



## **5–11 POPE STREET London SE1**

London Borough of Southwark

An archaeological evaluation report

March 2016



# 5-11 Pope Street London SE1 3PR

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Report on an archaeological evaluation

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# Summary

*This report presents the results of an archaeological evaluation carried out by MOLA at 5–11 Pope Street, Southwark, London SE1. The report was commissioned from MOLA by the Client, Pope Street (SE1) Ltd*

*In accordance with the Written Scheme of Investigation (MOLA 2016) an evaluation was carried out in one trench in conjunction with geoarchaeological augering on the site between 9th and 12th February 2016*

*Evidence for part of the southern downslope of the Horsleydown eyot (island) and palaeochannel was found on the site. The geoarchaeological study, integrated within this report has helped to inform on how natural topography of the local area has changed over the last 10,000 years. Initially the gravel surface, which approximates with the early Mesolithic land surface, indicated a slope into a deep Pleistocene channel. Over time, as environmental conditions changed and the channel became redundant, a peat developed across the site probably dated to the Bronze Age period. The upper alluvial clay deposits which inundated the peat were topped by a soil deposit dated to the medieval period, though the ground was still marginal and prone to flooding.*

*Attempts at land reclamation and drainage management also began in the medieval period and continued until the 17th/18th century, when the land was used for agricultural purposes. In the later 18th/early 19th century, a building was constructed on the area.*

*Due to the results of the archaeological evaluation exercise, relative low significance of the archaeological deposits recorded and low impact on any remains caused by piled foundations it is suggested that no further archaeological work is required at the site.*



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# 1 Introduction

## 1.1 Site background

- 1.1.1 An archaeological evaluation was carried out by MOLA at 5-11 Pope Street, Southwark SE1 3PR ('the site') between 9th and 12th February 2016 (Fig 1). This document is the Report on that work.
- 1.1.2 A written *Archaeological Assessment* was previously prepared, which covered the whole area of the site (Pre-Construct Archaeology 2011). This document should be referred to for information on the natural geology, archaeological and historical background of the site, and the initial interpretation of its archaeological potential.

## 1.2 Planning background

- 1.2.1 The legislative and Planning framework in which the evaluation took place was fully set out in the *Written Scheme of Investigation* which formed the project design for the evaluation (see Section 2.1, MOLA 2016). To summarise here:
- 1.2.2 The development proposals are that the fencing around the perimeter of the site will be removed and the site re-developed to create a four storey terrace of residential dwellings over piled foundations. These properties will not be basemented.
- 1.2.3 The development received planning permission on 26th March 2014 (planning ref 13/AP0058) and included Condition Nos 5 and 6. The conditions require that:-

*5 - Before any work hereby authorised begins, excluding demolition, the applicant shall submit a written scheme of investigation for a programme of archaeological recording, which shall be approved in writing by the Local Planning Authority and implemented and shall not be carried out other than in accordance with any such approval given.*

*Reason: In order that the details of the programme of archaeological excavation and recording works are suitable with regard to the impacts of the proposed development and the nature and extent of archaeological remains on the site in accordance with Chapter 12, paragraph 141 of the National Planning Policy Framework, policy 12 of the Core Strategy 2011 and saved policy 3.19 of the Southwark Plan 2007.*

*6 - Before any work hereby authorised begins, the applicant shall secure the implementation of a programme of archaeological evaluation works in accordance with a written scheme of investigation shall be submitted and approved in writing by the Local Planning Authority.*

*Reason: In order that the applicants supply the necessary archaeological information to ensure suitable mitigation measures and/or foundation design proposals be presented in accordance with Chapter 12, paragraph 141 of the National Planning Policy Framework, policy 12 of the Core Strategy 2011 and saved policy 3.19 of the Southwark Plan 2007.*

- 1.2.4 The evaluation was carried out in response to the above conditions.

## 1.3 Scope of the evaluation

- 1.3.1 Evaluation is defined by Historic England as intended to provide information about the archaeological resource in order to contribute to the:

- 1.3.2 - formulation of an appropriate response or mitigation strategy to planning applications or other proposals which may adversely affect such archaeological remains, or enhance them; and/or
- 1.3.3 - formulation of a proposal for further archaeological investigations within a programme of research
- 1.3.4 An archaeological evaluation is a limited fieldwork exercise designed to test the conclusions of preliminary desk based work. It is not the same as full excavation.
- 1.3.5 The evaluation was carried out within the terms of the relevant Standard for evaluation specified by the Chartered Institute for Archaeologists (CIFA, 2014).
- 1.3.6 All work has been undertaken within the research priorities established in the Museum of London's A research framework for London Archaeology, 2002.
- 1.3.7 All work was undertaken within research aims and objectives established in the Written Scheme of Investigation for the evaluation (MOLA 2016Section 2.2).

## 1.4 Aims and Objectives of the evaluation

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- 1.4.1 A number of broad objectives and research questions were identified within the previous Written Scheme of Investigation for this evaluation:
  - What is the nature and level of nature and level of topography?
  - What are the earliest deposits identified?
  - What is the topographical and environmental profile, particularly in the early periods, of the site and how does it refine the predictive models for the area?
  - Does the site lie within the limits of a palaeochannel?
  - Is there any evidence of prehistoric activity on the site?
  - Is there any evidence of medieval activity on the site? If present, how does this relate to the possible medieval ditch at 168 Tower Bridge Road?

## 2 Topographical and historical background

A detailed description of the geology, archaeology and history of the site was provided in the earlier Archaeological desk-based assessment (Pre-Construct Archaeology 2011). A brief resume is provided here

### 2.1 Topography, Archaeology and history

- 2.1.1 The results of archaeological excavations and borehole surveys in north Southwark show that from prehistoric times through to the medieval period the local landscape would have comprised low gravel islands (eyots) surrounded by fen crossed by braided channels of the River Thames (Gibbard 1994; Sidell et al 2000). Current topographical data suggest that for much of the Holocene the site lay in or close to tidal channel between Horselydown Eyot to the north and Bermondsey Eyot to the south. The site may have fallen entirely within the channel for most of its history, but it could have included marginal land at the edge of the eyots, which would have been marshy and prone to flooding until a combination of reclamation schemes were undertaken in the late medieval and early post-medieval periods.
- 2.1.2 The British Geological Society mapping indicates site lies on alluvium underlain by Kempton Park Gravel. A borehole located in Tanner/Pope Street recorded made ground from 3.30m OD sealing alluvium between 1.8m to 0.80m OD, overlying peat to a depth of -1.2m OD, with this deposit overlying sand and gravel to -2.5m OD (Pre-Construct Archaeology 2011, 9).
- 2.1.3 Closer to the site an archaeological evaluation undertaken c 10m to the west of the site at 168 Tower Bridge Road in 2000 (site code TBO00) recorded the upper alluvium deposits at c 0.80m OD. This overlay peat encountered at c 0.30m OD to a depth of -0.10m OD which in turn sealed a silt deposit. The river terrace gravels were not reached on this site. The sequence of peat and other deposits are believed to be the southernmost edge of a low sandy island, possibly the Horsleydown eyot. There were no significant traces of human activity associated with this foreshore, but one prehistoric flint tool was recovered from the lowest deposit. The alluvial deposits were cut by a substantial east-west channel or ditch recorded to depth of c -0.34m OD which contained the remains of a medieval drinking jug (MoLAS 2001).
- 2.1.4 To the west of the site evidence of a large palaeochannel running east-west was recorded during excavations at 82-84 Tanner Street (site code CEH12), that was thought to have existed from the prehistoric until the beginning of the post-medieval period. Terrace gravels were found in the lowest parts of several excavation areas. This is presumed to be the base of the palaeochannel. Several alluvial layers were recorded on top of this base and covered by a layer of peat dated by C14 to the late Bronze Age/ Iron Age. The earliest evidence for human occupation of the site was a single worked timber post embedded in the peat, stylistically dated to late Bronze Age.
- 2.1.5 Little evidence of Roman activity has been recorded in the direct vicinity of the site however residual pottery has been recorded in later features from excavations in the area.
- 2.1.6 No early Saxon remains have been found nearby but residual middle and late Saxon finds were recorded on the site of Bermondsey Abbey (Dyson *et al* 2011, 12-13). The Cluniac Priory of St Saviour's was founded in 1082 and later known as Bermondsey Abbey. Tanner Street just to the north of the site forms part of the northern limits of the monastic precinct (Grimes 1968, 21, Fig 51 and Dyson *et al.* 2011, 120, Fig 80) and therefore the site lies just within the monastic precinct. The



