THE PROPOSED SCIENCE GALLERY, BOLAND HOUSE, GUY'S CAMPUS, LONDON BOROUGH OF SOUTHWARK

AN ARCHAEOLOGICAL WATCHING BRIEF

LOCAL PLANNING AUTHORITY:
LONDON BOROUGH OF SOUTHWARK

PCA REPORT NO: 12408

MARCH 2016

PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

AN ARCHAEOLOGICAL WATCHING BRIEF AT THE PROPOSED SCIENCE GALLERY LONDON, BOLAND HOUSE, GUY'S CAMPUS, LONDON BOROUGH OF SOUTHWARK

Quality Control

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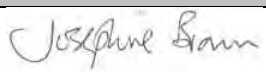
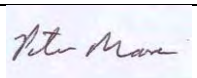
Graphics Checked by:	Josephine Brown		17/3/16
Project Manager Sign-off:	Peter Moore		17/3/16

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AN ARCHAEOLOGICAL WATCHING BRIEF AT THE PROPOSED SCIENCE GALLERY, BOLAND HOUSE, GUY'S CAMPUS, LONDON BOROUGH OF SOUTHWARK

Site Code:	**THM 16**
Central NGR:	**TQ 3284 7923**
Local Planning Authority:	**London Borough of Southwark**
Commissioning Client:	**King's College London**
Written/Researched by:	**Stacey Amanda Harris and Peter Moore** **Pre-Construct Archaeology Limited**
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PCA REPORT NO. R12408

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1 ABSTRACT

1.1 This report details the results and working methods of an Archaeological watching brief undertaken by Pre-Construct Archaeology Limited at the site of the proposed Science Gallery, Boland House, Guy's Campus, London Borough of Southwark.

1.2 The watching brief was carried out between 22rd and 26th February 2016 and consisted of the observation and recording of four test pits (TP1-4), two bore holes (BH01-02) and four cores (HH01-04). The work was commissioned by King's College London.

1.3 The watching brief established that there great differences between the relatively similar horizons across the western part of the site to the complex and changeable deposits on the eastern side suggesting larger differences in landscape usage and infilling between the east and west of the site, perhaps indicating eastern drier land and western reclaimed channel.

2 INTRODUCTION

2.1 An archaeological watching brief commissioned by King's College London was undertaken at the site of the proposed Science Gallery, Boland House, Guy's Campus in the London Borough of Southwark, between 22nd and 26th February 2016.

2.2 The site, consisting of Boland House and Guy's Courtyard, is located at the southwest corner of the junction of St. Thomas Street and Great Maze Pond. The site is centred at TQ 3284 7923 and lies within an Archaeological Priority Zone as identified by the Southwark Unitary Development Plan. The previous building was severely damaged in WW2 and the current structure was rebuilt in the 1960s. As it lies within the cartilage of the older surviving Guy's Hospital buildings, it is also listed.

2.3 The Written Scheme of Investigation (WSI - Moore 2016), following on from a desk-based assessment report (Taylor August 2015), detailed the methodology by which all potential archaeological investigations are to be undertaken at this site, and was approved by the Senior Archaeology Officer (Southwark Design, Conservation and Archaeology), Christopher Constable before his departure. The WSI followed the Historic England (Historic England GLAAS 2014) and Chartered Institute for Archaeologists guidelines (CIFA, 2014).The watching brief was supervised by Maria Buczak and Stacey Amanda Harris and was project managed by Peter Moore for Pre-Construct Archaeology Ltd.

2.4 The proposed project works comprise the refitting of the interior of the existing building (Boland House) as the Science Gallery London. Internal ground reduction works will be confined to limited geotechnical trial pits, lightwell, goods lift pit, sump, passenger lift pit and a lower ground floor lecture theatre. The external ground reduction works will consist of the landscaping of Guy's Courtyard, with new surfaces and planting. All internal archaeological works will take place during the programmed Enabling Works Period, while the external landscaping will take place during the Main Works Period.

2.5 The site was given the Museum of London site code THM16. The complete archive comprising written, drawn and photographic records will be deposited within the London Archaeological Archive and Research Centre (LAARC).

3 PLANNING BACKGROUND

3.1 National Planning Policy Framework (NPPF)

3.1.1 The National Planning Policy Framework (NPPF) was adopted on 27 March 2012, and now supersedes the Planning Policy Statements (PPSs). The NPPF constitutes guidance for local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining applications.

3.1.2 Chapter 12 of the NPPF concerns the conservation and enhancement of the historic environment, with the following statements being particularly relevant to the proposed development:

> 128. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.
>
> 129. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

3.1.3 Additionally:

> 141. Local planning authorities should make information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

3.1.4 In considering any planning application for development, the local planning authority will now be guided by the policy framework set by the NPPF.

3.1.5 The NPPF also states that:

> 214. For 12 months from the day of publication, decision-takers may continue to give full weight to relevant policies adopted since 2004 even if there is a limited degree of conflict with this Framework.
>
> 215. In other cases and following this 12-month period, due weight should be given to relevant policies in existing plans according to their degree of consistency with this framework (the closer the policies in the plan to the policies in the Framework, the greater the weight that may be given).

3.1.6 As such the local planning authority will continue to also be guided by the existing London Plan and the London Borough of Southwark's Development Plan, and by other material considerations.

3.2 Regional Policy: The London Plan

3.2.1 Additional relevant planning strategy framework is provided by The London Plan, published in January 2011. It includes the following policy of relevance to archaeology within central London:

Historic environment and landscapes

POLICY 7.8 HERITAGE ASSETS AND ARCHAEOLOGY

Strategic

A London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.

B Development should incorporate measures that identify, record, interpret, protect and, where appropriate, present the site's archaeology.

Planning decisions

C Development should identify, value, conserve, restore, re-use and incorporate heritage assets, where appropriate.

D Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.

E New development should make provision for the protection of archaeological resources, landscapes and significant memorials. The physical assets should, where possible, be made available to the public on-site. Where the archaeological asset or memorial cannot be preserved or managed on-site, provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset.

LDF preparation

F Boroughs should, in LDF policies, seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.

G Boroughs, in consultation with English Heritage, Natural England and other relevant statutory organisations, should include appropriate policies in their LDFs for identifying, protecting, enhancing and improving access to the historic environment and heritage assets and their settings where appropriate, and to archaeological assets, memorials and historic and natural landscape character within their area.

