

**WASTE STORAGE HUT,
DEAN'S YARD,
WESTMINSTER ABBEY, LONDON**

**AN ARCHAEOLOGICAL WATCHING
BRIEF**

**LOCAL PLANNING AUTHORITY:
CITY OF WESTMINSTER**

PLANNING REFERENCE: 13/00488/FULL

PCA REPORT NO: 11596

SITE CODE: WSD13

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PRE-CONSTRUCT ARCHAEOLOGY



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WESTMINSTER ABBEY, LONDON

AN ARCHAEOLOGICAL WATCHING BRIEF

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Waste Storage Hut, Dean's Yard, Westminster Abbey, London

An Archaeological Watching Brief

Site Code: WSD13

Central NGR: TQ 2993 7937

Local Planning Authority: City of Westminster

Planning Reference: 13/00488/FULL

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1 ABSTRACT

- 1.1 This report details the results of an archaeological watching brief carried out during ground works for the construction of a new waste storage hut in the southwest corner of Dean's Yard, Westminster Abbey, City of Westminster SW1P 3PA. The work was undertaken by Pre-Construct Archaeology Ltd. and was commissioned by Ptolemy Dean Architects on behalf of the Dean and Chapter. The project was managed by Chris Mayo and supervised by Paw Jorgensen and Mike Tunnicliffe, all of Pre-Construct Archaeology Ltd. The work was monitored by Professor Warwick Rodwell, OBE, Archaeological Consultant to Westminster Abbey, and the Archaeology Advisor to the City of Westminster, Sandy Kidd of English Heritage.
- 1.2 The watching brief was carried out in two stages between August and November 2013 within the southwest corner of Dean's Yard to the southwest of Westminster Abbey (central National Grid Reference: TQ 2993 7937).
- 1.3 The earliest evidence of activity was recorded in the largest of the three trenches excavated, Trench 1 and comprised the remains of an east-west aligned brick wall dated to the 16th or 17th century. Two successive mortar floor surfaces were recorded to the north of the wall while an external yard surface was recorded to the south. These were of 18th century date. Evidence of the buildings demolition in the mid- to late 18th century was also recorded within the trench as was evidence for a 19th century garden wall and associated deposits and features along with later demolition features and road deposits.
- 1.4 With few exceptions the finds recovered during the watching brief were of post-medieval date with only a few residual medieval finds. Worthy of note is a fragment of Westminster or Chertsey floor tile with an unusual crossed border design, a fragment of a rare Persian blue wall tile and a fragment of a glazed curved pan tile.

2 INTRODUCTION

- 2.1 An archaeological watching brief was conducted by Pre-Construct Archaeology Ltd. during ground works ahead of the construction of a new waste storage hut in the southwest corner of Dean's Yard, Westminster Abbey, City of Westminster, SW1P 3PA (Figures 1 and 2). The watching brief was conducted between 22nd August 2013 and 8th November 2013 on behalf of the Dean and Chapter of Westminster Abbey.
- 2.2 The site comprises the southwest corner of Dean's Yard to the southwest of the main Westminster Abbey buildings. The central National Grid Reference of the site is TQ 2993 7937.
- 2.3 The project was monitored by Professor Warwick Rodwell, OBE, Archaeological Consultant to Westminster Abbey, and the Archaeology Advisor to the City of Westminster, Robert Whytehead of English Heritage. It was project managed by Chris Mayo and supervised by Mike Tunnicliffe and the author.
- 2.4 The completed archive comprising written, drawn and photographic records and artefactual material will be deposited with the Westminster Abbey Museum under the site code WSD13.
- 2.5 Westminster Abbey, along with Westminster Palace and St Margaret's Church, is a World Heritage Site (number 426, designated inscription in 1987).

3 PLANNING BACKGROUND

3.1 National Policy: National Planning Policy Framework

3.1.1 In March 2012 the Department for Communities and Local Government issued National Planning Policy Framework (NPPF), which provides guidance for planning authorities, property owners, developers and others on the investigation and preservation of heritage assets.

3.1.2 In considering any planning application for development, the local planning authority will be guided by the policy framework set by government guidance, in this instance NPPF, by current Local Plan policy and by other material considerations.

3.2 Local Policy: City of Westminster's Local Development Framework – Core Strategy

3.2.1 The study aims to satisfy the objectives of the City of Westminster, which fully recognises the importance of the buried heritage for which they are the custodians.

3.2.2 Part V of the City of Westminster's Local Development Framework – Core Strategy (adopted January 2011) includes policies pertaining to the preservation and conservation of Westminster's wider historic environment.

POLICY CS24 HERITAGE

Recognising Westminster's wider historic environment, its extensive heritage assets will be conserved, including its listed buildings, conservation areas, Westminster's World Heritage Site, its historic parks including five Royal Parks, squares, gardens and other open spaces, their settings, and its archaeological heritage. Historic and other important buildings should be upgraded sensitively, to improve their environmental performance and make them easily accessible.

Reasoned Justification

The intrinsic value of Westminster's high quality and significant historic environment is one of its greatest assets. To compete effectively with other major, world-class cities the built environment must be respected and refurbished sensitively as appropriate. Any change should not detract from the existing qualities of the environment, which makes the city such an attractive and valued location for residents, businesses and visitors.

Detailed policies for each type of heritage asset will be set out in the City Management Plan. Area-based characteristics and detailed measures required to protect and enhance heritage assets have been set out in Conservation Area Audit Supplementary Planning Documents and the Westminster World Heritage Site Management Plan.

3.2.3 The Core Strategy has now been superseded by *Westminster's City Plan: Strategic Policies* (adopted November 2013). Policy S25 Heritage therein contained repeats the above Policy CS24.

3.3 Site Specific Constraints

- 3.3.1 The site is located within the World Heritage Site of the Palace of Westminster and Westminster Abbey including St. Margaret's Church (number 426, designated inscription in 1987). Development within the World Heritage Site is guided by Policy DES 16 within the former City of Westminster's Unitary Development Plan (adopted 24 January 2007)
- 3.3.2 The site is also located within an Area of Archaeological Potential as defined by the local authority.

3.4 Site Specific Background

- 3.4.1 In April of 2013 Westminster City Council granted planning permission for a new waste storage hut to be constructed in the southwest corner of Dean's Yard (Planning Application Number: 13/00488/FUL). Because the development was likely to damage heritage assets of archaeological and historical interest a condition requiring the implementation of a programme of archaeological work was attached to the planning permission.

Condition:

- 3 A) No demolition or development shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a Written Scheme of Investigation which has been submitted by the applicant and approved by the local planning authority.
- B) No development or demolition shall take place other than in accordance with the Written Scheme of Investigation approved under Part (A).
- C) The development shall not be used until the site investigation and post investigation assessment has been completed in accordance with the programme set out in the Written Scheme of Investigation approved under Part (A), and the provision made for analysis, publication and dissemination of the results and archive deposition has been secured.

Reason:

To protect the archaeological heritage of the City of Westminster as set out in CS24 of our Core Strategy that we adopted in January 2011 (as amended by the NPPF Revision submitted to the Secretary of State on 25 January 2013) and DES 11 of our Unitary Development Plan that we adopted in January 2007. (R32BC)

Heritage assets of archaeological interest survive on the site. The planning authority wishes to secure the provision of archaeological investigation and historic building assessment followed by the subsequent recording of significant remains prior to development (including preservation of important remains), in accordance with recommendations given by the borough and in PPS 5/NPPF.

Informative(s):

- 3 The development of this site is likely to damage heritage assets of archaeological and historical interest. The applicant should therefore submit detailed proposals in the form of an archaeological project design. The design should be in accordance with

the appropriate English Heritage guidelines.

3.4.2 It was decided that a programme of archaeological monitoring and recording (watching brief) would form appropriate mitigation in this instance, applied specifically to the groundworks excavations (GLAAS 2009; IfA 2013).

3.5 Archaeological Objectives of the Project

3.5.1 The objectives of the archaeological investigation, as outlined in the WSI were:

- To record the nature, extent, date, character, quality, significance and state of preservation of any archaeological remains affected by the investigation.
- To assess where appropriate the ecofactual and palaeo-environmental potential of archaeological deposits and features from within the site.
- To report on the results of the Watching Brief.

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

4.1.1 The study site is located on the former Thorney Island, the largest and probably the most elevated of the islands within the Tyburn delta. The island was located at the confluence of the Rivers Tyburn and Thames. The underlying geology of the island comprises Eocene London Clay overlain by sands and gravels deposited during the Late Quaternary era (Thomas *et al.* 2006).

4.2 Topography

4.2.1 The study site comprised a portion of the southwest corner of Dean's Yard located to the southwest of the main Abbey buildings.

4.2.2 The area was generally flat and located at c. 4.00 m OD, Dean's Yard having been levelled during the post-medieval period. Prior to levelling there would have been a slope down from north-east to south-west, reflecting the natural gradient of the western side of Thorney Island.

4.2.3 The north-flowing River Thames is located beyond the Houses of Parliament, some 300m east of the site.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Palaeoenvironmental

5.1.1 The natural sedimentary depositional sequence in the vicinity of the study site has a complex recent (in geological terms) history stretching back 6000 to 7000 years, the upper stratigraphy of the basal geology having been formed by alluvial deposition (Thomas 2000). The early Holocene sequence was characterised by channel margin deposition and the formation of palaeochannel dune systems. The meandering stream of the River Tyburn divided into two branches forming a tripartite division of the land near its confluence with the River Thames. Deposition of sand and gravel between the two branches of the stream commenced around 4350 cal. BP and led to the formation of a riverine dune system known as the Thorney Sand Bed (*ibid.*). This area of firm ground amidst the marshland in the Tyburn delta later became known as Thorney Island (De Maré 1968) on which the current study site is located.

5.1.2 By the beginning of the Bronze Age the higher ground of the island had become dominated by lime forest, which was later replaced by oak-dominated woodland with a hazel understorey, whilst lower-lying areas around the periphery of the island were dominated by alder and sedge vegetation. Deforestation of the island occurred sometime during the Early Bronze Age with evidence for arable cultivation appearing shortly thereafter (Thomas *et al.* 2006).

