ABBEY RETAIL PARK, ABBEY ROAD, BARKING, LONDON

ARCHAEOLOGICAL EVALUATION REPORT

CP. NO: 10721/14

24/07/2014

WARDELL ARMSTRONG ARCHAEOLOGY
UNIT 3,
CHALDICOTT BARNS,
SEMELY,
SHAFTSBURY
DORSET,
SP7 9AW
TEL: 01747 830603
WWW.WA-ARCHAEOLOGY.COM

WARDELL ARMSTRONG ARCHAEOLOGY

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Quality Assurance

This report covers works as outlined in the brief for the above-named project as issued by the relevant authority, and as outlined in the agreed programme of works. Any deviation to the programme of works has been agreed by all parties. The works have been carried out according to the guidelines set out in the Institute for Archaeologists (IfA) Standards, Policy Statements and Codes of Conduct. The report has been prepared in keeping with the guidance set out by Wardell Armstrong Archaeology on the preparation of reports.

REVISION SCHEDULE			
	01	**02**	**03**
PREPARED BY: **POSITION:** **DATE:**	Damion Churchill Assistant Project Officer 24/04/14		
EDITED BY: **POSITION:** **DATE:**	Phil Evans SeniorProject Manager 06/05/14		
APPROVED BY: **POSITION:** **DATE:**	Richard Newman Post Excavation Manager 27/06/14		

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SUMMARY

Wardell Armstrong Archaeology was commissioned by Estates and Agency Properties Ltd, to undertake a desk-based assessment and archaeological evaluation at Abbey Retail Park, Barking and Dagenham, London (NGR TQ 4390 8390). A pre-determination assessment of the presence, significance and intensity of potential archaeological deposits across the development site was established as a requirement with the case officer, Charles Sweeny. The work was required as the site lies near to Barking Abbey, which is a scheduled monument, and Barking town centre, a conservation area. The redevelopment of Abbey Retail Park consequently, was considered to have a high risk of disturbing and remove archaeological remains of national significance. Previous work indicates that on site archaeological remains may date from the prehistoric period through to the Middle Ages.

Previous excavations to the south of the site identified a Bronze Age inhumation and Saxon and medieval activity. The late Saxon and medieval remains included evidence related to the development of the Abbey precinct. Industrial and domestic waste was also recovered.

The archaeological evaluation was undertaken over 21 days between the 11th March 2014 and 8th April 2014. The evaluation involved the excavation of 10 trenches and two boreholes, totalling 392.65m^2, 1.64% of the development area. Possible archaeological remains were identified in Trenches 3 and 4b, in the form of truncated ditches on a broad east – west orientation. No dating evidence was recovered from the features. Pottery dating to the 13th – 14th Century AD was recovered from a 19th Century pit which truncated the ditch fills within trench 4b.

This archaeological evaluation was conducted as part of pre-determination works to allow English Heritage to make an informed decision regarding the proposals to re-develop Abbey Retail Park.

ACKNOWLEDGEMENTS

Wardell Armstrong Archaeology thank Roger Gill of Estates and Agency Properties Ltd, for commissioning the project, and for all assistance throughout the work. Wardell Armstrong Archaeology also thank Adam Single at English Heritage, for his assistance throughout the project, and the Museum of London, for all their assistance throughout the project.

Wardell Armstrong Archaeology extend their thanks to Demenex Plant Hire, for their help during this project.

The archaeological evaluation was undertaken by Damion Churchill, with the assistance of Chris Timmins and Sam Pointer. The report was written by Damion Churchill and the drawings were produced by Adrian Bailey. The project was managed by Phil Evans, Senior Project Manager for WAA. The report was edited by Richard Newman, Post-excavation Manager for WAA.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 In March, 2014 Wardell Armstrong Archaeology was invited by Estates and Agency Properties Ltd, to undertake an archaeological evaluation at Abbey Retail Park, Barking and Dagenham, London (NGR TQ 4390 8390; Figure 1), as part of a pre-determination assessment of the presence, significance and intensity of potential archaeological deposits across the development site. The proposed works lie within the immediate vicinity of the scheduled monument of Barking Abbey and Barking town center conservation area. As a result, English Heritage requested a programme of archaeological evaluation, prior to the determination of a planning application to redevelop the retail park. This is in line with government advice as set out in Section 12 of the National Planning Policy Framework (NPPF 2012).

1.1.2 The archaeological evaluation was undertaken in accordance with the *Standard and Guidance for Archaeological Field Evaluation* (IfA 2008, last updated November 2013).

1.1.3 This report outlines the evaluation works undertaken on-site, the subsequent programme of post-fieldwork analysis, and the results of this scheme of archaeological works.

2 METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design was submitted by Wardell Armstrong Archaeology in response to a request by Estates and Agency Properties Ltd, for an archaeological evaluation of the study area. Following acceptance of the project design by English Heritage, Wardell Armstrong Archaeology was commissioned by the client to undertake the work. The project design was adhered to in full.

2.2 THE FIELD EVALUATION

2.2.1 The evaluation consisted of the excavation of 10 trenches and two boreholes covering 392.65m^2 of the proposed 23,874m^2 development area. The purpose of the evaluation was to establish the nature and extent of below ground archaeological remains within the vicinity).

2.2.2 The trenches were placed with consideration to site restrictions. Units within the retail park were still occupied and services were still live. The trenches were also placed in order to minimize the risk from ground pollutants. The ground was known to be heavily contaminated with chemicals including hydrocarbons and chlorinated solvents.

2.2.3 As set out in the brief supplied by the Greater London Archaeology Advisory Service (GLAAS) (Appendix 6), the overarching aim of the work was to investigate, record and model the presence or absence of archaeological remains across the site and where present to establish their date, character, extent, survival and significance.

2.2.4 To meet these aims, the main objectives of the field evaluation were:

- to establish the presence/absence, nature, extent and state of preservation of archaeological remains and to record these where they were observed;
- to establish the character of those features in terms of cuts, soil matrices and interfaces;
- to recover artefactual material, especially where useful for dating purposes;
- to recover palaeoenvironmental material where it survives in order to understand site and landscape formation processes.

2.2.5 Further site specific questions were set out in the brief;

- Can the absence of surviving alluvium in the Wardell Armstrong model be said to reliably indicate archaeological sterility?
- Can the extent of modern terracing or cut and fill work be identified across site and how has this affected archaeological survival?
- Is there archaeological interest in the deposits identified as "made ground" in the geotechnical report?
- What impact have the footprints of the current retail buildings had on the buried potential?
- Can the accurate extent of the unclear 1980's and 1990's investigations be reliably surveyed in using results from the trenching and can it additionally be established whether any hitherto unrecorded preservation *in situ* of remains found in those investigations was allowed for following those investigations?

2.2.6 Additional questions for the evaluation report were also set out in the brief:

- What is the potential for nationally-important remains to be present at the site? Importance should be established using the guidance in the scheduling criteria.
- Can the site be zoned into areas of relatively higher and lower archaeological potential? Zoning should be shown graphically and by period.
- How do the development proposals affect different areas across the site? Consider basement extents, foundations and other development groundworks.
- How does the sequence in the south of the site relate to the WA deposit model created and now refined for the north?

2.2.7 The present day car park surface was removed by mechanical excavator under close archaeological supervision. Where required, a sondage was excavated in order to establish the height aOD of the natural deposits. The trial trenches were subsequently cleaned by hand and all features were investigated and recorded according to the Wardell Armstrong Archaeology standard procedure as set out in the Excavation Manual (Giecco 2012).

2.2.7 All finds encountered were retained, and were cleaned and packaged according to the *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (IfA 208), and recorded under the supervision of Megan Stoakley, WAA Finds Officer.

2.2.8 The fieldwork programme was followed by an assessment of the data as set out in section 3.4 of *Standard and Guidance for Archaeological Field Evaluation* (IfA 2008). As requested by the GLAAS, the level data for the project has been included in appendix 6, as part of the report.

2.3 THE ARCHIVE

2.3.1 A full professional archive has been compiled in accordance with the specification, and according to the Archaeological Archives Forum recommendations (Brown 2011). The archive will be deposited within the Museum of London, with copies of the report sent to the County Historic Environment Record at the Museum of London, available upon request. The archive can be accessed under the unique project identifier WAA14, ABR-14, CP 10721.

2.3.2 Wardell Armstrong Archaeology, and Barking and Dagenham Borough Council, support the **O**nline **A**cces**S** to the **I**ndex of Archaeological Investigation**S** (**OASIS**) project. This project aims to provide an on-line index and access to the extensive and expanding body of grey literature, created as a result of developer-funded archaeological work. As a result, details of the results of this project will be made available by Wardell Armstrong Archaeology, as a part of this national project.

3 BACKGROUND

3.1 LOCATION AND GEOLOGICAL CONTEXT

3.1.1 The site comprises part of a retail park, which is located within Barking and Dagenham, Outer London (NGR TQ 439 839). The A124, Abbey Road and Highbridge Road bound the Abbey Retail Park to the north, east and south respectively. The River Roding bounds the site to the west.

3.1.2 Abbey Retail Park is generally flat, being lower than the ground surface of the road to the east and higher than the river to the west, probably as a result of levelling and terracing. Archaeological observations of site investigations undertaken in 1994 and 1995 concluded that 'a great thickness of made ground is to be expected to the west of the Abbey Retail Park near the river' but that 'to the east near the Abbey the made ground is not expected to be very deep' (Newham Museum Service 1995).

3.1.3 Bedrock geology of the site comprises London Clay Formation. This is overlain by alluvial deposits of clay, sand, silt and gravel

3.2 HISTORICAL CONTEXT

3.2.1 The Greater London Historic Environment Record (HER) was consulted for non-designated entries within the search area which extended to an approximately 1km radius from the site boundary. Besides identifying heritage assets that may be directly or indirectly affected by the proposed development this search boundary was expected to provide sufficient data to represent the archaeological character of the area. Information on designated heritage assets for a 500m search area was compiled from on-line English Heritage datasets.

3.2.2 From these consultations it was established that there are nine designated heritage assets within the search area. In respect of non-designated heritage assets the HER recorded 91 heritage assets securely dated to the prehistoric to medieval periods. An additional number of records were supplied which were recorded as being of uncertain medieval or later date.

3.2.3 The HER records five heritage assets within the proposed development site. These comprise:

- Roman pits dated through identification of tile fills, however this may represent deposition during the medieval period (reference MLO26299 and MLO26300). Recorded by the Passmore Edwards Museum in the 1980s;
- A medieval fishpond (reference MLO23337);

- A post-medieval fishpond dated to between 1653 and 1722 (reference MLO20457);
- The former site of a public house (reference MLO21985);
- Flood defences (reference MLO5905)

3.2.4 A further two HER entries are recorded with an uncertain level of precision and there is a potential that they are located within the site. These comprise:

- Mesolithic and Neolithic flint blades retrieved from gravel in 1985 (MLO3002). It is thought that the location of these finds was actually to the north-west of where the HER records it. A review of documentary sources places it in the same location as where the HER plots MLO26299;
- A Bronze Age inhumation recorded in the 1980s by the Passmore Edwards Museum (reference MLO26293). It is thought that the location of this feature was actually to the north-west of where the HER records it. A review of documentary sources again places it in the same location as where the HER plots MLO26299

3.2.5 Within the remainder of the Retail Park the HER records a further 16 entries. These comprise:

- Evidence for a prehistoric stream recorded in the 1980s by the Passmore Edwards Museum (reference MLO26292);
- Bronze Age pit with pottery recorded by Thames Valley Archaeological Services in 1998 (reference MLO73902);
- Unspecifed number of pits and post holes some of which were truncated.
- Roman ditches recorded by Thames valley Archaeological Services in 1997. These possibly indicate the presence of a Roman jetty or trackway (reference MLO73903);
- Saxon and medieval activity recorded by the Passmore Edwards museum in 1985.This comprised two timber structures, two wells and a leat dated to the Anglo Saxon period by large quantities of Saxon pottery (references MLO55865 and MLO26297);
- Saxon activity recorded by Thames Valley Archaeological Services in 1997 including ditches, pits and a possible industrial activity (references MLO73904, MLO43905 and MLO77764);
- Possible location of abbey gateway (reference MLO40532);
- Possible location of medieval washhouse (reference MLO53856). NB plotting of this site uncertain;

- Medieval activity recorded by the Passmore Edwards Museum in 1990 (reference MLO68208);
- A medieval to post-medieval leat shown on a map of 1653 (references MLO13456 and MLO14249);
- The former site of a match factory (reference MLO7995);
- Former site of Croda works (reference MLO59308)

3.2.6 A full account of the archaeological and historic background of the site is presented in the archaeological desk-based assessment undertaken by Wardell Armstrong LLP in July 2013 (Dawson 2013).