conventual buildings of St Saviours occupied the south-west corner of the precinct and the site lies some distance from the main complex was most probably only in use for agricultural purposes. The priory was surrendered to Henry VIII in 1539 at Dissolution.

- 2.1.7 Cartographic evidence suggests the site remained rural land near the remains of Bermondsey Abbey for much of the early post-medieval period. By the mid-18th century the site had been built on and Rocque's map of 1746 shows the site as housing a long building located just to the east of large north/south aligned drainage channel.
- 2.1.8 During the post-medieval period the leather industry and its subsidiary industries relating to animal remains became important in Southwark and Bermondsey. The area was an ideal location for this industry: a good supply of animal skins available from London butchers, a plentiful supply of water in the many streams running through the area and a nearby market for leather in the City. Horwood's map of c 1799 shows the site as located in a complex of buildings identified as Messer's Bowzer and Coates Glue Makers and later mapping shows the site as in located in area where many tanneries were established.
- 2.1.9 Nineteenth century Ordnance Survey mapping shows terrace housing on the site and by 1872 a tannery is also located adjacent to the site to the east. The housing remained on the site in the early 20th century. During WWII the London County Council bomb maps for the area show the site as 'seriously damaged but repairable' (London Topographic Society 2005, map 77). The houses remained on the site until the 1950s and were subsequently demolished and the site used as a car park.

## 3 Evaluation methodology

### 3.1 Field methodology

- 3.1.1 One evaluation trench measuring 9m long by 4m wide by 1.95m deep was excavated at the northern end of the site. The trench was Stepped at a depth of 1 metre below the ground level to allow safe working access.
- 3.1.2 The slab was broken out and cleared by contractors under MOLA direction and excavated down to the top of the alluvium under the supervision of the MOLA supervisor.
- 3.1.3 The on-site geoarchaeological work comprised auger holes through the base of the trench to recover the full Holocene sequence from the floodplain gravels up to the base of the trench. The primary objective of the investigation was to confirm the extent, nature and significance of any surviving geoarchaeological deposits across the site and their archaeological potential. Three auger holes (AHs) were cored using a Cobra power auger by MOLA geoarchaeologists along the length of the excavated trench. Coring ceased at the level of river gravels. The locations of the auger holes were plotted and are illustrated in (Fig 2). Sediments were recorded in the field and samples were taken. All the auger samples were described using standard sedimentary criteria (relating to colour, compaction, texture, structure, bedding, inclusions, and clast-size).
- 3.1.4 The Ordnance Datum (OD) of the ground level was obtained from the Existing Site Survey and the depths of the contacts between each sedimentary unit encountered were converted to OD levels
- 3.1.5 Archaeological excavation was carried out in accordance with the Written Scheme of Investigation (MOLA 2016)
- 3.1.6 Trench and auger holes were located and plotted by the triangulation method from the fixed eastern boundary wall of the site and subsequently tied to the OS grid by the MOLA Geomatics team.
- 3.1.7

### 3.2 Recording methodology

- 3.2.1 A written and drawn record of all archaeological deposits encountered has been compiled in accordance with the Written Scheme of Investigation (MOLA 2016).
- 3.2.2 The geoarchaeological data has been analysed to produce to further interpret the geoarchaeological deposits within the site. This analyses was undertaken to create both a transect displaying the site wide stratigraphy and a deposit model of the early Holocene (Mesolithic) topography.
- 3.2.3 To enhance and further understand the context of the deposits augered on the site, data from the surrounding area outside the site, has been included and drawn from a number of sources including:
- Past archaeological and palaeo-environmental work undertaken in the area.
  - Past geotechnical work undertaken on the site (Soils Ltd 2015)
  - British Geological Survey maps and other sources describing the characteristics of the bedrock, soils and substrate in the area
- 3.2.4 In order to create the deposit model the data was entered into a digital (Rockworks 15) database where each lithological unit (gravel, sand silt etc.) was given a unique colour and pattern allowing cross correlation of the different sediment and soil types across the site. By examining the relationship of the lithological units (both

horizontally and vertical) in a transect, correlations can be made between soils and sediments, and associations grouped together on a site-wide basis.

- 3.2.5 The grouping of these deposits is based on the lithological descriptions, which define distinct depositional environments, coupled with a wider understanding of the Thames floodplain sequence gained from previous archaeological and geoarchaeological investigations undertaken in the surrounding area. Thus a sequence of stratigraphic units ('facies') representing certain depositional environments and/or landforms can be reconstructed both laterally and through time for the site and surrounding area.
- 3.2.6 Additionally to the transect, the Rockworks data was transferred to Arc GIS v.10 and 'Surfer' software through which an 'Early Holocene surface' was created which plots the surface topography of the Pleistocene gravels and sands (see Fig 7). This gives an approximation of the topography of the site as it existed at the beginning of the Holocene period (i.e. the early Mesolithic, c 10 000 years ago). The development of the Holocene floodplain is likely to have been influenced by the gravel topography inherited from the Pleistocene period. This surface would have dictated the course of later channels, with gravel high points forming areas of dry land within the wetlands, and lower lying areas forming the main threads of later channels

### 3.3 Site archive

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Number of trench record sheets	1
Number of overall location plans	1
Number of Context (SU) sheets	12
Number of photographs	12
Number of Plan sheets	2
Number of Sections	6

## 4 Results of the evaluation

4.1.1 For trench and auger hole locations please refer to Fig 2 and Fig 3.

### 4.2 Trench 1

Location	North end of site
Dimensions	9m by 4m by 1.95 depth
Modern ground level/top of slab	2.97m OD
Base of modern fill/slab/turf	2.82m OD
Depth of archaeological stratigraphy above natural (if any)	3.00-5.50m maximum depth (obtained via geoarchaeological auger holes)
Level of base of lowest features or deposits observed	0.85m OD
Top of surviving natural observed at	N/A
Level of base of trench	1.05m OD