5.2 Prehistoric

5.2.1 An archaeological excavation carried out by Pre-Construct Archaeology during 2009 towards the north of Dean's Yard, recovered a struck flint of Late Neolithic/Early Bronze Age date (Jorgensen 2010). Archaeological investigations undertaken prior to the extension of the Jubilee Line between 1991 and 1998 revealed evidence for Bronze Age activity along the east side of Thorney Island in the form of a timber revetment along the river as well as possible boundary fences. Environmental data collected during investigation in the 1990s indicated the presence of cereal pollen, suggesting arable cultivation in the vicinity during this period. Although there may have been significant human activity on the island from the Late Neolithic and through much of the Early Bronze Age, there appears to have been a much-reduced presence by the later Bronze Age (Thomas *et al.* 2006).

5.2.2 Evidence for Iron Age occupation is limited and has almost exclusively been recorded in the more elevated areas of the island. It has been suggested that this may have been due to a major flooding event during the middle of the 11th century AD, which resulted in extensive truncation of Late Bronze Age, Iron Age and Roman deposits along the peripheral areas of Thorney Island (Thomas *et al.* 2006). However, the 2009 excavation in Dean's Yard revealed a single pit that contained a small assemblage of Late Iron Age and early Roman pottery (Jorgensen 2010).

5.3 Roman

- 5.3.1 The Roman settlement of *Londinium* was centred upon the modern day City of London, some distance to the east of Westminster. Whilst no definite Roman features have been recorded during excavations on the former island, artefacts dating to this period have been recovered from a number of excavation sites. In the vicinity of the Abbey itself a number of antiquarian discoveries have been reported including a Roman sarcophagus found on the north side of the Abbey (Poole 1870). Although the sarcophagus itself was probably of Roman origin, it is likely that it was brought to the island and reused during the Saxon period.
- 5.3.2 Part of a Roman hypocaust and walls are reported to have been observed below the floor of the nave of the Abbey church and two fragments of Roman concrete floor have been recorded near the south side of the cloister and infirmary cloister (Thomas et al. 2006). Some accounts of the origins of Westminster Abbey claim that a temple dedicated to Apollo was constructed on Thorney Island in the second century AD., and when it was destroyed by a violent earthquake, King Lucius built the island's first church in its place (Morley 1890). However, no archaeological evidence exists to substantiate these suggestions.

5.4 Anglo-Saxon

- 5.4.1 The main Saxon settlement of *Lundenwic* was focussed on the area between present day Charing Cross and Aldwych to the north-east of the site. During the late Saxon period Thorney Island became an important religious centre. This is reflected by the place name 'Westminster', which derives from the Saxon word 'minster', referring to either the monastery church built on the island by Edward the Confessor or an earlier church on the site. It was consecrated prior to the Norman invasion of 1066.
- 5.4.2 One of the earliest references to a church derives from Offa's Charter, c. AD 785, which refers to 'St. Peter and the people of the Lord dwelling in Thornea at the awesome place called Westminster' (Barton 1992). The authenticity of this charter has been brought into question by various 20th century scholars and it seems likely that it is a later forgery.
- 5.4.3 It is more likely that the foundation of the abbey dates to the reign of King Edgar (959-75) who granted a foundation charter to St Dunstan. The church founded by St. Dunstan was described as a *monasteriolum*, or little monastery, and was inhabited by twelve monks and an abbot (Thomas et al. 2006).
- 5.4.4 Under Edward the Confessor the abbey was refounded and a new church built in stone to replace the earlier building. The anonymous 11th-century biographer of the Confessor stated in *Vita Ædwardi* that Edward's motives for founding a great Abbey church at Westminster were not only in his piety and devotion to St. Peter, the favourable location of the place, on the river and close to London, but principally because he wished for himself to be buried there (Field 1996).
- 5.4.5 Work on the new church commenced in 1045 and, although not completed in its entirety, was consecrated in December 1065. *Vita Ædwardi* states that the new church was built far

enough to the east of the existing one to enable services to continue in it; whilst Sulcard in his History of Westminster (written in the 11th century) states that the old church was demolished to make room for the new (Field 1996).

- 5.4.6 Limited archaeological evidence for a presence during the Saxon period has been found within the vicinity of the study site, including land reclamation deposits of Saxon date along with a contemporary partial donkey skeleton identified during investigations at 17 Dean's Yard (Murray 2003). Residual Saxon pottery was also recovered during the 2009 excavation towards the north of Dean's Yard (Jorgensen 2010). A recent excavation within the cellarium and adjacent spaces uncovered the remains of a late 10th or early 11th century chalk block wall (Jorgensen 2013).

5.5 Medieval

- 5.5.1 In the early medieval period, the pre-established seats of government and law were retained by the Norman Kings in an attempt to legitimise their claims to the throne. The Palace of Westminster, largely built by Edward the Confessor, was to remain the legislative centre and residence for over 500 years (De Maré 1968).
- 5.5.2 The flow of the Tyburn was heavily impacted upon in 1236 when, on the request of Henry III and the Lord Mayor, a conduit was installed by Tyburn Springs (near present day Marble Arch) to ensure a supply of clean water to the growing population of the city. While it is unclear exactly how much this impacted on the flow of the river it has been suggested that the stream was reduced to a mere trickle as a result of the piping of the springs (Barton 1992).
- 5.5.3 Following his return from visits to France in 1242 and 1243 Henry III embarked on an ambitious mission to rebuild Westminster Abbey as a rival to the great abbeys and churches of France. With the assistance of Master Henry of Reynes, the newly appointed Master of the King's Masons, the task of demolishing the old Romanesque church began (Field 1996).
- 5.5.4 By the time of the king's death in 1272 the work of rebuilding the abbey had not been completed although the unfinished church had been consecrated in 1269. The church was described as 'fully finished to the end of the quire' in 1285 (Field 1996).
- 5.5.5 Fire swept through Westminster Palace and the adjacent abbey in 1298 and although it did not reach the unfinished church itself, the conflagration did cause widespread damage to many of the major monastic buildings on the site. As a result priority shifted from completing the nave of the church to rebuilding the auxiliary buildings (Bond 1909).
- 5.5.6 Following the fire the royal household of Edward I was moved to York for the duration of the rebuilding of the palace on Thorney Island. During the King's absence the integrity of the inhabitants of the monastery was brought into question when the Royal Treasury at the Abbey was burgled. Even prior to the fire Edward had started to divert his attention, and funds, towards St. Stephen's Chapel in Westminster Palace and the burglary of 1303 resulted in a further reduction of royal support for the rebuilding of the Abbey (Field 1996).
- 5.5.7 Work on the ancillary buildings progressed slowly until the later part of the 14th century when a "great fortune" was bequeathed to the Abbey by Cardinal Langham. Even though

the money had been intended to aide the completion of the nave, Abbot Litlyngton directed a significant portion of it towards finishing the rebuilding of the auxiliary buildings (Bond 1909).

- 5.5.8 During Litlyngton's time as abbot (1362-1386) the areas to the north and east of Dean's Yard underwent significant changes. These included the rebuilding "... anew from the foundations" the whole of the abbot's place, the west and south sides of the cloister, the cellarer's range, the great malt house, the watermill, the dam, and the stone enclosure of the infirmary garden (Robinson 1911).
- 5.5.9 An archaeological watching brief carried out by Pre-Construct Archaeology in The Sanctuary during 2008 revealed walls apparently associated with medieval buildings including the Chapter Clerk's dwelling and the Bishop of London's Prison. Several pits and a palaeochannel of medieval date were also recorded (Jorgensen 2008). Further features of medieval date were recorded during the 2009 excavation in Dean's Yard (Jorgensen 2010). Investigations by PCA in the area of the *Cellarium* and *Misericorde* of Westminster Abbey, immediately east of Dean's Yard have revealed well-stratified medieval deposits, including walls of 11th- to 13th century date (Jorgensen 2013). Three 11-12th century grave cuts along with other medieval features were recorded during an archaeological evaluation carried out by PCA in Poet's Corner Yard to the southeast of the abbey church (Jorgensen 2012).

5.6 Post-Medieval

- 5.6.1 By 1528 the work that Henry III had started nearly three centuries earlier was finally completed with the carving of the screens. Only twelve years later, as a result of the Dissolution of the Monasteries, the deed surrendering the abbey to the crown was drawn up (Bradley 1895).
- 5.6.2 Following the Dissolution, Henry VIII, in 1541, granted to Thomas Thirlby, who had recently been appointed Bishop of Westminster, "... and his successors of the site and circuit of the dwelling-house, Cheynyngats in Westminster, Midd., in which William, late abbot of Westminster, dwelt, with all buildings and lands, &c., within and adjoining the said site, certain of the buildings abutting on:—the cloister of the said late monastery, the Elmes, the church of the said late monastery, the poors' house called the Kynges Almoshouse, and upon the street called the Brode Sentwarye" (Gairdner 1898).
- 5.6.3 During his time as Protector (1547-1549), Edward Seymour, 1st Duke of Somerset stripped away "... the plate and furniture" which had remained in the possession of the Chapter following the Dissolution under Henry VIII's reign. At this time the land that had been returned to the Chapter by Henry, including the Elms (Dean's Yard), was granted by the Dean to the Protector (Bradley 1895).
- 5.6.4 John Norden's 1593 survey of Westminster shows Dean's Yard as an enclosed rectangular area bordered to the south and east by buildings and planted with trees. Buildings are also shown extending eastwards from the north-west corner of the enclosed space.
- 5.6.5 In 1561 Queen Elizabeth I established the College of Westminster and the old monastic granary was converted into a dormitory for the Queen's Scholars. It subsequently became