3.3 PREVIOUS WORK

3.3.1 No other archaeological remains were recorded to the west of the proposed new road, however, in 1985 after the demolition of a factory built in the intervening period, another excavation was undertaken within Abbey Retail Park which confirmed the presence of the abbey drain along with other archaeological remains dating to the Saxon and medieval periods. This excavation (site code: BAI85) was undertaken by the Passmore Museum (references ELO2712, MLO55865 and MLO26297) and its location in reference to earlier and later construction on site is shown on Figure 2. The exact results of the work are uncertain as they are not fully referenced within the HER and the field work report in itself has remained unpublished.

3.3.2 The original archive of the 1985 excavation at the Barking Abbey retail park was consulted on the 25th of June 2014. Approximately 60 archive boxes, containing site records, matrices and drawings, were consulted. No levels register was located within the archive or the majority of the original site plans and sections. The site context records were examined and the sections for site levels were largely either left blank or referred to the site plans which were not present within the archive. Context records which contained reduced levels were noted and their positions located on the plans available, either directly by context number and/or through sketch plans on the contexts records detailing their locations. These levels were then inputted into the deposit model (Figure 14) contained in this report.

3.3.3 From these levels, and through personnel communication with one of the excavators from 1985, it was possible to establish that the archaeological remains located in 1985 (both medieval and Saxon) were revealed from *c.* 0.5m below the car park surface (4.7m aOD) and continued to a depth of *c.* 3m OD. The exceptions to this were the deep cut features (leat, Garderobe drain) which were up to 3m deep.

3.3.4 A short article in Current Archaeology (MacGowan 1996) included illustrations of part of the excavation area and a plan of medieval and Saxon features. According to the article the removal of a concrete cap revealed walls associated with the medieval abbey along with a garderobe. To the west of the medieval walls evidence for Saxon activity relating to spinning and weaving within timber structures was recovered. This included evidence such as fragments of gold thread for the manufacture of high class clothing. Other finds included bone combs, pins, decorative glass, manicuring sets and three styli. Further to the west possible evidence for a clack mill was recorded and it was stated that the base of the mill could survive intact outside of the excavation area. The evidence comprised of an in-filled head race which had probably been lined with timber dated through dendrochronology to 705 AD. Two wells were also recorded which were dendrochronologically dated recorded as having two phases of construction, 730 AD and 835 AD. An earlier article published by MacGowen went into further detail about the timber structures and wells (MacGowan 1987).

3.3.5 In addition, fieldwork reports prepared at a later date, for other excavations in the vicinity, refer to this excavation as recording a long and narrow building which was possibly an eighth or ninth century Christian church, specifically a nunnery church and potentially a circular enclosure dating to the prehistoric period (Thames Valley Archaeological Services 1998). The HER also records the find of a Bronze Age inhumation at the site of the 1985 excavations (MLO26293), although the London Archaeologist for Spring 1986 reports that this find was located in the north-west of the Retail Park, away from this excavation area (within the redline boundary). Also recorded by the HER in this location but referred to in the London Archaeologist as being in the north-west of the Retail Park (in the redline boundary) are Mesolithic and Neolithic flint blades (MLO3002).

3.3.6 In 1990, the Passmore Edwards Museum undertook an excavation to the south of the area excavated in 1985. Again the fieldwork was not completely written up but the Current Archaeology article (MacGowan 1996) referred to above provided some detail. This referred to evidence for Saxon glass working including a 2m wide Saxon glass kiln made out of broken pieces of Roman tegulae. Finds indicated the use of the kiln for making high quality vessels. As with the 1985 excavation a later fieldwork report for another site in the vicinity referred to additional finds and features in this location, specifically evidence for several medieval buildings, including one with a cellar (Thames Valley Archaeological Services 1998).

3.3.7 In 1995, as a result of a planning application for the construction of a retail unit in the south of the retail park), Newham Museum Services undertook

an evaluation (Newham Museum Services 1995b). This comprised the excavation of four trial trenches designed to be excavated to a depth of 2m. These were placed within the area of proposed piling and demonstrated that surviving archaeological deposits were at their shallowest at the eastern edge of the retail park. Adjacent to the River Roding deep alluvial deposits were recorded above the gravel terrace. Evidence for small scale industrial activity and domestic occupation dating to the ninth century was recorded as well as later waterfront activity dating to between the eleventh and seventeenth centuries (reference ELO2706). Subsequent to the evaluation an excavation was undertaken by Thames Valley Archaeological Services in 1998 as a condition to planning consent.

3.3.8 The Thames Valley excavation recorded a Bronze Age pit (MLO73902), three other possible prehistoric pits and a possible prehistoric gully. General prehistoric activity was also indicated by residual struck flints across the site. Activity dating to the Roman period was attested to by the presence of Roman ditches with evidence for a possible jetty/landing stage or water entrance (MLO79303). Roman structures in the vicinity were indicated by the presence of re-deposited Roman brick and tile.

3.3.9 Evidence for mid-Saxon activity included ditches indicating either the re-use of the Roman jetty/landing stage or the delineation of land associated with the Abbey to the north. The mid Saxon pottery assemblage indicated the presence of a high status building in the vicinity, being dominated as it was by sherds of serving vessels rather than cooking vessels (references MLO73904, MLO43905 and MLO77764).

3.3.10 Later Saxon ditches indicated a redefinition of the Abbey precinct which is dominated by cooking vessels rather than, as in the earlier period, serving vessels, thus indicating a reversal in status for the land within the extreme south of the retail park. The late twelfth/early thirteenth centuries were attested to by a boundary ditch, possibly an internal division of space within the abbey precinct. Also recorded were a number of rubbish pits particularly in the vicinity of the river. Whilst there was no evidence for activity dating to the later thirteenth to the early fifteenth centuries, evidence for late fifteenth and early sixteenth century indicated the return of a higher status as reflected in the pottery assemblage which comprised serving, drinking and social display vessels.

4 ARCHAEOLOGICAL EVALUATION RESULTS

4.1 INTRODUCTION

4.1.1 The evaluation was undertaken in one phase, between Tuesday 11th March 2014 and Tuesday 8th April 2014 (Figure 2).

4.2 RESULTS

4.2.1 ***Trench 1:*** Trench 1 was located toward the north-western extent of site and was aligned east – west (Figure 2). The trench was excavated to a maximum depth of 2.69m aOD revealing plastic dark bluish-grey clay alluvium (**105**) at a height of 4.15m aOD (Plate 1). The length of the trench was shortened to the east for health and safety and environmental reasons as water strongly polluted with hydrocarbons was encountered at one meter below modern ground level (Figure 3).

Plate 1: Overview of Trench 1, looking north-east

4.2.2 The alluvial deposit **(105)** was heavily truncated to the east and west by modern activity (Plate 2), associated with the demolition of possible pre-existing structures to allow for the construction of concrete wall footings **{115}** and **{118}**. To the west, a north – south orientated concrete footing **{115}** spanned the width of the trench. To the east of wall **{115}** a demolition cut **[103]** was observed. The earliest fill, **(104)**, was burnt black ashy industrial

waste on top of which re-deposited clay **(106)** was situated. The last fill, loose orange – brown sandy degraded mortar and brick fragments **(102)** was overlain by demolition deposit **(112)**, a stiff orange – brown clay with modern brick and mortar flecks. The demolition deposit **(112)** was located to either side of the concrete footing **{115}**. This sequence of deposits was situated beneath further modern demolition deposits the largest of which comprised of a 0.50m thick dump of red brick, degraded mortar and concrete **(110)** (Figure 3).

Plate 2: Detail of modern material within Trench 1, looking north

4.2.3 Towards the east of the trench, a similar sequence of deposits was observed with the alluvium **(105)** truncated by a possible demolition cut **[117]**. This spanned the width of the trench and containing friable blackish brown sandy silt **(113)**, up to 0.36m thick in which a disused sewerage pipe was placed (Figure 3). This deposit had two north – south orientated walls cut into it, a concrete footing **{118}** at the eastern limit of the trench and a brick wall **{114}**, both of which were likely associated with concrete wall footing **{115}** to the west. Modern demolition deposits comprised the remaining materials within the trench, and were sealed by bedding sand **(108)** for the overlying reinforced concrete **(107)**.

4.2.4 ***Trench 2a:*** Trench 2a was located toward the western side of site and was aligned north-east – south-west (Figure 2). The trench was excavated to a maximum depth of 2.03m aOD revealing alluvium deposits comprised of soft light blue-grey clay alluvium **(207)** below *c*.0.57m of firm dark grey clay **(208)** which was encountered at 3.01m aOD(Plate 3).

Plate 3: Overview of Trench 2a, looking north

4.2.5 Within the alluvium **(207)**, an upright wood, 0.10m in diameter was encountered towards the southern extent of the central sondage within trench 2a (Plate 4, Figure 4). The top of the wood was located at a height of c.6.04m aOD, and although truncated during the machining process, the uppermost 0.29m of the wood was recovered for further analysis. The remaining length of wood was left in-situ and un-excavated.

Plate 4: Location of wooden post within alluvial clay ***(207)****, looking south-west*

4.2.6 The alluvial deposits were overlain to the south-west, by a series of levelling deposits, the earliest of which, mixed silty clay **(204)**, was up to 0.5m thick. A loose very dark grey deposit of friable industrial refuse **(203)** and light

brown silty clay **(202)** was sealed by a layer of loose ashy mortar and brick rubble **(201)** (Figure 4).

4.2.7 This sequence of deposits was truncated by a construction cut **[209]**, for a brick and concrete structure **{205}** located in the north-east of the trench (Plate 5). The structure spanned the width of the trench and extended three meters from the south-west facing baulk (Figure 4). The construction cut **[209]** was backfilled with mid grayish brown silty clay with brick and tile inclusions **(210)** and a deposit of concrete **(206)**.

Plate 5: Section 31 detailing the modern deposits of trench 2a, looking north-west

4.2.8 The brick, tile and concrete rubble **(212)** situated within the footprint of Structure **{205}** were likely to be the remains of the building and used as backfill once it had been demolished (Figure 4). The trench was capped by a 0.20m thick deposit of reinforce concrete **(200)** forming part of a modern loading bay surface.

4.2.9 ***Trench 2b:*** Trench 2b was located toward the west of site and was aligned north – south (Figure 2). The trench was excavated at both the northern and southern end, to a maximum depth of 3.61m aOD. Modern demolition rubble was encountered to this depth. Water strongly polluted with hydrocarbons was encountered at 1 m below modern ground level, and so excavation of the trench was halted and the middle of the trench remained unexcavated (Plates 6 & 7).

