75 BERWICK ROAD, CANNING TOWN, LONDON E16 3DR

GEOARCHAEOLOGICAL INVESTIGATIONS

LOCAL PLANNING AUTHORITY:
LONDON BOROUGH OF NEWHAM

PLANNING APPLICATION NUMBER:
13/00927/FUL

PCA REPORT NO: 11912

SITE CODE: BWK14

NOVEMBER 2014

PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

75 BERWICK ROAD, CANNING TOWN, LONDON E16 3DR

GEOARCHAEOLOGICAL INVESTIGATIONS

Quality Control

Pre-Construct Archaeology Ltd	
Project Number	K3732
Report Number	R11912

	Name & Title	Signature	Date
Text Prepared by:	Chris Mayo		November 2014
Graphics Prepared by:			November 2014
Graphics Checked by:			November 2014
Project Manager Sign-off:	Chris Mayo		November 2014

Revision No.	Date	Checked	Approved

Pre-Construct Archaeology Limited
Unit 54
Brockley Cross Business Centre
96 Endwell Road
London
SE4 2PD

75 BERWICK ROAD, CANNING TOWN, LONDON E16 3DR

GEOARCHAEOLOGICAL INVESTIGATIONS

SITE CODE:	**BWK14**
LOCAL PLANNING AUTHORITY:	**London Borough of Newham**
PLANNING APPLICATION NUMBER:	**13/00927/FUL**
CENTRAL NGR:	**TQ 4109 8114**
COMMISSIONING CLIENT:	**Keepmoat**
WRITTEN BY:	**Chris Mayo (MIfA)** **Pre-Construct Archaeology Ltd** **11th November 2014**

Contractor:	**Pre-Construct Archaeology Limited** **Unit 54, Brockley Cross Business Centre** **96 Endwell Road** **Brockley** **London** **SE4 2PD**
Tel:	**020 7732 3925**
Email:	**cmayo@pre-construct.com**
Website:	**www.pre-construct.com**

PCA Report No: R11912

1 INTRODUCTION

1.1 Pre-Construct Archaeology Limited was appointed by Keepmoat to undertake works required to satisfy condition 5 attached to planning consent for redevelopment at 75 Berwick Road, Canning Town E16 3DR in the London Borough of Newham. The site is centred at NGR TQ 4109 8114.

1.2 A previous client for the site had engaged the archaeological consultancy services of Mills Whipp Projects, who had liaised with the Archaeology Advisor to the London Borough of Newham, Mr Adam Single of English Heritage, to ascertain the scope of works necessary to satisfy the condition. It was agreed as a result of these discussions, which pertained to the same planning application, that the implementation of a geoarchaeological survey would be necessary to inform upon ground conditionings at the site and advise on the potential for palaeo-environmental deposits which may be of archaeological interest.

1.3 The geoarchaeological borehole survey was undertaken on 7th and 8th October 2014. PCA engaged the specialist services of Quaternary Scientific (QUEST) at the School of Human and Environmental Sciences, University of Reading, to execute the geoarchaeological project. Their report of findings is presented at Appendix 1

2 METHODOLOGY

2.1 The work by QUEST was overseen for PCA by James Langthorne who undertook an archaeological watching brief during the excavation of starter pits and then the drilling of each borehole. The work followed the methodology contained within a Written Scheme of Investigation prepared by Mills Whipp Projects[1] (2014), which also contains background data for the site.

2.2 Four geoarchaeological boreholes were undertaken, located one at each corner of the site. Each borehole was sunk to a depth of four metres. Significant changes in the differing deposits were noted and depths recorded BGL (Below Ground Level).

2.3 All recording systems adopted during the investigations were fully compatible with those most widely used elsewhere in London; that is those developed out of the Department of Urban Archaeology Site Manual, presented in PCAs Operations Manual 1[2]. Individual descriptions of all archaeological and geological strata and features excavated and exposed were entered onto pro-forma recording sheets.

[1] Mills, P, 2014 'Berwick Road / Shipman Road London E16: Written Scheme of Investigation for Archaeological Boreholes', unpublished report for Mills Whipp Projects

[2] Taylor, J with Brown, G 2009, Fieldwork Induction Manual: Operations Manual 1, Pre-Construct Archaeology Limited

2.4 A photographic record of the investigations was made using digital format only.

2.5 The complete site archive including site records, photographs and finds will be deposited at the London Archaeological Archive Research Centre (LAARC) under the site code BWK14.

3 CONCLUSIONS

3.1 The results of the site investigation, presented in QUEST's site report at Appendix 1, have demonstrated that the substrata of the site, comprising Late Devensian Gravel overlain by Holocene Alluvium containing Peat, capped by Made Ground, is entirely consistent with the known local sequence.

3.2 QUEST recommend that further assessment of the samples recovered from Borehole 2 may be warranted, but do not consider that additional fieldwork is necessary.

3.3 PCA does not consider that further fieldwork is justified for this project. The proposed development will entail the demolition of the existing structure and the building of a new social club and 34 units. The building will have piled foundations and no basement.

