

Archaeological Post Excavation Report

**HAMPTON COURT PALACE
RING MAIN REPLACEMENT
PHASE 1**

For Historic Royal Palaces

John Quarrell BA ACIfA ed.

L~P:ARCHÆOLOGY

Archaeological Post Excavation Report

HAMPTON COURT PALACE RING MAIN REPLACEMENT PHASE 1

Client: Historic Royal Palaces

Local Authority: London Borough of Richmond-Upon-Thames

NGR: 515818, 168515

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TABLE OF CONTENTS

Table of Figures

Table of Plates

Table of Tables

Table of Appendices

Abstract

1. Introduction
2. Site Background
3. Original Aims
4. Methodology
5. Results
6. Pottery
7. Clay Tobacco Pipe
8. Faunal Remains
9. Building Materials
10. Metal Objects
11. Glass
12. Environmental Samples Assessment
13. Discussion
14. Potential of the Data

15. Significance of the Data

16. Recommendations for Further Analysis and Publication

17. Archive

Sources Consulted

Figures

Appendices

TABLE OF FIGURES

Figure 1 - Site Location - General

Figure 2 - Site Location - Detail

Figure 3 - Excavation Areas

Figure 4 - Bowling Alley Buttress {SGR: 21}

Figure 5 - Bedding Trench in Area 8

Figure 6 - Brick Culvert in Area 9

Figure 7 - Earlier Floor Surface in Area 8

Figure 8 - Postholes in Area 2

Figure 9 - Hearth Structure in Area 2

Figure 10 - Deposition of Pot {SGR: 58}

Figure 11 - Rendered Masonry {SGR: 64}

Figure 12 - Section 2

Figure 13 - Wall {SGR: 30}

Figure 14 - Brick Foundations in Area 6

Figure 15 - Brick Foundations in Area 3

Figure 16 - Natural Deposit {SGR: 22} in Area 5

Figure 17 - Foundations of Great Hall {SGR: 23}

Figure 18 - Post Hole {SGR: 24} in Area 5

Figure 19 - Floor Makeup {SGR: 25} in Area 5

Figure 20 - Culvert {SGR: 88} Inlet

Figure 21 - Buttress Foundation in Area 11

TABLE OF PLATES

Plate 1 - Bowling Alley eastern wall and buttress {SGR: 21}. Photograph taken facing north, 1m scale.

Plate 2 - East-west bedding trench {SGR: 4} in Area 8. Photograph taken facing east, 1m scale.

Plate 3 - The excavation of culvert {SGR: 16}, the culvert had been truncated to the south by the cut for an electrical cable. Photograph facing north-west, working shot featuring Aaron Clarke.

Plate 4 - Culvert {SGR: 16} with the roof removed. Photograph facing north, 0.2m scale.

Plate 5 - Former brick and flagstone floor surfaces {SGR: 8} in Area 8.

Plate 6 - A pale green silt deposit {SGR: 29}, likely formed of upcast material from the clearing of the moat. Photograph facing north-east, 1m and 0.5m scale

Plate 7 - Three stake holes {SGR: 69}. Photograph taken facing west, no scale.

Plate 8 - The north side of the chimney breast {SGR: 54}, with the internal hearth structure {SGR: 55} to the south of it. To the north glazed tile floor {SGR: 61} and structure {SGR: 60} area also visible. Photograph taken facing east, no scale.

Plate 9 - Close up of burning to internal hearth structure {SGR: 55}. Photograph taken facing north, no scale.

Plate 10 - Mortar filled pot {SGR: 58}. Photograph taken facing north-west, 0.2m scale.

Plate 11 - Brick structure {SGR: 60} abutting the north end of the chimney breast. Photograph taken facing east, 0.2m scale.

Plate 12 - Glazed tile floor {SGR: 61}. Photograph taken facing north, working shot featuring Rory Falconer.

Plate 13 - Rendered masonry {SGR: 64}, possibly a kitchen counter similar to those present in the extant kitchens. Photograph taken facing east, 1m scale.

Plate 14 - Truncated remains of north-south wall {SGR: 30}. Photograph taken facing north-east, working shot featuring Florence Laino.

Plate 15 - The build up of layers {SGR: 33} to construct the Henrician extension of the kitchens. Photograph taken facing north, 1m scale.

Plate 16 - Rammed chalk raft foundation below the modern floor in the Great Hall undercroft. Photograph taken facing east, 1m scale.

Plate 17 - Foundations for the Henrician Great Hall {SGR: 70}, seen in section following the removal of the stairs Photograph taken facing north-west, 0.5m scale.

Plate 18 - Remains of the brick staircase {SGR: 70}. Photograph taken facing north, 1m scale.

Plate 19 - The stairs {SGR: 70} were built from a foundation of bricks with reigate stone treads. Photograph taken facing north-west, working shot featuring Daniel Bateman.

Plate 20 - Brick culvert {SGR: 88}. Photograph taken facing north, 0.2m scale.

Plate 21 - North Cloister buttress {SGR: 13} in Carpenters Court. Photograph taken facing east, 0.2m scale.

TABLE OF TABLES

Table 1 - Condition of the faunal assemblage.

Table 2 - Species representation by area.

Table 3 - Samples submitted for assessment.

TABLE OF APPENDICES

Appendix 1 - Context Inventory

Appendix 2 - Stratigraphic Matrix

Appendix 3 - Sub-Group Index

Appendix 4 - Sub-Group Matrix

Appendix 5 - Ceramic Catalogue

Appendix 6 - Building Material Spot Dates

Appendix 7 - Mortar Catalogue

Appendix 8 - Stone Catalogue

Appendix 9 - Environmental Samples Assessment

Abstract

An archaeological excavation was carried out at Hampton Court Palace, the work was undertaken as part of the ongoing project to upgrade the electrical ring main of the palace. The work was carried out by L - P : Archaeology on behalf of Historic Royal Palaces. This report has been prepared by John Quarrell.

The objectives of the excavation were to archaeologically excavate the trench for the first phase of new electrical cables, and to fully record all archaeological remains encountered. Further, the excavation sought to minimise the impact of the cable installation on the archaeological fabric, and to preserve structural remains in situ wherever possible.

This phase of archaeological work took place in the north of the palace, around the Kitchens and Great Hall.

Evidence of a Late Medieval or Early Post Medieval hearth structure was found, this hearth was on a distinctly different alignment to the upstanding walls of the palace, and is thought to likely date to Giles Daubeney's occupation of the site.

Beneath the Great Hall the excavation identified the foundations of the earlier Great Hall built by Giles Daubeney, and these correspond with foundations found during excavations in the 1970s.

In Tennis Court Lane to the north of the palace part of Henry VIII's Bowling Alley has been observed during the excavation.

Following the completion of all five phases of the ring main project the results will be published as a whole. The project gives an unprecedented insight across much of the palace.

1. Introduction

1.1. This report has been prepared by John Quarrell and Tom Swannick on behalf of Historic Royal Palaces. The fieldwork was carried out by L - P : Archaeology from October 2017 to February 2018.

1.2. A five phase programme of work to upgrade the electrical ring main at Hampton Court Palace has been planned. Each of these phases of electrical work is to be preceded by a programme of archaeological excavation and recording.

1.3. This document sets out the results of the archaeological excavation completed as part of the first phase of the replacement of the electrical ring main at Hampton Court Palace hereafter referred to as 'the site' (FIGURE 1). The site is centred on National Grid Reference (NGR) 515818, 168515.

1.4. The works consisted of c.235 m of linear trenching with an average width of c.1.3m. The trenching spanned both external and internal areas on the north side of the Palace (FIGURE 2).

1.5. The site is located within the Scheduled Monument of Hampton Court Palace (SURREY NO. 83).

1.6. The site code allocated for this work by Historic Royal Palaces is HCP163.

1.7. The work was carried out in accordance with a Written Scheme of Investigation (WSI) prepared by Daniel Jackson, Curator of Historic Buildings for Historic Royal Palaces (JACKSON 2017B).

1.8. The excavation was spilt into eleven areas within the palace (FIGURE 3). These areas are:

- ◆ Area 1 - A trench on the west side of Tennis Court Lane
- ◆ Area 2 - A trench in the Servery corridor
- ◆ Area 3 - A trench linking Area 2 to Area 4
- ◆ Area 4 - A trench in the corridor to the Kitchen Shop

- ◆ Area 5 - A trench in Feeder Pillar C room
- ◆ Area 6 - A trench in the North Cloister
- ◆ Area 7 - A trench in the corridor linking Base Court to the North Cloister
- ◆ Area 8 - A trench inside the switch room on Tennis Court Lane
- ◆ Area 9 - A trench at the east end of Tennis Court Lane
- ◆ Area 10 - Additional trench to the south of Area 7
- ◆ Area 11 - Carpenters Court

1.9. The fieldwork on site was completed by the following team from L - P: Archaeology: the Project Officer on site was Tom Swannick, assisted by archaeologists Aaron Clarke, Daniel Bateman, Barbora Brederova, Rory Falconer, Florence Laino, Connor Law, Shuan McConnachie, Simon 'Boris' Pennington, John Quarrell, and Charlie Scovell. The project was managed by Guy Hunt. The work was monitored by Daniel Jackson of Historic Royal Palaces, and Jane Sidell, Historic England's Inspector of Ancient Monuments.

1.10. L - P : Archaeology would like to take this opportunity to thank Daniel Jackson and Alexandra Stevenson from the curatorial team at Historic Royal Palaces for commissioning the work and supporting it throughout.

2. Site Background

2.1. CIRCUMSTANCES OF THE WORKS

- 2.1.1. Hampton Court Palace is one of the most significant buildings and archaeological sites in the country. This status is reflected in its designation as a Scheduled Monument (SURREY NO. 83).
- 2.1.2. The electrical ring main project will involve the excavation of new service trenches throughout the ground floor of Hampton Court Palace in order to replace the existing electrical infrastructure. The work programme has been split into five phases and will be carried out over a five-year period (JACKSON 2017A).
- 2.1.3. The trenches excavated during this phase are focussed on areas around the Tudor Kitchen and in Tennis Court Lane.
- 2.1.4. Due to the significance of the Palace it is necessary to minimise any impact to the asset, and where it is unavoidable to ensure that any archaeological remains are suitably preserved by record.
- 2.1.5. The archaeological excavation was carried out in accordance with an agreed Written Scheme of Investigation (WSI) (JACKSON 2017B). This document has been prepared to describe the results of this excavation and to make recommendations for further work.

2.2. TOPOGRAPHY

- 2.2.1. Hampton Court Palace is located upstream of central London, on the north bank of the River Thames within a large meander of the river. The land the palace is situated on is generally flat, with some slight variation across the palace complex.
- 2.2.2. The external excavation area sits at approximately 9.56m OD to the north west, and gently slopes to the south east at 9.28m OD.
- 2.2.3. The internal excavation area inside the Palace sits at a number of differing

heights due to the layout of the building. The northern part at an elevation of 9.48m OD. The lowest internal extant floor level in the undercroft of the Great Hall was 8.66m OD.

2.3.GEOLOGY

2.3.1. The British Geological Survey GeoIndex shows the site to be located on a bedrock of London Clay Formation. This is overlain by superficial deposits of Kempton Park Gravel Member a deposit of sand and gravel deposited by the Thames (BRITISH GEOLOGICAL SURVEY 2019).

2.3.2. Natural geological deposits were encountered in Area 5 (SECTION 5.4.2). Deposits were present between 8.32m OD and 8.43m OD. These deposits consisted of a firm orange-brown silty sand, and were likely deposited as river terrace deposits.

2.4.SELECTED HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

2.4.1. The complete historical and archaeological background of the site is well documented and will not be reproduced in full here. A detailed historical background of the site is included as an appendix to the Archaeological Project Design (JACKSON 2017A). A brief account of the established archaeological and historical background of the palace, summarised from this appendix and also drawing on Thurley's (2003) *Hampton Court A Social and Architectural History*, is included here for the convenience of the reader.

2.4.2. Evidence of human activity in the vicinity of the palace has been identified dating to the Neolithic, with Neolithic pottery found on an island in the Thames near Kingston.

2.4.3. A number of Bronze Age artefacts have been found in the Thames near Hampton, and several Bronze Age burials have been excavated in the area. Additionally earthworks in Hampton Court Park and at the end of the Long Water could possibly be Bronze Age barrows.

2.4.4. Following the Roman conquest, settlement developed at Kingston and on

Kingston Hill, with agricultural activity in the fertile floodplain of the Thames. Roman finds on the north side of the Thames suggest the existence of several prosperous agricultural estates centred on the Thames fording points near Hampton Court and Kingston.

- 2.4.5. In the Early Medieval period Hampton's importance as agricultural estate may have been reinforced by its proximity to Kingston, which was the location of King Athelstan's consecration in 925. In this period the site was part of the hundred of Hounslow which contained the manors of Hampton and Isleworth. At the time of the Conquest, it is understood that the land was held by King Harold.
- 2.4.6. Following the Norman conquest William I granted the land to Walter St Valery, whose family would continue to own the manor of Hampton till the early 13th century.
- 2.4.7. The Order of the Knights Hospitaller is known to have had a presence at Hampton from at least 1180, and this likely arose due to Reginald St Valery's connection to the Crusades. For the next 55 years the Order rented the manor at Hampton. In around 1217 Thomas St Valery gave the manor of Hampton to a merchant Henry of St Albans. Following a legal dispute with his tenants, the Hospitallers, Henry of St Albans agreed to sell them the manor in 1237.
- 2.4.8. In 1494 Giles Daubeney acquired the lease of Hampton Court. Lord Daubeney was an influential courtier in the court of Henry VII. It has been suggested that Daubeney transformed Hampton Court from a modest country manor to major courtier house between 1495 and 1500 (THURLEY 2003: 10).
- 2.4.9. Giles Daubeney died in 1508, at his death his son Henry was a minor. In 1510 Henry VIII granted the wardship of Henry Daubeney to his mother. It is not known what Lord Daubeney's widow did with the house in this period. In 1514 Henry Daubeney came of age and one month later the lease on Hampton Court was given up and transferred to Cardinal Wolsey.
- 2.4.10. Cardinal Wolsey made a number of significant changes to Hampton Court

throughout his tenure. These included extending the existing buildings to create a double courtyard house, and overhauling the existing lodgings.

2.4.11. In 1528 when Wolsey fell out of favour the king through the Treasurer of the Household, Sir William Fitzwilliam, ordered Wolsey to vacate Hampton Court. From this point onwards Hampton Court was used by the king and queen, whilst Wolsey resided partly at Richmond and partly at Hampton Court (THURLEY 2003: 41).

2.4.12. Henry VIII expanded the palace further building a new great hall and adding a tennis court. Henry also expanded the kitchens so that they could cater for the entire Royal Household.

2.4.13. From Henry VIII the palace remained a royal residence throughout the Tudor and Stuart periods, with each monarch using the palace to a greater or lesser extent.

2.4.14. The next major change to the palace came in the late 17th century when William and Mary commissioned Sir Christopher Wren to design a new Baroque palace. This resulted in the demolition of a large part of the Tudor palace including Henry VIII's state apartments.

2.4.15. From the later 18th century the palace became home to a community of grace and favour residents. These favoured members of the court were granted an apartment to live in within the palace.

2.4.16. From 1838 the palace was opened to the public and regularly received crowds of day-trippers. Throughout the 19th century small repairs were made to the building, largely in response to the wear and tear caused by the increasing numbers of visitors passing through. Between 1880 and 1911, however, a large scale series of restoration works took place.

2.5. PREVIOUS WORK

2.5.1. Numerous archaeological excavations have been undertaken throughout the palace complex. The records and archives from these works are sometimes

incomplete, and so can only provide a general indication of what has been found in the past.

2.5.2. As part of the ring main project the following archaeological works were undertaken prior to the start of this phase of excavation:

- ◆ A geophysical survey in the form of ground penetrating radar (GPR) was undertaken in November 2016 (STRATASCAN 2016). The survey uncovered a significant number of modern and historic services and numerous features of possible archaeological origin.
- ◆ In February 2017 a small archaeological evaluation (HCP 159) consisting of six test pits was undertaken on site in order to inform the design of Phase 1 of the ring main project (BASHFORD 2017).

3. Original Aims

3.1.1. The original aims of the excavation were set out in detail in Section 6 of the WSI (JACKSON 2017B: 3). The aims are summarised here for the convenience of the reader.

3.2. GENERAL AIMS

3.2.1. The general aims of the archaeological excavation were:

- ◆ Minimise the archaeological impact of the project.
- ◆ Preserve by record any archaeological deposits that fall within the impact levels of the scheme.
- ◆ Establish (and test our understanding of) the character, extent and phasing of the various archaeological remains exposed during the project.
- ◆ Disseminate the results of the archaeological excavations as widely as possible, in line with the significance of the discoveries.
- ◆ Attempt to answer the following specific research questions.

3.3. SPECIFIC AIMS

3.3.1. The specific objectives of the archaeological works were:

- ◆ Is it possible to locate any of the moat features potentially present at Hampton Court? How does this information inform our current understanding of the early development of the palace complex?
- ◆ Is it possible to identify the exact position and condition of the Tudor Bowling Alley on Tennis Court Lane?
- ◆ In what way has this project increased our understanding of the phasing of the surviving palace buildings?
- ◆ How does this project refine our understanding of the development of the great hall(s)?

- ◆ In what way has this project increased our understanding of the development and usage of the 18th century outbuildings on Tennis Court Lane?
- ◆ What can the artefactual and ecofactual remains reveal about the lives of people living and working in the palace?
- ◆ What can the artefactual and ecofactual remains reveal about Hampton Court Palace's communities and supply networks?
- ◆ Does this project increase our understanding of now lost parts of the building, elements of decoration or earlier alternate usage of the spaces?
- ◆ How do the series of brick walls identified in Evaluation trench 2 contribute to our understanding of the development of the palace?
- ◆ Does this project increase our understanding of the painted plaster discovered in Evaluation trench 1? What can the painted wall plaster tell us about the decorative history of the palace?
- ◆ What is the function and date of the brick structure identified in the base of Evaluation trench 4?

4. Methodology

4.1. For a full description of the archaeological methodology please refer to Section 7 of the WSI (JACKSON 2017B). A summary of the methodology employed is given below.

4.2. A variety of different methodologies were implemented across the excavation in response to the varying conditions on site, and the known previous disturbances.

- ◆ Area 1 - Hard standing and modern overburden were excavated by a 360° mechanical excavator with a toothless bucket. Underlying archaeological deposits were hand cleaned and excavated.
- ◆ Areas 2, 3, 4, 5, 7, 8, 10, and 11 - In these areas the flagstones or brick floor surfaces were removed by Simpsons Brickwork Conservation (SBC), and all underlying deposits were excavated by hand.
- ◆ Area 6 - The flagstones and bedding material were removed by SBC, and a pre-existing service trench was re-excavated by hand.
- ◆ Area 9 - The trench was machine excavated by a 360° mechanical excavator with a toothless bucket along the route of an existing service trench. Any underlying archaeological deposits were hand cleaned and excavated.

4.3. The excavation was completed in three parts. The work in Areas 1-7 was completed between the 16th October 2017 and the 17th November 2017. Work in Area 8 was undertaken between the 4th December 2017 and the 8th December 2017. Additional work in Carpenters Court (Area 11) was completed on the 15th and 16th February 2018.

4.4. Following the completion of the excavation the contexts were checked and organised into sub-groups of related contexts. This was completed in accordance with the standard Museum of London methodology for post excavation assessment and interpretation.

5. Results

5.1. INTRODUCTION

- 5.1.1. Deposit numbers are given in (parentheses), cut numbers in [square brackets] and masonry numbers are underlined. Sub-group numbers are given in {SGR: braces}. Heights are given in metres above Ordnance Datum (m OD), and some are supplied in measurements below ground level (BGL) for the convenience of the reader.
- 5.1.2. An inventory of all the contexts allocated during the excavation can be found in Appendix 1. Please refer to the stratigraphic matrix in Appendix 2 for the stratigraphic sequence. Additionally an inventory of the sub-groups into which the contexts were organised can be found in Appendix 3, the relationships between these sub-groups is illustrated in the sub-group matrix in Appendix 4.
- 5.1.3. For clarity the results have been grouped thematically, describing several linked areas of excavation in the same section.
- 5.1.4. Within the areas of excavation the results have been broken down by periods. The periods assigned have been chosen to reflect the evidence present in each area.

5.2. TENNIS COURT LANE AND THE SWITCH ROOM (AREAS 1, 8, & 9)

- 5.2.1. Tennis Court Lane is a road that runs east-west along the north side of the palace. This part of the excavation was largely situated along the length of Tennis Court Lane, but was also partly within the range of building to the north of the lane at the west end.

EARLY 16TH CENTURY

- 5.2.2. In Area 9 a small section of brick wall foundation and a buttress {SGR: 21}, composed of contexts 9009 and 901Z, were excavated in the eastern part of Tennis Court Lane (PLATE 1). This brickwork measured 1.30m east-west and 0.68m north-south, being truncated at its southern extent (FIGURE 4). The foundations were first encountered at 8.90m OD. These have been interpreted

as the remains of the Tudor bowling alley built for Henry VIII that is known to have been located in this area. The bowling alley is understood to have been built in 1536 (THURLEY 1988: 19). The foundations present in the trench likely formed the eastern wall of the structure as well as part of an internal wall. Although not directly datable in this excavation, these structural remains were overlain by deposits of demolition material which contained bricks that have been dated to 1500-1528 (SECTION 5.2.12). This provides some clues to the date of the structure, but the possibility remains that this demolition dump was unrelated to these foundations, and the dating of bricks must be treated with caution as bricks are frequently reused in later periods.



Plate 1 - Bowling Alley eastern wall and buttress {SGR: 21}. Photograph taken facing north, 1m scale.

- 5.2.3. No remains of the western wall or the interior surfaces of the Bowling Alley were found in the trench, these having likely been truncated by later activity.
- 5.2.4. On the external side of this structure was an undated makeup deposit {SGR: 84}. Observations on site noted that the deposit may be related to horticultural activity. The bowling alley is understood to have projected north from the Prince's lodgings into the privy orchard (THURLEY 1988: 30). It is therefore possible that these possible horticultural deposits in this area may relate to the privy orchard.

LATE 16TH TO 17TH CENTURY

- 5.2.5. In Area 8 the earliest deposit encountered was a layer {SGR: 3} interpreted as being indicative of external cultivation. This was dated by clay tobacco pipe stem to post date 1580. The top of this layer was encountered at 8.93m OD, the layer was not fully excavated as the formation level had been reached.
- 5.2.6. External cultivation layer {SGR: 3} was cut by an east-west aligned bedding trench [8012] (FIGURE 5) (PLATE 2). This bedding trench was 0.38m wide and 0.26m deep. The upper fill (8011) of the bedding trench contained pottery sherds dating from the 15th to 17th centuries. Furthermore, a clay tobacco pipe found within the bedding trench has been dated to 1660 to 1680, giving a relatively tight date range for the use of this area for cultivation. Given the proximity to the kitchens of this feature it seems likely that it may have been associated with some form of kitchen gardening.



Plate 2 - East-west bedding trench {SGR: 4} in Area 8.
Photograph taken facing east, 1m scale.

- 5.2.7. Towards the eastern end of Tennis Court Lane one of the earliest deposits encountered was an external dump {SGR: 15}. This deposit can be said to post date 1580 as clay tobacco pipe stems were found in it.
- 5.2.8. Cutting into dump {SGR: 15} was a north-south oriented brick culvert {SGR: 16} (FIGURE 6). This culvert was built with single brick thick walls and

an arched roof, giving it a width of 0.54m. The base of the drain was lined with tiles, 9013. The drain, 9004, likely would have extended across the full width of the trench, continuing beyond the limit of excavation to the north and truncated by modern services to the south (PLATE 4) (PLATE 5). Spot dating of the bricks from the culvert gave a date range of 1501 to 1528, which given its stratigraphic position would suggest that they may be reused. Due to the culvert's proximity to the remains of the Tudor bowling alley (SECTION 5.2.2) it may have been built to drain waste away from the bowling alley and into one of the Palace's major culverts. No finds were present within the fill of the culvert, and there was insufficient volume present to take an environmental sample.



Plate 3 - The excavation of culvert {SGR: 16}, the culvert had been truncated to the south by the cut for an electrical cable. Photograph facing north-west, working shot featuring Aaron Clarke.