See Table 1 for auger hole sequence

- 4.2.1 Sandy gravels were noted at the base of the auger hole sequence and classed as Pleistocene River gravel deposits.
- 4.2.2 The sandy gravels, typically orange sand and coarse sub angular flint, relate to the Kempton Park gravels which were deposited during the Pleistocene between 45,000 and 30,000 years ago (Gibbard 1994). These gravels of the first terrace of the Thames were eroded by braided river channels in the later Pleistocene (c 15,000 to 10,000 years ago) to form remnant islands (or eyots) in the Southwark area such as Horsleydown eyot on which the site is based.
- 4.2.3 Both the channels and the islands would have formed significant topographical features on the wider Thames floodplain at the beginning of the Holocene during a period of relative landscape stability (equivalent with the early Mesolithic landscape c 10,000 years ago). As a consequence, the upper surface of the sandy gravels encountered across the site have been taken as the land surface at the start of the Holocene and 3D modelled to help visualise the early Mesolithic landscape (Fig 7).
- 4.2.4 The deposits encountered during the auger investigation found evidence of a deep channel within the gravels lying at -4.4m OD in AH3, some 2.5m deeper than those in the adjacent auger holes (Fig 6 & Fig 7). This channel may represent part of a network of early Holocene channels associated with the main channel of the Thames which is thought to have run through northern Southwark at this time (Sidell et al 2002).
- 4.2.5 Overlying the Pleistocene gravels in AH1 & 2 was moderately firm, yellow sand grading up through bands of sands and clays to slightly sandy, soft light greenish grey silty clay (Facies 2; (Fig 6). Facies 2 is essentially sandy deposits over the gravels laid down as the climate ameliorated and fluvial energy diminished dramatically in the early Holocene. The sands draped the floodplain and in particular accumulated in channels although sometimes indeed covering high points of gravel landscape during periods of flood. This is interpreted as a prehistoric (Mesolithic to Bronze Age) deposit (Table 1). It is likely that arable cultivation was taking place in the vicinity during the latter stages of the build-up of this deposit as recorded from both pollen analysis from nearby sites (e.g. MOLA 2014) and physical evidence of ard (early plough) marks on the Horselydown eyot at the Lafone St site amongst others (Sidell 2002).

- 4.2.6 Overlying facies 2, sediments accumulated as peats or peaty clays which probably formed as part of a floodplain marsh or wetland along the fringes of the channel during the prehistoric (facies 3). In the site area the peats were logged in all three boreholes from approximately 0m OD to 0.5m AOD (from approximately 0.75m below the base of the trench ;(Fig 6).
- 4.2.7 Radiocarbon determinations from nearby sites indicate a late prehistoric (Bronze Age) date for these peaty deposits (MOLA 2014, Elsden 2001).
- 4.2.8 The peat of facies 3 represents a period when the channel has silted up or perhaps migrated away from the site which allowed a marsh to develop, which, if similar to nearby sites for this period, would predominantly have been a typical grass-sedge fen (Spurr 2014). The site at this time would have largely been an open, wet area, thickly covered with grass interspersed with tree species such as Alder and willow (tolerant of seasonal flooding episodes) surrounded by Oak and Hazel on the higher, drier ground of the eyot. The site would have been predominantly a freshwater environment (at least initially) giving way to more persistent flood events brought on by rises in sea level in the early Roman period (MOLA 2014, Elsden 2001).
- 4.2.9 Overlying facies 3 a soft blue grey homogenous silty clay (facies 4 ;(Fig 6) was recorded in all boreholes which represent increasingly wet conditions predominating, resulting in the drowning of the semi-terrestrial peat environment. Similar deposits have been found at nearby sites at these levels (MoLAS 2000,, Elsden 2001, MoLAS 2005, MOLA 2014) indicating a regional event. The inundation of the peats occurred as the knock on effects of sea level rise created a more tidal environment in Southwark and, indeed, across the lower Thames valley as a whole (Sidell 2000). The rise in water levels would have flooded the area during the historic period reactivating the channel courses to some degree although as brackish/saline tidal creeks rather than freshwater channels.
- 4.2.10 The uppermost deposit (facies 4) was recorded in AH1 & 2 as incipient soil development [10], indicative of another phase of drying out and semi-terrestrial. The top of the deposit was found to lie between 1.05 and 1.20m OD.
- 4.2.11 At the north end of the trench two east-west aligned ditches [9] and [6] were cut into the alluvial silts. These are probably drainage ditches or land boundaries and indicate some form of land management or reclamation (*Fig 5*). Pottery from the upper fill [8] of ditch [9] has been dated to 13th/14th century (Table 2) and it is possible that this material had been washed into the ditch, once it was partially silted-up. Ditch [6] fill [5] produced a dark blue clayish sandy silt waterlain deposits, indicating inundation by flooding. This inundation-type deposit was also recorded within ditch [9] (fill [8]) suggesting that both features had fallen into disuse as a result of flooding events.
- 4.2.12 Sealing both ditches was a 0.35m thick layer of light green grey clayey silt, at a height of 1.45-1.50m OD [7]. This has been interpreted as a series of make-up dumps, indicative of land reclamation of ground consolidation. To the south of ditch [9] a series of four degraded wooden posts [11], reflecting the same east-west alignment were recorded. These posts were not date but are thought to date to the later post-medieval period. Their presence may suggest an attempt to preserve or define the earlier (ditched) land boundaries within this part of the site.
- 4.2.13 Further ground raising activity was carried out in the post medieval period, as evidenced by a 0.60m thick layer of dark brown sandy mixed material [4], the top of which was recorded at c 2.00m OD. Pottery from this layer is dated to the 18th century and may indicate the date at which the final phase of land reclamation took place. A 1.40m wide rubbish pit [3] of probable 19th century date was cut into this level, suggesting that the area was open undeveloped ground. The backfill [2] of the pit produced early to mid-19th century pottery. The full depth of the pit was not seen and continued below the limit of the depth of the trench.

4.2.14 The backfilled pit was sealed by a levelling layer [1] (c 2.30m OD) in advance of the construction of a 19th century red brick foundation which has survived within the site (see Fig 8).