APPENDIX 1: A REPORT ON THE GEOARCHAEOLOGICAL INVESTIGATIONS AT 75 BERWICK ROAD, CANNING TOWN, LONDON BOROUGH OF NEWHAM (NGR: TQ 4109 8114)

D.S. Young

Quaternary Scientific (QUEST), School of Human and Environmental Sciences, University of Reading, Whiteknights, PO Box 227, Reading, RG6 6AB, UK

INTRODUCTION

This report summarises the findings arising out of the geoarchaeological investigations undertaken by Quaternary Scientific (University of Reading) in connection with the proposed development at 75 Berwick Road, Canning Town, London Borough of Newham (National Grid Reference: *centred on* TQ 4109 8114; Figure 1). The site lies on the floodplain of the River Thames, where the British Geological Society (BGS) maps the superficial geology as Alluvium, described as comprising mainly sand, silt and clay with some gravel, resting on London Clay bedrock (www.bgs.ac.uk/opengeoscience). In fact, the Holocene alluvium of the Lower Thames and its tributaries is almost everywhere underlain by Late Devensian Late Glacial Gravels (in the Thames valley, the Shepperton Gravel of Gibbard, 1985, 1994; in the Lea valley, the Lea Valley Gravel of Gibbard, 1994),

The site lies *ca*. 2.0km north of the modern course of the Thames, where it follows a broadly east-west course. The modern ground surface at the site is between *ca*. 0.5 and 1m OD. No British Geological Survey (BGS) archive boreholes are available within a 100m radius of the site. However, the site lies on the border of the area that has been investigated in the Lea Valley Mapping Project (Corcoran *et al*., 2011). In this project the Lea Valley has been divided into Landscape Zones characterised by their Holocene landscape history based largely on sedimentary evidence derived from borehole records. The 75 Berwick Road site lies on the eastern border of Landscape Zone 1.3, characterised by a Gravel surface at between *ca*. -2.0 and -4.0m OD and Holocene Alluvium containing 'a single peat bed, likely to be of Neolithic date at its base and Bronze Age at the top… interleaved between alluvial clay units'. Around 100m to the east of the 75 Berwick Road site and outside of the area mapped as part of the Lea Valley Mapping Project, a Gravel surface of 0.5m OD was recorded at the Royal Docks Community School (Holder, 1998). This Gravel high was overlain by a soil horizon containing Mesolithic flint flakes, in turn overlain by a Neolithic and Bronze Age soil containing over 1300 fragments of flint tools, debris and pottery (Holder, 1998).

The aim of the geoarchaeological investigations at the 75 Berwick Road site was to produce

a basic model of the sub-surface stratigraphy at the site, and to evaluate the potential of the sedimentary sequences for reconstructing the environmental history of the site and its environs. In order to achieve this aim, the lithostratigraphy of four geoarchaeological boreholes was recorded in order to clarify the nature of the subsurface stratigraphy at the site and to provide a preliminary reconstruction of the sedimentary history.

Figure 1: Location of (1) 75 Berwick Road, Canning Town, London Borough of Newham and other geoarchaeological and archaeological sites nearby: (2) Royal Albert Dock (Batchelor, 2009); (3) Ferndale Street (HE-FE95; Divers, 1995); (4) Gallions Point (Branch *et al*., 1999); (5) Barge House Road (BAJ00; Corcoran *et al*., 2001); (6) North Woolwich Pumping Station (WW-PS93; Sidell, 2003); (7) East Ham Football Club (PYR00; Scaife, 2001); (8) Albert Road (AET01; Spurr *et al*., 2001); (9) Silvertown (BWC96; Wilkinson *et al*., 2000); (10) Fort Street (HW-FO94; Wessex Archaeology, 2000); (11) The Pitts Head (PHD12; Batchelor *et al*., 2013); (12) Fords Park Road (FDP07; Eastbury *et al*., 2009); (13) Crediton Road (CDZ07; Eastbury *et al*., 2009); (14) Butchers Road (BUZ07; Eastbury *et al*., 2009); (15) Fife Road (FIH12; Killock, 2012); (16) Butchers Road Garages (BCQ97; Eastbury *et al*., 2009); (17) Vandome Close (VAD07; Eastbury *et al*., 2009); (18) Golfer's Driving Range (GWB03; Batchelor, 2009); (19) Beckton Alps (HE-BA94; Truckle & Sabel, 1994); (20) A13 Woolwich Manor Way (WMA02; Gifford and Partners, 2001); (21) Beckton 3D (HE-ED93; Meddens, 1996); (22) Beckton Nursery (HE-BN94; Divers, 1995); (23) Beckton Tollgate (HE-TG94; Tamblyn, 1994); (24) East Beckton District Centre (HE-KW95; Jarrett, 1996); (25) the Cable Car route (Batchelor *et al*., 2012); (26) Royal Docks Community School (PRG97; Holder, 1998); (27) Albert Dock (Spurrell, 1889) and (28) Plot 2.3, Royals Business Park (Young & Batchelor, 2013). *Contains Ordnance Survey data © Crown copyright and database right [2014]*.


75 Berwick Road
Beckton
Beckton District Park
Cyprus
Custom House
Royal Victoria Dock
Royal Albert Dock
London City Airport
King George V Dock
Silvertown
North Woolwich
Woolwich Reach
River Thames
Exhibition Centre
Playing Fields
New Beckton Park
Thameside Industrial Estate
Thames Barrier Park
The Thames Barrier
North Woolwich Pier
Manhattan Wharf (Oil Depot)
Gateway Retail Park
Factory
Beckton Alps
Newham College
Stadium
Leisure Centre
Canning Town
Scott Wilkie Primary School
Kingsford Community School
Calverton Primary School
The Royal Docks Community School
Winsor Primary Schools
Hospice
Hotels
Mill
Depot
Terminal
Watersports Centre
Car Park
Warehouse
Works
Lyle Park
Kierbeck Business Complex
Crescent Wharf
Deanston Wharf
Standard Industrial Estate
Thames Road Industrial Estate
Airport Roundabout
North Woolwich Roundabout
Gallions Roundabout
Albert Basin
Docklands Light Railway
Newham Way
Royal Albert Way
North Woolwich Road
Albert Road
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