Plate 6: Water polluted with Hydrocarbons at the southern extent of Trench 2b, looking south-west

Plate 7: Water polluted with Hydrocarbons at the northern extent of Trench 2b, looking north-east

4.2.10 ***Trench 3:*** Trench 3 was located toward the eastern edge of the site and was aligned north – south (Figure 2). The trench was excavated to a maximum depth of 2.49m aOD revealing firm orange-brown sandy alluvial clay **(311)** below *c*.0.20 m of mottled firm mid orange sandy clay with light grey flecking **(303/309)**; a possible weathered natural deposit (Plate 8).

Plate 8: Overview of Trench 3, looking south

4.2.11 Two linear ditches were observed in Trench 3, both cut into deposit **(303/309)** (Figure 5). Ditch **[305]** was aligned north-east – south-west and situated at the northern extent of the trench. Heavily truncated by modern activity, the ditch measured up to 0.18m deep, 0.65m wide and it was filled with firm grey sandy clay **(306)** (Plate 9). No artefactual evidence was recovered from fill **(306)**.

*Plate 9:Ditch **(305)**, post excavation looking south*

4.2.12 Orientated east – west, the second ditch **[304]** was located approximately 6.95m north of the southern limit of Trench 3 and measured up to 0.70m wide and 0.34m deep. (Figure 5, Plate 10). The ditch contained two fills, the

earlier of which was compact slightly orangey-grey sandy clay containing a small quantity of gravel material **(302)**. Overlying this was moderately firm greyish – brown silty sand **(301)**, up to 0.18m thick. Neither fill contained dating evidence.

*Plate 10: Ditch **[304]**, post excavation, looking west*

4.2.13 A deposit of greyish brown silty sand **(300/310)** was observed across the length of the trench and formed the earliest modern deposit, containing sherds of a 19th – 20th century transfer print plate. The deposit was observed to be a minimum 0.35m thick (Figure 5), and was probably made ground to level the local area for construction. Towards the northern extent of the trench this deposit was truncated by a north-east – south-west orientated cut **[308]**. The cut was filled by a clean moderately firm greyish black sandy silt **(307)** The purpose of Cut **[308]** is unclear, it is possible however, it was a demolition cut, backfilled with a clean material in order to form a level surface onto which a further building could be constructed.

4.2.13 This later building was observed in Trench 3, the remains of which consisted of three evenly spaced concrete pads **{312}** cut into deposit **(307)** used for supporting steel framed industrial buildings. Deposits of industrial waste were visible in the west facing section (Figure 5) in the northern half of the trench. The pads **{312}** were surrounded by modern late 20th century demolition deposits which had been levelled off and capped by modern concrete **(314)** and tarmac **(313)**, forming the current car park.

4.2.14 ***Trench 4a:*** Trench 4a was located toward the eastern edge of site and was aligned north – south (Figure 2). The trench was excavated to a maximum depth of 2.95m aOD revealing firm mottled orange and grey clayey sand

geology **(405)** overlain by up to 1.24m soft orange-brown silty sandy clay alluvium **(404)** at the southern extent of the trench (Plate 11).

Plate 11: Natural deposits at the southern extent of Trench 4a

4.2.15 A layer, up to 0.51m thick, of re-deposited alluvial material **(403)** was observed to overlie the alluvium **(404)** (Figure 6). Composed of moderately compact brown silty, sandy clay, the deposit had a small quantity of brick and tile flecks. The re-deposited material **(403)** was overlain by building debris **(402)** which measured up to 0.6m in depth.

4.2.16 Two east – west orientated concrete wall foundations **{406}** and **{407}**, for the modern 20th century works were constructed into this material **(402)**. A demolition deposit **(409)**, associated with the demolition of the 20th century works was observed at the northern extent of trench 4a. Deposit **(409)** sloped from the east to the west and continued into the east facing baulk (Plate 12). It measured up to 0.7m thick, and was levelled in order to lay a concrete base **(401)** for the modern tarmac car park **(400)**.

*Plate 12: Modern demolition deposits and wall foundation **{406}** at the northern end of Trench 4a, looking north-east*

4.2.17 ***Trench 4b:*** Trench 4b was located toward the eastern edge of site and was aligned north – south (Figure 2). The trench was excavated to a maximum depth of 2.19m aOD revealing friable orangey yellow gravelly sand **(468)** at a height of 3.40.m aOD (Plate 13).

Plate 13: Overview of Trench 4b, looking north

4.2.17 Two linear ditches, both orientated broadly north-east – south-west, were located in the northern half of Trench 4b (Figure 7). The northernmost ditch **[454]** had a "V" shaped profile, with a sharp break of slope leading to a concave base, measured up to 0.72m wide, 2.12m in length and was filled

with a 0.61m thick deposit of clean brownish-grey silty gravel **(455)** (Plate 14).

Plate 14: Oblique section across Ditch [454], looking west

4.2.18 The second ditch **[450]**, situated roughly 3.30m south of ditch **[454]** was smaller, measured 0.64m wide and 0.44m deep (Figure 7). The profile was less regular, with a break of slope on both the north and south edges of ditch **[450]** and a more gradual break of slope. The fill **(451)** was comprised of the same material as the fill **(455)** of ditch **[454]**, moderately firm brownish grey silty gravel **(451)**.

4.2.18 Both ditches were truncated by pit **[452]**. The pit was roughly square in shape, up to 1.14m deep with vertical edges and a sharp break of slope leading to a flat base (Figure 7). The fill consisted of dark blackish grey gravelly silt **(453)** and contained Post-medieval material, the latest of which was a 19th century brick (Plate 15). Medieval material was also recovered from the pit which consisted of four sherds of pottery dated to the 13 – 14th centuries, along with ceramic building material (CBM) dating to the 14th – 15th Centuries AD.

Plate 15: South facing section through Pit [452], looking north

4.2.19 The fill **(459)** of pit **[463]** revealed immediately to the south of pit **[452]** was indistinguishable from fill **(453)** of pit **[452]**, making the establishment of a relationship between the two impossible, suggesting the pits may have been broadly contemporary and 19th Century AD in origin. A further pit **[464]** was also observed at the southern end of Trench 4a, with its fill **(460)** comprised of the same blackish grey gravelly silt (Figure 7). No evidence of large pits was observed in any other trenches to the east of site, and their location is likely to suggest gravel extraction.

4.2.20 An undated deposit of made ground **(456)**, up to 0.45m thick was observed in the east facing baulk. Towards the northern extent of the trench, modern concrete footings **{461}**, on which brick wall **{462}** (Figure 7) was constructed through the made ground **(456)**. The footings were on the same alignment as those in Trench 4a, and likely to be part of the same building.

4.2.21 The trench was capped by modern demolition rubble **(467)** which was overlain by the concrete base **(457)** for the present day tarmac surface **(458)**.

4.2.22 ***Trench 5a:*** Trench 5a was located toward the southern half of site and was aligned east – west (Figure 2). The trench was excavated to a maximum depth of 0.90m aOD revealing soft blue grey and orange mottled clay alluvium **(512)** which was encountered at a height of 1.52m aOD.

Plate 16: Organic deposit (511) located within a sondage at the eastern limit of Trench 5a, looking east

4.2.23 The clay alluvium **(512)** was overlain by a 0.24m thick deposit of mid to dark brown organic clay **(511)** (Plate 16, Figure 8). The clay **(511)** was uncovered within a sondage at the eastern limit of the trench. A similar deposit **(556)** was observed within a sondage in Trench 5b. A 20 litre sample was recovered from the organic clay material **(511)**.

Plate 17: Overview of Trench 5a, looking north-west

4.2.24 Deposit **(511)** was overlain by a 0.62m thick un-dated dark grey clayey silt **(510)**. Above this material, a deposit of modern demolition debris **(509)** was observed (Figure 8). The demolition debris consisted of red brick fragments

with degraded mortar inclusions. This was the earliest in a sequence of modern demolition deposits and made ground each with tip lines from the east to the west (Plate 17). The most substantial deposit measured up to 0.9m thick and comprised of greyish brown sandy silt with degraded concrete inclusions **(504)**

4.2.25 Trench 5a was sealed with a 0.22m thick deposit of reinforced concrete **(501)** overlain by tarmac **(500)**.

4.2.26 ***Trench 5b:*** Trench 5b was located toward the south of site and was aligned east – west (Figure 2). The trench was excavated to a maximum depth of 0.82m aOD, revealing loose grayish yellow sandy gravel **(559)** which was encountered at a height of 1.04m aOD below *c*.0.40m of stiff light brown silty clay alluvium **(557)** (Plate 18).

Plate 18:Sandy gravel ***(559)*** *located beneath alluvium* ***(557)*** *within a sondage at the eastern limit of Trench 5b, looking east*

4.2.27 The sandy gravel **(559)** and alluvial deposit **(557)** was observed within a sondage at the eastern limit of Trench 5b and was overlain by a 0.38m thick brown organic clay **(556)**, a similar clay material observed in Trench 5a **(511)**, to the east (Figure 9). Loose brownish yellow gravels **(558)** containing modern brick and tile fragments were observed to seal the organic clay layer **(556)**.

Plate 19: Overview of Trench 5b, looking west

4.2.28 The gravel **(558)** was the earliest in a series of modern material which formed the remaining deposits within Trench 5b. The most substantial deposit, dark brownish grey silty sandy clay **(554)** measured up to 0.65m thick (Figure 9). This was overlain by dark blackish brown clayey silt **(553)**, which spanned the width and length of the trench. The trench was capped by a 0.30m thick concrete base **(551)** overlain by tarmac **(550)** (Plate 19)**.**

4.2.29 ***Trench 6a:*** Trench 6a was located toward the south-eastern corner of site and was aligned north-east – south-west (Figure 2). The trench was excavated to a maximum depth of 1.84m aOD revealing firm mottled orange and grey clayey sand geology **(610)** overlain by up to 1.24m soft orange-brown silty sandy clay alluvium **(606)** (Plate 20).

*Plate 20: Alluvial deposit **(606)** overlying clayey sand geology **(610)**, looking north-west*

4.2.30 The alluvium **(606)** was overlain in the southern half of Trench 6a by re-deposited alluvium **(608)**, up to 0.12m deep (Figure 10). A further deposit comprised of firm dark orange-brown silty clay **(605)**, up to 0.66m thick spanned the width of the trench and overlay the re-deposited alluvium **(608)**. Towards the southern extent of the trench, concrete wall foundations **{604}** for a modern structure were encountered within a construction cut **[609],** which was further filled with a firm dark grey rubble comprised of stone, iron and clay **(603)**.

4.2.31 This sequence was only observable within the south east facing section (Figure 10), as the construction cut **[609]**, concrete foundation **{604}**.and backfill **(603)** were all truncated by the construction of further concrete footings **{607}**, aligned on a broad east-west alignment at the southern extent of the trench. The footings **{607}** were located in a substantial construction cut **[613]**, of which the maximum depth and width were not observable. The construction cut **[613]** was backfilled by loose mid grey clay and concrete rubble **(614)**.

4.2.32 The concrete footings **{607}** were truncated to the east by a large modern pit **[611]** (Figure 10) containing moderately compact brown clayey rubble with yellow sand and frequent large concrete inclusions. The remains of a concrete pile with reinforcing bar was also observed (Plate 21).

Plate 21: Trench 6a overview, looking south-west

4.2.33 The modern remains within Trench 6a were overlain by a demolition layer comprised of firm dark brown clayey silt containing concrete fragments,

reinforcing bar and brick fragments **(602)** across the width of the trench. This formed a hardcore base for the concrete **(601)** overlying modern tarmac **(600)**.

