EAST WING
SOMERSET HOUSE
STRAND
CITY OF WESTMINSTER

ASSESSMENT OF AN ARCHAEOLOGICAL EXCAVATION & WATCHING BRIEF

EAF 10

JULY 2012

PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

EAST WING
SOMERSET HOUSE
STRAND
CITY OF WESTMINSTER

EXCAVATION & WATCHING BRIEF

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An Assessment of an Archaeological Excavation and Watching Brief at the East Wing, Somerset House, Strand, City of Westminster, London, WC2R 1LA

Site Code: EAF 10

Central National Grid Reference: TQ 3078 8082

Written and Researched By Neil Hawkins

Pre-Construct Archaeology Limited, July 2012

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1 ABSTRACT

1.1 An archaeological watching brief was undertaken by Pre-Construct Archaeology Ltd at the East Wing, Somerset House, Strand, City of Westminster, WC2R 1LA. The watching brief was commissioned by Gardiner and Theobald on behalf of King's College London in advance of a proposed redevelopment and lowering of the basement rooms. The site is located directly south of the Strand and directly north of the River Thames.

1.2 The watching brief was undertaken in the basement of the East Wing of Somerset House, a Grade I Listed Building constructed c. 1775, where twenty-four rooms, lightwells and corridors were monitored archaeologically during the lower of the floors to varying depths. Some of the basement rooms were excavated to a limited depth, c. 0.20m below current floor level, and others in the location of lift pits to a considerably greater depth.

1.3 The archaeology encountered was multi-phase, with the features and deposits dating to seven historic phases: Saxon, medieval, early post-medieval, Tudor/Stuart (1550-1700), late 18th century to early 19th century, mid 19th century and 20th century (modern).

1.4 Geologically the site was on the boundary between Eocene London Clay overlain by Pleistocene Taplow gravels on the northern half of the site with the southern half of the site being Holocene alluvium; described as mainly sand, silt and clay. This Holocene alluvium was formed by the River Thames, which was located directly south of Somerset House.

1.5 The earliest dated archaeological material recovered during the watching brief was an assemblage of Roman building material and pottery. This material was however residual within later, Saxon and medieval, features. No features or deposits relating to the Roman period were encountered.

1.6 The earliest *in situ* activity dated to the Middle Saxon period (AD 600-800). This consisted of dumped deposits, a single pit and an alignment of stakeholes. These features were all recorded within one of the basement rooms which was excavated to a deeper level. The area of the Strand is known to lie within the limits of the Middle Saxon settlement of *Lundenwic* and these recorded features and the cultural material recovered from them conforms to Saxon activity recorded elsewhere.

1.7 The next phase of activity recorded during the watching brief dates to the medieval period, in particular the 12th and 13th centuries. This again is represented by dumped deposits and rubbish pitting recorded in basement rooms which were excavated to a deeper level. The area of the site was known to have been settled from the late 12th century onwards when a number of important buildings were erected, including bishop's Inns and a church. The recorded medieval features and deposits represent external activity in relation to these structures, albeit in a localised area.

1.8 The next phase of activity is represented by a number of chalk wall foundations recorded in multiple rooms of the basement. These chalk foundations have been provisionally dated to the early post-medieval period, c. 1450-1600 but may be somewhat earlier. These chalk foundations appear to represent the various buildings known to have been located on the Strand by the 15th century.

1.9 By the middle of the 16th century Edward Seymour, uncle of Edward VI, who was still too young to ascend the throne, had himself created Lord Protector and Duke of Somerset. The Duke began purchasing land along the Thames and Strand to construct himself a palace. To construct his palace though the numerous buildings which were already extant on the site had to be demolished, including a church. It was here that he began building his great mansion, Somerset House, in 1547 which was virtually complete by 1551. This building remained a royal palace until c. 1700 when in the 18th century it began to fall into disrepair. The foundations for this royal palace represented the next phase of archaeological activity recorded during the watching brief. A number of these brick and masonry walls were encountered in seven of the basement rooms. Recovered from these foundations was an important assemblage of Tudor worked stone and architectural elements.

1.10 By the late 18th century Somerset House was in a state of considerable disrepair and it was finally deemed to be demolished to make way for a new structure and replaced as a royal palace by the newly constructed Buckingham Palace. Demolition began in 1775 with the construction of the new Somerset House occurring concurrently. This late 18th-century Somerset House is still extant as a Grade I Listed Building. The next phase of archaeological activity recorded during the watching brief dates to the late 18th century. This activity is predominantly represented by an extensive underground network of interconnecting domed brick culverts which ran through a large number of the basement rooms. This drainage network dated to the late 18th century and was directly related to and most likely constructed at the same time as the new Somerset House.

1.11 During the mid 19th century some alterations to the basement features were made. Recorded running through a number of the basement rooms during the watching brief was an interconnecting network of brick and tile flues. These flues represented an under floor heating system which most likely originally ran throughout the basement area. A number of other small remnants of 19th-century brick hearths and a floor surface represent other internal alterations to the East Wing during this period.

2 INTRODUCTION

2.1 This report details the results and working methods of an archaeological watching brief undertaken by Pre-Construct Archaeology Ltd at the East Wing, Somerset House, Strand, City of Westminster, London, WC2R 1LA (Fig. 1). The watching brief was commissioned by Gardiner and Theobald on behalf of King's College London in advance of a proposed redevelopment within the basement of the site. The site central National Grid Reference is TQ 3078 8082. The watching brief was conducted between the 1st October 2010 and the 2nd September 2011. The site is located in the basement of the East Wing of Somerset House which is bounded by the Strand to the north and by the Victoria Embankment to the south, buildings of King's College, London to the east and the courtyard of Somerset House to the west.

2.2 The site is located within an Archaeological Priority Zone as defined in the City of Westminster. The watching brief was undertaken in the East Wing of Somerset House, a Grade I Listed Building.

2.3 The project was commissioned by Gardiner and Theobald on behalf of Kings College London. The field investigation was undertaken by Pre-Construct Archaeology Ltd under the supervision of Kari Bower, Alexis Haslam, Joe Brooks and the author under the project management of Helen Hawkins. The work was additionally monitored for the local planning authority by Robert Whytehead Regional Archaeologist for the Greater London Archaeology Advisory Service, English Heritage. Jane Sidell (Inspector of Ancient Monuments) also of English Heritage provided specialist advice with regard to the preservation of archaeological remains under display.

2.4 A Risk Assessment & Method Statement was prepared by Helen Hawkins prior to the fieldwork commencing[1]. The site was also the subject of Historic Building Recording (Bower & Thompson forthcoming).

2.5 The completed archive comprising written, drawn and photographic records and artefacts will be deposited with the London Archaeological Archive and Research Centre (LAARC), Mortimer Wheeler House, Eagle Wharf Road, London N1 7ED.

2.6 The site was allocated the site code EAF 10.

[1] Hawkins 2010

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Figure 1
Site Location
1:10,000 at A4

3 PLANNING BACKGROUND

3.1 The East Wing forms one part of the Somerset House complex, its designation as a listed building, and its position within the Strand Conservation Area, mean that any proposals that might affect its special interest will be subject to particular controls, in addition to normal planning regulations and procedures. These include Planning Policy Statement 5: Planning for the Historic Environment issued by the Department for Communities and Local Government in 2010 as well as the regional policies within the London Plan, local policies contained within the City of Westminster Unitary Development Plan (UDP) and any relevant Supplementary Planning Guidance.

3.2 Regional planning is guided by the South East Plan. The Secretary of State published the final version of the South East Plan (also known as the Regional Spatial Strategy for the South East) on May 6 2009. This replaced the Regional Planning Guidance for the South East (RPG9).

3.3 In combination with the South East Plan planning policy is the responsibility of Westminster City Council. Their planning policy framework is currently moving from a Unitary Development Plan based system to a Local Development Framework. This more holistic approach to planning was introduced by the Planning and Compulsory Purchase Act 2004 and is referred to as 'spatial' planning. The current statutory 'development plan' for Westminster is the 'saved' Unitary Development Plan and the Mayor of London's London Plan. Planning applications must be determined in accordance with the development plan for Westminster, unless material considerations suggest otherwise. The Unitary Development Plan was adopted in January 2007 and states that

> *…"most of the City is post-medieval, although it is planned around ancient thoroughfares and has… been continuously redeveloped, producing a varied urban grain of great character. The City Council wishes to preserve the historic fabric of Westminster and to encourage new development where appropriate."*

3.4 The following policies set out in Chapter 10 (Urban Design and Conservation) of the UDP are particularly relevant to the study site:

- **DES 9: Conservation Areas:** Especially section (E), Change of Use within Conservation Areas, which states that 'Permission will only be granted for development, involving a material change of use, which would serve either to preserve or enhance the character and appearance of the conservation area, bearing in mind the detailed viability of the development.'
- **DES 10: Listed Buildings:** Particularly section (D), Setting of listed buildings

  Planning permission will not be granted where it would adversely affect:
  a) the immediate or wider setting of a listed building, or

b) recognised and recorded views of a listed building or a group of listed buildings, or

c) the spatial integrity or historic unity of the cartilage of a listed building.

- **DES 11: Scheduled Ancient Monuments and Sites of Archaeological Priority and Potential:**

(B) Areas and Sites of Special Archaeological Priority and Potential

Permission will be granted for developments where, in order of priority:

1) all archaeological remains of national importance are preserved in situ.

2) remains of local archaeological value are properly, evaluated and, where practicable, preserved in situ.

3) if the preservation of archaeological remains in situ is inappropriate, provision is made for full investigation, recording and an appropriate level of publication by a reputable investigating body.

3.5 The East Wing forms part of Somerset House, a four wing complex, located on the south side of the strand. Planning permission has been granted for large scale refurbishment works to the East Wing of Somerset House, which carried the condition that a programme of recording and historic analysis would be undertaken.

3.6 The site is located within the *Lundenwic* and Thorney Island Area of Special Archaeological Priority as defined by Westminster City Council in its Unitary Development Plan. Somerset House is a Grade I Listed Building constructed c. 1775. The site itself does not contain any Scheduled Monuments.

4 GEOLOGY AND TOPOGRAPHY

4.1 GEOLOGY

4.1.1 According to the British Geological Survey (BGS) of England and Wales (Sheet 256, North London) the site lies on the boundary between Eocene London Clay overlain by Pleistocene Taplow gravels on the northern half of the site with the southern half of the site being Holocene alluvium; described as mainly sand, silt and clay. This Holocene alluvium was formed by the River Thames, directly south of Somerset House, during episodic periods of transgression and regression.

4.1.2 Previous archaeological investigations in the area of Somerset House have confirmed the underlying natural geology as described above[2].

4.2 TOPOGRAPHY

4.2.1 The site lies between the Strand to the north and the Victoria Embankment to the south. The ground slopes naturally from the Strand down towards the River Thames. However within Somerset House this slope has been levelled as is apparent with the courtyard. The River Thames lies c. 35m from the southern wing of Somerset House.

[2] Museum of London Archaeological Service 1997b

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 PREHISTORIC & ROMAN

5.1.1 There is little evidence for either prehistoric or Roman activity in the area of Somerset House; the site lays c. 1km west of the Roman core of *Londinium*. Residual Roman finds however are common within later deposits suggesting that some activity, including settlement, was occurring possibly on the shoreline of the Thames or along the Strand, which follows the line of the Roman road from London to Cirencester[3].

5.2 ANGLO-SAXON

5.2.1 The main Middle Saxon settlement in London, known as *Lundenwic*, was located in the area of modern day Covent Garden, on Aldwych to the east and on the Strand itself. Remains of embankments and timber revetments forming the Saxon waterfront have been recorded south of the Strand along with foreshore deposits recorded south of this at Globe House[4] and Arundel House[5] to the east, and during excavation work at Somerset House itself[6]. This would suggest that the site lies within the waterfront district of *Lundenwic*[7].

5.3 MEDIEVAL

5.3.1 From the late 12th century, the riverside and Strand frontage were popular locations for the London residences of those seeking influence at Westminster Court. Great houses included the inns of the Bishops of Exeter, Bath and Wells, Llandaff, Chester, Worcester, Norwich, and Durham. The precursor to the present church of St Mary Le Strand, which was dedicated to the Nativity of the Blessed Virgin Mary was also located in the area of the site on the south side of the Strand on the site of Somerset House[8].

5.4 POST-MEDIEVAL

5.4.1 By 1531 the numerous buildings belonging to the Bishops had been joined by houses belonging to the King, the Queen, the Dukes of Norfolk, Suffolk and Richmond, and the Marquesses of Dorset and Exeter.

[3] Gifford and Partners 2005
[4] Museum of London Archaeological Service 1997a
[5] Proctor 2000
[6] Museum of London Archaeological Service 1997a; 1997b
[7] Gifford and Partners 2005
[8] Thurley 2009

5.4.2 When Henry VIII died in 1547 his son, Edward VI, was still too young to ascend the throne. Edward Seymour, the boy's ambitious and successful uncle, seized this opportunity and had himself created Lord Protector and Duke of Somerset. The new Duke and Protector, "desirous of possessing a residence suitable to his high rank", was determined to build himself a palace.

5.4.3 The Duke already owned land on a prime site between the Thames and the Strand; an important thoroughfare linking the Tower of London to the east and the Palace of Whitehall and Westminster to the west. It was here that he began building his great mansion, Somerset House, in 1547. However, clearing the site required the demolition of a number of existing churches and chapels. This was an extremely unpopular and provocative move. It caused a clash with the ruling Privy Council and was the subject of the indictment that led to the Duke's arrest and brief imprisonment in the Tower of London in 1549, although he soon obtained his release and reinstatement.

5.4.4 By 1551 Somerset House was virtually complete, having cost over £10,000 to build. Although it was a courtyard house in the Tudor tradition, with a gatehouse to the Strand and a great hall opposite on the river front, the Strand facade departed from the old Gothic style of architecture and, instead, combined Doric and Ionic pillars in the most serious attempt at classical composition yet seen in England. The identity of the architect is not known; there is some evidence that it may have been John of Padua, responsible for Caius College, or possibly John Thynne, who was employed by the Duke at that time. Although he had commissioned one of the most influential buildings of the English Renaissance, the Duke had little opportunity to enjoy Somerset House. In 1551 his opponents had him arrested again and tried for the much more serious crime of treason. This time there was no escape. The Duke of Somerset, Lord Protector of England, was executed on Tower Hill in January 1552.

5.4.5 After Somerset's execution the building passed into the hands of the Crown. Finally completed in 1553, the house was occupied by Princess Elizabeth, the future Queen Elizabeth I, until her accession to the throne in 1558. As Queen, she preferred to live at the palaces of Whitehall or St. James's, while using Somerset House for occasional meetings of her council and as a lodging-house for foreign diplomats.

5.4.6 Following the death of Elizabeth in 1603, her successor united two thrones, becoming James I of England and VI of Scotland. James had married Anne of Denmark and Norway in 1589, but Anne found life at the Scottish court rather dull. So when she was given Somerset House for her own use she took up residence and entertained there on a lavish scale, renaming the place 'Denmark House', it became the centre of English social and artistic life.

5.4.7 Just as Elizabeth I had encouraged English drama, Anne encouraged the development of the English masque - a form of dramatic and musical entertainment -

employing Ben Jonson to write and Inigo Jones to design the sets for a series of extravagant productions. In August 1604, Somerset House played host to a drama of a different kind, when the conference and peace treaty that brought about the end of nearly 20 years of war between England, Spain and the Netherlands was held here.

5.4.8 Besides hosting lavish and expensive entertainments at Denmark House, Anne initiated a major reconstruction of the palace from 1609, much of it to Inigo Jones' design. Buildings were erected to form a new three-sided courtyard while the original Lower Court was substantially remodelled. Further reconstruction around the Upper Court saw the introduction of an open arcade of nine arches to the entrance, and the rebuilding of the ranges on the east and west sides, in a style to match the Strand Front constructed sixty years earlier.

5.4.9 The cost of the building works was some £34,500 which, together with furnishing and equipment, made Somerset House one of the most ruinously expensive enterprises of James I's reign. Nevertheless, to complete the renovation, the river front was rendered to imitate stone, the Strand front repaired and the Hall refaced with stone. Indeed, the work of painting, gilding and decorating inside Denmark House continued until Anne's death in 1619.

5.4.10 Charles I came to the throne in 1625 and, later that year, married Henrietta Maria of France, a devout Roman Catholic. Shortly after, she became entitled to the use of Denmark House and further reconstruction and redecoration followed, overseen by Inigo Jones, with contributions by John Webb and Nicholas Stone.

5.4.11 At Denmark House, Jones designed new decorative features for the Queen's closet, an ornamental seat in the bowling alley, a cistern house, an arbour and a new and lavishly decorated Cabinet Room. A new river landing was also constructed from Portland stone and fountains and grottos introduced to the gardens.

5.4.12 By far the most important building undertaken by Jones at Denmark House was the Queen's new Chapel. This "lavish setting for the mass" was commissioned in 1630 and took six years to complete, when it was praised as being "more beautiful, larger, and grander than one could ever have hoped for". Beautiful it may have been, but, by encouraging his Queen to build a Roman Catholic chapel in a royal palace, Charles added fuel to the flames of political dissension and popular ill-will that would later be his downfall.

5.4.13 Described by a contemporary as, "our Kingdome's most Artfull and Ingenious Architect", Inigo Jones was Surveyor of the King's Works from 1615 until the beginning of the Civil War in 1642. During this time he was continuously engaged on the supervision of works at the Royal residences. Besides being responsible for much of the redesigns for Denmark House, he also designed a new palace for Anne at Greenwich, The Queen's House.

5.4.14 The outbreak of the Civil War brought a change in Jones's fortunes. His work for the Roman Catholic Henrietta Maria some years earlier provoked deep suspicion in the minds of the Parliamentarians, resulting in Jones being fined and his estate sequestrated. He was able to secure a pardon and the return of all his property, only to later be fined again. Inigo Jones died at Somerset House in 1652, as it was said, "...through grief, as is well known, for the fatal calamity of his dread master".

5.4.15 During the Civil War Denmark House was used as quarters for General Fairfax who commanded the Parliamentary Army. When Parliament ordered the dispersal of the royal treasures for the benefit of the army, much of the collection was gathered at Denmark House in 1649 where it was inventoried and sold. The tapestries and pictures listed in the inventory alone formed one of the most remarkable private collections ever made; some 1,760 pictures, including works by Leonardo, Raphael, Michelangelo, Correggio, Titian, Tintoretto, Holbein and Van Dyck, amongst others.

5.4.16 Cromwell died in 1658 and, at Somerset House, "The Lord Protector's effigy lay in state for many weeks after his death... multitudes daily crowding to see this glorious but mournful sight." Although some genuinely did mourn his death, for many it came as a relief, marking the end of a harsh puritan rule and opening up the possibility of the restoration of the monarchy.

5.4.17 After Charles II's restoration in 1660, Henrietta Maria, Charles I's widow and now Queen Dowager, returned to Denmark House. During this time, as well as the construction of stables, coach houses and apartments, a significant new building was erected housing the Presence Chamber and Privy Chamber. A riverfront gallery was also built - its five open arches and sculptured keystones providing a model for the Strand frontage of the new Somerset House some 100 years later.

5.4.18 The plague of 1665 prompted all who could, particularly the wealthy, to leave London. The Diary of Samuel Pepys for 29 June 1665 records, "By water to Whitehall, where the Court is full of waggons and people ready to go out of town. This end of the town every day grows very bad with the plague... Home, calling at Somerset House where all were packing up, too; the Queen-mother setting out for France this day...". Henrietta Maria never returned to England and died in France four years later. The Great Fire of 1666, started in the City to the east of the Strand, destroyed nearly three-quarters of the town, but conveniently cleared the city of disease. The fire stopped just short of Somerset House.

5.4.19 Christopher Wren supervised another major redecoration of Somerset House in 1685 when Queen Catherine of Braganza took up permanent residence following the death of her husband Charles II. Charles was succeeded by his brother James II, whose reign, until his exile in 1688, was a short-lived disaster. Catherine stayed on at Somerset House as Queen Dowager throughout, as was her right.

5.4.20 During the early part of the 18th century Somerset House was used to provide grace and favour apartments and also for entertainment, particularly for the very popular masked ball or masquerade. This could either be a private entertainment or a public subscription, where anybody who could afford a ticket could join in the fun.

5.4.21 During large parts of the 18th century Somerset House was used for a variety of purposes. Court officials occupied some of the rooms, other parts of the building were given over to storage and offices, including those of the Duchy of Cornwall, while the State Apartments were occupied by foreign embassies or visiting dignitaries. From 1722 the Horse Guards took over the stables and in 1756 a battalion of Foot Guards were quartered in the palace.

5.4.22 This period saw the palace fall gradually into ruin. In 1718 Vanbrugh observed that Somerset House was the "most out of repair" of all the royal palaces and no longer able to keep out the weather. The continued neglect led to the inevitable decision to pull the building down and George III agreed that the site be given over to public offices, with the provision Buckingham House should take the place of Somerset House as the official dower house for the queen. Demolition began in 1775 and continued in stages as the new Somerset House was constructed around it. When the new building rose from the rubble, the Royal Academy, which had been one of the last occupants of the old Somerset House, became one of the first occupants of the apartments which fronted the Strand, providing tangible continuity between the old and the new[9]

5.5 THE CARTOGRAPHIC EVIDENCE

5.5.1 From the mid 16th century the area of the site was encompassed by the extensive Duke of Somerset's palace Somerset House. Due to the presence of this important and influential building, being the palace of the Queens from 1551 to 1692, the site and the palace are well documented and mapped from its construction through to its later demolition. This range of cartographic are listed in one specific volume[10].

5.6 PREVIOUS WORK

5.6.1 Thirty-five test pits were excavated at Somerset House between 1996 and 1997[11] to recover a plan of the alignment of the Tudor river wall and to provide technical information about the foundations of the south wing of the 18th-century Somerset House. Tudor and post-medieval deposits abutting the river wall and overlying foreshore deposits were found to be overlain by 18th- and 19th-century ground raising dumps. Garden features to the rear of the river wall were also identified.

[9] http://www.somersethouse.org.uk/about_somerset_house/history/62.asp
[10] Thurley 2009
[11] Museum of London Archaeological Service 1997b

5.6.2 Building remains recorded in the basement of the south wing and during the excavation of the Barge House between 1997 and 1998[12] confirmed the line of the Tudor river wall and provided further information about the Barge House, which was backfilled in the 19th century following the creation of the Victoria Embankment[13].

5.6.3 An archaeological evaluation in the Great Court[14], comprising five trial trenches and two boreholes, recovered evidence for 18th- and 19th-century make-up layers, which were overlain by a 19th-century courtyard surface. Demolition rubble from the Duke of Somerset's palace appears to have been incorporated within the make-up layers used to build up the Great Court. Architectural stone fragments within this rubble may have derived from the medieval bishop's town houses, or from one of several churches that previously occupied the site which were demolished on the Duke of Somerset's orders.

5.6.4 An archaeological watching brief in the Great Court[15] between 1999 and 2000 recorded residual medieval material but no structural remains of that date. *In situ* structural elements of the Duke of Somerset's Tudor palace were recorded however. It was interpreted that these walls were left intact to retain the substantial make-up deposits dumped to raise the level of the courtyard in the 18th century, thereby preserving them.

[12] Oxford Archaeology Unit 1999
[13] Wood and Munby 2004
[14] Gifford and Partners 1999
[15] Gifford and Partners 2005

6 ARCHAEOLOGICAL METHODOLOGY

6.1 The watching brief followed a specific written scheme of investigation which detailed the site methodology following consultation with Robert Whytehead of English Heritage[16].

6.2 The watching brief consisted of the lowering of a number of basement rooms (Fig. 2) to varying depths dependant on the function of the room by the groundworks contractor under archaeological supervision. The specialist contractor first removed the York stone flooring then the main groundworks contractor removed any underlying deposits with a 1.5 tonne 360° mechanical excavator fitted with a flat grading bucket. This ground reduction was monitored under archaeological supervision at all times. When archaeological deposits, features or structures were encountered groundwork was halted to provide sufficient time for the archaeological contractor to record the archaeology present; preservation by record. Once the archaeological contractor had recorded the archaeological resource the groundworks contractor would continue excavation until further archaeological deposits, features or structures were encountered or the formation level was achieved. This process was continually repeated within all the basement rooms.

6.3 The recording system used was the single context recording system, with individual descriptions of all archaeological features and strata excavated and exposed entered onto pro-forma recording sheets. In this report, contexts are shown by square brackets, e.g. [100]. All plans and sections of archaeological deposits and features were recorded on polyester based drawing film, the plans being drawn at a scale of 1:20 and the sections at 1:10. The OD height of all principal strata was calculated and indicated on the appropriate plans and sections. Features that were evidently modern were not given context numbers and were recorded as modern intrusions in plan.

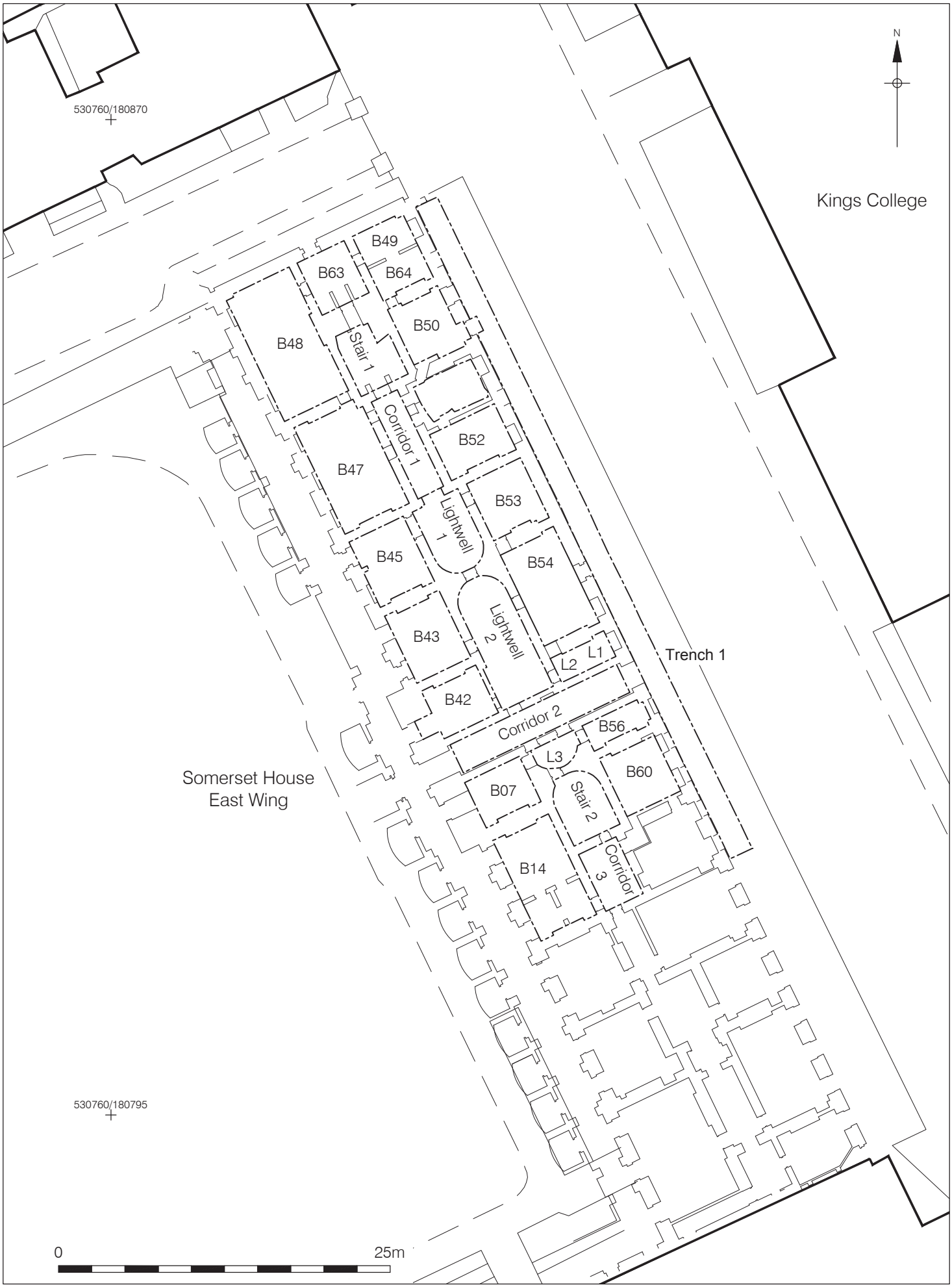
6.4 Baselines were utilised in all of basement rooms which were located on detailed plans showing the outline of all basement rooms, lightwells and corridors.

6.5 A temporary benchmark was assigned individually within the basement rooms by the groundworks engineer to calculate the formation level of the new basement floors. These temporary benchmarks were also utilised to calculate the Ordnance Datum heights of all archaeological features, deposits and structures.

6.6 Photographs, on colour slide, black and white print film and in digital format were taken of the archaeological features where relevant. A professional archaeological photographer visited the site when required in order to take large format shots of areas or specific features. Site staff used 35mm and digital cameras on a day to day basis,

[16] Hawkins 2010

and the professional photographer used 35mm, medium format (120mm) and digital cameras.



18/07/12 JS

Figure 2
Trench Location
1:400 at A4

7 PHASED ARCHAEOLOGICAL SEQUENCE

7.1 PHASE 1: NATURAL

Room B63 [212]

7.1.1 The earliest deposit encountered during the watching brief was the underlying natural London Clay. This was only observed in one of the basement rooms during the watching brief, B63, at the northern extent of the East Wing. This stiff greyish brown to grey clay deposit was recorded at 5.22m OD. This represents a truncated natural horizon and in no way indicates the level or topography of the natural London Clay in this area.

7.1.2 This natural clay deposit is consistent with the known underlying geology as indicated on the 1:50,000 British Geological Survey Map No. 256 (Drift and Solid Edition). This illustrates the site to be located over an outcrop of Eocene London Clay.

7.2 PHASE 2: SAXON (Fig. 3)

Levelling Layers

Room B45 [111], [100]

7.2.1 The earliest anthropogenic activity recorded during the watching brief was a horizon of two levelling deposits, layer [111] sealed by layer [100]. This levelling horizon was recorded in the northern half of Room B45; this room in particular recorded a deeper sequence of archaeological remains but this was directly related to it being excavated to a deeper level. These two levelling layers; composed of a mid brownish grey silty clay, had a combined thickness of c. 0.45m and was recorded at a highest level of c. 5.23m OD.

7.2.2 Only one of these layers, the later deposit [100], contained anthropogenic material. A small assemblage of abraded residual Roman tile was recovered from the layer. This assemblage dates from the end of the first century AD to the beginning of the fourth century AD. Of note amongst the assemblage were two fragments of box flue tile, one with a comb design and the other of a roller stamp variety (Appendix 6). A small assemblage of animal bone was recovered from deposit [100] and is represented by poorly preserved cattle, sheep/goat and pig bones (Appendix 8).

Pit

Room B45 [93]

7.2.3 Cutting through the levelling sequence described above was a single Saxon pit, [93] (Figs. 3 & 5). Only the southern portion of this pit was observed; with recorded dimensions of 2.22m east-west by 0.60m north-south and c. 0.60m deep. The pit

continued north beyond the limit of the excavation. The surviving area of this pit implied that the whole feature would have been sub-circular in shape; being recorded at 5.25m OD. The dimensions of this pit as recorded within Room B45 suggests that its overall original dimensions would have been relatively substantial, representing a sizeable rubbish pit.

7.2.4 The two distinct fills of this rubbish pit, [94] and [99], contained ample artefactual material. Like the levelling layers into which it was cut this pit again contained abraded residual Roman tile (Appendix 6). More pertinently however was the recovery of a small assemblage of pottery which dated to AD 600-800, the Middle Saxon period. This small assemblage was predominantly imports including a sherd from a burnished North French/ East Belgium greyware (NFEBB) vessel, and a possible North French greyware (NFGWC) pitcher. One sherd of note from the pit was an unparalleled fabric containing a range of distinctive inclusions including oolitic limestone and possible granite; such a vessel is unlikely to have been produced locally (Appendix 2). An animal bone assemblage was also recovered from the fills of this pit which had a similar nature to that which was recovered from layer [100] which it cut. This included minor quantities of cattle, sheep/goat and pig as well as a few chicken bones. Also present were a number of fish bones; freshwater eel, salmon, roach and two unidentified spines/rays and a single bone of a house mouse (Appendix 8). Recovered from the pit were a number of fragments of loomweights. These fragments represented six weights which included three forms of loomweight; annular, intermediate and bun-shaped, commonly found in Saxon *Lundenwic*. It has been thought that these three loomweight forms were utilised in the early, mid and late Saxon periods respectively but, as is illustrated at Somerset House, these three forms appear to have been in use at the same time. An unusual assemblage of fired clay was also recovered from the pit. Atypical to daub the fragments are formed from a dense brickearth fabric with one smoothed face. Currently no parallels for this object could be found and therefore remains an enigma. (Appendix 5).

7.2.5 Environmental evidence recovered from samples taken from the pit provides valuable information. The pollen assemblage is indicative of a damp, open environment dominated by grasses and other herbaceous taxa. This is represented by Lactuceae (dandelion family), Poaceae (grass family), *Chenopodium* type (e.g. fat hen) and *Centaurea nigra* (knapweed). The fern *Dryopteris* type (e.g. buckler fern) was also present. It should be noted however that the assemblage is dominated by taxa more resistant to decay and therefore more readily identifiable. This may therefore mean that the assemblage is biased towards these. The charred grain assemblage from the pit was dominated by caryopses of barley along with small amounts of wheat (*Triticum* sp.) and oat (*Avena* sp.). Infrequent hazelnut (*Corylus avellana*) was also present. A small assemblage of wood charcoal was also recovered from the pit which

consisted of deciduous oak (*Quercus* sp.), hazel (*Corylus avellana*), willow/poplar (*Salix/Populus* sp.) and cherries/sloe (*Prunus* sp.) (Appendix 9).

Stakehole Group

Room B45 [110]

7.2.6 Also recorded cutting levelling layer [100] was a group of stakeholes [110] (Fig. 3). This group consisted of what appeared to be two parallel lines of small timber stakeholes aligned east-west. The two lines were approximately 0.28m apart with the southern alignment consisting of seventeen stakeholes and the northern alignment nine. All the stakeholes were circular in shape measuring 0.06m in diameter by 0.30m deep and were generally located at c. 5.20m OD. All the stakeholes contained an identical dark greyish brown silty clay fill from which no anthropogenic material was recovered. These alignments represent a timber structure composed of small driven timber stakes which, due to the soil conditions, have completed degraded away. The relatively small nature of these stakeholes implies that they formed a lightweight structure such as a wattle fence line. Although no dateable material was recovered from this group its position in the stratigraphic sequence locates it within the Saxon period.