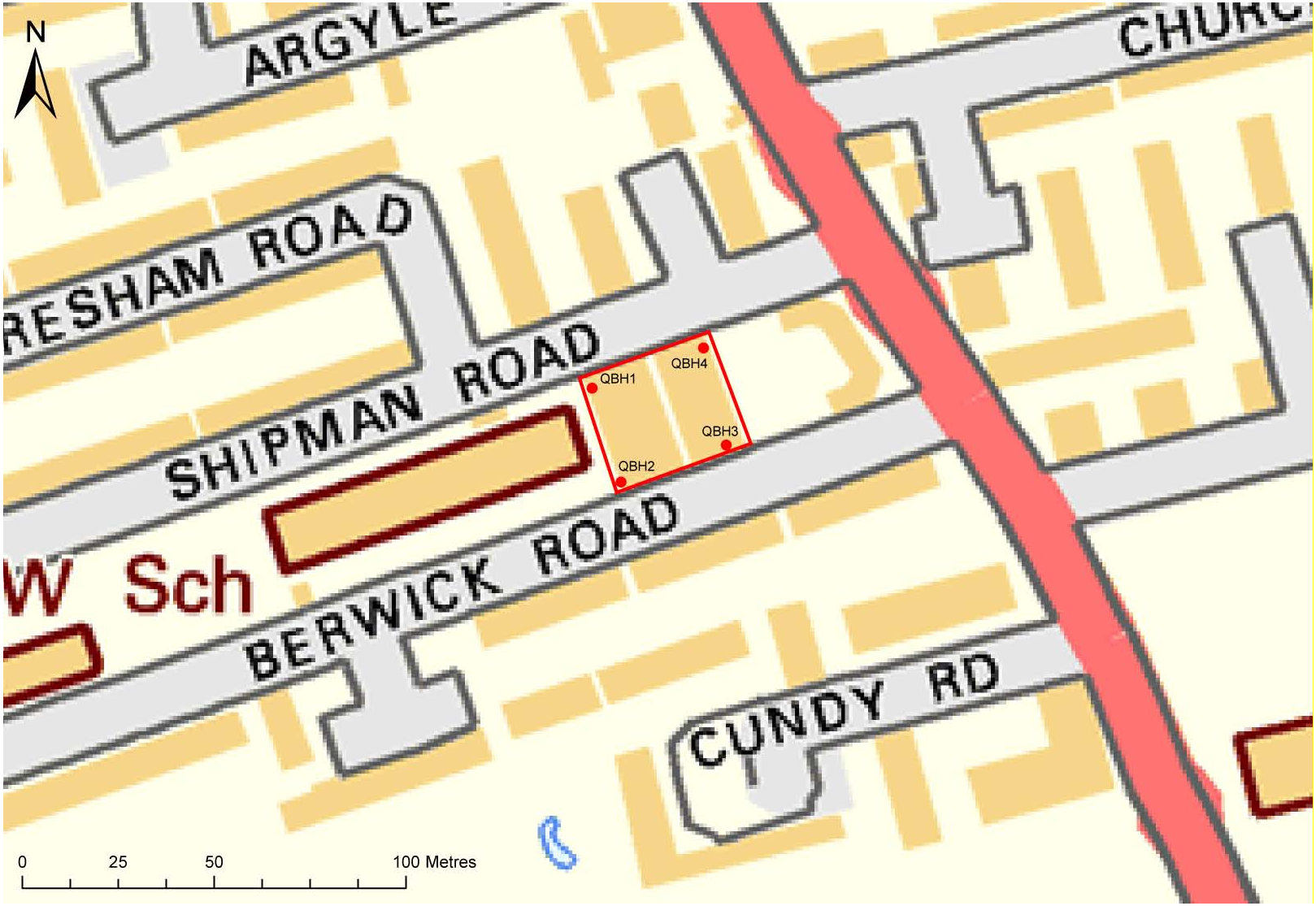

Figure 2: Location of the new geoarchaeological boreholes (<QBH1> to <QBH4>) at 75 Berwick Road, Canning Town, London Borough of Newham. *Contains Ordnance Survey data © Crown copyright and database right [2014]*.

METHODS

Field investigations

Four geoarchaeological boreholes (boreholes QBH1 to QBH4) were put down at the site in October 2014 (Figure 2). Borehole core samples were recovered using an Eijkelkamp window sampler and gouge set using an Atlas Copco TT 2-stroke percussion engine. This coring technique is a suitable method for the recovery of continuous, undisturbed core samples and provides sub-samples suitable for not only sedimentary and microfossil assessment and analysis, but also macrofossil analysis. The recovered core samples were wrapped in clear plastic to prevent moisture loss, labelled with the depth (metres from ground surface) and orientation (top and base) and returned to Quaternary Scientific for storage in a purpose built facility at 2^0C. This temperature prevents fungal growth on the core surface, which may lead to anomalous radiocarbon dates, and moisture loss. The spatial attributes of each borehole were recorded using a Leica GS09 Differential GPS (Table 1 and Figure 2).