4.2.34 ***Trench 6b:*** Trench 6b was located toward the south-eastern corner of site and was aligned east – west (Figure 2). The trench was excavated to a maximum depth of 1.91.m aOD revealing loose yellow – brown gravel geology **(677)** which was encountered at a height of 2.09m aOD (Plate 22).

Plate 22: Natural gravel geology within a test pit at the western limit of Trench 6b, looking east

4.2.35 The natural gravel **(677)** was observed within a sondage at the western limit of Trench 6b (Figure 11). It was overlain by a series of deposits, the earliest of which, was a firm light grey mixture of silt, sand and gravel **(675)** containing a sherd of post-medieval tile. A post medieval brick fragment was recovered from the overlying firm orange brown sand and gravel **(674)**, measured at up to c.0.47m thick. Situated on top of sand and gravel **(674)**, deposits **(667)** – **(673)** comprised tipped gravels, possibly used for raising the ground level. These deposits contained no dating evidence.

4.2.36 Further levelling deposit, firm brown sandy silt **(656)** overlaid gravel **(667)** (Figure 11) from which post medieval CBM was recovered along with late medieval pottery dating to the 14th – 15th centuries A.D. This in turn was overlain by a clean moderately compact dark grey sandy silt **(655)**, which effectively sealed the earlier gravels. This material was very similar to a dark

brown clayey silt **(659),** which contained small brick and mortar flecks, located on the southern side of Trench 6b.

4.2.37 A set of concrete wall foundations, **{653}** and **{663}** along with associated concrete flooring **{657}** and **{660}** was constructed into these silts, **(656)** and **(659)**, along with a further concrete wall **{662}** and a later brick extension formed of two walls **{658}** and **{666}** (Plate 23, Figure 11). The sequence of concrete walls and flooring formed the northern side of modern 20th Century factory buildings. These were demolished in order to construct the current car park, with the demolition material **(652)** and **(654)** levelled and sealed by a concrete base **(651)** for a hardcore gravel sub-base **(676)** for modern tarmac **(650)**.

Plate 23: Overview of the modern concrete and brick remains in trench 6b

4.2.38 Two test pits within the footprint of Unit 1 of the standing structures were cut, but found to contain three layers of thick rebar. Following consultation with English Heritage, two boreholes were undertaken within the test pits in order to evaluate the underlying stratigraphy within the area of the standing buildings. The cores retrieved from the boreholes are discussed in section 6.4.

5 FINDS

5.1 FINDS ASSESSMENT

5.1.1 A total of 62 artefacts, weighing 6,512Kg, were recovered from seven contexts during an archaeological evaluation at Abbey Road, Barking.

5.1.2 All finds were dealt with according to the recommendations made by Watkinson & Neal (1998) and to the Institute for Archaeologists (IfA) Standard & Guidance for the collection, documentation, conservation and research of archaeological materials (2008b). All artefacts have been boxed according to material type and conforming to the deposition guidelines recommended by the Museum of London.

5.1.3 The material archive has been assessed for its local, regional and national potential and further work has been recommended on the potential for the material archive to contribute to the relevant research frameworks.

5.1.4 The finds assessment was compiled by Megan Stoakley with contributions from Don O'Meara.

5.1.5 Quantification of finds by context is visible in Table 1.

Cxt	Material	Qty	Wgt (g)	Date	Notes
402	Animal Bone	1	213	U	
453	Animal Bone	5	51	U	
656	Animal Bone	7	322	U	
451	CBM	3	45	PM	Very abraded miscellaneous fragments
453	CBM	10	1968	Med - 14th/15th C to PM	4 tile frags with reduced grey core - one with orange glaze, 3 with mortar on, 1 large brick fragment
656	CBM	3	453	Med-PM	1 x perforated tile, 2 brick frags - one with mortar
674	CBM	1	488	PM	Brick fragment - over-fired
675	CBM	1	432	PM	Floor tile fragment
300	Ceramic	6	26	19th - 20th C	Transfer print plate sherds
453	Ceramic	6	118	Med	RGW jug handle - bright green glaze + body sherd, F-T/S-T base sherd, green-glaze body sherd, 2 body sherds. MNV: 5
656	Ceramic	1	27	Late Med	Reduced dark grey core; oxidised exterior fabric, drab olive glaze; sand-tempered base sherd
453	Oyster Shell	14	161	U	
453	Slate	1	8	U - Med	Miscellaneous fragment
207	Wood	3	2200	?	Cylindrical fragments of timber – no evidence of cut-marks
TOTAL		62	6512		

Table 1: Quantification of Finds by Context

Key:

Cxt: Context
Qty: Quantity
Wgt: Weight
Med: Medieval
PM: Post-medieval
U: Undated
F-T: flint-tempered

5.2 MEDIEVAL CERAMICS

5.2.1 A total of seven sherds of medieval pottery, weighing 145g, were recovered from deposits **(453) (656)**.

5.2.2 A minimum of five vessels are represented by the sherds recovered from deposit **(453)**. One sherd comprises a partial base sherd of a handmade coarseware jar, consisting of a hard, sand and flint-tempered, dark-grey to reddish fabric. This sherd likely belongs to a group of London-type wares, commonly manufactured in London during the 13th and 14th centuries.

5.2.3 Two body sherds of thin-walled, sand-tempered pottery were recovered from this deposit **(453)**. The fabric is a dull reddish-brown and no glaze is evident on the surface. The sherds are likely 13th to 14th century in date.

5.2.4 Two sherds comprise reduced greyware of probable 14th century date. Both sherds, comprising a body sherd and a jug handle sherd, have a bright green lead-glaze on the surfaces.

5.2.5 One sherd of possibly late medieval to early post-medieval date was also recovered from this deposit. A drab olive and yellow glaze is evident on the exterior surface and the fabric comprises a hard, oxidised, mid red-orange sandy fabric with a reduced grey core.

5.2.6 A single sherd of late medieval pottery, weighing 27g, was recovered from context **(656)**. The fragment comprises a base sherd with a reduced dark grey core and an oxidised exterior fabric. A drab olive glaze is evident on the interior of the base sherd and the fabric is sand-tempered. It is likely of 14th to 15th century date.

5.3 POST-MEDIEVAL CERAMICS

5.3.1 A total of six sherds of post-medieval pottery, weighing 26g, were recovered from deposit **(300)**.

5.3.2 The pottery comprises Willow Pattern, or Transfer Print, pottery of 19th (1830s+) to 20th century date. A minimum of one vessel is represented, likely a plate or shallow bowl.

5.4 CERAMIC BUILDING MATERIAL (CBM)

5.4.1 A total of 17 fragments of ceramic building material (CBM), weighing 2,954Kg, were recovered from four deposits (Table 1).

5.4.2 *Medieval CBM.* Ceramic building material of medieval date was recovered from deposits **(453)** and **(656)**. Eight thin, oxidised, mid-dark orange floor tile fragments were recovered from **(453)**, each with a dark grey, reduced core. One fragment has mortar on one surface and one fragment has a mid- to dark orange glaze on one surface. These fragments are possibly of 14th to 15th century date.

5.4.3 Two fragments of CBM of possible medieval date were recovered from deposit **(656)**. One fragment comprises a perforated roof tile and the other fragment comprises a small brick fragment with a dark grey reduced core. Both fragments are of likely later medieval date.

5.5.4 *Post-medieval CBM.* A fragment of post-medieval brick was recovered from deposit **(656)** and three fragments of very abraded post-medieval CBM were retrieved from deposit **(451)**.

5.4.5 Two fragments of post-medieval CBM were recovered from deposit **(453)**, comprising a fragment of 19th century yellow brick and a fragment of red brick. Yellow bricks were manufactured in considerable quantities in London in the 19th century and this fragment has calcium carbonate and 'Spanish Soil' (ash and clinker) inclusions that are typical of 19th century yellow bricks (*Pers. Comm.* Peachey 2014). These inclusions enable hard-firing and once placed in a kiln, these bricks became self-firing because of these materials (*Ibid*).

5.5 SLATE

5.5.1 One fragment of slate, weighing 8g, was recovered from deposit **(453)**. It is not a diagnostic fragment and no discernible features are apparent. The fragment is not datable. No further analysis is necessary.

5.6 TIMBER

5.6.1 A total of three fragments of wood (originally one piece), weighing 2,200Kg, were recovered from deposit **(207)** (Table 1).

5.6.2 The fragments are a maximum of 306mm long, and a maximum of 104mm in diameter, with a maximum external circumference of 332mm. The

external diameter and circumference are consistent along the length as this is a middle section of a branch or a tree bole. The wood was discovered upright in deposit (**207**).

5.6.3 Upon preliminary visual examination, the fragment does not bear any evidence of human activity, e.g. cut-marks. Three cracks are visible in the largest fragment, having appeared as a result of expansion and contraction of the wood in waterlogged conditions. The surface is fresh though no bark is present. The vascular cambium is well preserved and shows little evidence of biological decay, or abrasion caused by alluvial action/transport. An examination of the surface of the wood did not show evidence of tool marks which might be indicative that this was worked timber rather than wood. The absence of bark on the surface of the wood suggests that the bark had been removed before the wood became incorporated into the alluvial deposit. The absence of tool marks, such as adze marks, suggest that the bark may have fallen off naturally, which might suggest this wood is a natural fragment within the alluvial deposit, or was aged for a period before being deposited into the alluvium (should it indeed be construction material.

5.6.4 A fragment of the wood was examined microscopically and it was determined that it is an Ulmus species (Elm). This was based on the nature of the ring-porous wood when examined in transverse section and the multiseriate rays when examined in the tangential section (Schweingruber 1978, 164; Wheeler et al. 1989).

5.6.5 The presence of sapwood, as well as heart wood, and the diameter of the fragment suggest that the fragment is suitable and large enough for dendrochronological dating (Baillie 1995). However, should it be determined that a dendrochronological date cannot be acquired if the elm wood does not fit well with local or national chronologies then the presence of sapwood would allow the acquisition of a radiocarbon date (Hillman 1998, 14-15). Though a radiocarbon date can be acquired a consideration of the floodplain formation process should be considered before committing to any such cost (Brown and Keough 1992).

5.6.6 Though the wood will be retained in the Wardell Armstrong Archaeology laboratory until the completion of this project, it is not recommended at this stage that the material be sent for conservation as in keeping with accepted recommendations it does not fall into the categories of being "viable for long-term preservation and perceived as of value for future analysis owing to its intrinsic academic interest" (Jones 2010, 11).

6 ENVIRONMENTAL

6.1 INTRODUCTION

6.1.1 During the course of the excavation 4 soil samples were collected by the excavation team. This consisted of c. 140 litres of sediment. It was hoped that anthropogenic evidence could be collected from these samples to determine whether evidence for human activity was present in some of the negative features examined by the excavation team. Of particular interest was to determine which features were post-medieval made-ground features, and in the case of sample <4> **(510)** whether this was a natural organic deposit, or one which contained anthropogenic material.

6.1.2 Two geoarchaeological soil cores were also taken with a percussion windowless sampler. This was undertaken in order to determine the nature of the deeper deposits under the proposed development area.