3.3 Local Policy: Archaeology in the London Borough of Southwark

3.3.1 The document aims to satisfy the objectives of the London Borough of Southwark, which fully recognises the importance of the buried heritage for which it is the custodian. Relevant policy statements for the protection of the buried archaeological resource within the borough are contained within the Core Strategy (April 2011):

Strategic Policy 12 – Design and conservation

How we will achieve our vision to improve our places

SO 2F: Conserve and protect historic and natural places

Our approach is

Development will achieve the highest possible standards of design for buildings and public spaces to help create attractive and distinctive places which are safe, easy to get around and a pleasure to be in.

We will do this by

1. Expecting development to conserve or enhance the significance of Southwark's heritage assets, their settings and wider historic environment, including conservation areas, archaeological priority zones and sites, listed and locally listed buildings, registered parks and gardens, world heritage sites and scheduled monuments.

3.3.2 Also:

5.109 Throughout the borough there are many attractive and historic buildings, monuments and sites that reflect Southwark's rich history and add to the unique character and identity of places. We currently have 40 conservation areas covering 686ha (23% of the borough) and around 2,500 listed buildings and monuments. The Tower of London, a World Heritage Site, is located across the River from London Bridge. There are also archaeological remains that cannot be seen that provide important evidence of our past. We have identified 9 Archaeological Priority Zones (APZs) covering 679ha (23% of the borough).

3.3.3 The Southwark Plan also contains relevant policy statements, which were 'saved' in July 2010:

Policy 3.19 – Archaeology

Planning applications affecting sites within Archaeological Priority Zones (APZs), as identified in Appendix 8, shall be accompanied by an archaeological assessment and evaluation of the site, including the impact of the proposed development. There is a presumption in favour of preservation in situ, to protect and safeguard archaeological remains of national importance, including scheduled monuments and their settings. The in situ preservation of archaeological remains of local importance will also be sought, unless the importance of the development outweighs the local value of the remains. If planning permission is granted to develop any site where there are archaeological remains or there is good reason to believe that such remains exist, conditions will be attached to secure the excavation and recording or preservation in whole or in part, if justified, before development begins.

Reasons

Southwark has an immensely important archaeological resource. Increasing evidence of those peoples living in Southwark before the Roman and medieval period is being found in the north of the borough and along the Old Kent Road. The suburb of the Roman provincial capital (Londinium) was located around the southern bridgehead of the only river crossing over the Thames at the time and remains of Roman buildings, industry, roads and cemeteries have been discovered over the last 30 years. The importance of the area during the medieval period is equally well attested both archaeologically and historically. Elsewhere in Southwark, the routes of Roman roads (along the Old Kent Road and Kennington Road) and the historic village cores of Peckham, Camberwell, Walworth and Dulwich also have the potential for the survival of archaeological remains.

3.4 Site Constraints

3.4.1 The site is located within an Archaeological Priority Zone, as defined by Southwark Adopted Policies Map (March 2012).

3.4.2 No Scheduled Monuments exist within the study area.

3.4.3 Boland House lies within the cartilage of the older surviving Guy's Hospital buildings and as such it is also listed.

GEOLOGY AND TOPOGRAPHY

5.1 Geology

5.1.1 London is located within the Thames Basin, a broad syncline of chalk filled by Tertiary sands and clays, which is overlain by the Pleistocene (Quarternary) gravel terraces of the River Thames. The low-lying area to the south of the Thames was characterised as largely marshland (Knight 2003).

5.1.2 The original river was shallower, slower and wider than its modern manifestation and flowed through braided channels which surrounded the low-lying gravel eyots located beneath modern Southwark. Archaeological excavations and geotechnical work have established that there were two principle gravel eyots, covering an area of c.16 hectares (Knight 2003).

5.1.3 The northern island, i.e. the 'Bridgehead Island' (Knight 2003), is thought to have extended between Joiner Street, Southwark Bridge Road, Union Street and Southwark Street, with the River Thames to the north. The north-west corner of the study site is thought to be located above the south-east edge of the northern eyot, with the remainder located above the surrounding water channel, e.g. Guy's channel. The gravel island foreshore can be anticipated to occur around c.0.40m OD (Taylor & Champness 2013).

5.1.4 Recent geoarchaeological work undertaken close to Joiner Street and beneath London Bridge Station investigated the profile of Guy's channel and recorded that:

> '*The earliest deposits on site were recorded during the geoarchaeological borehole survey and comprised naturally deposited sandy gravel. The gravels occurred at -1.75m OD in the west of the site and -2.50m OD in the east, with the variation indicative of a gradual west to east slope in the natural topography. Geological and archaeological mapping of the area places the site on the western edge of Guy's channel, an extrapolation supported by the geoarchaeological borehole data.'* (Taylor & Champness 2013)

5.1.5 The geoarchaeological borehole survey conducted at TAA9 also demonstrated that:

> *'… the natural gravels were overlain by a fine sand encountered between -0.50m OD in the west of the site and -2.00m OD in the east. The deposit is thought to represent a late Pleistocene/early Holocene sand which had probably been formed by both windblown and fluvial processes. A similar deposit was encountered at 0.38m OD during the excavation of ST1a (in the west) and probably represents the same episode of Late Pleistocene/Early Holocene deposition. The variation in levels across the site again supports the suggestion that the site is located on the western edge of Guy's channel, with the higher levels recorded in the west being associated within the edge of an island and the lower levels in the east perhaps representative of the base of the channel.'* (Taylor & Champness 2013)

5.2 Topography

5.2.1 A topographic survey of the site was not available at the time of writing this report, however a recent site visit suggests that the area is generally flat and located within a comprehensively developed part of the urban landscape.

5.2.2 The site is located approximately 200m to the south of the Thames, with the eastern and central parts of the site situated above the projected location of the now buried Guy's channel.

5.2.3 Recent archaeological excavations beneath London Bridge Station and above Guy's channel demonstrated that the surface level of Joiner Street lies at 4.78m OD, with ground level on the site varying between 4.20m OD in the west and 4.67m OD in the east (Taylor & Champness 2013). The spot heights on the modern surface indicate that approximately c.3.50m-4.00m of stratified deposits existed beneath ground level and above the natural horizon.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1

5.2 The full archaeological and historical background is within the Desk-Based Assessment (Taylor 2014). It concluded that the potential of the site was as follows;

5.2.1 High potential for evidence of prehistoric activity within the area, mostly in the form of cut features and residual material, with some evidence in the area located above Guy's Channel relating to use of the waterway.