Table 1: Spatial data for the new geoarchaeological boreholes at 75 Berwick Road, Canning Town, London Borough of Newham

Borehole	Easting	Northing	Surface elevation (m OD)
QBH1	541074.09	181148.41	0.69
QBH2	541081.69	181123.96	0.54
QBH3	541109.10	181133.65	0.89
QBH4	541103.19	181158.98	0.85

Lithostratigraphic descriptions

The lithostratigraphy of boreholes QBH1 to QBH4 was described in the laboratory using standard procedures for recording unconsolidated sediment and organic sediments, noting the physical properties (colour), composition (gravel, sand, clay, silt and organic matter) and inclusions (e.g. artefacts) (Tröels-Smith, 1955). The procedure involved: (1) cleaning the samples with a spatula or scalpel blade and distilled water to remove surface contaminants; (2) recording the physical properties, most notably colour using a Munsell Soil Colour Chart; (3) recording the composition; gravel (Grana glareosa; Gg), fine sand (Grana arenosa; Ga), silt (Argilla granosa; Ag) and clay (Argilla steatoides); (4) recording the degree of peat humification and (5) recording the unit boundaries e.g. sharp or diffuse. The results are displayed in Tables 2 to 5.

RESULTS AND INTERPRETATION OF THE LITHOSTRATIGRAPHIC DESCRIPTIONS

The results of the lithostratigraphic descriptions are displayed in Tables 2 to 5 and in Figure 3. The basal unit recorded at the site is a horizon of sand and gravel, equivalent to the Lea Valley or Shepperton Gravel of Gibbard (1994). These sediments were deposited during the Late Devensian (Marine Isotope Stage 2, *ca*. 16,000-11,500 cal BP), within a high energy braided river system. The four new geoarchaeological boreholes indicate that within the area of the site the Gravel surface lies at between -3.44 and -2.88m OD (Figure 3). Although the Gravel surface is relatively even, it appears to rise slightly towards the east, rising from -3.44m OD in borehole QBH2 to -2.88m OD in borehole QBH3. Given the relatively small area in which the boreholes were put down, and the lack of stratigraphic data surrounding the site, it is not possible to comment on any topographic features (e.g. former channels) that might be present in this area.

In all four boreholes the Gravel is overlain by a horizon of sandy, clayey silt or clay and silt Alluvium, probably equivalent to the Lower Alluvium recognised elsewhere in the Lower Thames Valley and its tributaries (e.g. Green *et al*., 2014), the sediments of which were deposited during the Early to Mid-Holocene as the energy of flow decreased and the Lea and Thames probably became confined to single meandering channels. This unit is between 0.26 (QBH2) and 0.40m thick (QBH1). In all four boreholes the Lower Alluvium is overlain by a generally woody and in places herbaceous Peat horizon, indicative of a transition to semi-terrestrial conditions across the site supporting the growth of wetland vegetation including both woody and herbaceous taxa. The Peat is between 2.72 and 0.75m thick, apparently thickest towards the west of the site (where the Gravel surface is lower) in boreholes QBH1 (1.85m) and QBH2 (2.72m). The Peat is recorded between -3.18 and -0.46m OD in borehole QBH2, between -2.80 and -0.95m OD in QBH1, between -2.53 and -1.31m OD in QBH3 and between -2.56 and -1.81m OD in QBH4.

The Peat is overlain across the site by a horizon of generally silty clay, considered here to represent the Upper Alluvium recorded elsewhere (e.g. Green *et al*., 2014). In borehole QBH4 the silty clay contains frequent detrital wood and herbaceous material, particularly between -0.98 and -1.81m OD (directly overlying the Peat). The Alluvium is indicative of inundation of the Peat surface, and sediment accumulation on the floodplain at a distance from any active channels. The detrital material recorded in borehole QBH4 may indicate that this borehole lay closer to an active channel during the formation of this horizon, with a greater influx of detrital material here. The surface of the Upper Alluvium is relatively even across the site, lying at between -0.11 and 0.06m OD. The sequence is capped by between 0.50 and 0.83m of Made Ground (typical of post-medieval reclamation fill), so that the modern ground surface at the site lies at between 0.89 and 0.54m OD.

Table 2: Lithostratigraphic description of borehole <QBH1>, 75 Berwick Road, Canning Town, London Borough of Newham

Depth (m OD)	Depth (m bgs)	Composition
0.69 to -0.11	0.00 to 0.80	Made Ground
-0.11 to -0.95	0.80 to 1.64	10YR 4/1; As2 Ag2; dark grey silt and clay. Diffuse contact in to:
-0.95 to -1.31	1.64 to 2.00	2.5YR 2.5/1; Sh2 $Th^2$1 $Tl^2$1; humo. 2; reddish black moderately humified herbaceous and woody peat.
-1.31 to -2.31	2.00 to 3.00	2.5YR 2.5/1; Sh2 $Tl^2$1 Ag1 Th+; humo. 3; reddish black well humified silty woody peat with a trace of herbaceous material.
-2.31 to -2.80	3.00 to 3.49	2.5YR 2.5/1; Sh3 $Th^2$1 Ag+ Tl+; humo. 2; reddish black moderately humified herbaceous peat with traces of silt and woody material. Diffuse contact in to:
-2.80 to -3.20	3.49 to 3.89	Gley1 4/10Y; As2 Ag2 Ga+; dark greenish grey silt and clay with a trace of sand. Diffuse contact in to:
-3.20 to -3.31	3.89 to 4.00	Gley1 4/10Y; Gg3 Ga1 Ag+; dark greenish grey sandy gravel with a trace of silt. Clasts mainly flint, sub-angular to sub-rounded, up to 30mm in diameter.