7.3 PHASE 3.1: MEDIEVAL (Fig. 4)

Levelling layers

Room B45 [79]

7.3.1 Sealing the Saxon pit and stakehole group in Room B45 was a levelling layer, [79] (Fig. 5). This levelling layer was only observed in the northern half of Room B45, the recorded area of which measured 3.05m east-west by 1.20m north-south. Consisting of a brownish grey silty clay the deposit was located at c. 5.38m OD and was 0.15m thick. This levelling deposit contained a pottery assemblage which dated to 1080-1350. This assemblage included London-type ware, the former white-slipped and green-glazed (LOND) and the latter with North-French style decoration (LOND NFR) (Appendix 2). Much like the earlier Saxon deposits of the previous phase this deposit contained a varied range of re-deposited Roman tile (Appendix 6). This included sandy, Reigate and Calcareous Roman tile which dates to the early and late Roman period. Also recovered however, were a number of fragments of glazed medieval tile which provides a more pertinent date of 1240-1600. This therefore provides a *terminus post quem* of 1240 for the deposition of this layer.

7.3.2 This layer also produced a relatively large assemblage of animal bone. This largely consisted of cattle and sheep/goat in approximately equal numbers but also with some pig, hare and chicken (Appendix 8). Environmental results from this deposit were similar in nature to that which was recovered from the Saxon pit in the previous

period. Again the pollen assessment was dominated by herbaceous taxa including Lactuceae (dandelion family), Poaceae (grass family), *Chenopodium* type (e.g. fat hen) and *Centaurea nigra* (knapweed). These are indicative of a damp, open environment dominated by grasses and other herbaceous taxa (Appendix 9).

Room B47 [138], [136], [126]

7.3.3 Room B47 also recorded a number of levelling deposits which apparently dated to the medieval period. None of these deposits were excavated however, as they were located at the formation level of the basement development and therefore were not going to be impacted upon and remained preserved *in situ*. Levelling layer [138] was located in the northern half of Room B47 and had surviving recorded dimensions of 4m east-west by 2.70m north-south. Located at c. 5.77m OD its thickness was unknown as it was unexcavated. This levelling layer was truncated on all sides by later activity. No artefactual material was recovered from this deposit however, as it was stratigraphically truncated by pit [141], which contained pottery dating to the 13th and 14th centuries, it must therefore predate this. This deposit most likely dates to the early medieval period or possibly earlier but this cannot be definitively proven.

7.3.4 Located in the southern half of Room B47 was a sequence of two levelling layers of potential medieval date, [136] and [126]. Only small remnants of these deposits were recorded; [136] measured 0.50m by 0.44m and [126] measured 0.54m by 2.75m. These deposits were truncated on all sides and remained unexcavated and therefore their true dimensions and thicknesses were undetermined. These deposits were recorded at c. 5.80m OD. Neither of these levelling layers yielded any artefactual assemblages and therefore remain undated. However, in the stratigraphic sequence these deposits were cut by a wall foundation of early post-medieval (Tudor) date and therefore predate this. This then logically places them within the medieval period.

Pits

Room B45 [84], [89] (Figs. 4 & 5)

7.3.5 Cutting through levelling deposit [79] in the northern half of Room B45 was a sequence of two intercutting pits, [84] and [89]. Pit [84] was sub-circular in shape with the vast majority of the overall pit being recorded with dimensions of 1m east-west by 0.90m north-south. Located at c. 5.42m OD the pit was filled with two distinct deposits, [87] and [85], and had a depth of 0.40m. Both these fills contained residual Roman tile and imbrex along with residual Saxon quern fragments (Appendix 6). The pit also contained small amounts of residual mid Saxon pottery (Appendix 2). The presence of medieval glazed peg tile however suggests the pit to be of a medieval date.

7.3.6 Pit [84] contained a relatively large assemblage of animal bone, the largest recovered dating to the medieval phase. This animal bone assemblage was of a very similar

nature to others recorded during this phase of activity; it largely consisted of equal numbers of cattle and sheep/goat along with some pig, hare and chicken. The cattle feature a diverse of skeletal parts whereas the sheep/goat group is almost devoid of upper limb parts. It is suggested that this is indicative of status, with the evidence suggesting the preferential usage of lesser quality meat cuts. However, the lack of a similar bias within the cattle contradicts this argument, this supposes that both cattle and sheep/goat waste were derived from the same households (Appendix 8).

7.3.7 Palaeo-environmental evidence recovered from pit [84] provides an insight into the environmental conditions during this phase of activity. The pollen assemblage illustrates an open environment dominated by grasses and other herbaceous taxa. This is illustrated by taxa which represent a number of species; Lactuceae (dandelion family), Poaceae (grass family), *Sinapis* (charlock), *Cirsium* (thistle), *Artemisia* (mugwort), *Plantago lanceolata* (ribwort plantain), *Chenopodium* type (e.g. fat hen), *Centaurea nigra* (knapweed) and cf. Cyperaceae (sedge family) (Appendix 9).

7.3.8 Cutting through pit [84] was a second pit, [89]. Only a small area of this pit was recorded in the northern area of Room B45; c. 1.25m east-west by 0.32m north-south. Located at c. 5.42 m OD the pit was 0.20m deep but it continued north outside the excavation limit and is assumed to deepen in that direction. No artefactual material was recovered from this feature. However, its position in the stratigraphic sequence between features dated to the medieval period indicates that it too relates to that phase of activity.

Room B47 [141]

7.3.9 Cutting layer [138] in Room B47 was an extensive pit, [141]. This pit was heavily truncated but the area of it which did survive appeared to be sub-circular in shape. This surviving area of the pit measured 2.72m east-west by 2.02m north-south. The pit was only partially excavated as it was located at the formation level of the development and therefore was not going to be impacted upon. The pit was recorded at a general level of c. 5.74m OD. During partial excavation of this pit a small pottery assemblage was recovered. This pottery, which included London-type ware, the former white-slipped and green-glazed (LOND) and the latter with North-French style decoration (LOND NFR), dated to 1180-1270 suggesting that the pit was medieval in date (Appendix 2). No other artefactual material was recovered from this pit as it was left unexcavated and preserved *in situ*.

Levelling Layers

Room B45 [72], [71]

7.3.10 Sealing the two intercutting medieval pits in Room B45 was a sequence of two levelling layers, [72] and [71]. This sequence of levelling layers was again only recorded within the northern half of Room B45. These deposits both consisted of a

brownish grey clay silt and had a combined thickness of 0.25m. Recorded at a highest level of c. 5.62m OD these levelling layers were most likely preparatory works for medieval buildings know to have been located along the southern side of the Strand from the 12th century onwards. Pottery recovered from the earlier of these two deposits, [72], included the handle of a London-type ware (LOND) jug and the body sherd of a South-Hertfordshire-type greyware (SHER) vessel, which dated to 1170-1350 (Appendix 2). This date was reflected by the building material assemblage from both deposits which dated to 1180-1450. This assemblage included residual Roman tile and brick, like many of the earlier features recorded, but was dominated by glazed medieval peg tile (Appendix 6).

7.3.11 Both these levelling deposits contained reasonable amounts of animal bone. Like much of the animal bone recovered from this phase of activity the assemblage recovered from this levelling sequence is dominated by cattle and sheep/goat, both in equal numbers. Some pig, hare and chicken was also present (Appendix 8). The environmental results from these two levelling layers match those of the two intercutting pits which they seal. Evidence for an open environment dominated by grasses and other herbaceous taxa is indicated by the presence of Lactuceae (dandelion family), Poaceae (grass family), *Sinapis* (charlock), *Cirsium* (thistle), *Artemisia* (mugwort), *Plantago lanceolata* (ribwort plantain), *Chenopodium* type (e.g. fat hen), *Centaurea nigra* (knapweed) and cf. Cyperaceae (sedge family) (Appendix 9).

7.4 PHASE 3.2: LATER MEDIEVAL/EARLY POST-MEDIEVAL (Fig. 6)

Levelling Layers

Lightwell 1 [196], [199]

7.4.1 The earliest deposits recording in Lightwell 1 were two levelling layers, [196] and [199]. These levelling layers were only recorded in plan and not excavated as they were located at the formation level of the new basement and therefore not going to be impacted upon. Both deposits were recorded at c. 5.51m OD and neither of which yielded any artefactual material. However their position in the stratigraphic sequence, being cut by chalk foundation [191] which most likely dates to the later medieval period, illustrates these deposits predate this. These levelling layers therefore probably represent ground preparation works before the construction of the chalk foundation.

Room B52 [78], [77], [80]

7.4.2 The earliest deposits recorded within Room B52 were a sequence of apparent levelling layers, [78], [77] and [80]. These layers were all located in the northern half of Room B52. These layers were only recorded in plan and not excavated as they were located at the formation level of the new basement and therefore were not going

to be impacted upon. These levelling layers were recorded at a general level of c. 5.80m OD and yielded no artefactual material. Like many of the other undated features and deposits recorded during the watching brief their position in the stratigraphic sequence can aid in determining the period of activity to which they belong. In this case these deposits are cut by a series of chalk foundations which most likely date to the late medieval period and therefore have to predate them. These levelling layers probably represent ground preparation works before the construction of the chalk foundations.

Wall Foundation

Lightwell 1 [191]

7.4.3 Recorded cutting levelling layers [196] and [191] in Lightwell 1 was a chalk wall foundation [191]. This wall foundation consisted predominantly of roughly hewn chalk and some ragstone blocks. It was aligned northnortheast-southsoutheast, running for c. 1.70m before returning c. 0.40m to the west on a westsouthwest alignment. The western and northern faces of the foundation were observed; whereas all the rest represented disturbed faces, being truncated by later activity. This original western face saw the chalk and ragstone squared off more neatly than the rest of the foundation. Therefore the full original width of this foundation was not recorded. The foundation, located at a highest level of c. 5.87m OD, had a recorded depth of 0.40m but continued below this level. The mortar which bonded the chalk and ragstone in this foundation, a soft brown gravel mortar with numerous flint, chalk and ragstone inclusions (potentially identified as Type 4) suggests a late medieval or early post-medieval date (Appendix 6). However, mortar types can be problematic when used to date structures and cannot be taken as absolute or definitive. The western continuation of this foundation, [70], was recorded in Room B45 directly west of Lightwell 1 (see below).

Wall Foundation

Room B45 [70]

7.4.4 Cutting through levelling deposit [71] in the centre of Room B45 was an extensive chalk foundation, [70]. This chalk foundation consisted of moderate to large sized roughly hewn chalk blocks bonded with a soft brown gravelly mortar, tentatively identified as Type 4 mortar which dates to the late medieval/early post-medieval period (Appendix 6). The chalk foundation was aligned westsouthwest-eastnortheast, running for 3.30m through the room. The width of the chalk foundation was obscured by a later Tudor masonry addition to the southern side of the wall, [69], but was at least 1.30m wide. Located at c. 5.76m OD the wall was at least 0.70m deep but continued deeper below the excavation limit. The northern face of the chalk

foundation saw chalk blocks which were somewhat more neatly squared off and finished although it is unlikely that this was an exposed face which would have been above ground. The continuation of this chalk wall foundation was recorded as [191] in Lightwell 1 directly to the east (see above).

Wall Foundations

Room B47 [125], [124]/[127]

7.4.5 Cutting levelling layers and medieval pit [141] in Room B47 were two wall foundations, [125] and [124]/[127]. Wall foundation [124]/[127] was composed of roughly hewn chalk blocks running on an almost northeast-southwest alignment for c. 2.50m. This chalk foundation had a width of c. 1.40m and was located at c. 5.78m OD. The foundation was truncated at both its eastern and western ends and would most likely have continued east originally. No continuation of the chalk foundation was recorded further west past the later truncation however which suggests that the foundation ended in the approximate location it was truncated. The full depth of the chalk foundation was not recorded but it was at least 0.35m deep.

7.4.6 Abutting the northern side of chalk foundation [124]/[127] was a second wall foundation, [125]. This second foundation had a different composition; it consisted of roughly hewn blocks of Reigate and Hassock stone which had no bonding material or mortar (Appendix 6). This masonry foundation appeared to run on northwest-southeast alignment, perpendicular to chalk foundation [124]/[127]. However, the masonry foundation was heavily truncated on the northern, eastern and southern sides and therefore the true dimensions of this masonry did not survive. The western face however represented its true edge. The recorded length of the foundation was c. 0.84m but would have originally continued both north and south. The surviving width was c. 0.90m but again would originally have been wider, extending east. This masonry foundation was recorded at the same level as the chalk foundation, c. 5.78m OD, and its full depth was not recorded. Both these chalk and masonry foundations within Room B47 most likely represent a structure which was demolished prior to the construction of the Duke of Somerset's Tudor palace, but their alignment might suggest that they were part of the original build of the palace.

Wall Foundations

Room B52 [73], [74], [75]/[76]

7.4.7 Cutting into levelling deposits [78], [77] and [80] in Room B52 were three apparent chalk foundations, [73], [74] and [75]/[76]. The most substantial of these, [75]/[76], was located in the northern part of the room on a northeast-southwest alignment. This foundation was composed of roughly hewn chalk blocks set within a brown gravelly mortar potentially identified as Type 4 mortar with dates to the late medieval/early

post-medieval period (Appendix 6). The foundation extended through the room for a distance of c. 3.54m in length, apparently continuing west outside the room, however no continuation was found of it on the alignment in Corridor 1 to the west. The eastern end of the foundation appeared to terminate rather than being truncated by later activity. The chalk foundation was located at c. 5.90m OD, being c. 0.94m wide and as it remained unexcavated its depth was unrecorded.

7.4.8 Located to the south of the above chalk foundation were two more chalk foundations, [73] and [74]. These two foundations consisted of almost identical roughly hewn chalk blocks bonded by a similar brown gravelly mortar (Appendix 6). Foundation [73] was located on the western side of the room and measured c. 1.10m northwest-southeast by 1.30m northeast-southwest. It appeared that this foundation was aligned northwest-southeast but the small surviving area makes this difficult to determine. The northern end of this feature would therefore then have had a butt-end and the southern end which was truncated would have continued in that direction. Again this chalk foundation was located at c. 5.90m OD and as it was unexcavated its depth remained unrecorded. Chalk foundation [74] was located in the eastern side of the room on the same northeast-southwest alignment as foundation [75]/[76]. This ran for a length of c. 1.40m terminating at its western end and apparently continuing beyond the excavation limit at its eastern end. Recorded at 5.78m OD this foundation had a similar width to the others at c. 1m and again as it remained unexcavated its depth was unknown.

7.5 PHASE 4.1: POST-MEDIEVAL (1550-1700) TUDOR PALACE (Fig. 7)

Levelling layers

Room B60 [175]

7.5.1 The earliest deposit recorded in Room B60 was a levelling layer of post-medieval date, [175]. This levelling deposit was recorded in a limited area of this room, c. 4m north-south by 1.10m east-west, at a level of c. 3.90m OD. Its full depth was not recorded as it was left unexcavated due to it being at the formation level of the new basement development. A single sherd of pottery recovered from this levelling layer provided a date range of 1550-1700 (Appendix 2). This illustrates that this levelling layer was deposited sometime after the mid 16th century and probably represents ground preparation works for the original Somerset House. In particular within this room, preparation works for the construction of brick and masonry wall [171]/[172]/[173].

Lightwell 1 [197], [194], [195]

7.5.2 Recorded in the eastern half of Lightwell 1 were three distinct levelling layers which all represented the same horizon, deposits [197], [194] and [195]. These deposits were all recorded at c. 5.45m OD and were unexcavated. Levelling layer [197]

contained fragments of Kentish ragstone rubble. The presence of this material suggests a late medieval to early post-medieval date for this deposit but it clearly represents ground preparation works for the construction of the Tudor Somerset House in the mid 16th century.

Corridor 2 [185]

7.5.3 The earliest deposit recorded in Corridor 2 was a levelling layer, [185]. This deposit was located at the very base Corridor 2 which was excavated to a much deeper level than most of the other basement rooms. Located at c. 3.41m OD this deposit was not fully excavated and therefore its precise thickness was unrecorded. No artefactual material was recovered from this levelling layer but its stratigraphic position, being cut by later Tudor wall foundations [186], [187], and [188], might suggest it to be earlier post-medieval. In fact the levelling layer most likely represents ground preparation works prior to the construction of the Tudor Somerset House.

Room B45 [97], [86]

7.5.4 The earliest deposits recorded in the southern half of Room B45 were two levelling layers, [97] and [86]. These deposits were recorded at c. 5m OD and 5.40m OD respectively but were unexcavated. No artefactual material was recovered from either of these deposits but as with many of the undated and unexcavated levelling deposits its position in the stratigraphic sequence hints at a date. As the levelling layers are cut by Tudor walls the implication is that the layers clearly predate the Tudor period. The two levelling layers more likely represent ground preparation works directly relating to the construction of the original Somerset House in the mid 16th century.

Room B52 [59]

7.5.5 Recorded in the southern half of Room B52 was a levelling layer, [59]. This deposit was located at c. 5.85m OD was unexcavated and therefore its thickness was unknown. Some building material was recovered from it however and included medieval splash glaze and early post-medieval peg tile, which dates to 1480-1700 (Appendix 6). This suggests an early post-medieval date for this deposit and most likely represents ground preparation works prior to the construction of the original Somerset House in the mid 16th century.

Wall foundation

Lightwell 1 [192]/[193]

7.5.6 Cutting levelling layers [197], [194] and [195] in Lightwell 1 was a brick and masonry wall [192]/[193]. This wall ran through Lightwell 1 on a northwest-southeast alignment and was truncated in a central location meaning the wall was split into two sections. The southern section of wall ran for 1.77m in length and had a surviving width of 0.90m; however, this width was a truncated dimension and did not represent its true original dimensions. The northern section of the wall was even more truncated than

the southern section and had a surviving length of 1m and had a surviving width of 0.90m. Again these did not represent true original dimensions. Both walls were composed of red Tudor *3033* fabric bricks (Appendix 6). The western faces of both sections of brick wall were faced with Kentish ragstone ashlars and mouldings, much like walls recorded in Rooms B45 and B53, which formed a neat face. The southern face of the wall was also faced with Kentish ragstone ashlars illustrating that the western and southern sides were true edges and most likely represent part of the Tudor Somerset House. The walls were recorded at c. 5.75m OD and were at least 0.40m deep but continued below the excavation limit.

Wall Foundations

Corridor 2 [186], [187], [188]

7.5.7 Recorded cutting through levelling layer [185] in Corridor 2 was masonry wall foundation [186] alongside brick wall remnants [187] and [188]. Foundation [186] ran through the base of Corridor 2 on what appeared to be a northeast-southwest alignment. This foundation as heavily truncated on both its northern and southern sides meaning the true width could not be determined, but was at least 0.46m wide. The rubble foundation consisted of moderately sized blocks of roughly hewn Kentish ragstone and chalk which was bonded with Type 4 gravel sand mortar or Type 5 brown sandy mortar (Appendix 6). This suggests an early post-medieval (1450-1700) date range. Recorded at c. 3.48m OD the foundation had a recorded length of c. 2.80m but appeared to terminate at its eastern end, however this is difficult to determine precisely due to its heavily truncated nature. The depth of this foundation was also unrecorded as it was located at the base of the formation level of the new basement.

7.5.8 Located directly next to the western end of wall foundation [186] were what appeared to be two parallel lines of brick wall, [187] and [188]. These brick walls, both recorded at c. 3.40m OD, were set approximately 0.30m apart. Both walls ran on a parallel northwest-southeast alignment with the eastern of these walls, [187] being 0.24m wide. The western wall continued to the west past the excavation limit and therefore its full width was not recorded. Both walls were composed of red Tudor *3033* brick types which were pointed in Type 4 gravel sand mortar or Type 5 brown sandy mortar (Appendix 6). The western of these walls, [188], had a single course of roughly hewn chalk blocks lain upon the brickwork at its highest surviving level. Both walls had at least four courses of Tudor brickwork surviving but continued deeper. These combined masonry foundation and brick walls, despite being heavily truncated, appear to represent part of the original Tudor Somerset House, most likely an external garden wall (Fig. 9).

Masonry Wall

Room B45 [69], [98]

7.5.9 Recorded in the southern part of Room B45 was a substantial masonry wall, [69] (Fig. 8 Section 7). This masonry wall was partially installed upon the southern side of large chalk foundation [70] from the previous phase, effectively re-using this older foundation. Running throughout Room B45 for c. 4m the masonry part of the wall had a width of c. 2.50m. This masonry foundation of this wall was composed of Kentish ragstone and Hassock stone which sat upon a wider plinth, [98], on the southern side. The stonework of the southern face which sat upon the plinth consisted of well made fresh Kentish ragstone, mouldings and ashlar examples forming a neat external face. The highest part of the surviving wall was c. 5.76m OD with the plinth, [98], being located at c. 5.15m OD, below which was the rubble foundation. The overall recorded height of the wall was 0.70m but continued below the excavation limit. This substantial wall relates directly to the Tudor Somerset House and may even represent the southern outer wall of the Lower Court.

Brick wall and possible floor

Room B52 [50], [51]

7.5.10 Located running through the southern half of Room B52 was a brick wall [50]. Aligned northeast-southwest the wall was c. 3.50m in length and c. 0.80m wide. The eastern end of this wall was truncated by the extant 18th-century Somerset House and at its western end it abutted brick drain structure [49]. Recorded at c. 5.85m OD the wall was at least 0.10m deep with at least two courses of brickwork surviving, however it continued below the excavation limit. This brick wall was composed of red Tudor *3033* fabric bricks. The mortar bonding of this wall has been tentatively identified as a hard white clinker Type 3 mortar dating to the late 18th century which is suggested to represent a possible re-pointing of the brickwork during this period (Appendix 6). This seems unlikely however as this brick wall clearly predates the current Somerset House which was built c. 1775.

7.5.11 A small remnant of possible floor surface was located to the north of brick wall [50]. This possible brick surface, [51], extended for a small area of c. 0.20m north of wall [50] and survived for c. 1.40m northeast-southwest. Located at c. 5.83m OD this possible brick floor consisted of a single course of red Tudor fabric bricks. Both wall [50] and the small possible remnants of a brick floor [51] most likely represent part of the original Tudor Somerset House.

Brick drain

Room B52 [60], [49]

7.5.12 Located in the southern half of Room B52 was a brick drain structure, [49]. This structure was aligned northnorthwest-southsoutheast running for a length of 1.70m. This structure was not recorded continuing in the northern half of Room B52 beyond the 18th-century partition walls. This structure, located at c. 5.87m OD, was composed of two lines of red Tudor *3033* fabric bricks surviving to a height of 0.20m. The base of the drain was composed of early post-medieval peg tile located at 5.65m OD. The structure had an overall width of 0.76m with the interior of the drain being c. 0.29m wide. Despite being constructed of similar bricks this drainage structure apparently cut through Tudor wall [50] directly to the east.

Masonry and brick wall

Room B53 [40], [41]

7.5.13 The earliest archaeological remains recorded in Room B53 were two brick and masonry walls, [40] and [41]. Wall [40] was an extensive structure aligned northeast-southwest running through the centre of the room for c. 4m. Recorded at c. 5.78m OD the wall was c. 1.20m wide. The northern half of wall [40] was constructed of red Tudor *3033* fabric bricks but the southern half was composed of Kentish ragstone ashlars and mouldings which formed a neat external face, much like wall [69] in Room B45. Indeed this wall is most likely a continuation of [69] to the east, representing the southern wall of the Tudor Somerset House. A secondary phase of this wall, [41], was recorded directly south of wall [40]. This ran on the exact same alignment and projected c. 0.40m south from the original wall [40]. This secondary phase was recorded at the same height asthe original, c. 5.76m OD. Wall [41] was composed of identical red Tudor *3033* fabric brickwork again with a southern face of Kentish ragstone ashlars and mouldings representing the external face. This secondary wall phasing may simply have been a re-facing of the original wall.

7.6 PHASE 4.2: LATER POST-MEDIEVAL (17TH CENTURY) (Fig. 7)

Brick and masonry wall

Room B60 [171], [172], [173]

7.6.1 Cutting the levelling deposit in Room B60 was brick and masonry wall [171], [172], and [173] (Figs. 7 & 8). Aligned northwest-southeast the wall ran through the eastern section of Room B60. Running for c. 4.60m in length the wall had a recorded width of 0.60m but continued west beyond the limit of the excavation. The recorded eastern elevation of the wall represented the eastern face of the wall. A masonry rubble foundation was laid into a trench upon which was built the brickwork of the wall. This rubble foundation, [173], was located at 4.24m OD and was c. 0.30m deep. The masonry rubble within this foundation largely consisted of reused Tudor style bay window masonry of mould and guttering in Caen stone and bath-stone. One particular

masonry piece, WSN 8, was a complex high moulding window jamb which had a mason's mark on it (Appendix 6). Mortared onto the top of the masonry foundation was between two and three courses of red Tudor *3033* fabric bricks, [172]. These bricks were located at 4.38m OD and the brickwork itself was c. 0.28m high. Sat upon the Tudor red bricks was a regular course of masonry and chalk blocks, [171]. This masonry course was located at c. 4.80m OD and consisted again of reused mouldings and ashlars of predominantly Caen stone. This again included bay window masonry pieces such as an ornate curved mould Caen stone with diagonal tool marks, WSN 20 (Appendix 6). This brick and masonry wall represents an external garden wall directly south of the Tudor Somerset House as illustrated on various cartographic sources (Fig. 9). The re-use of classic Tudor style masonry within the rubble foundation may suggest a slightly later date for this phase of garden wall, possibly be associated with rebuilding and alterations in the 17th century.

Masonry wall foundation

Room L1/L2 [25], [26]

7.6.2 Recorded in the base of Room L1/L2 was a masonry wall foundation [26] upon which sat brick wall [25]. Aligned northeast-southwest through the centre of the room the badly truncated remnants of the wall ran for c. 1.72m and were c. 1m wide. These were not true dimensions however and only represent those surviving and recorded. Masonry rubble foundation [26] was located at 4.34m OD and consisted predominantly of reused mouldings and ashlar blocks of Kentish ragstone, Reigate stone, Corsham stone, Magnesium limestone or Beer stone, Barnack stone and Caen stone. Other stone in this group included an unidentified stone of note with similarities to Dundry stone, Wheatley stone or more likely a French Tertiary or Jurassic limestone. Much like the masonry foundation [173] in Room B60 a large amount of this reused Caen stone represented Tudor style bay window fragments. This included numerous tramline mullions, cornices and window sill fragments. Directly on top of this rubble foundation was a brick wall [25]. Located at c. 4.66m OD and had a surviving height of 0.34m. This brick wall was composed of red Tudor *3033* fabric bricks. The mortar which bonded these bricks was identified as a hard grey-cream mortar, Type 1, which suggests a late 18th-century date (Appendix 6). This seems unlikely however as this brick wall clearly predates the current Somerset House which was built c. 1775. The identification and use of mortar as a dating guide can be problematic however. The presence of re-used Tudor masonry in the foundation suggests a somewhat later date for this wall and may represent rebuilding and alterations which occurred during the 17th century. The wall most likely however represents an external garden wall south of the Tudor Somerset House as illustrated on numerous cartographic sources.

Brick drain

Room B45 [67]

7.6.3 Located running southeast from the southern face of wall [69] in Room B45 was a masonry, brick and tile drain [67]. This drainage structure abutted wall [69] at the northern end and had what appeared to be an opening in the top at that location into which some form of down pipe would originally have fed. The drain structure then ran to the southeast for c. 1.70m, continuing outside the excavation limit. At some 0.62m wide the drain had a distinct slope downwards from its northern end, c. 5.49m OD, to the southern end, c. 5.02m OD. The structure was composed of re-used red Tudor *3033* fabric bricks along with some transition post-Great Fire *3032nr3033* fabric bricks. Some reused rough Kentish ragstone blocks were installed in places as a capping to the structure. A clinker rich Type 2 mortar was tentatively identified as bonding the reused bricks of this structure which is suggested as dated to the later 18th century (Appendix 6). However, as the current Somerset House was built in c. 1775 and this drainage structure is clearly truncated by it, it can only predate this period. More likely the drain represents a feature installed during the later part of the original Somerset House's lifespan during the latter 17th century or early 18th century.

7.7 PHASE 5: LATE 18TH CENTURY TO EARLY 19TH CENTURY

Dump/levelling layers

Room B54 [180], [181], [182]; Corridor 1 [184]; Corridor 2 [206], [208], [209]; Lightwell 3 [201]; Room B43/44 [166], [161], [116], [169], [165], [159], [162], [160]; Room B45 [66]; Room B47 [143], [156], [151]; Room B48 [170]; Room B49 [47]; L1/L2 [12]; Room B63 [211]; Stairwell 2 [214]

7.7.1 Recorded throughout many of the rooms of the basement watching brief were dumped levelling and made ground deposits which related directly to the construction of the extant Somerset House in the late 18th century. Many of these deposits were unexcavated as they were located at the lowest level of the new basement development and therefore were not going to be impacted upon. As they were left unexcavated very few of these deposits yielded any artefactual assemblages and therefore cannot be precisely dated. However, the position in the stratigraphic sequence of these deposits can be used to infer the date of their deposition. The vast majority of these levelling layers were cut by the various brick domed drainage culverts running throughout the basement area, described below. These drainage culverts relate directly to the Somerset House still standing which was constructed in the late 18th century. Therefore the various dumped deposits predate the drainage culverts and most likely relate to the ground preparation works directly in advance of the construction of Somerset House c. 1775.

7.7.2 In Room B54 the sequence of three levelling deposits were recorded at a highest level of c. 5.38m OD and had a combined thickness of 0.30m.

7.7.3 In Corridor 1 the levelling deposit was the earliest archaeological remains recorded, being located at c. 5.61m OD and was unexcavated.

7.7.4 In Corridor 2 a sequence of three levelling deposits were recorded at a highest level of 4.83m OD and had a combined thickness of c. 1m.

7.7.5 In Lightwell 3 the only deposit recorded was an undated levelling layer. This was recorded at 4.87m OD and was unexcavated. The undiagnostic ceramic building material and brick fragments observed within this deposit suggested a later 18th century or 19th-century date.

7.7.6 In Room B43/44 a number of levelling deposits were identified across the room, all of which remain unexcavated. These various levelling layers were recorded at a general level of c. 5.45m OD.

7.7.7 In Room B45 a single levelling layer was recorded sealing masonry and brick drain structure [67]. This deposit was located at c. 5.51m OD with no dateable artefacts being recovered from it.

7.7.8 In Room B47 three levelling layers were recorded across the room. These were all located at a general level of c. 5.75m OD and were unexcavated. However, these deposits were all stratigraphically below the drainage culverts which relate to the late 18th-century Somerset House and therefore predate them. These levelling layers most likely represent ground preparation works prior to the construction of the new Somerset House c. 1775.

7.7.9 In Room B48 the earliest deposit encountered was a levelling layer. This layer was located at c. 5.87m OD and was unexcavated. The ceramic building material and brick fragments observed within this deposit, and its general level, suggested a later 18th-century or 19th-century date.

7.7.10 In Room B49 the earliest deposit encountered was a levelling layer. This deposit was located at c. 5.91m OD and was unexcavated. This deposit was cut by a 19th-century brick drain, [48], illustrating that the layer predated that period.

7.7.11 In Room L1/L2 a levelling layer was recorded sealing the Tudor/Stuart brick wall [25]. This levelling deposit was recorded at c. 5.89m OD and was c. 1m thick. A small assemblage of pottery from this deposit provided a date range of 1740-1770 and also contained one particular vessel of note; the footring of a rounded bowl in Creamware with tortoiseshell glaze which is indicative of some affluence (Appendix 2).

7.7.12 In Room B63 the only deposit recorded was a levelling layer. This was located at c. 5.62m OD and was at least 0.40m thick. Again the ceramic building material and brick

fragments observed within this deposit, and its general level, suggested a later 18th-century or 19th-century date.

7.7.13 In Stairwell 2 the only deposit recorded was a levelling layer, [214]. This was located at c. 4.78m OD and was throughout the area of the room. This deposit was not fully excavated and therefore its thickness cannot be determined. Recovered from this deposit was a rare English Tin-glazed ware upright candlestick (Appendix 2). Candlesticks are somewhat rare finds across London with tin-glazed examples being particularly rare. This candlestick is very similar to examples made in Southwark and Lambeth throughout the second half of the 17th century. Such items can be indicators of affluence; this is unsurprising however given its presence in the area of a royal palace. The presence of this candlestick may suggest that this deposit actually dates to an earlier phase of activity or that it is residual, albeit it unabraded, within the levelling layer.

Domed brick culverts (Fig. 10)

Room B47 [123]; Corridor 1 [205]; Lightwell 1 [189], [190]; Room B53 [42]; Room B43 [119]; Room B42 [36]; Room B54 [179]; L1/L2 [9]; Corridor 2 [200]

7.7.14 Recorded running throughout the basement of the east wing was a network of domed brick drainage culverts. These various brick culvert structures all had a very similar nature and dimensions, interconnecting with one another forming a drainage system. Generally the culverts had dimensions of c. 0.75m wide and 0.45m high. The culverts were all composed of the same range of bricks; two distinct types of purple stock moulded post-Great Fire bricks, unfrogged variants with clinker inclusions, which conformed to the brick size legislation act of 1775 and a second wider better made variety, often frogged, were identified, fabrics *3032* and *3034* respectively (Appendix 6). Some of these culvert structures also had yellow London stock bricks, which were used in London from 1780. These bricks and mortar bonding can also been seen within the basement walls of the extant late 18th century Somerset House, which illustrates that these drainage culverts were contemporary with the standing building.

7.7.15 In Room B47 the brick culvert, [123], had two branches which connected in the centre of the room. One branch ran from the northwestern corner of the room curving to the southeast and then to the east. The second branch ran north from the southwestern corner of the room, curving slightly before meeting the first branch in a central location. The eastern end of the culvert connected with the same structure recorded in Corridor 1; the northwestern and southern ends both continued outside the excavation limit. At the northwestern end the culvert was recorded at c. 5.58m OD, at its southern end c. 5.76m OD and at the eastern end c. 6.58m OD.

7.7.16 In Corridor 1 brick culvert [205] ran northwest-southeast through the centre of the corridor. Halfway along its length it joined with another branch running northeast-southwest which connected with the culvert in Room B47. Its southern end connected with the same structure recorded in Lightwell 1 as [189]. The northern end of the culvert was located at c. 5.95m OD and the southern end at c. 5.76m OD.

7.7.17 In Lightwell 1 culvert [189] ran northwest-southeast through the centre of the room. In the centre of the room the culvert was truncated by later activity and divided into two sections but clearly represent the same structure. At this northern end it connected the culvert recorded in Corridor 1. Another small section of culvert, [190], was located in the eastern half of the room aligned northeast-southwest. At its eastern end it connected with the culvert recorded as [42] in Room B53 and was truncated at its western end by later activity. It is assumed that these two sections of culvert would have connected centrally within Lightwell 1 but this was removed by later 19th century activity. Culvert structures [189] and [190] were recorded at c. 6.79m OD and 6.61m OD respectively.