4.2.15 The lithostratigraphy recorded in the boreholes is presented below in Table 1.

<b>AH1</b>						
Co-ordinates:		533481.295	179606.907			
Top of core at: m OD		1.18				
Depth below ground level		Elevation m AOD		Description	Interpretation	Facies
Top	Base	Top	Base			
0.00	0.12	1.18	1.06	Soft grey brown humic clay	Incipient soil formation	4
0.12	0.47	1.06	0.71	Soft blue grey homogenous silty clay with manganese staining to top, yellow drying to base	Historic overbank flooding	
0.47	0.74	0.71	0.44	Soft light brown to mid grey clay with frequent rootlets		
0.74	0.88	0.44	0.30	Soft brown clayey peat, possibly woody	Prehistoric wooded / vegetated wetland	3
0.88	0.98	0.30	0.20	Soft organic clay		
0.98	1.20	0.20	-0.02	Moderately soft grey slightly brown clay with occasional rootlets and occasional wood chips		
1.20	1.50	-0.02	-0.32	Moderately soft light greenish grey massive silty clay becoming slightly sandy with depth. Rare organic fragments	Early to mid Holocene channel bank deposits	2
1.50	2.30	-0.32	-1.12	Moderately soft dark yellow to greenish and pale / white (calcium carbonate precipitate) irregular bands of fine sand and silty sand with roots noted to base		
2.30	3.00	-1.12	-1.82	Moderately soft massive medium yellow sand with rare silt-filled cracks		
3.00		-1.82	-6.5m (from borehole logs)	Firm dark yellow, mid brown sand and gravel	River terrace gravels	1

<b>AH2</b>						
Co-ordinates:		533480.677	179605.523			
Top of core at: m OD		1.05				
Depth below ground level		Elevation m AOD		Description	Interpretation	Facies
Top	Base	Top	Base			
0.00	0.15	1.05	0.90	Moderately soft mixed light grey clay with occasional gravel	Made / disturbed ground	4
0.15	0.25	0.90	0.80	Soft reddish brown clay, slight ped light structure	Incipient soil formation	
0.25	0.50	0.80	0.55	Soft mid-grey clay massive structure	Historic overbank flooding	
0.50	0.70	0.55	0.35	Moderately soft black clayey peat	Prehistoric wooded / vegetated wetland	3

0.70	0.90	<b>0.35</b>	<b>0.15</b>	Soft graded clay light grey, occasional rooting to top	Prehistoric overbank flooding	
0.90	1.00	<b>0.15</b>	<b>0.05</b>	Moderately soft black clayey peat	Prehistoric wooded / vegetated wetland	
1.00	1.60	<b>0.05</b>	<b>-0.55</b>	Moderately soft light blue grey clay with occasional rooting and occasional calcium carbonate	Early to mid Holocene channel bank deposits	2
1.60	2.00	<b>-0.55</b>	<b>-0.95</b>	Soft pale white to green off white to yellow off- white in colour, possibly banded.		
2.00	3.00	<b>-0.95</b>	<b>-1.95</b>	Moderately soft yellow sand banded with off white 3mm-5mm bands of silt and grey fine 20-30mm bands of sand.		
3.00		<b>-1.95</b>	<b>-6.5m (from borehole logs)</b>	Firm dark yellow, mid brown sand and gravel	River terrace gravels	1

<b>AH3</b>						
Co-ordinates:		533480.105	179602.944			
Top of core at: m OD		1.10				
<b>Depth below ground level</b>		<b>Elevation m AOD</b>		<b>Description</b>	<b>Interpretation</b>	<b>Facies</b>
<b>Top</b>	<b>Base</b>	<b>Top</b>	<b>Base</b>			
0.00	0.80	<b>1.10</b>	<b>0.30</b>	Very soft light blue to light grey pale clay.	Historic overbank flooding	4
0.80	1.00	<b>0.30</b>	<b>0.10</b>	Moderately soft black clayey peat	Prehistoric wooded / vegetated wetland	3
1.00	5.50	<b>0.10</b>	<b>-4.40</b>	No recovery, due to soft sediment	Void / Saturated river channel sediments	2(?)
5.50	Unknown depth	<b>-4.40</b>	<b>-6.5m (from borehole logs)</b>	Refusal - hard surface. Poor recovery - very wet sand, occasional / rare gravel	River terrace gravels	1

Table 1 Sedimentary units recorded in the auger holes (AH1-3; PPE16)

## 4.3 The finds

4.3.1 The bulk of the finds retrieved during the evaluation comprised post medieval pottery dating to the early to mid-19th century, and were from large pit [3] and the later levelling dump [1]. There were few finds from the earlier periods, but sufficient to date the stratigraphic sequence. The earliest pottery was medieval in date and comes from the upper fill [8] of ditch [9] (Table 2). Along with the pottery from this context, a small unidentifiable fragment of iron, a very small perforated wooden disc <1> (Table 3) and a small assemblage of fish and mammal bone were recovered from a soil sample (Table 3).

Table 2 Pottery

Context	Material	Sherds/ Fragments	Date	Brief Comments	Fabric
1	pot	1	1680-1710	AO19 clay pipe	CTP
1	pot	5	1820-1840	Yellow ware baking dish	YELL
1	pot	1	1820-1840	Yellow ware jug	YELL
1	pot	1	1820-1840	English stoneware jar	ENGS
1	pot	1	1820-1840	Bone china egg cup	BONE
1	pot	1	1820-1840	Bone china bowl	BONE
1	pot	1	1820-1840	Cream ware bowl	CREA
1	pot	2	1820-1840	Willow pattern plate	TPW2
1	pot	1	1820-1840	Willow pattern tureen	TPW2
1	pot	2	1820-1840	Willow pattern wild rose plate	TPW2
2	pot	1	1820-1840	Yellow slip ware bowl	YELL SLIP
2	pot	1	1820-1840	Yellow ware bowl	YELL
2	pot	1	1820-1840	Surrey Hampshire Border Redware chamber pot/cooking pot/paint pot	RBOR
2	pot	4	1820-1840	Cream ware chamber pot	CREA
2	pot	1	1820-1840	English stoneware jug	ENGS
2	pot	1	1820-1840	Pearl ware dish	PEAR
2	pot	1	1820-1840	Pearl ware with underlay blue decoration saucer	PEARBW
2	pot	1	1820-1840	Tin glazed plate	TGW
2	pot	1	1820-1840	Transfer printed pearl ware saucer	PEARTR2
2	pot	1	1820-1840	Transfer printed ware bowl	TPW2
2	pot	1	1820-1840	Transfer printed ware bowl	TPW2
2	pot	1	1820-1840	Pearl ware earth colours saucer	PEARERTH
2	pot	1	1820-1840	Pear ware polychrome saucer	PEARPOLY
2	pot	1	1820-1840	Transfer printed ware plate	TPW6
2	pot	1	1820-1840	Lustre ware cup	LUST
4	pot	1	1820-1840	Red border ware rounded bowl	RBOR
4	pot	1	1760-1840	Cream ware	CREA
4	pot	1	1580-1910	Clay pipe stem	CTP
5	pot	1	1630-1700	Red border ware bowl	RBOR
5	pot	1	1630-1700	Tin glazed ware jar	TGWD
8	pot	1	1240-1350	London type ware jug	LOND
8	pot	1	1240-1350	London type ware unidentified	LOND
8	pot	3	1550	Red border ware	RBOR



Table 3 – Accessioned finds

Context	Material	Accession	Date	Brief Comments
8	wood	<1>	unknown	Perforated wooden disc
8	Iron		unknown	Fe fragment, unidentified

Table 4 – Animal bone

Context	Sample	Species	Quantity	Brief Comments
8	<1>	fish	1	Unidentifiable gill arch
8	<1>	fish	2	Fish vertebrae (cod family)
8	<1>	bird	1 fragment	Coracoids, small chicken (knife cut)
8	<1>	Sheep/goat	1	2nd phalange (middle toe), adult
8	<1>	unidentifiable	20 frags	Mammal bone