Plate 4 - Culvert {SGR: 16} with the roof removed. Photograph facing north, 0.2m scale.

17TH TO 19TH CENTURY

5.2.9. Cut into dump {SGR: 15} was a shallow linear cut [9008] of uncertain function {SGR: 18}, possibly associated with some sort of landscaping. Sitting within this depression was a makeup deposit, (9001), that contained sherds of pottery that have been dated to the 16th to 17th century. This linear cut was on a north-south alignment and appears to broadly correspond with Sykes and Ford's (2010: FIGURE 3) projected line of the western wall of the Bowling Alley. It therefore is possible that this cut is a robber cut from the demolition of the Bowling Alley which is documented to have occurred in the 18th century.

5.2.10. The external cultivation {SGE: 4} (SECTION 5.2.6) in this area was followed by a series of landscaping events {SGR: 5}. The first ground raising dump (8010) in this area contained pottery that has been dated to the 17th to 18th century. At

the top of this sub-group was a trampled occupation layer indicating a pause in the landscaping.

5.2.11. Ground raising deposit {SGR: 5} was overlain by a further ground raising dump {SGR: 6}. This deposit was undated, but consisted of a relatively thick deposit of mortar so could perhaps be related to the construction of a boundary wall to the north, shown on the phased plan of the Palace to date to the second half of the 18th century (FORD 1996).

5.2.12. The masonry of the Tudor bowling alley (SECTION 5.2.2) was overlain by deposits of demolition material {SGR: 19}. This included demolition rubble (9016) which appeared to be *in situ* collapsing of the bowling alley structure, and a deposit of demolition rubble (9010) that may have come from elsewhere. Pottery found in (9010) has been dated to the 18th to 19th century. In the, possibly *ex situ*, demolition deposit were bricks that have been dated to 1500-1528.

5.2.13. No dating evidence was found for the disuse {SGR: 17} of culvert {SGR: 16}, as there were no finds present in the silting deposit (9012). If it was associated with the Tudor bowling alley then it seems likely that it would have gone out of use at the same time as the demolition of this structure.

5.2.14. Overlying the demolition of the bowling alley {SGR: 19} was a levelling layer {SGR: 20}. No dating evidence was recovered from this deposit, but it is likely to have been deposited shortly after the demolition of the bowling alley.

19TH CENTURY TO EARLY 20TH CENTURY

5.2.15. Located in Area 8, ground raising deposit {SGR: 6} was cut by the construction cut for the extant range of buildings {SGR: 7}. The Ford (1996) phase plan has interpreted that this range was built sometime between the 19th century and 1912. This range of buildings incorporated the existing east-west boundary wall. Evidence of a previous brick and flagstone floor surface, {SGR: 8} comprising contexts 8002 and 8003, was also recorded within this building (PLATE 5) (FIGURE 7).



Plate 5 - Former brick and flagstone floor surfaces {SGR: 8} in Area 8.

20TH CENTURY TO MODERN

5.2.16. The trench in the west side of Tennis Court Lane was excavated to a formation level of 0.6m BGL/8.92m OD. The trench only encountered the backfill deposits {SGR: 1} of 20th century services.

5.3. THE KITCHENS (AREAS 2, 3 AND 6)

5.3.1. The kitchens at Hampton Court Palace are located within the north-west part of the main palace building. They are located to the south of Tennis Court Lane, and to the north of the Great Hall.

MEDIEVAL

5.3.2. The earliest deposit present in Area 6 was a layer of compacted crushed tile and ceramic building material {SGR: 28} that would have likely formed an external yard area. The surface of this layer was present at 8.65m OD. This deposit was not excavated and was left *in situ*.

5.3.3. This yard surface was sealed by a dump of redeposited water lain material (6029). Environmental assessment, see (SECTION 12.3.3), of this deposit suggests that this may have been upcast material from the dredging of the moat. The layer consisted of a distinctive yellowish green well sorted silty sand (PLATE 6),

no direct dating evidence was found within the layer. This layer was encountered at 8.77m OD.



Plate 6 - A pale green silt deposit {SGR: 29}, likely formed of upcast material from the clearing of the moat. Photograph facing north-east, 1m and 0.5m scale

- 5.3.4. In Area 2 there was a layer of brownish black sandy silt which likely formed as occupation trample {SGR: 2}. This deposit was left *in situ*, and recorded in plan without excavation. Pottery recovered from context (2037) of the trample deposit has been dated to 1200-1399. The surface of this deposit was encountered between 8.51m OD and 8.67mOD.
- 5.3.5. A layer thought to be part of an external surface {SGR: 57} was recorded in Area 2. This deposit was not excavated, but was recorded *in situ* and reburied. No dating evidence was recovered from the layer, but its stratigraphic position would suggest that it is Medieval. The surface of this deposit was encountered between 8.41m OD and 8.46mOD.
- 5.3.6. Cut into trample {SGR: 2} were three stake holes {SGR: 69}, comprising contexts [2027], [2029] and [2031]. Two were wholly visible within the trench and one was partially obscured by a later pipe (FIGURE 8). Of the two that could be clearly observed, one was square in plan and the other was circular (PLATE 7). Each had a diameter of approximately 0.10m. The three

small stake holes form a rough line on an approximate east-west axis. No dating evidence was present in any of the backfill deposits of these post holes. However, a layer composed of sandy clay (2025) interpreted on site as packing around the stakes {SGR: 51}, did contain pottery that has been dated to 1200-1399.



Plate 7 - Three stake holes {SGR: 69}. Photograph taken facing west, no scale.

EARLY 16TH CENTURY - PHASE 1

- 5.3.7. Built on top of external surface {SGR: 57} was the structure of a brick hearth. The construction of this began with the deposition of a levelling makeup deposit of sand and mortar {SGR: 59}, and the construction of the foundations for the chimney breast {SGR: 54}, consisting of contexts 2014 and 2045 (FIGURE 9). Chimney breast {SGR: 54} was built from a mixture of orange-red and purple-red bricks, bonded with a greyish yellow sandy lime mortar (PLATE 8). The hearth within the chimney breast walls had an internal width of 4.25m (14 ft). The structure was on north-south alignment, with the hearth facing west.
- 5.3.8. Built within the chimney breast {SGR: 54} was an internal hearth furniture structure {SGR: 55} constructed from brick (FIGURE 9). This consisted of a back wall 2011, on the east side, of purplish red bricks laid in header course and

bonded with a greyish white lime mortar (PLATE 8). The back wall of the hearth exhibited evidence of *in situ* burning (PLATE 9). On the west side of the hearth was a course of bricks laid on bed 2044, but on an angle to form a shallow gully approximately 0.06m deep. This may have been a feature to prevent ashes spreading out into the room and to aid cleaning.



Plate 8 - The north side of the chimney breast {SGR: 54}, with the internal hearth structure {SGR: 55} to the south of it. To the north glazed tile floor {SGR: 61} and structure {SGR: 60} area also visible. Photograph taken facing east, no scale.



Plate 9 - Close up of burning to internal hearth structure {SGR: 55}. Photograph taken facing north, no scale.

5.3.9. A pot filled with mortar (2060) was found in a cut {SGR: 58} directly below the hearth's internal structure {SGR: 55} (FIGURE 10). Due to later truncations by services and the demolition of this phase of buildings it is not possible to say with absolute certainty whether the hearth was built on top of this buried pot, or if it was inserted at a later date. In either case the pot appears to have been deliberately deposited into a purpose excavated cut. The pot was filled with mortar, see (SECTION 6.3.4), and had likely been used as a mixing bucket, possibly for the construction of the hearth. The pot has been dated to the 16th to 18th centuries.



Plate 10 - Mortar filled pot {SGR: 58}. Photograph taken facing north-west, 0.2m scale.

5.3.10. Built abutting the north side of the chimney breast {SGR: 54} was a quarter-circular structure of brick {SGR: 60}. The brick structure, 2009, was built from orange-red bricks bonded with a brownish yellow lime mortar (PLATE 11). This may have been the foundation for a bread oven or warming cupboard, or it may perhaps have been the base for some sort of storage cupboard or work surface.

5.3.11. Abutting the west side of the hearth was a glazed tile floor set in a mortar and sand bedding {SGR: 61} (PLATE 12). The tiles, 2016, were 200mm x 210mm x 45mm, plain with no additional decoration and were glazed yellow, green and

blackish brown (SECTION 9.4.2). The extent of this floor surface continued to the west beyond the limit of excavation, but had been truncated to the east. The surface of the floor sat at 8.72m OD. Elsewhere in Area 2 the only evidence of the floor surface which survived was the sand bedding {SGR: 47}.



Plate 11 - Brick structure {SGR: 60} abutting the north end of the chimney breast. Photograph taken facing east, 0.2m scale.



Plate 12 - Glazed tile floor {SGR: 61}. Photograph taken facing north, working shot featuring Rory Falconer.

5.3.12. To the south of the hearth structure in Area 2 was a linear east-west aligned strip of masonry, 2020 in {SGR: 46}, which has been interpreted as a step or

threshold. The step consisted of a single course of orange red brick lain on bed. The top of the step sat at 8.67m OD. South of the step there was a deposit of occupation trample {SGR: 49}. This deposit was composed of a brownish black silty clay rich in charcoal inclusions. Sample 12 was taken from this deposit (SECTION 12.3).

5.3.13. To the south of occupation trample {SGR: 49} was a further step {SGR: 52}. This step was built from a single course of reigate stone bonded by a brownish yellow sandy lime mortar 2019. It is thought likely that this was a step and not a truncated wall as there was no mortar present on the tops of the stones. The tread of the step sat at 8.66m OD. On the south side of this step there was a deposit of blackish brown sandy silt {SGR: 44}, this may have been deposited as a makeup layer for a floor surface contemporary with the step.

5.3.14. To the north of the hearth there was a heavily truncated structure that may have been a drain {SGR: 65}. It had been built from flint, chalk and peg tile, with the peg tile laid on an angle suggesting that it might have formed one side of a drainage channel. As this tile drain went out of use it became filled with a grey-brown sandy silt deposit {SGR: 66}. No dating evidence was found in this deposit.



Plate 13 - Rendered masonry {SGR: 64}, possibly a kitchen counter similar to those present in the extant kitchens. Photograph taken facing east, 1m scale.

5.3.15. Built on top of the drainage structure {SGR: 65} was the base of a possible counter or food preparation bench {SGR: 64}. This structure was stratigraphically later than the north side of the chimney breast and continued on the same north-south alignment for 4.3m, before turning to the east, across the trench, and then continuing beyond the limit of excavation (FIGURE 11). It is possible that this structure would have been built up against the walls and would have run along the side of the room. Therefore this turn could be evidence of the edge of the room. No remains of foundations of a wall were present, but these may have been fully truncated in the area of the trench, and are therefore no longer visible. The structure was built from a mixture of materials that included reigate stone, chalk, brick, peg tile and sandstone, which had been bonded with a grey-white sandy lime mortar. These mixed materials had then been rendered to give a uniform finish (PLATE 13). Bricks from context 2008 within this sub-group have been dated to 1500 to 1528, see (SECTION 9.2).

5.3.16. Abutting structure {SGR: 64} was another context of masonry of uncertain function {SGR: 67}. Similarly this context was constructed from a mixture of materials, in this instance unfrogged bricks and reigate stone. This context had been heavily truncated by later activity {SGR: 68}, having been truncated to height lower than the nearby floor {SGR: 61}, but it may once have been the foundations for a wall. If it was a wall then it is on an east-west alignment, and would have perhaps formed an internal wall within the room.

EARLY 16TH CENTURY - PHASE 2

5.3.17. The various structures of the previous kitchen in Area 2 were demolished {SGR: 56} in advance of the construction of the Servery and the rooms to either side of it. Likely at the same time the floor {SGR: 47} to the south of the hearth was robbed out and the step {SGR: 46} and {SGR: 52} were demolished, recorded as {SGR: 48} and {SGR: 53}. Likewise, the possible kitchen furniture structure to the north of the hearth was likely also demolished {SGR: 63} at this time.

5.3.18. Following the demolition of the previous phase of the kitchen the ground level was built up by a series of makeup and levelling dumps {SGR: 62} and {SGR: 86} (FIGURE 12). The only datable material present in these deposits was residual Medieval pottery. The consistencies of these deposits was fairly mixed, the material having likely come from the demolition of the previous phase of the kitchens.

5.3.19. Evidence of this phase of construction of the kitchens is present in the form of several mortar spreads and construction trample deposits {SGR: 50} located in Area 2. Deposit {SGR: 45} in the south end of Area 2 is similar in character, and consisted of a dump of mortar and ceramic building material debris.

5.3.20. In Area 6, built on top of Medieval layer {SGR: 29} (SECTION 5.3.3) were the remains of a brick wall {SGR: 30} (FIGURE 13). This wall, 6020, was on an approximate north-south alignment, and had a fair fair face on the west side (PLATE 14). To the south and east the wall had been truncated leaving only two rows of bricks surviving. The wall continued beyond the limit of excavation to the north. The surviving wall consisted of three courses of bricks built in english bond on a bedding deposit of mortar, and topped by a course of tiles. The western 'real' edge of this wall lines up with the projected line of the western wall of a kitchen seen in an excavation in 1978 (THURLEY 2003: 61). This then may be a truncated fragment of that same western kitchen wall, that formed the western boundary to the kitchens until 1529 when Henry VIII is documented to have extended the kitchens to the west (SECTION 5.3.23).



Plate 14 - Truncated remains of north-south wall {SGR: 30}. Photograph taken facing north-east, working shot featuring Florence Laino.

5.3.21. Directly abutting wall foundation {SGR: 30} on its western side was a construction backfill and makeup deposit {SGR: 31}. This makeup deposit would likely have been the base for a now truncated external surface to the west of the kitchens.

5.3.22. The earliest deposit present in Area 3 was a make up or levelling layer {SGR: 77}, this consisted of a compact deposit of CBM and mortar (3012). No dating evidence was recovered from this layer, but it does pre-date the construction of a two storey block on the east side of the Servedy corridor. Part of the foundations {SGR: 78} for this building were recorded in Area 3, they were built within a construction cut that truncated levelling deposit {SGR: 77}. This part of the palace kitchens is understood, based on the extant building fabric, to have been built during the same phase that the Servedy was built.

EARLY 16TH CENTURY - PHASE 3

5.3.23. Henry VIII ordered the demolition of the north and west sides of the earlier scullery, with work beginning in May 1529 (THURLEY 1990: 14). This is evidenced by the demolition {SGR: 32} of wall {SGR: 30} (FIGURE 13), and then the buildup of material {SGR: 33} (PLATE 15) to support new floors in this

area. Within {SGR: 33} was a deposit of construction debris (6007) which consisted of a mix of mortar and CBM fragments.



Plate 15 - The build up of layers {SGR: 33} to construct the Henrician extension of the kitchens. Photograph taken facing north, 1m scale.

17TH CENTURY

5.3.24. In the 17th century the central portion of the kitchen range was modified (FORD 1996). The foundations of these new walls {SGR: 36} were present at the east end of Area 6 where they were recorded in section (FIGURE 13). The wall {SGR: 36} was built upon a series of trampled layers of construction debris and deliberate buildup deposits {SGR: 34}. Also likely part of this phase of the build were the make up layers for a previous floor surface within the North Cloister corridor {SGR: 35}.

5.3.25. Wall foundation {SGR: 35} was built from a mixture of brick ranging in colour from red-purple to orange-red, they were roughly arranged in a header coursing.

18TH TO 19TH CENTURIES

5.3.26. In the North Cloister corridor (Area 6), there were a series of make up deposits for floor surfaces {SGR: 38}, {SGR: 39} and {SGR: 40}. Within these

subgroups, context (6018), (6019) and (6026) contained pottery that has been dated to the 18th to 19th centuries. Perhaps suggesting that new floor surfaces were laid in this period.

5.3.27. These makeup deposits had all been cut by the construction cut of an east-west aligned culvert {SGR: 37} running along the length of the North Cloister. The cut also truncated the demolition deposit {SGR: 32} associated with construction of the Henrician kitchen at the west end of Area 6 (SECTION 5.3.23). The culvert itself was not seen in the course of these works as it lay well below the formation level of the new electrical cable trench.

5.3.28. Above the backfill of this culvert trench were further makeup deposits for the floor of the North Cloister {SGR: 41}, and two blocks or piers of brick {SGR: 42} and {SGR: 43} (FIGURE 14). The bricks from {SGR: 42}, context 6010, have been dated to 1725-1775, and the bricks from {SGR: 43}, context 6023, have been dated to 1770-1900. The function of these blocks of brick remains unclear, but it could be that they were built to laterally reinforce the foundations of the North Cloister.

5.3.29. Overlying the construction of the kitchen offices to the north of Area 3 was a layer {SGR: 79} which had been heavily truncated since its deposition, but which may have been a makeup layer, perhaps for a floor surface. Pottery and clay tobacco pipe stem were recovered from context (3021) in this sub-group, the pottery dating to the 18th to 19th centuries.

5.3.30. Makeup layer {SGR: 79} was truncated by a cut of unknown function, which had been filled by a black silty clay {SGR: 80}. Although the function of this cut is unknown, it might perhaps have been from a robbing event. The backfill deposit contained pottery dating to the 18th to 19th centuries.

5.3.31. In a construction cut which cut into the possible robbing event {SGR: 80} were the foundations of a brick pier base 3010 {SGR: 81} added to the south-east corner of the Servedy corridor (FIGURE 15). The Ford (1996) phase plan suggests that a decorative arch was added to the opening at the southern end of the Servedy between 1800 and 1912, and this brick pier may have been built

to reinforce this.

5.3.32. Also cut into robber cut {SGR: 80} was the construction cut for a brick pad 3007 {SGR: 82} built to the south of the Servedy arch (FIGURE 15). The construction of this structure appears to be Victorian in character. Its function is not entirely clear due to later truncations by modern services, but it may have been a reinforcement to the foundations in the North Cloister.

5.3.33. In the late 19th century to early 20th century columns were added to the southern end of the Servedy (FORD 1996). The foundations for these may have been additionally supported by north-south aligned brick braces that ran beneath the floor of the North Cloister. Brick foundations 3008 {SGR: 85} on the alignments of these pillars were found during the excavation. However, they had been truncated by the excavation of service trenches to such an extent that their relationships to the surrounding contexts had been completely destroyed.

5.4. THE GREAT HALL (AREAS 4 & 5)

5.4.1. The Great Hall is located in the northern part of the main palace buildings, it is to the south of the kitchens and to the north of Clock Court.

NATURAL GEOLOGY

5.4.2. Generally natural deposits were not encountered during the excavation, however, the earliest deposits encountered in this area were natural river terrace deposits {SGR: 22}, composed of context (5002), (5008) and (5010). These deposits were present in Areas 4 and 5. These consisted of homogenous deposits of orange-brown silty sand, which contained no inclusions. The surviving natural geological deposits were encountered between 8.36m OD 8.43m OD (FIGURE 16).

5.4.3. The river terrace deposits that the palace complex was later built on was formed 10-13,000 years ago during the end of the last glaciation (THURLEY 2003: 1).

PRE-1515

5.4.4. In Areas 4 and 5 the excavations recorded the foundations of the former Great Hall {SGR: 23}, comprising contexts 5003, 5007 and 5012. These foundations consisted of a rammed chalk raft, with occasional inclusions of brick fragments and flint nodules. The foundations had been lain into construction cuts which were cut into natural geological deposits (SECTION 5.4.2). The foundations were on an east-west alignment and were present in the excavation with a length of 3.90m and a width of 1.20m, the full surviving thickness was not seen during the excavation, but was at least 0.25m (FIGURE 17). The foundations had been truncated to the west, north and east, with the real edge of the foundation surviving on the south side. The foundations are present on the exact alignment anticipated by the Ford (1996) phase plan for the footings of the previous Hall. The phase plan gives the footings for the previous Hall found to the west a date of “Pre-1515”, as no dating evidence was recovered during the excavation in this area then we are unable to refine this further from the excavated evidence.



Plate 16 - Rammed chalk raft foundation below the modern floor in the Great Hall undercroft. Photograph taken facing east, 1m scale.

TUDOR

5.4.5. Also cut into the river terrace deposits was a post hole [5013] {SGR: 24}, located on the south side of Area 5 (FIGURE 18). The deposits found within the posthole contained no direct dating evidence, the only finds being a small assemblage of animal bones from backfill deposit (5015). The accounts of the palace note that during the demolition of the old hall scaffolding was erected (THURLEY 1988: 10), so this could be an explanation for this posthole. Within the base of the post hole were two courses of brick laid as a post pad 5014. However, these bricks could not be accurately dated, as they were only visible in the section of the limit of excavation, their presence places the posthole in the late Medieval to Post Medieval periods .

5.4.6. The accounts of the Palace record that bricklayers were working on the construction of the foundations of the present Great Hall by March 1532 (THURLEY 1988: 10). Part of this wall {SGR: 70} was recorded in elevation in Area 5 of the excavation (PLATE 17). The wall was revealed by the removal of the present stairs that descend from the North Cloister into the cellars of the Great Hall. The east face of the wall within the doorway was recorded. The wall is 1.5m thick, and built from bricks laid in English bond. Below the level of the present stairs, there was some evidence of a thin coat of plaster, which may have been painted white. Also visible in section in the area of the stairs were the remains of an earlier staircase {SGR: 70} that had been truncated by the construction of the later staircase. This earlier phase of stairs into the undercroft had been built with Reigate stone treads laid on a bed of bricks (PLATE 18) (PLATE 19). It was necessary to remove the staircase in order to create the new cable route.



Plate 17 - Foundations for the Henrician Great Hall {SGR: 70}, seen in section following the removal of the stairs
Photograph taken facing north-west, 0.5m scale.



Plate 18 - Remains of the brick staircase {SGR: 70}.
Photograph taken facing north, 1m scale.



Plate 19 - The stairs {SGR: 70} were built from a foundation of bricks with reigate stone treads. Photograph taken facing north-west, working shot featuring Daniel Bateman.

- 5.4.7. Following the initial construction of the Great Hall the walls to the north and south of the hall were buttressed {SGR: 71}. The foundations of one of these buttresses were recorded in section in Area 4. The foundations were built from large blocks of chalk, flint and reigate stone that had been randomly coursed. Overlying this foundation the buttress was built from red brown bricks laid in English bond with reigate quoins. These buttresses were not tied into the brickwork of the main hall build.
- 5.4.8. At the top of the stairs from the North Cloister to the cellars below the Great Hall was a deposit of redeposited river terrace sands {SGR: 72}. This material had been deposited as make up layers for the stairs and floors, and likely was upcast material from the excavation of the construction cuts for the hall foundations.
- 5.4.9. Above the sand makeup deposit was a brick floor {SGR: 73}, which may date to the Tudor phase of the Great Hall. The floor consisted of unglazed orange-red bricks laid on bed. The floor was later removed in a robbing out event {SGR: 74}, that left only a small area remaining *in situ*, the surviving floor measured 0.54m x 0.44m (PLATE 20).



Plate 20 - Truncated remains of a brick floor {SGR: 73}.
Photograph taken facing south, 0.2m scale,

5.4.10. Following the removal of floor {SGR: 73} it appears that a new floor was built.

A series of levelling and make up layers {SGR: 75} overlaid floor {SGR: 73} and were likely deposited to support a later floor surface. However, nothing remained of the later floor itself, it having been completely truncated by later activity. No dating evidence was present in these deposits, so no date can be ascribed to this later floor.

5.4.11. Overlying foundation deposits {SGR: 23} in the area of Great Hall undercroft was a makeup deposit (5004) and a brick sill 5022 {SGR: 25} for a previous floor surface in the undercroft (FIGURE 19). The makeup deposit used to level the area and provide a foundation for the floor surface was composed of a mixture of crushed brick and CBM. Located in the area of the extant doorway into Feeder Pillar C was an area of floor surface forming a north-south aligned threshold. It was made from a single course of brick and tile and measured 1.5m by 0.85m. The surface of the floor was at 8.41m OD.

5.4.12. Within the cellars of the Great Hall, overlying brick floor surface {SGR: 25} was a modification to the original floor {SGR: 27}. This consisted of three courses of bricks built to form steps descending from west to east located in the threshold to the Feeder Pillar C room. The treads of the steps were at

8.62m OD, 8.58m OD and 8.49m OD. A sampled brick from this build has been dated to 1529-1566.