6.1.3 A small number of animal bones were recovered during the evaluation and are noted below.

6.1.4 For the bulk soil sample methodology employed required that the whole earth samples be broken down and split into their various different components: the flot, the residue, the clay-silt and the sand-silt. The sample was soaked in water, then manually flotted and sieved through a 'Siraf' style flotation tank. In this case the residue and the flot are retained while the sand-silt-clay components are filtered out. The sample was flotted into a 250-micron geological sieve, while the heavy residue was retained within a 1mm plastic mesh. The heavy residue was then air-dried and sorted by eye for any material that may aid our understanding of the deposit; in particular artefactual and ecofactual material. During the course of the project the heavy residue was examined, material of archaeological interest was collected, and the remaining heavy residue (stones of various lithologies) was discarded. This was done to retrieve residues of metallurgical activity, in particular hammer scale, spheroid hammer scale. Processing procedures and nomenclature follows the conventions set out by the Archaeological Datasheets of the Historical Metallurgical Society (1995) and the English Heritage Centre for Archaeological Guidelines publication (2001).

6.1.5 In the case of the waterlogged deposit <4> **(510)** the sample was disaggregated in water and poured through two stacked geological sieves: a 2mm sieve and a 250-micron sieve.

6.1.6 In the case of the non-waterlogged samples the washover/flot was dried slowly and scanned at x40 magnification for charred and uncharred

botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Wardell-Armstrong Archaeology and by reference to relevant literature (Beijerinck 1947; Berggren 1981; Jacomet 2006; Cappers et al. 2010). Plant taxonomic nomenclature follows Stace (2010).

6.1.7 In the case of the waterlogged sample it was examined wet under the stereomicroscope.

6.1.8 The table which accompanies this document contains the details of the analysis on a sample by sample basis. For material from the residue the relative abundance is based on a scale from 1 (lowest) to 3 (highest), unless it is stated that total counts or weights were used to record the presence of such material. Cereals and chaff are counted in terms of the total number of individual elements. The other plant remains have been recorded on a scale from A-E. This is calculated as; A=1, B=2-10, C=11-20. For the waterlogged deposit plants are simply recorded as 'P' (Present).

6.1.9 For the purposes of clarity the references to 'seeds' identified here refer to the seed or fruit structures unless otherwise stated; that is to say the propagule or disseminule structures. Cereal grain was recovered in a charred condition and where mentioned refers to the charred caryopsis.

6.2 TYPES OF FEATURES REPRESENTED

6.2.1 The samples were taken from ditch features, in the cases of samples <1-3>, and from a deposit feature in the case of the waterlogged sample <4>.

6.3 DISCUSSION

6.3.1 Few remains were recovered from the non-waterlogged samples. All heavy residues consisted of large amounts of flinty gravel. All three flots were very small consisting of small (1-10 grams) of material. Two indeterminate grains were recovered from sample <3> **(302)**, but no other material, either ecofactual or artefactual, from the other samples. As such the remains cannot be easily ascribed to a particular period or a particular type of human activity, and may represent elements of the soil seed bank which can develop near urban areas, or areas of occupation (Carruthers and Straker 1996).

6.3.2 The waterlogged deposit <4> **(510)** was composed of c.40% well preserved organic material. When examined the bulk of this material was herbaceous leaf and stem fragments, with infrequent small twig fragments. The bulk of the recovered material appeared to be a filamentous material such as the algae Chara vulgaris. Seeds were quite rare, suggesting that the feature may have been an algaeal dominated pool. The species recovered included wild sea beet

(Beta vulgaris ssp. maritima), gypsywort (Lycopus europaeus), water dropwort (Oenanthe species) and common skullcap (Scutellaria species cf. galericulata).

6.3.3 The sediment itself consisted of a very fine clay-silt. Coarser material (fine-coarse sand) occurred very rarely and may constitute less than 0.1% of the total sediment. The evidence suggests that this was a pond feature which was probably not connected to the River Roding. The nature of the sediment suggests a very low energy system as would be found in a closed in pond, rather than a river, or even a small stream. The pond also seems to have had a relatively restricted flora, whereas if it was connected to the nearby river it may have been receiving greater volumes of allochthonous material from stream flow. There is no evidence that this feature received material from anthropogenic activity. No charcoal was neither recovered, nor other plants remains which might be connected to human activity.

6.4 EVIDENCE FROM THE SOIL CORES

6.4.1 Two soil cores were taken from the site to examine the subsurface deposits which could not be reached by the excavation trenches. The details of their assessment is outlined in Appendix 2.

6.4.2 Both of the soil cores had a layer of made ground at their surface, i.e. below the current layer of the warehouse concrete floor. However, they were quite variable after that with little else to link their deposits together. Core 1 had a deeper layer of made group extending to perhaps 2.35 metres beneath the current surface, based on the presence of small brick fragments/tile and a strong hydrocarbon smell. The organic macroplant remains from this deposit were present much less frequently than in Core 2, with the deposits being in general thicker than some of the finer banding present in Core 2. The lower layer consists of a thick flinty-gravel deposit from 3.5m to at least 5m depth beneath the current ground surface. This may represent a glacial deposit layer covered by post-glacial alluvial deposits.

6.4.3 The second soil core contained much finer banding of clay and silt layers, as well as more frequently recovered herbaceous material and small twig fragments. In form this was consistent with finely banded alluvial deposits, with thin, coarser deposits possibly representing flood events.

6.5 ANIMAL BONE (DON O'MEARA)

6.5.1 Few fragments of bone were recovered, and in all cases these were from three contexts; **(402; 453; 656)**. Therefore this analysis is intended as a note of the remains rather than a full analysis which seeks comparative analysis

with other sites, or one which seeks to analyse morphometric analysis, body part analysis, or economic concerns for Barking.

6.5.2 Context **(402)** produced a distal fragment of left cattle radius. No butchery marks or other modification was present on the bone.

6.5.3 From context **(453)** 35-grams of oyster shell was recovered consisting of at least 12 shells.

6.5.4 From context **(656)** seven fragments of bone were recovered, a right cattle tibia, a left sheep femur, a midshaft fragment of left sheep tibia, a pig phalange and two unidentified fragments. There was variation in colour and preservation amongst this assemblage which may suggest this consists of a mix of bones possibly from different archaeological periods which have been mixed into this deposit from various taphonomic pathways,

6.6 CONCLUSIONS

6.6.1 The samples from this site, both bulk soil samples and soil cores, demonstrate several things which concern the nature of the site:

- The organic deposit from **(510)** is likely to be a natural deposit formed by the growth of plants around an enclosed pond. No evidence of anthropogencially produced material such as charcoal was present in the sample examined.
- The other bulk soil samples contained very infrequent plant remains, with two charred grains being recovered from **<3> (302)**. This is characteristic of the general soil seed bank present near areas of human activity and cannot at this time be ascribed to a specific or intensively concentrated process.
- The soil cores show much intra-sample variability which is indicative of the disturbance which has occurred across the site. Of note is the higher level or organic preservation in Core 2, the hydrocarbon smell present in Core 1 to at least 2m depth, and the slightly coarser deposits (sandy-gravels) which characterise Core 1, as opposed to the finer silty-clay deposits with more frequent organic remains present in Core 2.

7 CONCLUSIONS

7.1 CONCLUSIONS

7.1.1 The archaeological field evaluation at Barking Abbey Retail Park, consisting of 10 trenches and two test pits was undertaken over three separate areas, covering 392.65m^2 of the proposed 23,874m^2 northern half of the development area. The purpose of the evaluation was to establish the nature and extent of below ground archaeological remains within the vicinity, the evaluation trenches being located to provide a representative sample of the development area. All trenches were excavated down to the top of the natural substrate.

7.1.2 Eight of the trenches were devoid of any archaeological features or deposits,. Only Trenches 3 and 4b to the east of the site retained any possible evidence of archaeological activity. The archaeological features observed comprised of heavily truncated linear ditches broadly aligned east – west, except the northern most which was aligned north-east – south-west. The exact function of the features remains uncertain at this time and no dating evidence was recovered from the features.

7.1.3 Historic maps dating to 1653 indicate that the site was at the time undeveloped marshland (Dawson, 2013), and it is possible that the ditches indicate attempts at draining, possibly for agricultural purposes.

7.1.4 The recovery of medieval and post-medieval pottery as well as ceramic building material provides evidence of domestic activity on the site or within close proximity to the site. Although the artefacts do provide dating evidence for features, the medieval material is re-deposited, and therefore not highly archaeologically significant. The recovery of animal bone, oyster shell and slate is of low archaeological significance.

7.1.5 The environmental analysis revealed that the bone recovered from the evaluation may have reached the deposit in which it was recovered from a number of sources and does not represent a discreet or single human process/activity. The bulk soil samples revealed the underlying deposits to be largely void of interpretive remains, while the richly organic deposit **(510)** is likely to be derived from a natural pool or pond. The soil core assessment showed variation across the site with differences in both the depth of the made ground and the nature of the riverine sediments beneath the post-medieval layers. No evidence for human activity was noted beneath the made ground layers; such as buried medieval soils, construction/demolition layers.

7.1.7 Figure 12 illustrates the levels at which the natural deposits survive, and the extent of impact of modern development on the site can be observed within all trenches. Features survive towards the east of the site in Trench 3 at a height of 3.18m aOD and Trench 4b at 3.49m aOD. Towards the western side of site, the un-worked wood in Trench 2b survived at a height of 2.48.m aOD. The difference in height may be attributed to an earlier sloping of the land towards the river before it was leveled and terraced (See Section 3.1.2)

7.1.8 The lack of archaeological remains may suggest the truncation of features towards the north and south of the site. The remains of the western boundary of the abbey precinct as seen in the 1653 map of Barking Manor (Dawson 2013) were not encountered during the evaluation. A continuation of the features which were uncovered within the 1985 excavation by the Passmore Museum (McGowan, 1996) to the south of the site (Figure 2) were not identified within trenches 5a, 5b, 6a or 6b. This indicates a truncation of the archaeology by post medieval and modern development, in particular a factory, the remains of which were uncovered in trench 6b situated over post-medieval deposits that were directly on top of the natural gravels.

7.1.9 The impact of the footprints of the current buildings upon potential archaeological remains is unclear because of the impact of proceeding development of the site prior to its current use as a retail park. This is illustrated across all trenches excavated as part of this evaluation where 20th century deposits associated with former standing structures were observed to directly overlie the natural alluvium and gravels. Two soil cores were placed within the footings of unit 1 to examine below surface deposits although the soil cores do not identify if the made ground is as a direct result of the construction of the current standing buildings. Core 1 had a deeper layer of made ground extending up to 2.35 metres beneath the current surface, based on the presence of small brick fragments/tile and a strong hydrocarbon smell. Made ground was identified to a depth of 3m below the current surface in core 2 in which a small fragment of brick was identified at 2.8m below the current ground level.

7.1.10 Figures 14 – 20 identify the possible extent of modern work across site. Where the trenches were situated over the location of the previous geotechnical boreholes, no archaeological material was identified in the deposits identified as made ground in the geotechnical report (Dawson 2013; appendix 4). The made ground was identified as 19th - 20th century material in each trench and it can be suggested that the made ground identified in the borehole logs date to this period.

7.1.11 The extent of 1980's and 1990's investigations cannot be reliably surveyed in using results from the current phase of trenching as no archaeological

features or deposits which could be associated with those investigations were encountered.

7.1.12 The potential for nationally important remains associated with Barking Abbey at the site is low, as little evidence for the survival of archaeological remains was observed in the trenches as part of the evaluation. The Saxon and Medieval remains observed within the 1985 excavation were cut from a maximum height of 4.28m aOD down to 3.57m aOD, and each trench, except Trench 2b was excavated to a level below this height, and therefore any surviving remains which may have been associated with the abbey would have been seen if present. Although ditch bases were identified in Trenches 3 and 4b, no dating evidence was recovered from the fills and therefore cannot be positively assigned to the Anglo-Saxon or Medieval period.