7.7.18 In Room B53 brick culvert [42] ran northeast-southwest and was truncated at both ends. The western end of the culvert would have connected with culvert [190] recorded in Lightwell 1. The eastern end of the culvert was recorded at c. 5.80m OD sloping downwards to the west at c. 5.70m OD.

7.7.19 In Room B43 culvert [119] ran through the room on a northwest-southeast alignment before turning slightly eastward to the south. The northwestern end of the culvert was truncated by later activity. The northwestern end of the culvert was recorded at c. 5.60m OD sloping done slightly to c. 5.55m OD at the southeastern end.

7.7.20 In Room B42 culvert [36] ran northeast from the western side of the room before turning more northnorthwest. Both ends of the culvert in this room continued beyond the limit of excavation. This length of this culvert appeared to be at a generally flat level through this room of c. 5.30m OD.

7.7.21 In Room B54 culvert [179] ran northeast-southwest in the western half of the room. This western end continued beyond the limit of the excavation and its eastern end did not survive and must have been truncated or removed. The small section of culvert recorded in this room was located at a general level of c. 5.53m OD.

7.7.22 In Room L1/L2 culvert [9] was generally aligned northeast-southwest but curved slightly to the south at both ends. Its eastern end was truncated by later activity and its western end continued outside the excavation limit. This small section of culvert was recorded at a general level of c. 5.48m OD.

7.7.23 In Corridor 2 culvert [200] ran southwest from the northeastern end of the corridor before turning towards the northwest in the central area of the corridor. The northeastern end of culvert continued outside the excavation limit as did the

northwestern end, which would presumably have linked into the main culvert which ran through the middle of the basement. At its western end the culvert was recorded at c. 4.98m OD and sloped down to c. 4.75m OD at its northeastern end.

Brick floor

Room B52 [52]

7.7.24 Recorded in the southern half of Room B52 was the small remnant of a brick floor surface, [52]. This surface was located at c. 5.83m OD and had surviving dimensions of 1m northwest-southeast by 0.40m northeast-southwest. This disturbed floor surface was composed of a single course of re-used thin post-Great Fire brick forms mortared in hard cream grey Type 1 mortar, which suggests a late 18th or early 19th century date (Appendix 6). This floor remnant probably represents an early floor surface for the extant Grade 1 Listed Somerset House.

Brick hearth

Room B53 [43]

7.7.25 Recorded in the southern half of Room B53 was the small remnant of a brick feature [43]. The area of this brickwork measured 0.60m by 0.21m, being recorded at c. 5.77m OD. The limited area of this feature recorded was composed of thin post-Great Fire brick forms mortared in hard cream grey Type 1 mortar, which suggests a late 18th- or early 19th-century date (Appendix 6). This small area of brickwork was unexcavated but had at least two courses of brickwork surviving and probably represents the remnants of a brick foundation for a hearth.

7.8 PHASE 6: 19TH CENTURY (Fig. 11)

Brick double flue structure

Room B50 [18], [15]; Room B53 [44]; Lightwell 1 [198]; Room B54 [204]

7.8.1 Recorded within at least four rooms of the basement watching brief were the remnants of brick and tile flue structures. Many of these structures were double flues, having two internal flue areas running alongside one another. These structures were general constructed of brick walls and tile bases. The bricks were generally well made wide frogged post-Great Fire, brick fabric *3032*, narrow post-Great Fire, brick fabric *3034* along with yellow London Stock bricks, fabrics *3032nr3035* and *3035*. These were bonded with a hard clinker Type 2 and Type 3 mortar which suggests, along with the bricks, a late 18th to 19th-century date (Appendix 6). More likely these brick structures relate to the latter end of this date range in the mid to late 19th century. These brick flues contained a black sooty/ash material within them suggested heat or smoke had passed through them. One structure, [204], had the

capping still extant which was the same material which formed the base, tile and paving brick (see below). These brick flue structures probably represent an under-floor heating system, originally extant through the basement rooms.

7.8.2 In Room B50 two of these brick flue structures were recorded. In the northern half of the room flue structure [15] ran northeast-southwest throughout its width. This structure was 0.66m wide being recorded at c. 6.03m OD. In the southern half of the room double flue structure [18] ran on the same northeast-southwest alignment throughout the entirety of the room. This double flue was c. 0.85m wide and was recorded at a highest level of c. 5.74m OD with the tile base being located at c. 5.69m OD. The tiles which formed this base of the flue structure were fresh late post-medieval peg tile and paving brick, fabrics *2586* and *3047*, bonded in a Type 1 hard mortar (Appendix 6).

7.8.3 In Room B53 a heavily truncated double flue, [44], ran through the northern extreme of that room on a northeast-southwest alignment. This flue had a width of 0.95m wide and survived to a height of 0.40m. This highest level was c. 5.85m OD with the base of the flue at c. 5.38m OD. The western end of the flue was truncated by modern concrete.

7.8.4 In Lightwell 1 a double flue, [198], curved through the room from the northeastern corner, were it would have connected with structure [44] recorded in Room B53, to the southwestern corner. The double flue was again c. 0.81m wide being recorded at a highest level of c. 5.79m OD with the base located at c. 5.37m OD. The walls of the flue survived to a height of c. 0.30m. The western end of the double flue ran into a large rectangular brick structure. This square brick structure measured c. 2.30m northwest-southeast by c. 1.24m northeast-southwest. This brick feature had a relatively complex arrangement of thin channels which the double flue to the east led into. This brick structure was located at a highest level of 5.79m OD, surviving to at least six courses high and probably represented the location where the hot air passing through the flue structures was expelled upwards, much like a chimney.

7.8.5 In Room B54 another double flue structure was located, [204]. This double flue structure ran from the northwest to the southeast but halfway along from the northwest the eastern flue curved towards the east and the western flue continued to the southeast. The flue had an overall width of c. 1m and survived to a height of 0.50m. This recorded height was its original dimensions as the tile base and tile capping survived in this structure; six courses of brickwork formed the walls. This double flue structure was recorded at a highest level of c. 5.47m OD with the tile base located at c. 5.23m OD.

Brick hearth

Room B42 [38]

7.8.6 Located in the northern extreme of Room B42 was the brick foundation to a hearth, [38]. This brick structure was composed of well made wide frogged post-Great Fire, brick fabric *3032*, and yellow London Stock bricks, fabrics *3032nr3035* and *3035*. This feature was recorded at 5.34m OD and represented the brick foundation to a hearth located on the northern wall of Room B42.

Brick floor

Room B47 [152]

7.8.7 Located in Room B47 was a small area of a brick floor surface, [152]. The remnants of this surface measured 0.22m by 0.22m and were located at c. 5.87m OD. It is probable that this brickwork may have been another foundation to a hearth located on the southern wall of Room B47.

Brick feature

Room B49 [48]

7.8.8 Recorded in the northeastern corner of Room B49 was a small, heavily truncated fragment of brickwork, [48]. Truncated by a later modern concrete drain this brickwork was recorded at 6.08m OD and may have represented another one of the flue structures.

Brick wall foundation

Room B50 [14]

7.8.9 Recorded in the centre of Room B50 was an 'L' shaped brick foundation, [14]. This foundation was located at c. 6.10m OD and had at least two courses of brickwork surviving but remained unexcavated. The foundation was aligned northwest-southeast, running for c. 1.43m, before returning at a right angle at this southeastern end towards the northeast, running for c. 1.75m before meeting the limit of the room. This foundation had a continuous width of c. 0.80m. The foundation was composed of post-Great Fire bricks, fabrics *3032* and *3034*, and bonded with a hard grey clinker Type 2 mortar (Appendix 6). The combined elements of these bricks and mortar type suggests a late 18th to early 19th-century date to this brick foundation and most likely relates to the latter half of this range in the early 19th century.

7.9 PHASE 7: MODERN

7.9.1 Modern deposits and brick features were recorded in a handful of the basement rooms. In Room B47 modern brickwork was located in the northeastern area of the room. In Room B49 a modern concrete drain ran through the entirety of the northern

half of the room. In Room B50 a modern brick ramp was located in the southeastern corner of the room.

7.9.2 In six of the basement rooms observed during the watching brief only modern deposits were encountered. In Room B07 modern deposit [178] was recorded at c. 5.23m OD. In Room B14 modern deposit [210] was recorded at c. 4.83m OD. In Lightwell 2 modern deposit [213] was recorded at c. 5.58m OD. Rooms B56, Corridor 3 and Stairwell 1 also only observed modern deposits including concrete. The presence of these modern deposits is related directly to deeper levels of truncation invariably due to deeper features such as lift shafts.

7.9.3 The external watching brief of Trench 1 to the east of Somerset House recorded only modern deposits along its length. This was dominated by concrete drains, inspection hatches and other services. Deposits associated with these modern features were also recorded representing levelling and raising for the modern activity. These modern features were recorded between c. 5.90m OD and 5.20m OD along the length of this trench.

Figure 3
Phase 2: Saxon
1:125 at A4

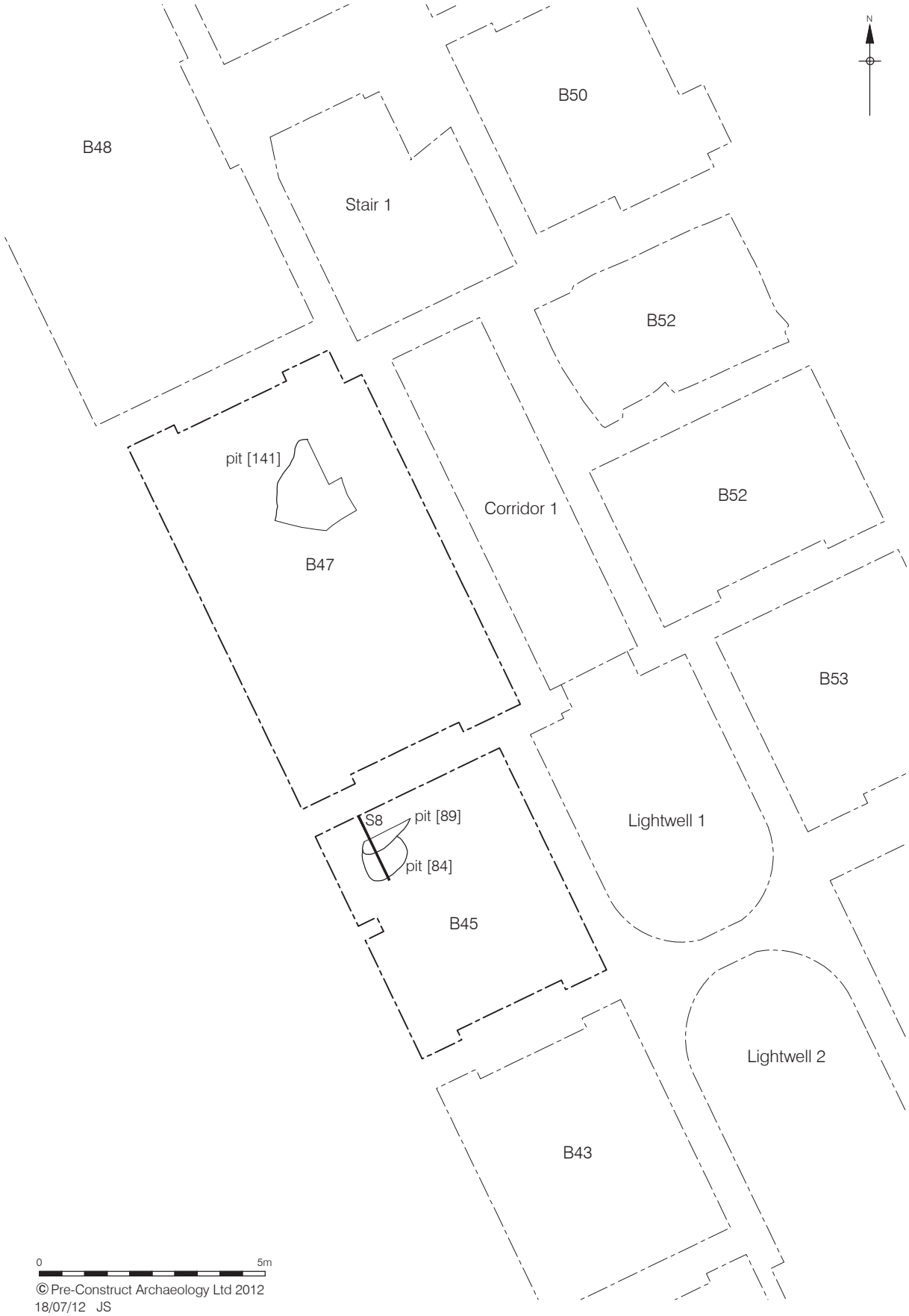
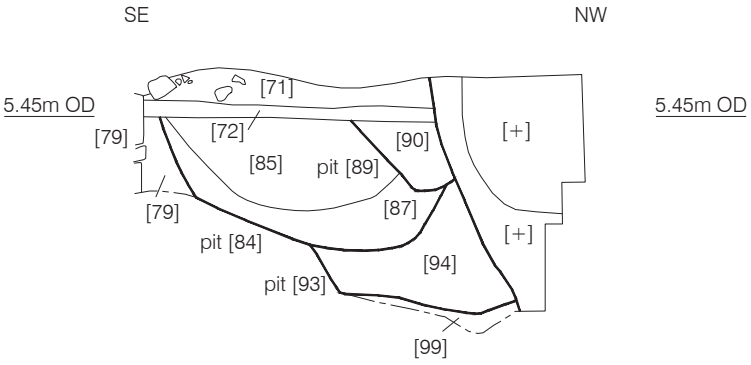


Figure 4
Phase 3.1: Medieval
1:125 at A4



Section 8
Room 45
Northeast Facing

0 1m

18/07/12 JS

Figure 5
Section 8
1:25 at A4

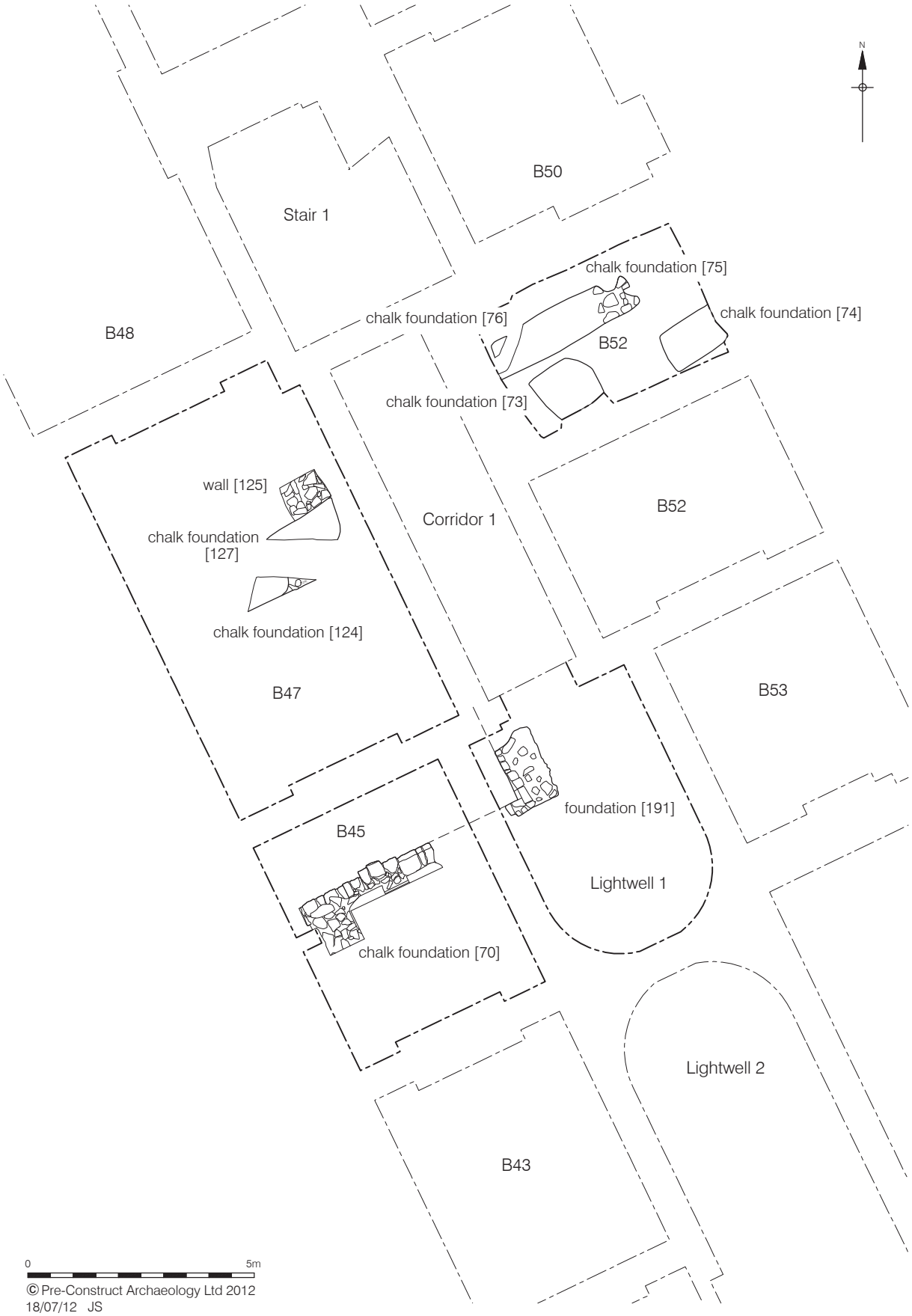
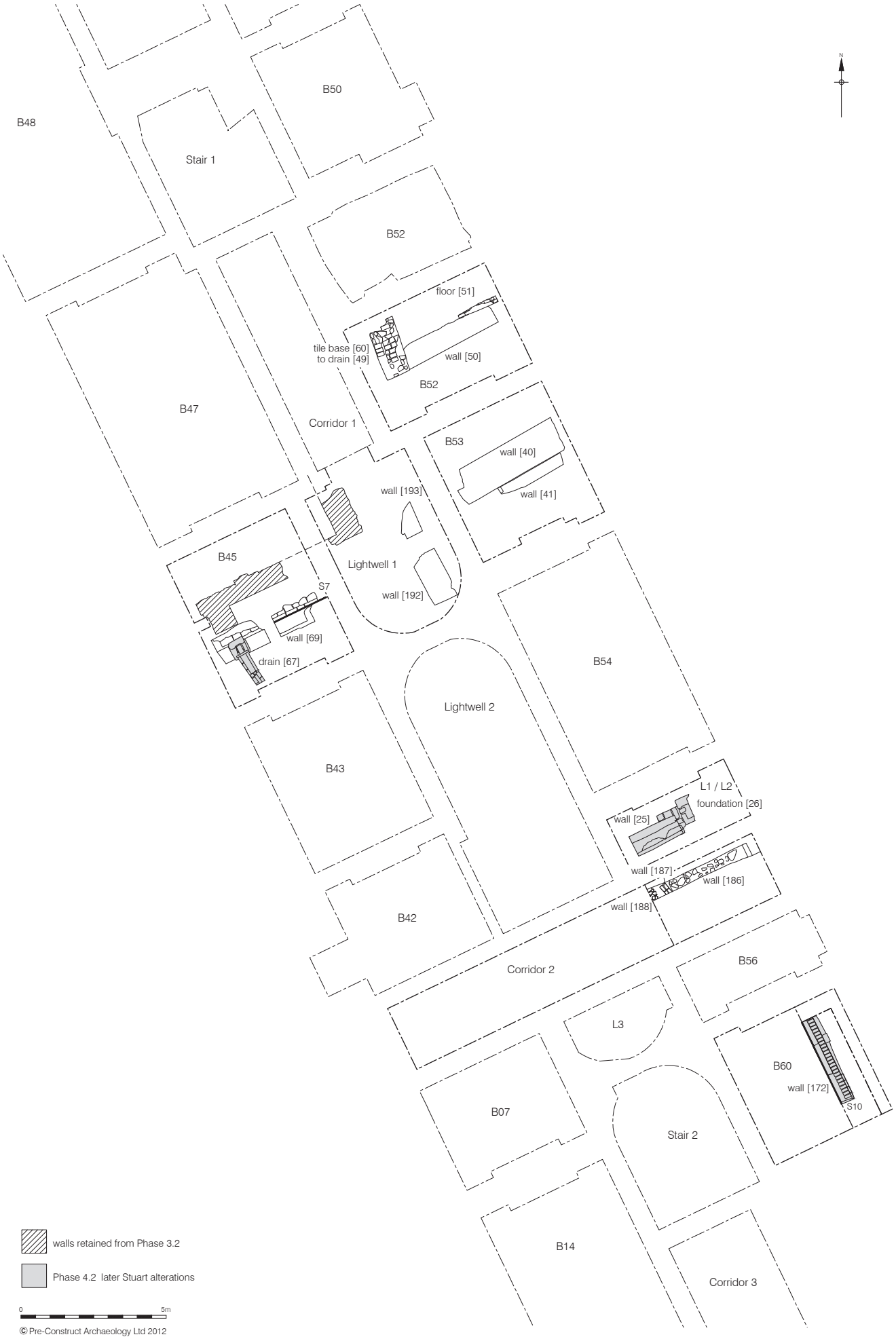
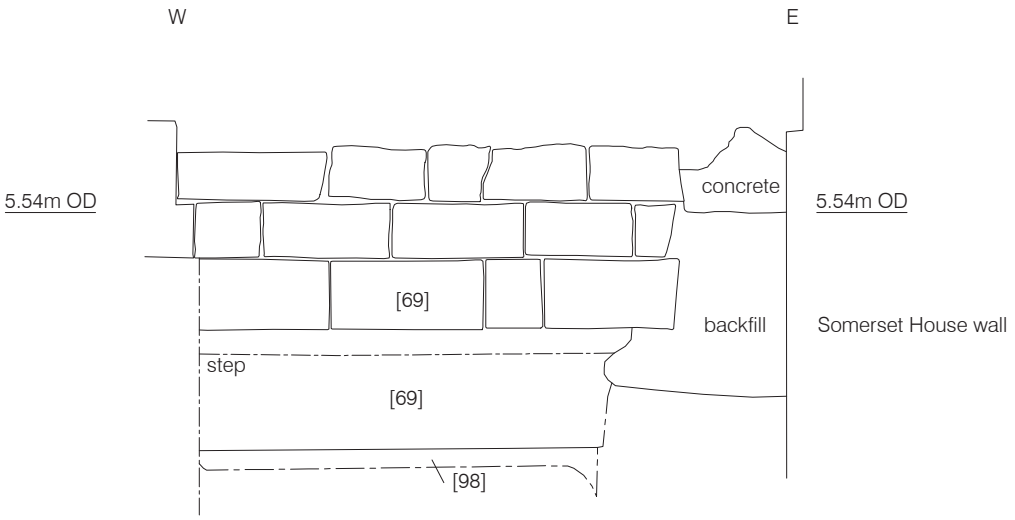


Figure 6
Phase 3.2: Late Medieval / Early Post Medieval
1:125 at A4

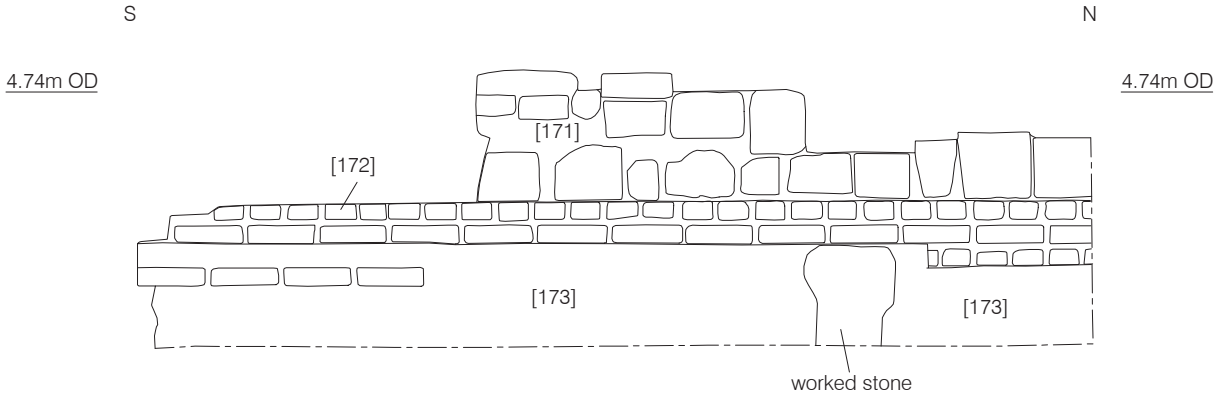


18/07/12 JS

Figure 7
Phase 4.1: Tudor Palace c. 1550-1700 and Phase 4.2 Later Stuart alterations
1:125 at A3



Section 7
Phase 4.1
Room 45
South Facing Elevation

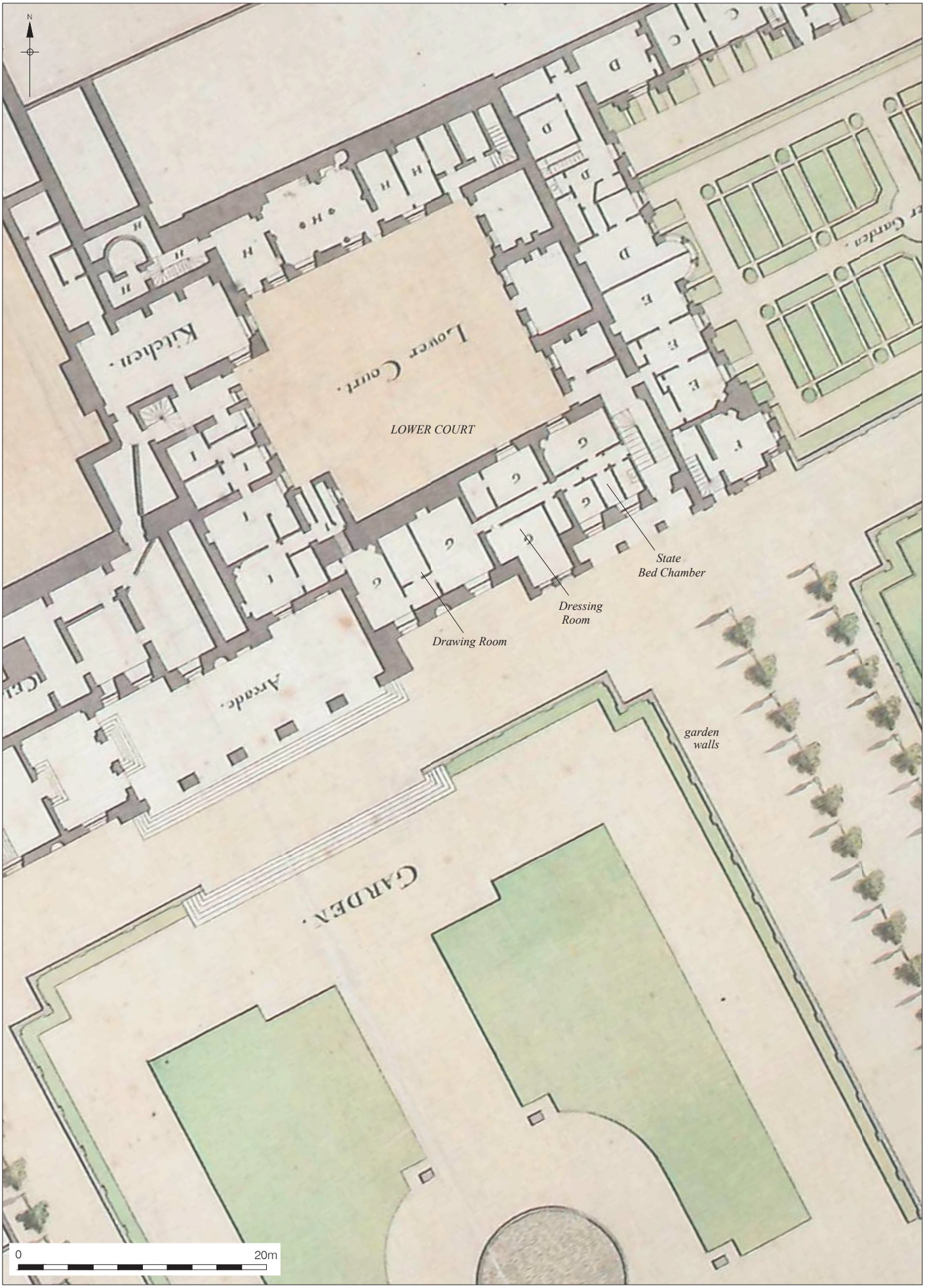


Section 10
Phase 4.2
Room 60
East Facing

0 1m

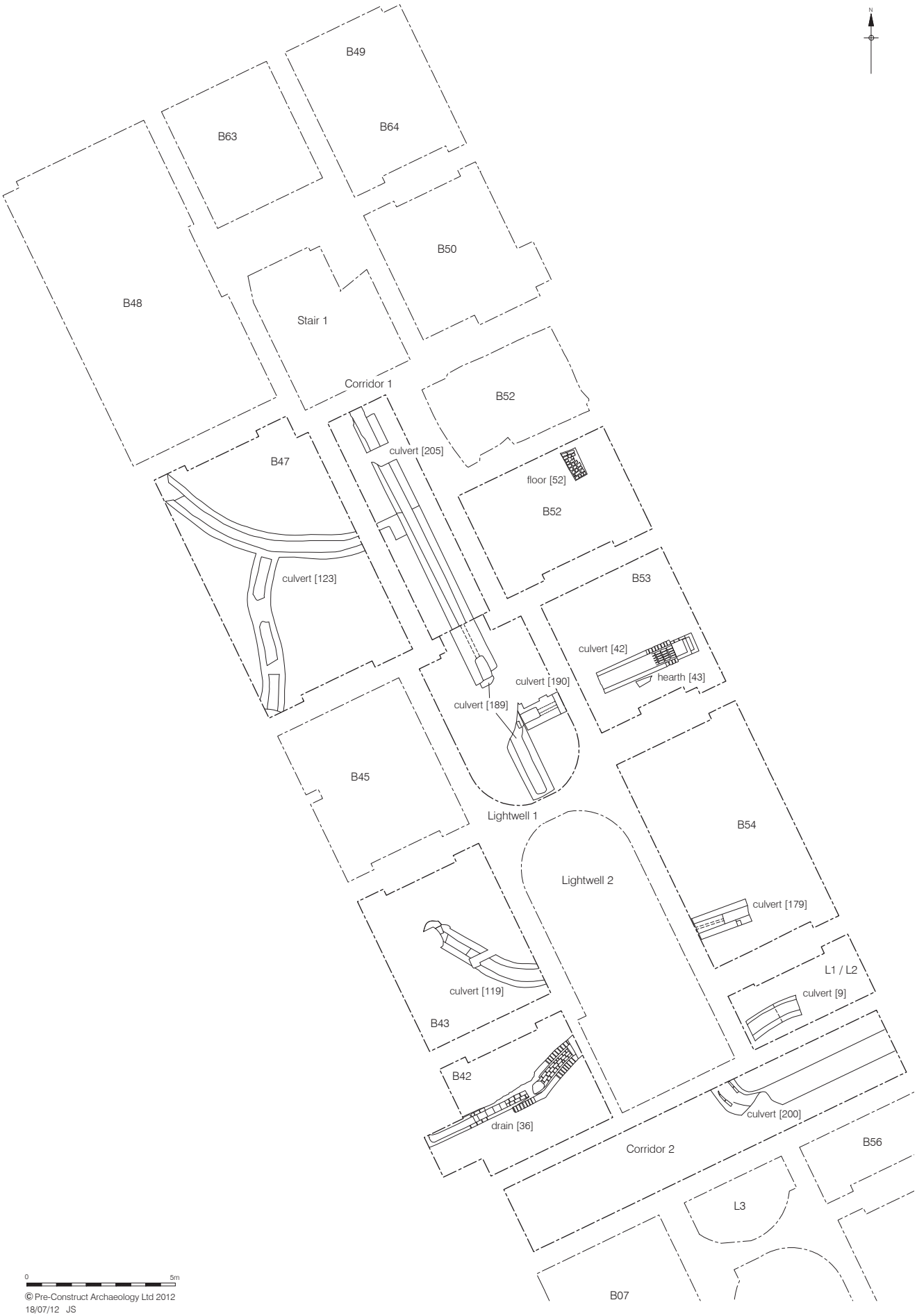
18/07/12 JS

Figure 8
Sections 7 & 10
1:25 at A4



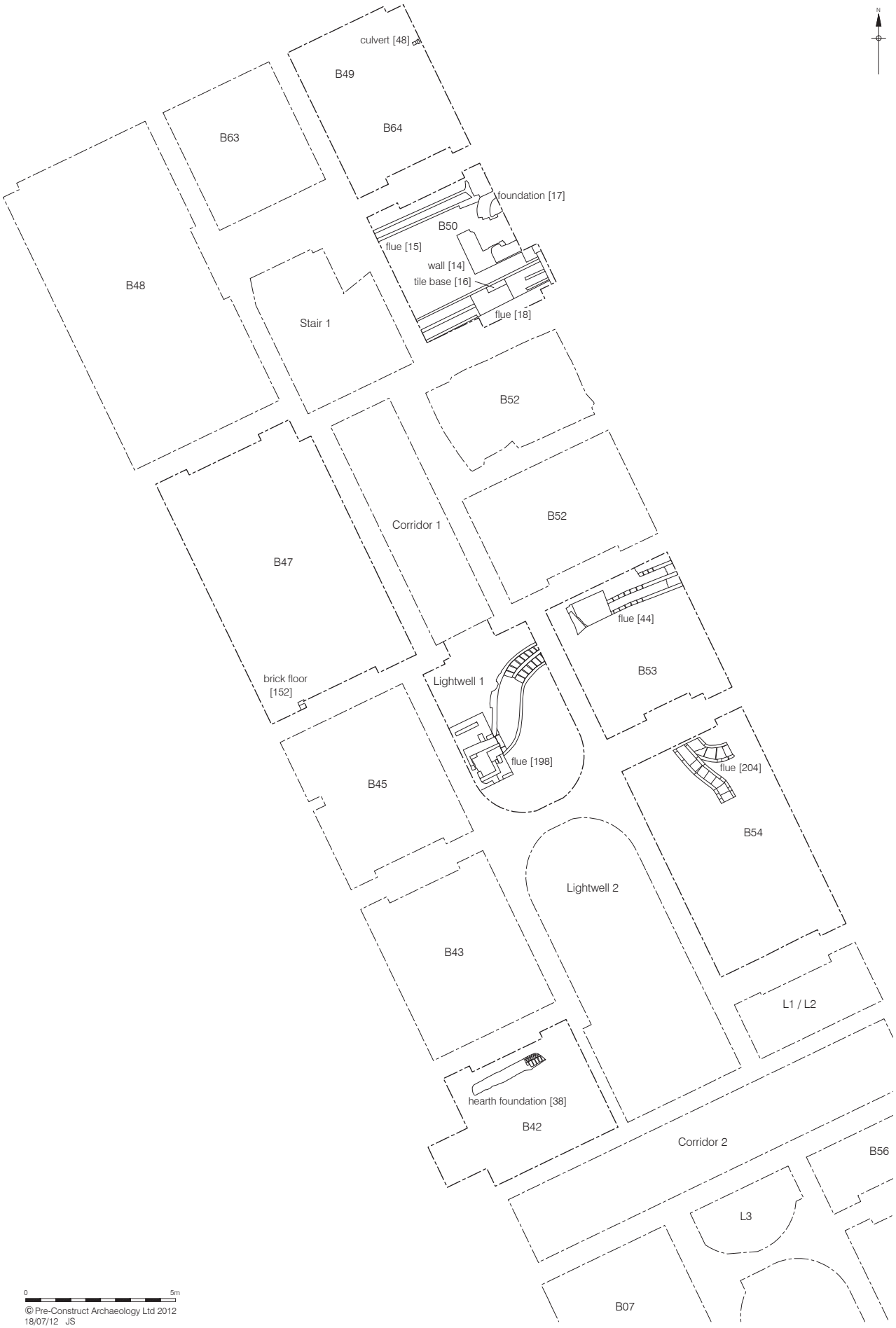
18/07/12 JS

Figure 9
Kenton Couse 1775; basement plan
with relevant room functions as labelled on his plan of the Principal Floor
1:400 at A4



18/07/12 JS

Figure 10
Phase 5: Late 18th / 19th century
1:125 at A3



18/07/12 JS

Figure 11
Phase 6: 19th century
1:125 at A3

Plates

Plate 1: Saxon and medieval pits [93], [84] and [89] and Section 8 in Room B45, facing southwest

Plate 2: Chalk foundations [73], [74] and [75] in Room B52, facing north

Plate 3: Tudor masonry wall [69] in Room B45, facing west

Plate 4: Chalk wall foundation [70] in Room B45, facing south

Plate 5: Chalk foundation [124]/[127] and masonry foundation [125] truncated by late 18th-century brick drainage culvert [124] in Room B47, facing southeast

Plate 6: Chalk foundation [124]/[127] and masonry foundation [125] truncated by late 18th-century brick drainage culvert [124] in Room B47, facing northwest

Plate 7: Brick and masonry wall [171], [172] on masonry rubble foundation [173] in Room B60, facing south

Plate 8: Detail of masonry rubble foundation [173] in Room B60, facing southwest

Plate 9: Brick and masonry wall [171], [172] in Room B60, facing northwest

Plate 10: Multi-period activity in Lightwell 1; chalk foundation [191], Tudor brick walls [192] and [193], late 18th-century brick drainage culverts [189] and [190] and 19th-century brick flue structure [198], facing northwest

Plate 11: Multi-period activity in Lightwell 1; chalk foundation [191], Tudor brick walls [192] and [193], late 18th-century brick drainage culverts [189] and [190] and 19th-century brick flue structure [198], facing south

Plate 12: Chalk foundation [191] in Lightwell 1, facing northwest

Plate 13: Tudor brick wall [192] with masonry facing in Lightwell 1, facing northeast

Plate 14: Masonry wall foundation [26] in L1/L2, facing northeast

8 ARCHAEOLOGICAL PHASE DISCUSSION

8.1 Discussion of Phase 1: Natural

8.1.1 The natural horizons observed during the watching on the East Wing of Somerset House consisted of the Eocene London Clay. This natural deposit was only observed within one of the basement rooms of the watching brief and was only observed there as it was excavated to a deeper level for the installation of a lift pit. This natural deposit illustrates a truncated land surface, unsurprising considering the heavy development of the site since the medieval period.