19TH - 20TH CENTURIES

5.4.13. In the 19th or 20th century Area 5 was used as a pump room. This was evidenced in the archaeological record by the presence of metal tube set into concrete {SGR: 26}.

5.4.14. In the early 20th century the palace was first electrified. This has been observed throughout the areas of excavation, for instance in Area 4 where the initial electrification {SGR: 76} was recorded truncating earlier deposits. This original electrical system in the palace consisted of cable placed into a protective iron box and then sealed with bitumen that solidified within the box.

5.5. AREA 10

5.5.1. The excavation in Area 10 uncovered the inlet of a brick culvert {SGR: 88} (FIGURE 20). The extent to which the main body of this culvert could be recorded was limited by its inaccessibility. It was possible to observe that the culvert was built from brick with an arched roof 10004. Water originally drained into the culvert through a down chute and sluice (PLATE 21).



Plate 21 - Brick culvert {SGR: 88}. Photograph taken facing north, 0.2m scale.

5.5.2. Internally the culvert had entirely silted up at this inlet, and two distinct layers of silting were present. A grey-brown sandy silt (10006) overlay a grey-black silt deposit (10007). An environmental sample was recovered from deposit (10007) (SECTION 12.3). Post Medieval pottery dated to the 16th to 18th centuries was recovered from (10006). In addition to this a clay tobacco pipe was also found within this deposit, the pipe dates to 1778 to 1800 (SECTION 7.1.4). Suggesting that this part of the Palace's culvert system may have gone out of use in the late 18th or early 19th centuries.

5.5.3. Following its disuse the culvert was partially backfilled with demolition materials and the inlet to the culvert was capped with a reused stone floor slab {SGR: 89}.

5.6. MASTER CARPENTER'S COURT (AREA 11)

16TH CENTURY

5.6.1. The earliest deposit encountered in the area of Carpenters Court was a sandy deposit {SGR: 9}. It is thought that this deposit may have been associated with an external ground surface present in this area. This sand may have been a bedding layer for an earlier ground surface that would have predated the extant structures on site. No finds were recovered from this deposit. The top of this deposit was present at 8.73m OD and 8.96m OD.

5.6.2. The extant kitchen range to the north of the trench, and which enclosed the area of Carpenter's Court, is understood to have been built in 1529 (THURLEY 1988: 4; THURLEY 1990). It is possible that this deposit predates this construction.

5.6.3. Deposit {SGR: 9} was overlain by a series of ground raising dump deposits {SGR: 10}. These deposits consisted of a mixture of different compositions, but did include a mortar and lime rich sand which is likely waste material from a phase of construction. No finds were recovered from any of these deposits.

5.6.4. Located at the east end of the trench in Area 11 were the foundations of a buttress at the threshold into the North Cloister {SGR: 13} (FIGURE 21). These foundations, 11004, were built from an irregularly coursed mixture of brick

and chalk bonded with a white-grey sandy lime mortar (PLATE 22).



Plate 22 - North Cloister buttress {SGR: 13} in Carpenters Court. Photograph taken facing east, 0.2m scale.

20TH CENTURY TO MODERN

- 5.6.5. The truncated remains of a service inspection chamber {SGR: 11} was found overlying deposit {SGR: 9}. This structure had been built from purple-red unfrogged bricks bonded with a grey-white lime mortar. The highest surviving part of this brickwork was encountered at 9.02m OD. Although little remained of this structure, it is thought likely that it would have served a similar purpose to the later inspection chamber that was built to replace it.
- 5.6.6. A modern inspection chamber built from red bricks, capped with a york stone slab, and bonded with a cement mortar was encountered at 9.22m OD {SGR: 12}. The chamber had been built cut into ground raising deposit {SGR: 10}. The chamber was built in association with a water pipe and replaced the earlier inspection chamber {SGR: 11}.
- 5.6.7. At some point the buttress on the north-south wall of the North Cloister {SGR: 13} was demolished {SGR: 14}. The Ford (1996) phase plan suggests that this may have occurred after 1912.

6. Pottery

BY RACHEL HALL

6.1. INTRODUCTION

6.1.1. A total of 150 sherds, weighing 5590g, were recovered from 24 contexts and unstratified layers from across the site (Appendix 5). The pottery ranges in date from the 13th to 19th century, based on form and fabric. The average sherd size is 39.93g and generally the assemblage is in a good to fair condition. The assemblage was counted, weighed (in grammes) and the fabrics assessed by eye.

6.2. MEDIEVAL (1066-1499)

6.2.1. Ten sherds were recovered from the Servery Area that have been identified as Surrey whitewares. These oxidised, sandy coarsewares in a buff/white fabric are partially or fully green glazed. It is indeterminate whether this group of fabric can be further sub-divided due to the lack of diagnostic material, however these may be examples of Cheam Ware, Coarse Border Ware or Kingston type Ware (MCCARTHY & BROOKS 1988: 309; HASLAM, JEREMY 1984: 21)

6.2.2. A total of 10 sherd, including a small number of handles, body sherds and a possible serving dish were identified. A single plain rim with perforations under the rim, possibly for a lid attachment was recovered from horticultural layer in culvert [10004]. The sherds were largely recovered from the Servery area in unstratified layers, floor surface (2003), make-up levelling layers (2007), (2010), (2025) and occupation debris (2037). These sherds represent jugs and bowls associated with a domestic setting. Eight sherds of London type Ware, a reduced, dark red/brown, sandy fabric with green/olive glaze were also identified. These thin-walled glazed sherds were also utilised as domestic cooking and serving wares. Examples of rim sherds from bowls were recovered from levelling layers (4004), (5025) and a jug sherd with a yellow/buff glaze was recovered from redeposited debris deposit (6015). Also identified was an unstratified, single plain rim sherd with pre-firing perforations under the rim,

possibly for a lid attachment, suggesting another food storage/serving vessel. These sherds can be dated to 12-14th century (MCCARTHY & BROOKS 1988: 309; PEARCE ET AL. 1985).

6.2.3. Two later Medieval body sherds of possible Tudor Green ware were identified. These thinner walled, whitewares were decorated in a darker green glaze and can be dated to the 15-16th century (LAING 2014: 106). A handle fragment and abraded body sherd were recovered from bedding trench [8012]. No further information can be gained from these sherds.

6.3. POST-MEDIEVAL (1500-1799)

6.3.1. A variety of sherds dating to post-Medieval period were identified, including Tin Glazed Earthenware, Coarse Redwares, Glazed Red Earthenware and Stonewares.

6.3.2. Seven sherds of Tin-glazed earthenware were recovered from kitchen debris layer (8010) and make-up levelling layer (9001). These oxidised, sandy fabrics have a thick opaque glaze that is very abraded and patchy. The small amount of sherds that were recovered are abraded body and rim sherds, which have a blue pattern. These can be roughly dated to the 16-17th century (DRAPER 2008: 26; LAING 2014: 115).

6.3.3. The Coarse Redware sherds make up much of this assemblage, a total of 72 sherd were identified. Utilitarian vessel types of jugs, bowls used as domestic vessels for food preparation or storage were recovered from unstratified layers, mortar fill (2059), levelling layers (3021) and (4006). These Coarse Redwares can be dated to the 16-18th century (DRAPER 2008: 11).

6.3.4. Of particular note were several sherds of unglazed, Coarse Redware that were recovered from Servery area (2060) (SECTION 5.3.9). The thin-walled, oxidised, sandy sherds have a reduced grey core and have relatively fresh breaks. The near complete vessel is missing the rim. The base was fragmented but complete with finger impressions around base to form slight feet. Inside the base sherds were Iron and pebble concretions, possibly from the post-depositional

environment. This may have been utilised as a horticultural vessel, due to the possible feet on the base, but without a rim it is impossible to be certain.

6.3.5. Sherds of Glazed Red Earthenware (GRE) were also recovered from charcoal spread (2021) and culvert [10004]. These can be dated between 16-18th century and were produced at numerous locations over England until the 19th century (DRAPER 2008). These utilitarian wares were used in the food storage and preparation in the 17-19th century (LAING 2014: 118).

6.3.6. A small amount of early Stoneware body sherds was recovered from an unstratified layer and deposit (3004). These reduced fabrics have speckly glaze, which is indicative of earlier Stoneware round bodied jugs, dating to the 16-17th century (LAING 2014: 114).

6.4. MODERN (1800 – PRESENT)

6.4.1. Nine sherds of Stoneware were recovered from unstratified layers, the fill of pot (2060) and levelling layer (6018). A small number have inscriptions on the side near the base and are straight sided with a smooth uniform brown glaze. A base sherd recovered from an unstratified layer was manufactured in the 1850s in Denby, Nottinghamshire. The fabric and form suggest a later version of Stoneware which can be dated to the 18-19th century (LAING 2014: 114; DRAPER 2008: 33).

6.4.2. Eighteen sherds of Creamware were recovered from deposits (2015), (3004), levelling layers (3021), (6019), (6026) and destruction debris (9010). The sherds were largely undiagnostic body sherds with a small amount of rims and bases from small cups or bowls, saucers and dishes with blue patterns. These patterns include foliage and geometric patterns which are earlier and two Chinese inspired scenes, which may be Wedgwood, however no other potter marks were identified. These sherds of Creamware can be dated to the 18-19th century (LAING 2014: 125; DRAPER 2008: 47, 51).

6.5. FURTHER WORK

6.5.1. The assemblage is in fair to good condition however the due to the small

amount of diagnostic material, no further work is required. The assemblage will not add any further detail to the already published material from the region for the ceramic periods as discussed above.

- 6.5.2. The assemblage should be amalgamated with the pottery assemblages recovered throughout the ongoing ring main project. Once all five phases of the project have been completed the assemblage's potential for further study should then be reassessed as a whole. Future post excavation assessment reports should monitor this resource.

7. Clay Tobacco Pipe

BY DANIEL BATEMAN BA PCIFA

- 7.1.1. The clay tobacco pipe (CTP) in this assemblage consists of 24 fragments; 3 being bowls, 19 stems and 1 mouthpiece in total (175g)
- 7.1.2. With the majority of the CTP being stems, this gives a very broad date range of 1580 to 1910 for the contexts (3004), (3021), (8004), (8015) and (9002). The same can be said for the mouth piece found in context (8014).
- 7.1.3. Context (8011) uncovered a solitary CTP bowl which has a date range of 1660 to 1680. A stamp is visible on the bottom of the heel which depicts a lamb with a flag angled behind it (*Agnus Dei*).
- 7.1.4. Context (10006) contained another lone CTP bowl, which has a date range of 1740 to 1800. This bowl features a very detailed mould, with a coat of arms on the back of the bowl and a complete with maker's initials on the spur heel, reading 'ET'. These initials more than likely belong to Emerson Tidy, who manufactured clay tobacco pipes in London in 1778, narrowing down the date range of this particular context to 1778 (HAMMOND 2004: 26).

8. Faunal Remains

BY MATILDA HOLMES AND TOM SWANNICK MSC ACIFA

8.1. BACKGROUND

8.1.1. Bones came from features relating to the Tudor palace at Hampton Court, with the possibility that some originated from the earlier manor. The assemblage was recorded and quantified by Tom Swannick, and this assessment has been prepared by Matilda Holmes in accordance with guidelines from Baker and Worley (2014).

8.2. SUMMARY OF FINDINGS

8.2.1. Bones were in fair to poor condition (TABLE 1), with a high proportion of fresh breaks indicating poor preservation. Several butchery marks were recorded, the majority relating to carcass reduction for the provision of meat. There were no obvious deposits of butchery, craft-working or skin-processing waste, and no associated bone groups to indicate primary contexts.

CONDITION	NUMBER
Good	6
Fair	99
Poor	96
Very Poor	31
Total	232

Table 1 - Condition of the faunal assemblage.

8.2.1. The assemblage is small, with only 58 fragments identified to taxa (TABLE 2). Sheep/ goat remains dominated the assemblage, with a few bones of cattle, pig, canid (dog or fox), chicken, deer and rat. Fish bones are recorded from contexts (2021), (5025) and (10007) but not quantified. This is not an unusual assemblage for a site of this nature and period, although it contrasts with a contemporary assemblage from the garden area (HOLMES 2016) where cattle were more commonly recorded. This suggests that waste from different sources may have been disposed of in spatially discrete areas, which should be borne in mind for future projects.

AREA	UNIDENTIFIED	CATTLE	SHEEP/ GOAT	PIG	BIRD	FISH	OTHER	TOTAL IDENTIFIED	OTHER TAXA
6	29		1	4	3		4	12	Dog, rat
3	17			3	2		1	6	?deer
5	7			2		P	2	3	?deer
2	58		4	15	5	1	P	28	Canid, chicken
4	6			2	1			3	
8	12			2	1			3	
9	2						1	1	?deer
1	36					P	2	2	
TOTAL	167		5	28	8	5	12	58	

Table 2 - Species representation by area (P = Present, but not quantified).

8.3.POTENTIAL AND RECOMMENDATIONS FOR FURTHER WORK

8.3.1. The small sample size means that there is little to be gained from more detailed analysis of the assemblage at this stage, the number of bones falling well below the recommended 100 fragments for full analysis (HAMBLETON 1999). A list of species present should be included in any future publication, but further work is not recommended.

9. Building Materials

BY DR PHIL MILLS MCIFA

9.1. INTRODUCTION

9.1.1. Wherever possible remains of the historic fabric of the palace were left *in situ*. Therefore a number of masonry contexts were recorded in the field.

9.1.2. There were 285 fragments of building material weighing 146.98kg presented for assessment off site. The material was fully recorded to fabric type and the complete and almost complete bricks were put into a form series which has been matched with the existing Hampton court brick typology (FORD 1991). The material was grouped into sherd families by context with fabric being recorded number of sherds (No) weight in grams (WT) and number of corners (CNR) being recorded extant dimension of length, width and thickness were recorded in mm with further notes about the material being made as appropriate. In addition, a survey of in situ material was undertaken prior to reburial with fabrics recorded and select dimensions taken, in addition to the normal field recording undertaken by the excavation specialists.

9.2. CERAMIC BUILDING MATERIAL

DATING

9.2.1. A summary of suggested spot dates by context is included in the ceramic building material catalogue in Appendix 6. The dates were mainly derived from the existing typology (FORD 1991) although a few have been based on fabric identification as indicated and so should be treated with caution.

9.2.2. The main type of brick recovered, with 11 records, is Ford's (1991) type A, of early 16th century date although a number of these were thinner than the given date range, which could be a marker for earlier bricks.

9.2.3. There were two examples of Ford's (1991) type C bricks in the same fabric as type A of later 16th century to early 17th century date.

9.2.4. There was one possible example of a Ford type E brick of late-16th to early-17th century date.

9.2.5. There were 2 examples of Ford type O of mid-18th century date.

9.2.6. There were 3 examples of Ford Type Q of late 18th to 19th century date and There was one example of Type V, of 19th or 20th century date.

9.3. BRICKS

9.3.1. A number of sample bricks were recovered during the excavation. These are described in detail below. In addition several bricks were recorded *in situ*.

9.3.2. The *in situ* bricks recorded in the field included examples of Type A or C with Type E from the Area 5 staircase and a number of modern bricks.

TYPE A PRE-WOLSEY STOCK BRICK

9.3.3. There were 5 complete examples of this brick with measurements ranging from 220-227x104-107x46-51mm which has a minimum thickness slightly below the range given in Ford (1991) There were two possible half bricks which would otherwise be considered as part of this group

TYPE C HENRICIAN STOCK BRICK

9.3.4. There were one complete brick and one-half brick that would fit with this type with dimension ranging from 222-223x111x47-54mm both with sunken margins on the top.

TYPE E STOCK BRICK?

9.3.5. There was one possible example of this type with dimensions 246x118x63mm with straw impressions on the base

TYPE O 'LONDON' STOCK BRICK

9.3.6. There were two examples of this type with dimensions of 225-230x105-107x62-63 mm one with a shallow ill formed frog.

TYPE Q GREY STOCK?

9.3.7. There were three examples of this type, with dimensions 220-242x102-107x51-63mm, all had examples of a shallow ill formed frog.

TYPE V STOCK BRICK

9.3.8. There was one example of this type with dimensions 227x102x61mm.

9.4.FLOOR TILE

9.4.1. There were 45 fragments of floor tile, all plain tiles with glazes ranging from yellow, brown green and black. Many showed evidence of reuse, in the form of mortar over the glaze and on breaks. There was one complete example with dimensions 233x230x33mm with a yellow glaze. There was also a floor tile with extant dimensions 209x28mm in a yellow glaze with a brown speckle and a green strip, and a floor tile measuring 208x32mm with a dark green glaze and one with dimensions 207x26mm with a black glaze.

9.4.2. *In situ* glazed floor tile 2016 recorded in the field included black and yellow plain floor tiles with dimensions 210x200x45mm.

9.5.PEG TILE

9.5.1. There were 30 fragments of peg tile. There were 13 examples with round peg holes of c.6mm diameter with one thickness ranging from 11-16mm. There were 16 examples which had wide tapering peg holes tapering from c 11mm to c. 5mm. Thickness ranged from 10-16mm, with 6 examples with extant widths ranging from 156-170mm. There was one example with triangular peg holes, 148mm wide and 12mm thick. This is somewhat narrower than the standard peg tile width of 165mm set in 1477 (SALZMAN 1952: 230), so this could be an early tile.

9.6.TILE

9.6.1. There were 65 examples of flat roof tile, presumably from peg tiles but the holes were not present on the surviving fragment. Thickness ranged from 10 – 14 mm three complete widths were noted 1 of 139mm 1 of 155mm and 1 of 186 mm.

9.7.DRAIN

9.7.1. There was one fragment of drain or ridge tile, 14mm thick which had been embedded in mortar.

9.8.MORTAR

9.8.1. There were 25 fragments of loose and sampled mortar mainly of bonding mortar but also with render. Two main types of mortar were identified, based on inclusion size. A number of the larger mortar samples had very coarse stone and broken CBM inclusions. Details of the mortar can be found in the mortar catalogue in Appendix 7.

9.9.STONE

9.9.1. The details of the worked stone assemblage can be found in Appendix 8.

9.9.2. There were 8 fragments of stone presented.

9.9.3. There was a possible cleaved flint nodule.

9.9.4. There was a slate tile which was 4mm thick.

9.9.5. There was an unstratified possible slate floor tile with dimension from 201x110x60mm.

9.9.6. There were 4 examples of Reigate Greenstone (LOTT & CAMERON 2005) worked blocks. Including one example with incised lines and the remnants of black paint. There is also a reused fragment of a worn 50mm thick flagstone.

9.10.DISCUSSION AND FURTHER WORK

9.10.1. This is a small group of building material from Hampton court, it would appear that much of the brick is consistent with coming from an earlier structure, there are a number of surviving vitrified bricks which would have formed diaper pattern in the earlier structure. There are also some bricks which can be parallel with the existing typology to suggest that later brick work has been identified in the area of excavation.

- 9.10.2. Floor tile is plain and in a number of glaze colours. Much of this was reused, although further work may help shed light on the use of floor tile in the earlier structure perhaps the choice of colours in different phases.
- 9.10.3. The roofing tile is mainly peg tile, although there is one example of a slate roof tile. The roof tile is in a range of fabrics with three types of peg holes identified, with one unusually narrow tile, which analysis by phase could help understand supply and typological development.
- 9.10.4. The assemblage should be amalgamated with the building material assemblages recovered throughout the ongoing ring main project. Once all five phases of the project have been completed the assemblage's potential for further study should then be reassessed as a whole. Future post excavation assessment reports should monitor this resource.

10. Metal Objects

BY REBEKAH PRESSLER

10.1. IRON

10.1.1. Six Iron artefacts were noted in total. Five of the artefacts comprise broken Iron nails of indeterminate date. An Iron bar or lever recovered unstratified is probably late Post Medieval or early Modern in date.

10.2. COPPER ALLOY

10.2.1. Five copper-alloy artefacts were retrieved in total. Three of the objects are pins - two dress making pins of indeterminate date retrieved from floor deposit (8015) and levelling deposit (4004); and a large hairpin from layer (6015). A nail retrieved unstratified is probably derived from a box or similar decorative object. An indeterminate copper alloy object was noted from mortar deposit (2059).

10.3. LEAD

10.3.1. A small lead fragment found in levelling deposit (2025) most likely derives from a window.

10.4. RECOMMENDATIONS

10.4.1. Due to the small size of the assemblage no further work is recommended at this time.

10.4.2. The assemblage should be amalgamated with the assemblages recovered throughout the ongoing ring main project. Once all five phases of the project have been completed the assemblage's potential for further study should then be reassessed as a whole. Future post excavation assessment reports should monitor this resource.

11. Glass

BY REBEKAH PRESSLER

11.1.1. A small assemblage of 15 glass shards were retrieved from site. The majority of the material was relatively fragmentary and thus difficult to date accurately, however 18th to 19th century bottle glass fragments were noted from layers (6018), (8011) and (10003). Part of a glass bottle lip from demolition backfill (10003) can be more accurately dated from around c. 1790-1810. An abraded shard from chamber deposit (10007) is probably of 17th or 18th century in date.

11.1.2. Thin aqua coloured fragments from a bottle or drinking vessel were noted within culvert deposit (10006) and (10007). Further fine unidentifiable fragments were noted within deposit (8015).

11.2. RECOMMENDATIONS

11.2.1. Due to the small and fragmentary nature of the assemblage, no further work will be necessary at this time.

11.2.2. The assemblage should be amalgamated with any glass assemblages recovered throughout the ongoing ring main project. Once all five phases of the project have been completed the assemblage's potential for further study should then be reassessed as a whole. Future post excavation assessment reports should monitor this resource.

12. Environmental Samples Assessment

BY MATT LAW PHD ACIFA FHEA

12.1. INTRODUCTION AND METHODS

12.1.1. Seven bulk sediment samples from excavations at Hampton Court Palace, London, were presented for assessment. The samples submitted, with sample volumes, are listed in TABLE 1.

SAMPLE NUMBER	CONTEXT NUMBER	SAMPLE VOLUME (L)
8	6022	10
9	10007	20
12	2021	20
14	2509	10
15	5025	20
16	8011	20
17	8015	20

Table 3 - Samples submitted for assessment.

12.1.2. The samples were processed by Sandra Gallego Prieto of L - P : Archaeology in a Siraf-style flotation tank. The heavy fraction ('residue') was caught on a 1mm mesh, while the washover ('flot') was caught on a 250µm mesh sieve. The residues were air dried and weighed prior to being sorted. The flots were weighed wet then scanned for waterlogged organics under a low power binocular microscope. They were then air dried and sorted.

12.1.3. Biological remains were extracted by Matt Law and Sandra Gallego Prieto of L - P : Archaeology under a low power microscope at 10X magnification.

12.1.4. Mollusca and seeds were identified by Matt Law using a reference collection.

12.2. RESULTS

12.2.1. Results of the sample assessment are presented in APPENDIX 9. Preservation was good throughout the samples, with calcareous, charred and mineralised biological remains present. A range of artefacts was present, including ceramics, glass, CBM, iron objects, copper alloy objects and mortar.

12.3. DISCUSSION

12.3.1. Charcoal is present in five of the samples, absent only in samples 16 and 15. It

is especially prevalent in sample 14, associated with the fill of a large pot, where it may represent hearth sweepings.

12.3.2. Seeds are present in low numbers in four samples, including a single charred cereal grain in sample 15. The highest quantities of seeds are to be found in sample 9. These are predominantly elder (*Sambucus nigra*), with lower numbers of blackberry (*Rubus fruticosus*) and fig (*Ficus carica*). This combination is suggestive of food waste, and in particular human faeces. It is suggested that the feature held night soil. A single seed of goosefoot (*Chenopodium sp.*) was also present in this feature and is likely to be a chance introduction from a weed species growing nearby. Similarly, there is a single charred groundsel (*Senecio vulgaris*) seed in sample 12. This is likely to be a chance introduction.

12.3.3. Non-marine molluscan shell is present in low numbers in three of the samples. In sample 8, the assemblage consists solely of *Bithynia tentaculata*, a species found in large, well oxygenated water bodies in hard water regions (DAVIES 2008: 167; MACAN 1977: 41). The shells may well derive from dredging of a moat or the river. In sample 12, there is a single juvenile *Discus rotundatus*, a species which prefers shaded environments, and which may be a stray individual which found its way into the Servery, as well as three *Clausilia bidentata*, a *rupestral* species often found on walls. There is a broken fragment of a *Cepaea sp.* shell in sample 14, again part of a likely stray, and there are shells of *Helicella itala*, *Cochlicopa lubrica*, and a juvenile that may be *Ceruella virgata* in sample 15. These latter shells, which reflect a grassland environment, are likely to be part of the sediment used as backfill.