7.1.13 Little archaeological evidence was encountered during this evaluation. Features survive towards the east of the site in Trench 3 at a height of 3.18m aOD and Trench 4b at 3.49m aOD. The features uncovered in the 1985 excavations located to the south of the trenches, were cut from a height of 3.5 – 4.28m aOD and this may suggest heavy truncation of the archaeological remains, and therefore the area is of low archaeological potential. In Trench 6b, the post-medieval tile in a deposit located just above natural gravels at a height of 2.09m would suggest that any archaeological remains associated with Barking Abbey would have been entirely removed, within that vicinity.

7.1.14 From the proposed development drawings submitted by the client (Appendix 4), any construction carried out in association with the development of the site would appear to have a limited impact upon any potential surviving archaeological deposits. The proposed retail store would consist of a car park, constructed at current ground level with the store situated over the car park through the use of stanchions constructed upon, or as part, of piles. Limited archaeological remains were encountered as part of this work, with possible shallow ditches identified in Trench 3 and 4a at the eastern extent of the site. These trenches would be within the development area of the store, and any surviving remains may potentially be affected by the piling. No formal technical drawings have been submitted however, and therefore, only an approximation of the impact of the development can be given.

7.1.15 In summary the following questions set out by the brief have been answered;

- Can the absence of surviving alluvium in the Wardell Armstrong model be said to reliably indicate archaeological sterility?

No, as the bases of archaeological features in trench 4b were observed cut into the natural gravels.

- Can the extent of modern terracing or cut and fill work be identified across site and how has this affected archaeological survival?

  Yes – see section 7.1.10

- Is there archaeological interest in the deposits identified as "made ground" in the geotechnical report?

  No – see section 7.1.10

- What impact have the footprints of the current retail buildings had on the buried potential?

  Uncertain, because of the impact of proceeding development of the site prior to its current use as a retail park – see section 7.1.9

- Can the accurate extent of the unclear 1980's and 1990's investigations be reliably surveyed in using results from the trenching and can it additionally be established whether any hitherto unrecorded preservation *in situ* of remains found in those investigations was allowed for following those investigations?

  No – see section 7.1.11

- What is the potential for nationally-important remains to be present at the site? Importance should be established using the guidance in the scheduling criteria.

  Low – see section 7.1.12

- Can the site be zoned into areas of relatively higher and lower archaeological potential? Zoning should be shown graphically and by period.

  No – see section 7.1.13

- How do the development proposals affect different areas across the site? Consider basement extents, foundations and other development groundworks.

  There is a limited impact across the site – see section 7.1.14

- How does the sequence in the south of the site relate to the WA deposit model created and now refined for the north?

Uncertain, as the southern area will be subject to investigation in the next phase of archaeological works, and has not been sampled as part of this evaluation, and it is possible that further work will elucidate this question.

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8.2 OTHER SOURCES

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APPENDIX 1: CONTEXT TABLE

Context Number	Trench	Context Type	Description
101	1	Deposit	Re-deposited clay
102	1	Deposit	Fill of pit [103]
103	1	Cut	Demolition cut
104	1	Deposit	Fill of pit [103]
105	1	Deposit	Natural alluvial clay
106	1	Deposit	Fill of pit [103]
107	1	Deposit	Concrete loading bay surface
108	1	Deposit	Bedding sand
109	1	Deposit	Demolition deposit
110	1	Deposit	Demolition deposit
111	1	Deposit	Brick and mortar deposit
112	1	Deposit	Re-deposited clay and demolition debris
113	1	Deposit	Fill of construction cut [117]
114	1	Structure	Brick wall
115	1	Structure	Concrete footing for wall
116	1	Deposit	Foundation trench backfill for wall {114}
117	1	Cut	Demolition cut
118	1	Structure	Concrete footing for wall
200	2a	Deposit	Concrete loading bay surface
201	2a	Deposit	Levelling deposit
202	2a	Deposit	Re-deposited clay
203	2a	Deposit	Levelling deposit
204	2a	Deposit	Re-deposited clay
205	2a	Structure	Remains of industrial building
206	2a	Deposit	Laid concrete
207	2a	Deposit	Natural alluvial clay
208	2a	Deposit	Natural alluvial clay
209	2a	Cut	Construction cut for structure {205}
210	2a	Deposit	Fill of construction cut [209]
211	2a	Cut	Cut of modern demolition
212	2a	Deposit	Rubble backfill of cut [211]
300	3	Deposit	Made ground
301	3	Deposit	Fill of ditch [304]
302	3	Deposit	Fill of ditch [304]
303	3	Deposit	Possible weathered/re-deposited natural alluvium
304	3	Cut	Cut of ditch
305	3	Cut	Cut of ditch
306	3	Deposit	Fill of ditch [305]
307	3	Deposit	Fill of demolition cut [308]
308	3	Cut	Demolition cut
309	3	Deposit	Same as deposit (303)
310	3	Deposit	Same as deposit (300)
311	3	Deposit	Natural alluvial sandy clay
312	3	Structure	Concrete pads for industrial building
313	3	Deposit	Modern tarmac road surface
314	3	Deposit	Concrete foundation for tarmac (313)
315	3	Deposit	Modern made ground
316	3	Deposit	Modern industrial waste
317	3	Deposit	Modern industrial waste
318	3	Deposit	Modern industrial waste

Context Number	Trench	Context Type	Description
319	3	Deposit	Re-deposited natural clay
320	3	Deposit	Modern industrial waste
321	3	Deposit	Modern demolition deposit
322	3	Deposit	Modern demolition deposit
323	3	Deposit	Modern concrete rubble
324	3	Deposit	Modern demolition deposit
325	3	Deposit	Modern demolition deposit
326	3	Deposit	Modern concrete rubble
327	3	Deposit	Modern demolition deposits
400	4a	Deposit	Modern tarmac road surface
401	4a	Deposit	Concrete foundation for tarmac (400)
402	4a	Deposit	Demolition rubble
403	4a	Deposit	Re-deposited natural alluvium
404	4a	Deposit	Natural alluvial sandy clay
405	4a	Deposit	Deposit within root channel / animal burrow
406	4a	Structure	Concrete foundations for industrial building
407	4a	Structure	Concrete foundations for industrial building
408	4a	Deposit	Natural Geology
409	4a	Deposit	Modern demolition rubble
450	4b	Cut	Cut of ditch
451	4b	Deposit	Fill of ditch [450]
452	4b	Cut	Cut of Pit
453	4b	Deposit	Fill of pit [452]
454	4b	Cut	Cut of ditch
455	4b	Deposit	Fill of ditch [454]
456	4b	Deposit	Made ground
457	4b	Deposit	Concrete foundation for tarmac (458)
458	4b	Deposit	Modern tarmac road surface
459	4b	Deposit	Fill of pit [463]
460	4b	Deposit	Fill of pit [464]
461	4b	Structure	Concrete foundations for industrial building
462	4b	Structure	Modern brick wall
463	4b	Cut	Cut of pit
464	4b	Cut	Cut of pit
465	4b	VOID	VOID
466	4b	VOID	VOID
467	4b	Deposit	Concrete rubble
468	4b	Deposit	Natural sand and gravel
500	5a	Deposit	Modern tarmac road surface
501	5a	Deposit	Reinforced concrete foundation for tarmac (501)
502	5a	Deposit	Modern demolition deposit
503	5a	Deposit	Modern demolition deposit
504	5a	Deposit	Made ground / demolition deposit
505	5a	Deposit	Modern demolition deposit
506	5a	Deposit	Modern demolition deposit
507	5a	Deposit	Modern demolition deposit
508	5a	Deposit	Modern demolition deposit
509	5a	Deposit	Modern demolition deposit
510	5a	Deposit	Dark grey clayey silt
511	5a	Deposit	Organic layer
512	5a	Deposit	Natural clay alluvium
550	5b	Deposit	Modern tarmac road surface
551	5b	Deposit	Concrete base for tarmac (550)
552	5b	Deposit	Made ground

553	5b	Deposit	Modern demolition rubble
Context Number	**Trench**	**Context Type**	**Description**
554	5b	Deposit	Modern deposit
555	5b	Deposit	Modern demolition rubble
556	5b	Deposit	Organic layer
557	5b	Deposit	Natural alluvial deposit
558	5b	Deposit	Modern deposit
559	5b	Deposit	Natural gravel
600	6a	Deposit	Modern tarmac road surface
601	6a	Deposit	Concrete base for tarmac (600)
602	6a	Deposit	Rubble levelling deposit
603	6a	Deposit	Rubble backfill of construction cut [609]
604	6a	Structure	Cast concrete foundations
605	6a	Deposit	Demolition rubble
606	6a	Deposit	Natural alluvial deposit
607	6a	Structure	Cast concrete foundations
608	6a	Deposit	Re-deposited alluvium
609	6a	Cut	Construction cut
610	6a	Deposit	Natural geology
611	6a	Cut	Cut of modern pit
612	6a	Deposit	Fill of pit [611]
650	6b	Deposit	Modern tarmac road surface
651	6b	Deposit	Concrete base for tarmac (650)
652	6b	Deposit	Modern demolition deposit
653	6b	Structure	Concrete wall foundation
654	6b	Deposit	Modern demolition deposit
655	6b	Deposit	Made ground
656	6b	Deposit	Made ground
657	6b	Structure	Concrete flooring
658	6b	Structure	Modern brick wall
659	6b	Deposit	Levelling deposit
660	6b	Structure	Concrete flooring
661	6b	Structure	Modern brick wall
662	6b	Structure	Concrete wall
663	6b	Structure	Concrete wall foundation
664	6b	Cut	Construction cut for concrete wall {662}
665	6b	Deposit	Backfill of construction cut {664}
666	6b	Structure	Modern brick wall
667	6b	Deposit	Possible made ground
668	6b	Deposit	Possible made ground
669	6b	Deposit	Possible made ground
670	6b	Deposit	Possible made ground
671	6b	Deposit	Possible made ground
672	6b	Deposit	Possible made ground
673	6b	Deposit	Possible made ground
674	6b	Deposit	Possible made ground
675	6b	Deposit	Possible made ground
676	6b	Deposit	Hardcore base for tarmac (650)
677	6b	Deposit	Natural gravels