5.2.2 Very high for the Roman period with the dry island – wet channel boundary between the island and channel crossing the site and moving progressively eastward. It can therefore be expected that series of structures, such as revetments, can be expected as well as associated activities and rubbish dumping.

5.2.3 The potential for the Saxon period is low to moderate and for the Medieval period to be moderate, given the recent evidence for use of marginal land for burials.

5.2.4 As the site was developed by Guy's Hospital the potential for Post-Medieval activity is high.

6 ARCHAEOLOGICAL METHODOLOGY

6.1 The purpose of the archaeological investigation was to determine the presence or absence of surviving features at the site and, if present, to assist in formulating an appropriate archaeological mitigation strategy. All works were undertaken in accordance with the guidelines set out by Historic England and the Chartered Institute For Archaeologists.

6.2 The research design set out in the Written Scheme of Investigation (Moore, 2016) aimed to address the following objectives:

- What evidence is there for prehistoric occupation of the site?
- The northern Southwark islands in the prehistoric period are known to have been temporarily occupied, and at Hunt's House to the south scatters of Mesolithic flints were encountered. Can the excavations at the Science Gallery help to further increase our knowledge of the contemporary landscape and the special distribution of Mesolithic activity?
- Can the results of the archaeological investigation contribute to our understanding of the contemporary management of the Roman landscape of the area, in particular the managing of waterfronts and land reclamation, and whether they are in response to changing water levels or urban pressure?
- Can the location be defined as more of a commercial/trade zone, as opposed to the other ritual and settlement areas of the bridgehead islands?
- How does the site contribute to our understanding of the shifting settlement towards the bridgehead in the later Roman period?
- What evidence is there for the Medieval development of the site?
- What evidence is there for the Post-Medieval development of the site and in particular what evidence is there for the use of the site by Guy's Hospital?

6.3 The watching brief was undertaken between 22nd and 26th February 2016 on the excavation of four test pits (TP01-04), four cores (HH01-04) and two boreholes (BH01-02) (Figure 2).

6.4 The cores were taken inside the basement and the boreholes and test pits within the adjacent courtyard.

6.5 The watching brief was designed to be the first stage of archaeological site investigation and will be followed by further archaeological mitigation, consisting additional watching briefs, evaluation and possibly excavation.

6.6 All archaeological deposits were cleaned by hand tools and recorded in plan at 1:20 or in section at 1:10 using standard single context recording methods. Where present artefacts were collected and recorded by context.

6.7 The recording systems adopted during the investigations were fully compatible with those widely used elsewhere in London that is those developed out of the Department of Urban Archaeology Site Manual, now published by the Museum of London Archaeological Service (MoLAS 1994) and with the PCA Site Manual (Taylor and Brown, 2009). The site archive was organised to be compatible with the archaeological archives produced in the Local Authority area.

6.8 On completion of the overall project the resultant archive, comprising written, drawn and photographic records as well as artefacts and ecofacts,, will be deposited with the Museum of London (LAARC) under the site code THM16.

6.9 Surveying data was provided by CC Ground Investigations Limited.

7 ARCHAEOLOGICAL SEQUENCE

7.1 Introduction

7.1.1 The results of the watching brief make it clear that considerable differences in the distribution of deposits occur across the site and that detailed archaeological interpretation on such small is therefore difficult.

7.2 Borehole 01

7.2.1 The tarmac surface at circa 4.55mOD covered layers of cinder [1] and [2] which covered a layer of concrete [12].

7.2.2 The concrete covered a Post-Medieval mid brownish-grey sandy silt layer [3] containing fragments of building materials, pottery, shell and bone. The pottery collection from this layer dated to 16970-90 but the clay tobacco pipe (CTP) suggested a slightly later date of 1700-1740. This covered a layer which may represent a demolition horizon because of the concentration of crushed mortar and chalk [4], though the date of this material is uncertain. It covered layer [5] a soft very dark slity clay later containing fragments of Ceramic Building Material, oyster shell and charcoal. Again the date of this layer is uncertain.

7.2.3 This covered a very soft layer of clean mid yellowish-grey alluvium [6] which covered sands and gravels [7] at a height of circa -0.50mOD. London Clay [11] was seen at circa -8.00m OD.

7.3 Borehole 02

7.3.1 The tarmac surface covered layers of cinder [14] and [8], though containing more fragments of yellow stock brick, which covered a layer of concrete [13].

7.3.2 The concrete covered a thin horizon [9] of concete fragments and dust, possibly a bedding layer. Under that was what seems to be an in situ 10cm slab of stone [10], though within a borehole this cannot be certain. The stone covered the same sequence of layers seen in BoBH01, namely a Post-Medieval mid brownish-grey sandy silt layer [3] containing fragments of building materials, pottery, shell and bone. This covered a layer which may represent a demolition horizon because of the concentration of crushed mortar and chalk [4], though the date of this material is uncertain. It covered layer [5] a soft very dark slity clay later containing fragments of Ceramic Building Material, oyster shell and charcoal. Again the date of this layer is uncertain.

7.3.3 Again the natural layers were the same as in BH 01 namely a very soft layer of clean mid yellowish-grey alluvium [6] which covered sands and gravels [7] at a height of circa

7.3.4 -0.50mOD. London Clay [11] was seen at circa -8.00m OD.

7.4 Test Pit 01

7.4.1 Tarmac covered concrete covered a loose concrete fragment and dust layer, possible a bedding layer.

7.4.2 This covered layer [15] similar to layer [3] in the boreholes and at teh smae level. Pottery and CBM were present, the pottery dating to 1550-1700, but no CTP was present. This layer continued down beneath the 1.2m depth of excavation.

7.5 Test Pit 02

7.5.1 Tarmac covered concrete covered a loose concrete fragment and dust layer, possible a bedding layer.

7.5.2 This covered layers [16], [17] and [18] which were layers of varying degrees of crushed mortar, and while similar to layer [4] in BH01 were much higher in the archaeological sequence and are most likely represent separate events. Layer [18] contained a fragment of Flemish tile dated 1600-1800.

7.5.3 Just above the 1.2m trench depth a layer of clayey silt [19] was encountered.

7.6 Test Pit 03

7.6.1 Tarmac covered concrete covered a loose concrete fragment and dust layer, possible a bedding layer.

7.6.2 These covered layer [20] which again was similar to layer [3] but without dateable artefacts to date it. It covered a layer [21] of subangular whitish stones in a firm silty matrix, possibly a cobbled surface.