- known as Scholars' or College Chamber (Tanner 1923).
- 5.6.6 Nearly a century later, Ogilby and Morgan's map (1677) shows that development has begun within the open fields shown on Norden's map. By this time the area had been partially built up around a series of streets and yards. While few of these are named on the map they correspond to College Court, Smith Street and Stable Yard referenced on later maps.
- 5.6.7 Brief descriptions of both the Stable Yards and College Court were provided by Robert Seymour in 1735:
- "...the Stable Yards at the entrance into which are good houses, but that part leading to Orchard Street is taken for stabling and coach-houses, but near the entrance is a new built court, called College Court, with handsome genteel houses, with a freestone pavement, which hath a thorough-fare passage (Seymour 1735)."
- 5.6.8 College Court acted, as Seymour mentioned, as a thoroughfare providing access from College Street to the south and Dean's Yard to the north. Near the northern end it passed through the complex of alleys, yards and courts described as the Stable Yards.
- 5.6.9 Rocque's 1746 map of London, Westminster and shows the southern part of the present Dean's Yard as fully developed with buildings fronting three streets labelled on the survey as College Court, Smith Street (both north-south aligned) and Stables (east-west aligned). It is likely that this area was, as the survey suggests, used for stables although Tanner (1923) implies that boarding houses for Westminster School also existed in this area possibly as early as the mid- to late 17th century.
- 5.6.10 Dr. Markham, headmaster of Westminster School, in 1756 submitted a proposal to enlarge Dean's Yard by pulling down the dormitory, which was then in a ruinous state, as well as the brewhouse and the buildings to the west of these. By 1760 Dean's Yard began to assume its present appearance although mostly gravelled with the exception of "the Elms" rectangle to the north. A row of "picturesque" houses extended east into the centre of the new quadrangle. These included the Scholars' Coffee-House (Tanner 1923).
- 5.6.11 In 1815 Dean's Yard was described as "...an odd mixture of decayed grandeur, modern ruins, strong old flinty walls, and crumbling new bricks" there "even the very trees nod in unison with falling structures and broken rails, and the earth, in many a rise and fall, shows some remote effects of Henry VIII's dissolution of monasteries" (Nightingale 1815).
- 5.6.12 By the end of that year the row of "picturesque" houses extending into the yard were demolished and the entire area turned into a large green space to be used as sports fields for Westminster School. The transformation of Dean's Yard from the small rectangular area of "the Elms" into the modern quadrangle was almost entirely completed by 1844 when flagstones replaced the gravelled area along the periphery of "the Green" (Tanner 1923).
- 5.6.13 Archaeological investigations in the vicinity of the study area have revealed evidence of earlier post-medieval deposits surviving below ground including those carried out by Pre-Construct Archaeology in 2008 and 2009 (Jorgensen 2008; 2010). Another watching brief carried out in 2009 between The Sanctuary and Victoria Street revealed post-medieval

made ground deposits below the modern road surface (Barrowman 2009), though subsequent investigations in the same area revealed no deposits pre-dating the 20th century (Bright 2010). Archaeological work by PCA in the *Cellarium* and *Misericorde* has also revealed deposits encompassing much of the post-medieval period (Jorgensen 2013). In 2011 a watching brief was undertaken by PCA during the installation of a new gas main around the perimeter of Dean's Yard (Boyer 2011). This work included monitoring of small trenches in very close proximity to the proposed works; these interventions however proved archaeologically sterile, with only made ground deposits present. A small section of *in situ* 18th century wall was seen approximately 1m bgl in a trench 30m to the north of the proposed works.

6 ARCHAEOLOGICAL METHODOLOGY

- 6.1 In accordance with an approved WSI (Mayo 2013), archaeological monitoring and recording was undertaken during the excavation of groundworks to facilitate the construction of a new waste storage hut within the southwest corner of Dean's Yard. The watching brief aimed to identify and quantify any archaeological remains and assess the nature of any disturbances or intrusions.
- 6.2 A total of three trenches (1-3) were investigated, all located in areas with a tarmac surface. The tarmac (and where necessary, underlying concrete) was broken out using a handheld mechanical breaker (kango). Excavation was thereafter carried out by hand to the formation level. Where archaeological features were identified these were cleaned and examined using hand tools.
- 6.3 Works were carried out under archaeological supervision and once excavation of each trench was completed, written, drawn and photographic records were made of the trench base plan, depth of excavation and any deposits of potential archaeological interest. A total of three trenches were excavated.
- 6.4 The recording systems were fully compatible with those used elsewhere in the City of Westminster. Individual descriptions of all archaeological strata and features excavated and exposed were entered onto pro-forma recording sheets. All plans and sections of archaeological deposits were recorded on polyester based drawing film, the plans being drawn at a scale of 1:20 and the sections at 1:10. A digital photographic record was made of the investigations as they progressed. Levels were derived from spot heights recorded on Ordnance Survey plans and earlier surveys.
- 6.5 Upon completion of all phases of the work the completed archive will be deposited with the Westminster Abbey Museum under the unique site code WSD13.

7 ARCHAEOLOGICAL PHASE DISCUSSION

7.1 Phase 1: 16/17th Century

7.1.1 The earliest remains recorded during the watching brief were related to a brick building. Only one small wall segment of the building was seen in the southeastern part of Trench 1 where the trench was slightly deeper to facilitate the construction of the foundation for the new storage hut. The surviving wall segment, [17], had been constructed using unfrogged red bricks measuring 226mm x 100mm x 60mm. These had been set in loose earthy grey lime mortar with frequent white flecks. Unfortunately not enough of the wall was exposed to determine the exact coursing/bond of the brickwork although the bricks could be seen to be regularly coursed. The wall segment extended both east and west beyond the limits of the trench for the new foundation and thus only a small section measuring 0.90m north-south by 0.80m east-west by at least 0.10m high was observed (Plate 3). This did however include the full width (0.90m) of the wall. At the highest point the wall survived to a height of 3.48m OD. The wall segment had been reused as the footing for a later wall, [13] (Phase 3). A single whole brick with associated mortar was retained for dating. This revealed a likely date of the wall to be 1500-1700.

7.2 Phase 2: 18th Century

7.2.1 A mortar surface, [16], had been laid down against the north side of wall [17]. The top of the surface, which appeared trampled and worn, was seen at 3.42m OD. Brick dust had been compressed into the top of the mortar surface forming a circa 2-3mm thick light yellowish red skin covering the exposed part of the surface in its entirety. Below this the surface gradually became more light grey in colour, resembling in both colour and texture the earthy grey mortar used in the construction of wall [17] to the south. The mortar surface contained frequent small charcoal and chalk flecks throughout as well as very occasional very small rounded and sub-angular flint pebbles. Only a small portion of the surface was exposed and subsequently excavated as the top of it appeared below the formation level of the proposed building. As such it was only seen within a small sondage excavated against the north side of wall [17] in an attempt to determine its depth. The sondage measured 0.24m north-south by 0.20m east-west and the mortar surface, of which only the top 0.10m was excavated, extended beyond the limits of it in all directions. While excavation of the surface produced no finds its date can roughly be determined by the dating of the layers above as well as the wall against which it was laid. This means that the surface cannot predate 1500 and is unlikely to postdate 1750. While this is a relatively broad date range the similarity between the mortar used for the construction of surface [16] and wall [17] may suggest that the mortar surface was laid down closer to the time of the construction of the wall, i.e. between 1500 and 1700. However, as this remains speculative due to the absence of temporally diagnostic material from the surface itself, it has been included in Phase 2 rather than Phase 1.

7.2.2 Sealing the mortar surface was a 60mm thick dump layer, [15], comprising loose mid-brown

fine grained silty sand with frequent flecks of chalk and ceramic building material as well as occasional small sub-angular flint pebbles. It extended 4.82m north from the north side of wall [17] and beyond the limits of the trench. To the west the deposit had been truncated by a later gully running parallel to the current road around the green and to the east the dump layer extended beyond the limits of the trench. This left only a 1.26m wide (east-west) strip of the layer exposed within the trench. At the highest point layer [15] was seen at a height of 3.48m OD. Excavation of the deposit produced only ceramic building material fragments that could broadly dated to between 1700 and 1900. However, the deposit sealing it could be dated more accurately to between 1700 and 1750, so this seems a more likely date range for [15] as well.

- 7.2.3 A 0.20m thick mortar floor, [10], had been constructed directly on top of dump layer [15]. This comprised compact light grey lime mortar and silty sand with frequent charcoal and chalk flecks, occasional chalk, Reigate stone and Kentish ragstone chips and small pieces. The surface also contained ceramic building material fragments dated 1700-1900 and pottery sherds dated 1670-1750. A likely date for the construction of the surface is believed to be between 1700 and 1750. At the southern end the mortar surface appeared to have been truncated by the construction of a later wall, [13], which had been built directly upon the remains of wall [17]. It is likely that mortar surface [10] is related to the earlier wall, [17], although the top of the surface was at 3.68m OD and the earlier wall, [17], survived only to a height of 3.48m OD. The thought that the surface and the wall are related is supported by the fact that the mortar surface does not continue to the south of the wall. In the western part of Trench 1, at a similar level to [10] was another mortar surface, [21]. It is likely that this represents the westward continuation of [10] as their characteristics were identical.
- 7.2.4 An external yard surface, [14], had been laid down against the south side of wall [17]. To the north the lower part of the deposit abutted the wall while the upper part had been truncated by the construction of the later wall, [13]. The yard surface had been truncated to the west by a large pit, [6]; to the east and south deposit [14] extended beyond the limits of the trench. Only a small area, measuring 1.68m north-south by 1.76m east-west, of the yard surface was contained within the southeast corner of Trench 1. The surface comprised compacted dark brown silty sand with moderately frequent small rounded pebbles and chalk and charcoal flecks. Fragmented roof tiles had been pressed into the top of the deposit giving the appearance of a crude tile surface. The roof tile fragments could be dated to between 1700 and 1900, as was the case for two sherds of pottery also recovered during the partial excavation of the surface. However, the surface is sealed by a deposit which dates to between 1760 and 1800, which means that the construction of the yard surface cannot postdate this. It is likely then that the surface was laid down sometime between 1700 and 1800.
- 7.2.5 To the west the yard surface was truncated by a large pit, [6], which extended west and south beyond the trench. The pit, which was not fully excavated, measured at least 2.40m north-south by 2.20m east-west by 0.30m in depth and was first encountered at a height of 3.64m OD. As far as could be determined from the small part excavated the sides of the

feature were near vertical with a sharp break of slope at the top; the base was not reached. It contained a single fill, [5], which comprised crushed light grey lime mortar and loose building rubble including Reigate stone ashlar fragments, Kentish ragstone rubble and occasional small fragments of roughly dressed chalk blocks. While the fill did not produce any datable finds the pit can be roughly dated by the layers above and below to between 1700 and 1800. The pit may represent activity associated with the demolition of the building with which wall [17] was related.

7.2.6 Sealing the pit at a maximum height of 3.78m OD was a 0.30m-thick layer of made ground comprising loose mid-brownish grey silty sand, [4], with frequent chalk flecks and occasional pockets of brick rubble. It extended across the entire trench although the eastern part of the layer had been bisected by a later gully running parallel to the road around the green. Excavation of the deposit produced a relatively large quantity of pottery sherds which could be dated to between 1760 and 1800. In addition to these, fragments of ceramic building material dated 1700-1800, clay tobacco pipe fragments and a single piece of struck flint were also found. It is likely that the layer was laid down either during or shortly after the demolition of the building represented by wall [17]. The fact that the layer extends over the remains of wall [17] means that the building with which it was associated was probably demolished sometime during the last four decades of the 18th century.