Table 3: Lithostratigraphic description of borehole <QBH2>, 75 Berwick Road, Canning Town, London Borough of Newham

Depth (m OD)	Depth (m bgs)	Composition
0.54 to 0.04	0.00 to 0.50	Made Ground
0.04 to -0.46	0.50 to 1.00	10YR 4/1; As3 Ag1; dark grey silty clay with some iron staining. Becomes slightly organic (Sh+) towards base.
-0.46 to -1.26	1.00 to 1.80	2.5YR 2.5/1; Sh3 $Th^2$1; humo. 3; reddish black well humified herbaceous peat. Sharp contact in to:
-1.26 to -1.46	1.80 to 2.00	10YR 2/1; Sh2 $Th^2$1 $Tl^2$1; humo. 3; black well humified woody and herbaceous peat.
-1.46 to -3.18	2.00 to 3.72	2.5YR 2.5/1; Sh3 $Tl^2$1; humo. 2/3; reddish black moderately to well humified woody peat. Diffuse contact in to:
-3.18 to -3.44	3.72 to 3.98	10YR 4/1; Ag2 As2; dark grey silt and clay. Sharp contact in to:
-3.44 to -3.46	3.98 to 4.00	Gley1 4/10Y; Gg3 Ga1 Ag+; dark greenish grey sandy

		gravel with a trace of silt. Clasts mainly flint, sub-angular to sub-rounded, up to 20mm in diameter.

Table 4: Lithostratigraphic description of borehole <QBH3>, 75 Berwick Road, Canning Town, London Borough of Newham

Depth (m OD)	Depth (m bgs)	Composition
0.89 to 0.06	0.00 to 0.83	Made Ground
0.06 to -0.11	0.83 to 1.00	10YR 4/1; As3 Ag1; dark grey silty clay with some iron staining.
-0.11 to -0.58	1.00 to 1.47	10yr 4/1; Ag2 As2; dark grey silt and clay. Sharp contact in to:
-0.58 to -1.31	1.47 to 2.20	10YR 3/1; Ag2 As2 Dl+ Sh+; very dark grey silt and clay with traces of detrital wood and organic matter. Diffuse contact in to:
-1.31 to -2.53	2.20 to 3.42	10YR 2/1; Sh3 $Tl^2$1 Th+; humo. 2; black moderately humified woody peat with a trace of herbaceous material. Diffuse contact in to:
-2.53 to -2.88	3.42 to 3.77	10YR 3/2; As2 Ag2 Ga+ Dh+; very dark greyish brown silt and clay with traces of sand and detrital herbaceous material. Sharp contact in to:
-2.88 to -3.11	3.77 to 4.00	Gg2 Ga2; sand and gravel. Clasts mainly flint, sub-angular to sub-rounded, up to 50mm in diameter.

Table 5: Lithostratigraphic description of borehole <QBH4>, 75 Berwick Road, Canning Town, London Borough of Newham

Depth (m OD)	Depth (m bgs)	Composition
0.85 to 0.05	0.00 to 0.80	Made Ground
0.05 to -0.15	0.80 to 1.00	10YR 4/1; As3 Ag1; dark grey silty clay with some iron staining.
-0.15 to -0.98	1.00 to 1.83	10YR 4/1; As2 Ag2 Dl+; dark grey silt and clay with a trace of detrital wood. Sharp contact in to:
-0.98 to -1.81	1.83 to 2.66	10YR 3/1; Ag2 Dl1 Dh1; very dark grey silt with detrital wood and detrital herbaceous material. Sharp contact in to:
-1.81 to -2.15	2.66 to 3.00	2.5YR 2.5/1; Sh2 $Tl^2$1 $Th^2$1; humo. 2; reddish black moderately humified woody and herbaceous peat.

-2.15 to -2.56	3.00 to 3.41	2.5YR 2.5/1; Sh3 $Tl^2$1 Th+; humo. 3; reddish black well humified woody peat with a trace of herbaceous material. Very sharp contact in to:
-2.56 to -2.94	3.41 to 3.79	10YR 3/1; Ag2 Ga1 As1 Gg+ Dl+; very dark grey sandy clayey silt with a trace of detrital wood and occasional gravel clasts. Diffuse contact in to:
-2.94 to -3.15	3.79 to 4.00	10YR 3/1; Gg3 Ga1 Ag+; very dark grey sandy gravel with a trace of silt. Clasts mainly flint, sub-angular to sub-rounded, up to 40mm in diameter.