Table 2: List of Contexts issued during Archaeological Evaluation

APPENDIX 2: DETAILS OF SOIL CORES

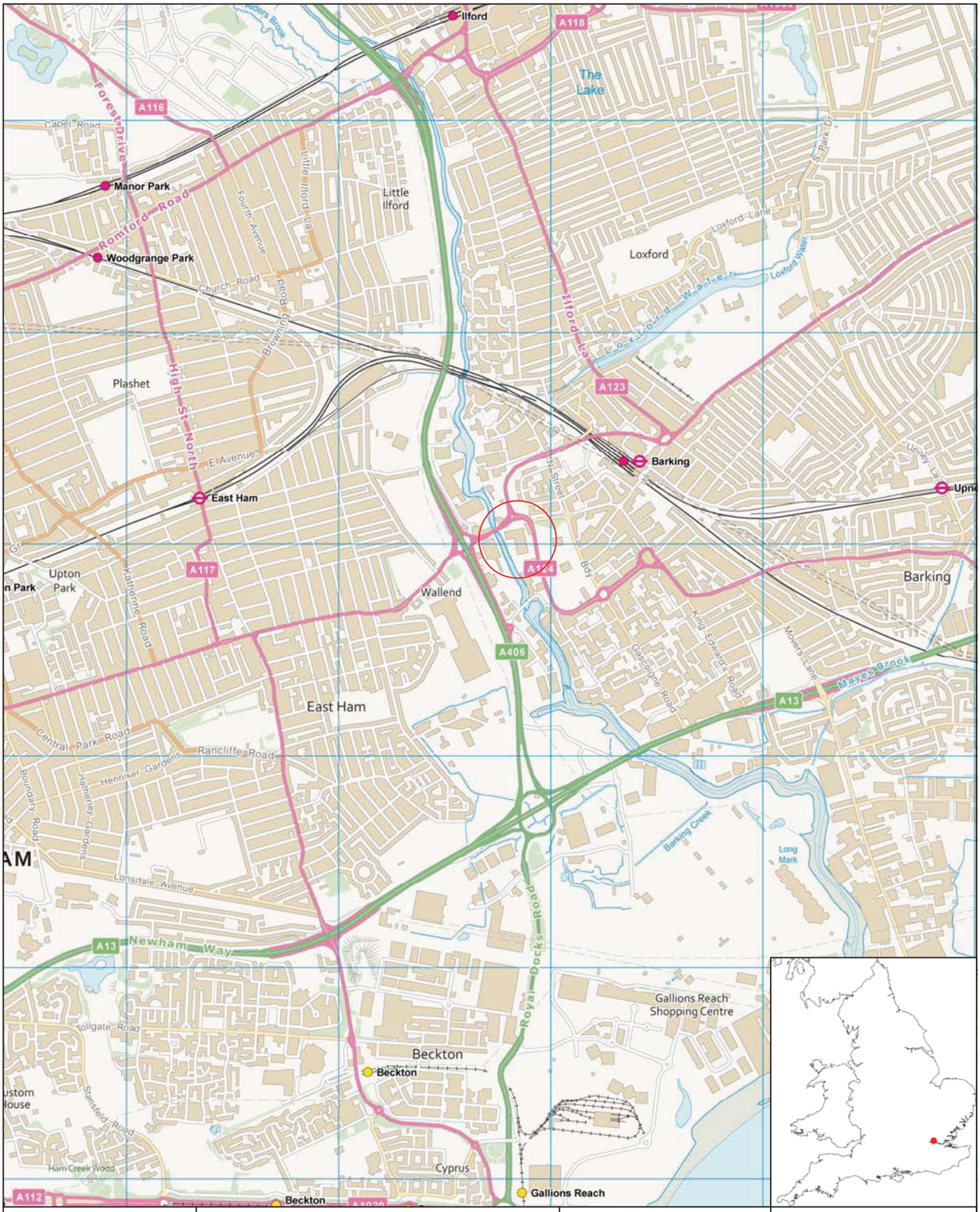
Site Code: ABR14	**Location: Abbey Road, Barking**	**Core No.: 1**
Equipment: Mechanical window sampler	**Final Depth: 500cm**	**Compiled by: D O'M**

Metre	**OD**	**Description**
0-0.1		Concrete
0.1-0.75		Made ground, flint inclusions, very coarse deposit. Infrequent brick fragments, frequent fragment of blast-furnace slag and coal fragments. Faint hydrocarbon smell.
0.75-2.35		Dark fill material. Some limited tile/ceramic fragment. Strong hydrocarbon smell. Likely to be made-ground.
2.35-2.58		Abrupt change to 5Y 3/1 clay with infrequent woody fragments.
2.58-2.82		Clay-silt with moderate sand content 5Y 5/1 – 2.5Y 5/1.
2.82-3.54		Very sandy flint layer, becomes sandy-silt 5Y 4/4-5/4
3.54-5		Very consistent gravelly-sand layer continues to the base of the core sample.

Site Code: ABR14	**Location: Abbey Road, Barking**	**Core No.: 2**
Equipment: Mechanical window sampler	**Final Depth: 500cm**	**Compiled by: D O'M**

Metre	**OD**	**Description**
0-0.1		Concrete
0.1-0.68		Made ground, flint inclusions, very coarse deposit. Infrequent brick fragments, nail/iron object. Infrequent modern glass fragments. Stones are subrounded-rounded.
0.68-0.8		Abrupt change to silty-clay alluvial deposit. Clay is 5Y 3/1, with 5Y 5/3-5/4 mottling. Very fine material
0.8-0.95		Abrupt change at 0.8 to silty-clay 2.5Y 3/0. Slightly stronger organic smell. Visible macroplant remains. Very infrequent stone inclusions (less than 1cm).
0.95-1.61		Abrupt change with very thin gritty/sandy layer above richly organic layer 7.5 YR 2/0. Preservation is much poorer that in bulk sample <4> however and visible macroplant remains were not present. Compression of the deposit and some intrusive material during the transition between the two 1metre core samples means this deposit is probably only c.30cm thick. Occasional snail shells present.
1.61-3.0		Heavy compression (c.50cm at top of core 2-3m), rest of the sample is a very consistent 5Y 3/1 clay. Occasional macroplant herbaceous and woody plant material. Possible brick fragment at 2.8m
3.0-3.54		Limited compression (23cm) at top of 3-4m tube. 3.23-3.54 very soft clay with frequent small angular stones 5Y 2/1.
3.54-3.60		Change to a clay sand
3.6-3.9		Very sandy 5Y 4/2-4/3
3.9-4.0		Sandy and gravelly material
4-4.23		Disturbed sample, might contain material collapsing from above. Clay layer between 4-4.23. Coarse sand
4.23-4.7		Very coarse sand.
4.8-4.9		Finer, grey sand
4.9-5		Coarse flint material and rounded stones

APPENDIX 3: FIGURES



wardell armstrong archaeology

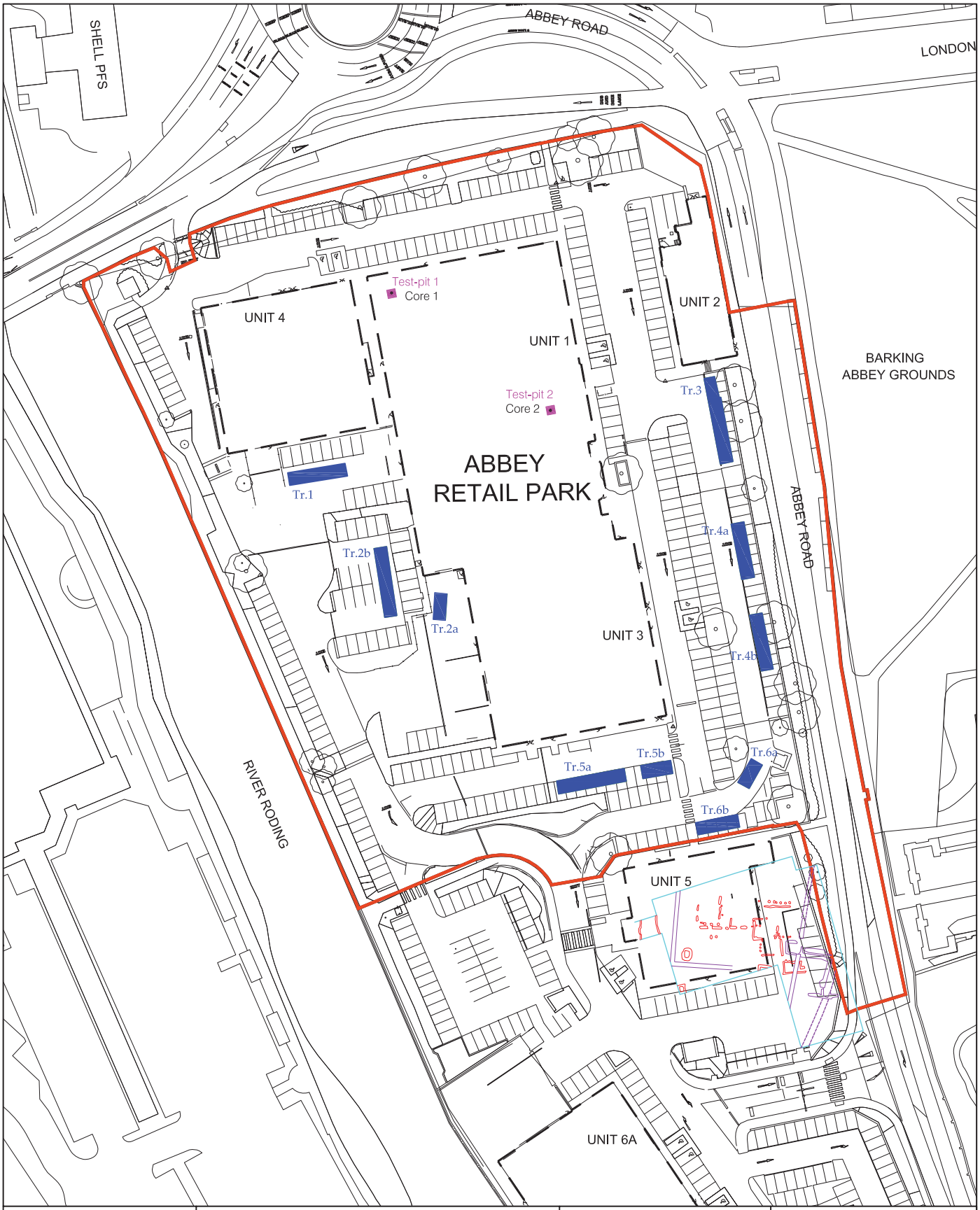
Wardell Armstrong Archaeology 2014

PROJECT:	Abbey Retail Park, Barking & Dagenham, London
SCALE:	1:25,000 at A4
REPORT No:	CP10721
CLIENT:	Estates and Agency Properties Ltd
DRAWN BY:	AB
DATE:	April 2014
FIGURE:	1

KEY:

Site location

Figure 1: Site location.



wardell armstrong archaeology

Wardell Armstrong Archaeology 2014

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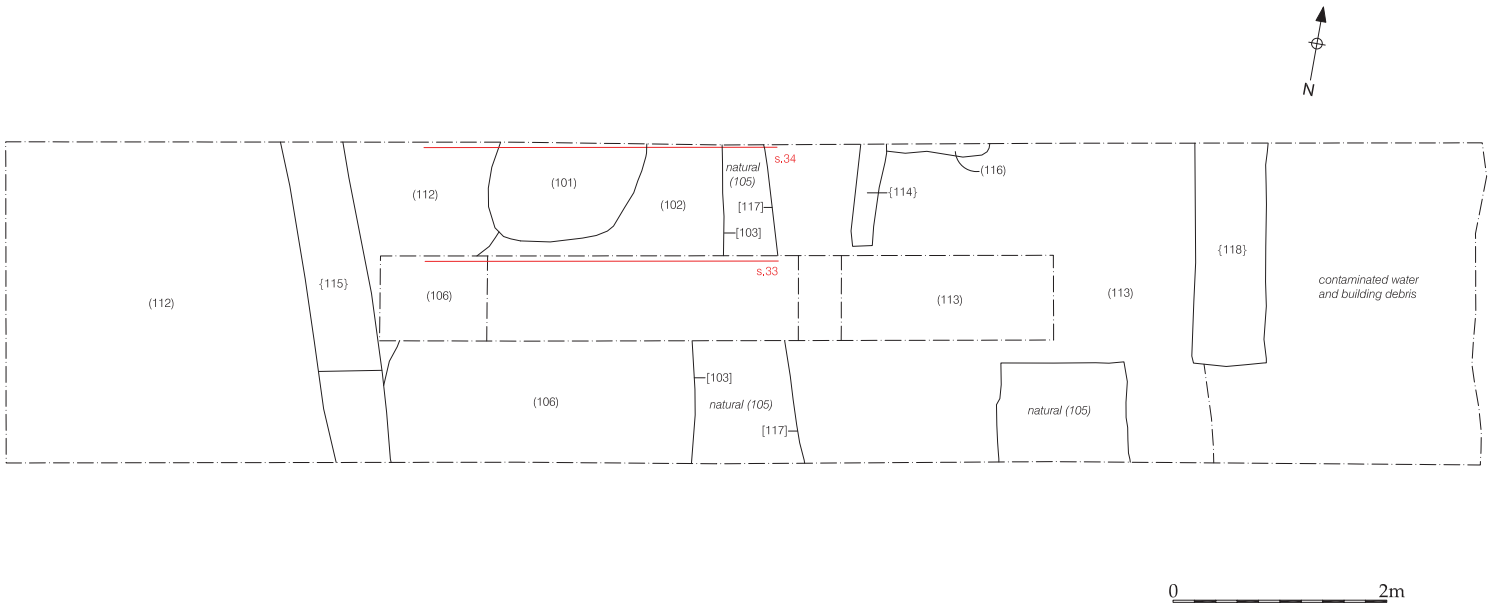
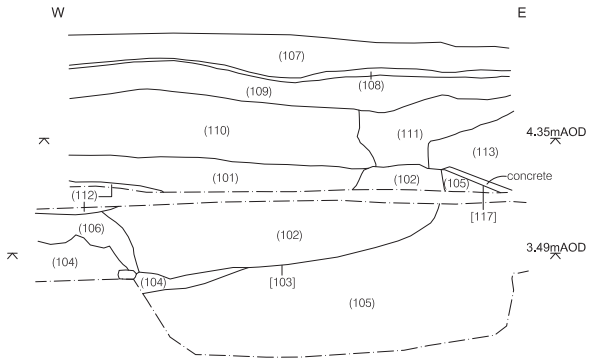
SCALE:	1:1,250 at A4
REPORT No:	CP10721
CLIENT:	Estates and Agency Properties Ltd
DRAWN BY:	AB
DATE:	April 2014
FIGURE:	2