7.2.7 In Trench 2 to the south of Trench 1 the earliest deposit encountered was a cobbled surface, [19]. This was first seen at a height of 3.02m OD and it extended beyond the limits of the 1.0m by 1.0m square trench. It comprised a mixture of naturally worn cobbles and reused building stones which had been reduced to a size of up to 350mm x 320mm x 180mm although the majority were smaller than this (Plate 4). The majority of the reused building stone appeared to be Kentish ragstone although fragments of Reigate stone also appeared, albeit less frequently. No datable finds were recovered during excavation of the surface although finds from the layer above were dated 1700-1740 suggesting that the cobbled surface postdates this. It is possible that the surface represents a cobbled road or courtyard to the south of wall [17].

7.2.8 Sealing the cobbled surface was a 0.80m thick deposit of hard reddish yellow to brown silty sand, [18], mixed with brick fragments and crushed lime mortar. Although in close proximity to the deposits recorded at the southern end of Trench 1 this deposit appeared very different to those in this trench. It is possible that the reason for this is that deposit [18] may be contained within a cut although the sides of the cut were not seen within Trench 2. This is perhaps not surprising considering the small size of the trench. Excavation of the deposit yielded finds dated to between 1700 and 1740.

7.3 Phase 3: 19th Century

7.3.1 In Trench 1 the construction cut, [22], for an east-west aligned brick wall, [13], was cut through demolition layer [4]. The cut for the wall was first seen at a height of 3.78m OD although the wall itself had later been demolished to a level of 3.64m OD. Both sides of the construction cut were vertical with a sharp break of slope at both the top and base and the

wall had been built directly against the sides. The wall, [13], utilised the earlier brick wall, [17], as its foundation (Plate 2). Wall [13] had been constructed using shallow frogged yellow bricks measuring 220-224mm x 100-105mm x 66mm. The bricks, as far as could be determined from the small segment of the wall exposed, were laid in English bond using hard white lime brick mortar as a bonding agent. While bricks of this type were in common use from 1850 to 1900 they could be as early as 1780. If the bricks are of an earlier date then this suggests that the wall may have formed part of the row of 'picturesque' houses extending into the quadrangle from the west towards the central part of Dean's Yard. This row of buildings was likely constructed after Dean's Yard had been enlarged in second half of the 18th century and demolished soon after 1815. While the row of buildings itself is likely to have entered 'the green' further to the north than Trench 1, these had gardens to the rear (south) and it is possible that wall [13] represents the remains of a garden wall belonging to one of these buildings.

- 7.3.2 Approximately 4.60m north of wall [13] a single posthole, [12], had been cut into the demolition layer, [4]. The posthole was circular in shape with a diameter of 0.25m and a depth of 0.40m. It had vertical sides with a sharp break of slope at both the top and base. Filling it was a loose deposit of dark brown moderately coarse silty sand, [11], with occasional small sub-angular flint pebbles. Excavation of the deposit yielded brick fragments dated 1700-1900 and sherds of pottery dated 1760-1830. It is possible that the posthole represents the remains of a garden fence or another timber structure within the garden of one of the houses in the 'picturesque' row of buildings. Alternatively it could also have been associated with a timber structure used during the demolition of the building associated with wall [17] in the later part of the 18th century.
- 7.3.3 Sealing the posthole and extending across the eastern part of Trench 1 was a layer of garden soil, [9], comprising loose mid-greyish brown coarse silty sand with occasional small sub-angular pebbles and chalk and mortar flecks. At its highest point the horizon was recorded at 3.84m OD although the top of the deposit was relatively flat and at its lowest point was recorded at 3.82m OD. Excavation of the garden soil produced a large quantity of pottery sherds (n=340). These could securely be dated to between 1805 and 1830. Fragments of ceramic building material were also recovered and these could be dated to 1700-1800. Excavation of the deposit also yielded a copper alloy thimble fragment (sf 1). It is likely that the horizon represents the topsoil horizon within the garden of the one of the buildings in Dean's Yard.
- 7.3.4 The garden soil horizon did not extend across the western part of Trench 1. Here two large pits, [3] and [8], had been cut into the demolition layer, [4]. Pit [3] was sub-circular in shape and had gently sloping sides with a sharp break of slope at the top and a more gradual break at the base, which was slightly concave. The pit measured 1.90m north-south by 0.74m east-west by 0.24m deep and was first seen at a height of 3.86m OD. It was filled with fragmented York stone paving slabs and loose mid-brown sand, [2]. The stone fragments measured roughly 100-200mm x 90-130mm x 50mm. It is possible that the pit was excavated in order to dispose of waste material when the periphery of Dean's Yard was

paved with flagstones in 1844 (Tanner 1923).

- 7.3.5 Pit [8] was located in the northwest corner of Trench 1 and extended both north and west both north and west beyond the limits of the trench. The portion exposed seemed to form about a quarter of a larger circular or sub-circular pit. It had moderately step sides with a sharp break of slope at the top; the base was not reached as the pit extended below the formation level of the proposed building. As exposed the pit measured 2.40m north-south by 2.10m east-west and it was excavated to a depth of 0.30m; it was first seen at a height of 3.86m OD. The pit was filled with loose mid-brownish grey coarse silty sand, [7], with frequent brick, chalk, charcoal and mortar flecks and occasional sub-rounded pebbles. Excavation of the fill produced building material fragments dated 1700-1850 and sherds of pottery dated 1810-1830. In addition to this a copper alloy coin, likely a halfpenny or halfpenny token (sf 2) was recovered from the fill. Unfortunately this was heavily worn and illegible and could therefore not assist in dating the deposit.
- 7.3.6 Both of these pits were sealed by a 0.20m thick cobbled road surface, [1], extending across the western part of Trench 1. The top of the surface was seen at a height of 3.94m OD. It had been laid down using a mixture of naturally worn cobbles and reused building stone reduced to cobble size. Most of the building stone cobbles were heavily worn around the edges suggesting that the surface had been left exposed and in use for an extended period of time. The surface extended beyond the northern, southern and western limits of the trench and to the east it had been truncated by a gully running parallel to the current road around the green. It is probable that the cobbled road surface represented a precursor to the present tarmac road leading around the quadrangle. Excavation of the cobble surface produced pottery sherds dated 1805-1830 and ceramic building material fragments dated 1890-1950.
- 7.3.7 In Trench 3 the only deposit recorded was the bedding, [20], for the current road. This comprised hard yellowish red to brown silty and sand mixed with compacted brick and mortar rubble. The top of the deposit was seen at 4.40m OD and the deposit was excavated to a depth of 0.36m.

Plate 1: Trench 1 after removal of modern surface. View southwest



Plate 2: Wall [13] (Phase 3) in Trench 1. View east



Plate 3: Wall [17] (Phases 1 and 2) in Trench 1. View north.



Plate 4: Cobbled surface [19] (Phase 2) in Trench 2. View north.



8 INTERPRETATION AND CONCLUSION

8.1 Phase 1: 16th/17th Century

8.1.1 The watching brief recorded a roughly east-west aligned brick wall dating to the 16th or 17th century. This is likely to represent the remains of one of the buildings shown on Ogilby and Morgan's map of 1677 and later on Rocque's 1746 map. Norden's 1593 map shows the area in the vicinity of the study site as open fields with limited development. None of the buildings shown on the 1593 map seem to be in the immediate vicinity of the excavated trenches, so it is likely that the remains of the building found postdate 1593 but predate 1677.

8.1.2 According to Tanner (1923) boarding houses for Westminster School existed within Dean's Yard. This is perhaps supported by the name "College Court" of one of the streets that ran through this part of the area prior to the enlargement of Dean's Yard. Other names street names that appear on Rocque's map within the area of the site include Stable Yard. The building with which the 16th or 17th century wall was associated may then have been part of the stables or perhaps one of the boarding houses within this area. However, the artefactual evidence associated with this phase of the activity did not provide any indication of the use of the building.

8.1.3 The trench was probably located nearer to the former Stable Yard than to the thoroughfare passage College Court. It is perhaps then more likely that the building remains found formed part of the series of stables and coach houses described by Seymour (1735) as occupying part of the Stable Yard.

8.1.4 A ground penetrating radar survey was carried out of Dean's Yard in 2005 (*pers. comm.* W Rodwell) and this identified a number of possible structures within the yard. One of these is located in the vicinity of Trench 1 and consists of a roughly east-west aligned rectangular anomaly. The south side of this anomaly seems to correspond to the position of the wall recorded in the southeast part of Trench 1. If this is the case then the ground penetrating radar survey suggests that evidence for the east end of the building may still survive within the green.

8.2 Phase 2: 18th Century

8.2.1 Use of the 16th/17th century building appears to continue into the 18th century. This was evident from the two mortar floor surfaces recorded to the north of the wall. These suggest that the area to the north of the wall represents the interior of the building while a compact yard surface recorded to the south of the wall suggests that this was exterior to the building. It is likely that the use of the building continued until the enlargement of Dean's Yard in the second half of the 18th century. The enlargement of the yard saw the demolition of the majority of the buildings that occupied the southern part of what is now Dean's Yard, including the former monastic granary, bake house and brew house as well as many others. That the building was demolished during the enlargement of the yard can be supported by the presence of a layer of demolition rubble sealing the wall. Artefactual evidence places the

date of deposition of this layer sometime after 1760, but probably before 1800.

- 8.2.2 In Trench 2 a cobbled surface was recorded. This may represent a road or paved courtyard to the south of the 16th/17th century building.

8.3 Phase 3: 19th Century

- 8.3.1 Following the enlargement of the yard a row of what Tanner (1923) referred to as 'picturesque buildings' was constructed extending east into the green approximately through the middle of the present green. This row of houses survived until about 1815 when they were demolished as Dean's Yard took its current shape. While the row of buildings extending into the yard was likely to the north of the current site they had gardens to the rear (south). In Trench 1 an east-west aligned brick wall utilising the earlier 16th/17th century wall as its footing may represent the south perimeter wall of the gardens belonging to this row of houses. Additional features and deposits recorded within this phase, such as the posthole and garden soil horizon may be related to the gardens.

- 8.3.2 After the demolition of the row of buildings a road seems to have been established around the green quadrangle in the centre of the yard. The pits recorded during this phase are likely associated with the clearing of the site during the demolition of the buildings. Certainly, the larger pit could securely be dated to between 1810 and 1830. The smaller of the two pits was filled with York stone paving slab fragments which may be a result of the paving of the periphery of the yard with flagstones in 1844.