8.1.2 The natural London Clay recorded within Room B63 is consistent with the underlying geology as described by the British Geological Survey[17] and with natural deposits recorded during previous archaeological investigations at Somerset House[18].

8.2 Discussion of Phase 2: Saxon

8.2.1 The earliest human activity recorded on the site was a small number of features and deposits relating to the Saxon period. The presence of these features is unsurprisingly due to the site's location with the Saxon settlement of *Lundenwic*[19]. The Saxon remains were observed in one of the few rooms, Room B45, to be excavated to deeper level. Previous archaeological investigations at Somerset House[20] and elsewhere south of the Strand, at Arundel House and Globe House[21], have identified Saxon waterfront and foreshore deposits. It has therefore been suggested that the site lies within the waterfront district of *Lundenwic*[22]. The activity recorded during the watching brief, a pit and a stakehole alignment; appear to represent dry land activity.

8.2.2 The single rubbish pit encountered contained a small but interesting artefactual assemblage. A small group of imported pottery, a burnished North French/ East Belgium greyware (NFEBB) vessel, and a possible North French greyware (NFGWC) pitcher dated the feature to the Middle Saxon period, AD 600-800 and are common vessels of this date in *Lundenwic* (Appendix 2). Similarly the animal bone assemblage of minor quantities of cattle, sheep/goat and pig as well as a few chicken bones and the fish bone assemblage; freshwater eel, salmon, roach and two unidentified spines/rays are also commonly recorded from elsewhere in *Lundenwic* (Appendix 8). A relatively large assemblage of loomweights was also recovered from

[17] British Geological Survey 1998
[18] Museum of London Archaeological Service 1997b
[19] Malcolm, G., Bowsher, D. and Cowie, R. 2003
[20] Museum of London Archaeological Service 1997a; 1997b
[21] Museum of London Archaeological Service 1997a; Proctor 2000; Museum of London Archaeological Service 1997a; 1997b
[22] Gifford and Partners, 2005

the pit, represented six weights which included three forms of loomweight; annular, intermediate and bun-shaped, commonly found in Saxon *Lundenwic* (Appendix 5).

8.2.3 Of note recovered from within the pit was an unusual assemblage of fired clay and an unknown ceramic sherd. The fired clay was atypical to daub; the fragments are formed from a dense brickearth fabric with one smoothed face (Appendix 5). Currently no parallels for this object could be found and therefore remains an enigma. One pottery sherd was an unparalleled fabric containing a range of distinctive inclusions including oolitic limestone and possible granite; such a vessel is unlikely to have been produced locally (Appendix 2). Further research and identification of these anomalies is important.

8.2.4 In conclusion the relatively large rubbish pit dating to the Middle Saxon period contained material common to, and indicative of, contemporary settlement activity within the core of the Saxon *Lundenwic*, particularly with greater focus on weaving within local households due to the larger assemblage of loomweights.

8.2.5 The stakehole alignments recorded are a more enigmatic feature. What appeared to be two parallel lines of stakeholes ran northeast-southwest through the room. No artefacts were recovered from any of these stakeholes and therefore cannot be definitively dated. However their position in the stratigraphic sequence strongly suggests a Saxon date. What they represent is more problematic to infer. The dimensions and linear arrangement of the stakeholes suggest they are an alignment of light wattlework. Such wattlework structures are common during the Saxon period and were used for a variety of functions. Potentially it represents a simple fenceline delineating a boundary, and as there are two distinct alignments possibly an evolving fenceline changing location. Alternatively the two alignments may be part of one structure such a wattle lined channel or revetment however no associated cut or deposits associated with such a feature were recorded. Indeed this lack of associated artefacts, deposits or features relating to the stakehole group, and the limited area of it recorded, makes it difficult to interpret. Further parallels for these stakehole alignments need to be sought from the wider corpus of archaeological remains, notably from Middle Saxon *Lundenwic*.

8.3 Discussion of Phase 3.1: Medieval

8.3.1 The next phase of activity recorded dated to the medieval period; this consisted of levelling deposits and rubbish pitting. Much like the archaeological remains dating to the Saxon period these medieval remains are limited. With the exception of activity recorded in Room B47 the majority of medieval activity was recorded in Room B45. This is again directly related to this room being excavated to a deeper level and therefore encountering a greater sequence of archaeological remains. The levelling deposits and rubbish pitting recorded in rooms B45 and B47 both contained small

assemblages of pottery and ceramic building material which date to the 12th and 13th centuries. The Strand and the area of Somerset House is well documented to have been settled from the late 12th century with the riverside and Strand frontage being the locations of the inns of the Bishops of Exeter, Bath and Wells, Llandaff, Chester, Worcester, Norwich, and Durham[23]. The original church of St Mary Le Strand was also located in the area of Somerset House. The presence of this rubbish pitting illustrates that at least the area of Rooms B45 and B47 were external to any structures which were known to have been located within the area.

8.3.2 No structural remains definitively dated to the medieval period and representing the various Bishops Inns, church or other structures known to be extant from the 12th century onwards were recorded. However the possibility exists that the various chalk foundations recorded within Rooms B47, B52, B45 and Lightwell 1, discussed below, are medieval in dating. The inconclusive nature of the dating for these structural remains, using mortar types, leaves them open to further refining.

8.4 Discussion of Phase 3.2: Late medieval to early post-medieval

8.4.1 The next phase of activity relates to a series of wall foundations located within a number of rooms of the basement. These wall foundations all had a very similar nature, being composed of chalk rubble. The truncated nature of these foundations meant that they did not appear to form any particularly coherent structure. Only foundations recorded in Room B45 and Lightwell 1 illustrated a continuation of the same structural alignment. At least two of the foundations in the northern Rooms B47 and B52 also appeared to terminate to the east and to the west, foundations [75] and [127]/[124] respectively.

8.4.2 Dating of these chalk foundations is problematic. Chalk as a foundation material is widespread during the medieval period, being replaced by other masonry types in the early post-medieval period. However, chalk foundations do continue in use long after this, especially the further away you go from the urban core of London. All the foundations in Room B52 are provisionally dated to the early post-medieval period. This is predominantly related to the type of mortar recorded on the chalk rubble. This gravelly Type 4 mortar is tentatively dated to the early post-medieval period, 1450-1600 (Appendix 6). The stratigraphic sequence in this room could not refine this date. Chalk foundations in Rooms B45 and Lightwell 1 have a similar date from the mortar type; however the foundation in Room B45 is stratigraphically later than medieval deposits of the 12th and 13th centuries and is therefore later. Chalk foundation [127]/[124] in Room B47 had the same mortar type again but also contained peg tile dating to the same period. This foundation is also stratigraphically later than a medieval pit of 12th or 13th century date. The dating evidence therefore appears to

[23] Thurley 2009

point to an early post-medieval date for these foundations. However, it has also been postulated that they may even be late medieval in date. This is due to the potential problematic identification of late medieval and early post-medieval mortar types (Appendix 6).

8.4.3 As has already been stated the area of Somerset House and the Strand was well developed from the 12th century onwards. These areas were then constantly developed and altered right up until the Duke of Somerset decided to begin demolition of the buildings to construct his royal palace in the mid 16th century. Based on reconstructions of the area during the medieval period it appears that the east wing of Somerset House lay in the area of Chester Inn and the church of St Mary Strand[24]. It has also been documented that alterations and additions were also undertaken on the location of the site in the 15th and early 16th century, prior to the Tudor palace[25]. It is therefore most likely that the chalk foundations of this phase relate to this activity in the early post-medieval period; the buildings of the Bishops Inns. However, it cannot be ruled out that the chalk foundations are not directly related to Somerset's Tudor palace itself. Although they do not have definitive Tudor material within them, like the foundations of the following phase, the date assigned them is only slightly earlier than the construction of the palace. It is also known from documentary evidence that 'chalk, lime and sand' materials are listed on accounts relating to Seymour and the construction of the palace[26]. Refining of the dating of these chalk foundations and the overlaying of the structural remains recorded in the basement on the numerous cartographic sources relating to Somerset House may more precisely date these building foundations.

8.5 Discussion of Phase 4: Post-medieval Tudor and Stuart Palace (c. 1550-1700)

8.5.1 Arguably the most important archaeological remains recorded during the watching brief were the various structural elements encountered relating to the Tudor/Stuart Somerset House, a royal palace. Foundations of a Tudor date were recorded in five of the basement rooms. These were predominantly composed of red Tudor *3033* fabric bricks; a number of these walls also had masonry mouldings used as facings on the walls. These masonry mouldings ranged from Kentish ragstone to Hassock stone (Appendix 6).

8.5.2 Interpretation of what the various Tudor walls relate to with regard to the original Somerset House is problematic. A number of cartographic sources can be found illustrating Somerset House over its lifetime. One in particular of these has been

[24] Thurley, 2009
[25] ibid
[26] ibid

identified as the most pertinent[27]; Kenton Couse's basement plan of Somerset House c. 1775 (Fig. 9). However, an overlay of structural elements recorded during the watching brief with the outline of the building on this map was inconclusive. This may relate to a number of factors. This map shows the basement (a ground and first floor plan also exists) as it was at the end of the Tudor palace's life, being demolished in the same year. Therefore many of the identified Tudor remains recorded during the watching brief may relate to earlier phases of internal activity. Although the general outline of the area of the Lower Court appears to change little from its construction in the mid 16th century, internally various alterations may have occurred. The palace was known to have undergone various alterations internally and externally during the Stuart period[28]. However, the dating of many of the wall remains was not precise enough at assessment stage to distinguish between them being Tudor or Stuart alterations. A resolution to this may be found with a potential refining of the dating of the structural remains recorded during the watching brief and an overlay of these features on a detailed map regression of the numerous cartographic sources pertaining to the Tudor Somerset House.

8.5.3 Some inferences with regard to the recorded Tudor walls and what areas of the palace they may represent can be made however. In particular the walls recorded in Rooms B45, Lightwell 1 and B53 appear to represent an area of the southern wall of the Lower Court in the area of the Drawing Room and Dressing Room (Fig. 9). Extensive masonry wall [69], which re-used earlier chalk foundation [70], may be the southern wall in the area of the Drawing Room, with the masonry being the southern, external, face of the building. The presence of a drain abutting this face and running south attests to it being an external area. The northern return of this wall, recorded as the continuation of chalk foundation [191] in Lightwell 1, therefore may be the corner and a small section of the partition wall dividing the Drawing Room and the Dressing Room. Further evidence of this alignment is the locations of brick and masonry walls [193] and [192] in Lightwell 1. Wall [192] recorded what appeared to be a corner which when considering the positions of the aforementioned walls may represent the southern corner of the projecting wall in the area of the Dressing Room. Wall foundations in Room B53 may therefore represent internal walls in the area of the Dressing Room. If the above alignments are accurate this would place the remaining Tudor walls recorded in Room B52 as partition walls also in the area of the Dressing Room. An anomaly amongst these walls is a potential brick drain located in Room B52, which would potentially place it within the area of the dressing room. Although it appears to truncate wall [50] in the same room it has been identified as a Tudor structure. This remains unusual, potentially being misidentified as Tudor and may represent activity post-dating to the disuse of the Tudor palace.

[27] Thurley pers comm
[28] Thurley 2009

8.5.4 It is interesting to note at this point that if the above alignments do represent the areas described in the Lower Court then the chalk foundations of the previous phase may also be part of the Tudor palace. Some of the chalk foundations appear to coincide with the northern wall of the southern wing of the Lower Court. However, as has been noted already these are not precise on an overlay of Kenton Couse's basement plan. These chalk foundations are assigned to a slightly earlier phase due to their different nature, being chalk rubble as oppose to the red Tudor brickwork, and having a slightly earlier date (Appendix 6). It is not inconceivable however that earlier foundations were re-used in the construction of Somerset's palace. It is clear that a Tudor masonry wall was installed directly upon the extensive chalk foundation in Room B45, which dates to the activity prior to the Tudor palace, therefore re-using it. It has been thought that the re-use of such earlier foundations for the Tudor palace was highly likely[29]. It is therefore possible then that the other chalk foundations may also represent earlier activity which was then re-used. As stated elsewhere the refining of the dating and an overlay on a detailed map regression of these structural elements may answer these questions.

8.5.5 At least two sections of walls recorded appeared to be of a slightly later construction. These two walls, in Rooms L1/L2 and B60, were interpreted as later due to a large amount of re-used Elizabethan masonry mouldings, ashlars and guttering used as a rubble foundation to the brick walls. These two walls, along with foundation [186] and walls [187] and [188] in Corridor 2, most likely represent the extensive garden walls south of the Lower Court as illustrated on the Kenton Couse plan of Somerset House (Fig. 9). Although these garden walls are a feature on a number of earlier cartographic sources the remains recorded during the watching brief may relate to a later repair or reconstruction. A similar group of worked stone was recovered during previous archaeological work in the area of the Great Court and will provide a useful group of comparable material[30]. It has been suggested that the combined worked stone assemblages recovered from the watching brief on the East Wing and previous work in the Great Court[31] and the South Wing[32] is the most impressive group of Tudor worked stone in London (Appendix 6).

8.6 Discussion of Phase 5 – Late 18th century 'new' Somerset House

8.6.1 The late 18th century saw the site undergo a complete transformation. The early 18th century saw the palace gradually fall into disrepair; in 1718 Vanbrugh observed that Somerset House was the "most out of repair" of all the royal palaces and no longer

[29] Thurley pers comm
[30] Gifford and Partners 2005
[31] İbid
[32] Wood and Munby 2004

able to keep out the weather. This continued neglect led to the inevitable decision to pull the building down and George III agreed that the site be given over to public offices, with the provision that Buckingham House should take the place of Somerset House as the official dower house for the queen. Demolition began in 1775 and continued in stages as the new Somerset House was constructed around it.

8.6.2 This phase of activity is represented by the standing building itself and its associated basement partition walls. Archaeologically this period of activity was represented throughout the basement by dumped levelling deposits and masonry features. The dominant masonry feature of this period was a network of domed brick drainage culverts which ran throughout the basement. A number of sections of this drainage culvert were recorded in nine of the basement rooms, forming an interconnecting drainage system located in the basement. A central line of these culverts ran through the centre of the basement, through Corridor 1, Lightwell 1, and probably through Lightwell 2 even though it did not survive there, before turning east and heading out of the basement in the location of Corridor 2. A number of other branches in the rooms to the east and west fed directly into to the central branch. It is assumed that more of this drainage network would originally have been located in the basement but has since truncated away by later activity.

8.6.3 These culverts were all constructed using the same brick types; two distinct types of purple stock moulded post-Great Fire bricks, unfrogged variants with clinker inclusions, which conformed to the brick size legislation act of 1775 and a second wider better made variety, often frogged, were identified, fabrics *3032* and *3034* respectively (Appendix 6). Some of these culvert structures also had yellow London stock bricks, which were used in London from 1780. These brick types illustrate a late 18th-century date for the construction of the drainage network. The same brick types were also observed in the basement walls of the standing 18th-century Somerset House. The suggestion then is that this extensive drainage network was contemporary with the new Somerset House built c. 1775 and probably built at the same time. What may be a similar drainage network was recorded during previous archaeological work in the area of the Great Court[33].

8.6.4 The dumped levelling deposits recorded relating to this period, although not excavated fully due to the watching brief methodology, represent ground works post demolition of the original Somerset House. These would have been related to the construction of the new Somerset House which was occurring concurrently with the demolition of the old one. Similar levelling and demolition deposits were recorded during previous archaeological work at Somerset House in the location of the Great

[33] Gifford and Partners 2005

Court[34]. These deposits, however, yielded artefactual assemblages which included numerous pieces of worked stone relating to the Tudor and Stuart palace.

8.7 Discussion of Phase 6: 19th century

8.7.1 The 19th century saw a number of alterations to features within the basement of the East Wing of Somerset House but little change to the actual layout of the rooms. Much like the previous phase the 19th-century activity is dominated by masonry structures. Recorded running through four of the basement rooms was an interconnecting network of brick flues. This network of flues truncated the early drainage culverts illustrating those to be out of use with drainage features clearly located outside the area of the basement. The flue structures were constructed of brick work indicative of the 19th century; well made wide frogged post-Great Fire, brick fabric *3032*, narrow post-Great Fire, brick fabric 3034 and yellow London Stock bricks, fabrics *3032nr3035* and *3035*. These were bonded with a hard clinker Type 2 and Type 3 mortar (Appendix 2). These flues represent a network of under floor heating for the basement of Somerset House. The flues represent the channelled type of under floor heating, where the hot air from a heat source would have passed through these structures below floor level throughout the basement thereby heating the floor. A blackened soot deposit was recorded within all of the flue structure and attests to the presence of hot air passing through them. The brick structure in Lightwell 1, into which one of the double brick flues ran, probably represents where the hot air would have been expelled upwards much like a chimney.

8.7.2 A similar flue structure was recorded during an archaeological watching brief at Strawberry Hill House, Twickenham[35]; a Grade I Listed Building. This was again a brick built channel representing the flue within which a soot deposit was recorded, illustrating heat and hot air to have passed through it. This structure was also interpreted as part of an under floor heating and also dated to the 19th century. This structure was sealed in places by York stone; the under floor heating in the basement of Somerset House may also have originally been capped by York stone, but was not however observed.

8.7.3 A handful of other fragmentary 19th century brickwork features recorded in the basement, including hearth foundations and possible brick floors illustrate internal alterations and additions to the basement rooms during the this period.

[34] ibid
[35] Fairman 2009

9 ORIGINAL AND REVISED RESEARCH OBJECTIVES

9.1 Original Research Objectives

9.1.1 A number of research aims were detailed prior the archaeological watching brief[36] and will be addressed here. The results of the archaeological watching brief also raised a number new research questions which will be highlighted below.

- **Is there any evidence for Saxon or medieval material on the site, pre-dating the construction of the original Somerset House/Denmark House?**

  The area of the site was known to have been within the area of Saxon *Lundenwic* as well as in an area known to have been well developed and settled during the medieval period from the late 12th century onwards. A limited amount of evidence for both Saxon and medieval activity was recorded during the watching brief. This was confined to two specific rooms, B45 and B47, but this was directly related to the excavation of these rooms to a deeper level, particularly Room B45.

  The Saxon activity recorded during the watching brief consisted of levelling dump deposits, a pit and an alignment of stakeholes. The levelling deposits and pit contained a small but interesting assemblage of pottery, animal bone and loomweights which were common to and consistent with comparable assemblages from Middle Saxon *Lundenwic*. An alignment of stakeholes were also recorded which may relate to a wattlework structure but the limited area of this feature recorded makes interpretation difficult.

  The medieval activity recorded during the watching brief was of a similar nature to that of the Saxon activity, levelling dump deposits and pitting. These deposits and pits dated to the 12th and 13th centuries and although structures were know to be extant south of the Strand during this period, it is probable that in this particular part of the site it was still external.

  A number of chalk wall foundations were also recorded during the watching brief that may also relate to activity pre-dating Somerset House. These chalk foundations are provisionally dated to the early post-medieval period and may relate to the various Bishops Inns and other structures known to have been extant until their demolition to make way for Somerset House.

  A reasonable assemblage of residual Roman material was also recovered from within both the Saxon and medieval features. This included roof tile, tegulae and imbrex,

[36] Hawkins 2010

brick and box flue tile. Although this material is residual it still provides some information about potential Roman activity in and around the area of the site.

- **Is there any evidence for the Tudor building and the several phases of remodelling through to the 18th century?**

  A number of brick and masonry structures were recorded during the watching brief which have been dated to the Tudor period and therefore represent elements of the Duke of Somerset's royal palace. These were encountered in five of the rooms of the basement and are predominantly composed of red Tudor bricks with Kentish ragstone facings. Although these brick and masonry walls have been identified as Tudor, identifying whether they relate directly to the original Tudor building or are part of later Stuart alterations when the palace became 'Denmark House' is problematic. However, a preliminary overlay of the recorded structural elements on the cartographic sources illustrates that they most likely relate to the southern range of the area of the Lower Court. Further refining of the dating for the walls, the stratigraphic sequence and an overlay on a detailed map regression of the numerous cartographic sources may highlight original Tudor walls and later Stuart alterations.

  Two more rooms in the basement did yield further structural elements of the original Somerset House but were identified as being somewhat later. The walls contained large amounts of re-used Tudor masonry mouldings as rubble foundations upon which brickwork was laid. A somewhat later type of mortar was also tentatively identified within these structures adding further weight to them being of a later date. The aforementioned preliminary overlay of these structural elements on cartographic evidence illustrates that they most likely represent external garden walls directly south of the Lower Court of the original Somerset House.

- **Is there any evidence for the demolition of the original Somerset House/Denmark House?**

  Very little evidence for the demolition of the original Somerset House was recorded during the watching brief. Previous archaeological work in the area of the Great Court recorded an assemblage of Tudor masonry directly associated with demolition deposits[37]; however nothing like this was recorded in the East Wing. Levelling dumped deposits pre-dating late 18th century activity relating to the new Somerset House were recorded during the watching brief these contained little artefactual material directly relating to the demolition of its predecessor. Although these deposits

[37] Gifford and Partners, 2005

represent ground works in association with the demolition they provide little information about, or evidence for the demolition.

9.2 The results of the archaeological watching brief raises further research questions.

- Can the residual assemblage of Roman material provide any information about Roman settlement activity in the area of the Strand?
- Can the unidentified Saxon fired clay objects be identified and what information can they provide about activity on the site during this period?
- Can the Saxon loomweight assemblage provide any new information about the transition of usage between the three forms of loomweight?
- Can further refining of the dating of the chalk wall foundations more definitively identify which period they relate to?
- Can further refining of the dating of the Tudor/Stuart brick and masonry walls more definitively identify whether they relate to the original Somerset House or a later alteration when it was known as 'Denmark House'?
- Can a more detailed study of the numerous cartographic sources relating to Somerset House aid in identifying to what the various Tudor/Stuart foundations relate to directly?
- Can the masonry assemblage provide any new information about the architectural style of the Tudor Somerset House or even the medieval structures which stood before?
- Can cartographic and documentary sources provide more detailed information of how the 19th century under floor heating system worked?

10 IMPORTANCE OF THE RESULTS, FURTHER WORK AND PUBLICATION PROPOSAL

10.1 IMPORTANCE OF THE RESULTS

10.1.1 The most important periods recorded during the Stevens Street excavation are: 1) Saxon, 2) medieval, 3) post-medieval (Tudor and Stuart c. 1550-1700).

Saxon

10.1.2 The earliest archaeological activity recorded on the site dated to the mid-Saxon period. This was represented by levelling layers, a single pit and an alignment of stakeholes. These features dated to the Middle Saxon period (AD 600-800). Although the area of the Strand is well established as being located within the Saxon settlement of *Lundenwic* little Saxon evidence has been recorded in the area of Somerset House itself. The limited Saxon activity previously recorded in the vicinity related to foreshore and river front activity; the Saxon activity recorded during the East Wing watching brief clearly relates to dry land activity and is therefore important. The material culture recovered from the Saxon features and deposits is common in such assemblages previous recorded within Middle Saxon *Lundenwic* but still adds to the corpus of information about this period. In particular the relatively large assemblage of loomweights is significant, specifically with regard to different loomweight forms and their usage throughout the Early, Middle and Late Saxon periods.

10.1.3 An unusual assemblage of fired clay and an unknown ceramic sherd recovered from the Saxon activity are of particular significance due to their unidentified nature. The fired clay was atypical to daub; the fragments being formed from a dense brickearth fabric with one smoothed face. Currently no parallels for this object could be found and therefore remains an enigma. One pottery sherd was an unparalleled fabric containing a range of distinctive inclusions including oolitic limestone and possible granite; such a vessel is unlikely to have been produced locally. Further research and identification of these anomalies is of local importance.

Medieval and early post-medieval

10.1.4 The medieval phase of activity recorded during the watching brief consisted of dumped deposits and rubbish pitting. This was only recorded in a limited area and dated to the 12th and 13th centuries. This date coincides with the know settlement of the area of the Strand and Somerset House beginning in the late 12th century. These

structures were Bishops' Inns, a church along with other structures. The archaeological evidence recorded during the watching brief however illustrates external activity of a contemporary date. The interpretation of these features and their associated artefactual assemblages are of significance in relation to a well settled medieval location.

10.1.5 A number of wall foundations, predominantly of chalk rubble were also recorded during the watching brief. As has been mentioned already the area of the site was known to have to been settled and built upon by the late 12th century. Chalk foundations can be interpreted as medieval in character but chalk as a foundation material does continue in use well into the post-medieval period, particularly the further away from the urban core of London. However, the chalk foundations recorded during the watching brief have been provisionally dated to the early post-medieval period, c. AD 1450-1600. This date would appear to put them a little before the erection of the Duke of Somerset's palace in the mid 16th century. This dating however is tentatively identified by mortar types and the presence of small amounts of building material and tile. These chalk foundations may possibly even be slightly earlier, pertaining to the late medieval period. It is discussed above that potentially these foundations are actually related to Somerset's Tudor palace or at least re-used earlier structural elements for the building. At least one of these foundations is clearly re-used for the Tudor Somerset House and there is no reason to think that the other weren't also re-used. The evidence appears to point to these chalk foundations pre-dating the Tudor palace and although this medieval activity along the Strand in the location of Somerset House is well documented by historical sources is under represented in the archaeological record and is therefore significant.

Post-medieval (Tudor and Stuart c. 1550-1700)

10.1.6 The post-medieval period was well represented by the watching brief on the East Wing. The archaeological record for this period was dominated by the structural remains of Tudor date relating to the royal palace constructed in the mid 16th century by the Duke of Somerset, Edward Seymour. This building existed as the Queen's royal residence in London from the mid 16th century until c. 1700. In the 18th century the palace began to fall into disrepair and was finally demolished in the late 18th century when the Queens royal residence moved to Buckingham Palace. The demolished former royal palace made way for the construction of the new Somerset House, still extant as a Grade I Listed Building. The structural remains recorded during the watching brief were of brickwork and masonry and located in a number of rooms. These foundations appear to relate to the southern range of the Lower Court along with external garden walls directly to the south. These original Tudor structures

are important, particularly as they relate to a royal palace in the capital city of London and are therefore of local and regional significance.

10.1.7 Recovered from these Tudor structures were an important assemblage of masonry mouldings and architectural elements. This important masonry assemblage is described in detail in Appendix 6 where it is described as; along with previous work in the Great Court and the South Wing, the most impressive group of Tudor worked stone in London. Therefore this assemblage of Tudor masonry is of local and regional significance.

10.2 FURTHER WORK

10.2.1 Further research will be conducted on the Saxon and medieval sites in the vicinity in order to place the findings in a context. At attempt will be made to refine the dating of the masonry remains. Plans of the structural remains will overlaid onto the historic maps to achieve a best fit in order to aid the interpretation and refine the date of the archaeological remains especially those associated with the original Somerset House.

Pottery

10.2.2 A small report on pottery will be included in the publication. This will require further research to identify possible sources for the unprovenanced sherds in all periods. One illustration and three plates are recommended.

Clay tobacco pipe

10.2.3 It is recommended that information from the clay tobacco pipe assessment is incorporated into the publication of the excavation.

Glass

10.2.4 There are no recommendations for further work and a future publication on the site should take information from the glass assessment report as required.

Fired clay objects

10.2.5 A closer examination of fabric of the loomweights should be undertaken for publication and a comparison of the assemblage to others in *Lundenwic* in terms of composition and size. Five of the loomweights will require illustration. A parallel for the possible fired clay object should also be sought.

Building materials

10.2.6 This building material assemblage contains a number of items of interest that require further research and comparison which could then be incorporated into a publication report. The findings could equally be useful as stand-alone articles in their own right on Tudor stone source and style in London and brick dating.

10.2.7 Foremost are the large (40 items) and well preserved (24 WSN's) collection of reused moulded stone items from the 2010-2011 East Wing of Somerset House, that along with the group of architectural moulds recorded from the 1999/2000 excavations of the Great Court (Samuel 2005, 50; Williams 2005), and the South Wing and river frontage (Munby 2003) are visually the most impressive group of excavated Tudor worked stone in the capital. As such it deserves detailed analysis both in terms of its style, and the unique group of rock types that characterise it. At publication stage emphasis should be placed on these two elements of the building material assemblage

10.2.8 In terms of rock-type, thin-section and geochemical analysis of certain types of freestone recorded from the excavations would not only help identify the materials being used in its construction but may being to help understand the connection between quarry source and Tudor properties connected with the "Somerset circle". In addition, petrological comparative analysis may help determine whether some rarer freestone materials identified from Somerset House excavations were being salvaged from earlier monasteries in London.

10.2.9 In particular, comparative petrological, thin-section and geochemical analysis would go some way to confirming:

a) A Wiltshire quarry source for the oolitic limestone identified in Tudor/Elizabethan mouldings from the East Wing excavations e.g. WSN 16 as well as examples from the 1999-2000 excavations in a cabled column shaft, attic rectilinear base mould and baluster base mouldings from the phase III watching brief of the Great Court area of Somerset House (Williams 2005; Samuel 2005, 52-53). This information is important as it may confirm a petrological link with the stone used in other contemporary Tudor structures of the "Somerset circle" closer to a bath-stone source e.g. Lacock Abbey.

b) Whether the rock described as Magnesian Limestone in four mouldings including WSN 17; 21; 24 is in fact this source or the lithologically comparable Beer stone from the Chalk of Devon. The similarity between it and the other fine-grained limestone from Somerset House (Caen stone WSN1-15; 18; 20; 22-23) in hand specimen may also help to determine whether some of mouldings of Caen and micritic limestone from the **p**hase III watching brief of the Great Court area of Somerset House (Williams 2005; Samuel 2005, 50-54) may in fact be Magnesian Limestone.

10.2.10 Finally, a geological approach may go some way to identifying the popularity of this material in 15th- and 16th-century Tudor mouldings from London, by re-examining samples, provisionally identified as Magnesian Limestone in Tudor period oriel sills, jambs and mullions from bay window elements used in the Period 6 Hospital of St John of Jerusalem (Samuel 2004, 286-296). This latter site adds spice to the use of

stone and reuse of stone at Somerset House as stone was documented (Thurley 2009, 16-17) as having been dismantled from '*the steeple and most part of the church of St John of Jerusalem neere Smithfield'* or use in the 1547 palace.

c) The impact of Lincolnshire Limestones e.g. Ketton stone and Barnack stone in the construction of Tudor and Jacobean properties in London. Both materials have been identified elsewhere in London e.g. Montagu House.

d) Whether the geological source of a brown-yellow skeletal porous grainstone (Dunham 1962) with coral fragments identified in the L1 L2 foundation rubble [26] is a freestone type new to London. The material is reminiscent of limestones from the Tertiary of the Paris Basin e.g. Calcaire Grossier and Banc Royal (Hayward 2009) and a petrological match may further reinforce a link with the Duke of Somerset and French masons documented above.