7.7 Test Pit 04

7.7.1 Tarmac covered concrete covered a loose concrete fragment and dust layer, possible a bedding layer.

7.7.2 This covered layer [22] which again was similar to layer [3] but without artefacts.

7.8 Core HH01

7.8.1 This core revealed a top three layers of concrete over a red deeply frogged brick which was thought to be in situ and representing a surface or structure. However as it was found to more represent a rubble bedding layer in HH02, this was probably not in situ. It lay over a sandy clayey silt which lay over a 0.69m thick slab of concrete.

7.8.2 The concrete lay over layer [24], a soft dark greyish-brown clayey sandy silt containing flecks of charcoal, CBM oyster and cockle shell. A lense of oyster shell separated [24] from layer [25] which was firmer and contained a fragment of splashed glazed peg tile dated 1450-1800.

7.8.3 These lay over sandy layers [26], [27] and [28] which were encounterd at a depth of 2.25m below basement floor level.

7.9 Core HH02

7.9.1 This core revealed a top three layers of concrete over a layer of red deeply frogged brick and concrete rubble, probably a bedding layer.

7.9.2 The rubble lay over layer [29], a soft dark greyish-brown clayey sandy silt containing flecks of charcoal, CBM, bone and oyster shell.

7.9.3 It lay over [30] a mid brown grey silty clay containing shell fragments. Sands and gravels [32] and [33] were then encountered at 2.3m below basement floor level.

7.10 Core HH03

7.10.1 This core revealed a top three layers of concrete under the flooring material lying over layer [34] a dark brown grey sandy clay contain frgments of CBM and shell.

7.10.2 It lay over layer [40] a mid green grey sandy clay containing fragments of pottery, possible daub and CBM. One fragment was large enough to identify as a piece of Roman greyware. It lay over layer [41] a mid grey clay with charcoal flecks, [42] a firm mid grey orange clay and gravely sand [43] at 2.37m below basement floor level.

7.11 Core HH04

7.11.1 This core revealed a top two layers of concrete under the flooring material. This lay over layer [23] a firm mid brown grey silty clay containing fragments of CBM and flecks of mortar and charcoal. It lay over [35] a silty sand, [36] a clayey sand, [37] a grey brown silty clay containing a fragment of CBM and [38] a dark grey orange silty clay.

7.11.2 Sandy gravel was found [39] was found at 2.3m below basement level.

8 INTERPRETATION AND CONCLUSIONS

8.1 The nature of the deposits encountered below modern surfaces and above sands and gravels showed great differences across the site. Figure 3 shows a section drawn between BH02, HH03 and HH02 and shows that it is very difficult to link deposits across this part of the site. The dimension of the boreholes and cores also made artefactual collection, and therefore dating, almost impossible. Nevertheless the very fact of such differences infers that there are a variety of events represented across the area.

8.2 It has been interpreted that the edge of the Roman island crossed the site and moved eastwards as the channel and marshy land was reclaimed. What we have seen from this watching brief is that the gravel actually drops very slightly to the west. However above that to the west there are relatively similar thick deposits above the gravel. In the area of the courtyard there are differences happening locally towards the top of the sequence, perhaps relating to demolition of pre-existing structures, or such material just being used locally as make-up.

8.2.1 Within the basement the deposits are hard to link even between the relatively close cores and they differ greatly to the sequence in the boreholes. This suggests greater activity, perhaps with localised dumping, backfilling of different areas perhaps defined by structures such as revetments.

8.2.2 While most of the artefacts date to the early Post-Medieval period confirming the use of this land at that time a single sherd of Roman pottery was found. While this is an indication of contemporary activity it could also be residual in a later context.

8.2.3 Additional work is proposed at the site and this should help explain what has been encountered so far.

9 ACKNOWLEDGMENTS

9.1 Pre-Construct Archaeology ltd would like to thank Mark Whitworth, King's College London, for commissioning the work, and all the project team for helping with the project including Paul Flynn, Matt Fuller, Robert Haworth and Owen Seymour. We would also like to thank CC Ground Investigations Ltd especially Kelly Spear and Rob Clarke for their help during and after the site investigations and Dr Christopher Constable, Senior Archaeologist for the Planning and Regeneration Department, for approving the WSI.

9.2 Furthermore the authors would also like to thank Maria Buczak for her site monitoring, Ray Murphy for the illustrations; Chris Jarrett and Berni Seddon for their assessment of the pottery clay tobacco pipes and ceramic building material.

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15/03/2016 RM

Figure 1
Site Location
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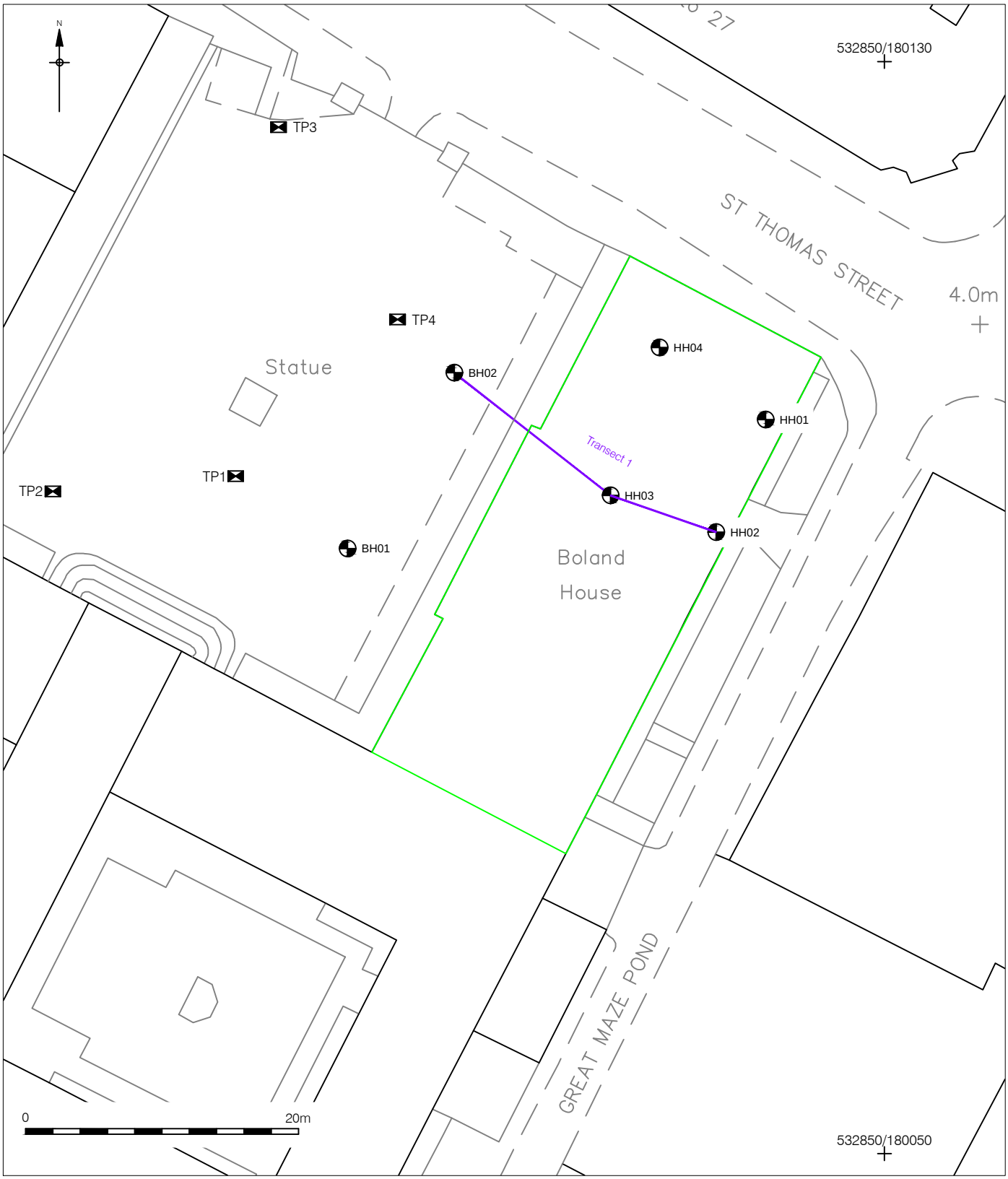