8.4 Conclusions

- 8.4.1 The earliest evidence of activity was recorded in the largest of the three trenches excavated, Trench 1 and comprised the remains of an east-west aligned brick wall dated to the 16th or 17th century. Two successive mortar floor surfaces were recorded to the north of the wall while an external yard surface was recorded to the south. These were of 18th century date. Evidence of the buildings demolition in the mid- to late 18th century was also recorded within the trench as was evidence for a 19th century garden wall and associated deposits and features along with later demolition features and road deposits.
- 8.4.2 With few exceptions the finds recovered during the watching brief were of post-medieval date with only a few residual medieval finds. Worthy of note is a fragment of Westminster or Chertsey floor tile with an unusual crossed border design, a fragment of a rare Persian blue wall tile and a fragment of a glazed curved pan tile.
- 8.4.3 Further to the approval of this report by Professor Warwick Rodwell of Westminster Abbey and Sandy Kidd of English Heritage, on behalf of the City of Westminster, the completed archive comprising written, drawn and photographic records and artefactual material will be deposited with the Westminster Abbey Museum under the site code WSD13.
- 8.4.4 The site will be published as an entry in the *London Archaeologist* Fieldwork Round-up.

9 ACKNOWLEDGEMENTS

- 9.1 Pre-Construct Archaeology Limited would like to thank Stephen Miller of Ptolemy Dean Architects for commissioning the project on behalf of the Dean and Chapter of Westminster Abbey. PCA would also like to thank the staff of ADD Construction, in particular Robbie Gregory, who managed the site and supervised the excavation of the trenches.
- 9.2 We also thank Professor Warwick Rodwell, OBE, and Sandy Kidd for monitoring the project on behalf of Westminster Abbey and the City of Westminster respectively.
- 9.3 The author would like to thank Mike Tunnicliffe for monitoring two of the trench excavations, Chris Mayo for his project management, Jennifer Simonson for the preparation of illustrative material, Chris Jarrett and Kevin Hayward for identifying and dating the artefactual material, Marit Gaimster for her report on the small finds and Chris Cooper for logistical support.

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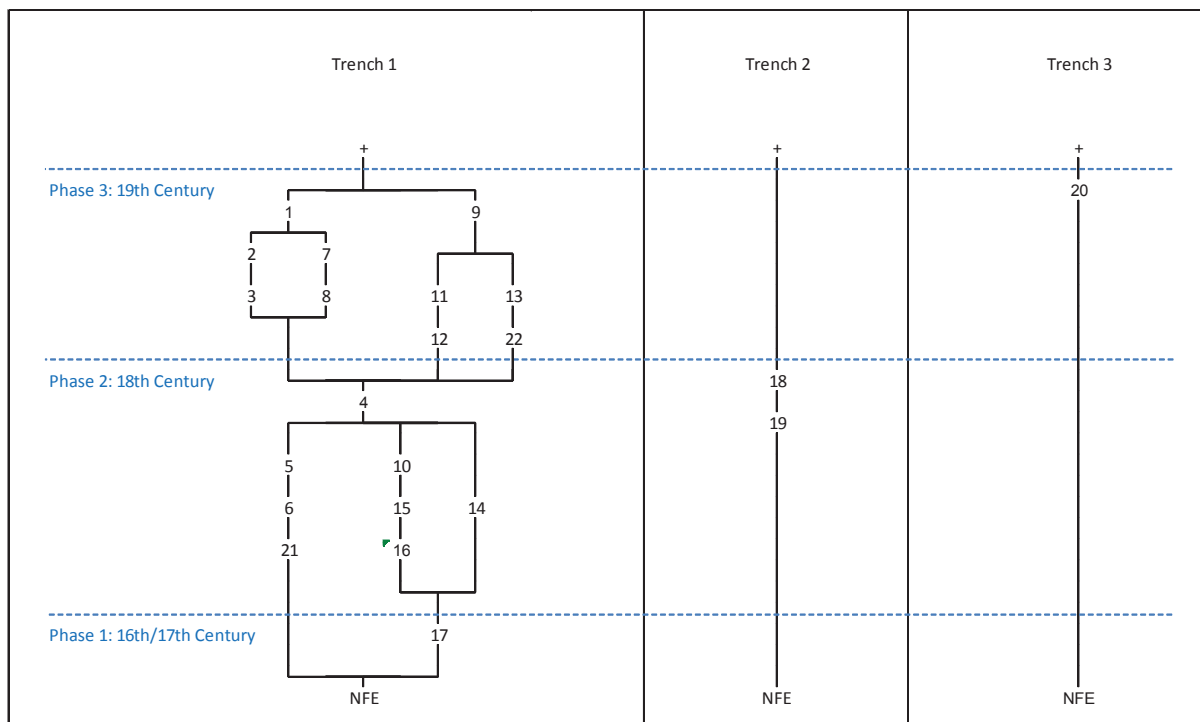
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APPENDIX 1: CONTEXT INDEX

Context	Grid Square/Trench	Type	Description	Phase
1	TR1	Layer	Cobble road surface	3
2	TR1	Deposit	Fill of [3]	3
3	TR1	Cut	Pit	3
4	TR1	Layer	Made ground	2
5	TR1	Deposit	Fill of [6]	2
6	TR1	Cut	Pit	2
7	TR1	Deposit	Fill of [8]	3
8	TR1	Cut	Pit	3
9	TR1	Layer	Topsoil	3
10	TR1	Layer	Mortar surface	2
11	TR1	Deposit	Fill of [12]	3
12	TR1	Cut	Posthole	3
13	TR1	Masonry	Yellow brick wall	3
14	TR1	Layer	Tile rich yard surface	2
15	TR1	Layer	Dump layer	2
16	TR1	Layer	Mortar surface	2
17	TR1	Masonry	Fotting for (13)	1
18	TR2	Layer	Made ground	2
19	TR2	Layer	Cobble road surface	2
20	TR3	Layer	Made ground	3
21	TR1	Layer	Mortar surface	3
22	TR1	Cut	Construction cut for [13]	3

APPENDIX 2: SITE MATRIX



APPENDIX 3: OASIS FORM

OASIS ID: preconst1-166803

Project details

Project name	Waste Storage Hut, Dean's Yard, Westminster Abbey, London: An Archaeological Watching Brief
Short description of the project	An archaeological watching brief was carried out by Pre-Construct Archaeology Limited during the excavation of foundation and service trenches for a new waste storage hut located in the southwest corner of Dean's Yard, Westminster Abbey, London. The project recorded the remains of a 16th/17th century building and associated floor and yard surfaces. Evidence of the building's demolition in the mid-18th century was also recorded. Later 19th century garden related structures and horizons were also recorded.
Project dates	Start: 22-08-2013 End: 08-11-2013
Previous/future work	No / No
Any associated project reference codes	WSD13 - Sitecode
Any associated project reference codes	13/00488/FULL - Planning Application No.
Type of project	Recording project
Site status	World Heritage Site
Site status	Local Authority Designated Archaeological Area
Current Land use	Other 11 - Thoroughfare
Monument type	WALLS Post Medieval
Monument type	PITS Post Medieval
Monument type	POSTHOLE Post Medieval
Monument type	COBBLE SURFACES Post Medieval
Monument type	GARDEN SOIL Post Medieval
Monument type	FLOOR SURFACES Post Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	CBM Medieval
Significant Finds	CBM Post Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	COIN Post Medieval
Significant Finds	CTP Post Medieval
Significant Finds	THIMBLE Post Medieval
Investigation type	"Watching Brief"
Prompt	Planning condition

Project location

Country	England
Site location	GREATER LONDON CITY OF WESTMINSTER WESTMINSTER Waste Storage Hut, Dean's Yard
Postcode	SW1P 3PA
Study area	35.00 Square metres
Site coordinates	TQ 2993 7937 51 0 51 29 52 N 000 07 40 W Point
Lat/Long Datum	Unknown

Project creators

Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Consultant
Project design originator	Chris Mayo
Project director/manager	Chris Mayo
Project supervisor	Paw Jorgensen
Type of sponsor/funding body	Church
Name of sponsor/funding body	The Dean and Chapter, Westminster Abbey

Project archives

Physical Archive recipient	Westminster Abbey Museum
Physical Archive ID	WSD13
Physical Contents	"Glass","Metal","Worked stone/lithics","other","Ceramics"
Digital Archive recipient	Westminster Abbey Museum
Digital Archive ID	WSD13
Digital Contents	"Stratigraphic"
Digital Media available	"Images raster / digital photography","Images vector","Spreadsheets","Text"
Paper Archive recipient	Westminster Abbey Museum
Paper Archive ID	WSD13
Paper Contents	"Stratigraphic"
Paper Media available	"Context sheet","Plan","Report","Section"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Waste Storage Hut, Dean's Yard, Westminster Abbey, London: An Archaeological Watching Brief
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APPENDIX 4: POTTERY SPOT DATING INDEX

By Chris Jarrett, Pre-Construct Archaeology Limited

Quantification, typology and dating

Pottery type	Code	Earliest date	Latest date	No. of sherds	ENV	Weight (g)
Context [1], spot date: 1805-1830						
Chinese blue and white porcelain	CHPO BW	1590	1900	1	1	9
Creamware with developed pale glaze	CREA DEV	1760	1830	3	3	18
London stoneware	LONS	1670	1926	4	4	36
Midlands late medieval orange ware	MORAN	1400	1820	2	1	126
Pearlware	PEAR	1770	1840	1	1	7
Pearlware with under-glaze transfer-printed decoration	PEAR TR	1770	1840	1	1	9
Post-medieval fine redware	PMFR	1580	1700	1	1	17
London-area post-medieval redware	PMR	1580	1900	2	2	35
Surrey-Hampshire border redware	RBOR	1550	1900	1	1	5
Surrey-Hampshire border redware with slip-trailed decoration	RBORSL	1580	1800	1	1	38
Plain refined white earthenware	REFW	1805	1900	1	1	4
White salt-glazed stoneware	SWSG	1720	1780	3	1	18
White salt-glazed stoneware with cobalt and incised decoration	SWSG COB	1740	1780	1	1	6
English tin-glazed ware	TGW	1570	1846	3	3	6
Tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H)	TGW H	1680	1800	1	1	6
Context [4], spot date: 1760-1800						
Surrey-Hampshire border whiteware with yellow glaze	BORDY	1550	1700	1	1	25
Chinese porcelain	CHPO	1580	1900	1	1	1
Chinese blue and white porcelain	CHPO BW	1590	1900	1	1	1
Chinese porcelain with famille verte decoration	CHPO VERTE	1690	1730	1	1	1
Creamware with developed pale glaze	CREA DEV	1760	1830	1	1	1
London stoneware	LONS	1670	1926	7	7	221
London-area post-medieval redware	PMR	1580	1900	4	4	109
Surrey-Hampshire border redware	RBOR	1550	1900	1	1	8
Combed slipware	STSL	1660	1870	1	1	7
White salt-glazed stoneware	SWSG	1720	1780	1	1	1
English tin-glazed ware	TGW	1570	1846	1	1	7
Tin-glazed ware with plain pale-blue glaze	TGW BLUE	1630	1846	9	3	35
Tin-glazed ware with external lead glaze/polychrome painted (Orton style D)	TGW D	1630	1680	1	1	5
Tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H)	TGW H	1680	1800	1	1	3
Context [7], spot date 1810-1830						
Creamware with developed pale glaze	CREA DEV	1760	1830	185	14	601
English porcelain with under-glaze blue painted decoration	ENPO BW	1745	1830	2	1	19
London stoneware	LONS	1670	1926	13	9	280
Pearlware	PEAR	1770	1840	4	1	22
Pearlware with under-glaze blue painted decoration	PEAR BW	1770	1820	2	1	28