12.3.4. There are low numbers of fragmentary marine mollusc shells in two of the samples, where they are food waste. There are some fragments of oyster (*Ostrea edulis*) shell, including a complete left (lower, cupped) valve in sample 8 and more fragments including a complete (upper, right) valve in sample 12, where there are also fragments of mussel (*Mytilus sp.*) and cockle (*Cerastoderma sp.*) shell. These are intertidal species and their presence here

attests to wide-ranging provisioning of the kitchen.

12.3.5. A small collection of animal bones are present in samples 8, 9, 12, 14, 15 and 17. These are predominantly food waste, and include fish bones. Fish scales are present in samples 9 and 12. A variety of types are present, including ctenoid scales, which may be from perch (*Perca fluviatilis*). These could represent food processing waste, however the presence of seeds indicative of faeces in sample 9 may mean that some of the scales have passed through the human digestive system.

12.4. STATEMENT OF POTENTIAL AND RECOMMENDATIONS

12.4.1. The samples reveal evidence of diet and resource procurement throughout the period the excavated deposits were being laid down. Evidence of environmental conditions is rather more limited, however.

12.4.2. The assemblages of charcoal and bone should be assessed, and the charred grain identified. No further work is recommended for the shell or seeds, although the complete assemblage should be retained with the site archive.

13. Discussion

13.1. The results of the archaeological excavation have provided an insight across many of the northern parts of the Palace, particularly the areas of the Great Hall, the Kitchens, the Seryery, and Tennis Court Lane. In places this work has corroborated earlier work, such as the remains of the Tudor Bowling Alley in Tennis Court Lane, and the foundations of the earlier Great Hall found in the undercroft of the present Great Hall. While elsewhere the findings of the excavation have forced us to reevaluate previously held interpretations of the development of the palace.

13.2. THE KITCHENS

13.2.1. The dating and interpretation of the extant Seryery, and the rooms to either side, has varied in the recent past. In his earlier work Thurley (1990) suggests that the Seryery was built by Wolsey (1514-1529). Likewise, the Ford (1996) phase plan of the Palace dates their construction to this period.

13.2.2. However, “in the few surviving building accounts relating to Wolsey’s work at Hampton Court no reference is found to the construction of any kitchens” (THURLEY 1990: 8). This is perhaps why in his later work this interpretation was reevaluated, in his book on Hampton Court, Thurley suggests that the part of the kitchens that includes the seryery was instead built by Giles Daubeney (THURLEY 2003: 61).

13.2.3. The results of the excavation in Area 2 have that found the remains of a hearth and associated structures that can be dated to the early 16th century. A hearth of this size and in this location is likely indicative of the building being a kitchen. This calls the previous phasing of the kitchens into question. If this hearth was built during the time of Giles Daubeney, then that would be suggestive that the construction of the eastern part of the extant kitchens, including the Seryery, was indeed undertaken by Wolsey.

13.2.4. The dating of the western part of the kitchens remains unaffected by these findings, the dating of their construction to the Henrician period being well supported by documentary evidence.

13.3.THE BOWLING ALLEY

13.3.1.The bowling alley was previously excavated as part of the HCP 66 excavations where the remains of its foundations were found in Trenches 1, 2 and 3 which were located to the north of the present trench, in the garden to the north of Tennis Court Lane (SYKES & FORD 2010). The location of the remains found in the present trench are generally consistent with the projected line of the Bowling Alley produced following the HCP 66 evaluation, and would have likely formed part of the eastern wall and a buttress of this structure.

13.3.2.Although generally consistent with the foundations found in the HCP 66 excavation, these foundations are not quite located on the exact line anticipated by extrapolating the results of HCP 66. This may be the result of the combined margins of error from surveying in the foundations.

13.4.THE GREAT HALL

13.4.1.Foundations of a previous phase of Great Hall were found in the undercroft of the present Great Hall. These foundations when compared with the Ford phase plan are in the exact location anticipated by extrapolating the previously excavated remains (FIGURE 17).

13.4.2.Similarly, a post hole seen in section during these works correspond neatly with one of a series of post holes which is shown on the Ford phase plan of the palace. The post holes on this plan are dated to the Henrician period.

14. Potential of the Data

14.1. This section will aim to discuss to what extent the results of the excavation have been able to answer the original general and specific aims (SECTION 3) set out in the written scheme of investigation.

14.2. GENERAL AIMS

14.2.1. The excavation has successfully minimised the archaeological impact of the installation of the first phase of the ring main replacement. The majority of surviving structural remains were left *in situ*, and in the few instances where this was not possible a full and complete record has been created.

14.2.2. In some parts of the excavation the results have meant it has been necessary to reevaluate our understanding of the palace, while in other parts it has corroborated the earlier evidence.

14.2.3. The results of the excavation have already been disseminated in a number of ways, for instance a summary article has appeared in *Current Archaeology* (KRAKOWKA 2018), and the ring main project has been presented at the *London Archaeologist* Annual Lecture (HUNT & JACKSON 2019). Details of further publication and dissemination of the results are presented in Section 16.4.

14.3. SPECIFIC AIMS

Is it possible to locate any of the moat features potentially present at Hampton Court? How does this information inform our current understanding of the early development of the palace complex?

14.3.1. At no point in the excavation was a cut likely to be part of the moat observed. What was present, was a deposit of material which is thought likely to have originated within the moat. This moat dredging deposit provides some clues to where the moat may have been located, as it likely would not have been taken far from where it was excavated.

Is it possible to identify the exact position and condition of the Tudor Bowling Alley on Tennis Court Lane?

14.3.2. The remains of the Tudor Bowling Alley were found within the trench in Tennis Court Lane. No evidence of the western wall was present, but part of the eastern wall and one of the buttress was found.

In what way has this project increased our understanding of the phasing of the surviving palace buildings?

14.3.3. The project has provided particular insight into the phasing and development of the kitchens. It now seems likely that the eastern part of the kitchens including the Servery were built by Cardinal Wolsey.

How does this project refine our understanding of the development of the great hall(s)?

14.3.4. The excavation has located part of the foundations of the pre-1514 Great Hall, and in doing so has confirmed the extrapolation of the Ford phase plan. Furthermore the project has confirmed the location of a post hole shown on the Ford plan as being related to the Henrician palace. Additionally the excavation has found evidence that a previous stair into the undercroft had steps with reigate stone treads.

In what way has this project increased our understanding of the development and usage of the 18th century outbuildings on Tennis Court Lane?

14.3.5. Limited evidence of the usage of these buildings has been found. A previous floor surface made from a mixture of brick and stone flagstones was found approximately 0.30m below the present ground level.

What can the artefactual and ecofactual remains reveal about the lives of people living and working in the palace?

14.3.6. As with much of the archaeological work at the palace the quantity of artefactual and ecofactual remains found in primary contexts has been limited. What pottery was present were generally associated with cooking and food

preparation.

What can the artefactual and ecofactual remains reveal about Hampton Court Palace's communities and supply networks?

14.3.7. Again the remains that have been found have generally been residual and not part of large assemblages of finds. This likely points to an organised system of waste removal from the palace, and people were generally not depositing their waste in the areas of the kitchen or the Great Hall.

14.3.8. One find of particular interest was the clay tobacco pipe where it was possible to identify a maker's mark, and therefore precisely identify a local supply network.

14.3.9. The faunal remains were generally consistent with a site of this type and consisted of a mixture of mammalian and fish bones.

14.3.10. Of some interest perhaps was the environmental sample collected from the culvert that contained elderberry, blackberry and fig seeds.

Does this project increase our understanding of now lost parts of the building, elements of decoration or earlier alternate usage of the spaces?

14.3.11. The project has increased our understanding of the earlier phase of the Kitchens. No evidence has been found of earlier decoration of the palace. Evidence of the previous land use of the palace has been found under the range of the buildings to the north of Tennis Court Lane where evidence of cultivation has been found.

How do the series of brick walls identified in evaluation Trench 2 contribute to our understanding of the development of the palace?

14.3.12. The north-south aligned brick wall seen in Trench 2 of HCP 159 was again found in the trench in Area 6. Its function remains somewhat uncertain, but it is thought perhaps to be a later reinforcement to the foundation, providing a brace between the wall.

Does this project increase our understanding of the painted plaster discovered in

Evaluation Trench 1? What can the painted wall plaster tell us about the decorative history of the palace?

14.3.13. Unfortunately no further remains of painted wall plaster were found during the excavation, and therefore we have been unable to address this research aim.

What is the function and date of the brick structure identified in the base of evaluation Trench 4?

14.3.14. The brick structure seen in the evaluation trench has been interpreted as the truncated remains of an earlier brick floor surface. This structure is thought to date to the Henrician phase of the Great Hall.

15. Significance of the Data

15.1.The site has been considered in terms of its significance to archaeological research and knowledge on a local, regional and national level.

15.2.LOCAL SIGNIFICANCE

15.2.1.The evidence of past diet and resource procurement provided by the environmental samples and faunal remains is of local significance, and adds to the existing knowledge of diet and daily life in the palace in the Post Medieval period.

15.2.2.The late Post Medieval Victorian modification to the Palace observed during the excavation are of local significance. These add to a well established body of evidence on the later use and development of the Palace.

15.3.REGIONAL SIGNIFICANCE

15.3.1.The foundations of the Bowling Alley found in Tennis Court Lane are of regional significance. Location of the Bowling Alley had been positively identified by a previous recent excavation, and this project has refined our knowledge of it's survival to the south of the previous excavation.

15.4.NATIONAL SIGNIFICANCE

15.4.1.The remains of an earlier kitchen in Area 2 are of national significance. These remains have the potential to provide further insight into the sites transition from late Medieval manor into an early Post Medieval royal palace.

15.4.2.Similarly the remains of the earlier Great Hall foundation are of national significance. Again, these foundation are evidence of the transition of the palace from a grand Medieval house to later becoming an early Post Medieval royal palace.

16. Recommendations for Further Analysis and Publication

16.1. We recommend that the following further work could be undertaken, and in order to execute this work the contractor should first produce a written scope in the form of an Updated Project Design to be agreed with the client.

16.2. FURTHER RESEARCH

16.2.1. A small amount of further archival research could be undertaken to compare the results of this excavation with the results of previous excavations at the palace.

16.2.2. In particular is wall {SGR: 30} similar in character to the foundations found to the north in the 1970s? And can this research confirm whether this wall is part of the former western wall of the palace.

16.2.3. Similarly, what information on the previously excavated Great Hall foundations can be found in the archives?

16.2.4. As part of this research previously excavated remains could be fully digitised into a GIS system.

16.2.5. An interpretive reconstruction drawing to aid in comparing the excavated remains of the earlier kitchen with the surviving remains of the Tudor kitchen should be produced.

16.3. FINDS ANALYSES

CERAMIC BUILDING MATERIAL

16.3.1. The ceramic building material would benefit from overall analysis in terms of the bulk find assemblage and the sampled assemblage in terms of the site and any identified stratigraphic groupings. It would improve the understanding of the use and development of roof tile on the site over time and the use of floor tile in the building. The assemblage would benefit from direct comparison with the physical brick typology. Is it possible to further refine the dating of the hearth and its associated structures?

POTTERY

16.3.2. Although in general the size of the pottery assemblage, and particularly the number of diagnostic sherds, does not warrant further analysis, a small amount of further work may be able to refine our phasing of the palace. Can a specialist in vessels of this type and period provide a more precise date for the mortar filled pot found in relation to the hearth?

ENVIRONMENTAL SAMPLES

16.3.3. The assessment of the environmental samples has recommended that the assemblages of charcoal and bone should be assessed, and the charred grain identified. No further work is recommended for the shell or seeds, although the complete assemblage should be retained with the site archive.

16.4. PUBLICATION

16.4.1. It is proposed that a series of publications presenting and summarising the results of each the five phases of the excavation should be produced for inclusion in the *London Archaeologist*.

16.4.2. Once all five phases of the ring main project have been completed then a publication collating and presenting the results of the archaeological project as a whole should be produced. This will amalgamate and present the results of all further research and analyses.

16.4.3. In advance of any further post excavation work or publications an Updated Project Design (UPD) should be produced. This document will set out the updated research aims to be addressed by these publications.

16.4.4. The UPD should contain the following sections:

- ◆ Introduction
- ◆ Historical and Archaeological Background
- ◆ Significance of the Data
- ◆ Updated Aims and Objectives

- ◆ Task Sequence
- ◆ Resources and Programme

17. Archive

17.1. The paper archive consists of:

- ◆ 205 x Plans on Drawing Film
- ◆ 9 x Sections on Drawing Film
- ◆ 1 x Photographic Register
- ◆ 1 x Drawing Register
- ◆ 1 x Context Register
- ◆ 1 x .zip Folder of digital Images
- ◆ 215 x Context Sheets

17.1.1. The finds archive consists of:

- ◆ 24 x boxes of artefacts as described in Sections 6-11

17.2. The archive is to be deposited with Historic Royal Palaces.

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FIGURES

FIGURE I // Site Location - General



PROJECT // 2567L - HCP Electrical Ring Main Phase I

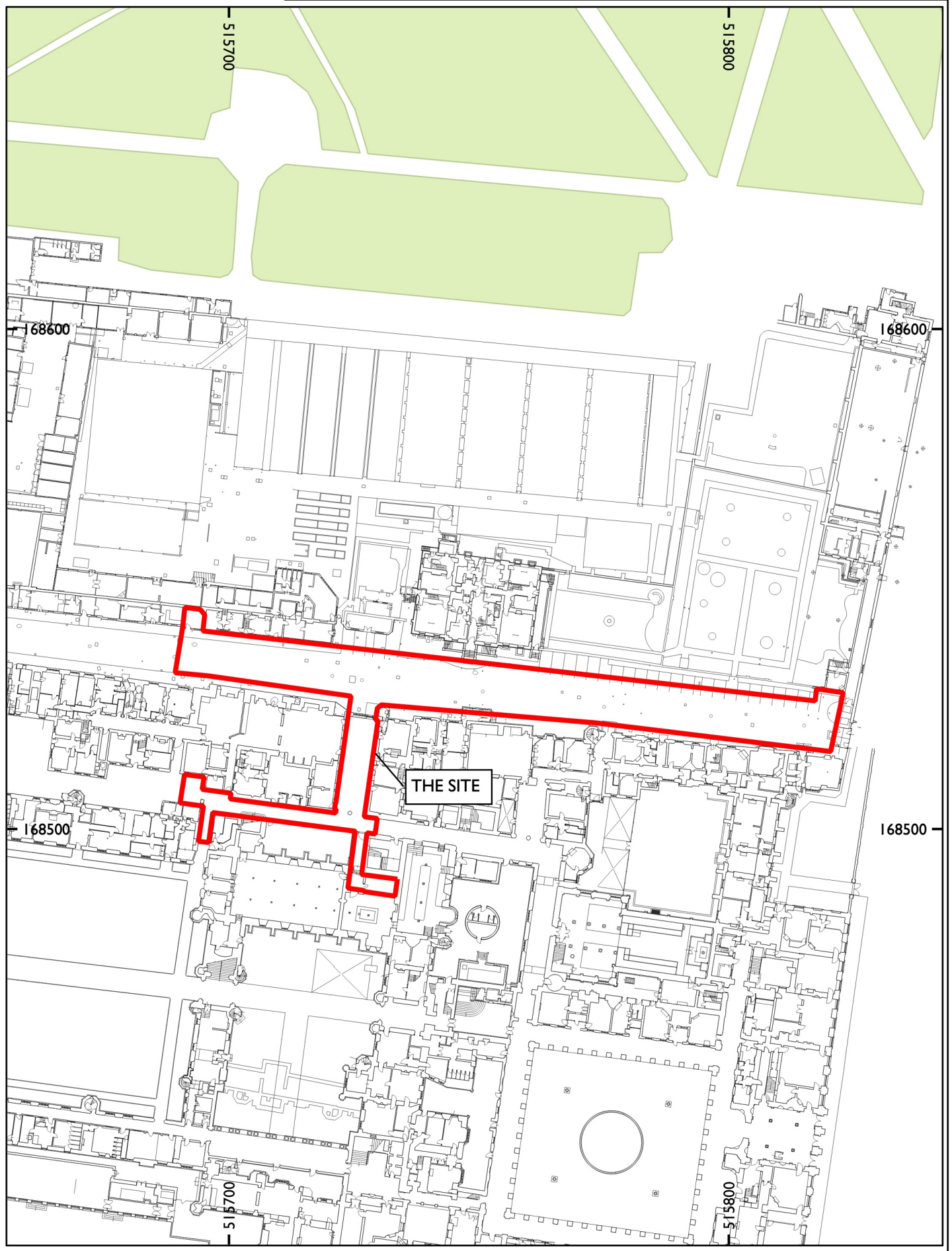
DESCRIPTION // Site Location

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DOC REF: LP2567L-PXA-v1

L-P:ARCHAEOLOGY

FIGURE 2 // Site Location - Detail



0 50 m



PROJECT // 2567L - HCP Electrical Ring Main Phase I

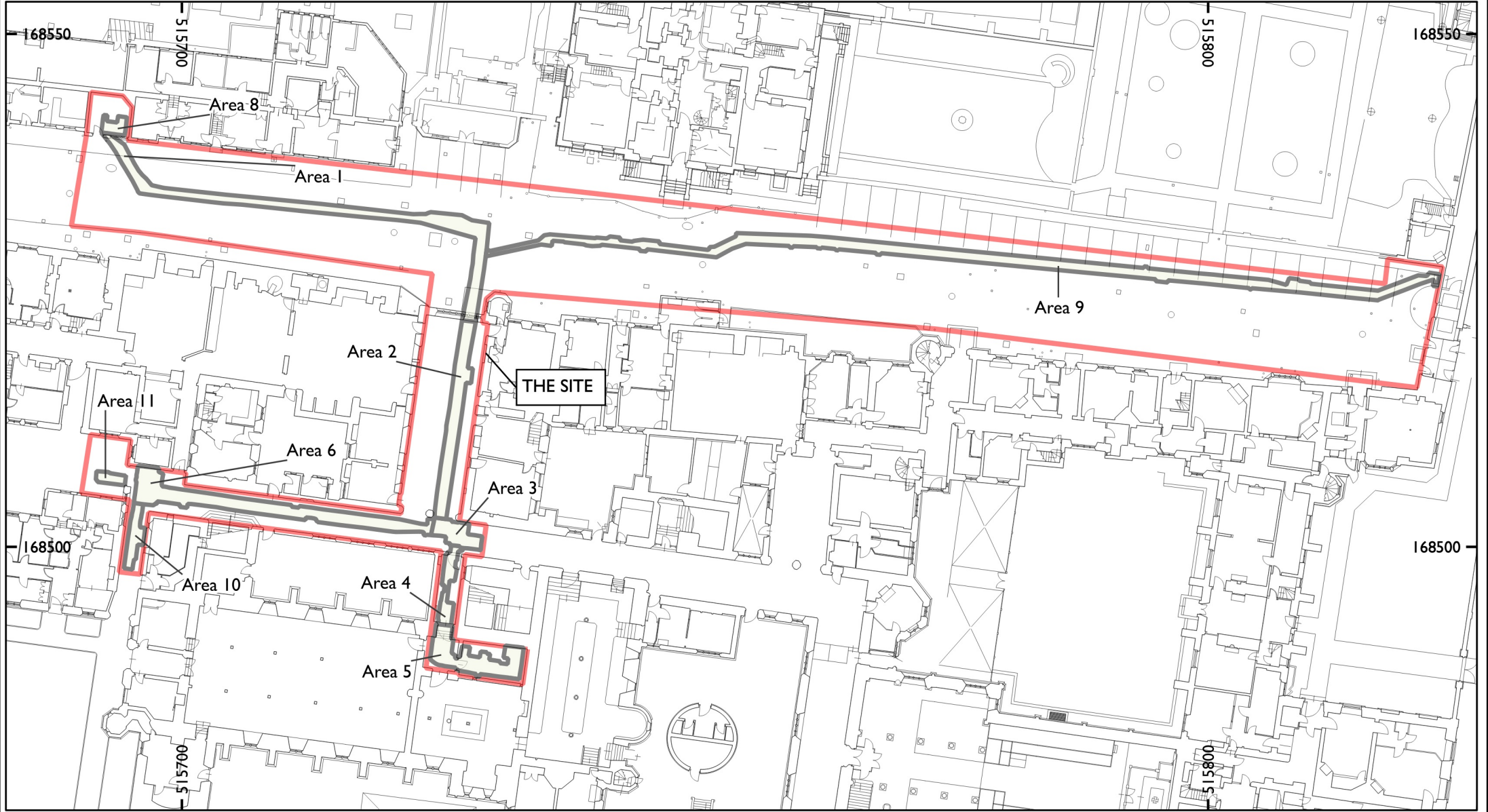
DESCRIPTION // Site Location

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FIGURE 3 // Excavation Areas



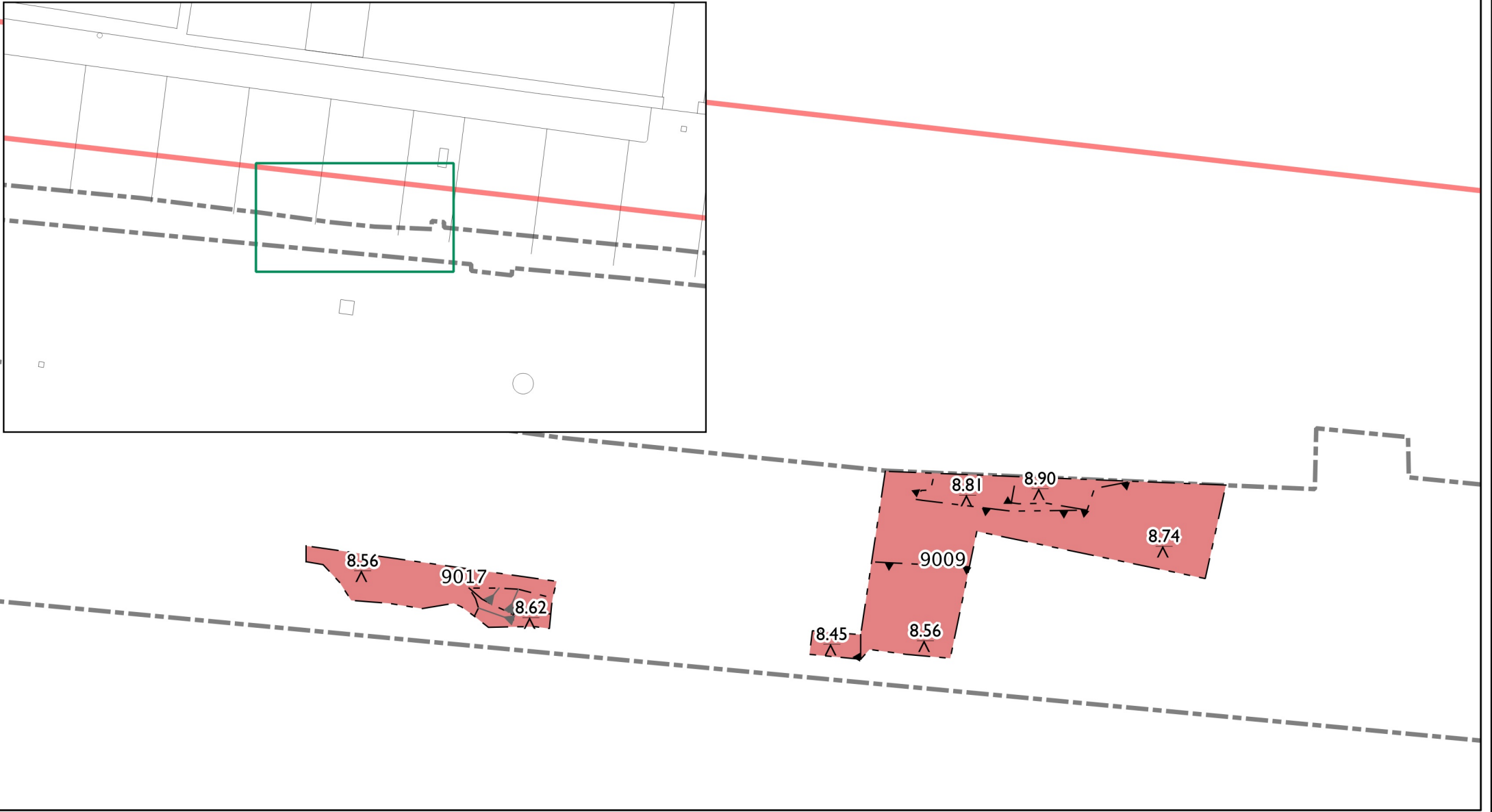
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Areas of Excavation