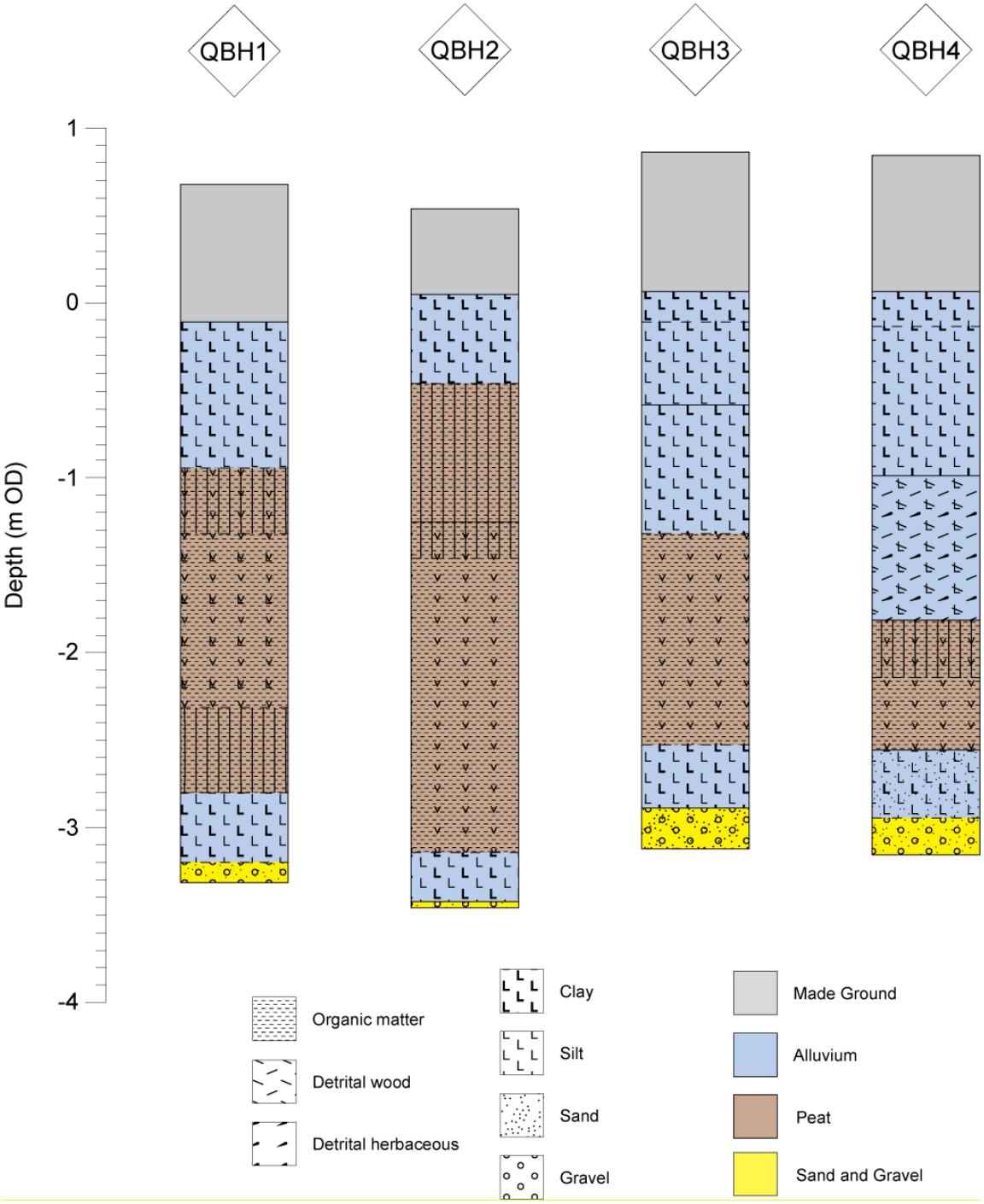

Figure 3: Results of the lithostratigraphic description of boreholes QBH1 to QBH4, 75 Berwick Road, Canning Town, London Borough of Newham.

DISCUSSION AND CONCLUSIONS

The results of the geoarchaeological investigations indicate that the sediments recorded at the 75 Berwick Road site are analogous to those recorded elsewhere in the Lower Thames Valley, with a sequence of Late Devensian Gravel overlain by Holocene Alluvium containing Peat, capped by Made Ground. The surface of the Gravel across the site is the platform upon which Holocene alluvial sediments have accumulated. Elsewhere in the valley of the Middle and Lower Thames, the surface of the Late Devensian Shepperton Gravel is often uneven (Gibbard, 1985; 1994) with relief features that can be identified as longitudinal gravel bars and palaeochannels with a relief amplitude commonly of 3-4m and in some places up to 6m. Here, the Gravel surface is comparatively even, but rises from -3.44m OD in in the west to -2.88m OD in the east. The Gravel surfaces recorded here fall within the range suggested for Landscape Zone 1.3 by Corcoran *et al*. (2011) (-2.0 to -4.0m OD). Notably however, at the Royal Docks Community School (*ca*. 100m to the east; Holder, 1998) a Gravel surface of 0.5m OD was recorded, representing a Gravel high on which a soil horizon containing Mesolithic flint flakes was recorded, overlain by a Neolithic and Bronze Age soil containing over 1300 fragments of flint tools, debris and pottery (Holder, 1998). The rising Gravel surface at the 75 Berwick Road site may thus continue towards the Royal Docks Community School and the Gravel high recorded here.

Deposit modelling at the Plot 2.3, Royals Business Park site (Young & Batchelor, 2013) *ca*. 800m to the southeast (see Figure 1) revealed a Gravel surface at between -1.59 and -6.94m OD, with areas of lower Gravel surfaces towards the west and southeast of the site indicative of former channels. The Gravel surface at the Royal Albert Dock site *ca*. 2km to the east was recorded at between -1.6 and -3.0m OD (Batchelor, 2009). Surrounding this site, the Gravel surface was recorded at a lower elevation, including to the south at Albert Road (-4.5m OD; Spurr *et al*., 2001), and *ca*. -5m OD at North Woolwich Pumping Station (Sidell, 2003), Barge House Road (Corcoran et al., 2001) and Gallions Point (Branch *et al*., 1999). Elsewhere, at Golfer's Driving Range, *ca*. 2km to the northeast of the 75 Berwick Road site, the Gravel surface was recorded between *ca*. -3.4 and -3.75m OD and at the Cable Car North Station / North Tower sites *ca*. 1km to southwest it was recorded at -4.80 and -5.84m OD respectively (Batchelor *et al*., 2012).

Corcoran *et al*. (2011)'s Landscape Zone 1.3 is characterised by Holocene Alluvium containing 'a single peat bed, likely to be of Neolithic date at its base and Bronze Age at the top… interleaved between alluvial clay units'. The sequence recorded at the 75 Berwick Road site is consistent with that recorded by Corcoran *et al.* (2011), with a Peat horizon recorded within Alluvium at between -3.18 and -0.46m OD and up to 2.72m in thickness. As

postulated by Corcoran *et al.* (2011), it is possible that this Peat horizon is of Neolithic and Bronze Age date, and may therefore be contemporaneous with the archaeological horizons recorded at the Royal Docks Community School *ca*. 100m to the east (Holder, 1998).