Pottery type	Code	Earliest date	Latest date	No. of sherds	ENV	Weight (g)
Pearlware with under-glaze transfer-printed decoration	PEAR TR	1770	1840	1	1	1
Pearlware with type 1 blue transfer-printed decoration (Chinoserie style line engraving)	PEAR TR1	1770	1800	1	1	1
London-area post-medieval redware	PMR	1580	1900	2	2	122
Surrey-Hampshire border redware	RBOR	1550	1900	1	1	1
Plain refined white earthenware	REFW	1805	1900	5	1	23
White salt-glazed stoneware	SWSG	1720	1780	3	2	31
Context [9], spot date: 1805-1830						
Black basalt stoneware	BBAS	1770	1900	1	1	1
Surrey-Hampshire border whiteware with olive glaze	BORDO	1550	1700	1	1	3
Chinese blue and white porcelain	CHPO BW	1590	1900	1	1	9
Creamware with developed pale glaze	CREA DEV	1760	1830	252	16	928
English porcelain with under-glaze blue transfer-printed decoration	ENPO UTR	1760	1900	1	1	3
London stoneware	LONS	1670	1926	32	11	368
Midlands late medieval orange ware	MORAN	1400	1820	1	1	9
Pearlware with under-glaze transfer-printed decoration	PEAR TR	1770	1840	4	2	17
London-area post-medieval redware	PMR	1580	1900	10	4	360
Surrey-Hampshire border redware	RBOR	1550	1900	3	3	90
Surrey-Hampshire border redware with slip-trailed decoration	RBORSL	1580	1800	2	1	26
Plain refined white earthenware	REFW	1805	1900	17	6	78
Combed slipware	STSL	1660	1870	1	1	15
White salt-glazed stoneware	SWSG	1720	1780	3	3	22
White salt-glazed stoneware with cobalt and incised decoration	SWSG COB	1740	1780	1		11
Dipped white salt-glazed stoneware	SWSL	1710	1760	1	1	7
English tin-glazed ware	TGW	1570	1846	3	3	11
Tin-glazed ware with plain white glaze (Orton style C)	TGW C	1630	1846	1	1	4
Tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H)	TGW H	1680	1800	5	4	24
Context [10], spot date: 1670-1750						
Surrey-Hampshire border green-glazed whiteware flat-rimmed chamber pot	BORDG CHP2	1650	1750	1	1	9
London stoneware	LONS	1670	1926	3	3	82
London-area post-medieval slipped redware with green glaze	PMSRG	1480	1650	1	1	73
Context [11], spot date: 1760-1830						
Pottery type	Code	Earliest date	Latest date	No. of sherds	ENV	Weight (g)
Creamware with developed pale glaze	CREA DEV	1760	1830	1	1	1
Tin-glazed ware with plain pale-blue glaze	TGW BLUE	1630	1846	1	1	6
Context [14], spot date: 18th - 19th century						
Surrey-Hampshire border whiteware with green glaze	BORDG	1550	1700	1	1	1
London stoneware	LONS	1670	1926	20	9	198
Context [18], spot date: late 17th-early 18th century						
Surrey-Hampshire border whiteware with brown glaze	BORDB	1600	1700	1	1	30
Surrey-Hampshire border whiteware with yellow glaze	BORDY	1550	1700	1	1	10

Comments

A total of 648 sherds, 164 estimated number of vessels (ENV), 4.335kg of pottery are recorded in the assemblage. All of the pottery was stratified and recovered from eight contexts. The pottery consists entirely of post-medieval types and most of the material dates to the late 18th and early 19th century. The pottery is in a largely fragmentary condition although one or two vessels survive with complete profile. The pottery types recorded are those typically found in London and the material consists mainly of domestic wares and particularly table wares in Creamware and Pearl ware. There are no recommendations for further work on the pottery assemblage.

APPENDIX 5: BUILDING MATERIAL SPOT DATES

By Kevin Hayward, Pre-Construct Archaeology Limited

Introduction

Twenty-four bags of ceramic building material, mortar and stone (62 examples 19.3kg) was retained from the watching brief at the site of WSD13 Westminster Abbey Waste Storage Hut, City of Westminster and scanned to determine their form and fabric.

Quantification, typology and dating

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
1	2276; 3064; 3038; 3065; 1977; 3033; 3035	Peg Tile; Staffordshire Blue Brick and Yellow Estuarine Brick; Flemish Floor Tile and Red early post medieval bricks; wall tile Rare Persian blue late 17 th early 18 th wall tile and deft tile; Rare Glazed Pan Tile fragment	10	145 0	1950	1890	1950	1890-1950	No mortar
2	3108	York stone paving slabs	2	170 0	1950	1700	1950	1800- 1900+	No mortar
4	2271; 2276; 3047; 1977; 2851	Pan Tile; Paving Brick; Unglazed Flemish floor tile; early post medieval peg tile; Decorated Pattern Westminster Medieval Floor Tile	5	122 5	1900	1690	1900	1700- 1800+	No mortar
7	2279; 2586; 3047; 3064	Manganese Wall Tile Delft; early post medieval peg tile; Paving Brick; Rare Glazed Pan Tile	5	118 0	1900	1690	1900	1700-1850	No mortar
9	3064; 3119; 2279	Pan Tile; Delftware Wall Tile and Reused Mouldings of Caen stone one early post medieval other possibly late medieval	4	106 0	1900	1680	1800	1700- 1800+	No mortar
10	2271; 1977; 2276; 3032; 3065; 3205	Lots of post medieval peg tile Unglazed Flemish Floor Tile; post Great Fire Brick and early post medieval red brick	19	118 0	1900	1664	1900	1700- 1850+	No mortar
11	3101; 3034R	Post Great Fire Brick white lime brick mortar;	2	166 4	1900	1664	1900	1700-1900	1830-1900
13	3032R;3035;	Whole fresh frogged	2	166	1940	1780	1940	1850-1900	1830-1900

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
	3101	post great fire and yellow brick hard white lime brick mortar		4					
14	2276	Peg Tile fine moulded sand	4	1480	1900	1480	1900	1700-1900	No mortar
15	3046; 3032; 2276; 2271	Post medieval peg tile and brick post great fire brick all fragments	7	1180	1900	1664	1900	1700-1900	No mortar
17	3046; 3101	Whole Early Post medieval brick red and earthy grey mortar loose	1	1450	1800	1450	1800	1500-1700+	No mortar

Comments

The assemblage is dominated by post medieval brick, floor tile, wall tile and roofing tile (pan and peg tile). The two whole bricks retained from [13] date to between 1850-1900 on the basis of fabric, form, and mortar type (Portland type). The whole brick from the other structure [17] on the other hand is much earlier. This consists of a poorly made Tudor/Stuart Red possibly reused in a dull soft earth – I have placed this to between 1500 and 1700.

Items of particular interest are a very rare Persian blue Wall tile from [1] that can be dated to between 1680 and 1710 (Chris Jarrett pers. obs) and two black glazed pan tiles from [1] and [7]. Glazed curved pan tiles are the earliest of this form to be used (c1630-1660) and may have been imported.

The stone consists of one crisply dressed curved post medieval Caen stone and possibly an earlier late medieval roll/holl from the Abbey itself, both from [9].

The item of greatest interest is part of a 13th century (1225-1275) Westminster patterned floor tile from [4]. The design with three small border crosses and foliage in the middle is not one in Betts catalogue (2002). It is made from the common black iron oxide rich fabric 2851. This without a doubt came from the Abbey itself e.g. *misericorde*. It is possible that this could be a Chertsey tile in fabric 2317 (1300-1500).

Recommendations

Most of the assemblage is of little of interest, both in terms of date (17-19th century) and individual items of artistic merit. It merely reflects the post medieval re-development in the southern part of Deans Yard.

Exceptions are the unusual crossed border design floor tile (13th Westminster or later medieval Chertsey) (*for illustration?*) from [4] a rare Persian blue wall tile [1] and glazed curved pan tile. One item of stone also probably came from the abbey (Caen stone [9]).

These two items at aside, at the closure of the project I would recommend discard of the remainder of the assemblage.

APPENDIX 6: CLAY TOBACCO PIPE SPOT DATING INDEX

By Chris Jarrett, Pre-Construct Archaeology Limited

Quantification, typology and dating

Context [4], spot date: c. 1740-1910

- Five clay tobacco pipe stems: one thick with a medium sized bore, four thin with medium and fine bore diameters.

Context [7], spot date: c. 1580-1740

- One clay tobacco pipe stem, thick with a fine bore diameter

Context [9], spot date: 1730-1780

- One AO18 bowl, dated 1660-80, three quarter milling and a fair finish. Smoked. Residual.
- One OS12 bowl, dated 1730-1780. Initialled I H on the heel. Smoked and damaged bowl. Possibly made by James Harrison, 1784, Westminster.

Context [18], spot date: 1700-1740

- Two clay tobacco pipe stems, one thick with a wide bore diameter, one medium/thin with a fine bore diameter.
- One OS12 bowl, not initialled on the heel and the upper two thirds of the bowl are missing. The bowl does not appear to have been smoked.