DOC REF: LP2567L-PXA-vI

L-P:ARCHÆOLOGY

FIGURE 4 // Bowling Alley Buttress {21}



0 1 m



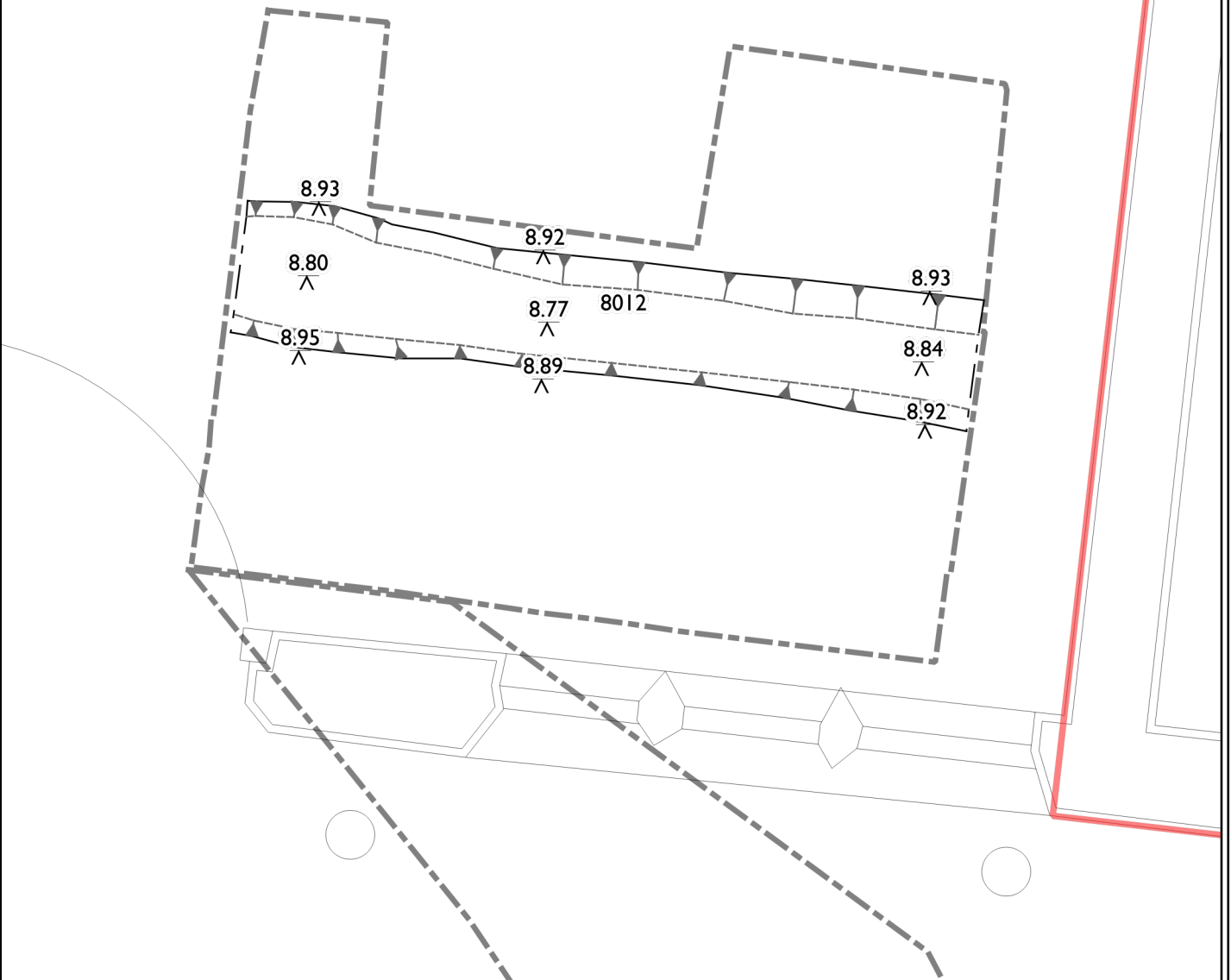
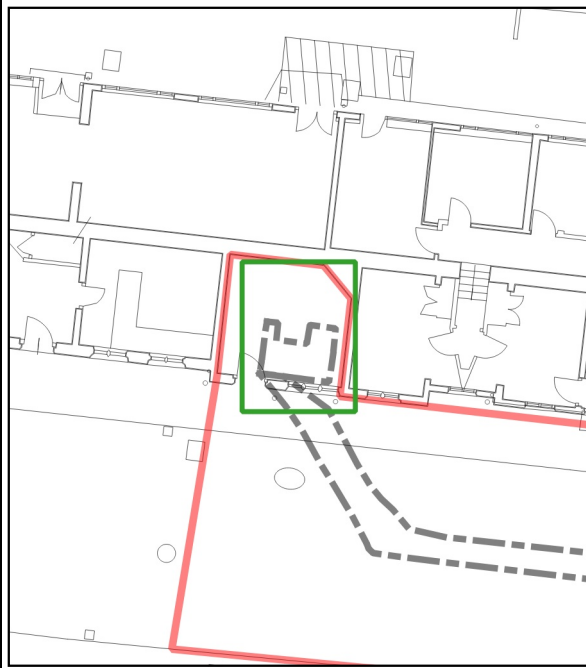
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // The western wall and buttress of the Tudor Bowling Alley

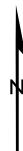
DOC REF: LP2567L-PXA-v1

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FIGURE 5 // Bedding Trench in Area 8



0 1 m



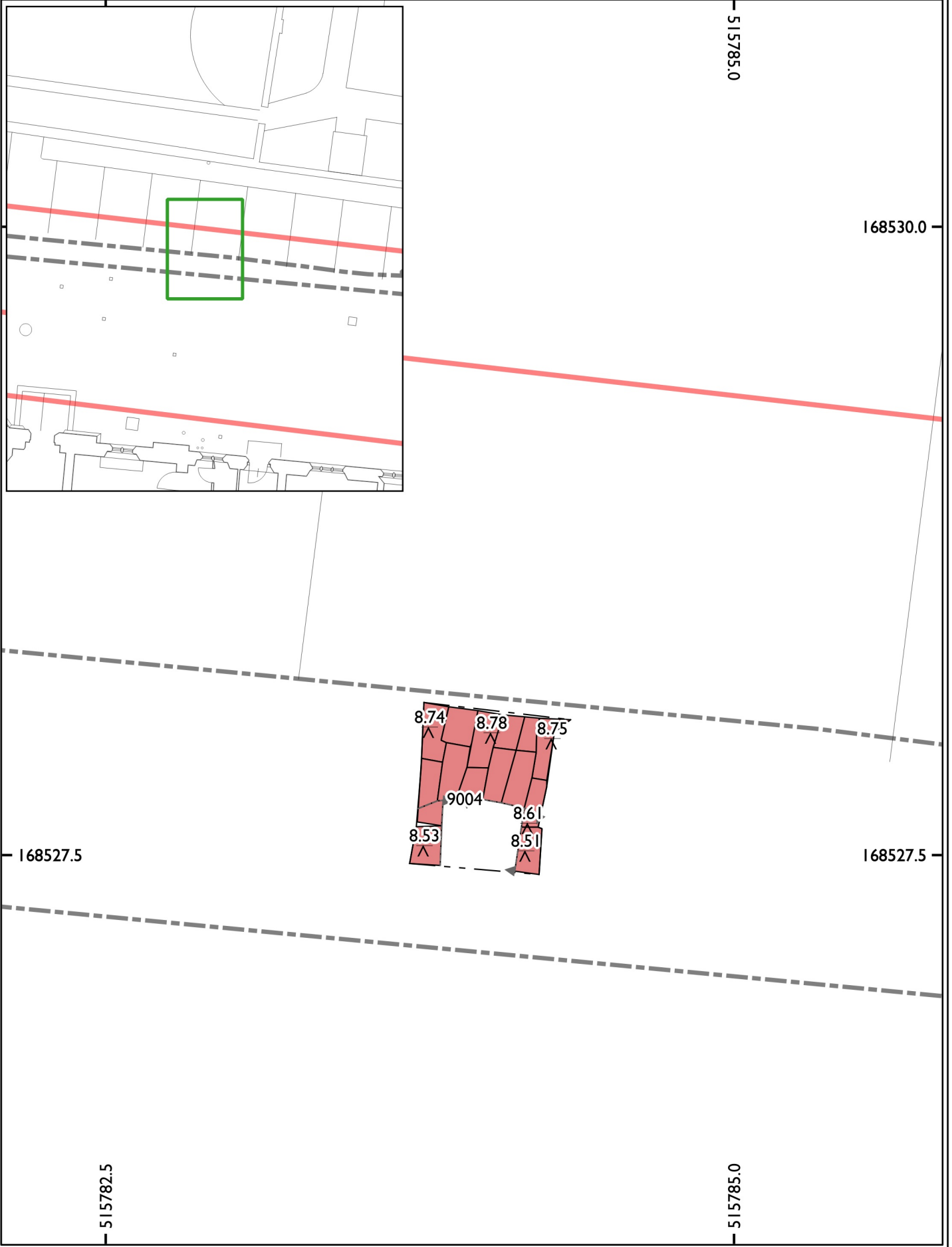
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Bedding trench {4} in Area 8

DOC REF: LP2567L-PXA-vI

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FIGURE 6 // Brick Culvert in Area 9



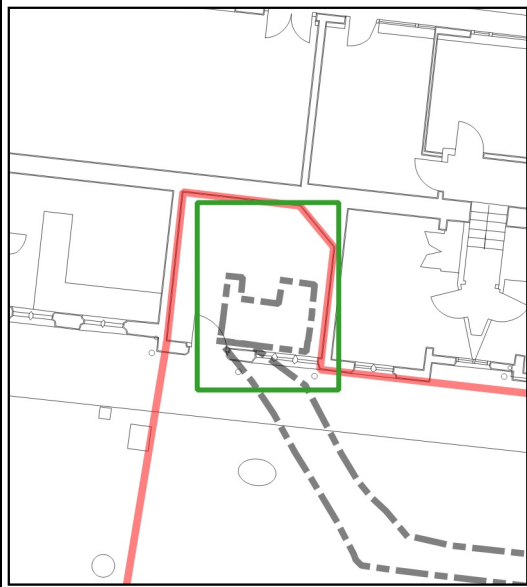
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // North-south brick culvert {16} in Area 9.

DOC REF: LP2567L-PXA-vI

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FIGURE 7 // Earlier floor surface in Area 8



0 1 m



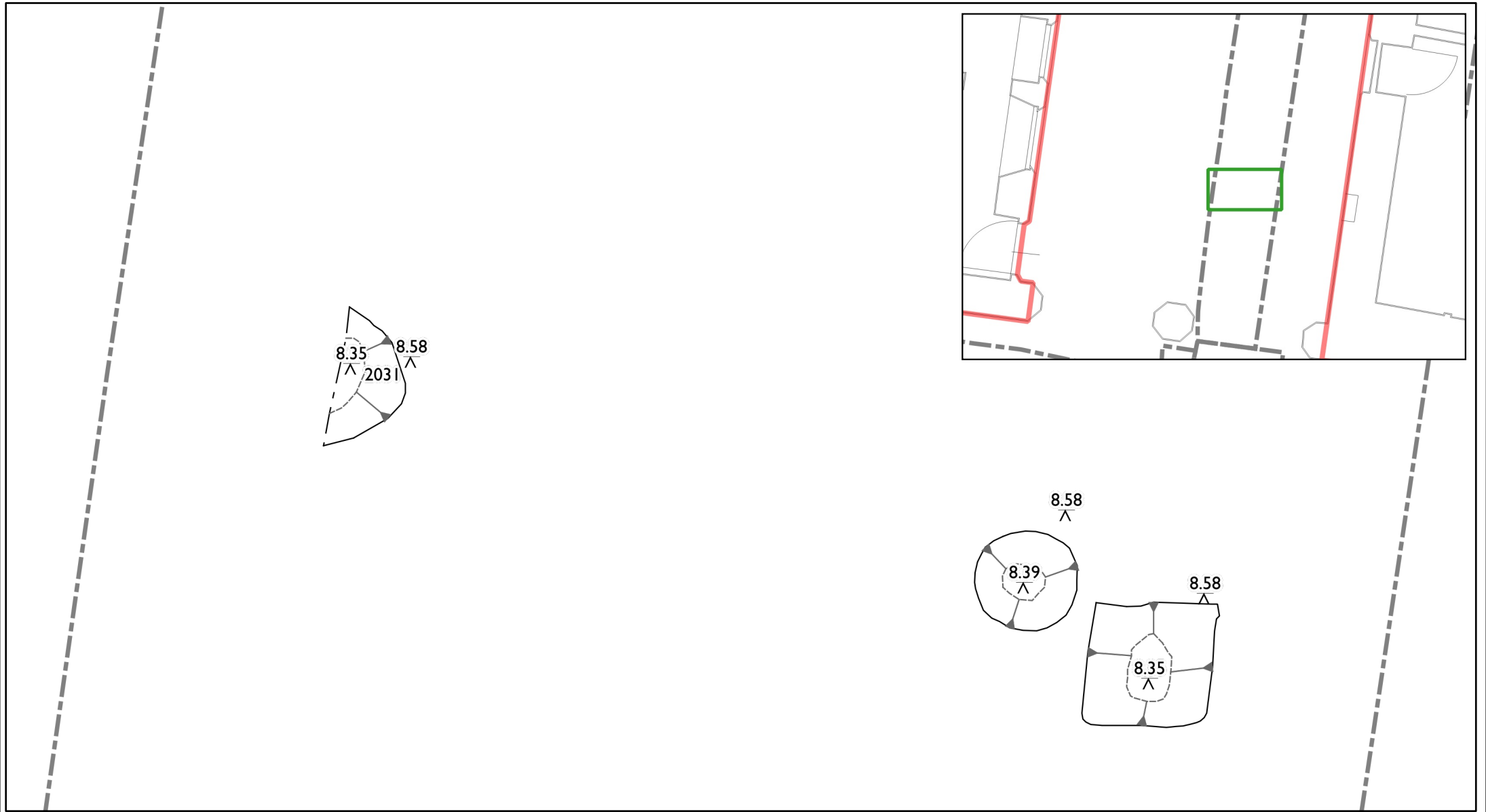
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Earlier floor surface {8} in the switch room, and the foundations for of the wall {7}.

DOC REF: LP2567L-PXA-vI

L-P:ARCHAEOLOGY

FIGURE 8 // Postholes in Area 2



PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Three post holes or stake holes {69} in Area 2

DOC REF: LP2567L-PXA-vI

L~P:ARCHÆOLOGY

FIGURE 9 // Hearth Structure in Area 2



--- Extrapolated Extent

0 1 m



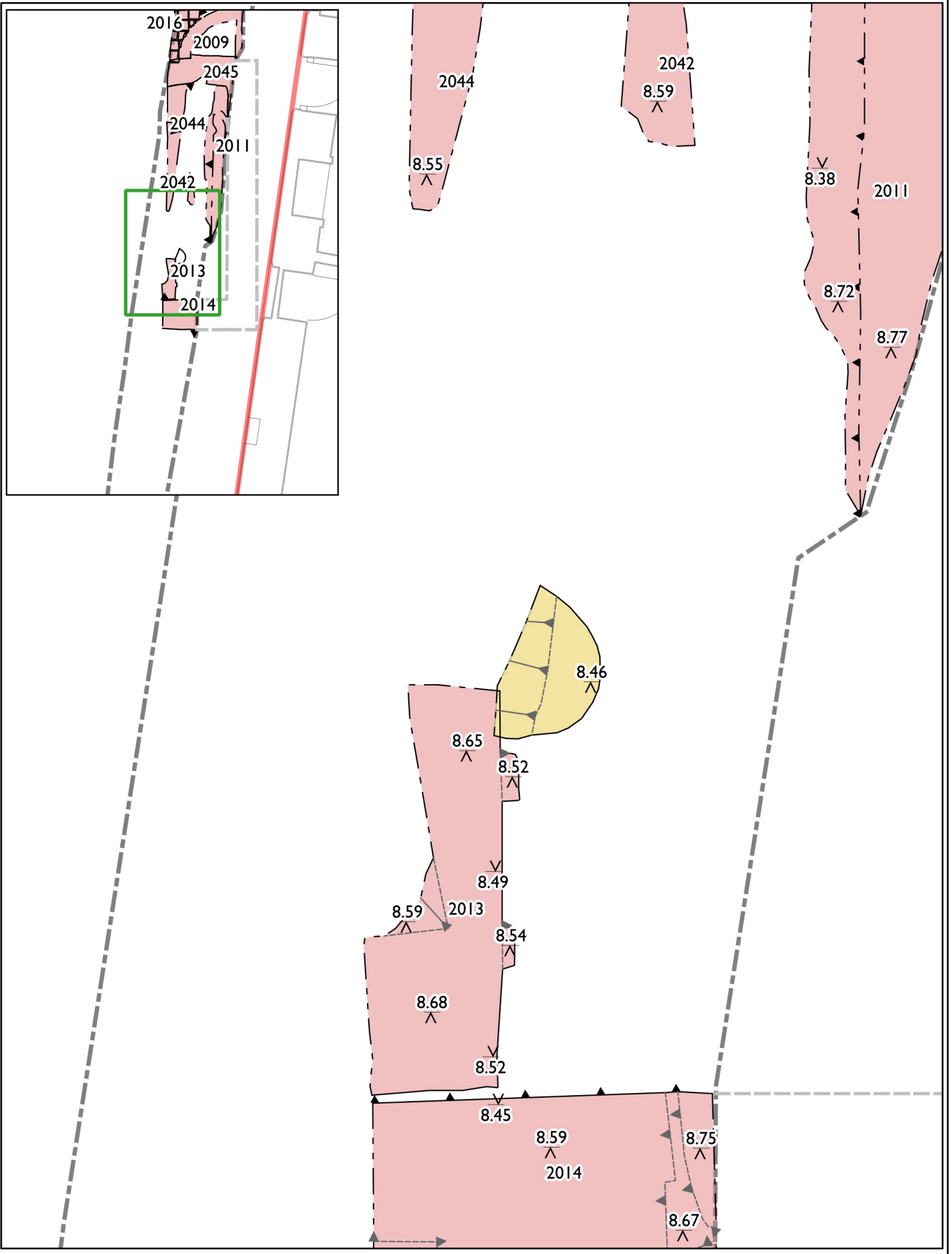
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Hearth structure in Area 2 with extrapolated extent.

DOC REF: LP2567L-PXA-vI

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FIGURE 10 // Deposition of Pot {58}



0 Pot

0 0.5 m



PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Deposition of Pot {58}

DOC REF: LP2567L-PXA-vI

L-P:ARCHAEOLOGY

FIGURE 11 // Rendered Masonry {64}



0 2 m



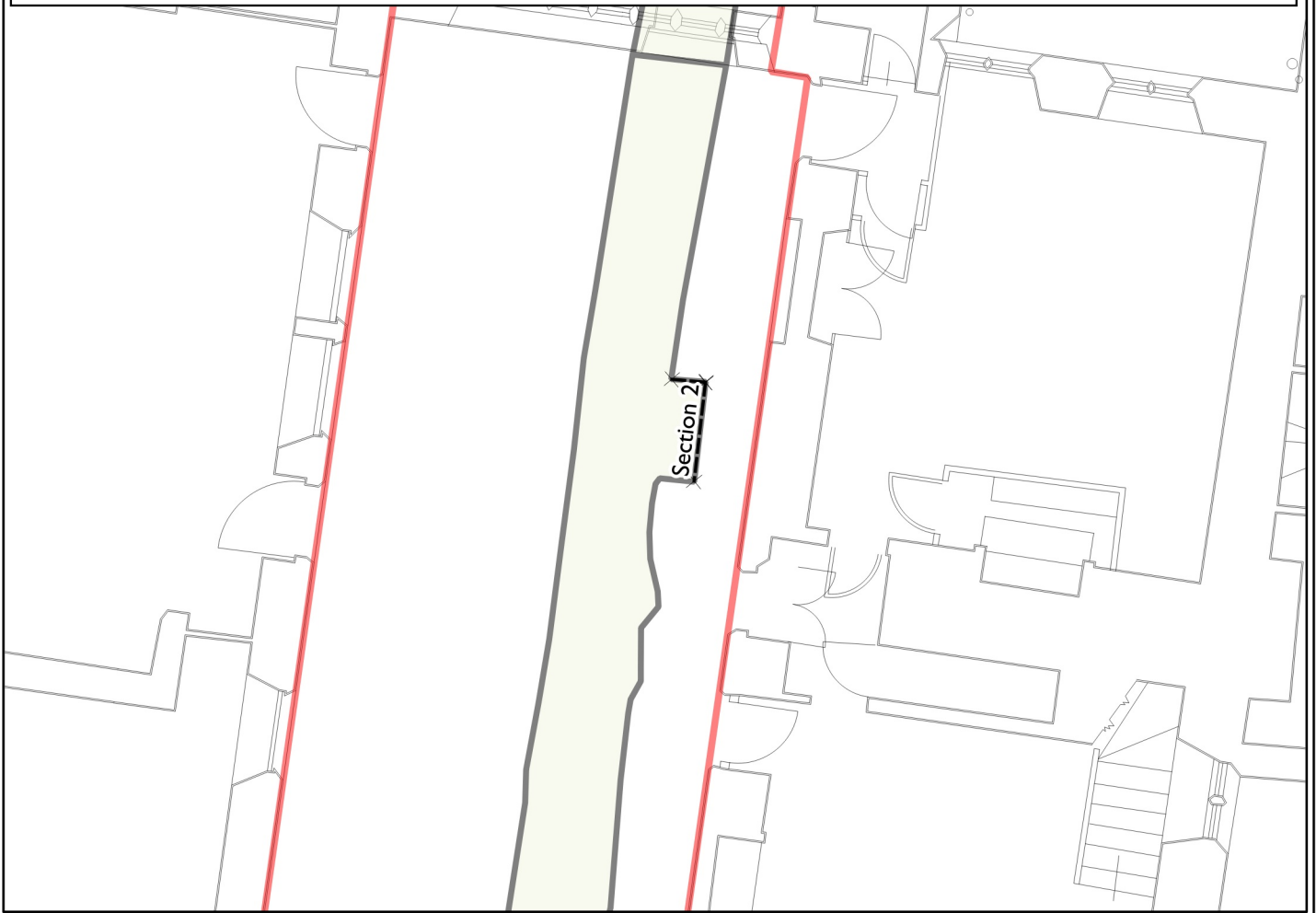
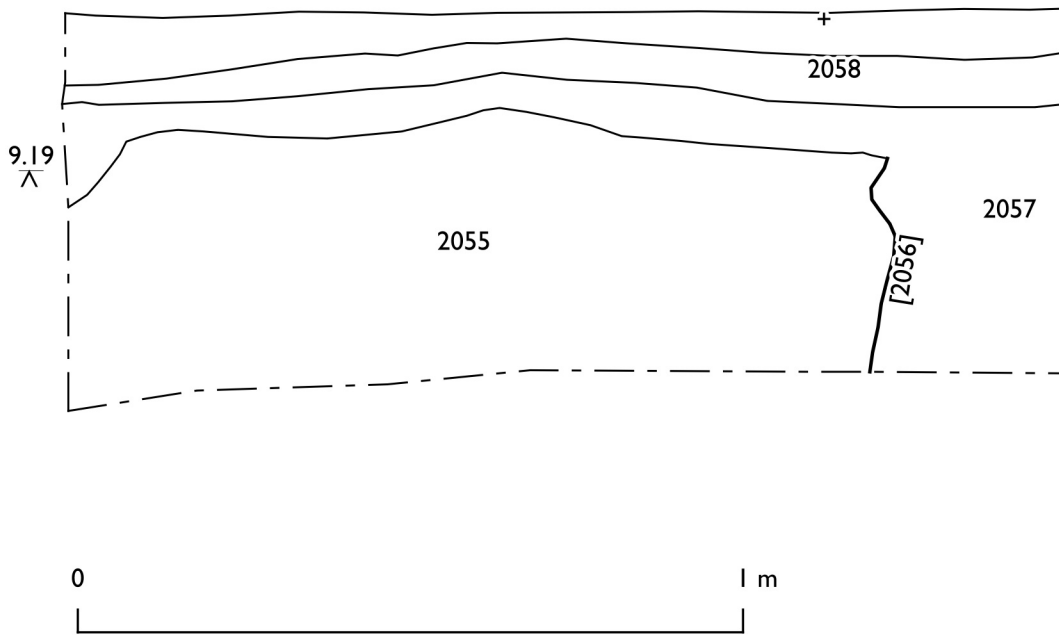
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Rendered masonry structure {64}, possible kitchen counter.