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Figure 2
Borehole and Test Pit Locations
1:400 at A4

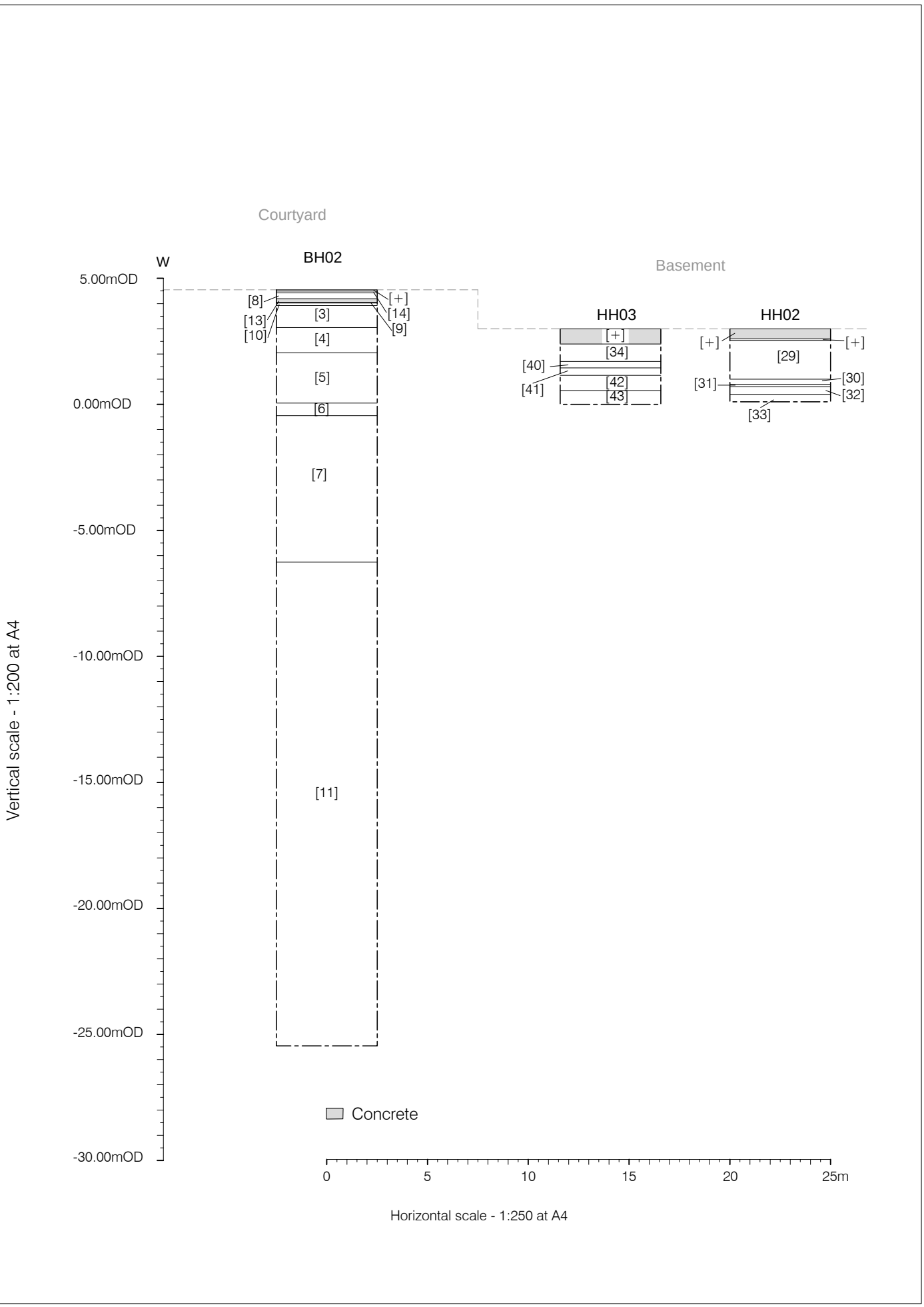

Figure 3
Borehole Transect 1
(scales as indicated on drawing)