A Peat horizon was recorded at the Plot 2.3, Royals Business Park site (Young & Batchelor, 2013) between *ca*. -1.5 and 0.25m OD (up to 0.9m in thickness) and subsequently radiocarbon dated to between 3390-3270 and 3640-3470 cal BP (Bronze Age). At Ferndale Street however, *ca*. 2.5km to the east the base of the Peat was recorded at -1.89m OD and was radiocarbon dated to 5314-4870 cal. BP (Neolithic; Divers, 1995), similar to that recorded at East Ham Football Club (-1.47m OD; 5600-5050 cal. BP; Scaife, 2001). At the Royal Albert Dock site, Peat was recorded between -1.63 and -1.00m OD with subsequent radiocarbon dating indicating accumulation between 4410-4080 and 3630-3360 cal BP (Late Neolithic to Bronze Age).

RECOMMENDATIONS

Significant thicknesses of Peat have been recorded at the 75 Berwick Road site which may be of Neolithic to Bronze Age date, and contemporaneous with archaeological horizons recorded at the Royal Docks Community School *ca*. 100m to the east (Holder, 1998). Given the relatively small size of the site environmental archaeological assessment of one sequence is recommended on the samples retained from borehole QBH2 (the borehole in which both the thickest Peat and lowest Gravel surface was recorded). This assessment should incorporate: (1) rangefinder radiocarbon dating, to provide an age for the onset and cessation of peat formation; (2) organic matter determinations to aid identification of the sedimentary units; (3) assessment of the palaeobotanical remains (pollen, waterlogged wood and seeds) to provide a provisional reconstruction of the vegetation history; (4) assessment of the diatoms to provide an indication of the palaeohydrology (e.g. marine, brackish or freshwater), and (5) assessment of the zooarchaeological remains (insects and Mollusca) to provide information on the general environmental conditions, climatic change and hydrology of the site. The environmental assessment will also highlight any indications of nearby human activity, and provide recommendations for further analysis (if necessary).

REFERENCES

- Batchelor, C.R. (2009) *Middle Holocene environmental changes and the history of yew (Taxus baccata L.) woodland in the Lower Thames Valley*. Unpublished PhD thesis, University of London
- Batchelor, C.R., Young, D.S., Green, C.P., Austin, P., Cameron, N. and Elias, S. (2012). *A Report on the Environmental Archaeological Analysis of Boreholes*

collected from the London Cable Car Route, London Boroughs of Newham and Greenwich (site code: CAB11). Quaternary Scientific (QUEST) Unpublished Report January 2012; Project Number 140/10.

- Batchelor, C.R., Young, Austin, P., and Elias, S. (2013) *The Pitts Head Public House, 2 Fords Park Road, London Borough of Newham, E16 1NL (site code: PHD12): Environmental Archaeological Assessment*. Quaternary Scientific (QUEST) Unpublished Report January 2013; Project Number 180/12.
- Branch, N.P., Williams, A. & Swindle, G.E. (1999) *Gallions Point: an environmental archaeological assessment.* ArchaeoScape Unpublished Report.
- Divers, D. (1995) *Archaeological Evaluation at Ferndale Street, Cyprus, London E6*. Newham Museum Service Unpublished Report.
- Corcoran, J., Scaife, R., Cameron, N., & Gray, L. (2001). *Barge House Road, Woolwich Manor Way, North Woolwich, London, E16. London Borough of Newham. a geoarchaeological evaluation*: MoLAS Unpublished Report.
- Eastbury, E. Ruddy, M. & Jones, S. (2009) MoLA 2009. *Canning Town Sites, London E16, London Borough of Newham: Post-Excavation Assessment and updated project design*. MoLA Unpublished Report.
- Gibbard, P.L. (1985) *Pleistocene History of the Middle Thames Valley*. Cambridge University Press, Cambridge.
- Gibbard, P.L. (1994) *Pleistocene History of the Lower Thames Valley*. Cambridge University Press, Cambridge.
- Gifford & Partners Ltd. (2001) *A13 Thames Gateway Phase III Archaeological Works: Freemasons Road Underpass Assessment Report on Detailed Excavation*. Gifford Unpublished Report.
- Green, C.P., Batchelor, C.R., Austin, P.J., Brown, A.D., Cameron, A.G. and Young, D.S. (2014) Holocene alluvial environments at Barking, Lower Thames Valley (London, UK). *Proceedings of the Geologists' Association,* **125**, 279–295.
- Holder, N. (1998) *An Archaeological Excavation Assessment and Updated Project Design for Royal Docks Community School Site, Prince Regent Lane, Newham.* MoLAS Unpublished Report.
- Jarrett, C. (1996). *Archaeological evaluation at the East Beckton District Centre*. Newham Museum Service Unpublished Report.
- Killock, D. (2012) *An Archaeological Evaluation at Area 3, Phases C and D, Fife Road, Canning Town, London Borough of Newham, E16.* Pre-Construct Archaeology Ltd unpublished report.
- Meddens, F.M. (1996) Sites from the Thames Estuary Wetlands, England and their Bronze Age use. *Antiquity,* **70**, 325-334.