DOC REF: LP2567L-PXA-v1

L-P:ARCHAEOLOGY

2



0 5 m



PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Section 2 showing levelling dumps {86}

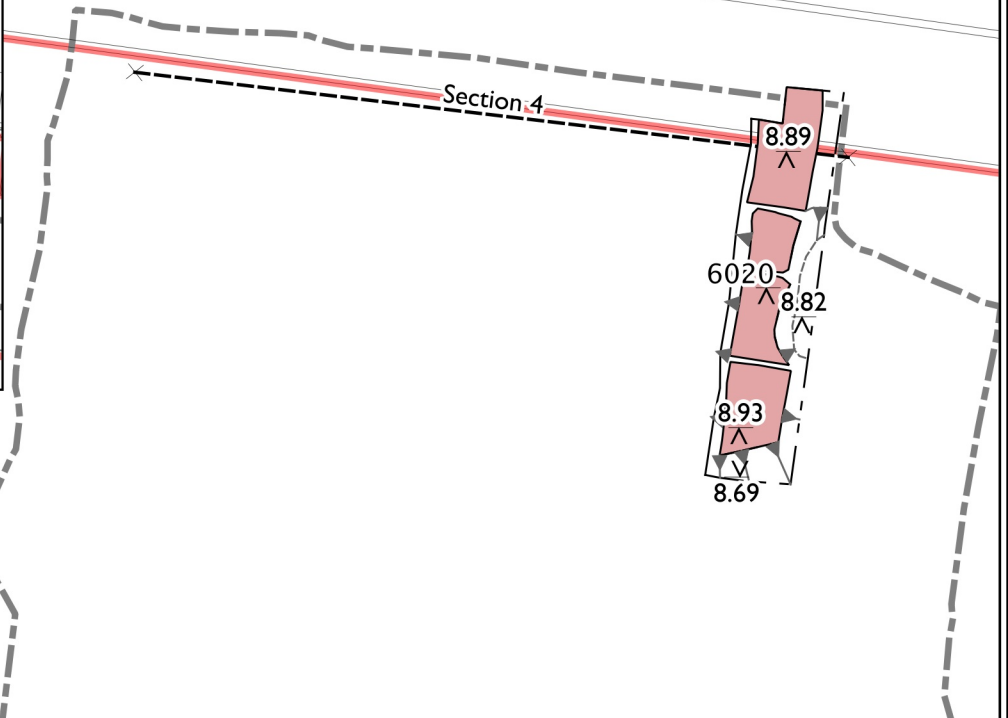
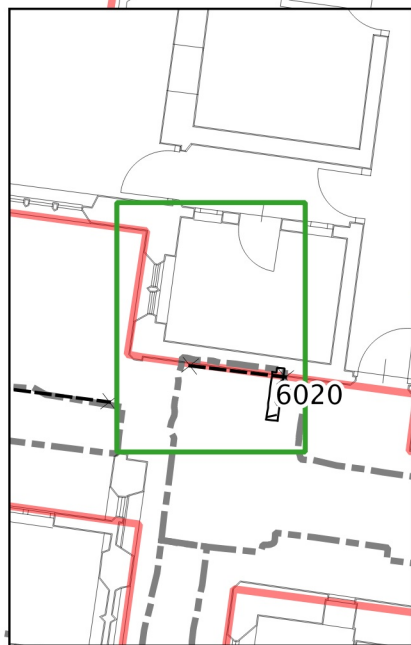
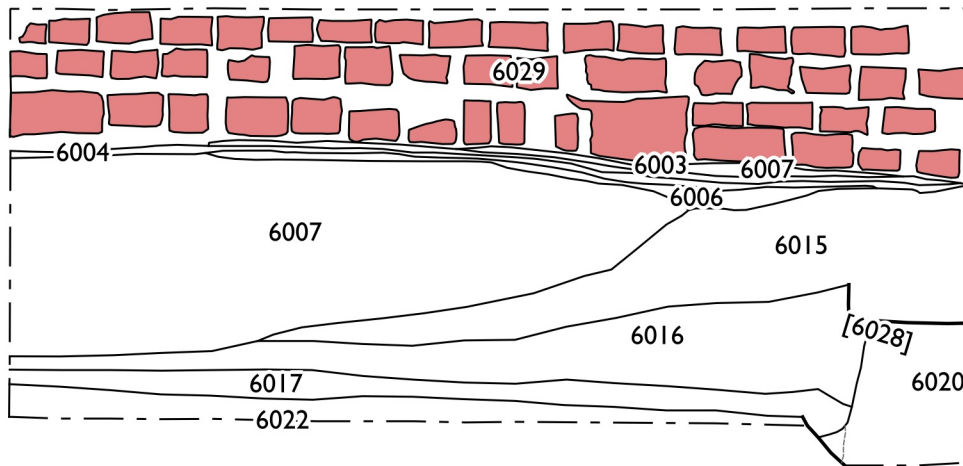
DOC REF: LP2567L-PXA-v1

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FIGURE 13 // Wall {30}

4

9.38
^



PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Wall {30} in Area 6 shown in plan and section

DOC REF: LP2567L-PXA-vI

L-P:ARCHAEOLOGY

FIGURE 14 // Brick foundations in Area 6



0 2 m



PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Masonry blocks {42} and {43} in Area 6

DOC REF: LP2567L-PXA-vI

L~P:ARCHAEOLOGY

FIGURE 15 // Brick Foundations in Area 3



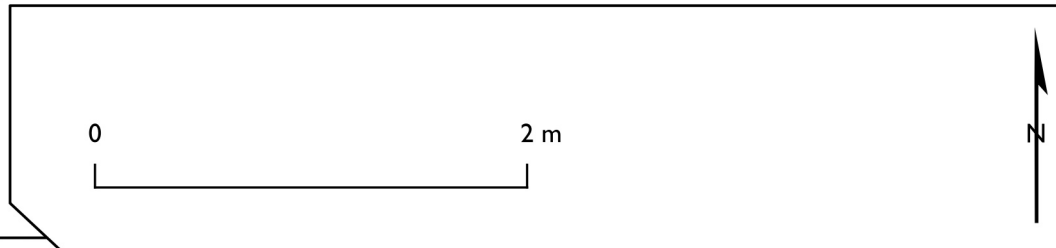
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Foundation {81}, {82} and {85} in Area 3

DOC REF: LP2567L-PXA-vI

L~P:ARCHAEOLOGY

FIGURE 16 // Natural deposit {22} in Area 5



PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Natural deposit {22} in Area 5

DOC REF: LP2567L-PXA-vI

L~P:ARCHÆOLOGY

FIGURE 17 // Foundations of Great Hall {23}



 Previously Excavated Foundations

0 2 m



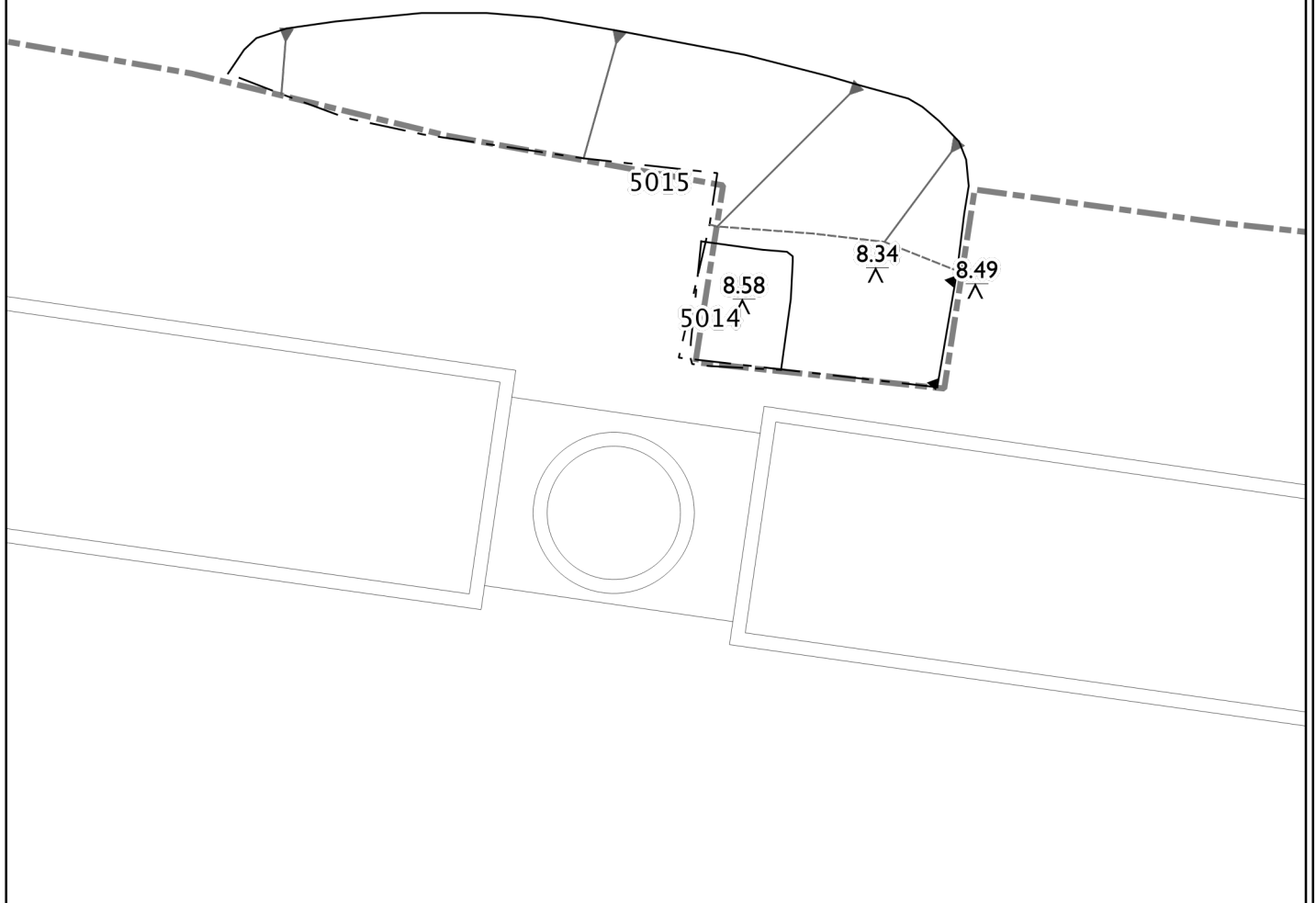
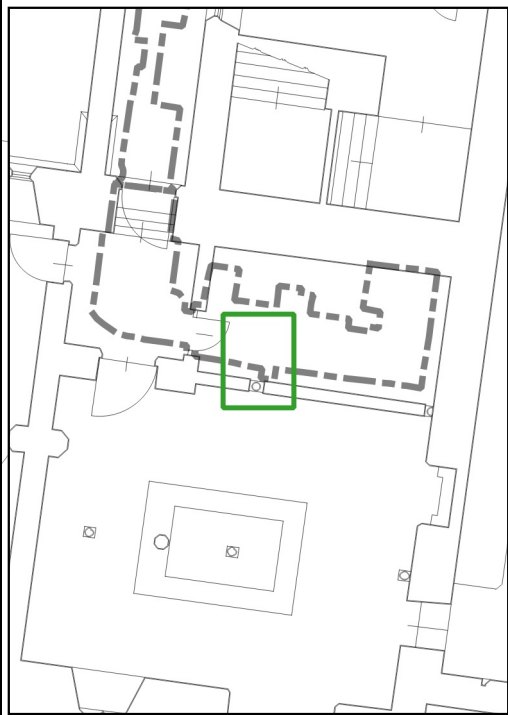
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Foundations {23} of Lord Daubeney's Great Hall

DOC REF: LP2567L-PXA-vI

L~P:ARCHÆOLOGY

FIGURE 18 // Post Hole {24} in Area 5



0 0.5 m



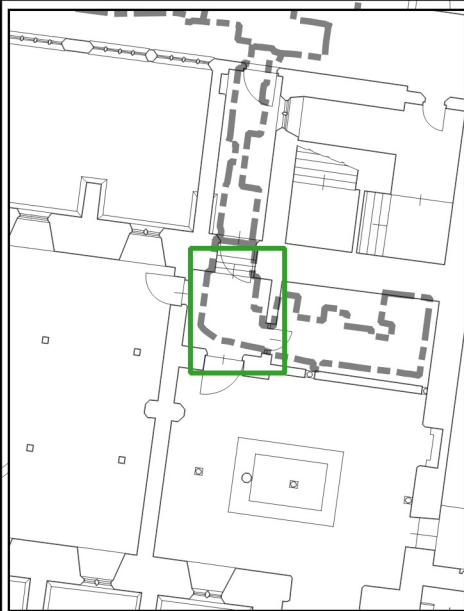
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Post Hole {24} in Area 5

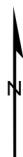
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L~P:ARCHÆOLOGY

FIGURE I // Floor Makeup {25} in Area 5



0 1 m



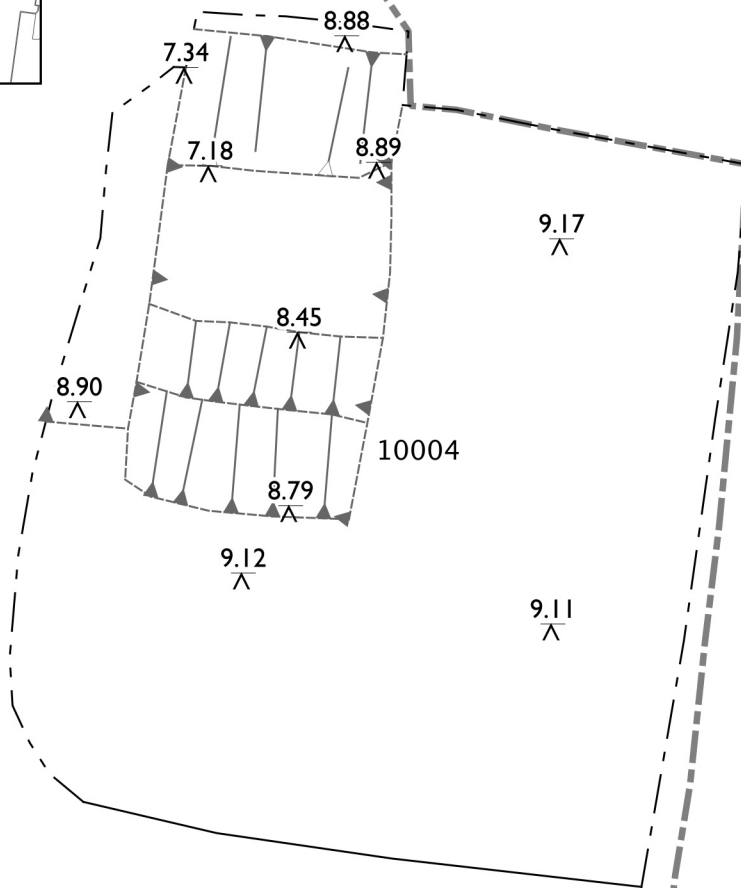
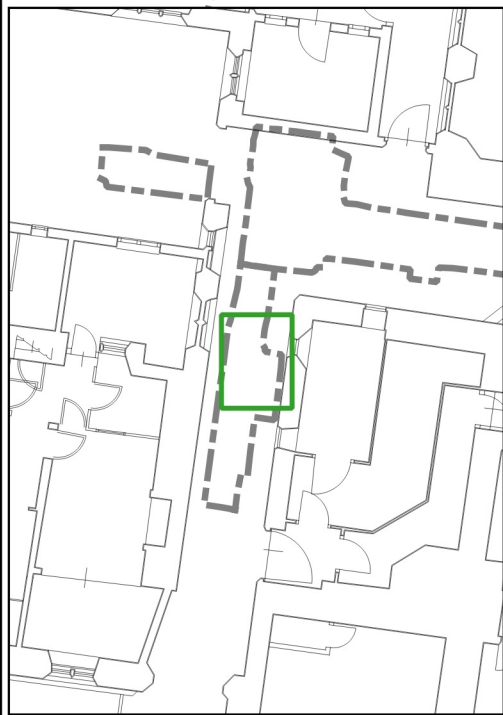
PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Former floor surface makeup {25} in Area 5

DOC REF: LP2567L-PXA-v1

L-P:ARCHAEOLOGY

FIGURE 20 // Culvert {88} Inlet



0 0.5 m



PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Former floor surfaces {25} in Area 5

DOC REF: LP2567L-PXA-vI

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FIGURE 21 // Buttress Foundation in Area 11



PROJECT // 2567L - HCP - Electrical Ring Main Phase I

DESCRIPTION // Buttress Foundation in Carpenters Court

DOC REF: LP2567L-PXA-v1

L-P:ARCHAEOLOGY

CONTEXT INVENTORY

APPENDIX I

CONTEXT NUMBER	AREA	CONTEXT TYPE	BRIEF DESCRIPTION
1001	Area 1	Deposit	Services Backfill
2001	Area 2	Masonry	Void
2002	Area 2	Masonry	Mixed mortar and CBM pad
2003	Area 2	Deposit	Mid blackish brown sandy silt with frequent mortar and CBM
2004	Area 2	Masonry	Void
2005	Area 2	Masonry	Void
2006	Area 2	Masonry	Void
2007	Area 2	Deposit	Dark yellow brown sand overlying rubbles rendered wall
2008	Area 2	Masonry	North-south rendered un-coursed wall
2009	Area 2	Masonry	D-shaped brick wall
2010	Area 2	Deposit	Brown silty sand inside wall 2009
2011	Area 2	Masonry	North south running wall with a burnt western face
2012	Area 2	Deposit	Fine purplish red sandy deposit
2013	Area 2	Masonry	North south wall running parallel to 2011
2014	Area 2	Masonry	East West wall perpendicular to and abutting 2013
2015	Area 2	Deposit	Void
2016	Area 2	Masonry	Glazed tile floor
2017	Area 2	Masonry	White sandy mortar spread east
2018	Area 2	Masonry	White sandy mortar spread west
2019	Area 2	Masonry	East West reigate stone linear
2020	Area 2	Masonry	East West robbed out linear,
2021	Area 2	Deposit	Charcoal spread spanning from 2019 to 2020
2022	Area 2	Deposit	Charcoal trample on top of 2018
2023	Area 2	Deposit	Mixed sandy demolition spread
2024	Area 2	Deposit	Hard mortar spread between walls 2014 and 2020
2025	Area 2	Deposit	Mixed clay sand later between masonry linears
2026	Area 2	Cut	Demolition of 2008 rubble wall
2027	Area 2	Cut	Cut for rectangular stake hole
2028	Area 2	Deposit	Fill for rectangular stake hole
2029	Area 2	Cut	Cut for circular stake hole
2030	Area 2	Deposit	Fill for circular stake hole
2031	Area 2	Cut	Cut for stake hole
2032	Area 2	Deposit	Fill of stake hole
2033	Area 2	Deposit	Hard brownish black pebbly silt between masonry linears
2034	Area 2	Deposit	Hard mortar spread possible bedding for robbed out 2020
2035	Area 2	Cut	Demolition cut for 2020
2036	Area 2	Cut	Demolition cut for 2019

CONTEXT NUMBER	AREA	CONTEXT TYPE	BRIEF DESCRIPTION
2037	Area 2	Deposit	Trampled surface beneath mortar bedding for tiled floor.
2038	Area 2	Deposit	Sand deposit - post demolition
2039	Area 2	Deposit	Mortar spread - probable bedding. NFE.
2040	Area 2	Deposit	Greenish Brown silty sand between 2014 and 2013.
2041	Area 2	Cut	Demolition of hearth and related structures
2042	Area 2	Masonry	Mortared masonry. NFE. Only top face visible.
2043	Area 2	Deposit	Demolition dump
2044	Area 2	Masonry	Tilted brickwork parallel to 2011
2045	Area 2	Masonry	East west brick hearth terminus abutted by 2011 and 2044
2046	Area 2	Deposit	Yellow sand bedding for tile floor
2047	Area 2	Cut	Construction cut for tile floor
2048	Area 2	Cut	Robber cut for wall or drain
2049	Area 2	Masonry	Robbed out remains of a drain/wall
2050	Area 2	Masonry	Curved Sloping tile structure
2051	Area 2	Cut	Construction cut for 2049
2052	Area 2	Deposit	Construction backfill of D shaped structure 2009 to north
2053	Area 2	Deposit	Deposit within curved tile structure
2054	Area 2	Deposit	Bedding deposit for 2044
2055	Area 2	Deposit	Redeposited sand seen in section
2056	Area 2	Cut	Cut into 2055
2057	Area 2	Deposit	Backfill for cut 2056 and levelling layer
2058	Area 2	Deposit	Pink CBM demolition spread, in section.
2059	Area 2	Deposit	Mortar Fill of pot
2060	Area 2	Deposit	Large pot
2061	Area 2	Cut	VOID
2062	Area 2	Cut	Cut for 2060 pot
3001	Area 3	Deposit	VOID
3002	Area 3	Deposit	VOID
3003	Area 3	Deposit	VOID
3004	Area 3	Deposit	Black, burnt deposit
3005	Area 3	Masonry	Red brick feature
3006	Area 3	Deposit	Chalky rubble fill
3007	Area 3	Masonry	Brick and mortar, possible culvert in association with 3008
3008	Area 3	Masonry	Brick structural bracing wall
3009	Area 3	Cut	Cut for masonry pier base
3010	Area 3	Masonry	Brick pier base, English bond
3011	Area 3	Deposit	Thin greyish brown layer covering crushed brick context 5006

CONTEXT NUMBER	AREA	CONTEXT TYPE	BRIEF DESCRIPTION
3012	Area 3	Deposit	CBM worn surface running into LOE to the north and east
3013	Area 3	Masonry	Brick foundation
3014	Area 3	Cut	Construction cut for brick structure 3007
3015	Area 3	Cut	Construction cut for brick foundation wall 3013
3016	Area 3	Cut	Construction cut for brick structural bracing wall 3008
3017	Area 3	Cut	Cut for fill 3004
3018	Area 3	Deposit	Brown rubble fill
3019	Area 3	Cut	Cut for 3018
3020	Area 3	Cut	VOID
3021	Area 3	Deposit	Black deposit with CBM
4001	Area 4	Masonry	Rectangular brick base cut through mottled sandy layer 4006.
4002	Area 4	Deposit	Mixed sand layer sealing brick structure 4001
4003	Area 4	Cut	Demolition cut for 4001
4004	Area 4	Deposit	Levelling fill within construction cut of 4001
4005	Area 4	Cut	Construction cut for 4001
4006	Area 4	Deposit	Mixed silty sand make up deposit behind stairs
4007	Area 4	Deposit	Brick crush layer
4008	Area 4	Deposit	Loose rubble construction backfill for raft of great hall.
4009	Area 4	Cut	Construction cut for foundation of buttress 4012
4010	Area 4	Masonry	Rafting foundations
4011	Area 4	Masonry	Demo cut of reigate stone stairs (visible chisel marks)
4012	Area 4	Masonry	Foundation for Great Hall Buttress
4013	Area 4	Cut	Modern cut for 1920's electrical cable
5001	Area 5	Deposit	VOID
5002	Area 5	Deposit	Homogenous sand abuts 5003
5003	Area 5	Masonry	Masonry horizon
5004	Area 5	Deposit	Crushed brick make-up
5005	Area 5	Masonry	Brick wall
5006	Area 5	Deposit	Silty sand numerous inclusions - CBM, mortar fragments
5007	Area 5	Deposit	Brick and mortar levelling surface
5008	Area 5	Deposit	Hard sandy deposit
5009	Area 5	Deposit	Masonry dump
5010	Area 5	Deposit	Hard Sandy Deposit
5011	Area 5	Masonry	Tudor stairs/foundation wall of Great Hall
5012	Area 5	Masonry	Chalk and mortar foundation great hall walls
5013	Area 5	Cut	Cut for post pad
5014	Area 5	Masonry	Post pad in cut [5013]