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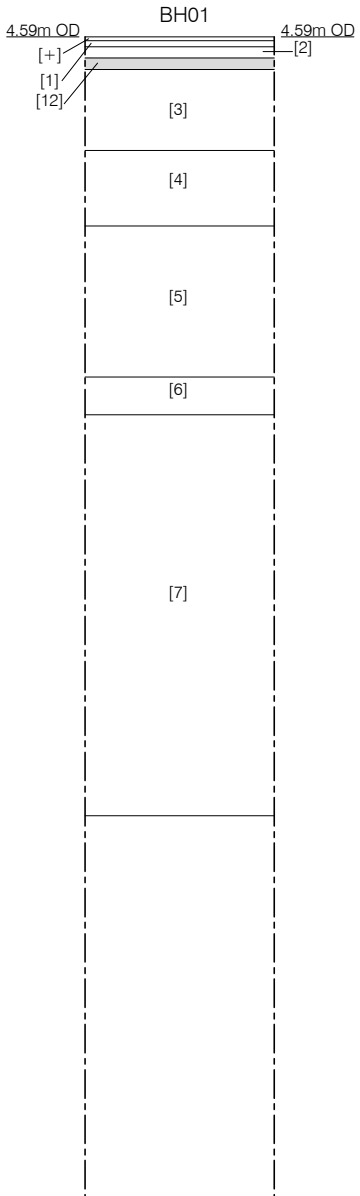
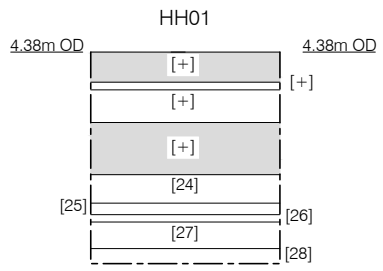
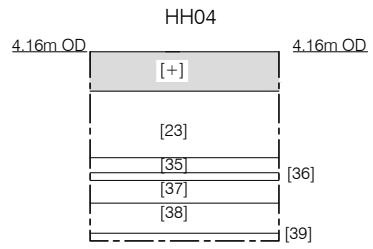
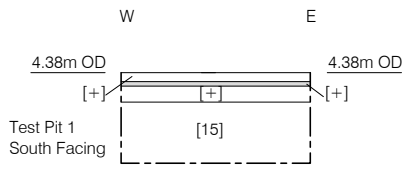
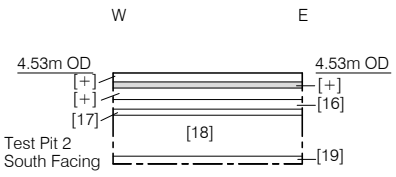
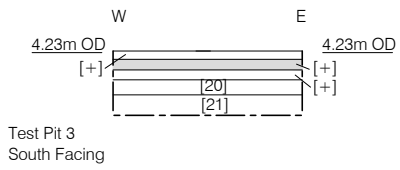


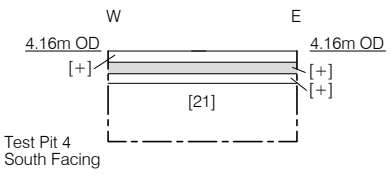












Concrete

0 5m

17/03/16 RM

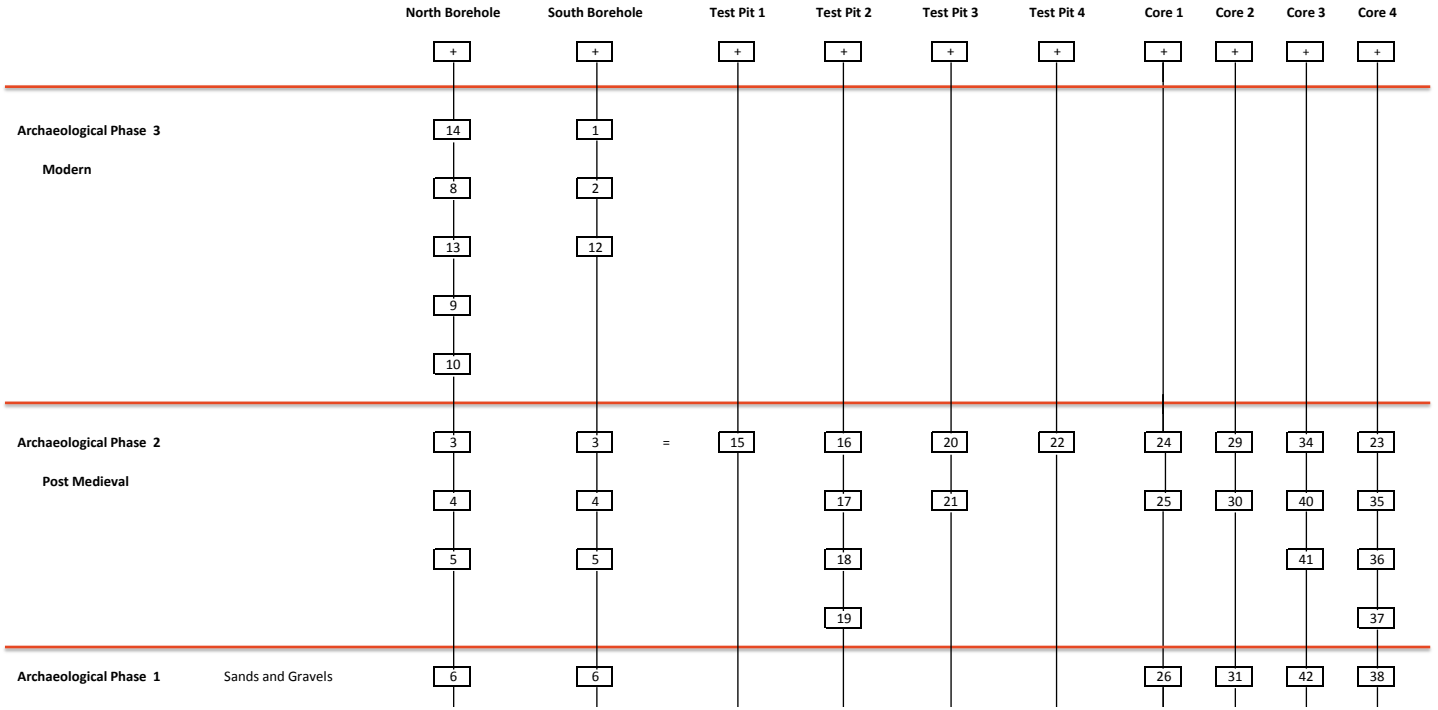
Figure 4
Test Pit and Borehole Sections
1:100 at A3