## 4.4 The site as a whole

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- 4.4.1 Assessing the results from all the trenches, and dating evidence where it exists, it appears that archaeological deposits do survive within the site. The evidence has confirmed a sequence of deposits, both natural and anthropogenic in origin, that demonstrates the changes in the environmental/landscape conditions and use of the site from the early prehistoric period (Mesolithic c 10,000) onwards. The survey identified a channel and the margins of an island, c 6.50m below current ground level overlain by developing soils, that would have formed part of the later prehistoric drier arable landscape (Neolithic-Bronze Age), surviving to a height of - 0.2m-0.10m OD.
- 4.4.2 Further evidence for the channel would be present to the south, east and west of the site, and the eyot (island) towards the northern end of the site.
- 4.4.3 Later changes in the environmental conditions to wetter conditions along the margins of the island were demonstrated by the presence of peat and clays, recorded between 0.m-0.50m OD, with drier conditions forming into the historical period, as found in the deposits lying between 1.05 and 1.20m OD, in auger holes 1 & 2 at the north end of the evaluation trench. As the top of this represents marginal agricultural and reclaimed during the medieval period, and evidence for land management in the form of drainage/boundary ditches, further evidence would be present across the site.
- 4.4.4 Further periods of land raising in the post-medieval period (16th-18th century) as evidenced by the make-up dumps [7] and [4], (open agricultural land) recorded at c 2.00m, will extend across the site, forming the late 18th–19th century land surfaces. In association, there is evidence for cut features such as rubbish pits, boundary and drainage ditches and post holes (fence post lines).
- 4.4.5 Further evidence of the 19th century brick foundations recorded within the trench may also survives locally between 2.86-2.90m OD.

## 5 Archaeological potential

### 5.1 Answering original research aims

#### *What is the nature and level of nature and level of topography?*

The natural topography has changed in the area of the site over the last 10,000 years or so throughout the Holocene. Initially the gravel surface, which approximates with the early Mesolithic land surface, sloped steeply from -1.80m OD to -4.40mOD north to south across the trench area indicative of a slope into a deep Pleistocene channel. Over time, as environmental conditions changed and the channel became redundant, a peat developed across the site from approximately Ordnance Datum to about 0.5m AOD. The peat approximates in nature and altitudinally with similar deposits from nearby sites which were dated to the Bronze Age period. Finally the upper alluvial clay deposits which inundated the peat were topped by a soil deposit c 1m OD thought to date to the medieval period

- *What are the earliest deposits identified?*

The earliest deposits identified are Kempton Park gravels deposited in the Pleistocene and eroded by the late Pleistocene Thames to form a network of channels in the Southwark area. The surface of the gravel approximates with the early Mesolithic land surface

- *What is the topographical and environmental profile, particularly in the early periods, of the site and how does it refine the predictive models for the area?*

The topographical and environmental profile of the site fit in well with data retrieved from other sites locally including the presence of a palaeochannel.

- *Does the site lie within the limits of a palaeochannel?*

A palaeochannel was picked up in AH3 toward the southern end of the trench

- *Is there any evidence of prehistoric activity on the site?*

No evidence for prehistoric activity was found on the site.

- *Is there any evidence of medieval activity on the site? If present, how does this relate to the possible medieval ditch at 168 Tower Bridge Road?*

On the north side of the trench, a ditch [9], with pottery from its upper fill, ranges in date from 1240-1550. This material suggests that the feature was at least partially open in the medieval period, although it may have been going into disuse at this time. The feature is also likely to be an easterly part of the undated ditch [28] found to the west at 168 Tower Bridge Road in 2000 (MoLAS 2000) see (Fig 3) and (Fig 5).

- *Is there any evidence for post-medieval activity? Did any activity take place on the site before the 18th to early 19th century industrial activity on the site?*

Post medieval activity on the site, appears to be associated with further land raising/reclamation and drainage management, as evidenced by make-up dumps [7] and drainage ditch [6]. The brick foundations suggest a building within the site in the 19th century.

- What is the extent of modern disturbance?

There was no evidence for modern disturbance within the evaluation trench, though it is unknown, to what extent, modern disturbance has taken place beyond its limits.

## 5.2 General discussion of potential

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- 5.2.1 The evaluation has shown that the potential for survival of prehistoric ground surfaces, including palaeochannels (horizontal archaeological stratification above natural ground) on the site is high. The lithological work carried out on the core samples indicates that the site has palaeo-environmental potential, particularly within the peats and silts overlying Pleistocene sediments. Further work could include limited palaeo-environmental assessment (diatoms/ostracods, pollen) and radiocarbon dating to integrate the site into the evolving environment of the wider Thames floodplain as recorded elsewhere across the Southwark area.
- 5.2.2 There is also potential for historical land surfaces and associated features such as pits and ditches from the medieval and post medieval period and structural remains dating to the late 18th/early 19th century.
- 5.2.3 The depth of archaeological deposits where they do survive is likely to be 6.50m deep, although shallower towards the north end of the site.

## 5.3 Significance

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- 5.3.1 The geoarchaeological remains are undoubtedly of local significance as they appear to provide a continuous Holocene sedimentary sequence. The historical remains are similarly of local significance, but this information is unlikely to be considered of regional or national significance.

## 5.4 Assessment of the evaluation

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- 5.4.1 A high level of confidence can be placed on the evaluation results to provide information on the deposit survival within the site footprint – a good sedimentary sequence was recovered across the site and particularly within AH1 & 2.

## 6 Proposed development impact and conclusions

- 6.1.1 Taking into account the results in all the trenches, archaeological deposits potentially survive to some depth across the site.
- 6.1.2 The proposed redevelopment involves the construction of a four storey terrace of residential buildings set over piled foundations. The proposed development does not have basements.
- 6.1.3 The impact of piling on any surviving archaeological deposits will be to remove archaeological deposits within the diameter of the pile or within clustered pile areas. Hard obstructions may also be removed to enable clear pile positions, although these are likely to impact locally on the overall deposit survival across the site.
- 6.1.4 In the light of the results of the evaluation, the low archaeological significance of the deposit survival recorded and the relatively low archaeological impact from any piling, MOLA considers that no further work would be required to mitigate archaeological deposit survival during the proposed the ongoing development scheme.
- 6.1.5 The decision on the appropriate archaeological mitigation to the deposits revealed however rests with the Local Planning Authority.

## 7 Acknowledgements

- 7.1.1 The author would like to thank Pope Street (SE1) Ltd for their help and assistance during the evaluation.