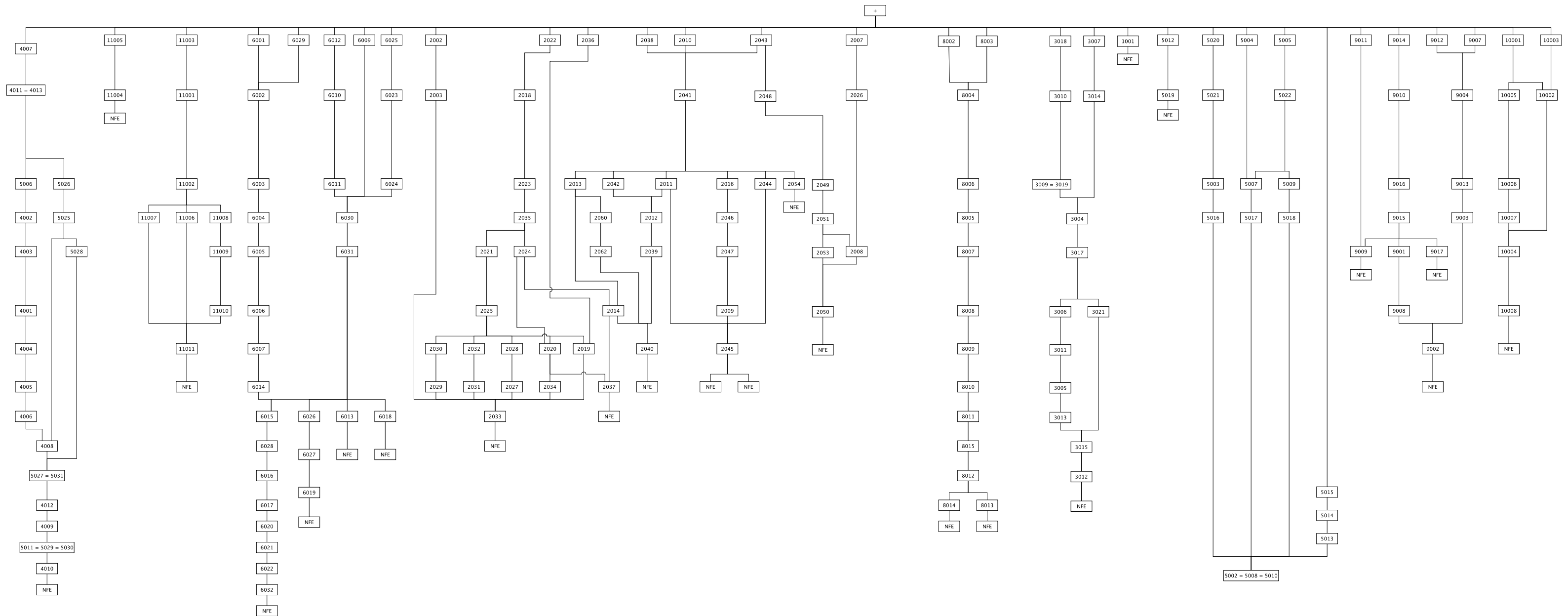
CONTEXT NUMBER	AREA	CONTEXT TYPE	BRIEF DESCRIPTION
5015	Area 5	Deposit	Back fill of cut [5013],
5016	Area 5	Cut	Construction cut for 5003
5017	Area 5	Cut	Construction cut for 5007
5018	Area 5	Cut	Construction cut for 5009
5019	Area 5	Cut	Construction cut for 5012
5020	Area 5	Masonry	Concrete fill holding metal.object
5021	Area 5	Masonry	Cut for concrete 5020
5022	Area 5	Masonry	Brick threshold
5023	Area 5	Masonry	VOID
5024	Area 5	Cut	VOID
5025	Area 5	Deposit	Redeposited sands with CBM frags
5026	Area 5	Deposit	Burnt brick levelling fill for a floor
5027	Area 5	Masonry	Standing Buttress of Great Hall
5028	Area 5	Masonry	Worked stone doorway
5029	Area 5	Masonry	Standing wall of great hall
5030	Area 5	Masonry	Reigate Stairs between areas 4 and 5
5031	Area 5	Masonry	Brick wall, footing for buttress
6001	Area 6	Masonry	White mortar
6002	Area 6	Deposit	Brown demolition trample
6003	Area 6	Deposit	Reddish CBM trample
6004	Area 6	Deposit	Mixed white mortary deposit
6005	Area 6	Deposit	Brown charcoal silt
6006	Area 6	Deposit	Red CBM crush with bricks
6007	Area 6	Deposit	Pink mortar spread
6008	Area 6	Masonry	Brickwork in Northern section
6009	Area 6	Deposit	Mid reddish brown compacted brick rubble
6010	Area 6	Masonry	Brick pier eastern end of trench
6011	Area 6	Cut	Cut for 6010 brick pier
6012	Area 6	Deposit	Chalk deposit - construction backfill
6013	Area 6	Deposit	Strip of compacted sandy silt
6014	Area 6	Cut	Possible cut for 6007
6015	Area 6	Deposit	Mid green brown silty sand deposit
6016	Area 6	Deposit	Light brown sand with chalk and CBM rubble
6017	Area 6	Deposit	Brown sandy silt with CBM, sandy lenses and stones
6018	Area 6	Deposit	Heavily Truncated strip of rubble. Cut by [6031]
6019	Area 6	Deposit	Sandy layer
6020	Area 6	Masonry	Brick and tile wall running north to south

CONTEXT NUMBER	AREA	CONTEXT TYPE	BRIEF DESCRIPTION
6021	Area 6	Cut	Construction cut for brick and tile wall
6022	Area 6	Deposit	Light Green sandy silt
6023	Area 6	Masonry	Brick pier to the east of other brick pier 6010
6024	Area 6	Cut	Construction cut for brick pier 6023
6025	Area 6	Deposit	Fill of construction cut 6024
6026	Area 6	Deposit	Dark blueish grey silty material with CBM flecks truncated by construction cut 6024 for brick pier 6023
6027	Area 6	Deposit	Mid brownish red layer beneath (6026)
6028	Area 6	Cut	Cut though (6016)
6029	Area 6	Masonry	Internal wall in north cloister to the extreme west of Area 6
6030	Area 6	Deposit	Rubble backfill in cut for culvert [6031]
6031	Area 6	Cut	Cut for unseen brick culvert.
6032	Area 6	Deposit	Mid brownish red silty sand with large tile fragments
8001	Area 8	Deposit	VOID
8002	Area 8	Masonry	Brick and flagstone floor
8003	Area 8	Masonry	Possible flagstone floor, with probable associated with 8002
8004	Area 8	Deposit	Mortar-y bedding layer for 8002 and 8003
8005	Area 8	Masonry	Wall running East/West on the South side of Area 8
8006	Area 8	Deposit	Construction backfill for wall 8005
8007	Area 8	Cut	Construction cut for 8005
8008	Area 8	Deposit	Thick deposit of mortar, possible levelling deposit
8009	Area 8	Deposit	Hard trample construction surface
8010	Area 8	Deposit	Thin light brown layer with inclusions frags of CBM and chalk
8011	Area 8	Deposit	Light Yellowish Brown fill running East/West
8012	Area 8	Cut	E-W linear cut, possible bedding trench
8013	Area 8	Deposit	Mid yellowish brown soil layer on south side of linear
8014	Area 8	Deposit	Mid yellowish brown soil layer on north side of linear
8015	Area 8	Deposit	Second fill within cut 8002
9001	Area 9	Deposit	Brown Sandy layer within 9008.
9002	Area 9	Deposit	Brown Green Silty Sand
9003	Area 9	Cut	Construction Cut for Culvert
9004	Area 9	Masonry	Culvert running North/South
9005	Area 9	Deposit	VOID
9006	Area 9	Cut	VOID
9007	Area 9	Deposit	Fill of culvert cut
9008	Area 9	Cut	Cut for 9001 through 9002
9009	Area 9	Masonry	Brick structure possible association with bowling alley

CONTEXT NUMBER	AREA	CONTEXT TYPE	BRIEF DESCRIPTION
9010	Area 9	Deposit	Demo rubble associated with 9009
9011	Area 9	Deposit	Orangish brown silty sand deposit
9012	Area 9	Deposit	Fill of culvert 9004
9013	Area 9	Masonry	Tile base of culvert
9014	Area 9	Deposit	Mid green brown sand capping layer above 9010
9015	Area 9	Cut	Cut near wall 9009 filled with rubble 9010
9016	Area 9	Deposit	Part of Collapsed wall sitting within cut [9015]
9017	Area 9	Masonry	Part of Collapsed wall
10001	Area 10	Masonry	Decommissioning capping stone over culvert entrance
10002	Area 10	Masonry	Brick feed sluice for drain
10003	Area 10	Deposit	Demolition backfill of 10002
10004	Area 10	Masonry	culvert down shoot
10005	Area 10	Deposit	Demolition back fill
10006	Area 10	Deposit	In wash fill of culvert 10004
10007	Area 10	Deposit	Dark silt fill of chamber
10008	Area 10	Masonry	Brick chamber. Internal Area only
10009	Area 2	Cut	VOID
11001	Area 11	Masonry	York stone and brick cover for modern water pipe.
11002	Area 11	Cut	Construction cut for 11001
11003	Area 11	Deposit	Construction backfill in 11002
11004	Area 11	Masonry	Brick and chalk foundation of buttress or doorway.
11005	Area 11	Cut	Demo cut 11004
11006	Area 11	Masonry	Former brick inspection chamber
11007	Area 11	Masonry	Former brick inspection chamber
11008	Area 11	Deposit	Mid brown green sandy silt make up layer
11009	Area 11	Deposit	Mortar lime make up layer
11010	Area 11	Deposit	Mid brown green sandy silt make up layer
11011	Area 11	Deposit	Sand layer possible former ground surface

STRATIGRAPHIC MATRIX

APPENDIX 2



SUB-GROUP INDEX

APPENDIX 3

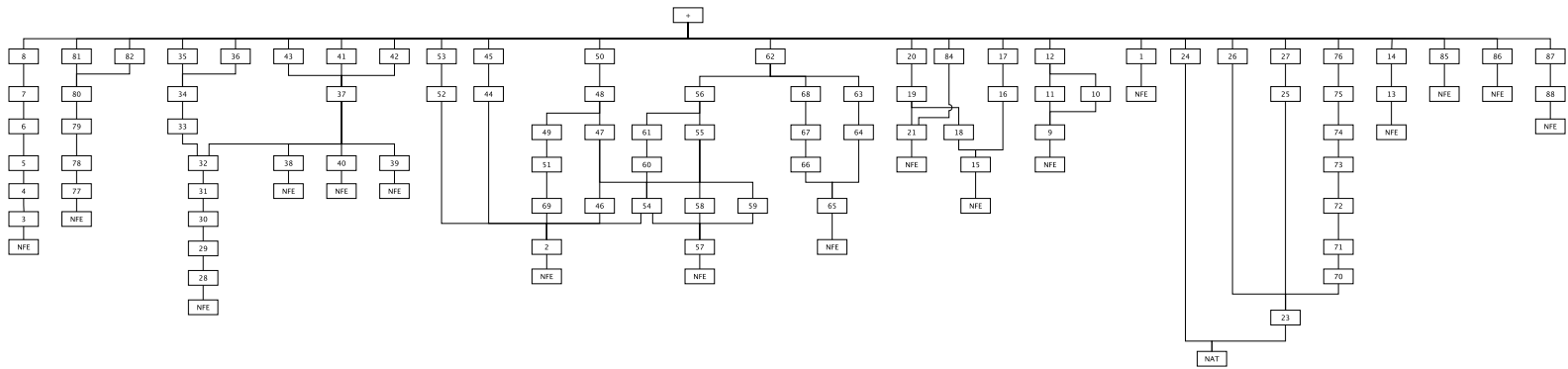
SUB-GROUP	BRIEF DESCRIPTION	CONTEXTS
1	Make up for road	1001
2	External area	2033, 2037
3	External cultivation	8013, 8014,
4	Bedding trench cultivation	8011, 8012, 8015
5	External ground raising	8009, 8010
6	Ground raising	8008
7	Construction of extant switch room 8005	8005, 8006, 8007
8	Floors	8002, 8003, 8004
9	External ground surface - pre-cloister	11011
10	Dump deposits as part of ground raising	11008, 11009, 11010
11	Fragmented inspection chamber for culvert	11006, 11007,
12	Modern inspection chamber	11001, 11002, 11003
13	Brick and chalk buttress or wall.	11004
14	Demolition of previous wall/buttress.	11005
15	External dump layer	9002
16	Culvert - possible bowling alley drainage	9003, 9004, 9007, 9013
17	Fill within culvert	9012
18	Possible robbing event or landscaping	9001, 9008
19	Demolition of bowling alley wall.	9010, 9015, 9016
20	Levelling after demolition of bowling alley	9014
21	Bowling alley buttress and wall.	9009, 9017
22	Natural - river terrace sand	5002, 5008, 5010
23	Great Hall foundations	4010, 5003, 5007, 5009, 5012, 5016, 5017, 5018, 5019
24	Post hole - likely for Great Hall timber frame	5013, 5014, 5015
25	Original floor level beneath Great Hall	5004, 5022
26	C20th Pump Room modifications	5020, 5021
27	Brick threshold repair and realignment.	5005
28	External yard area	6032
29	Moat cleansing.	6022
30	External garden/yard wall	6017, 6020, 6021
31	Levelling layer/make up for truncated external surface	6016
32	Demolition event of small yard/garden wall	6015, 6028
33	Construction event.	6007, 6014

SUB-GROUP	BRIEF DESCRIPTION	CONTEXTS
34	Series of dumps and levelling up of floor level	6002, 6003, 6004, 6005, 6006
35	Make up level for removed floor	6001
36	Internal wall of palace - Extant	6029
37	Construction cut for unseen culvert	6030, 6031
38	Probable make up layer. Possibly for now removed floor level	6018
39	Make up layers, possible ground raising. Very truncated	6019, 6026, 6027
40	Probable make up layer	6013
41	Make up layer. Post culvert insertion	6009
42	Victorian thrust blocks built on top of culvert	6010, 6011, 6012
43	Victorian brick thrust block. Bracing for cloister walls	6023, 6024, 6025
44	Make up deposit. Probable floor/surface has been removed by modern disturbance	2003
45	Mortar and CBM rich deposit.	2002
46	Internal step	2020, 2034
47	Bedding layer for robbed out floor within kitchen	2024
48	Robbing event of kitchen floor to south and demolition of step 2020	2023, 2035
49	Occupation debris within kitchen/underneath stairs/step	2021
50	Probable working surface for servery construction	2017, 2018, 2022
51	Levelling layer	2025
52	Reigate step leading into kitchen	2019
53	Robbing of Reigate stone step	2036
54	Chimney stack outer skin	2014, 2045
55	Internal hearth furniture. Cooking surfaces	2011, 2013, 2042, 2044, 2054
56	Demolition of hearth, chimney and kitchen furniture	2041
57	External deposit. Likely Medieval ground surface	2040
58	Cooking pot with mortar deposit	2059, 2060, 2062
59	Preparation prior to chimney/hearth build	2012, 2039
60	Store/sill/bench abutting north side of chimney	2009, 2052
61	Glazed tile flooring within kitchen	2016, 2046, 2047

SUB-GROUP	BRIEF DESCRIPTION	CONTEXTS
62	Post demolition make up layer. Likely ground raising for new buildings	2007, 2010, 2038, 2043
63	Demolition cut of kitchen furniture. Likely same as 56	2026
64	Bench/furniture within kitchen	2008
65	Probable structure - Possible Drain	2050
66	Disuse within curved tile structure	2053
67	Construction of robbed wall/drain	2049, 2051
68	Robbing out of wall or drain	2048
69	Stake holes for wooden structure/step	2027, 2028, 2029, 2030, 2031, 2032
70	The Great Hall and integral features	5011, 5029, 5030
71	Buttress for Great Hall	4008, 4009, 4012, 5027, 5028, 5031
72	Redeposited river terrace sands used as make up layer at top of stairs	4006, 5025
73	Brick floor	4001, 4004, 4005
74	Robbing of brick floor	4003
75	Make up layer for unseen brick floor	4002, 5006, 5026
76	Modern cut for 1920s services	4007, 4011, 4013
77	Probable make up layer for palace	3012
78	Extant palace wall - North Cloister wall	3005, 3006, 3011, 3013, 3015
79	Heavily truncated layer - likely make up after construction of extant palace wall	3021
80	Possible robbing event	3004, 3017,
81	Brick pier base added to corner of servery and cloister to support added brick arch	3009, 3010, 3018, 3019
82	Brick thrust block	3007, 3014
83	VOID GROUP	2001, 2004, 2005, 2006, 2015, 2061, 3001, 3002, 3003, 3020, 5001, 5023, 5024, 8001, 9005, 9006, 10009
84	Horticultural layer	9011
85	Brick bracing wall	3008, 3016
86	Modern levelling viewed in section	2055, 2056, 2057, 2058
87	Demolition of culvert	10001, 10003, 10005
88	Culvert	10002, 10004, 10006, 10007, 10008
89	Brick and concrete pad	6008

SUB-GROUP MATRIX

APPENDIX 4



CERAMIC CATALOGUE

APPENDIX 5

CONTEXT	FABRIC	KNOWN FABRIC	DATE	NUMBER	WEIGHT (G)	COMMENTS
2003	Surrey Whiteware	Kingston-type ware	13-14 th Century	1	14	Handle fragment with distinctive green glaze, white fabric.
2007	Surrey Whiteware	Kingston-type ware	13-14 th Century	1	17	Handle fragment with distinctive green glaze, salmon fabric.
2010	Surrey Whiteware	Kingston-type ware	13-14 th Century	1	5	Abraded body sherd.
2015	Creamware	Creamware	18-19 th Century	1	12	Base from a small vessel – cup?, blue and white floral pattern.
2021	Earthenware	Red Glazed Earthenware	16-18 th Century	3	2	Three small, abraded body sherds of red glazed Earthenware. Distinctive red, Sandy fabric with yellowish lead glaze.
2025	Surrey Whiteware	Kingston-type ware	13-14 th Century	3	13	Handle fragment and x2 glazed body sherds.
2037	Surrey Whiteware	Kingston-type ware	13-14 th Century	1	6	Glazed body sherd.
2059	Stoneware	Stoneware	18-19 th Century	1	13	Body sherd.
2059	Sandy	Coarse Redware	16-18 th Century	2	12	Abraded body sherd, unglazed.
2060	Sandy	Coarse Redware	16-18 th Century	6	70	?Flowerpot - Sandy, oxidised ware with reduced grey core. Thin walled, slight wheel marks on external surface. Fresh breaks and good/fair condition
2060	Sandy	Coarse Redware	16-18 th Century	51	3151	SF.1 - near complete ?flowerpot, just missing rim - x9 base sherds with finger impressions forming slight feet around base and larger, body sherds with fresh breaks. Sandy oxidised fabric with grey reduced core. Good/fair condition.
2088	Earthenware	Red Glazed Earthenware	16-18 th Century	2	71	Rim and body sherd, utilitarian wares.
2088	Sandy	Coarse Redware	16-18 th Century	5	38	Abraded body sherds.
2088	Earthenware	Earthenware	17-18 th Century	1	34	Buff colour fabric with salmon core, handle attachment. Glaze spots interior of vessel. Utilitarian vessel.
3004	Creamware	Creamware	18-19 th Century	2	8	Cup/small bowl rim with blue floral pattern (same vessel as (3021) and handle fragment.
3004	Stoneware	Stoneware	16-17 th Century	1	13	Brown speckled glazed, grey fabric with darker grey core.
3021	Creamware	Creamware	18-19 th Century	3	16	Cup/small bowl rim with blue floral pattern, same vessel as (3004), and x2 other decorated body sherds.
3021	Sandy	Coarse Redware	16-18 th Century	1	17	Base sherd with perforation on base, ? flower pot.
4004	Sandy	London-type ware	12-14 th Century	1	10	Glazed rim sherd from an open vessel, slight tooled marks inside rim.
4006	Sandy	Coarse Redware	16-18 th Century	1	15	Body sherd, unglazed.
5025	Sandy	London-type ware	12-14 th Century	1	6	Glazed rim sherd.
6015	Sandy	London-type ware	12-14 th Century	1	11	Yellow/buff glazed body sherd ?neck of a vessel.
6018	Stoneware	Stoneware	18-19 th Century	4	150	x2 base sherd form straight sided vessel, body sherd and a neck from a bottle, smooth brown glaze.
6019	Creamware	Creamware	18-19 th Century	1	5	body sherd with blue pattern ? Wedgewood.

CONTEXT	FABRIC	KNOWN FABRIC	DATE	NUMBER	WEIGHT (G)	COMMENTS
6026	Creamware	Creamware	18-19 th Century	2	44	Conjoining base and body sherd. Complete profile of ? Inkpot. Plain pot with simple bead-like rim.
8010	Earthenware	Tin-Glazed Earthenware	17-18 th Century	1	2	Plain rim with blue pattern.
8011	Surrey Whiteware	Tudor Green	15-16 th Century	2	2	Handle and body sherd.
8011	Earthenware	Tin-Glazed Earthenware	16-17 th Century	3	2	Abraded rim in buff fabric with external patchy white glaze.
9001	Earthenware	Tin-Glazed Earthenware	16-17 th Century	3	2	Abraded conjoining rim sherd with patchy pale blue glaze.
9010	Creamware	Creamware	18-19 th Century	1	5	Base of plate or vessel with blue pattern ?Wedgewood.
10006	Surrey Whiteware	Kingston-type ware	13-14 th Century	1	7	Plain rim sherd with x3 pre-firing perforations, green glazed ?lid attachment.
10006	Earthenware	Red Glazed Earthenware	16-18 th Century	1	26	Glazed body sherd.
Unstratified	Sandy	Coarse Redware	16-18 th Century	3	115	x3 flower pot rims.
Unstratified	Earthenware	Red Glazed Earthenware	16-18 th Century	1	149	Small intact base from a jug/jar vessel with internal red glaze.
Unstratified	Sandy Coarseware	London-type ware	12-14 th Century	1	13	Red Sandy fabric with external cream/green glaze, thin walled ?jug.
Unstratified	Sandy	London-type ware	12-14 th Century	1	25	Reduced fabric with olive glaze. Dish rim with pre-firing perforations under rim ?lid attachment. Serving dish.
Unstratified	Surrey Whiteware	Kingston-type ware	13-14 th Century	2	55	Body sherd with green splashed glaze and a green glazed serving dish with salmon pink fabric, unglazed base, non-diagnostic.
Unstratified	Creamware	Creamware	18-19 th Century	8	118	Small white cup with missing handle (Complete profile), blue and white foliage/geometric blue and white patterns, plates and a gold decorated handle.
Unstratified	Earthenware	Red Glazed Earthenware	16-18 th Century	12	808	US south of [2014] - conjoining rim and body fragments, large open bowl with internal glaze and a broken lug type handle from a jug.
Unstratified	Earthenware	Red Glazed Earthenware	16-18 th Century	1	13	US south of [2014] - thin walled body sherd, red fabric with internal and external red/brown glaze.
Unstratified	Sandy	London-type ware	12-14 th Century	3	89	US south of [2014] - base and body sherds, red Sandy fabric with internal olive green glaze.
Unstratified	Stoneware	Stoneware	16-17 th Century	1	59	US south of [2014] - large body sherd, speckled brown slip.
Unstratified	Sandy	Coarse Redware	16-18 th Century	3	56	US near [2018] - x2 rims and body sherd from open bowl type vessel , internal glaze.
Unstratified	Earthenware	Red Glazed Earthenware	16-18 th Century	1	51	US near [2018] - a rounded rim coming form plain rim, from a domestic vessel.
Unstratified	Stoneware	Stoneware	18-19 th Century	4	240	US near [2018] -Base of a bottle "Denby and Condnor Park Pottery inscription" on base on x1 vessel (dated 1850s). A rim and x2 body sherds.