10.2.11 Together, this petrological information would begin to help to understand the types and sources of stone, opened up specifically for Tudor construction in London and the South-east. It is recommended that 10-15 thin-sections are produced for this case study – these can be compared with petrological and geochemical reference collection of freestone outcrop samples already compiled (Hayward 2006; 2009). A caveat should be introduced for further geochemical analysis (XRF) should thin-section preparation and analysis not be a sufficient determining factor. Thin-section and geochemical preparation should be undertaken at Quest, University Reading, using the same facilities as prepared for the freestone reference collection.

10.2.12 More detailed stylistic comparison with the Tudor moulded stone retained from the 1999/2000 Gifford excavations (Samuel 2005, 52-53) and the South Wing and river frontage (Munby 2003) would help establish the range and quantities of continental mouldings identified as embellishing the bay windows and Doors of Somerset House. To do this, It is recommended that all the remaining moulded stones (WSN9-24) from the East Wing first be illustrated and photographed in the same detail as the first group (WSN1-8) that have already collated prior to display. Particular moulds including sills and door window/jambs (WSN6-8) and possible earlier cusped chamfer mullion moulds (casement) tracery (WSN18; 20; 24) require more detailed architectural comparison and illustration prior to publication. With the other excavated groups (e.g. Nonsuch Palace) and other Tudor properties e.g. Lacock House etc.

10.2.13 In terms of ceramic building materials; the successful application of the long-term power law rehydroxylation kinetics technique (Wilson et al. 2009) in dating Tudor bricks used in the nearby brick cistern for the Mount Parnassus grotto-fountain in the privy garden of Somerset House (Hayward 2011) "The Strand-Lane Bath-house" with its documented 1611-1612 construction should find equal application in the Tudor bricks identified from the present excavation.

10.2.14 In particular it may help establish whether the red brick structures identified in C2 brick walls [187] and [188] and masonry foundations [186] as well as an early brick culvert from B52 [49] are part of the Protector's 1547 construction or, for example, a later Inigo Jones rebuild of 1630. The analysis could be carried out by Quest (University of Reading) who successfully dated the bricks from the Strand Lane Bath-house.

10.2.15 Individual items that require further illustration include an example of a roller stamped box flue

Metal finds

10.2.16 Metal and small finds form an integral part of the material recovered during excavation and the possible candleholder should, if relevant, be included in any further publication of the site.

Animal bone

10.2.17 There is clearly some potential regarding further study of the Saxon and early medieval collections, and it is recommended that any information gleaned from these assemblages should be included in any future publication

Environmental samples

10.2.18 Given the wealth of evidence already obtained for this period in the *Lundenwic* area and given the similarity of the assemblage with the material from neighbouring sites, no further work is recommended on the charred macroplant remains. In addition, no further work is recommended on the charcoal assemblage from this site due to the limited number of samples and the likelihood that multiple charring events are represented in charcoal within these Saxon pit features. Pollen concentrations are low to moderate in the sub-samples from column samples <2> and <3>, and the assemblages are dominated throughout both sequences by herbaceous taxa. Further work on the pollen is therefore not recommended.

10.3 PUBLICATION PROPOSAL

10.3.1 The results of the archaeological investigation will be published in a relevant period or regional journal such as the Transactions of the London and Middlesex Archaeological Society. The format the publication will follow is that of a formal publication report:

- Abstract
- Introduction
- Geological and topographical background
- Archaeological background

- Archaeological evidence, by phase
- Specialist Reports
- Discussion

The illustrations will include

- Location plans
- Phase Plans
- Plans of features and groups of features
- Sections
- Photographs
- Finds illustrations

11 CONTENTS OF THE ARCHIVE

The paper archive:

	Sheets
Context Sheets	236
Plans	91
Sections	14

The photographic archive:

Black and White Negative Film (35mm)	92 Frames
Colour Transparency Film (35mm)	98 Frames
Black and White Medium Format	135 Frames
Digital Format	263 Frames

The finds archive:

Pottery	2 Boxes
Animal Bone	4 Boxes
Glass	1 Box
Clay Tobacco Pipe	1 Box
Small Finds	1 Box
Worked Stone	46 Pieces
CBM	7 Boxes

The environmental archive:

Bulk Samples	2
Column Samples	2

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APPENDIX 1: CONTEXT INDEX

Context No	Plan No	Phase	Type	Description	Trench	High	Low	notes
1	0	0	VOID	VOID	0	0	0	VOID
2	0	0	VOID	VOID	0	0	0	VOID
3	0	0	VOID	VOID	0	0	0	VOID
4	0	0	VOID	VOID	0	0	0	VOID
5	0	0	VOID	VOID	0	0	0	VOID
6	0	0	VOID	VOID	0	0	0	VOID
7	0	0	VOID	VOID	0	0	0	VOID
8	0	0	VOID	VOID	0	0	0	VOID
9	9	5	Masonry	Brick culvert	L1L2	5.48	5.31	18th century brick domed culvert running E-W
10	9	5	Masonry	Brick drain	L1L2	4.83	0	Brick footing for culvert [9]
11	0	0	VOID	VOID	0	0	0	VOID
12	9	5	Layer	Made ground	L1L2	5.89	0	Layer of made ground
13	0	0	VOID	VOID	0	0	0	VOID
14	B50	6	Masonry	Brick wall	B50	6.1	6.01	'L' shaped brick wall, ?19th century
15	B50	6	Masonry	Brick flue	B50	6.03	5.99	Double brick flue structure, ?19th century, running E-W
16	B50	6	Masonry	Tile base	B50	5.69	0	Tile base of flue structure [18]
17	B50	6	Masonry	Brick foundation	B50	6.08	6.01	Circular brick foundation
18	B50	6	Masonry	Brick flue	B50	5.74	5.66	19th century brick flue structure
19	0	0	VOID	VOID	0	0	0	VOID
20	B50	6	Layer	Bedding layer	B50	5.95	0	Mortar bedding layer for brickwork [14]
21	0	6	Layer	Made ground	B50	6.2	0	19th century or modern made ground
22	B50	6	Layer	Fill of flue [18]/[16]	B50	5.74	0	Soot fill of flue structures [18]/[16]
23	B50	6	Layer	Bedding layer	B50	5.66	0	Sand bedding layer for tile base [16]
24	B50	7	Masonry	Brick floor	B50	6.17	0	Brick floor surface
25	25	4.2	Masonry	Brick wall	L1L2	4.66	4.6	Brick wall running E-W
26	26	4.2	Masonry	Stone foundation	L1L2	4.34	4.19	Stone foundation for brick wall [25] consisting of various re-used worked stones, running E-W

27	0	0	VOID	VOID	0	0	0	VOID
28	0	0	VOID	VOID	0	0	0	VOID
29	0	0	VOID	VOID	0	0	0	VOID
30	0	0	VOID	VOID	0	0	0	VOID
31	B50	7	Masonry	Brick ramp	B50	6.49	6.25	modern brick ramp
32	0	0	VOID	VOID	0	0	0	VOID
33	0	0	VOID	VOID	0	0	0	VOID
34	0	0	VOID	VOID	0	0	0	VOID
35	0	0	VOID	VOID	0	0	0	VOID
36	B42	5	Masonry	Brick drain	B42	5.31	4.8	Brick drain with slate base, running E-W
37	B42	5	Masonry	Brick wall	B42	5.25	0	Brick wall blocking off brick drain [36]
38	B42	6	Masonry	Brick hearth	B42	5.34	5.06	Brick foundation for a hearth
39	B42	5	Masonry	Brick floor	B42	5.39	0	Brick floor surface
40	B53	4.1	Masonry	Brick and stone wall	B53	5.78	5.77	Brick and stone wall aligned E-W
41	B53	4.1	Masonry	Brick wall	B53	5.76	5.56	Brick wall aligned E-W, may be a alteration/addition to wall [40]
42	B53	5	Masonry	Brick culvert	B53	5.8	5.63	Brick domed culvert aligned E-W
43	B53	5	Masonry	Brick wall	B53	5.77	5.75	Brick wall aligned E-W
44	B53	6	Masonry	Brick flue	B53	5.85	5.38	Brick flue structure running E-W
45	B53	5	Masonry	Brick structure	B53	5.71	5.63	Remnant of brick structure associated with [42] however no context sheet was done
46	B49	7	Concrete	Concrete drain	B49	5.82	5.75	Concrete drain
47	B49	5	Layer	Made ground	B49	5.91	0	20th century clay made ground
48	B49	6	Masonry	Brick culvert	B49	6.08	0	Brick domed culvert aligned E-W
49	49	4.1	Masonry	Brick drain	B52	5.87	5.65	Brick drain running N-S
50	50	4.1	Masonry	Brick wall	B52	5.86	5.84	Possible Tudor brick wall running E-W
51	51	4.1	Masonry	Brick wall	B52	5.83	0	Brick wall associated with floor [52] aligned E-W
52	52	5	Masonry	Brick floor	B52	5.83	0	Brick floor associated with brick wall [51]
53	0	0	VOID	VOID	0	0	0	VOID
54	B52	5	Cut	Construction cut	B52	0	0	Construction cut for partition wall in room B52
55	0	0	VOID	VOID	0	0	0	VOID

56	0	4.1	Fill	Fill of [49]	B52	5.83	0	Fill of brick drain [49]
57	0	4.1	Fill	Fill of [49]	B52	5.83	0	Fill of brick drain [49]
58	58	4.1	Cut	Construction cut	B52	5.83	5.73	Construction cut for brick wall [51] & brick floor [52]
59	59	4.1	Layer	Made ground	B52	5.85	0	Post-med or later made ground
60	60	4.1	Masonry	Tile drain	B52	5.72	5.54	Tile base of drain
61	61	4.1	Cut	Construction cut	B52	5.72	5.54	Construction cut for tile drain base [60]
62	0	0	VOID	VOID	0	0	0	VOID
63	B52	5	Fill	Construction cut backfill	B52	5.61	0	Backfill of construction cut [54] for partition wall
64	B52	4.1	Fill	Fill of [65]	B52	5.67	0	Fill of unknown linear feature [65]
65	B52	4.1	Cut	?Linear feature	B52	5.67	5.63	Possible linear feature unexcavated
66	66	5	Layer	Made ground	B45	5.51	5.42	Post-med made ground
67	67	4.2	Masonry	Brick and stone drain	B45	5.49	5.22	Brick and stone drain running N-S
68	68	5	Masonry	?Stone drain	B45	5.38	5.16	Possible drain formed of stones aligned N-S
69	69	4.1	Masonry	Masonry wall	B45	5.78	5.07	Masonry wall composed of substantial stone blocks aligned E-W
70	70	3.2	Masonry	Chalk foundation	B45	5.76	5.49	Substantial chalk wall foundation, possibly medieval, aligned E-W
71	70	3.1	Layer	Made ground	B45	5.62	0	Layer of made ground possible medieval
72	72	3.1	Layer	Made ground	B45	5.49	0	Layer of made ground possible medieval
73	B52	3.2	Masonry	Chalk foundation	B52	5.9	0	Chalk foundation
74	B52	3.2	Masonry	Chalk foundation	B52	5.78	0	Chalk wall foundation
75	B52	3.2	Masonry	Chalk foundation	B52	5.9	5.83	Chalk wall foundation, aligned E-W
76	B52	3.2	Masonry	Chalk foundation	B52	5.86	0	Chalk wall foundation, same as [75] on other side of truncation
77	B52	3.2	Layer	?Dump layer	B52	5.84	0	Context sheet says pit fill, register says layer, but wasn't excavated and may just be a different dump layer
78	B52	3.2	Layer	Made ground	B52	5.79	5.76	Layer of made ground
79	79	3.1	Layer	Dump layer	B45	5.38	5.35	Dump layer/made ground
80	B52	3.2	Layer	Dump layer	B52	5.85	0	Dump layer
81	B52	3.2	Fill	Fill of [82]	B52	5.82	0	Fill of feature [82]
82	B52	3.2	Cut	Square feature	B52	5.82	0	Square cut of unknown function, not excavated
83	0	4.2	Fill	Fill of [67]	B45	5.49	0	Fill of brick and stone culvert structure [67]
84	84	3.1	Cut	Pit	B45	5.42	4.99	?Saxon/med pit
85	0	3.1	Fill	Fill of [84]	B45	5.42	0	Fill of ?Saxon/med pit [84]

86	86	4.1	Layer	Made ground	B45	5.4	5.24	Layer of made ground
87	0	3.1	Fill	Fill of [84]	B45	5.42	0	Fill of ?Saxon/med pit [84]
88	0	5	Fill	Fill of [68]	B45	5.3	0	Fill of masonry drain structure [68]
89	89	3.1	Cut	?Pit	B45	5.41	5.22	Possible Saxon/med pit
90	0	3.1	Fill	Fill of [89]	B45	5.41	0	Fill of ?Saxon/med pit [89]
91	91	4.1	Layer	Made ground	B45	5.3	5.1	Layer of made ground
92	92	5	Cut	Construction cut for [68]	B45	5.2	5.03	Construction cut for drain structure [68]
93	93	2	Cut	?Saxon pit	B45	5.25	4.75	Possible Saxon pit
94	0	2	Fill	Fill of [93]	B45	5.2	0	Fill of ?Saxon pit [93]
95	0	4.1	Fill	backfill of [96]	B45	4.98	0	Backfill of construction cut [96]
96	96	4.1	Cut	Construction cut for [69]	B45	4.98	4.77	Construction cut for masonry wall structure [69]
97	97	4.1	Layer	Made ground	B45	4.96	0	Layer of made ground
98	96	4.1	Layer	Mortar layer	B45	4.77	0	Mortar 'raft' upon which masonry wall [69] sits
99	0	2	Fill	Fill of [93]	B45	5.25	0	Fill of ?Saxon pit [93]
100	100	2	Layer	Made ground	B45	5.23	0	Layer of made ground
101	0	0	VOID	VOID	0	0	0	VOID
102	0	0	VOID	VOID	0	0	0	VOID
103	0	0	VOID	VOID	0	0	0	VOID
104	0	0	VOID	VOID	0	0	0	VOID
105	0	0	VOID	VOID	0	0	0	VOID
106	0	0	VOID	VOID	0	0	0	VOID
107	0	0	VOID	VOID	0	0	0	VOID
108	0	0	VOID	VOID	0	0	0	VOID
109	0	2	Fill	Fill of [110]	B45	5.19	4.92	Fill of stakehole group [110], number given to all fills of the stakehole group
110	110	2	Cut	Stakehole group	B45	5.19	0	Group of 26 identical stakeholes, not given individual numbers
111	111	2	Layer	Made ground	B45	5.17	0	Layer of made ground into which possible Saxon pits are cut
112	B44	5	Fill	Backfill of [113]	B44	5.42	0	Backfill of construction cut [113]
113	B44	5	Cut	Construction cut	B44	5.42	0	Construction cut for Somerset House wall
114	B44	5	Fill	Fill of [115]	B44	5.37	0	Fill of linear cut [115]
115	B44	5	Cut	Linear cut	B44	5.37	0	Linear cut interpreted on site as a robber cut, but robbing what? unexcavated, aligned NW-SE

116	B44	5	Layer	Made ground	B44	5.4	0	Layer of made ground
117	B44	5	Fill	Backfill of [118	B44	5.38	5.3	Backfill of construction cut [118] for brick drain [119]
118	B44	5	Cut	Construction cut for [119]	B44	5.38	0	Construction cut for brick drain/culvert [119]
119	B44	5	Masonry	Brick culvert	B44	5.56	5.19	Domed brick culvert structure, aligned NW-SE
120	B44	5	Fill	Fill of [121]	B44	5.35	0	Fill of cut [121]
121	B44	5	Cut	Large cut	B44	5.35	0	Large 19th century feature cutting culvert [119], interpreted on site as being a robbing episode of the culvert
122	B47	5	Fill	Fill of [123]	B47	5.82	0	Fill of brick culvert structure [123]
123	B47	5	Masonry	Brick culvert	B47	5.76	5.32	Domed brick culvert structure, two branches, one running NW-SE the other running NE-SW
124	B47	3.2	Masonry	Chalk foundation	B47	5.81	5.65	Chalk wall foundation, same as [127], aligned E-W
125	B47	3.2	Masonry	Masonry foundation	B47	5.78	5.72	Masonry wall foundation consisting predominantly of ragstone, aligned c. N-S
126	B47	3.1	Layer	Made ground	B47	5.77	5.64	Layer of made ground, unexcavated
127	B47	3.2	Masonry	Chalk foundation	B47	5.76	0	Chalk wall foundation, same as [124], aligned N-S
128	B47	5	Fill	Backfill of construction cut [129]	B47	5.79	0	Backfill of construction cut [129] for Somerset House partition wall [130]
129	B47	5	Cut	Construction cut	B47	5.7	5.54	Construction cut for Somerset House partition wall [130]
130	B47	5	Masonry	Brick wall	B47	5.93	5.73	18th century Somerset House partition wall
131	B47	5	Fill	Backfill of [132]	B47	5.75	0	Backfill of construction cut [132] for brick culvert [123]
132	B47	5	Cut	Construction cut	B47	5.83	5.38	Construction cut for brick culvert structure [123]
133	B47	7	Masonry	Brick footing	B47	5.87	5.72	Modern brick footing
134	B47	7	Fill	Backfill of construction cut	B47	5.72	0	Backfill of construction cut [135] for modern brick footing [133]
135	B47	7	Cut	Construction cut	B47	5.77	0	Construction cut for modern brick footing [133]
136	B47	3.1	Layer	Made ground	B47	5.81	0	Layer of made ground
137	B47	3.1	Fill	Fill of [141]	B47	5.74	0	Fill of pit [141]
138	B47	3.1	Layer	Made ground	B47	5.77	0	Layer of made ground
139	0	0	VOID	VOID	0	0	0	VOID
140	0	0	VOID	VOID	0	0	0	VOID
141	B47	3.1	Cut	Pit	B47	5.74	0	?Early post-med pit
142	0	0	VOID	VOID	0	0	0	VOID

143	B47	5	Layer	Made ground	B47	5.87	5.65	Layer of made ground
144	B47	5	Masonry	Brick wall	B47	5.95	0	18th century Somerset House partition wall
145	B47	5	Fill	Backfill of [146]	B47	5.7	0	Backfill of construction cut [146] for brick wall [144]
146	B47	5	Cut	Construction cut	B47	5.7	5.55	Construction cut for 18th century partition wall [144]
147	0	0	VOID	VOID	0	0	0	VOID
148	B47	6	Layer	Sub-floor	B47	5.72	5.68	Sub-floor supporting modern brick floor [152]
149	B47	5	Fill	Fill of [150]	B47	5.71	5.69	Recorded as a fill of a pit but may just be a layer
150	B47	5	Cut	?Pit	B47	5.71	0	Unexcavated feature interpreted as a pit but may simply be a layer
151	B47	5	Layer	Made ground	B47	5.72	5.66	Layer of made ground
152	B47	6	Masonry	Brick floor	B47	5.87	0	Modern brick floor
153	B47	5	Fill	Fill of [154]	B47	5.71	0	Fill of ?pit [154]
154	B47	5	Cut	?Pit	B47	5.71	0	Possible post-med pit
155	B47	5	Layer	Made ground	B47	5.71	0	Layer of made ground
156	B47	5	Fill	Fill of [157]	B47	5.67	0	Recorded as fill of possible pit [157] but probably simply represents a dump layer, not excavated
157	B47	5	Cut	?Pit	B47	5.67	0	Recorded as a possible pit but probably simply represents a layer, not excavated
158	B47	6	Layer	Sub-floor	B47	5.72	0	Sub-floor supporting modern brick floor [152]
159	B44	5	Layer	Mortar sub-floor	B44	5.41	5.4	Modern mortar sub-floor layer
160	B44	5	Layer	Made ground	B44	5.31	5.28	Layer of made ground
161	B44	5	Layer	Made ground	B44	5.38	0	Layer of made ground
162	B44	5	Layer	Made ground	B44	5.41	5.35	Layer of made ground
163	B47	3.2	Cut	Construction cut	B47	5.74	0	Construction cut for masonry wall foundation [125]
164	B47	3.2	Cut	Construction cut	B47	5.74	0	Construction cut for chalk foundation [127]
165	B44	5	Layer	Mortar sub-floor	B44	5.38	0	Modern mortar sub-floor layer
166	B44	5	Layer	Mortar sub-floor	B44	5.38	0	Modern mortar sub-floor
167	B48	5	Masonry	Brick wall	B48	6.11	6.03	Brick partition wall of the extant Somerset House
168	B48	5	Masonry	Brick wall	B48	6.09	6.02	Brick partition wall of the extant Somerset House
169	B48	5	Masonry	Brick wall	B48	6	0	Brick partition wall of the extant Somerset House
170	B48	5	Layer	Made ground	B48	5.87	5.82	Layer of made ground
171	B60	4.2	Masonry	Masonry wall	B60	4.81	4.74	Masonry wall on top of Tudor brick wall [172], aligned c. N-S
172	B60	4.2	Masonry	Brick wall	B60	4.38	4.3	Tudor brick wall on masonry foundation [173], aligned c. N-S

173	B60	4.2	Masonry	Masonry foundation	B60	4.24	4.17	Masonry foundation to brick wall [172] and stone facing [171], aligned c. N-S
174	0	0	VOID	VOID	0	0	0	VOID
175	B60	4.1	Layer	Made ground	B60	3.9	3.86	Layer of made ground
176	B60	4.2	Fill	Backfill of [177]	B60	3.9	3.86	Backfill of construction cut [177]
177	B60	4.2	Cut	Construction cut	B60	3.9	0	Construction cut for wall [173], [172], [171]
178	0	7	Layer	Made ground	B07	5.23	0	Layer of modern made ground, not excavated
179	B54	5	Masonry	Brick culvert	B54	5.53	5.11	18th/19th century brick culvert, running E-W
180	B54	5	Layer	Mortar sub-floor	B54	5.38	0	Mortar sub-floor layer
181	B54	5	Layer	Made ground	B54	5.01	0	Layer of made ground
182	B54	5	Layer	Made ground	B54	4.41	0	Layer of made ground, NFE at least 0.20m thick
183	B54	5	Fill	Fill of [179]	B54	5.33	0	Fill of brick culvert structure [179]
184	Corridor 1	5	Layer	Made ground	Corridor 1	5.61	5.42	Layer of made ground
185	Corridor 2	4.1	Layer	Made ground	Corridor 2	3.41	3.36	Layer of made ground
186	186	4.1	Masonry	Masonry foundation	Corridor 2	3.48	3.38	Early post-med masonry wall foundation, aligned c. E-W
187	186	4.1	Masonry	Brick wall	Corridor 2	3.4	0	Early post-med brick wall/foundation
188	186	4.1	Masonry	Brick wall	Corridor 2	3.42	0	Early post-med brick wall/foundation
189	Lightwell 1	5	Masonry	Brick culvert	Lightwell 1	5.79	5.47	Domed brick culvert, aligned N-S
190	Lightwell 1	5	Masonry	Brick culvert	Lightwell 1	5.61	5.42	Domed brick culvert, aligned E-W
191	Lightwell 1	3.2	Masonry	Masonry foundation	Lightwell 1	5.87	0	Masonry wall foundation consisting mostly of chalk frags and some ragstone, aligned N-S returning to the west at its southern end
192	Lightwell 1	4.1	Masonry	Masonry wall	Lightwell 1	5.75	5.52	Masonry brick wall with ragstone blocks as a facing, aligned c. N-S
193	Lightwell 1	4.1	Masonry	Masonry wall	Lightwell 1	5.77	5.6	Masonry brick wall with ragstone blocks as a facing, aligned c. N-S
194	Lightwell 1	4.1	Layer	Made ground	Lightwell 1	5.43	0	Layer of made ground
195	Lightwell 1	4.1	Layer	Made ground	Lightwell 1	5.47	0	Layer of made ground/levelling
196	Lightwell 1	3.2	Layer	Made ground	Lightwell 1	5.51	0	Layer of made ground
197	Lightwell 1	4.1	Layer	Made ground	Lightwell 1	5.42	0	Layer of made ground
198	Lightwell 1	6	Masonry	Brick flue	Lightwell 1	5.79	5.37	Extensive 19th century brick flue structure possibly for heating
199	Lightwell 1	3.2	Layer	Made ground	Lightwell 1	5.51	5.43	Layer of made ground
200	Corridor 2	5	Masonry	Brick culvert	Corridor 2	4.98	4.75	Domed brick culvert, aligned c. E-W
201	L3	5	Layer	Made ground	L3	4.87	0	Layer of made ground
202	B54	6	Layer	Mortar sub-floor	B54	5.31	0	19th century mortar sub-floor layer, un-excavated

203	B54	5	Layer	Made ground	B54	5.29	5.2	Layer of post-med made ground, un-excavated
204	B54	6	Masonry	Masonry flue	B54	0	0	19th century brick and tile double flue structure
205	Corridor 1	5	Masonry	Brick culvert	Corridor 1	0	0	Domed brick culvert, aligned c. N-S
206	Corridor 2	5	Layer	Made ground	Corridor 2	4.83	0	Layer of post-med made ground
207	0	0	VOID	VOID	0	0	0	VOID
208	0	5	Layer	Made ground	Corridor 2	4.3	0	Layer of post-med made ground, only recorded in section
209	0	5	Layer	Made ground	Corridor 2	3.74	0	Layer of post-med made ground, only recorded in section
210	0	7	Layer	Made ground	B14	4.83	0	Layer of 19th century made ground, not planned or excavated
211	0	5	Layer	Made ground	B63	5.62	0	Layer of late post-med made ground, not planned
212	0	1	Layer	Natural clay	B63	5.22	0	Natural London clay
213	0	6	Layer	Made ground	Lightwell 2	5.58	5.23	Layer of 19th century made ground, not planned or excavated
214	0	5	Layer	Made ground	Stairwell 2	4.78	0	Layer of late post-med made ground, not excavated or planned
500	Tr 1	7	Layer	Levelling layer	External Tr 1	0	0	Levelling layer
501	Tr 1	7	Masonry	Masonry drain	External Tr 1	0	0	Modern brick drain
502	Tr 1	7	Masonry	Brick foundation	External Tr 1	0	0	Modern brick foundation
503	Tr 1	7	Masonry	Brick foundation	External Tr 1	0	0	Modern brick foundation
504	Tr 1	7	Masonry	Brick culvert	External Tr 1	0	0	Modern brick culvert
505	Tr 1	7	Masonry	Brick foundation	External Tr 1	0	0	Modern brick foundation
506	Tr 1	7	Masonry	Brick culvert	External Tr 1	0	0	Modern brick culvert
507	Tr 1	7	Masonry	Brick wall	External Tr 1	0	0	Modern brick foundation
508	Tr 1	7	Masonry	Brick culvert	External Tr 1	0	0	Modern brick culvert
509	Tr 1	7	Masonry	Brick culvert	External Tr 1	0	0	Modern brick culvert
510	Tr 1	7	Masonry	Brick wall	External Tr 1	0	0	Modern brick wall
511	Tr 1	7	Masonry	Brick culvert	External Tr 1	0	0	Modern brick culvert
512	Tr 1	7	Layer	Levelling layer	External Tr 1	0	0	Modern levelling layer
513	Tr 1	7	Layer	Levelling layer	External Tr 1	0	0	Modern levelling layer
514	Tr 1	7	Masonry	Brick culvert	External Tr 1	0	0	Modern brick culvert
515	Tr 1	7	Masonry	Brick culvert	External Tr 1	0	0	Modern brick culvert
516	Tr 1	7	Masonry	Brick drain	External Tr 1	0	0	Modern brick drain
517	0	0	VOID	VOID	0	0	0	VOID
518	Tr 1	7	Masonry	Purbeck stone floor	External Tr 1	0	0	Modern purbeck stone floor

519	Tr 1	7	Layer	Bedding layer	External Tr 1	0	0	Modern levelling layer
520	Tr 1	7	Layer	Levelling layer	External Tr 1	0	0	Modern levelling layer
521	Tr 1	7	Layer	levelling layer	External Tr 1	0	0	Modern levelling layer
522	Tr 1	7	Fill	Backfill of construction cut	External Tr 1	0	0	Modern backfill of construction cut [523]
523	Tr 1	7	Cut	Construction cut for [506]	External Tr 1	0	0	Construction cut for modern wall [506]
524	Tr 1	7	Cut	Modern cut	External Tr 1	0	0	Modern cut
525	Tr 1	7	Masonry	Brick foundation	External Tr 1	0	0	Modern brick foundation
526	Tr 1	7	Masonry	Brick foundation	External Tr 1	0	0	Modern brick foundation
527	Tr 1	7	Masonry	Brick drain	External Tr 1	0	0	Modern drain
528	Tr 1	7	Masonry	Brick drain	External Tr 1	0	0	Modern brick drain
529	Tr 1	7	Masonry	Stone slabs	External Tr 1	0	0	Modern stone slabs
530	Tr 1	7	Masonry	Brick foundation	External Tr 1	0	0	Modern brick foundation
531	Tr 1	7	Masonry	Brick foundation	External Tr 1	0	0	Modern brick foundation
532	Tr 1	7	Masonry	Brick drain	External Tr 1	0	0	Modern brick drain
533	Tr 1	7	Fill	Backfill	External Tr 1	0	0	Modern Backfill
534	Tr 1	7	Masonry	Brick drain	External Tr 1	0	0	Modern brick drain
535	Tr 1	7	Masonry	Brick drain	External Tr 1	0	0	Modern brick drain
536	Tr 1	7	Masonry	Brick wall	External Tr 1	0	0	Modern brick wall
537	Tr 1	7	Masonry	Brick drain	External Tr 1	0	0	Modern brick drain
538	Tr 1	7	Fill	Fill of [539]	External Tr 1	0	0	Fill of cut [539]
539	Tr 1	7	Cut	Cut for drain	External Tr 1	0	0	Cut for modern drain
540	Tr 1	7	Layer	Levelling layer	External Tr 1	0	0	Modern levelling layer
541	Tr 1	7	Layer	Levelling layer	External Tr 1	0	0	Modern levelling layer
542	Tr 1	7	Layer	Levelling layer	External Tr 1	0	0	Modern levelling layer
543	Tr 1	7	Masonry	Masonry foundation	External Tr 1	0	0	Modern stone foundation
544	Tr 1	7	Masonry	Purbeck stone floor	External Tr 1	0	0	Modern purbeck stone floor
545	Tr 1	7	Masonry	Purbeck stone floor	External Tr 1	0	0	Modern purbeck stone floor
546	Tr 1	7	Masonry	Brick foundation	External Tr 1	0	0	Modern brick foundation
547	0	0	VOID	VOID	0	0	0	VOID
548	0	0	VOID	VOID	0	0	0	VOID

549	0	0	VOID	VOID	0	0	0	VOID
550	0	0	VOID	VOID	0	0	0	VOID
551	Tr 1	7	Layer	Levelling layer	External Tr 1	0	0	Modern levelling layer
552	Tr 1	7	Layer	Levelling layer	External Tr 1	0	0	Modern levelling layer
553	Tr 1	7	Cut	Cut	External Tr 1	0	0	Modern cut only seen in section!
554	Tr 1	7	Masonry	Yorkstone floor	External Tr 1	0	0	Modern Yorkstone floor
555	Tr 1	7	Masonry	Brick wall	External Tr 1	0	0	Modern brick wall

APPENDIX 2: POTTERY ASSESSMENT

Berni Sudds

Quantity

Total number of boxes: 2

Total sherd count: 174 sherds (54 vessels)

Total number of contexts producing pottery: 22 contexts

Introduction

The assemblage of pottery recovered from Somerset House includes material of Middle Saxon, medieval and post-medieval date. By sherd count, the post-medieval assemblage is greatest although this figure is somewhat inflated by two fragmented but semi-complete transfer-printed pearlware bowls from the fill of a brick culvert ([122]). The range of fabric and form encountered is typical for this area of London.

The Saxon pottery was classified and dated according to the framework set up by Lyn Blackmore based upon findings from a number of *Lundenwic* sites (1988; 1989; 2003). The medieval and later material was catalogued using the Museum of London Specialist Service's (MOLA) pottery codes. The assemblage was quantified for each context by fabric, vessel form and decoration using sherd count (with fresh breaks discounted), estimated vessel numbers and weight. Examples of the fabrics can be found in the archives of PCA and/or the Museum of London. A ceramic database cataloguing these attributes has been generated using Microsoft Access.

The Pottery

The pottery types encountered are listed below in Table 1.

Fabric code	Expansion	Date range		Sherd count	MNV
Saxon					
CHFS	Chaff-tempered ware: abundant organic temper in London clay/ brickearth matrix with moderate quartz sand (up to 1mm) with sparse flint/ chert	400	750	2	2
IPSC	Ipswich coarse ware	730	850	1	1
IPSM	Ipswich intermediate ware	730	850	1	1
MISC	Miscellaneous unsourced Saxon pottery	600	850	2	2
MSSF	Shell-tempered ware	770	850	1	1
NFEBB	North French/ East Belgium hard greyware, frequently burnished	600	800	1	1

Fabric code	Expansion	Date range		Sherd count	MNV
NFGW	North French greyware	600	800	2	2
NFGWC	North French greyware: very fine, hard and thin-walled	600	800	1	1
Medieval					
LCOAR	Coarse London-type ware	1080	1200	1	1
LOND	London-type ware	1080	1350	2	2
LOND NFR	London-type ware with north-French style decoration	1180	1270	1	1
KING	Kingston-type ware	1240	1400	1	1
SHER	South Hertfordshire-type greyware	1170	1350	1	1
MISC	Miscellaneous unsourced medieval pottery	900	1480	1	1
Post-medieval					
BBAS	Black basalt stoneware	1770	1900	1	1
BONE	Bone china	1794	1900	3	3
BORDG	Surrey-Hampshire border whiteware with green glaze	1550	1700	1	1
CHPO BW	Chinese blue and white porcelain	1590	1900	1	1
CREA DEV	Creamware with developed pale glaze	1760	1830	3	3
CREA GRN	Green-glazed creamware	1760	1830	2	1
CREA PNTD	Creamware with polychrome painted decoration	1760	1800	1	1
CREA TORT	Creamware with tortoiseshell glaze	1740	1770	1	1
DUTR	Dutch red earthenware	1300	1650	2	1
EBORD	Early Surrey-Hampshire border whiteware	1480	1550	1	1
ENGS BRST	English stoneware with Bristol glaze	1830	1900	1	1
FREC	Frechen stoneware	1550	1700	1	1
MART3	Martincamp-type ware type III flask (red earthenware)	1600	1650	1	1
MISC	Miscellaneous unsourced post-medieval pottery	1480	1900	1	1
PEAR	Pearlware	1770	1840	1	1
PEAR BW	Pearlware with underglaze blue painted decoration	1770	1820	1	1
PEAR TR	Pearlware with underglaze transfer-printed decoration	1770	1840	120	4
PMR	London-area post-medieval redware	1580	1900	2	2
PMRE	London-area early post-medieval redware	1480	1600	2	2
RBOR	Surrey-Hampshire border redware	1550	1900	5	3
TGW	English tin-glazed ware	1570	1846	1	1
TGW A	Tin-glazed ware with external lead glaze (Orton style A)	1612	1650	1	1
TGW C	Tin-glazed ware with plain white glaze (Orton style C)	1630	1846	1	1
VERW	Verwood ware	1600	1900	2	2

Table 1: The post-Roman pottery. MNV = Minimum number of vessels.