Comments

The assemblage of clay tobacco pipes recovered from the WSD13 excavation work consists of a total of eleven stratified fragments, which can be further defined as eight stems and three bowls, the latter with a date range of 1660-1780. The bowl types are typically those found in London. No further work is recommended on the assemblage and further publication work should refer to this report.

APPENDIX 7: GLASS SPOT DATING INDEX

By Chris Jarrett, Pre-Construct Archaeology Limited

Quantification, typology and dating

Context [9], spot date: late 18th - 19th century

- A single fragment of clear soda glass from an indeterminate form and it is broadly dated to the late 18th-19th century.

Comments

No further work is recommended on the fragment of glass and further publication work should refer to this report.

APPENDIX 8: THE METAL FINDS

By Marit Gaimster, Pre-Construct Archaeology Limited

Quantification and dating

Context	Sf	Description	Pot Date	Recommendations
7	2	heavily worn and illegible copper-alloy coin; diam. 27mm; likely a halfpenny or halfpenny token	1810-1830	none
9	1	copper-alloy thimble; incomplete and flattened; densely machine-made indentations on top half ; broad plain rimless base with single decorative band of double indentations; ht. 23mm	1805-1830	illustrate

Comments

Only two metal finds were recovered during the Watching Brief, an incomplete copper-alloy thimble (sf 1) and a heavily worn coin, probably a halfpenny or halfpenny token; both are listed below. The coin or token was retrieved from a pit, while the thimble came from topsoil. The broad plain band at the base of the thimble, and the lack of a rim, suggest it dates from the 18th century (cf. Read 1988, 141 nos 3–4). Both objects were associated with early 19th-century pottery and likely to originate from housing present on Dean's Yard prior to the developments in 1844.

Recommendations

The metal and small finds form an integral component of the finds and should, where relevant, be included in any further publication of the site. For this purpose, the copper-alloy thimble could be illustrated in the form of a drawing or photograph.

References

Read, B. A. 1988. *History Beneath Our Feet*. Braunton: Merlin Books Ltd.

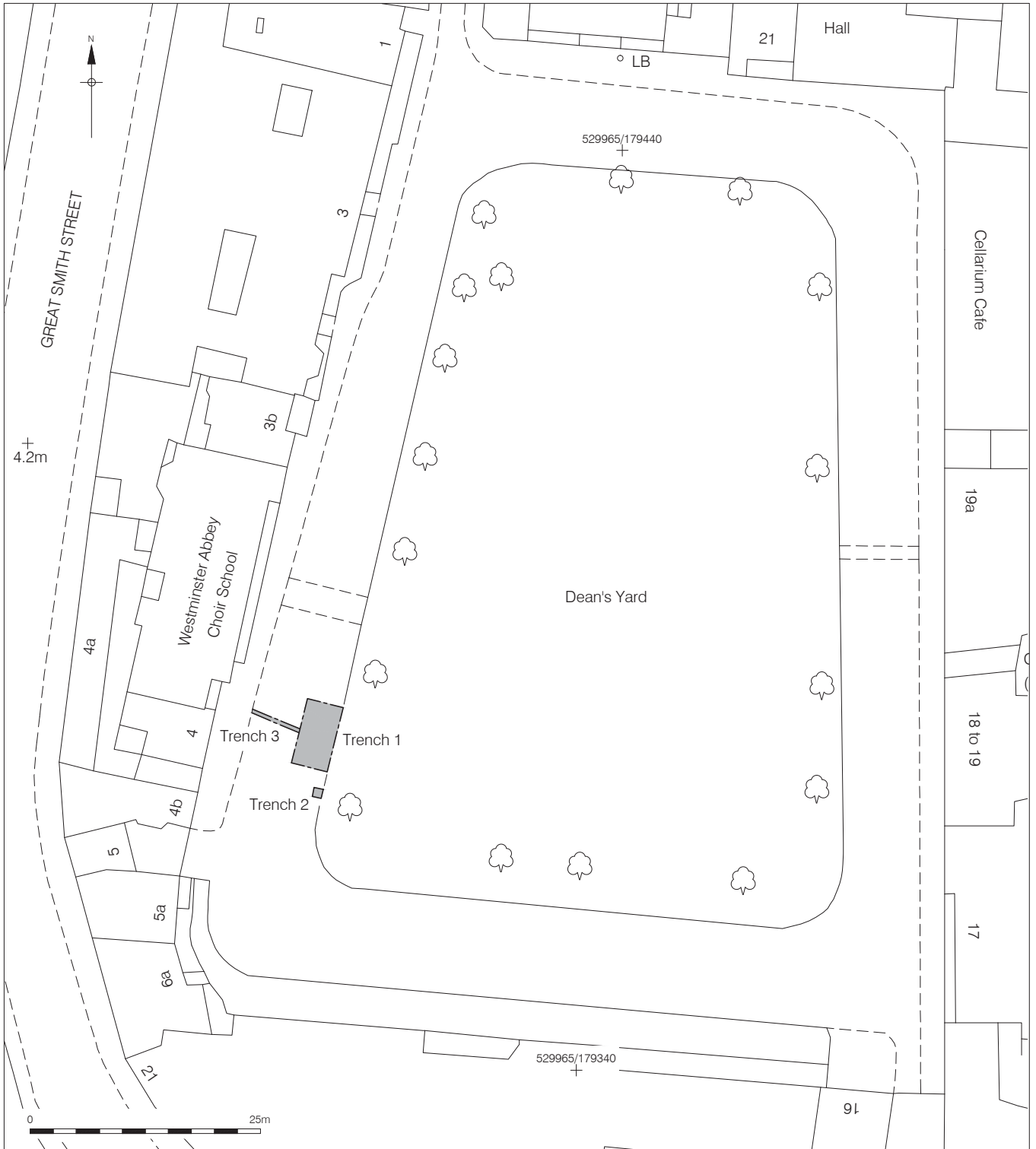


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Figure 1
Site Location
1:10,000 at A4



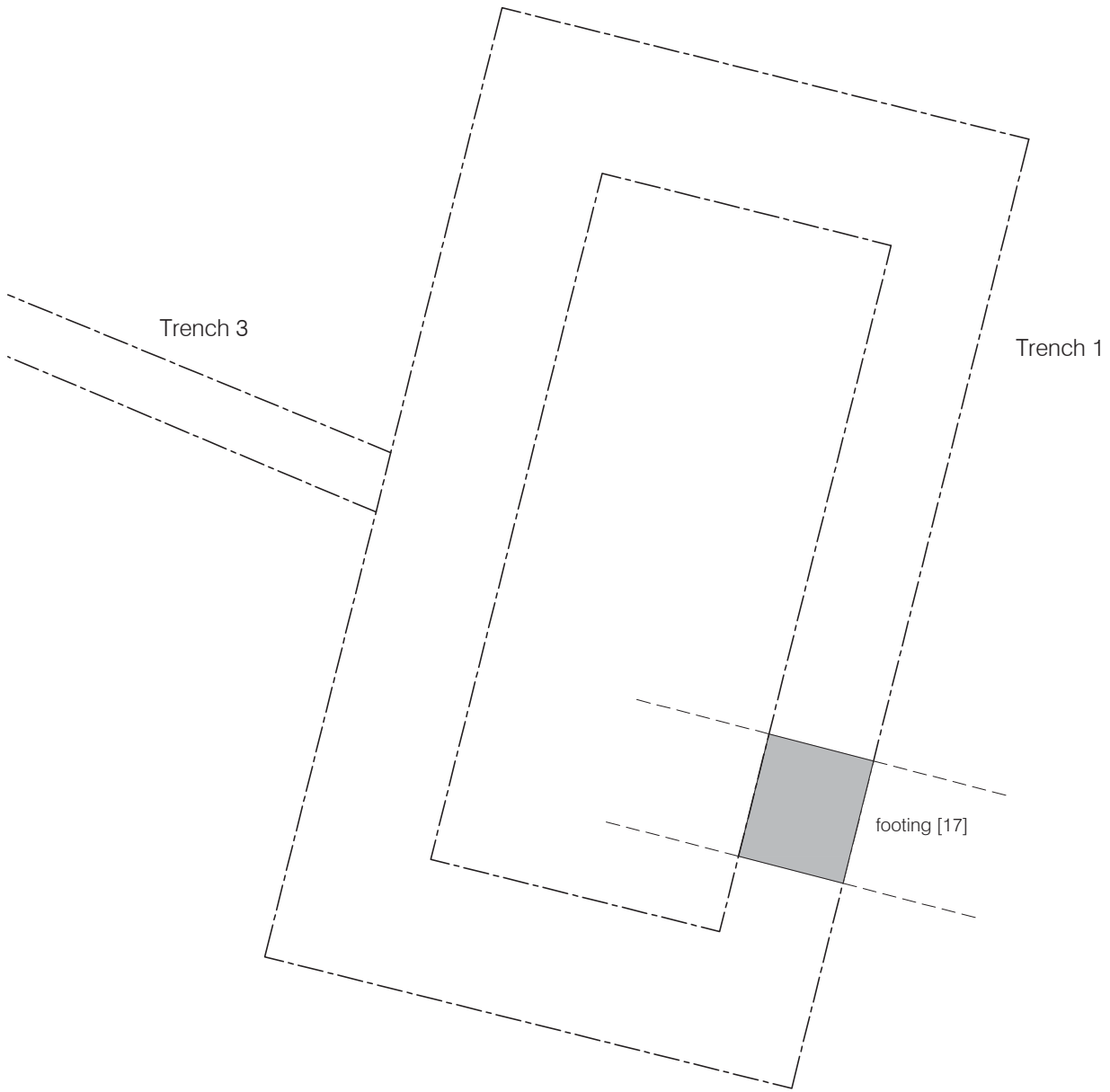
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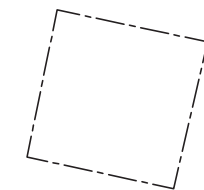
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Figure 2
Trench Locations
1:625 at A4