## 8 Bibliography

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## 9 OASIS archaeological report form

OASIS ID: molas1-244725

### Project details

Project name	5-11 Pope Street, London SE1 3PR
Short description of the project	Evaluation and auger sampling of a trench that produced evidence of a pleistocene channel, c 6.50m below current level at -4.40m OD and part of the southern slope of the Horsleydown eyot (island). Sediment logged in the auger holes revealed the changing environment from marginal wetland to peats from the Mesolithic to the Bronze Age period. Later deposition revealed reclamation and management via drainage ditches in the medieval period. Subsequent flooding of the area was resolved through further reclamation in the 17th century and use of the land for agricultural purposes, which continued into the 18th century/early 19th century, when the land was used to construct a building, used for industrial purposes in the early 19th century.
Project dates	Start: 09-02-2016 End: 12-02-2016
Previous/future work	No / Not known
Any associated project reference codes	PPE16 - Sitecode
Type of project	Field evaluation
Site status	Area of High Ecological Value
Current Land use	Vacant Land 1 - Vacant land previously developed
Monument type	SEDIMENT Mesolithic
Monument type	SEDIMENT Neolithic
Monument type	SEDIMENT Bronze Age
Monument type	SEDIMENT Iron Age
Monument type	SEDIMENT Early Medieval
Monument type	SEDIMENT Medieval
Monument type	SEDIMENT Post Medieval
Monument type	POT Medieval
Monument type	ANIMAL BONE Medieval
Monument type	IRON Medieval
Monument type	POT Post Medieval
Significant Finds	PERFORATED WOOD DISC Medieval

Methods & techniques ""Environmental Sampling"", ""Targeted Trenches""

Development type Urban residential (e.g. flats, houses, etc.)

Prompt Planning condition

Position in the planning process After full determination (eg. As a condition)

Project location

Country England

Site location GREATER LONDON SOUTHWARK SOUTHWARK 5-11 pope Street, London SE1 3PR

Postcode SE1 3PR

Study area 40 Square metres

Site coordinates TQ 33 79 51.493778355191 -0.083920958269 51 29 37 N 000 05 02 W Point

Height OD / Depth Min: -4.4m Max: -1.8m

Project creators

Name of Organisation MOLA

Project brief originator MOLA

Project design originator Derek Seeley

Project director/manager Simon Davis

Project supervisor Antony Baxter

Type of sponsor/funding body Pope Street (SE1) Ltd

Name of sponsor/funding body Pope Street (SE1) Ltd

Project archives

Physical Archive recipient LAARC

Physical Archive ID PPE16

Physical Contents "Ceramics", "Environmental", "Wood", "Animal Bones"

Digital Archive recipient LAARC



Digital Archive ID	PPE16
Digital Contents	"Animal Bones", "Ceramics", "Environmental", "Wood"
Digital Media available	"Images raster / digital photography", "Survey", "Text"
Paper Archive recipient	LAARC
Paper Archive ID	PPE16
Paper Media available	"Context sheet", "Drawing", "Matrices", "Photograph", "Plan", "Report", "Section", "Survey", "Unpublished Text"

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Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	5-11 Pope Street, london SE1, London Borough of Southwark
Author(s)/Editor(s)	Askew, P
Date	2016
Issuer or publisher	MOLA
Place of issue or publication	MOLA
Description	An unpublished client report

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Fig 1 Site location



Fig 2 Trench location plan showing section and Auger Hole (AH) locations

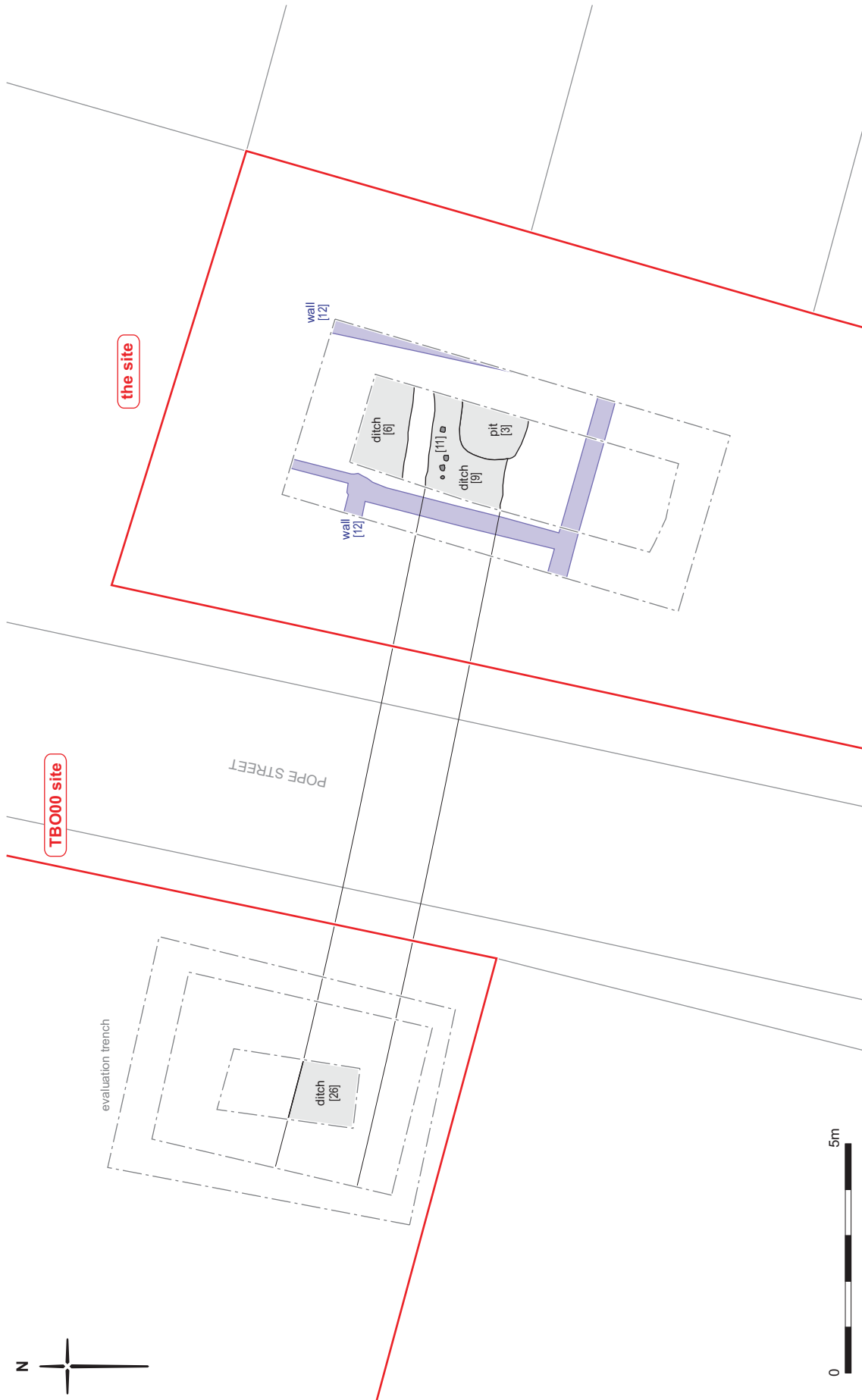


Fig 3 Plan of the archaeological features showing the medieval ditch [26] at Tower Bridge Road (TBO00) to the west and its continuation eastward, ditch 9 at Pope Street in 2016