APPENDIX 1: CONTEXT INDEX

Context No	Area	Type	Description	Highest Level m BGL	Lowest Level m BGL	Phase	Pot	CTP	CBM	Shell	Bone	Other
1	S Borehole	Layer	Modern cinder layer	0.05	0.05	3						
2	S Borehole	Layer	Layer of alternating sand and cinder deposits	0.13	0.13	3						
3	N + S Borehole	Layer	Post Medieval (dump?) layer	0.63	0.43	2	Y	Y	Y	Y	Y	
4	N + S Borehole	Layer	Post Medieval demolition layer probable	1.50	1.50	2			Y			
5	N + S Borehole	Layer	Dark clayey dump deposit land reclamation?	2.50	2.50	2			Y	Y		
6	N + S Borehole	Layer	Natural fluvial sandy clay layer	4.50	4.50	1						
7	N + S Borehole	Layer	Natural sand and gravel	5.00	5.00	1						
8	N Borehole	Layer	Modern rubble demo layer	0.12	0.12	3			Y			Worked stone
9	N Borehole	Layer	Modern (bedding?) layer of concrete sand and silt	0.50	0.50	3						
10	N Borehole	Layer	Layer of worked stone posibly insitu floor	0.53	0.53	3						Worked stone
11	N + S Borehole	Layer	London clay - natural	10.80	10.30	1						
12	S Borehole	Layer	Layer of concrete	0.28	0.28	3						
13	N Borehole	Layer	Layer of concrete	0.36	0.36	3						
14	N Borehole	Layer	Modern cinder layer	0.05	0.05	3						
15	Test pit 1	Layer	Post Medieval (dump?) layer poss. same as [3]	0.39	0.39	2	Y		Y			
16	Test pit 2	Layer	Crushed mortat (demoliton?) layer	0.35	0.35	2			Y			
17	Test pit 2	Layer	Hard mortar layer - possibly in situ surface	0.48	0.48	2						
18	Test pit 2	Layer	Crushed mortatr layer similar to [16]	0.56	0.56	2		Y	Y			
19	Test pit 2	Layer	Dark clayey silt layer	1.10	1.10	2						
20	Test pit 3	Layer	Dump layer similar to [3]	0.43	0.43	2			Y			
21	Test pit 3	Layer	Very stoney deposit - possibly in situ cobbled surface	0.63	0.63	2						
22	Test pit 4	Layer	Dump layer similar to [3]	0.43	0.43	2			Y			
23	Core 4	Layer	Mid brown grey silty clay	0.52	0.52	2						
24	Core 1	Layer	Dark grey brown clay sand silt	1.62	1.62	2						
25	Core 1	Layer	Dark brown grey silty clay	2.00	2.00	2			Y			
26	Core 1	Layer	Mid grey orange silty sand	2.15	2.15	1						
27	Core 1	Layer	Mid grey orange sandy gravel	2.25	2.25	1						
28	Core 1	Layer	Mid orange sandy gravel	2.60	2.60	1						
29	Core 2	Layer	Dark grey brown sandy silt	0.46	0.46	2						
30	Core 2	Layer	Mid brown grey silty clay	1.95	1.95	2						
31	Core 2	Layer	Mid grey orange sandy clay	2.20	2.20	1						
32	Core 2	Layer	Mid orange gravely sand	2.30	2.30	1						
33	Core 2	Layer	Dark orange sandy gravel	2.60	2.60	1						
34	Core 3	Layer	Dark brown grey sandy clay	0.60	0.60	2						
35	Core 4	Layer	Pale grey brown silty sand	1.40	1.40	2						
36	Core 4	Layer	Dark brown clay sand	1.60	1.60	2						
37	Core 4	Layer	Pale grey brown slay/silty clay	1.70	1.70	2						
38	Core 4	Layer	Dark grey orange silt clay	1.90	1.90	1						
39	Core 4	Layer	Mid orange sandy gravel	2.30	2.30	1						
40	Core 3	Layer	Mid green grey sandy clay	1.30	1.30	2	Y					
41	Core 3	Layer	Mid grey clay	1.55	1.55	2						
42	Core 3	Layer	Mid grey orange clay	1.85	1.85	1						
43	Core 3	Layer	Mid grey orange gravely sand	2.45	2.45	1						
Context No	Area	Type	Description	Highest Level m BGL	Lowest Level m BGL	Phase	Pot	CTP	CBM	Shell	Bone	Other

APPENDIX 2: SITE MATRIX

Watching Brief



APPENDIX 3: OASIS FORM

11 OASIS DATA COLLECTION FORM: ENGLAND

11.1.1 Printable version

11.2 OASIS ID: preconst1-245929

Project details

Project name	Science Gallery London
Short description of the project	A watching brief was carried out between 22rd and 26th February 2016 and consisted of the observation and recording of four test pits (TP1-4), two bore holes (BH01-02) and four cores (HH01-04). The watching brief established that there great differences between the relatively similar horizons across the western part of the site to the complex and changeable deposits on the eastern side suggesting larger differences in landscape usage and infilling between the east and west of the site, perhaps indicating eastern drier land and western reclaimed channel.
Project dates	Start: 22-02-2016 End: 26-02-2016
Previous/future work	No / Yes
Any associated project reference codes	THM16 - 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	DEPOSITS Post Medieval
Monument type	DEPOSITS Post Medieval
Significant Finds	POTTERY Post Medieval

Significant Finds	CLAY TOBACCO PIPES Post Medieval
Significant Finds	POTTERY Roman
Investigation type	"Watching Brief"
Prompt	Planning condition

Project location

Country	England
Site location	GREATER LONDON SOUTHWARK BERMONDSEY ROTHERHITHE AND SOUTHWARK Science Gallery London
Postcode	SE1 9RY
Study area	2000 Square metres
Site coordinates	TQ 3484 7923 51.495408613475 -0.057341159301 51 29 43 N 000 03 26 W Point
Height OD / Depth	Min: 4.5m Max: 4.5m

Project creators

Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Pre-Construct Archaeology Limited
Project design originator	Peter Moore
Project director/manager	Peter Moore
Project supervisor	Maria Buczak and Stacey Harris
Type of sponsor/funding	University

body	
Name of sponsor/funding body	King's College London

Project archives

Physical Archive recipient	LAARC
Physical Contents	"Ceramics","other"
Digital Archive recipient	LAARC
Digital Contents	"Ceramics","Stratigraphic","other"
Digital Media available	"Database","Spreadsheets","Text"
Paper Archive recipient	LAARC
Paper Contents	"Stratigraphic"
Paper Media available	"Context sheet","Drawing","Matrices","Plan","Report"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	AN ARCHAEOLOGICAL WATCHING BRIEF AT THE PROPOSED SCIENCE GALLERY, BOLAND HOUSE, GUY'S CAMPUS, LONDON BOROUGH OF SOUTHWARK
Author(s)/Editor(s)	Harris, S. and Moore, P.
Date	2016