- Tamblyn, W.S. (1994) *Archaeological evaluation of Beckton areas A and B Tollgate Road, Beckton, London Borough of Newham*. Newham Museum Service Unpublished Report.
- Tröels-Smith, J. (1955) Karakterisering af løse jordater (Characterisation of unconsolidated sediments), *Danm. Geol. Unders., **Ser IV* **3**, 73.
- Scaife, R.G. (2001) *East Ham FC, Pennyroyal Avenue, Beckton, London E6, an Environmental Assessment*. Unpublished HAT Report 903.
- Sidell, E.J. (2003) *Relative sea-level change and archaeology in the inner Thames estuary during the Holocene.* University College, London, Unpublished PhD Thesis.
- Spurr, G., Scaife, R., Cameron, N. & Corcoran, J. (2001) *145-155 Albert Road, E16 London Borough of Newham: a geoarchaeological evaluation report*. MoLAS Unpublished Report.
- Spurrell, F.C.J. (1889) On the Estuary of the Thames and its alluvium. *Proceedings of the Geologists' Association,* **11**, 210-230.
- Truckle, N. and Sabel, K. (1994) Beckton Alps Ski Slope, Newham Way, East Ham E6, London Borough of Newham. Newham Museum Service Unpublished Report.
- Wessex Archaeology (2000) *Fort Street (West) Silvertown, London, E16, Archaeological excavation assessment report*. Wessex Archaeology: Unpublished Report.
- Wilkinson, K.N., Scaife, R.J. and Sidell, E.J. (2000) Environmental and sea-level changes in London from 10,500 BP to the present: a case study from Silvertown. *Proceedings of the Geologists' Association,* **111**, 41-54.
- Young, D.S. and Batchelor, C.R. (2013) A report on the environmental archaeological assessment and deposit modelling on land at Plot 2.3, Royals Business Park, Dockside Road, London Borough of Newham (NGR: TQ 4189 8083). *Quaternary Scientific Unpublished Report, November 2013 Project Number 008/13.*

APPENDIX 2: OASIS REPORT FORM

OASIS ID: preconst1-194838

Project details	
Project name	75 Berwick Road, Canning Town, London E16 3DR: Geoarchaeological Investigations
Short description of the project	Pre-Construct Archaeology Limited was appointed by Keepmoat to undertake works required to satisfy condition 5 attached to planning consent for redevelopment at 75 Berwick Road, Canning Town E16 3DR in the London Borough of Newham. The geoarchaeological borehole survey was undertaken on 7th and 8th October 2014. PCA engaged the specialist services of Quaternary Scientific (QUEST) at the School of Human and Environmental Sciences, University of Reading, to execute the geoarchaeological project. The results of the site investigation have demonstrated that the substrata of the site, comprising Late Devensian Gravel overlain by Holocene Alluvium containing Peat, capped by Made Ground, is entirely consistent with the known local sequence.
Project dates	Start: 07-10-2014 End: 08-10-2014
Previous/future work	No / Not known
Any associated project reference codes	BWK14 - Sitecode
Any associated project reference codes	13/00927/FUL - Planning Application No.
Type of project	Field evaluation
Site status	Local Authority Designated Archaeological Area
Current Land use	Other 13 - Waste ground
Monument type	PEAT Bronze Age
Significant Finds	NONE None
Methods & techniques	"Augering"
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 NEWHAM CANNING TOWN 75 Berwick Road, Canning Town, London
Postcode	E16 3DR
Study area	720.00 Square metres
Site coordinates	TQ 4109 8114 51.5110445892 0.0334080314573 51 30 39 N 000 02 00 E Point
Lat/Long Datum	Unknown
Height OD / Depth	Min: -3.44m Max: -2.88m
Project creators	
Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Mills Whipp Projects
Project director/manager	Chris Mayo
Project supervisor	James Langthorne

Type of sponsor/funding body	Developer
Name of sponsor/funding body	Keepmoat
Project archives	
Physical Archive Exists?	No
Digital Archive recipient	LAARC
Digital Archive ID	BWK14
Digital Contents	"Stratigraphic"
Digital Media available	"Images raster / digital photography"
Paper Archive recipient	LAARC
Paper Archive ID	BWK14
Paper Contents	"Stratigraphic"
Paper Media available	"Context sheet","Miscellaneous Material","Plan"
Project bibliography 1	
Publication type	Grey literature (unpublished document/manuscript)
Title	75 Berwick Road, Canning Town, London E16 3DR: Geoarchaeological Investigations
Author(s)/Editor(s)	Mayo, C.
Other bibliographic details	PCA R11912
Date	2014
Issuer or publisher	Pre Construct Archeaology Limited
Place of issue or publication	London
Description	A4 client document with blue covers
Entered by	Chris Mayo (cmayo@pre-construct.com)
Entered on	11 November 2014

P C A

PCA SOUTH
UNIT 54
BROCKLEY CROSS BUSINESS CENTRE
96 ENDWELL ROAD
BROCKLEY
LONDON SE4 2PD
TEL: 020 7732 3925 / 020 7639 9091
FAX: 020 7639 9588
EMAIL: info@pre-construct.com

PCA NORTH
UNIT 19A
TURSDALE BUSINESS PARK
DURHAM DH6 5PG
TEL: 0191 377 1111
FAX: 0191 377 0101
EMAIL: info.north@pre-construct.com

PCA CENTRAL
THE GRANARY, RECTORY FARM
BREWERY ROAD, PAMPISFORD
CAMBRIDGESHIRE CB22 3EN
TEL: 01223 845 522
FAX: 01223 845 522
EMAIL: info.central@pre-construct.com

PCA WEST
BLOCK 4
CHILCOMB HOUSE
CHILCOMB LANE
WINCHESTER
HAMPSHIRE SO23 8RB
TEL: 01962 849 549
EMAIL: info.west@pre-construct.com

PCA MIDLANDS
17-19 KETTERING RD
LITTLE BOWDEN
MARKET HARBOROUGH
LEICESTERSHIRE LE16 8AN
TEL: 01858 468 333
EMAIL: info.midlands@pre-construct.com