Fabrics and forms typical to the region.

Distribution

Table 2 lists the contexts containing pottery, the date range of the pottery and a provisional deposition date.

Phase 2: Saxon

Three sherds of middle Saxon date were recovered from the fill of pit [93], attributed to phase 2, all of non-local origin. One sherd is in an unparalleled fabric containing a range of distinctive inclusions including oolitic limestone and possibly granite (MISC). Given the presence of these inclusions the vessel is unlikely to have been produced locally and, as unmatched in the corpus, will require further identification and research. The two remaining sherds are both imports; a sherd from a burnished North French/ East Belgium greyware (NFEBB) vessel, and a possible North French greyware (NFGWC) pitcher. Imports represent commonplace finds across *Lundenwic*, typically occurring as tablewares for the serving of liquids (Blackmore 1988, 89).

The remaining Saxon pottery (eight sherds) was recovered residually within deposits dated to medieval period or was not stratified. A further unparalleled sherd in a brickearth fabric containing both gold and silver mica was recovered from a layer of made ground [72], although it could possibly be of Roman date. Dump layer [79] contained a locally produced sherd of chaff-tempered ware (CHFS) and two regionally traded Ipswich ware (IPSC; IPSM) vessels, all ubiquitous within *Lundenwic,* and two fills from pit [84] ([85], [87]) each contained a sherd of North French greyware (NFGW), one demonstrating a band of rouletted decoration to the shoulder. Finally, a further chaff-tempered ware (CHFS) and a small body sherd from a shell-tempered vessel (MSSF) were amongst the unstratfied assemblage, the latter representing one of the latest dated fabrics in the *Lundenwic* settlement.

The Saxon pottery and loomweights, as recorded elsewhere in *Lundenwic,* represent the dumped waste of contemporary settlement in the vicinity.

Phase 3: Medieval

A total of seven sherds of medieval pottery were recovered, four from phase 3 deposits and the remainder either from later phases or unassigned. Layer [72] contained the handle of a London-type ware (LOND) jug and the body sherd of a South-Hertfordshire-type greyware (SHER) vessel. Layer [79] and the fill of pit [141] ([137]) both contained London-type ware, the former white-slipped and green-glazed (LOND) and the latter with North-French style decoration (LOND NFR). The residual assemblage is represented by a sherd of coarse London-type ware (LCOAR) and Kingston-type ware

(KING). A miscellaneous medieval white-slipped and green glazed jug sherd was also recovered from context [527]. The oxidised sandy orange fabric may indicate a source in Essex, possibly Colchester, although pottery from this particular production centre rarely makes it into London. With the possible exception of the latter sherd the medieval pottery can be well-paralleled. Due to the small size of the assemblage little more than the presence of contemporary activity can be determined.

Phase 4: Early Post-medieval (1550-1700)

The phase 4 assemblage is also small but in addition to more typical 16th- and 17th-century forms includes a few imports, including a Martincamp flask from France (layer [91]), and rare English Tin-glazed ware upright candlestick (layer [214}). Candlesticks represent somewhat rare finds across London, with much of the contemporary population using tapers. Tin-glazed examples are particularly rare and indicative of some affluence. The candlestick has a drip-tray and is very similar to examples made in Southwark and Lambeth throughout the second half of the 17th century (Archer 1997, G.4., 327). This encompasses both the protectorate and the occupation of Somerset House by the Dowager Queen Catherine, although metal examples are likely to have been more commonplace on the highest tables.

Phase 5: Late 18th century

Although the greatest number of sherds were retrieved from phase 5 deposits just six vessels are represented. Two semi-complete but fragmented transfer-printed pearlware bowls from the fill [122] of a brick culvert inflate the totals for this phase. The first is an imaginary scene with a central lake and waterfall, classical building and a pillared balcony with figures to the foreground. The bowl has a panel border depicting Indian temple scenes. This particular combination of fictional elements represents a Romantic period design within the blue and white industry (Coysh and Henrywood 1993, 10). The pattern is ‘Clyde’ marked to the reverse along with the makers’ initials 'S B & S'. This could either be S Barker & Son, manufacturing in Yorkshire between c.1834 to 1893 or S Bridgwood & Son of Longton c.1853+. The second bowl depicts a ruined abbey or priory with cows, goats and sheep grazing to the foreground. No immediate parallel for the design can be found but the vessel forms part of the Passion Flower Border Series dated from c.1825 to 1835 (ibid. 277). One other vessel of note is the footring of a rounded bowl in Creamware with tortoiseshell glaze. The sherd was recovered from made ground [12] but is again indicative of some affluence.

Phase 6: 19th century

All but one sherd from phase 6 was retrieved from deposit [520]. The majority is late 18th or early 19th century in date and includes vessels from high quality services such as Black Basalt stoneware and

both painted and green-glazed Creamware. The presence of a bone china cup within the group suggest deposition is unlikely to have occurred prior to the mid or even late 19th century.

Recommendations

The post-Roman pottery is generally typical of this area of London both in terms of date and composition. With the exception of the small number of unsourced sherds the range of fabrics encountered for all periods can be well-paralleled. Any publication text produced for the site should include a small report on pottery. This will require further research to identify possible sources for the unprovenanced sherds in all periods. One illustration and three plates are recommended.

Context	Sherd count	Date range of the pottery		Latest dated ware		Context considered date
0	2	400	850	770	850	-
12	2	1580	1900	1740	1900	1740 – 1770
13	1	1760	1830	1760	1830	1760 – 1830
16	1	1794	1900	1794	1900	1794 – 1900
27	2	1570	1900	1600	1900	18tn century +
57	1	1240	1400	1240	1400	1240 – 1400
63	1	1480	1600	1480	1600	16th century
64	1	1480	1550	1480	1550	1480 – 1550
72	3	900	1900	1170	1350	1170 – 1350
79	4	400	1350	1080	1350	1080 – 1350
85	1	600	800	600	800	600 – 800
87	1	600	800	600	800	600 – 800
91	6	1300	1900	1600	1900	1600 – 1650
94	3	600	850	600	850	600 – 800
95	1	900	1900	900	1900	15th – 16th century
122	119	1770	1900	1794	1900	Mid 19tn century
134	1	1080	1200	1080	1200	1080 – 1200
137	1	1180	1270	1180	1270	1180 – 1270
175	1	1550	1700	1550	1700	1550 – 1700
241	6	1550	1900	1630	1846	Mid 17tn century
500	1	1830	1900	1830	1900	1830 – 1900
520	14	1550	1900	1794	1900	Mid – Late 19th century
527	1	900	1900	900	1900	1200 – 1550

Table 2: Dating table

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APPENDIX 3: CLAY TOBACCO PIPE ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of clay tobacco pipes was recovered from the site (one box). Most fragments are in a fairly good condition, indicating they had not been subjected to too much redeposition or were deposited soon after breakage. Clay tobacco pipes occur in five contexts as small (under 30 fragments) sized groups.

All the clay tobacco pipes (fifteen fragments, of which none are unstratified) were recorded in an ACCESS database and classified by Atkinson and Oswald's (1969) typology (AO. The pipes are further coded by decoration and quantified by fragment count. The tobacco pipes are discussed by their types and distribution.

The Clay Tobacco Pipe Types

The clay tobacco pipe assemblage from the site consists of two bowls and thirteen stems. The clay tobacco pipe bowl types are dated 1660 to 1680 and the late 19th/early 20th century.

1660-1680

AO15: one spurred bowls with half and a fair quality of finish, found in context [27].

Late 19th/early 20th century

The heel of a late 19th-century or early 20th-century bowl is present and it is moulded in the shape of a horses hoof with a plain bowl, registered find no. <1>. This type of design occurs in Pollock's of Manchester 1879 and 1915 sales catalogues and are called 'straw red tips' (No. 6) and 'plain hoof' (No. 90) respectively (Jung 2003, 261, 325).

Distribution

Table 1 shows the distribution of the clay tobacco pipes, showing the number of fragments, the date range of the types and the latest bowl, the types of bowls present, together with a spot date for each context tobacco pipes occur in. The material comes from phase 4-7 deposits.

Context	Trench	Phase	Size	No. of bowls/frags.	Context ED	Context LD	Bowl types (makers and registered find nos)	Context considered date
16	B50	6	S	2	1850	1910	Late 19th century heel<1>	late 19th-early 20th century
26	L1L2	4.2	S	6	1660	1680	x1 AO15, possible 19th century stem	?1660-1680
66	B45	5	S	4	1580	1910	Stems	1580-1910
91	B45	4.1	S	1	1580	1910	Stem	1580-1910
513	Tr.1	7	S	2	1580	1910	Stem	1580-1910
520	Tr.1	7	S	2	1580	1910	Stem, x1 late 19th century moulded type	Late 19th century

Table 1. EAF100. Distribution of the clay tobacco pipes, showing which contexts contain clay tobacco pipes, the trench it occurs in, the number of fragments and the size of the group, the terminus ante/post quem (Context ED/LD) for the group and its suggested deposition.

Significance of the Collection

The clay tobacco pipes have little significance at a local level and the bowl forms present are typical for London. None of the clay tobacco pipes show evidence for their manufacture on the site.

Potential

The clay tobacco pipes have the potential to date the contexts they were found in. None of the pipes merit illustration. The assemblage has little potential to add to the knowledge of the local clay tobacco pipe industry or demonstrate what was being marketed to the area.

Recommendations for Further Work

It is recommended that information from this clay tobacco pipe assessment is incorporated into the publication of the excavation.

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APPENDIX 4: GLASS ASSESSMENT

Chris Jarrett

Introduction

A small assemblage of glass was recovered from the site (one box) as a total of 22 fragments and none are unstratified. The glass forms, although all are fragmentary, are mostly identifiable and consist mostly as bottles, besides a possible vase or lampshade. The material dates mostly to the late 18th and 19th century onwards and was found in two contexts as small sized groups (under 30 fragments). The information was entered on to an Access database.

The forms

Bottles

Bottles of a cylindrical type make up 90.1% of the assemblage.

Cylindrical bottle

Brandy/whisky bottle

A single bottle of this type is in clear glass, with a slight pale green tint and is almost intact except for its missing base. The rim finish consists of a deep, straight-sided collar above a shorter bevelled one. The neck is cigar shaped and the shoulder is rounded. The bottle was made in a three-piece mould with vertical seams visible on the neck and a horizontal one where the shoulder meets the straight-sided wall. The bottle dates to the mid 19th to 20th century and was recovered from context [520].

English cylindrical wine bottles

This is the most numerous form as nineteen fragments representing some seven vessels. The string rim finishes mostly date to between 1780-90 as five examples, while a single one dating to 1800-10. (Dumbrell 1983, 38). The bases consist of four types, two of which are free-blown and are of either of the late 18th-century form, with the examples here having a weak waisted wall profile (three items) or are completely straight-sided (two examples) and dates to the 19th century. The other two types of bases are mould made and date from c.1827. Two examples have a rounded concave under side (one with a small central boss surviving) while a single base has a deep bell-shaped kick with an additional conical boss on the underside. All of the wine bottles are in an olive green natural glass and were solely found in context [520] and frequently have a mortar deposit adhering to them.

Vase or lampshade

A single corner of a 19th-20th-century dated possible lampshade or vase rim is in moulded white overlay glass (with a clear glass core). It has a plain, slightly beaded rim and was recovered from context [520]

Vessel glass

A small fragment of a possible open form is in clear glass. It was probably optically blown and has even, closely spaced fine ribs. It has a white deposit on both surfaces and was recovered from context [91]. It is probably post-medieval in date.

Distribution of the glass

Table 1 shows the site code, the contexts the glass was found in, the number of fragments and a spot date for the deposit.

Context	Phase	No. of fragments	Forms	Spot date
[91]	4.1	1	Vessel	?Post-medieval
[520]	7	21	English wine cylindrical bottles, brandy/whisky bottle, lampshade/vase	Late 19th-20th century

Table 1. EAF10 , glass spot dating index.

Significance of the assemblage

The glass has little significance for the site and contains forms frequently found in London during the late 18th-20th century.

Potential

The main potential of the glass is to date the contexts it was found in. None of the items require illustrating.

Recommendations for further work

There are no recommendations for further work and a future publication on the site should take information from this report as required.

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APPENDIX 5: FIRED CLAY OBJECTS ASSESSMENT

Berni Sudds

A total of 34 fragments of fired clay, weighing 2114g, were recovered from five contexts attributed to phases 2 and 3 (Table 1). Amongst this material were 11 fragments of loomweight, representing 9 individual semi-complete weights typologically of Anglo-Saxon date.

A provisional analysis suggests the majority of the weights are in Fabric 1a and 1b, having a fine micaceous body containing some sand and flint with added organics (Blackmore 1988, 111 & table 13; Goffin 2003, 216; Riddler 2004, 20). These are the most common loomweight fabric types identified in *Lundenwic* (ibid.), although other rarer variants also appear to be represented (Fabric 2). The weights would have been manufactured within the settlement from the local brickearth and thus variability is encountered within these fabric groupings, particularly given the piecemeal nature of production. Indeed, it is becoming increasingly apparent that the divisions between the established fabric types is somewhat arbitrary, and certain sub-divisions, namely 1a and 1b, have been recently amalgamated under 1a (Keily forthcoming).

Similarly, although a classification of loomweight forms has been created for *Lundnewic* (described in Hurst 1959, 23-4 and Riddler 2004, 19-20), not all weights fit neatly within the typology. Weights can display characteristics typical to more than one form. Amongst the nine weights recovered three are annular, five are intermediate and one is bun-shaped, although within the intermediate category both tall and near annular examples are evident. The accepted chronology of the three forms is also less than clear-cut. Annular types generally represent the earliest forms, followed by intermediate types, the latter diagnostic of the Middle Saxon period, with bun-shaped weights being typically Late Saxon (Wheeler 1935, 154-5; Hurst 1959, 23). However, as increasingly seen elsewhere in *Lundenwic* all three forms appear to have been in use at the same time, occurring together in Middle Saxon deposits (Hurst 1959, 24; Blackmore 1988, 112; 2008, 196; Goffin 2003, 220; Riddler 2004, 19 & 22). This is the case in pit [93] ([94] and [99]). Intermediate types do occur most frequently but it is worth considering whether the contemporaneity of forms could represent a long-lived process of transition or that more fundamentally, the chronology of types requires revision.

Context	Phase	Form	Number	Weight	Diameter	Height (max)	Cord mark
71	3	Annular?	1	81	0	36	
72	3	Intermediate	1	158	122	59	Yes
79	3	Intermediate	1	107	118	45	
94	2	Fired clay	23	665	0		

Context	Phase	Form	Number	Weight	Diameter	Height (max)	Cord mark
94	2	Bun-shaped	1	238	142	46	
94	2	Intermediate	1	148	116	60	
94	2	Intermediate	1	109	112	44	
94	2	Annular	1	157	128	40	Yes
99	2	Intermediate	2	207	128	45	
99	2	Annular	2	244	136	43	

Table 1: Distribution and quantification of loomweight fragments.

The weights would have been used to keep the warp threads of an upright loom taught (Malcolm *et al*. 2003, 85). Six weights were recovered from the fills of pit [93] in Phase 2 and three are re-deposited within made ground and dump layers of medieval date (Phase 3). Loomweights are ubiquitous on sites across *Lundenwic*, suggesting that weaving was taking place across settlement, probably within households, rather than as a specialised industry.

An unusual assemblage of fired clay was also recovered from pit [93] (fill [94]). The fragments are formed from a dense brickearth fabric and are fairly homogenous with one smoothed face. They are atypical of daub and may represent a fragmented clay object but no parallel is readily forthcoming.

Recommendations

A closer examination of fabric should be undertaken for publication and a comparison of the assemblage to others in *Lundenwic* in terms of composition and size. Five of the loomweights will require illustration. A parallel for the possible fired clay object should also be sought.

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APPENDIX 6: BUILDING MATERIALS ASSESSMENT

Kevin Hayward

Introduction and Aims

Five shoe boxes and 14 crates of ceramic building material, mortar and worked stone were retained at excavation from the site at the East Wing, Somerset House. This very large sized assemblage (360 examples 825kg) was assessed in order to:

- Provisionally identify (under binocular microscope) the fabric and geological source of the very large moulded stone assemblage mainly used as foundation material of the 1780 Somerset House.
- Identify the form, age and origin of the stone assemblage in order to identify whether any was used to embellish the Elizabethan Palace or Stuart (Anne of Denmark; Charles II) additions. Finally to ascertain whether any belonged to a pre-existing medieval structure.
- Identify (under binocular microscope) the fabric and forms of the Roman brick, roofing tile and stone to assess the form of Roman building demolition material
- Identify the medieval ceramic building material component (peg tile; floor tile).
- Identify the form and the fabric of the different bricks and mortar identified in the numerous walls, floors and culverts to identify whether some are Elizabethan/Stuart or whether all are part of the late 18th-century build.
- Made recommendations for further study.

Methodology

In-situ recording and sampling of the numerous stone and brick walled structures was undertaken on a number of site visits between November 2010 and March 2011. With most of the stone and brick walled structures, however, two whole brick samples and examples of moulded stone were retained and transferred to Brockley in order to determine their construction date, form and material type.

Hand specimen comparative analysis of petrological samples taken from representative samples of moulded freestone[38] and rubble assemblage provided the starting point for this study. Each were examined under hand lens (Gowland x10), binocular microscope (Nikon SMZ 2T) in order to identify their geological character. Where possible, comparison was made with the Pre-Construct Archaeology Limited stone reference collection in order to provide a petrological match and geological source. Most of the rock-types were identified in this way, each given the appropriate Museum of

[38] A fine limestone or sandstone characterised by a soft open porous texture that enables the rock to be worked or carved in any direction and hard enough to withstand external weathering (Leary 1989; Stanier 2000; Sutherland 2003).

London fabric code. Comparison was then made with a reference collection of outcrop samples of freestone[39] (Hayward 2006; 2009) from this region, including examples of medieval worked stone.

Twenty-four examples of moulded stone having particular definitive stylistic attributes were each allocated a Work Stone Number (WSN) and recorded into a work stone register (these can be viewed in Table 3). These were then drawn and photographed.

The ceramic building material was examined using the London system of classification with a fabric number allocated to each object. The application of a 1kg mason's hammer and sharp chisel to each example ensured that a small fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long arm stereomicroscope or hand lens (Gowland x10).

The ceramic building material and stone was retained for archive for Somerset House.

Ceramic Building Material

Roman 38 examples 5.8kg

Early London Sandy Fabric Group *2815* (AD 50-160)

Including *2452; 2459a; 3006*

Hertfordshire Iron Oxide Group *3023/3060* (AD 50-120)

Eccles Group *3022* (AD 50-80)

Silty Wealden Group *3238* (AD 71-100)

Reigate fabric *3014* (AD 275-350)

Non-local calcareous *3013* (AD 180-350)

As well as some daub and stone (see below) there are quantities (5.8kg) of broken Roman roofing tile (*tegulae* and *imbrex*), brick and box flue tile all recovered from made ground, dump deposits and pit fills of B45 [71], [72], [79], [85], [87], [91], [94] and [100]. It is often in abraded condition and not incorporated within the fabric of any later early and late post-medieval structure from this or any other room.

Most seems to be intermixed with medieval and early post-medieval peg tile and clearly represents made-ground deposits for the construction of the post-medieval Tudor palace. The assemblage is dominated by the early sandy fabric group *2815* (3.8kg - 66%) in keeping with Roman London with smaller quantities (1.5kg) of other early fabrics silty *3238*, white Eccles *3022* and Radlett *3023/3060* from [71], [72] and [79]. A small quantity of rarer later 2nd- and 3rd-century fabrics such as the non-

[39] Compiled for his PhD research.

local grey calcareous fabric *3013* and the Reigate fabric *3014* both from [79] reinforce the intermixed nature of these dumps.

In the absence of any known Roman structure in the vicinity[40], it is possible that this group may have been salvaged from the city and brought upstream for use as revetment / consolidation dumps to build up the land for medieval occupation rather like that at Thorney Island (Thomas et.al. 2006; Hayward in prep. b).

The assemblage is largely unexceptional. Of note, however, are two box flue tiles both from [100], one in a comb design the other a very abraded roller stamp comparable with Bett's billet design group (Betts & Black, 1997, 104-105).

Saxon

Examples of a gritty daub, some of it moulded from both the dump layer [79] and Saxon pit fill [94] of B45 may be Saxon in origin, especially given the presence of Saxon pottery in [94]. However, it is possible given the profusion of *imbrex*, flat brick and *tegulae* from these contexts that it could be dumped Roman wattle and daub.

Medieval 108 examples 5.6kg

Medieval ceramic building material is limited to groups of reused and broken up roofing material (glazed and unglazed peg and curved tile). Examples of plain or decorated glazed floor tile fragments, normally associated with medieval ecclesiastical properties, are absent which is surprising given the documented location of the Bishops Inns e.g. Chester Inn and St Mary of Strand in the vicinity (Thurley 2009, 9-11). This is supported by evidence from other excavations including the phase III watching brief of the Great Court area of Somerset House (Smith 2005, 44) where just a single decorated Penn tile was recovered.

Peg Tiles 108 examples 5.6kg

London Sandy Fabrics 2273 (1135-1220); *2271* (1180-1800); 3090 (1180-1800)

London Iron Oxide Fabric 2586 (1180-1800); *2587* (1240-1450)

Rather like the Roman ceramic building material, nearly all (4.8kg - 85%) the medieval peg tile was recovered from the intermixed late medieval / early post-medieval made ground, dump deposits and pit fills of B45 [71], [72], [79], [85], [87], [91] and [94]. The exceptions are a single example of an

[40] The nearby Strand Lane "Roman" bath-house has now been proven (using long-term re-hydroxylation dating technique (RHX) and comparative fabric analysis) to be the documented 1611 pump house of a fountain used in the grounds of the Tudor Somerset House (Hayward 2011).

unglazed *2271* fabric used in the chalk foundation of B47 [127][41] and also from the made ground [59] of B52. It is possible that this focus of broken up early (Roman and medieval) ceramic building material in made ground, dump deposits and pit fills around the area of the East Wing designated by rooms B45; B47; B52 may reflect an earlier medieval (e.g. Bishop's Inn) fingerprint of activity.

A lot of the medieval peg tile is glazed in the common sandy fabric with a reduced core *2271* or iron oxide rich *2586* both manufactured between1180-1450.

Other than this there is only a very early example (12th century) of the glazed peg tile in the coarse sandy fabric *2273* from made ground deposits of [72] in B45 and a curved tile in fabric *2271* in a dump layer also from B45 [79]. Glazed peg tile fabrics have been identified in fabric 2271 and 2586 from the phase III watching brief of the Great Court area of Somerset House (Smith 2005, 42).

Early Post-Medieval (1450-1700) 70 examples 53.4kg

It is a feature of the excavations from Somerset House (EAF10) that examples of Roman and medieval ceramic building material are hardly ever re-used in the construction of the Tudor Palace. Instead examples of fresh early post-medieval peg-tile and Tudor brick in brown sandy mortar types 4 and 5 are located in the few structures. This would merely reinforce the documentary evidence (Thurley 2009) that no expense was spared in its construction (also see moulded stone section).

Roofing Tile 28 examples 6.1kg

Common sandy red Peg tile *2276* (1480-1900)

Much (5kg) of the sandy *2276* (1480-1900) London peg tile fabric was recovered from a peg tile drain in Room B52 [60]. This is likely to be an early Tudor drain as the mortar attached to it (T4 brown gravel mortar) is associated elsewhere only with sandy Tudor *3033* bricks and masonry [186].

Tudor Red Bricks 42 examples 47.2kg

Fabrics 3033; 3039; 3046; 3065 (1450-1700)

Occasional *in-situ* examples of red, poorly made shallow (50-60mm) and wide (110-116mm) Tudor bricks *3033* turn up in C2 brick walls [187] and [188] and masonry foundations [186] as well as an early brick culvert from B52 [49]. These are pointed in a T5 brown sandy or T4 gravel sandy mortar and are likely to represent constructions from the Tudor great courtyard, possibly from as early as the initial 1547 construction. Two red Tudor bricks in fabric *3033* were used together with Kentish Ragstone in walls [192] and [193] from L1. In addition, the walling also from the area of the Lower

[41] This peg tile was reused as it has a fragment of Tudor mortar type 5 (see below) attached which may indicate that the chalk foundations from [127] B47 are late 15th century at the earliest.

Court in B52, [50] [51], is likely to be Tudor and repointed in a later T3 mortar. Finally, there are the two brick walls [192] [193] in *3033* and Kentish Ragstone from L1.

Four fabric variants were identified, the very hard sandy *3033*; the more silty *3039*, the poor quality flint-rich *3065* and the sandy *3046*.

These same types of brick were identified lining the floor and sides of the nearby Strand Lane Bath-house, which despite its name contained no square Roman bricks. Instead the structure corresponds to that mentioned in Somerset House Works Accounts between 1611 and 1612 that state that it originally functioned as a cistern for the Mount Parnassus grotto-fountain in the privy garden of Denmark (Somerset) House in 1612 (Hayward 2011). Comparable bricks in fabrics *3033* and *3039* were also identified in large quantity in the phase III watching brief of the Great Court area of Somerset House (Smith 2005, 42) which was identified as either belonging to the Protector Somerset's work in the mid-16th century or Inigo Jones' later work in the 1630s.

However, like the moulded stone (see below) most of this early red brick turns up broken up and reused in the foundation, walling and cistern system of the late 18th-century Somerset House. This includes examples bonded in the hard type 1 mortar from lightwell 2; foundation [26] and walling [25], walling from B53 [40] [41], flooring [52] from B52 and walling from B60 [172] B42 (in T2 mortar) [37]. The red brick used in the drain from B45 [67] was bonded in another late 18th-century mortar, the type 3 white shelly fabric. In addition to the common thin *3033* brick, three other red fabric variants the more silty *3039*, the poor quality flint rich *3065* and very red sandy *3046* turn up in these reused structures. Some of these, thicker (60mm), narrower (105mm) bricks may have once been associated with later structural modifications of Somerset House e.g. mid 17th century.

Later Post-Medieval

Bricks 34 examples 37.1kg

Transitional post-Great Fire Bricks *3032nr3033; 3032nr3065* (1664-1750) 3 examples 1.8kg

Maroon transitional post-Great Fire bricks were recovered from walled structure B53 [43], drain fill B52 [56] and the drain from B45 [67]; these were associated with T1 light grey and T2 dark grey clinker mortar attached. The example from [67] has been reused as it is associated with the clinker rich T2 mortar and narrow post-Great Fire bricks; a feature of the culverts from the 1780 building (see below).

Post-Great Fire Bricks 26 examples 21.4 kg

3032; 3034 (1664-1900)

Many examples of purple stock moulded post-Great Fire bricks (1664-1900) with clinker inclusions (both frogged and unfrogged) are a feature of the 1780 construction of the East Wing of Somerset House. Many of these were observed in the walling of the standing building.

On the basis of brick size and mortar-type it is possible to sub-divide the group into two. The first, characterised by narrow (98-102mm) thick bricks (64mm) conforming with the legislation act of 1775 on brick size and bonded with a T2 clinker turn up in culverts from B42 [37], B45 [67], B53 [48] and flues B50 [15] and walls from B47 [130], B50 [14], B14 and B7. The second, a wider, better made, often frogged post-Great Fire brick bonded in a hard white shelly mortar with flecks of clinker (Type 3) was recorded from a flue in B50 [18], culvert B44 [119], B45 [67], B47 [123] and B53 [42].

Yellow London Stock Bricks 3 examples 6.3kg

3032nr3035 (1780-1940); *3035* (1780-1940)

The yellow London stock brick manufactured from estuarine clays in North Kent for use in London since 1780 (Hugh-Perks 1981) turn up in the late 18th- and mid 19th-century brick culverts from B49 [48] and B44 [119] beneath the East Wing of Somerset House. They use the hard light brown mortar (T1) and T2 clinker mortar typical of the period. One example from [48] is frogged.

Paving Brick 2 examples 7.5kg

3047 (1690-1900)

Late 17th to 19th-century red paving bricks made out of local London brickearth turn up in a tile base [16] from Room B50. In addition to which a large square tile was found in voided context [174]. These are likely to have been used to floor the 1780 Somerset House Palace.

Mortar and Concrete

A summary of mortar types (1-6) as well as their period of use from the excavations at EAF10 are given below (Table 1) and provide a chronological framework, which along with the brick and moulded stone form and fabric, help decipher some of the building phases from this part of Somerset House.

No opus signinum or gravelly mortar associated with Roman building materials was identified.

Mortar/Concrete Type	Description	Use at EAF10
Hard cream-grey mortar Type 1	Hard cream/grey mortar large (25mm) occasional angular lumps of chalk with small gastropod shells, regular quartz/sand lumps very irregular specks of clinker and very occasional flecks of brick	Late 18th – Early 19th century The key mortar type found adhered to moulded stone, ashlar and red brick *3033; 3046* used as foundation blocks for the 18th-century Somerset House Light well 2 [26], B60 [173] and in walling

		from B52 [51], B53 [40] [41] [43], B60 [171] [172], Lightwell 2 [25], Flooring B52 [52], Tile Base B50 [16] and Made ground [71]
Hard- Medium-grey clinker mortar with shell *Type 2*	Medium-grey shelly (gastropod) mortar with lumps of black clinker 8-10mm and small (4-5mm) more regular lumps of chalk quartz only occasionally present unlike T1	Late 18th-Early 19th century Associated with narrow (98mm) post-Great Fire bricks from culverts in B42 [36], B45 [67], B53 [48] and flues B50 [15] and walls from B42 [37] (Caen stone ashlar), B47 [130], B50 [14], B14. And identified from void context [174]
Hard White clinker mortar with shell *Type 3/3a*	Lime version of T2 mortar – clinker, chalk lumps Type T3a essentially the same but with more lime and quartz	Late 18th/19th century Mortar associated with wider well-made - sometimes frogged post-Great Fire bricks and yellow London from a flue in B50 [18], culvert B44 [119], B45 [67] [68], B47 [123] and B53 [42]. Wall B52 [50] is reused/repointed in Tudor Bricks
Brown gravel mortar with chalk *Type 4*	Soft brown gravel mortar with numerous lumps of flint 3mm and chalk 3mm and Kentish ragstone	Early post-medieval just possibly late medieval Mainly B45n [70] and B52 [73] [74] [75], L1 [191] chalk foundation, B52] dump layer [79], made ground [71], mortar layer [98], Tile Drain B52 [60] and masonry foundation C2 [186]; adhered to peg tile, tufa, Kentish ragstone and red Tudor 3039 brick B47 (Chalk foundation) [127]
Soft Brown Mortar Type 5	Very sandy brown mortar	Early post-medieval Associated with wide (110mm+), shallow (45-55mm), Red Tudor bricks in brick culvert from B52 [49] brick wall C2 [187] [188] and from some Kentish ragstone from foundation C2 [186].
Hard Gravel mortar Type 6	Hard Gravel Mortar	Late 19th/20th century Only associated with Late 19th century to 20th century, not included in this report [520] [542] [544],

Table 1: List of mortar types identified at Somerset House

The moulded stone and ashlar 69 examples 719 kg

The building material assemblage from the East Wing is dominated by 720kg (88%) of stone moulding, ashlar, guttering, rubble and portable objects. Not only that the quality of crisp, fresh carving and the variety of stone fabrics makes it a valued study group for Elizabethan masonry.

Most (41 examples 577kg) of it consists of reused mouldings and ashlar blocks associated with late 18th-century mortar type 1 from foundation rubble of L1 L2 [26] and B60 [171] as well as a wall from the same room [173].

A smaller group (21 examples 140kg), consisting of poor quality Kentish ragstone, Hassock stone and some Purbeck limestone paving in association with chopped up red brick occur in brick and stone walls from B53 [40] [41,] foundations of C2 [186] and B47 [125] with brick and stone drains from B45 [68] [69].

The material recovered from C2 is almost certainly older; [186] in T4 mortar lies outside the southern confines of the palace and is almost certainly part of the garden wall also seen at [187] [188] in brick. The Kentish ragstone and Purbeck limestone culvert from B45 [68] [69] could also be Tudor and simply repointed in T3 mortar.

Finally there are the early thick chalk walls seen in-situ in B52 [73] [74] [75] and B45 [70] with a T4 brown mortar. A detailed petrological and stylistic appraisal of the assemblage follows.