Issuer or publisher	Pre-Construct Archaeology Ltd
Place of issue or publication	London
Description	Unpublished client report
Entered by	Peter Moore (pmoore@pre-construct.com)
Entered on	17 March 2016

12 OASIS:

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APPENDIX 4: POTTERY, CLAY TOBACCO DOCK AND CERAMIC BUILDING MATERIAL ASSESSMENTS

POTTERY SPOT DATING INDEX (THM16)

Chris Jarrett

INTRODUCTION

A total of ten stratified sherds, representing 8 estimated number of vessels (ENV) and weighing 188g dating to the Roman and post-medieval periods were recovered from the archaeological work and found in three contexts. The material is in a good condition, indicating that it was deposited soon after breakage. The assemblage consists of sherd material with identifiable forms present. The pottery was quantified by sherd count, estimated number of vessels (ENV) and weight and was classified according to the Museum of London Archaeology (MOLA 2014a and b). The assemblage is discussed by context as an index.

Pottery index

Context [3], spot date: 1670–1690

Pottery type	Code	Date range	SC	ENV	Wt (g)	Form
London-area post-medieval redware	PMR	1580-1900	2	1	33	Jar, rounded
Surrey-Hampshire border redware with slip-trailed decoration	RBOR SLTR	1580-1800	1	1	8	Dish
London tin-glazed ware with plain white glaze	TGW C	1630-1846	2	1	13	Chamber pot
London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze	TGW D	1630-1680	2	16	2	Albarello, charger
London tin-glazed ware with 'Chinaman among grasses' decoration	TGW F	1670-1690	1	1	51	Plate

Total: eight sherds, 6 ENV, 121g

Context [15], spot date: 1550–1900

Pottery type	Code	Date range	SC	ENV	Wt (g)	Form
Surrey-Hampshire border whiteware with clear (yellow) glaze	BORDY	1550-1700	1	1	65	Chamber pot

Context [40], spot date: 50–400

Pottery type	Code	Date range	SC	ENV	Wt (g)	Form
Unsourced sand-tempered ware	SAND	50–400	1	1	2	-

Significance and potential of the assemblage and recommendations for further work

The assemblage has little significance at a local level. The pottery types and forms present fit the ceramic profile for London and are frequently encountered on excavations in London and Southwark. The main potential of the pottery is to date the contexts it was recovered from and to demonstrate medieval and particularly post-medieval activity present. None of the pottery requires illustrating. There are no recommendations for further work.

Reference

MOLA, 2014b. Roman pottery codes. http://www.mola.org.uk/resources/roman-pottery-codes

Accessed January 12th, 2016.

MOLA, 2014b. Medieval and post-medieval pottery codes. <http://www.mola.org.uk/resources/medieval-and-post-medieval-pottery-codes>. Accessed January 12th, 2016.

Clay tobacco pipes spot dating index (THM16)

Chris Jarrett

INTRODUCTION

A small sized assemblage of clay tobacco pipes was recovered from the site (one bag). All of the fragments are in a good condition, indicating fairly rapid deposition after breakage. Clay tobacco pipes occur in one context as a small (under 30 fragments) sized group. All of the clay tobacco pipes (fifteen fragments, comprised of four bowls, a nib (mouth part) and ten stems) were classified by Atkinson and Oswald's (1969) typology (AO) and 18th-century bowls are according to Oswald (1975).

SPOT DATING INDEX

Context [1], spot date: 1700-1740

X1 bowl surviving as a spur with a medium/thick circumference and a wide bore, *c*. 1660–1710

X1 OS10 (1700–1740) heeled and upright bowl with its rim missing

X1 OS10 (1700–1740) heeled and upright bowl with its rim missing and initialled on the heel E M with crowns above each letter. Possibly made by Edward Morris, 1702, St. Olaves, Southwark (Walker 1981, 178)

X1 OS10 (1700–1740) heeled and upright bowl with its rim missing and initialled on the heel H M. Possibly made by Henry Mason,1718, St. Olaves (parish records), Southwark or Hampstead Mules, 1721, Fivefoot Lane, St Mary Magdalen parish records, Bermondsey

X1 nib medium/thin thickness and a medium bore

X10 stems of medium thickness and fine and medium bores

Significance, potential and recommendations for further work

The assemblage has little significance as the material occurs as a small group without much meaning. The only potential of the clay tobacco pipes is to date the contexts it was recovered from. There are no recommendations for further work on the assemblage.

Reference

Atkinson D. and Oswald. A., 1969, 'London clay tobacco pipes'. *Journal of British Archaeology Association*, 3rd series, Vol. 32, 171-227.

Oswald, A. 1975, Clay pipes for the Archaeologist, British Archaeological Reports, British series, No.14.

Walker, S. 1981. The clay pipe industry of the parish of St Olaves' Southwark. In: P. Davey, *The Archaeology of the Clay Tobacco Pipe. VI. Pipes and kilns in the London region*. British Archaeological Reports, British series, No. 97, 173–182.

REVIEW OF CERAMIC BUILDING MATERIAL, AN ARCHAEOLOGICAL WATCHING BRIEF OF THE PROPOSED SCIENCE GALLERY, BOLAND HOUSE, GUY'S CAMPUS, LONDON BOROUGH OF SOUTHWARK (THM16)

Amparo Valcarcel

Central National Grid Reference: TQ 3284 7923

BUILDING MATERIALS SPOT DATES

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
3	2276	Post med unglazed peg tile	1	1480	1900	1480	1900	1480-1900	No mortar
18	3063	Post med Flemish/local silty paver	1	1600	1800	1600	1800	1600-1800	No mortar
25	2271	Post med splash glazed peg tile	1	1180	1800	1180	1800	1450-1800	No mortar

Review

The small assemblage (3 fragments, 246 g) consists mainly of small pieces of fragmentary post medieval ceramic building material.

Overlapping, flat rectangular peg tiles attached to roofing by two nails (as represented by two nail holes) form numerically the most common post medieval roofing form. A small range of fabrics (2) have been identified suggesting derivation from different buildings. One has coarse-moulding sand, splash glazed or have a fabric that is typical of post medieval roofing tile as fabric 2271. Peg tile from the London sandy fabric 2276, attested to extensive later post medieval red roofing tile development in this area.
One fragment of post medieval silty fabric paver was recovered from [18].

The building material assemblage reflects the later post medieval development of this site and none of the material is of intrinsic interest. No further work recommended.

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