CERAMIC BUILDING MATERIAL CATALOGUE

APPENDIX 6

Codes Used - Mortaring: 1 = Mortar Present, 2 = Traces, 3 = Thick Layer; Reuse: 1 = Evidence of reuse with mortar over break.

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
2008	TZ11	drain			1	773	0	0	14	0	0	0			0	0	Drain or ridge tile embedded in large amount of mortar M22 on side
2008	TZ12	Floor Tile			1	364	0	0	16	0	0	0	1	1	0	0	Black glaze M33 mortar poss. burnt
2008	TZ13	Tile			1	224	0	0	12	0	0	0	1		0	0	
2008	TZ13	Tile			1	184	0	0	0	0	0	0	2	1	0	0	
2008	TZ21	Peg Tile	pt2.0		1	66	0	0	11	0	0	0	3	1	0	0	Fabric sample
2008	TZ21	Peg Tile	pt2.0		1	101	0	0	11	0	0	0	2	1	0	0	
2008	TZ21	Peg Tile	pt2.0		1	381	0	0	11	0	0	0	3	1	0	0	Reused fragments of 4 peg tile embedder in mortar M22
2008	TZ21	Peg Tile	pt2.3		2	549	0	0	11	4	2	50	1	1	0	0	
2008	TZ21	Tile	pt2.2		1	1	0	170	15	0	0	0			0	0	Len 225mm + two round peg holes in corners diameter 20mm
2008	TZ22	Brick			2	481	0	0	0	0	0	0			0	0	
2008	TZ22	Brick	B1.1	A	1	1724	0	130	60	4	1	50	1	1	0	0	M22
2008	TZ22	Brick	B1.1	A	1	1664	0	120	49	2	1	50			0	0	Embedded in thick lump of M22 mortar W side
2008	TZ22	Brick	B1.1	A	1	1644	0	108	58	4	1	50	1	1	0	0	M22 sandy surfaces
2008	TZ22	Brick	B1.1	A	1	1118	0	0	55	4	1	50	1		0	0	Impressions of bricks on mortar M22 20mm thick
2008	TZ22	Brick	b1.1	A	1	1	0	120	60	2	1	50			1500	1528	

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
2008	TZ22	Brick	b1.1	A	1	4032	220	117	51	8	1	100	3		1500	1528	Worn brick embedded in M22 with two other almost complete bricks rounded frag broken before embedding mortar underneath
2008	TZ22	Brick	B1.2	A	1	2692	0	80	60	0	0	0			0	0	Small brick embedded in M22
2008	TZ22	Brick	b1.2	A	1	6795	50	110	60	0	2	1			1500	1528	
2008	TZ23	Peg Tile	pt2.3		1	682	0	175	13	0	0	0	1	1	0	0	14mm M33
2008	TZ23	Peg Tile	pt2.3		1	875	0	156	10	4	1	50	1	1	0	0	18 mm M22
2008	TZ23	Peg Tile	pt2.3		2	207	0	0	0	0	0	0	1	1	0	0	
2008	TZ23	Tile			1	134	0	0	0	0	0	0	1		0	0	
2010	TZ11	Tile			1	362	0	155	11	2	1	50	1		0	0	Mortar on top, base and edges
2010	TZ11	Tile			4	681	0	0	11	0	0	0			0	0	
2010	TZ12	Floor Tile			2	201	0	0	17	2	1	25			0	0	Possible over fired tile - rounded cornered fabric sample
2010	TZ13	Floor Tile			3	421	0	0	19	2	1	25			0	0	Strip of green glaze possible roof tile but a bit thick 1 fragment kept as fab sample
2011	TZ21	Brick			1	883	0	120	58	4	1	80	1		0	0	Burnt top some mortar traces M22
2011	TZ22	Brick			1	982	0	130	57	2	1	50	1		0	0	M22 10mm thick
2011	TZ22	Brick			1	1142	0	122	57	4	1	50	1		0	0	M22 8 mm thick burnt top
2011	TZ22	Brick			1	1546	0	118	57	4	1	50	1		0	0	M22 all over body of brick but not break
2011	TZ22	Brick			1	340	0	0	59	2	1	25	3		0	0	Sharp arrises

Context	Fabric	Function	Form code	HCP Brick Type	HCP Brick Type		Length (mm)	Width (mm)	Thickness (mm)	Corner			Mortaring	Reuse	Date from	Date to	Comments
					NoSh	Wt (g)				MT	TE	MT					
2011	TZ22	Brick			1	34	0	0	0	1	1	12.5			0	0	
2021	TZ13	Tile			7	176	0	0	11	0	0	0			0	0	
2021	tz25	Tile			1	48	0	0	14	0	0	0			0	0	
2023	TZ23	Floor Tile			1	144	0	0	0	0	0	0	1	1	0	0	Heavily burnt grey green glaze M22 traces
2025	TZ13	Tile			1	49	0	0	12	0	0	0	1	1	0	0	
2028	TZ13	Tile			5	0	0	0	14	0	0	0			0	0	
2028	TZ22	Brick			1	67	0	0	0	0	0	0	1		0	0	
2028	TZ23	Brick			1	385	0	110	52	0	0	0	1	1	0	0	M22
2038	TZ13	Floor Tile			5	1702	208	0	32	0	0	0	1	1	0	0	Dark green glaze M33 over glaze
2038	TZ13	Floor Tile			1	877	207	0	26	4	1	50			0	0	Black glaze
2038	TZ13	Floor Tile			2	1064	198	0	29	2	1	25	1	1	0	0	Black slightly shiny glaze
2038	TZ13	Floor Tile			3	1316	0	0	26	0	0	0			0	0	Black glaze slightly crazed
2038	TZ13	Tile			1	116	0	0	11	0	0	0	1		0	0	Slightly curved poss. ridge tile
2038	TZ22	Tile			1	251	0	0	0	0	0	0			0	0	In M22 reused?
2038	TZ25	Tile			1	30	0	0	1	0	0	0			0	0	
2043	TZ13	Peg Tile	pt2.3		2	486	0	163	12	2	1	50			0	0	Retained

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
2043	TZ13	Peg Tile	pt2.3		1	487	0	156	13	2	1	50			0	0	Burning on lower end retained
3005	TZ21	Brick			1	190	0	0	53	0	0	0	3	1	0	0	
3005	TZ21	Brick			1	147	0	0	51	0	0	0	1	1	0	0	
3005	TZ21	Brick			1	102	0	0	0	0	0	0			0	0	
3007	TZ21	Brick		E?	1	1332	0	105	51	0	0	0	1	1	1575	1625	M22 in thick layer
3012	TZ11	Peg Tile	PT3.1		1	235	0	148	12	4	1	50	1	1	0	0	Triangular peg holes
3012	TZ13	Tile			1	44	0	0	10	0	0	0			0	0	Yellow orange gloss glaze poss. tile but slight curve
3012	TZ23	Peg Tile	PT2.0		3	307	0	0	0	0	0	0			0	0	
4001	TZ22	Brick			1	192	0	122	47	2	1	50			0	0	Wipe marks on top, burnt underside
4001	TZ22	Brick			1	1344	0	110	59	4	1	50			0	0	Brown baked friable very uneven
4001	TZ22	Brick			1	774	0	0	59	2	1	25			0	0	
4001	TZ22	Brick			1	219	0	0	56	2	1	25			0	0	Vitrified diaper
4001	TZ22	Brick			2	413	0	0	0	0	0	54			0	0	Burnt base straw marks on top
4001	TZ22	Tile			2	113	0	0	0	0	0	0			0	0	
4006	TZ22	Brick			1	2248	0	118	58	2	1	50			0	0	
5005	TZ11	Peg Tile	pt2.3		1	36	0	0	13	0	0	0			0	0	
5005	TZ22	Brick			1	586	0	0	55	2	1	25			0	0	

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
5005	TZ22	Brick			1	53	0	0	0	0	0	0			0	0	
5005	TZ22	Brick	b1.3	C	1	2306	223	111	47	8	1	100	1		1529	1566	Regular sharp arrises sunken margins M22
5005	TZ22	Brick	b1.3	C	1	1214	222	0	54	4	1	50	1		1529	1566	Sunken margins
5005	tz31.1	Tile			2	438	0	0	11	0	0	0			0	0	Mortar 10mm thick m22
5007	TZ11	Brick			2	2162	0	0	0	0	0	0			0	0	Bricks in mortar M21
5007	TZ22	Brick			1	2366	0	0	0	0	0	0			0	0	Sample of bonding mortar with brick embedded
5011	TZ22	Brick	b2.3	E	1	2930	246	118	63	8	1	100	3		1575	1625	Organic impressions in base
5022	TZ22	Brick	b1.1	A	0	0	240	105	48	7	1	88			1500	1528	Red friable worn
5022	TZ22	Brick	b1.1	A	2	2019	227	104	46	8	1	100			1500	1528	Almost complete brick rounded irregular arrises sandy friable surfaces
6002	TZ11	Tile			1	38	0	0	13	0	0	0			0	0	
6002	TZ31.1	Floor Tile			1	438	0	0	27	0	0	0			0	0	Plain tile with yellow glaze with brown speckle brown glaze over edge sample taken for fab
6002	TZ31.1	Floor Tile			1	32	0	0	26	0	0	0			0	0	Black glaze
6002	TZ31.1	Floor Tile			1	62	0	0	22	0	0	0			0	0	Black / dark brown glaze
6006	TZ22	Brick			1	988	0	110	56	2	1	25	1	1	0	0	M22
6006	TZ22	Brick			1	464	0	0	55	2	1	25	1		0	0	
6006	TZ22	Brick			1	194	0	0	0	0	0	0			0	0	
6007	TZ13	Tile			3	188	0	0	13	0	0	0	1		0	0	

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
6007	TZ22	Brick			1	1010	0	120	70	3	1	37	1	1	0	0	M22 mortar
6007	TZ22	Brick			4	1200	0	0	66	4	1	50	3		0	0	
6007	TZ22	Brick	b1.1		2	943	0	0	60	2	1	25	1		0	0	Brown over baked
6007	TZ22	Brick	b1.2	A	1	943	120	90	63	4	1	50	1	1	1500	1528	M22 traces
6009	TZ13	Tile			1	75	0	0	14	0	0	0	1	1	0	0	Very dense
6010	TZ26	Brick	b2.2	O	1	2872	230	107	63	8	1	100	1		1725	1775	Retain
6010	TZ26	Brick	b2.2	O	1	2680	225	105	62	8	1	100	1		1725	1775	Retain regular sharp arrises shallow frog striations on top surface brown yellow surfaces M21 mortar
6012	TZ11	Peg Tile	pt2.3		1	654	0	170	14	4	1	50			0	0	Two large peg holes 11mm - 5mm
6012	TZ11	Peg Tile	pt2.3		1	374	0	0	14	2	1	25			0	0	
6012	TZ13	Floor Tile			1	18	0	0	0	0	0	0			0	0	Matt black glaze worn
6012	TZ22	Brick			1	1542	0	124	52	4	1	50	3		0	0	Abraded rounded arrises wipe mark on top base very uneven N22 patches 22mm thick
6015	TZ11	Tile			2	167	0	0	11	0	0	0	1		0	0	
6015	TZ21	Tile			1	128	0	0	13	0	0	0			0	0	
6016	TZ22	Brick	b1.1	A	1	1362	0	112	56	4	1	50	2	1	0	0	Sunken margins pock marked upper surface base v rough
6016	TZ22	Brick	b1.1	A	1	1090	0	111	55	4	1	50	2	1	0	0	
6016	TZ22	Brick	b1.1	A	1	1068	0	105	53	4	1	50	2	1	0	0	Patches of M21 on base, arrises more regular and sharper than type

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
6017	TZ11	Peg Tile	PT2.0		2	149	0	0	0	0	0	0			0	0	
6017	TZ11	Tile			2	110	0	0	13	0	0	0			0	0	
6017	TZ22	Brick			1	607	0	0	65	0	0	0			0	0	Burnt
6017	TZ22	Brick			3	563	0	0	50	0	0	0			0	0	
6019	TZ13	Peg Tile	pt2.3		1	127	0	0	13	2	1	25			0	0	
6023	TZ25	Brick	b2.1	Q	1	2558	242	104	63	8	1	100			1770	1900	M21
6023	TZ25	Brick	b2.1	Q	1	2742	235	102	62	8	1	100	1		1770	1900	M21; frog retain
6032	TZ13	Peg Tile	PT2.0		1	53	0	0	0	0	0	0			0	0	
6032	TZ13	Tile			1	398	0	0	0	0	0	0			0	0	
6032	TZ21	Peg Tile	pt2.0		2	17	0	0	0	0	0	0			0	0	Burnt
8002	TZ23	Brick			1	1522	0	106	57	0	0	0			0	0	Uneven surface rounded at top
8002	TZ25	Brick	b2.1	Q	1	1974	220	102	61	8	1	100			1770	1900	Vestigial frog score longitudinal on base striations retained
8008	TZ11	Tile			2	433	0	0	11	0	0	0	2	1	0	0	Reused flat tile
8008	TZ22	Brick			1	275	0	0	58	0	0	0	2	1	0	0	
8008	TZ22	Brick			1	246	0	0	52	0	0	0			0	0	Reused mortar traces also remains of a plaster surface
8008	TZ22	Brick			1	470	0	0	50	0	0	0			0	0	

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
8008	TZ22	Brick			3	861	0	0	50	0	0	0	2	1	0	0	
8008	TZ22	Brick			1	91	0	0	0	0	0	0			0	0	
8008	TZ22	Brick	b1.2	A	1	1252	0	129	52	2	1	50			0	0	M22 on top
8008	TZ22	Brick	b1.2	A	1	1184	0	116	54	2	1	50			0	0	Traces of mortar M22 on surface rounded regular arrises
8011	TZ21	Brick			1	213	0	82	0	0	0	0			0	0	Possible fragment from a bullnose brick rounded surface
8011	TZ22	Brick			1	430	0	0	54	0	0	0			0	0	Slight sooting on stretcher and top poss. diaper brick
9001	TZ11	Tile			3	244	0	0	0	2	1	25	2		0	0	
9001	TZ21	Brick			1	555	0	0	50	2	1	25			0	0	Creasing
9001	TZ21	Brick	b1.1	A	5	2010	250	105	52	8	1	100			1500	1528	
9001	TZ22	Brick			1	751	0	110	50	4	1	50	3	1	0	0	
9001	TZ22	Brick			1	568	0	105	65	2	1	25	3	1	0	0	
9001	TZ22	Brick			1	267	0	0	26	0	0	0			0	0	Very worn possible bull nose
9002	TZ11	Floor Tile			1	83	0	0	0	1	1	12.5			0	0	Fragment of a floor tile corner with black matt glaze
9004	TZ21	Brick	b1,2	A	1	2376	230	100	65	8	1	100	2		1500	1528	
9004	TZ21	Brick	b1.2	A	1	2182	220	100	63	8	1	100	2		1500	1528	Very worn stretcher face taper up to 90mm thick
9004	TZ22	Brick	b1.2	A	1	2050		110	60	7	1	87	2		1501	1528	Creasing on stretchers
9004	TZ22	Brick	b1.2	A	1	2410	230	100	65	8	1	100	2		1500	1528	
9010	TZ21	Brick	b1.2	A	1	1014	0	105	60	4	1	50	3		1500	1528	

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
9010	TZ22	Brick	b1.2	A	1	1444	0	130	50	4	1	50	3		1501	1528	
10004	TZ11	Brick			1	875	0	0	69	0	0	0	1		0	0	M21 mortar regular rounded arrises creasing
+	TZ11	Floor Tile			1	313	0	0	31	2	1	25			0	0	Black glaze
+	TZ13	Peg Tile	PT2.3		1	368	0	159	11	2	1	50	1		0	0	1 peg hole filled with M22
+	TZ13	Peg Tile	PT2.3		1	149	0	0	11	2	1	25	1		0	0	
+	TZ13	Tile			1	386	0	186	11	0	0	0	1		0	0	
+	TZ13	Tile			3	207	0	0	12	0	0	0	1		0	0	
+	TZ22	Brick			1	603	0	0	53	0	0	0	1		0	0	Burnt with vitrified header
+	TZ11	Floor Tile			1	445	0	0	21	2	1	25	1		0	0	Black glaze
+	TZ11	Tile			2	262	0	0	11	0	0	0			0	0	
+	TZ13	Floor Tile			1	554	0	0	34	2	1	25	1	1	0	0	M33 mortar
+	TZ13	Peg Tile	PT2.2		1	219	0	0	16	2	1	25	1	1	0	0	
+	TZ13	Peg Tile	PT2.3		1	178	0	0	11	0	0	0	1		0	0	
+	TZ13	Tile			1	399	0	139	14	2	1	25	1	1	0	0	18mm thick m22 mortar on it
+	TZ13	Tile			1	58	0	0	12	0	0	0	1		0	0	

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
+	TZ21	Floor Tile			1	285	0	0	27	0	0	0			0	0	Yellow glaze striations thin brown glaze
+	TZ22	Peg Tile	PT2.0		1	26	0	0	14	0	0	0			0	0	
+	TZ22	Tile			2	139	0	0	14	0	0	0	1	1	0	0	
+	TZ22	Tile			1	164	0	0	11	0	0	0	1	1	0	0	Soft
+	TZ21	Floor Tile			1	165	0	0	28	0	0	0			0	0	Dark green
+	TZ21	Floor Tile			2	158	0	0	27	0	0	0			0	0	Green glaze
+	TZ31.1	Floor Tile			1	323	0	0	34	0	0	0			0	0	Brown glaze with black speckle
+	TZ31.1	Floor Tile			1	309	0	0	32	0	0	0			0	0	Dark brown
+	TZ31.1	Floor Tile			1	136	0	0	30	0	0	0	1	1	0	0	Thin brownish yellow glaze on top thick on side
+	TZ31.1	Floor Tile			2	337	0	0	30	0	0	0			0	0	Yellow with dark brown speckle
+	TZ22	Brick			1	84	0	0	0	1	1	12.5			0	0	Vitrified surface - diaper
+	TZ22	Brick			3	928	0	0	0	0	0	0			0	0	Vitrified surfaces - diaper
+	TZ23	Floor Tile			1	3636	233	230	31	8	2	100			0	0	S complete yellow glaze plain tile that has been reused or resurface thick mortar over glaze M22 25mm thick

Context	Fabric	Function	Form code	HCP Brick Type	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TE	Mortaring	Reuse	Date from	Date to	Comments
+	TZ23	Floor Tile			1	266	0	0	42	0	0	0			0	0	Slightly tapered to base thick dark green glaze
+	TZ23	Floor Tile			1	887	0	0	37	0	0	0			0	0	Black dark brown glaze on top
+	TZ23	Floor Tile			1	443	0	0	34	2	0	0			0	0	Yellow glaze with brown and green mottling
+	TZ23	Floor Tile			1	387	0	0	31	2	0	0			0	0	2 corners green dark glaze
+	TZ23	Floor Tile			1	714	0	0	31	0	0	0	1	1	0	0	Black glaze also one extant side some splash under
+	TZ23	Floor Tile			1	229	0	0	29	0	0	0	1	1	0	0	Black crazed glaze on top and extant side mortar on glaze and edge slightly burnt on edge
+	TZ23	Floor Tile			1	469	0	0	27	2	0	0			0	0	Glaze yellow round borders becoming green inside
+	TZ23	Floor Tile			1	86	0	0	0	0	0	0			0	0	Yellow glaze with green patch fab sample
+	TZ24.2	Brick	b2.4	V	1	2380	227	102	61	8	1	100			1800	2000	Modern machine extruded brick sharp regular arrises solid brick some creasing on stretcher
+	TZ31.1	Floor Tile			1	1260	209	0	28	4	1	50			0	0	Yellow with brown speckled and green strip

MORTAR CATALOGUE

APPENDIX 7

Context	Fabric	Type	NoSh	Wt (g)	Comments
+	M22		3	140	
+	M21		1	65	
2008	M21	Render	1	1746	With large flint nodule, one flat surface
2008	M22		4	3865	
2008	M22		8	116	Slightly yellow
2008	M22	Render	2	259	Large bit of flint in body render face Main N-S
2018	M22		1	18	
2038	M22		4	199	
6009	M22		1	13	

WORKED STONE CATALOGUE

APPENDIX 8

Codes Used - Mortaring: 1 = Mortar Present, 2 = Traces, 3 = Thick Layer; Reuse: 1 = Evidence of reuse with mortar over break.

Context	Fabric	Function	NoSh	Wt (g)	Length (mm)	Width (mm)	Thickness (mm)	Corner	MT	TF	Mortaring	Reuse	Comments
+	ST11	Floor Tile	1	2210	201	110	60	7	1	75	1		
2008	ST41	flagstone	1	5110	0	0	50	2	0	0	3	1	Very worn flagstone reused in mortar, bonding impressions of peg tile slabs also in mortar
2008	ST41	revetment	1	683	0	0	0	0	0	0			Tool marks
2008	ST51		1	155	0	0	0	0	0	0			Flint nodule possible worked in m22
2010	ST41	block	1	500	0	0	77	0	0	0			Surface thin grooves 3mm wide with black strip defined by thin groove
3004	ST10	Tile	1	103	0	0	4	2	1	25	1		Edge of slate roof tile
4008	ST41	block	1	688	0	0	61	0	0	0			Worked block
4008	ST41	Brick	1	1272	0	0	55	2	1	25			l 145+ w 110+ r

ENVIRONMENTAL SAMPLES ASSESSMENT

APPENDIX 9

CONTEXT NUMBER	6022		10007		2021		2509		5025		8011		8015	
SAMPLE NUMBER	8		9		12		14		15		16		17	
CONTEXT DESCRIPTION	Light green sandy silt		Dark silt fill of chamber		Charcoal spread within servery		Scrapings of contents of large pot		Construction backfill of Great Hall buttress		Light yellowish-brown fill in bedding trench		Lower fill of bedding trench	
	FLOT	RESIDUE	FLOT	RESIDUE	FLOT	RESIDUE	FLOT	RESIDUE	FLOT	RESIDUE	FLOT	RESIDUE	FLOT	RESIDUE
Weight after processing (g)	65g (wet)		41g (wet) + 34g (wet)		70g (wet) + 62g (wet)		350g (wet)		10g (wet) + 1g (Wet)		7g (wet) + 7g (wet)		14g (wet) + 13g (wet)	
% modern roots	0		0		0		0		0		0		0	
CHARCOAL	C (19g)	E (2g)	D (1g)		A (30g)		A (142g)	E (2g)	E (1g)					
SEEDS	E (1g)		B (1g)											
Charred grain									E					
<i>Sambucus nigra</i> L. Elder	E		B		E								E	
<i>Rubus fruticosus</i> agg. Blackberry			E											
<i>Ficus carica</i> L. Fig			E		E									
<i>Chenopodium</i> sp. Goosefoot			E											
<i>Senecio vulgaris</i> L. Groundsel					E									
SHELL	E (1g)	E (18g)	E (1g)			D (10g)		E (7g)			E (1g)			
<i>Bithynia tentaculata</i> (Linnaeus, 1758)	E	E												
<i>Cepaea</i> sp. Juvenile cf. <i>Cermeuella virgata</i> (Da Costa, 1778)								E			E			

CONTEXT NUMBER	6022	10007	2021	2509	5025	8011	8015		
SAMPLE NUMBER	8	9	12	14	15	16	17		
<i>Helicella itala</i> (Linnaeus, 1758)					E				
<i>Cochlicopa lubrica</i> (O. F. Müller, 1774)						E			
<i>Discus rotundatus</i> (O. F. Müller, 1774)			E						
<i>Clausilia bidentata</i> (Strøm, 1765)									
<i>Ostrea edulis</i> Linnaeus, 1758 Oyster	E			E					
<i>Mytilus sp.</i> Mussel				E					
<i>Cerastoderma sp.</i> Cockle				E					
BONE	E (2g)	D (7g)	E (4g)	C (40g)	E (5g)	C (250g)	E (3g)	D (6g)	E (18g)
FISH SCALE			D		D				
Pot					E (6g)	E (28g)	E (7g)	E (1g)	
Glass				E (11g)					D (2g)
Fe Obj	E (3g)								E (3g)
Cu Obj						E (3g)			
CBM	E (298g)	C (5526g)		D (292g)			E (124g)		E (30g)
Mortar		D (390g)			D (280g)		E (68g)		

Abundance scale A =>200, B = 100-200, C = 50-100, D = 10-50, E = 1-10