529933/1793381
+



529933/179370
+



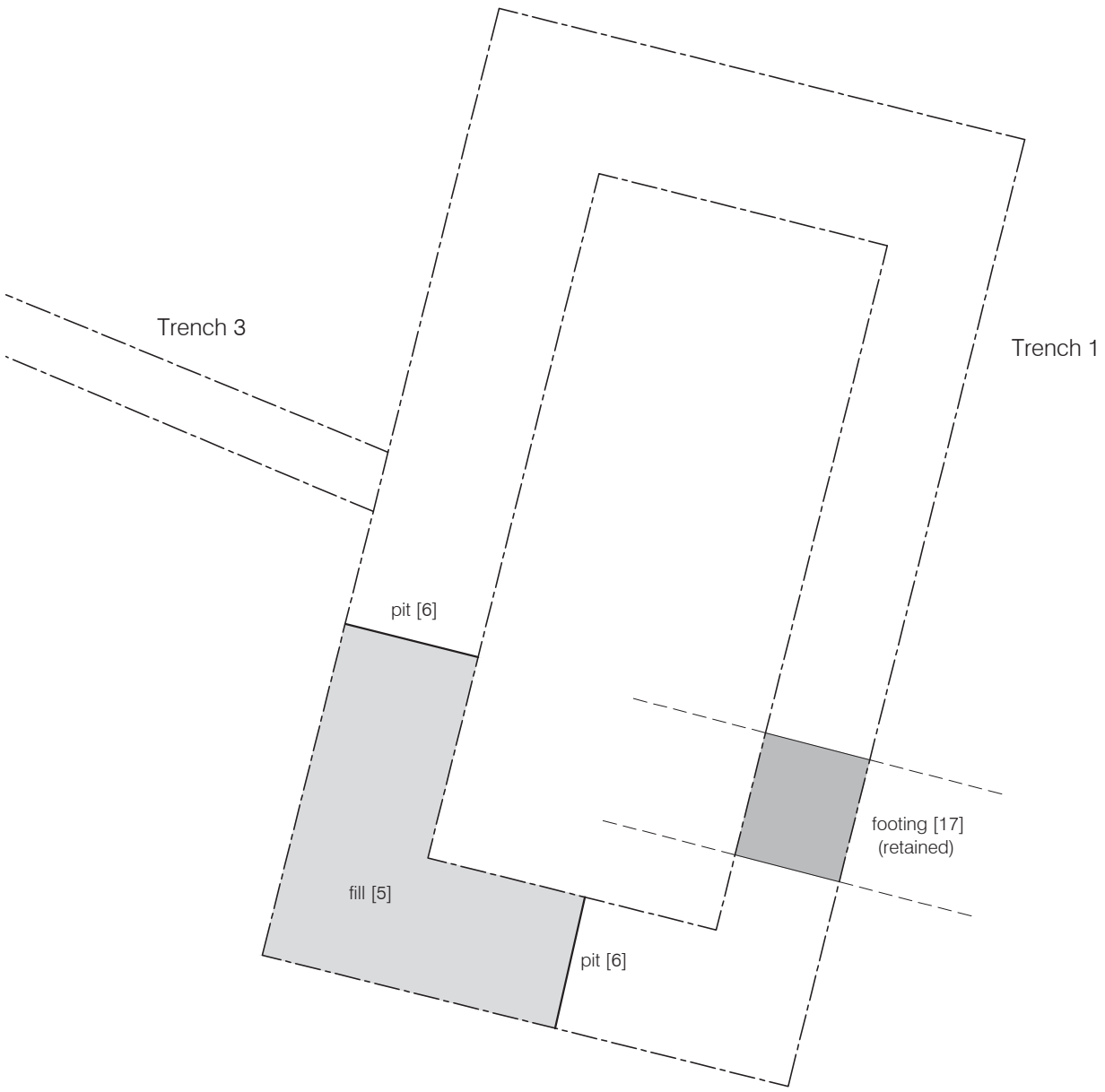
Trench 2



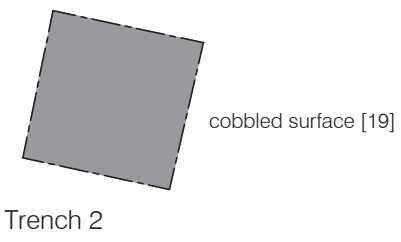
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Figure 3
Phase 1: 16th/17th century
1:50 at A4

529933/1793381



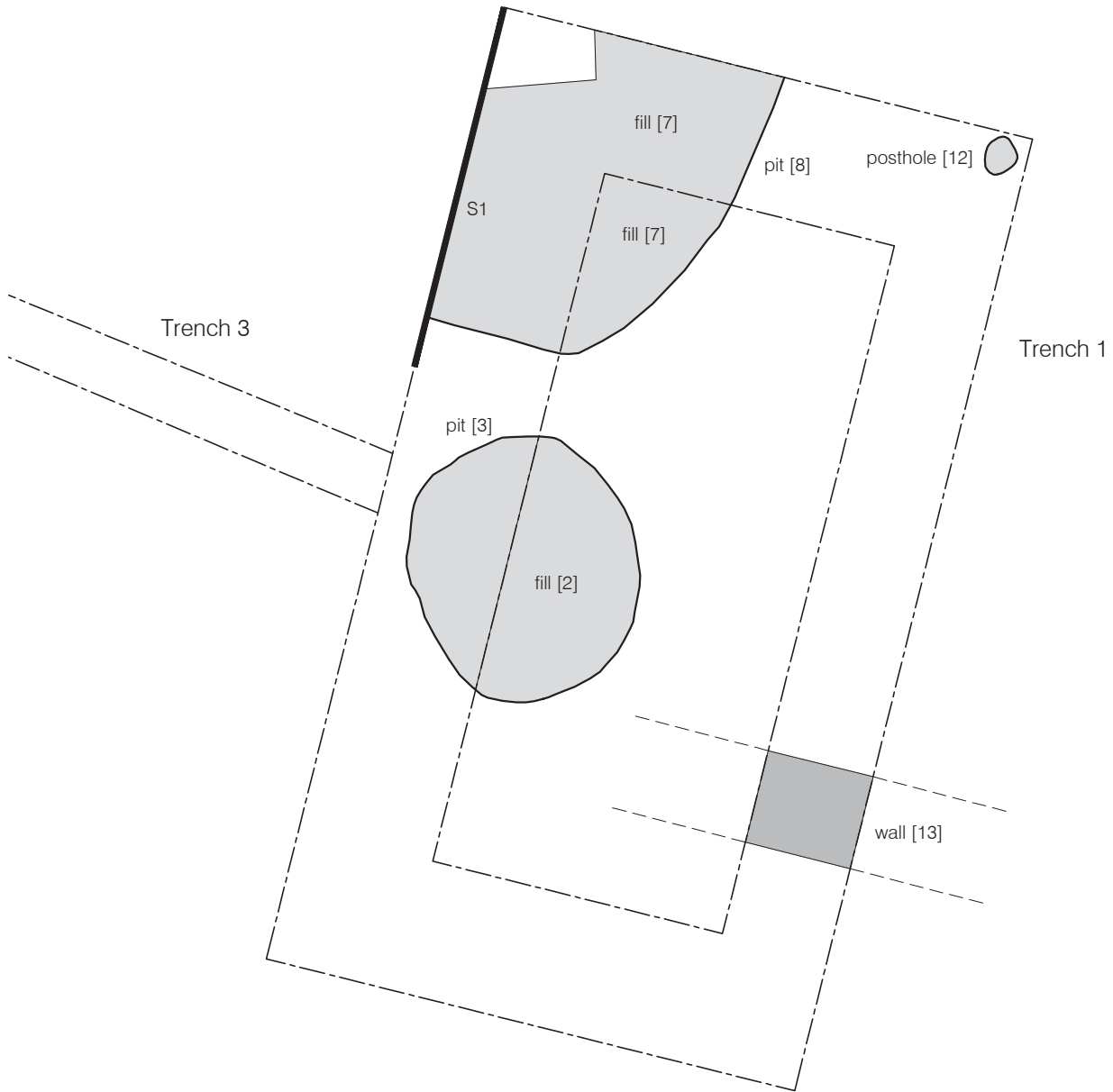
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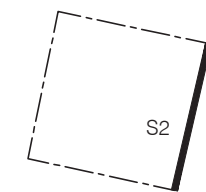
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Figure 4
Phase 2: 18th century
1:50 at A4

529933/1793381



529933/179370

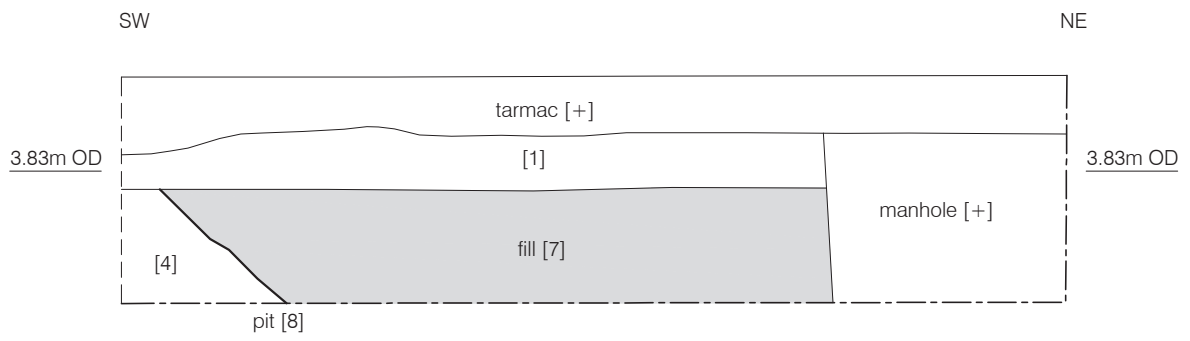


Trench 2

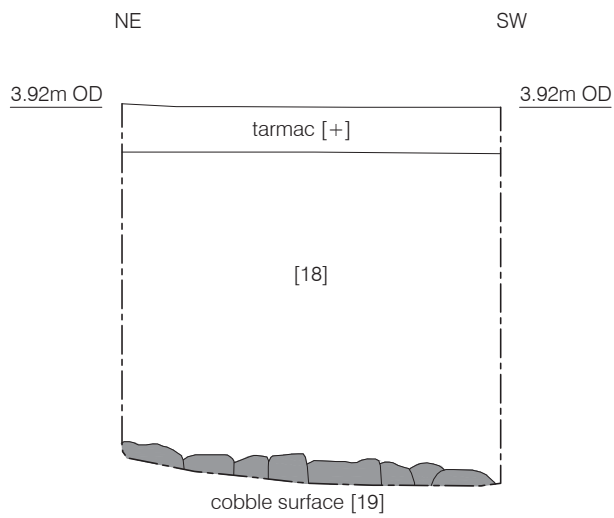
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Figure 5
Phase 3: 19th century
1:50 at A4



Section 1
Trench 1
Southeast Facing



Section 2
Trench 2
Northwest Facing



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Figure 6
Sections 1 and 2
1:20 at A4

PCA

PCA SOUTH

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