Petrology

MoL fabric code	Description	Geological Type and source	Use at EAF10
3105	Fine hard dark grey sandy limestone	Kentish ragstone, Lower Cretaceous, Lower Greensand Maidstone District - Kent	19 examples reused in L1 L2 Foundation rubble [26] as rubble stone and large ashlar blocks but also as rubble in B53, brick and stone wall [40] [41], B45 brick and stone drain [67] [68] and wall [69] as ashlar and rubble and C2 masonry foundations [186] with red brick Whetstone [79] B45 Dump layer
3106	Yellow-green glauconitic sandstone	Hassock stone Lower Cretaceous, Lower Greensand Maidstone District - Kent	3 examples B47 masonry foundations [125] in B53 brick and stone wall [40] as walling rubble C2 Masonry foundations [186] with reused Tudor brick
3107	Fine grained low-density glauconitic limestone	Reigate stone – Upper Greensand, Lower Cretaceous Reigate-Mertsham Surrey	5 example reused in L1 L2 Foundation rubble [26] one a possible window jamb and foundation rubble for B47 [125]
3109	Cream-yellow oolitic limestone Oolitic grainstone (Dunham 1962)	Corsham/Monks Park stone, Bathonian, Middle Jurassic, Wiltshire-Avon	3 examples, 2 in L1 L2 Foundation rubble [26] as ashlar and a classicizing window jamb as foundation rubble in B60 [173] guttering reused in T1 mortar WSN 17

3110	Hard light-grey, fine grained oolitic grainstone (Dunham 1962)	Portland whit bed (Portland stone), Portlandian, Upper Jurassic, Isle of Portland Dorset	1 example Evaluation [544] ashlar fragment reused in 19th-century T6 gravel mortar
3116	Fine white powdery limestone	Chalk Upper Cretaceous (Upper Chalk) London Basin	Exclusive use of ashlar blocks and rubble in *in-situ* stone foundation of B52 [73] [74] [75] and probably B45 T4 mortar
3117	Hard dark-grey siliceous cryptocrystalline sandstone	Flint – Upper Cretaceous (Upper Chalk) London Basin	2 examples nodules Late medieval/early post-medieval B45 pit fill [85] possibly natural gravel fragments
3118	White nodular low-density calcareous stone	Calcareous Tufa - Holocene nearest outcrops chalk outcrops Thames Estuary or Medway	1 example fragment late medieval/early post medieval B45 made ground [71] possibly Roman or medieval vault
3119	Fine yellow to orange-yellow limestone Yelllow Packstone (Dunham 1962)	Caen stone – Calcaire de Caen, Bathonian, Middle Jurassic , Departement Calvados Normandy,	24 examples including 18 mouldings and 1 ashlar in L1 L2 Foundation rubble [26] as reused tramline mullion mouldings, classicizing cornices or windowsills and 1 other ornate piece. Second group from B60 as ornate moulds in foundation rubble [173] and walling [171] as ashlar, classicizing window jamb all repointed in T1 mortar WSN1-15;18; 20; 22-23
3120	Brown-yellow skeletal porous grainstone (Dunham 1962) with coral fragments	Unknown – possibly a rock-type new to London some similarity with Dundry stone (Bajocian – Bristol); Wheatley stone (Oxfordian) Oxford or most likely a French Tertiary or Jurassic Limestone	2 examples L1 L2 Foundation rubble [26] Reused corroded possible ashlar or degraded mouldings FURTHER ANALYSIS ESSENTIAL
3123	Hard, coarse, dark-grey vesicular basalt lava -with white (leucite) and black inclusions.	Neidermendig lavastone Tertiary-Andernach Region, NW Germany	1 example fragment B45 [85] Saxon Pit fill probable rotary quern fragment
3126	Hard light grey limestone (bi with numerous black oyster shells Bioclastic grainstone (Dunham 1962)	Purbeck limestone "Thornback" Upper Jurassic (Purbeckian) Isle of Purbeck	2 examples large pavers examples B45 drain (drain cover material?) [67] [68]
3127	Very fine powdery white limestone with small laths of calcite spar White Packstone (Dunham 1962)	Possibly Magnesian limestone (Stapleton stone) Permian, South Yorkshire Or Beer stone (Upper Cretaceous) Chalk, Exeter	4 examples B60 masonry wall [171] and L1 L2 Foundation rubble [26] Examples of reused ashlar, cornice and jamb moulds in T1 mortar WSN 17, 21, 24

3143	Very hard yellow-brown shelly-oolitic grainstone (Dunham 1962) with high spired nerinoid gastropods and complete oyster	Barnack stone – Bajocian (Middle Jurassic) Barnack Village, Cambridgeshire	1 example L1 L2 Foundation rubble [26] Possible funerary slab fragment broken up reused T1 mortar

Table 2: List of stone types identified at Somerset House

Moulded stone WSN

In all 24 mouldings were designated a worked stone number. Twenty examples (WSN1-7; 9-19; 22-23) came from the masonry foundations of the lightwell [26]. One example (WSN8) came from the masonry foundations of B60 [173] and remaining three used in the masonry walling [171] of the same room. WSN 1-8 were illustrated and photographed in readiness for incorporation into a display area in the East Wing of Somerset House

They nearly all have the hard-cream grey T1 mortar attached, with nineteen examples (WSN1-7; 9-15; 18; 20; 22-23); carved from the distinctive yellow to yellow-brown Caen stone. Of the remaining lithologies; three (WSN17;21; 24) are made from a softer fine cream-white micritic limestone that may be a Magnesian Limestone from the Permian of South Yorkshire or a hard chalk - (e.g. Beer/Seaton stone) from Devon. Reigate stone is present in WSN 19, and a fine soft oolitic limestone (WSN 16) comparable in texture and colour to outcrop examples of Corsham stone/Monks Park stone (Middle Jurassic- Bathonian) Wiltshire and Coombe Down oolite from the same geological formation at Bath.

WSN	Context	Weight and dimensions l x w x h (mm)	Stone Type	Form	Comments	Photo/Illustration
1	26	29kg 850x159x137	Caen stone	Tramline Mullion paint and plaster	T1 mortar Chisel marks. Red paint and plaster traces. 2 nail holes	YES
2	26	8kg 225x160x135	Caen stone	Small Tramline Mullion	T1 mortar plaster flecks no paint. 1 nail hole	YES
3	26	17kg 262x245x260	Caen stone	Stepped moulding	Chisel marks T1 mortar and some plaster broken off other end	YES
4	26	7.1kg 281x192x180	Caen stone	High Angled Cornice	Masons Mark R. Narrow Awl marks T1 mortar	YES
5	26	14.1kg 220x218x190	Caen stone	Decorated end ashlar	Roughed out chisel marks T1 mortar	YES

6	26	50kg 550x352x187	Caen stone	Large low angled rounded cornice profile Window Sill	Awl marks T1 mortar	YES
7	26	31.7kg 495x270x205	Caen stone	Large straight cornice very smooth surface Window Sill	T1 mortar chisel marks on upper surface	YES
8	173	60kg 360x285x480	Caen stone	Complex high moulding Window Jamb	T1 mortar masons mark X underside French Drag tool marks	YES
9	26	9.5kg 277x160x140	Caen stone	End part Tramline mullion	T1 mortar	NO
10	26	14.4kg 395x160x135	Caen stone	Tramline mullion long section	T1 mortar	NO
11	26	4.4kg 125x140x180	Caen stone	Possible truncated section of small tramline mullion	T1 mortar	NO
12	26	2.6kg 175x150x140	Caen stone	Slither of tramline mullion		NO
13	26	4.3kg 145x160x145	Caen stone	Fragment of Tramline mullion		NO
14	26	8.2kg 290x160x111	Caen stone	Fragment /slice of tramline mullion	T1 mortar brick fragments attached post great fire	NO
15	26	11.3kg 290x160x140	Caen stone	End part of tramline mullion	T1 mortar nail hole plaster flecks underside	NO
16	26	23.3kg	Combe Down Oolite	Complex high moulding window jamb	T1 mortar like WSN 8	NO
17	26	11.7kg 360x150x120	Possible Magnesian Limestone or Beer stone	Voussoir type material	Lewis hole low angled wedge moulding worn	NO

18	26	15.1kg 280x140x230	Caen stone	High moulding double embayment	Possible Window element worn could relate to WSN 18	NO
19	26	40kg 490x335x200	Reigate stone	Large curved jamb or window moulding	Traces of red paint no T1 mortar	NO
20	171	7kg 190x173x112	Caen stone	Ornate curved mould diagonal tool marks on side	Lots of T1 mortar on sides could relate to WSN 18	NO
21	171	8.5kg 190x203x288	Possible Magnesian Limestone or Beer stone	High 45 degree angled cornice	T1 mortar a little like WSN4	NO
22	26	12.3kg 223x220x191	Caen stone	Cornice fragment	T1 mortar	NO
23	26	10.8kg 270x210x230	Caen stone	Cornice fragment	T1 mortar continuation of WSN 22	NO
24	171	5.1kg 210x150x100	Possible Magnesian Limestone or Beer stone	double embayment	Somewhat similar to WSN 18	NO

Table 3: List of mouldings (Worked stone numbers) at Somerset House

Tramline Mullions

A feature of the re-used moulded stone assemblage from the L1 L2 Foundation rubble [26] are the large quantity (9 examples 92kg) of longitudinal mouldings WSN 1-2; 9-15 identified as broken up Tudor tramline mullions for bay windows. Crisp sharp profiled sections are as long as 850mm (WSN 1), attain a standard width of 155-160mm (6inches) and depth of 135-145mm suggesting that they all belong to the same group of window elements. Examples of Tramline mullion foot or head include WSN9 and WSN 15. Some have traces of thin plaster (WSN 1; 2; 15) overlain in one case (WSN 1) by red paint. Nail and nails are present on WSN 1; 2; 15 indicating method of attachment.

Comparable examples of vertical tramline mullion and their horizontal equivalents (transoms) have been identified from the inner court excavations with five from 1999/2000 Gifford excavations (Samuel 2005, 52-53; Thurley 2009, 25; Williams 2005). The tramline, a method of embellishing windows using paired fillets forming the perimeter of the bay-window and across (transom) and down (mullion) was introduced from France and first used at Nonsuch Palace (Thurley 2009, 25).

They are all made from the golden-yellow to yellow-orange fine packstone (Dunham 1962), identified as Caen stone from the Middle Jurassic of Normandy, a rock normally associated with medieval architectural elements in ecclesiastical structures from London and the south-east (Bull et al. 2011; Dyson et al. 2011; Miller & Saxby 2007; Sloane & Malcolm 2004; Tatton-Brown 1990; 1991). However, the use of Caen stone as an architectural stone material in London continued unabated into the 16th and 17th century as shown by its use at Whitehall Palace (Hayward in prep. a) and Wren's St Paul's Cathedral (Campbell 2007). It was also provisionally identified in tramline mullions from Somerset House (Williams 2005; Samuel 2005, 52-53).

Someone with the continental connections, (as shown by the use of Normandy glass and French masons) and architectural interest such as Duke of Somerset would have had access to stone from the Caen quarries. Furthermore, as already has already been demonstrated the form of the tramline mullions in these mouldings is a French Renaissance tradition (Thurley 2009, 25). The Somerset connection of using stone masons from France is reinforced by their documented employment in the Protector's new house in Bedwyn Broil in 1549 (Morris 1989, 133) and the use of Caen stone in the Tudor Framlingham tombs from Suffolk (Morris 1989, 134).

Larger Mouldings

Caen stone mouldings

Two very large complex rounded cyma cornice-type mouldings in Caen stone WSN 6-7 reused in the L1 L2 foundation rubble [26] are probably window sill fragments of a form and dimension type seen in early Tudor Bay Windows for example Broughton Castle (Oxfordshire) (Morris 1989, plate 8). Whilst an even larger more complex design reused in the foundation rubble B60 [171] is akin to a large Tudor window jamb or reveal or a door jamb. Of interest too are smaller two mouldings WSN 18; 20 with small regular rounded or sub-oval outlines, with a comparable example probably in Magnesian Limestone WSN 24. These may be earlier late gothic/ rounded cusped chamfer mullion moulds (casement moulds) that are occasionally found in early Tudor (1520s) residences such as Sutton Place (Morris 1989, plate 1).

Corsham stone mouldings

The identification in hand specimen of a rock resembling Monks Park /Corsham stone from West Wiltshire in ashlar and a possible window jamb in a Tudor Classicizing style (WSN 16) from the L1 L2 foundation rubble [26] and guttering from foundation rubble in B60 [173] should not be seen as at all surprising given the identification of a comparable material *" an oolitic limestone of homogeneous and fine-grained texture*" in a cabled column shaft, attic rectilinear base mould and baluster base mouldings from the phase III watching brief of the Great Court area of Somerset House (Williams

2005; Samuel 2005, 52-53). What is particularly intriguing is a possible petrological connection with another of Somerset's houses, the contemporary 1549 construction of Bedwyn Broil in the Savernake Forest of Wiltshire (Morris 1989, 133). The outcrop of limestone around Corsham and Chippenham of West Wiltshire is the closest oolitic freestone source (16 miles away) and quarries opened up in the name of the Protector for one building could have been used for the prestigious Somerset House construction. What is more, the converted Lacock Abbey 1540-1533, one of the best examples of Tudor architectural stone detail and part of the "Somerset circle" period (Morris, 1989, 133), lies just 3km south of the Corsham outcrops. Petrological, thin-section and geochemical analysis[42] would go some way to confirming a Wiltshire quarry sources with Somerset's building projects.

Magnesian limestone or Beer stone mouldings

The re-use of a soft, fine cream-white micritic limestone with occasional spar fragments in two mouldings, WSN 21 (a window-sill cornice?) and WSN24 from the masonry wall [171] B60, together with one ashlar and a wedge shaped moulding WSN 17 from the L1 L2 foundation rubble [26] are another feature of this stone assemblage. In hand specimens the rock is comparable to outcrops of Magnesian Limestone (Stapleton stone) from the Permian of south Yorkshire (e.g. Doncaster). It can, however, be confused with the paler Caen stone types, and for this reason it may be possible that some of the Caen stone and micritic limestone recorded in the phase III watching brief of the Great Court area of Somerset House (Williams 2005; Samuel 2005 50--54) may in fact be Magnesian Limestone.

This rock was documented as having been used in London during the later medieval period (mid 14th century) and into the 16th century (Salzman 1952, 131) at Westminster Abbey, Westminster Hall and Sion Abbey, the precursor to another of the Duke of Somerset's properties, Sion House.

Magnesian limestone has been identified in thin-section from an early 15th-century porch front element[43] from the Guildhall (Hayward 2007) and its possible identification in Tudor period oriel sills, jambs and mullions from bay window elements used in the Period 6 Hospital of St John of Jerusalem (Samuel 2004 286-296).

Comparative petrological analysis of samples from here would at least confirm whether the rock is Magnesian Limestone or the lithologically comparable Beer stone from the Chalk of Devon[44]. It may also determine whether some of the samples obtained from mouldings identified as Caen stone and micritic limestone from the phase III watching brief of the Great Court area of Somerset House

[42] Petrological, thin-section and geochemical comparative samples of Corsham stone, Monks Park stone and other Bathonian limestones from the adjoining Avon district have already been produced for research (Hayward 2006; 2009).
[43] GYE 92 [21101] <6606> thin-section KH172 composed of fine-microcrystalline dolomite and Shagariniid foraminifera comparable with the Upper Permian Sprotborough Member of the Cadeby Formation (Kaldi 1986, 93).
[44] Beer stone is also documented as having been used in Late medieval period (14th century) in London at Westminster Abbey and London Bridge (Salzman 1952, 132).

(Williams 2005; Samuel 2005, 50--54) may in fact be Magnesian Limestone**.** Finally, a geological approach may go some way to identifying the popularity of this material in 15th and 16th century Tudor mouldings from London, by re-examining samples, provisionally identified as Magnesian Limestone in Tudor period oriel sills, jambs and mullions from bay window elements used in the Period 6 Hospital of St John of Jerusalem (Samuel 2004, 286-296). This latter site adds spice to the use of stone and reuse of stone at Somerset House as stone was documented (Thurley 2009, 16-17[45]) as having been dismantled from '*the steeple and most part of the church of St John of Jerusalem neere Smithfield'* for use in the 1547 palace.

Barnack stone

Samples taken from a worked slab of shelly limestone recovered from reused L1 L2 foundation rubble [26] have the hard sparry crystalline cement and high spired nerinoid gastropods typical of outcrop samples of Barnack stone from Lincolnshire. This rock is normally associated with Roman architectural stone e.g. Riverside Wall (Hayward in prep. c) or sarcophagi. However, it is possible, given the use of Barnack stone at Westminster Abbey during the 14th century and the re-activation of Barnack quarries in response to their use in early Elizabethan houses such as Kirby Hall, Burghley and Deene Park, that they could be Tudor (Morris 1989, 137). The use of another type of Lincolnshire Limestone (Ketton) in a coping stone from **t**he inner court excavations of 1999/2000 (Samuel 2005, 50; Williams 2005) supports this idea.

Unidentified stone type

Two weathered mouldings from brown-yellow skeletal porous grainstone (Dunham 1962) with coral fragments reused in the L1 L2 foundation rubble [26] may be new freestone types for London. The material is reminiscent of limestones from the Tertiary of the Paris Basin e.g. Calcaire Grossier and Banc Royal (Hayward 2009) used in Roman sites along the south coast. There may be a Tudor connection here, particularly with regard to the use of French masons in the 1540s in southern England. Petrological analysis is essential to determine what rock type this is and whether it has a French source.

Roman/Saxon portable stone objects

A small whetstone made of Kentish ragstone from the levelling layer from B45 [79] is in all probability Roman. Also from the same room, a small quern fragment made of the distinctive dark-grey lavastone from the Rhineland from pit [85] could be Saxon given the huge consignments of it identified nearby from a late Saxon Thames Exchange site, TEX88 (Freshwater 1996).

[45] Original source John Hayward 1630 The Life and Raigne of King Edward the Sixth.

Summary

This well preserved and large collection of reused moulded stone items from the 2010-2011 East Wing of Somerset House is, along with the group of architectural moulds recorded from the 1999/2000 excavations of the Great Court (Samuel 2005, 50; Williams 2005), and the South Wing and river frontage (Munby, 2003), the most impressive group of Tudor worked stone in the capital. As such it deserves detailed analysis both in terms of its style, and the unique group of rock types that characterise it. The assessment has identified a number of key areas of interest.

- Nine (WSN 1-2; 9-15) Tudor tram-lime mullion mouldings (92kg) all in Caen stone original used for bay windows that may have fronted the Protector's House onto the Strand. Crisp sharp profiled sections and paint have been preserved, ensuring that accurate illustrations and photographs can be made. Indeed two mullions (WSN 1; 2) along with six other moulds have already undergone illustration and photography prior to display.
- Other Tudor/Elizabethan examples in Caen stone include two rounded cyma cornice-type mouldings (WSN 6-7) probably window sill fragments.
- Two smaller mouldings (WSN 18; 20) in Caen stone with small regular rounded or sub-oval outlines, may be earlier late gothic / rounded cusped chamfer mullion moulds (casement moulds) that are occasionally found in early Tudor (1520s) residences such as Sutton Place (Morris 1989, plate 1).
- These styles of carving are continental (French) and the documented use of French masons and glaziers together with the use of Caen stone merely reinforces influence and architectural interest and influence someone such as the Duke of Somerset had in its construction.
- Hand specimen petrological analysis has begun to identify a variety of other stone types in these crisp mouldings including a Corsham type stone from Bath, probable Magnesian limestone from South Yorkshire, Barnack stone from Cambridgeshire and an unknown (possible Tertiary French limestone source) from the Paris Basin
- Many of these outcrops have indirect connections with other Tudor properties connected with the "Somerset circle" period including Bedwyn Broil in east Wiltshire and Lacock Priory in Oxfordshire (3km from Corsham outcrop). These connections may have ultimately influenced the choice of stone used at Somerset House. The presence of other stone types may have been brought in as foundation material or ashlar following the dissolution of the monasteries. A case in point is Magnesian limestone, identified both at Somerset House and St John of Jerusalem at Clerkenwell. This priory was documented has having been dismantled and brought over for use at Somerset House.
- Unlike the 1990/2000 Portland stone (Whit Bed and Base Bed) moulds are conspicuous by their absence. As these materials only begin to be used in the early 17th century in London by Inigo Jones it seems likely, that the stone recovered from the 2010/2011 excavations are essentially Tudor or Elizabethan in character.

Phase Summary

The intermixed nature of much of the assemblage, together with the extensive re-use of Tudor stone and brick in the foundation of the East Wing of Somerset House makes it difficult to sub-divide phases up. However, on the basis of form, fabric (and especially with mortar type) it is possible to subdivide up the sequence using building materials into five phases.

Phase 1: Roman /Saxon 45 examples 6.5kg

A sizeable group (45 examples 6.5kg) of abraded and broken up Roman and Saxon building materials (cbm; quernstone; whetstone; daub) were recovered from later medieval levelling layers and Saxon pits [71], [72], [79], [85], [87], [91], [94] and [100] all from Room B45. The absence of glazed peg-tile indicate that some of these features e.g. [100] were probably Roman/Saxon rather than later medieval. The Roman ceramic building material (38 examples) is largely unexceptional, apart from a billet roller stamp design box flue tile die from [100].

In the absence of any known Roman structure in the vicinity it is possible that this group may have been salvaged from the city and brought upstream for use as revetment/ consolidation dumps to build up the land for medieval occupation rather like that at Thorney Island (Thomas et al. 2006; Hayward in prep. b).

The Saxon group is limited to a gritty moulded daub from a dump layer [79] and pit [84] and a lava stone quern from [85], although it is possible given the profusion of *imbrex,* flat brick and *tegulae* from these contexts that it could be dumped Roman wattle and daub and quern.

Phase 2: Later Medieval (1180-1540)

Much of the small (5.6kg) medieval component is found intermixed with the Roman and Saxon material and occasional early post-medieval peg tile in the levelling layers from room B45 [71], [72], [79], [85], [87] and [91], but also in B52 [59] and a chalk wall in B47 [127]. It is entirely made of glazed roofing material possibly from the demolition of a bishop's Inn.

Phase 3: Very late medieval early post-medieval walling

A precise date for the chalk wall foundations from [73], [74] and [75] in B52; B47 [127], L1 [191] and in B45 [70] is not entirely clear. These were originally thought to be medieval but may in fact be very late medieval/early post-medieval foundations given the use of the same gravelly type-mortar type 4 in Tudor bricks walling in C2 [186] and peg tile culvert in B52 [60] and peg tile [186].

Phases 4: Tudor/Stuart Palace (1547-17th century)

It is possible that the chalk walling from B52, B47; L1 and B45 bonded in a brown-gravel mortar type (T4) could be part of the Tudor foundation for the 1547-1551 Somerset Palace. Different medieval/early post-medieval sandy mortars are, however, not easy to distinguish.

More conclusive is the character of the building material identified in the few Tudor structures surviving within the 1780 East Wing. First, examples of Roman and medieval ceramic building material are hardly ever re-used in the construction of the Tudor Palace and associated garden features. Instead, examples of fresh early post-medieval peg-tile and Tudor brick in brown sandy mortar type 4 are identified, sometimes along with some Kent ragstone in a number of rooms. This does not take into account, however, the huge quantity (720kg) of Tudor style bay window masonry (mainly in Caen stone), together with some Tudor bricks reused in a late 18th-century T1 mortar as masonry foundation material from L1 and L2 [26] and B60 [173] as well as masonry walling [171] from B60. This would merely reinforce the documentary evidence (Thurley 2009) that no expense was spared in its construction (also see moulded stone section)

First, *in-situ* examples of red, poorly made shallow (50-60mm) and wide (110-116mm) Tudor bricks *3033* turn up in C2 brick walls [187] and [188] with substantial ashlar blocks of Kentish ragstone identified masonry foundations [186] which lie just outside the southern edge of Somerset House itself and are likely to be associated with the perimeter garden wall. Walls [192] and [193] in L1 are also Tudor, again with Kentish ragstone blocks. Next, are the brick and peg-tile culverts/flues from B52 [49] and [60] which lie within the Lower Court of the Tudor Somerset Palace. It may well be that the large Kentish ragstone and Purbeck limestone culvert/walling revetments from [68] and [69] are also Tudor and simply repointed in a T3 late 18th-century mortar, especially as a later (1780) Somerset House T2 mortar and post-Great Fire brick culvert [67] cuts through it at ninety degrees. A similar date could be assigned to the repointed T3 Tudor brick culverts of B52 [50] and [51] in the same area of the Lower Court Palace B52 as [49] [60]. Finally, repointed Kentish ragstone and Tudor brick and stone walls from the area of the bed chamber B53 [40] and [41] also belong to the original Tudor structure.

On the basis of brick size and mortar alone, however, it has not been possible to subdivide the Tudor-Stuart palace up into separate rebuilds associated with different queens of the monarch. Dating of the red brick using new scientific tests (see recommendations) may help to resolve this.

Phases 4: Demolition, foundation and building of 1780 Somerset House

The demolition, and build of the extended 1780 Somerset House, is associated with extensive foundation rubble (720kg) of Tudor style bay window masonry (mainly in Caen stone), together with some Tudor bricks reused in a late 18th-century T1 mortar as masonry foundation material from L1 and L2 [26] and B60 [173] as well as masonry walling [171] from B60.

The same types of brick and mortar identified within the walling and the flooring of the standing 1780 East Wing e.g. B47; B48; B49; B50 are present in the numerous culverts that cut through the Tudor structures at ninety degrees. They are dominated by narrow (98-102mm) and thick (64mm) post-Great Fire bricks conforming in size with the legislation act of 1775 and bonded with a T2 clinker. These turn up in culverts from B42 [37], B45 [67], B53 [48], flues in B50 [15] and walls from B47 [130], B50 [14], B14 and B7. On the basis of brick size, form and mortar these structures are certainly contemporary with the 1780 build.

Phase 5: Later additions

Better made wider, often frogged post-Great Fire brick bonded in a hard white shelly mortar with flecks of clinker (Type 3) was recorded from a flue in B50 [18], culvert B44 [119], B45 [67], B47 [123] and B53 [42]. The association with the yellow London stock suggest a slightly later (early 19th-20th century) development of the East Wing.

Table 4: Distribution of building material EAF 10 (structures in bold)

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date
14	**3034**	**Narrow post-Great Fire brick T2 mortar**	**1**	**1664**	**1900**	**1664**	**1900**	**1750-1850**
15	**3034**	**Narrow post-Great Fire brick T2 mortar**	**1**	**1554**	**1900**	**1664**	**1900**	**1750-1850**
16	**2586 3047**	**Fresh late post-medieval peg tile and paving brick T1 mortar**	**3**	**1180**	**1900**	**1690**	**1900**	**1750-1800**
18	**3032**	**Well-made wide frogged post-Great Fire Brick T3 mortar**	**1**	**1664**	**1900**	**1750**	**1900**	**1750-1900**
25	**3033**	**Reused Tudor Brick T1 mortar**	**1**	**1450**	**1900**	**1450**	**1900**	**1750-1850**
26	**3119 3143 3101 3105 3107 3033 3046 3127 3120**	**Large quantities of 16th-17th century reused mouldings including Tramline Mullions, ashlar cornices in Caen stone in T1 mortar Barnack stone Kentish ragstone rubble, paving and ashlar; Reigate moulding; Coombe Down Oolite moulding; Magnesian Limestone; Shelly rock unknown**	**40**	**50**	**1900**	**1450**	**1900**	**1750-1850**

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date
		source ashlar Red Tudor/Stuart Brick reused						
36	3032	Narrow post-Great Fire brick T2 mortar	2	1664	1900	1554	1900	1750-1850
37	3119 3032 3033	Reused T2 mortar Caen stone blocks, Tudor and post-Great Fire bricks	3	1050	1900	1664	1900	1750-1850
40	3105 3033 3033nr3039 3101	Kentish ragstone rubble and T1 mortar; Repointed Red Tudor brick prob T1mortar	11	50	1900	1450	1900	1500-1650+
41	3033 3105 3101	Repointed Kentish ragstone rubble; Reused Red Tudor brick T1 mortar	2	50	1900	1450	1900	1500-1650+
42	3032 3101	Post-Great Fire Brick chunk T3/T3a	1	1664	1900	1664	1900	1700-1850
43	3032nr3065 3101	Post-Great Fire Trans T1 mortar	1	1664	1900	1664	1900	1750-1850
48	3032nr3035 3035 3101	Yellow London stock and transitional post-Great Fire; London Stock frogged and unfrogged T2V mortar	3	1664	1940	1780	1940	1800(1850)-1900
49	3033 3101	Tudor type brick T5 mortar	1	1450	1700	1450	1700	1500-1650
50	3033 3039 3101	Repointed Tudor brick T3 hard white mortar	3	1450	1900	1450	1900	1500-1650+
51	3033 3065 3101	Repointed Tudor brick T1 hard mortar	7	1450	1900	1450	1900	1500-1650+
52	3046nr3033 3032 3101	Thin post-Great Fire brick and reused Tudor/Stuart T1 mortar	4	1450	1900	1664	1900	1750-1850
56	3101 2586 3039nr3065 3032nr3033 3101	Reused post-medieval peg tile Red Tudor and transitional brick T1	6	1180	1800	1664	1800	1750-1800
57	2587 2271 2276 3101	Reused medieval and post-medieval peg tile Soft white mortar	11	1180	1900	1480	1900	1480-1800
59	2586 2276	Medieval splash glaze and early post-medieval peg tile	11	1180	1900	1480	1900	1480-1700

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date
		coarse moulding sand no mortar						
60	**3101 2276**	**T4 brown gravel mortar Early post-medieval peg tile**	**8**	**1480**	**1900**	**1480**	**1900**	**1480-1700**
67	**3126 3105 3033 3032 3032nr3033 3101**	**T2 and T1 mortar with Red Tudor brick, transitional and post-Great Fire; Kentish ragstone (T2 mortar) Purbeck limestone paving some reused**	**11**	**50**	**1900**	**1664**	**1900**	**1750-1850**
68	**3126 3105**	**Purbeck limestone paving and Kent ragstone ashlar no mortar**	**2**	**50**	**1900**	**1400**	**1900**	**1500-1800 (possible original drain of 67)**
69	**3105 3106 3101**	**Hassock and ragstone walling rubble T1 variant?**	**3**	**50**	**1900**	**50**	**1900**	**1500-1800+**
70	**3116 3101**	**Chalk foundation Rubble T4 brown gravel mortar**	**1**	**1450**	**1700**	**1450**	**1700**	**1450-1600**
71	3118 2271 2586 2276 2587 3023 2452 3101	Reused early Roman Radlett/Sandy brick and tile lots of medieval glazed peg tile; Tufa occasional early post-med peg tile some T4 mort attached to Tufa	29	50	1900	1480	1900	1480-1600
72	2459a 2452 3022 2271 2273 3090 2587	Worn Early Eccles and Sandy Roman tile and brick, lots of glazed medieval peg tile some 12th century	35	50	1800	1180	1800	1180-1450
73	**3101**	**T4 brown gr mortar with chalk blocks**	**1**	**1450**	**1700**	**1450**	**1700**	**1450-1600**
74	**3101**	**T4 brown gr mortar with chalk blocks**	**3**	**1450**	**1700**	**1450**	**1700**	**1450-1600**
75	**3101**	**T4 brown gr mortar with chalk blocks**	**1**	**1450**	**1700**	**1450**	**1700**	**1450-1600**
79	2452 3013 3014 3023 3238 3102 3105 2271 2587	Variety of early Roman and late (AD 180-350) sandy, Reigate and Calcareous Roman tile, KR Whetstone, Kentish ragstone rubble with Gritty Daub T4 brown gr mortar attached and a lot of	41	1500BC	1800	1180	1800	1240-1600

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date
	3101	glazed medieval peg tile						
84	2276	Peg tile early post-medieval	2	1480	1900	1480	1900	1480-1700
85	2452 2815 3006 3023 2271 3102 3123 3117	German lavastone quern fragment; Flint; Early Roman sandy and Iron oxide tile, imbrex and brick, Gritty Daub as 79; occasional med peg tile no mortar	11	1500BC	1800	1180	1800	1180-1600
87	2452 3006 3060 3102 2586 2271	Abraded early sandy and Radlett Roman tile and Imbrex, Daub Gritty – Glazed medieval peg tile No mortar	11	1500BC	1800	1180	1800	1180-1450
91	2815 3102 2271 2586 2587 2276	Abraded sandy Roman Tile Glazed and unglazed medieval peg tile, early post-medieval peg tile no mortar	14	1500BC	1900	1480	1900	1480-1700
94	3102 3006 2815 2452 2587	Moulded daub – loom weight; gritty daub Early Roman tile and brick and occasional medieval peg tile	14	1500BC	1450	1240	1450	1240-1450? Solitary Peg tile could be intrusive
98	3101	T4 brown gr mortar	1	1450	1700	1450	1700	1450-1700
100	3102 3006 2459a	Abraded Roman tile and combed and roller stamped box flue tile die	4	1500BC	1666	1500BC	1666	100-300
119	**3032 3032nr3035 3101**	**Post-Great Fire and Yellow London Stock brick wide T3/T3a mortar**	**2**	**1664**	**1900**	**1780**	**1900**	**1800-1900**
123	**3032 3101**	**Post-Great Fire brick wide T3/T3a mortar**	**3**	**1664**	**1900**	**1780**	**1900**	**1800-1900**
125	**3106 3107**	**Hassock stone and Reigate stone samples no mortar**	**2**	**50**	**1700**	**1050**	**1700**	**1500-1700+ Could be later**
127	**2271 3101**	**Peg Tile T4 sandy gravel mortar**	**4**	**1180**	**1800**	**1180**	**1800**	**1450-1700**
130	**3032 3101**	**Post Great Fire narrow brick T2 mortar**	**2**	**1664**	**1900**	**1664**	**1900**	**1750-1850**
171	**3101 3119 3127**	**Large quantity of high quality Tudor/Stuart moulded stone and ashlar reused in T1**	**6**	**1050**	**1900**	**1050**	**1900**	**1750-1850**

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date
		mortar including Caen, Orange Caen variant possible Magnesian Limestone mould						
172	3046nr3033	Tudor/Stuart Brick Reused in T1 mortar	2	1450	1900	1450	1900	1750-1850
173	3119 3109	High quality Tudor/Stuart Moulding and guttering in Caen stone and bath-stone T1 mortar reused	2	1050	1900	1050	1900	1750-1850
186	3105 3039 3046 3065 3116 3101	Tudor/Stuart brick with Kentish ragstone and chalk rubble brick in T4/T5 mortar	8	50	1700	1450	1700	1450-1700
187	3033 3101	Tudor brick T5 mortar	2	1450	1700	1450	1700	1450-1700
188	3033 3101	Tudor brick T5 mortar	2	1450	1700	1450	1700	1450-1700
191	2271 3101 3116	T4 mortar peg tile medieval	7	1180	1800	1180	1800	1180-1450+
192	3033 3105	Tudor bricks and Kentish ragstone	2	50	1700	1450	1700	1450-1700
193	3033 3105	Tudor bricks and Kentish ragstone	2	50	1700	1450	1700	1450-1700
197	3105	Stone rubble Kentish ragstone no mortar	2	50	1700	50	1700	1400-1700+

Table 4: List of spot dates of building materials for Somerset House

Conclusions and Significance

A sizeable group of Roman building materials (cbm; stone) from levelling layers and Saxon pits from Room B45 had not been identified in other excavations from Somerset House (Wood & Munby 2003; Smith 2005) before. In the absence of any known Roman structure in the vicinity[i], it is possible that this group may have been salvaged from the city and brought upstream for use as revetment/ consolidation dumps to build up the land for medieval occupation rather like that at Thorney Island.

Saxon activity is probable given a small quantity of moulded daub and lavastone, together with some pottery from a pit, [94], and levelling layer [79] in B45.

The small (5.6kg) medieval component, intermixed with this Roman and Saxon material in the levelling layers from room B45, but also B47 and B52, is comparable with that of previous excavations in that it is limited to groups of reused and broken up glazed roofing material, probably demolition of

bishops' Inns The chalk walls from [73], [74] and [75] in B52, B45 [70] and L1 [191] originally thought to be medieval may in fact be early post-medieval foundations given the use of a similar (Type 4) gravelly type-mortar type 4 in early Tudor bricks elsewhere.