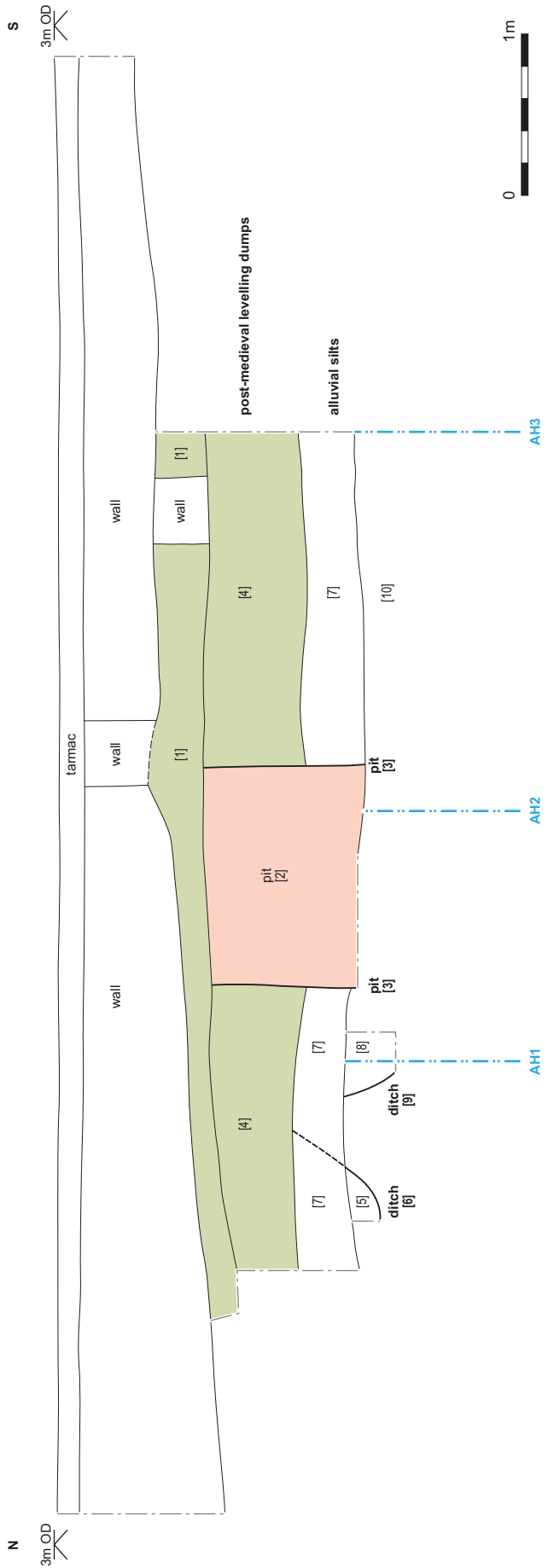


Fig 4 West-facing section of the evaluation trench



Fig 5 Photograph showing the medieval ditches [6] and [9] and post medieval pit [3] (looking south)

