ID 3910040  
 Physical Contents "Animal Bones", "Ceramics", "Environmental", "Glass", "Metal", "Wood", "Worked stone/lithics", "other"  
 Digital Archive recipient Historic Royal Palaces  
 Digital Archive ID 3910040  
 Digital Contents

	"Animal Bones", "Ceramics", "Environmental", "Glass", "Metal", "Stratigraphic", "Wood", "Worked stone/lithics", "other"
Digital Media available	"Database", "Images raster / digital photography", "Spreadsheets", "Text"
Paper Archive recipient	Historic Royal Palaces
Paper Archive ID	3910040
Paper Contents	"Environmental", "Stratigraphic", "other"
Paper Media available	"Context sheet", "Correspondence", "Drawing", "Map", "Matrices", "Miscellaneous Material", "Notebook - Excavation", "Research", "General Notes", "Plan", "Report", "Section", "Unpublished Text"

**Project bibliography 1**

Publication type	Grey literature (unpublished document/manuscript)
Title	Apartment 39 Railings Conservation, Hampton Court Palace - An Archaeological Watching Brief and Investigation
Author(s)/Editor (s)	Stevenson, A
Other bibliographic details	HCP 154
Date	2019
Issuer or publisher	Historic Royal Palaces
Place of issue or publication	Hampton Court Palace
Description	A4 with A3 illustrations, digital and paper
Entered by	Alexandra Stevenson (alexandra.stevenson@hrp.org.uk)
Entered on	28 June 2019

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