In fact structures relating to the Tudor/Stuart build of Somerset House and associated garden features are limited to these possible chalk foundations as well as a few wide and shallow red *3033* and *3039* brick structures all pointed in a brown gravelly (T4) and sandy (T5) mortar such as in C2 brick walls [187] and [188], masonry foundations [186], an early brick culvert from B52 [49] and a peg-tile culvert from room B52 [60]. The group from [186] - [188] lay outside the southern limit of the Tudor palace and are likely to be associated with the extensive garden walled features of the Tudor Palace. It may well be that the large Kentish ragstone and Purbeck limestone culvert/walling revetments from [68] and [69] are also Tudor and simply repointed in a T3 late 18th-century mortar, especially as a later (1780) Somerset House T2 mortar and post-Great Fire brick culvert [67] cuts through it at ninety degrees. A similar date could be assigned to the repointed T3 Tudor brick culverts of B52 [50] [51] in the same area of the Lower Court Palace B52 as [49] [60]. Finally, repointed Kentish ragstone and Tudor brick and stone walls from the area of the bed chamber B53 [40] [41] also belong to the original Tudor structure.

Most of the Tudor/Stuart red brick, however, like that of the moulded stone (see below) had been reused in the primary build (foundations, culverts) and some walls of the 1780 palace. A hard white-grey mortar (T1) was characteristic of this group.

The masonry foundation of the lightwell [26], for example, consisted of over 450kg of material including 32 mouldings, ashlar, rubble and some red brick. Smaller quantities were used in the masonry foundations [173] and walling [171] of B60 [173].

The stone assemblage is exceptionally well preserved, with 24 WSNs being allocated to the mouldings from these foundation deposits .These can be referred to in Table 3 with a fuller description of their petrological and stylistic character in the summary of stone types (see above).

The bricks and mortar fabrics used in the culverts of the 1780 east wing are made of very different materials. Nearly all the bricks are frogged and unfrogged purple post-Great Fire bricks and on the basis of brick size and mortar type it is possible sub-divide the group into two. The first, characterised by narrow (98-102mm) thick bricks (64mm) conforming with the legislation act of 1775 on brick size and bonded with a T2 clinker turn up in culverts from B45 [67], B53 [48] and flues B50 [15] and walls from B47 [130], B50 [14], B14 and B7. The second, a wider, better made, often frogged post-Great Fire brick bonded in a hard white shelly mortar with flecks of clinker (Type 3) was recorded from a flue in B50 [18], culvert B44 [119], B45 [67], B47 [123] and B53 [42]. The association with the yellow London stock in this second group suggest a slightly later (early 19th century development) of the East Wing.

Recommendations

This building material assemblage contains a number of items of interest that require further research and comparison which could then be incorporated into a publication report. The findings could equally be useful as stand-alone articles in their own right on Tudor stone source and style in London and brick dating.

Foremost are the large (40 items) and well preserved (24 WSN's) collection of reused moulded stone items from the 2010-2011 East Wing of Somerset House, that along with the group of architectural moulds recorded from the 1999/2000 excavations of the Great Court (Samuel 2005, 50; Williams 2005), and the South Wing and river frontage (Munby 2003) are visually the most impressive group of excavated Tudor worked stone in the capital. As such it deserves detailed analysis both in terms of its style, and the unique group of rock types that characterise it. At publication stage emphasis should be placed on these two elements of the building material assemblage

In terms of rock-type, thin-section and geochemical analysis of certain types of freestone recorded from the excavations would not only help identify the materials being used in its construction but may being to help understand the connection between quarry source and Tudor properties connected with the "Somerset circle". In addition, petrological comparative analysis may help determine whether some rarer freestone materials identified from Somerset House excavations were being salvaged from earlier monasteries in London.

In particular, comparative petrological, thin-section and geochemical analysis would go some way to confirming:

a) A Wiltshire quarry source for the oolitic limestone identified in Tudor/Elizabethan mouldings from the East Wing excavations e.g. WSN 16 as well as examples from the 1999-2000 excavations in a cabled column shaft, attic rectilinear base mould and baluster base mouldings from the phase III watching brief of the Great Court area of Somerset House (Williams 2005; Samuel 2005, 52-53). This information is important as it may confirm a petrological link with the stone used in other contemporary Tudor structures of the "Somerset circle" closer to a bath-stone source e.g. Lacock Abbey.

b) Whether the rock described as Magnesian Limestone in four mouldings including WSN 17; 21; 24 is in fact this source or the lithologically comparable Beer stone from the Chalk of Devon. The similarity between it and the other fine-grained limestone from Somerset House (Caen stone WSN1-15; 18; 20; 22-23) in hand specimen may also help to determine whether some of mouldings of Caen and micritic limestone from the **p**hase III watching brief of the Great Court area of Somerset House (Williams 2005; Samuel 2005, 50-54) may in fact be Magnesian Limestone.

Finally, a geological approach may go some way to identifying the popularity of this material in 15th- and 16th-century Tudor mouldings from London, by re-examining samples, provisionally identified as Magnesian Limestone in Tudor period oriel sills, jambs and mullions from bay window elements used in the Period 6 Hospital of St John of Jerusalem (Samuel 2004, 286-296). This latter site adds spice

to the use of stone and reuse of stone at Somerset House as stone was documented (Thurley 2009, 16-17) as having been dismantled from '*the steeple and most part of the church of St John of Jerusalem neere Smithfield'* or use in the 1547 palace.

c) The impact of Lincolnshire Limestones e.g. Ketton stone and Barnack stone in the construction of Tudor and Jacobean properties in London. Both materials have been identified elsewhere in London e.g. Montagu House.

d) Whether the geological source of a brown-yellow skeletal porous grainstone (Dunham 1962) with coral fragments identified in the L1 L2 foundation rubble [26] is a freestone type new to London. The material is reminiscent of limestones from the Tertiary of the Paris Basin e.g. Calcaire Grossier and Banc Royal (Hayward 2009) and a petrological match may further reinforce a link with the Duke of Somerset and French masons documented above.

Together, this petrological information would begin to help to understand the types and sources of stone, opened up specifically for Tudor construction in London and the South-east. It is recommended that 10-15 thin-sections are produced for this case study – these can be compared with petrological and geochemical reference collection of freestone outcrop samples already compiled (Hayward 2006; 2009). A caveat should be introduced for further geochemical analysis (XRF) should thin-section preparation and analysis not be a sufficient determining factor. Thin-section and geochemical preparation should be undertaken at Quest, University Reading, using the same facilities as prepared for the freestone reference collection.

More detailed stylistic comparison with the Tudor moulded stone retained from the 1999/2000 Gifford excavations (Samuel 2005, 52-53) and the South Wing and river frontage (Munby 2003) would help establish the range and quantities of continental mouldings identified as embellishing the bay windows and Doors of Somerset House. To do this, It is recommended that all the remaining moulded stones (WSN9-24) from the East Wing first be illustrated and photographed in the same detail as the first group (WSN1-8) that have already collated prior to display. Particular moulds including sills and door window/jambs (WSN6-8) and possible earlier cusped chamfer mullion moulds (casement) tracery (WSN18; 20; 24) require more detailed architectural comparison and illustration prior to publication. With the other excavated groups (e.g. Nonsuch Palace) and other Tudor properties e.g. Lacock House etc.

In terms of ceramic building materials; the successful application of the long-term power law rehydroxylation kinetics technique (Wilson et al. 2009) in dating Tudor bricks used in the nearby brick cistern for the Mount Parnassus grotto-fountain in the privy garden of Somerset House (Hayward 2011) "The Strand-Lane Bath-house" with its documented 1611-1612 construction should find equal application in the Tudor bricks identified from the present excavation.

In particular it may help establish whether the red brick structures identified in C2 brick walls [187] and [188] and masonry foundations [186] as well as an early brick culvert from B52 [49] are part of the Protector's 1547 construction or, for example, a later Inigo Jones rebuild of 1630. The analysis could

be carried out by Quest (University of Reading) who successfully dated the bricks from the Strand Lane Bath-house.

Individual items that require further illustration include an example of a roller stamped box flue

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APPENDIX 7: METAL FINDS ASSESSMENT

Märit Gaimster

Only one metal find was retreived from the excavations. This consists of a small cup or socket, forged by an iron strap, and found together with an iron pin or stem.

The object is most likely a single-cup candleholder, held by way of the pricket hammered into a wooden base (cf. Egan 1998, fig. 108). This was a common form of candleholder during the later Middle Ages, with the possibly earliest known example, from Winchester, dating from the late 11th or 12th centuries (Goodall 1990, no. 3531); however, this simple form continued in use until more modern times.

An alternative interpretation of this object is that it may be a Roman-period ox-goad, with the cup instead forming a socket for fixing the goad onto the end of a stick (cf. Ottaway 1992, 679).

Catalogue

Context [94], sf <1>: iron ?candleholder; single cup of overlapping flat strap; now-separate ?stem; cup diam. 15mm; stem L 18mm+

Recommendation

Metal and small finds form an integral part of the material recovered during excavation and the possible candleholder should, if relevant, be included in any further publication of the site. As the object has been x-rayed, no further preparatory work is necessary.

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APPENDIX 8: ANIMAL BONE ASSESSMENT

Kevin Rielly

Introduction

Excavations took place within a number of rooms located in the east wing of the basement of Somerset House. This revealed a series of layers and features dating to the Saxon and early medieval eras, all within the same room (B45). These were followed by substantial stone foundations probably belonging to the 12th century and later buildings known to predate Somerset House. This was constructed in the 16th century, noted here by various brick and masonry foundations. The latest phases include evidence for a series of late 18th/early 19th-century domed brick culverts and a number of brick flues probably dated to the later 19th century. These features were noticed within several rooms.

Animal bones were discovered within the Saxon, medieval and post-medieval phases with particular concentrations within the Saxon and early medieval pits and layers. Most of the bones were collected by hand; however, a small number of samples were taken from the Saxon pits. Preservation was moderate to good with some examples of poorly preserved bones in all phases, usually composed of well worn cattle or cattle-size limb bone shaft pieces. The variety of preservation states within individual contexts is clearly indicative of some redeposition. There was a moderate level of fragmentation.

The few fish bones found in the Saxon pit samples were identified by Philip Armitage.

Methodology

The bone was recorded to species/taxonomic category where possible and to size class in the case of unidentifiable bones such as ribs, fragments of longbone shaft and the majority of vertebra fragments. Recording follows the established techniques whereby details of the element, species, bone portion, state of fusion, wear of the dentition, anatomical measurements and taphonomic including natural and anthropogenic modifications to the bone were registered. The sample collections were washed through a modified Siraf tank using a 1mm mesh and the subsequent residues were air dried and sorted.

Description of faunal assemblage

The site provided a grand total of 533 hand collected animal bones and a further 127 from 2 samples. 520 of the former collection were from phased deposits and all of the sieved assemblage. The phases (with bones) as previously described cover the Saxon through to the later post-medieval periods, as follows:- Phase 2 – Anglo-Saxon; Phase 3 – Medieval; Phase 4 – Early post-medieval; Phase 5 –

Late post-medieval; and Phase 7 – modern. The earlier two phases were entirely derived from room B45 and the later from B45, B47 and B51/52.

Saxon (Phase 2)

This collection was retrieved from a layer [100] and from two overlying cut features, pit [93] and stakehole [110] with most of the bones taken from the layer and pit, 31 and 24 fragments respectively. There were some poorly preserved bones from [100] suggestive of waste which may have been left on the surface for some considerable time. These deposits provided minor quantities of cattle, sheep/goat and pig as well as a few chicken bones and fish, these from the sieved collections (see Table 1 and 2). All of the sheep/goat and most of the cattle bones were from adult individuals, with the exception of a young calf skull fragment and metacarpus, each from different deposits. These may represent either food waste or infant mortalities.

Phase:	**2**	**3**	**4**	**5**	**7**
Species					
Cattle	14(7)	100	3	4	1
Cattle-size	19(27)	131	1	2	2
Sheep/Goat	6(2)	96	2	11	3
Pig	1(4)	38		2	1
Sheep-size	17(79)	55		4	
Dog				1	
Hare		1			
House mouse	(1)				
Chicken	(2)	1		2	1
Goose				1	
Freshwater eel	(1)				
Cyprinid cf. roach	(1)				
Salmon	(1)				
Unidentified fish	(2)				
Grand Total	**178(217)**	**422**	**6**	**27**	**8**

Table 1. Distribution of animal bones by phase within the hand collected and sieved (in brackets) assemblages using total fragment counts.

Medieval (Phase 3)

The bones in this phase were taken from pit [84] (193 bones) sandwiched between layer [79] (96 bones), directly overlying the Saxon cut features, and layers [71] and [72], these with 62 and 71 bones respectively. They appear to predate the early masonry structures and should therefore date to the early medieval period. There are again a small number of poorly preserved cattle and cattle-size fragments. The collections largely consist of cattle and sheep/goat, in approximately equal numbers, with some pig, hare and chicken. There is again a wealth of adult cattle and sheep/goat with a smattering of much younger cattle. These include a femur from a very young calf, probably a

foetal/neonate, recovered from one of the pit [84] fills. While the cattle feature a diverse spread of skeletal parts, it is notable that the sheep/goat collection is almost devoid of upper limb parts. These account for just 13.5% of the sheep/goat bones compared to 32.3% lower limb (radius and tibia) and 45.2% foot bones (metapodials and phalanges). This could be indicative of status, the evidence suggesting the preferential usage of lesser quality meat cuts. However, the absence of a similar bias within the cattle collection contradicts this argument, here supposing that the cattle and sheep/goat waste were derived from the same households.

Post-medieval (Phases 4, 5 and 7)

The various layers/features providing the post-medieval collections include: Phase 4 – fills of pit [150] (3 bones) and of construction cut [96] (3 bones) for a substantial east-west masonry wall; Phase 5 – fill of brick drain [49] (6 bones) and 2 made ground deposits [66] and [91] with 7 and 14 bones respectively; Phase 7 – deposits [513] (2 bones) and [520] (6 bones). Table 1 shows that the majority of these bones were derived from the phase 5 assemblage, mainly from the made ground levels. This phase provided the widest array of species found in any one phase at this site, dog and goose added to the phase 3 species list, although with the absence of hare. A notable feature is the relatively good representation of sheep/goat, which appears to be typical of post-medieval London (see Rielly in prep.). Seven out of the 11 sheep/goat bones were foot bones (all metapodials), here following the pattern described from phase 3.

Phase	Cattle	Sheep/Goat	Pig	N
	%	%	%	
2	66.7	28.6	4.8	21
3	42.7	41.0	16.2	234

Table 2. Percentage abundance of major domesticates (total fragment counts), where N is the sum of cattle, sheep/goat and pig bones from that phase and % equals sum of individual species/N x 100.

Conclusion and recommendations for further work

The great majority of the bones recovered from this site were taken from the Saxon and medieval levels and obviously any further work should be focused on these two collections. The Saxon material, if dated to the Middle Saxon period, will add, albeit in a rather limited way, to the information gleaned from other peripheral *Lundenwic* sites, as for example at nearby Church and Hare Court (Bendrey 2005). The medieval collection is somewhat larger and, again subject to the dating evidence, may provide suitable information concerning animal usage in an area of medieval London which hasn't as yet received much attention concerning this aspect of everyday life. A notable potential example is the reasonably sized bone collection recovered from 37 and 40-53 Fleet Street, these taken from 12th and 13th century pit fills (see Rielly 2012).

In conclusion, there is clearly some potential regarding further study of the Saxon and early medieval collections, and it is recommended that any information gleaned from these assemblages should be included in any future publication

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APPENDIX 9: ENVIRONMENTAL ASSESSMENT

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Introduction

This report summarises the findings arising out of the environmental archaeological assessment undertaken by Quaternary Scientific (University of Reading) in connection with the proposed development at East Wing, Somerset House. A watching brief conducted during reduction of the ground level in the basement of the East Wing at Somerset House recorded various phases of archaeological remains dating from the Anglo-Saxon period onwards. Two column samples (column samples <2> and <3>) and two bulk samples (bulk samples <1> and <6>) were collected from the site and submitted for environmental archaeological assessment. The aim of this assessment was to establish the potential of the samples for providing information relating to the functions of the features sampled, the activities carried out at the site, and for reconstructing the environmental history of the site and its environs.

Methods

Pollen assessment

Four sub-samples from column sample <2> and four from column sample <3> were extracted for an assessment of pollen content. The pollen was extracted as follows: (1) sub-sampling a standard volume of sediment (4 grams dry weight); (2) adding four tablets of the exotic clubmoss *Lycopodium clavatum* to provide a measure of pollen concentration in each sample; (3) deflocculation of the sample in 1% Sodium pyrophosphate; (4) sieving of the sample to remove coarse mineral and organic fractions (>125µm); (5) acetolysis; (6) removal of finer minerogenic fraction using Sodium polytungstate (specific gravity of 2.0g/cm^3); (7) mounting of the sample in glycerol jelly. Each stage of the procedure was preceded and followed by thorough sample cleaning in filtered distilled water. Quality control is maintained by periodic checking of residues, and assembling sample batches from various depths to test for systematic laboratory effects. Pollen grains and spores were identified using the University of Reading pollen type collection and the following sources of keys and photographs: Moore *et al.* (1991); Reille (1992). The assessment procedure consisted of scanning the prepared slides, and recording the concentration and preservation of pollen grains and spores, and the principal taxa on four transects (10% of the slide; Tables 1 and 2).

Macrofossil assessment

Samples were processed by Pre-Construct Archaeology Ltd. by flotation and the flots and residues were retained for further assessment. The flots from two samples together with the charcoal and charred macrofossil remains were assessed. Both these samples are from pit fill contexts provisionally dated to the Saxon period of occupation/land use.

Flots were measured, weighed and scanned under a stereozoom microscope at magnifications of x7-45. Charcoal fragments and charred macrofossil remains extracted from the residues were weighed and an overview of the sample contents are recorded in Tables 3 and 4. Preliminary identifications of the macrobotanical remains were made by comparing the macrofossils with modern reference material and with specimens documented in reference texts (Cappers *et al.* 2006; Jacomet 2006; NIAB 2004).

Charcoal fragments were extracted from both samples for further assessment to establish the range of woody taxa represented, preservation of anatomical features and potential for further analyses. Specimens were fractured along three planes (TS – transverse, TLS – tangential longitudinal and RLS – radial longitudinal sections) following standardised methodology (Gale and Cutler 2000) and viewed using a stereozoom microscope (x7-45) for initial grouping and an incident light microscope at x50, 100, 200 & 400 magnifications for identification. The presence of roundwood fragments and notes on preservation are recorded where relevant. Identifications were made through comparison with modern comparative material and reference atlases (Hather 2000; Schweingruber 1990; Schoch *et al*. 2004).

Results and Interpretation of the Pollen Assessment

Four sub-samples from column sample <2> and four from column sample <3> were extracted for an assessment of pollen content. The results of the pollen assessment indicate that pollen concentration and preservation was low to moderate in both column samples (Tables 1 and 2).

The assemblages in all four contexts in column sample <2> (contexts [71], [72], [85] and [87]) are dominated by herbaceous taxa, including Lactuceae (dandelion family), Poaceae (grass family), *Sinapis* (charlock), *Cirsium* (thistle), *Artemisia* (mugwort), *Plantago lanceolata* (ribwort plantain), *Chenopodium* type (e.g. fat hen), *Centaurea nigra* (knapweed) and cf. Cyperaceae (sedge family). Tree and shrub taxa were present in one sample (context [85]) and included *Corylus* type (e.g. hazel) and *Pinus* (pine). The assemblages in all four contexts are in column sample <2> are therefore indicative of an open environment dominated by grasses and other herbaceous taxa. It is important to note however that the assemblage is dominated by taxa that are more resistant to decay, and generally more readily identifiable; thus there is a strong possibility that the assemblage is biased towards these pollen taxa, whilst other less resilient grains are under-represented. Given the relatively low concentration of pollen in these samples it is possible then that the environment of deposition was not conducive to the preservation of pollen. Microcharcoal values were very high in all four contexts.

The assemblages in the samples from column sample <3> (contexts [75], [87] and [94]) are dominated by herbaceous taxa including Lactuceae (dandelion family), Poaceae (grass family), *Chenopodium* type (e.g. fat hen) and *Centaurea nigra* (knapweed). Tree and shrub taxa were rare, but included *Corylus* type (e.g. hazel) in context [75] and cf. *Betula* (birch) in context [87]. The fern *Dryopteris* type (e.g. buckler fern) was present in contexts [87] and [94]. *Sphagnum* spores were also present in the sample from context [87]. Microcharcoal was present in very high quantities in the samples from contexts [75] and [87], but was present in low quantities in the two samples from context [94]. The samples from all four contexts are indicative of a damp, open environment dominated by grasses and other herbaceous taxa with some ferns and *Sphagnum* moss. Again, it is important to note however that the assemblage is dominated by taxa that are more resistant to decay, and generally more readily identifiable; thus there is a strong possibility that the assemblage is biased towards these pollen taxa, whilst other less resilient grains are under-represented. Given the relatively low concentration of pollen in the samples from column sample <3>, it is possible then that the environment of deposition was not conducive to the preservation of pollen.

Table 1: Results of the pollen assessment of column sample <2>, East Wing, Somerset House, Strand, City of Westminster, London (Site Code: EAF10)

Depth (cm)		Context number	Main pollen taxa		Concentration 0 – 5	Concentration grains/cm^3	Preservation 0- 5	Microcharcoal 0 - 5
From	To		Latin name	Common name				
2	3	[71]	Lactuceae Poaceae *Sinapis* *Cirsium*	dandelion family grass family charlock thistle	1	1970	3	5
10	11	[72]	Lactuceae *Artemisia* *Plantago lanceolata* *Chenopodium* type	dandelion family mugwort ribwort plantain e.g. fat hen	2	3127	2/3	5
26	27	[85]	*Corylus* type *Pinus* Poaceae Lactuceae cf. Cyperaceae Unidentified	e.g. hazel pine grass family dandelion family cf. sedge family -	2	4313	2/3	4
40	41	[87]	Poaceae *Centaurea nigra*	grass family knapweed	1	1895	2	5

Key: Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide
Preservation: 0 = none, 1 = very poor, 2 = poor, 3 = moderate, 4 = good, 5 = excellent
Charcoal: 0 = none, 1= negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant

Table 2: Results of the pollen assessment of column sample <3>, East Wing, Somerset House, Strand, City of Westminster, London (Site Code: EAF10)

Depth (cm)		Context number	Main pollen taxa		Concentration 0 – 5	Concentration grains/cm^3	Preservation 0- 5	Microcharcoal 0 - 5
From	To		Latin name	Common name				
6	7	[75]	*Corylus* type Lactuceae Poaceae *Aster* *Chenopodium* type *Centaurea nigra*	e.g. hazel dandelion family grass family aster e.g. fat hen knapweed	2	4277	2	5

			Dryopteris type Unidentified	e.g. buckler fern -				
14	15	[87]	cf. *Betula* *Chenopodium* type Lactuceae *Sphagnum*	cf. birch e.g. fat hen dandelion family sphagnum moss	1	2948	2	5
30	31	[94]	Poaceae Lactuceae *Dryopteris* type	grass family dandelion family e.g. buckler fern	2	2998	3	1/2
46	47	[94]	Poaceae Lactuceae	grass family dandelion family	2	3762	2	1/2

Key: Concentration: 0 = 0 grains; 1 =1-75 grains, 2 = 76-150 grains, 3 =151-225 grains, 4 = 226-300, 5 =300+ grains per slide
Preservation: 0 = none, 1 = very poor, 2 = poor, 3 = moderate, 4 = good, 5 = excellent
Charcoal: 0 = none, 1= negligible, 2 = occasional, 3 = moderate, 4 = frequent, 5 = abundant

RESULTS OF THE PLANT MACROFOSSIL ASSESSMENT

Sampling produced small flots (9ml and <2ml respectively). Sample <1> taken from the fill (context [94]) of pit [93] and sample <6> extracted from pit fill context [99] produced varying quantities of charred plant remains. While both samples contained a small to moderate amount of charred wood fragments, charred macroplant remains were mainly recorded in sample <1>.

Cereals

The assemblage of charred grains recovered from the flots and the residues was dominated by caryopses of barley (*Hordeum* sp.) with a very small amount of wheat (*Triticum* sp.) and oat (*Avena* sp.). Grains of hulled barley (*Hordeum vulgare*) were principally symmetrical but the presence of infrequent asymmetrical lateral grains indicates that multi-rowed barley was also represented within the assemblage. Although several grains were in a poor state of preservation, the majority were remarkably well preserved with the *lemna* and *palea* attached. By contrast, grains of wheat (*Triticum* sp.) were uncommon and poorly preserved and with the absence of rachis segments or other chaff it has not been possible to identify the taxa beyond the genus level. This is also true of the infrequent oat (*Avena* sp.) caryopses for which florets are required to confirm whether they represent wild or cultivated forms.

Weeds/nuts

Charred weed seeds were recorded principally in the flot from sample <1>. The small assemblage comprised infrequent seeds from the goosefoot (Chenopodiaceae) family, some unidentified grass seeds (Poaceae), a single indeterminate vetch/vetchling/tare (*Vicia/Lathyrus* sp.) and five sedges (*Carex* sp.). Infrequent hazelnut (*Corylus avellana*) shell fragments were present in the residue from sample <1> [94]. In addition small indeterminate stem fragments were also noted in the flot from sample <1>.

Wood charcoal

The following taxa were identified:

Fagaceae -	*Quercus* sp. (deciduous oak)
Corylaceae -	*Corylus avellana* (hazel)
Salicaceae -	*Salix/Populus* sp. (willow/poplar)
Prunoideae -	*Prunus* sp. (cherries/sloe)

The assemblage of wood charcoal contained fragments of varying maturity including several pieces of small round wood as well as fragments of mature, slow grown wood. Charcoal fragments in both these samples were of varying sizes including some large-sized pieces >50mm. Oak (*Quercus* sp.), willow/poplar (*Salix/Populus* sp) and hazel (*Corylus avellana*) were present in both samples. In addition, cherry/sloe (*Prunus* sp.) was evident in sample <6>. Sample <1> included fragments of both mature slow grown oak wood and young roundwood, of oak, hazel and willow/poplar, displaying fewer than 10 growth rings.

Significance and potential

Sampling has confirmed the presence of charred cereal remains (principally barley) and charcoal with very few weeds and no chaff. The assemblage of charred macroplants has provided evidence for the use of crops and the use of wild food. Hazelnuts could have formed part of the diet of the inhabitants of the site. The majority of barley grains present in sample <1> were in a very good state of preservation. The presence of well-preserved grains with *lemna* and *palea* attached together with less well preserved cereal grains indicates that the assemblage within pit [93] originates from several charring events although the feature was sealed relatively quickly after the deposition of barley.

The absence of chaff is interesting. They would be expected in assemblages associated with flooring, thatching and animal bedding. The presence of charred grains with *lemna* and *palea* attached together with the small quantity of charred weed seeds is more likely to indicate the presence of semi-cleaned grains. The grains could have been brought to the site in this semi-cleaned state with the final processing being carried out at a later stage. They could have been accidentally charred during drying before storage or before processing. It is however difficult to know if the remains from pit [93] were used as fodder or if they represent food consumed by the population at the site, either in soups or porridge. The grains could have also been intended for milling or for malting. Although the samples from Somerset House contained a moderate assemblage of charred macroplant remains, further work is unlikely to add significant information to the body of evidence already known for the area. Several Saxon sites have been investigated in the *Lundenwic* area including the site at 27 James Street (Allott forthcoming) and several deposits have also produced assemblages rich in barley: 28-31 James Street (Hunter 2004), Maiden Lane (MAI86) and Jubilee Hall (Davis and de Moulin 1988).

Wood charcoal present in Saxon pit features at the site is likely to represent fuel waste from domestic fires. It may be directly associated with the rich, well preserved barley assemblage or with other charred macrobotanical remains in the pit feature. It is also possible that some of the fragments derive from timbers used in construction. Roundwood may derive from wattle for example. The presence of both mature and young round wood specimens suggests wood originated from several sources. While it is difficult to determine the exact origins of the wood much of the fuel wood and timbers brought to the settlement at this time could derive from managed woodland. Unfortunately it is not possible to

determine this from the charcoal assemblage. Deposits of a similar age excavated at 27 James Street revealed a broader range of woody taxa, including elm, beech, alder and ash in addition to oak, hazel and willow (Allott forthcoming). Although well preserved the assemblage from Somerset House is too limited to contribute significant information regarding the full range of wood used or the composition of the woodland/s from which it derived.

Table 3: Results of the residue quantification of samples from East Wing, Somerset House, Strand, City of Westminster, London (Site Code: EAF10)

Provisional date	Sample number	Context number	Context / deposit type	Sample Volume (l)	Sub-Sample Volume (l)	Charcoal >4mm	Weight (g)	Charcoal <4mm	Weight (g)	Charcoal identification and quantification	Charred botanicals (other than charcoal)	Weight (g)	Bone and Teeth	Weight (g)	Burnt Bone 2-4mm	Weight (g)
Saxon	1	94	Fill of pit [93]	30	30	***	34	*	<2	*Quercus* sp. (7) (mostly mature, slow grown, one young round wood), *Salix/Populus* sp. (1) (round wood), *Corylus avellana* (3) (round wood, <10 growth rings visible)	*** *Hordeum* sp. (***), *Avena* sp. (*), *Corylus avellana* (*)	2	*	<2	*	<2
Saxon	6	99	Fill of pit	30	10	**	6	*	<2	*Prunus* sp. (1), *Quercus* sp. (7), *Salix/Populus* sp. (2), *Corylus avellana* (3)	* cf. *Avena* sp., Cerealia	<2				

Key: Number of specimens * = 1-10, ** = 11-50, *** = 51-250, **** = >250 and weights in grams.

Table 4: Results of the flot quantification of samples from East Wing, Somerset House, Strand, City of Westminster, London (Site Code: EAF10)

Sample number	Context number	Weight (g)	Flot volume (ml)	Volume scanned	Uncharred %	Sediment %	Seeds/fruits uncharred	Charcoal >4mm	Charcoal <4mm	Charcoal <2mm	Crop seeds charred	Identifications	Preservation	Weed seeds charred	Identifications	Preservation	Other botanical charred	Identifications	Preservation
1	94	4	9	9	5	15	* *Sambucus nigra*, *Betula* sp., *Taraxacum officinale*	*	*	***	***	*Hordeum vulgare* sp. (***), *Triticum* sp. (*), *Avena* sp. (**)	+ to +++	*	Poaceae (*), *Vicia/ Lathyrus* sp. (1), Chenopodiaceae, *Carex* sp. (5)	+ to ++	*	small indet. stem frags.	+
6	99	<2	<2	<2	10	5	* *Sonchus* sp.		*	***	*	*Triticum* sp. (1), Cerealia (1), *Hordeum vulgare* (2)	+ to ++						

Key: Number of specimens (* = 1-10, ** = 11-50, *** = 51-250, **** = >250) and preservation (+ = poor, ++ = moderate, +++ = good)

Recommendations

Given the wealth of evidence already obtained for this period in the *Lundenwic* area and given the similarity of the assemblage with the material from neighbouring sites, no further work is recommended on the charred macroplant remains. In addition, no further work is recommended on the charcoal assemblage from this site due to the limited number of samples and the likelihood that multiple charring events are represented in charcoal within these Saxon pit features.

Pollen concentrations are low to moderate in the sub-samples from column samples <2> and <3>, and the assemblages are dominated throughout both sequences by herbaceous taxa. Further work on the pollen is therefore not recommended.

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APPENDIX 10: OASIS FORM

OASIS ID: preconst1-130572

Project details	
Project name	An archaeological Watching Brief and Excavation at the East Wing, Somerset House, Strand, London
Short description of the project	An archaeological Watching Brief and Excavation at the East Wing, Somerset House, Strand, London. A watching brief on the lowering of basement floor levels recorded Saxon and medieval pitting. Later medieval chalk foundations were also recorded within the basement. A sequence of Tudor brick and masonry foundations ran through a number of rooms of the basement and related to the original Tudor Somerset House built in the mid 16th century by Edward Seymour. This Tudor palace was demolished in the late 18th century to make way for the current building. Late 18th century brick drainage culverts were also recorded along with 19th century brick flues relating to underfloor heating, Natural London clay was recorded in one of the basement rooms.
Project dates	Start: 01-09-2010 End: 01-06-2011
Previous/future work	Yes / No
Any associated project reference codes	EAF 10 - Sitecode
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Other 2 - In use as a building
Monument type	RUBBISH PIT Early Medieval
Monument type	RUBBISH PITS Medieval
Monument type	CHALK WALL FOUNDATIONS Medieval
Monument type	CHALK WALL FOUNDATIONS Post Medieval
Monument type	BRICK WALL FOUNDATIONS Post Medieval
Monument type	BRICK DRAINAGE CULVERTS Post Medieval
Monument type	BRICK AND TILE FLUES Modern
Significant Finds	LOOMWEIGHTS Early Medieval
Significant Finds	POTTERY Early Medieval
Significant Finds	POTTERY Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	CBM Roman
Significant Finds	CLAY TOBACCO PIPE Post Medieval
Significant Finds	CANDLEHOLDER Post Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	ANIMAL BONE Early Medieval
Significant Finds	ANIMAL BONE Medieval
Significant Finds	ANIMAL BONE Post Medieval
Investigation type	''Part Excavation'',''Watching Brief''
Prompt	Direction from Local Planning Authority - PPG16

Project location	
Country	England
Site location	GREATER LONDON CITY OF WESTMINSTER WESTMINSTER The East Wing, Somerset House, The Strand, City of Westminster, London
Postcode	WC2R 1LA
Study area	935.00 Square metres
Site coordinates	TQ 3078 8082 51 0 51 30 38 N 000 06 54 W Point
Height OD / Depth	Min: 5.22m Max: 5.22m
Project creators	
Name of Organisation	Pre-Construct Archaeology Ltd.
Project brief originator	GLAAS
Project design originator	Helen Hawkins
Project director/manager	Helen Hawkins
Project supervisor	Neil Hawkins
Type of sponsor/funding body	University
Name of sponsor/funding body	Kings College London
Project archives	
Physical Archive recipient	LAARC
Physical Contents	"Animal Bones","Ceramics","Environmental","Glass","Metal","Worked stone/lithics"
Digital Archive recipient	LAARC
Digital Contents	"Animal Bones","Ceramics","Environmental","Glass","Metal","Stratigraphic","Survey","Worked stone/lithics"
Digital Media available	"Database","Survey","Text"
Paper Archive recipient	LAARC
Paper Media available	"Context sheet","Diary","Drawing","Map","Matrices","Miscellaneous Material","Notebook - Excavation',' Research',' General Notes","Photograph","Plan","Report","Section","Survey ","Unpublished Text"
Project bibliography 1	
Publication type	Grey literature (unpublished document/manuscript)
Title	An Archaeological Watching Brief at the East Wing, Somerset House, Strand, City of Westminster, London, WC2R 1LA
Author(s)/Editor(s)	Hawkins, N.
Date	2012

Issuer or publisher	Pre-Construct Archaeology Ltd
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Entered by	Neil Hawkins (nhawkins@pre-construct.com)
Entered on	18 July 2012

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