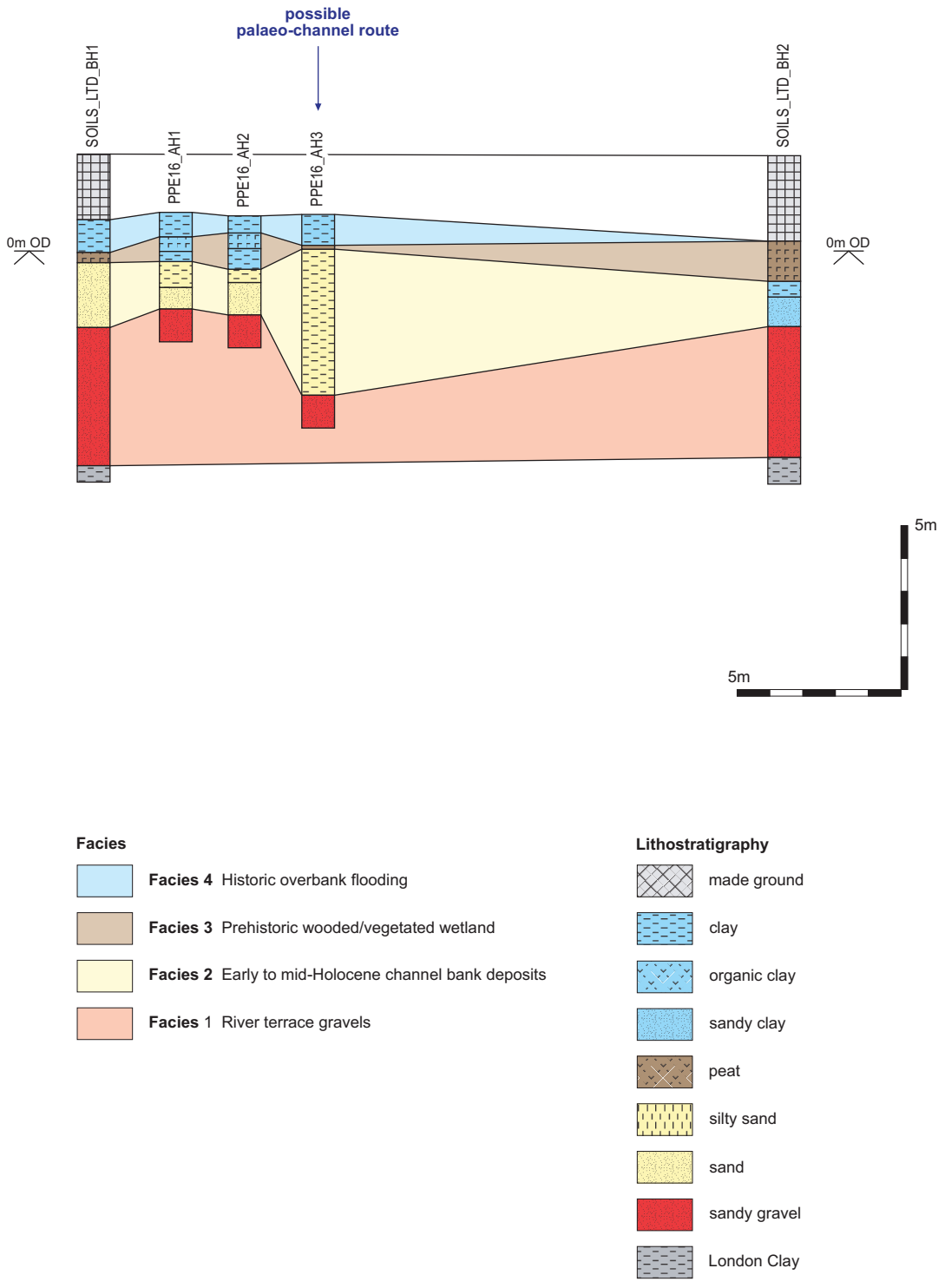


Fig 6 North to south transect across the site

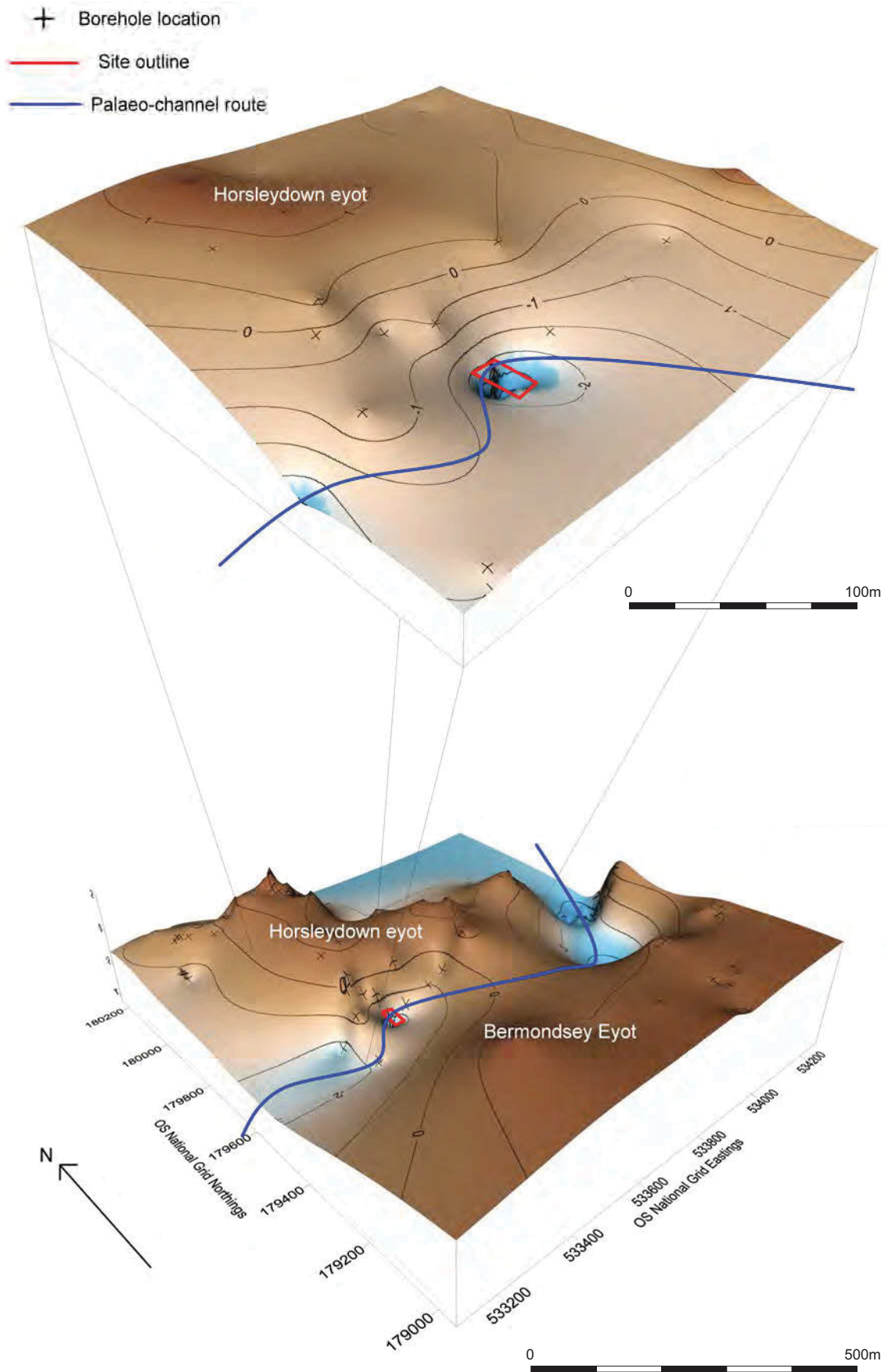


Fig 7 Early Holocene surface of the site and surroundings



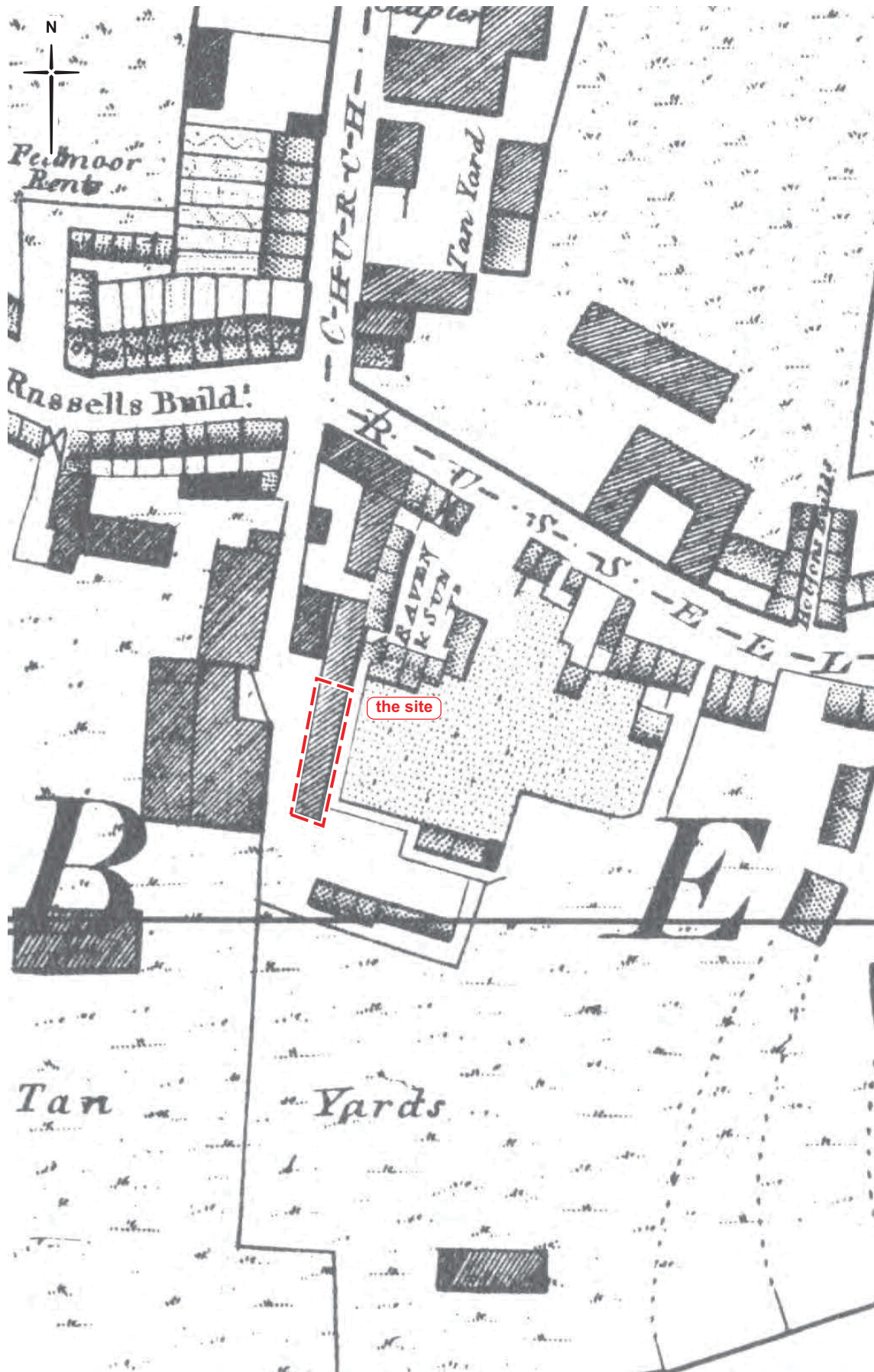


Fig 8 Horwood's map of 1799