KEY:

- Site boundary
- Evaluation trenches
- Previous archaeological excavation

Figure 2: Location of evaluation trenches.





Sections 33 (lower) & 34 (upper). South facing section, Trench 1.

0 2m

Figure 3: Trench 1, plan and sections.

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Wardell Armstrong Archaeology 2014

PROJECT:

Abbey Retail Park, Barking & Dagenham, London

CLIENT:

Estates and Agency Properties Ltd

SCALE: Plan 1:50/Sections 1:40 at A3

DRAWN BY: AB

DATE: April 2014

KEY:

Height mAOD
Section location
Limit of excavation

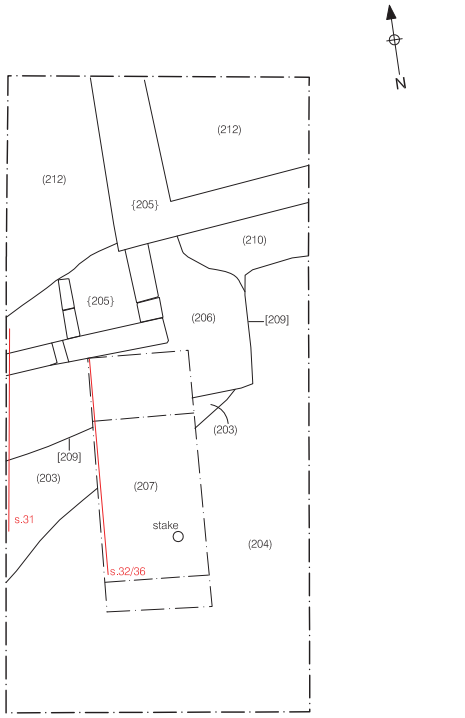
Context numbers:
(101) deposit/fill
[101] cut
{101} structure

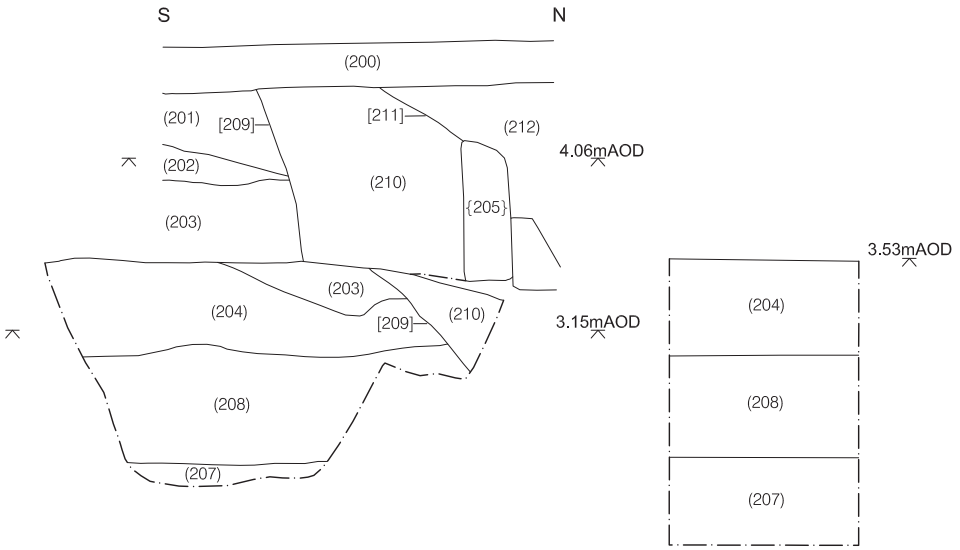
REPORT No:

CP10721

FIGURE:

3





Section 31 (upper) & 32 (lower). East facing section, Trench 2a.

Section 36. East facing section.

Wardell Armstrong Archaeology 2014

PROJECT:
Abbey Retail Park, Barking & Dagenham, London

CLIENT:
Estates and Agency Properties Ltd

SCALE: Plan 1:75/Sections 1:40 at A4

DRAWN BY: AB

DATE: April 2014

KEY:

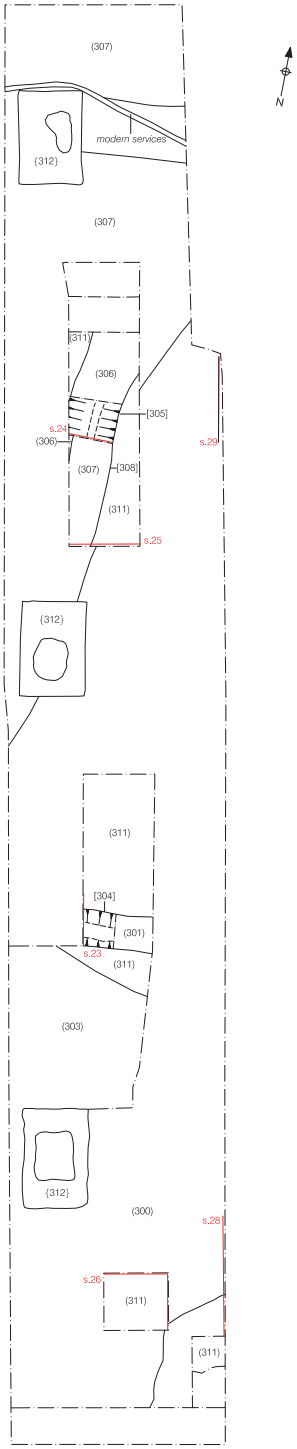
Height mAOD
Section location
Limit of excavation

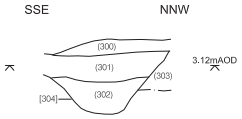
Context numbers:
(101) deposit/fill
[101] cut
{101} structure

REPORT No:
CP10721

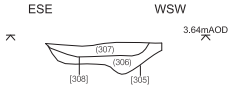
FIGURE:
4

Figure 4: Trench 2a, plan and sections.

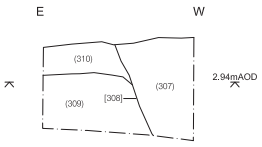




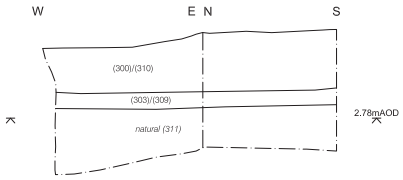
Section 23. Trench 3.



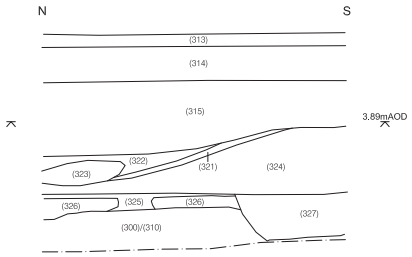
Section 24. Trench 3.



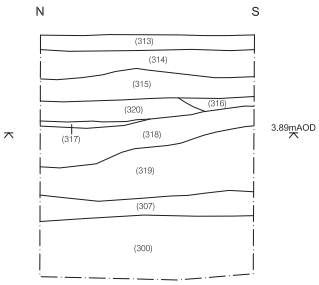
Section 25. Trench 3.



Section 26. Trench 3.



Section 28. Trench 3.



Section 29. Trench 3.

0 1m

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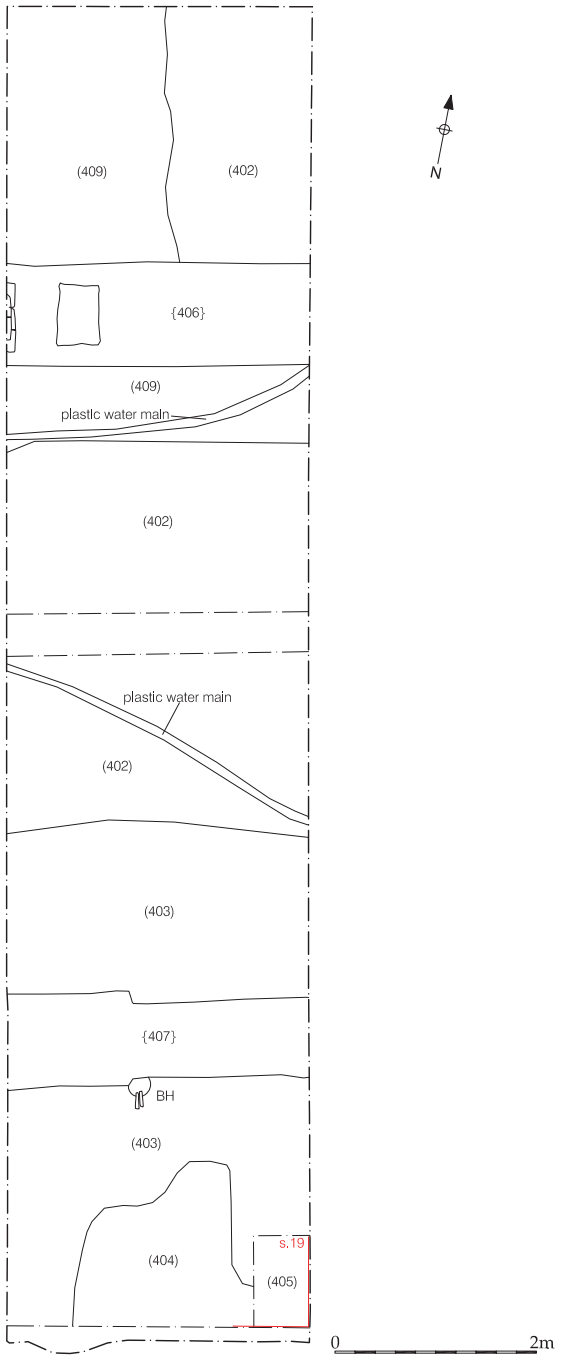
Wardell Armstrong Archaeology 2014

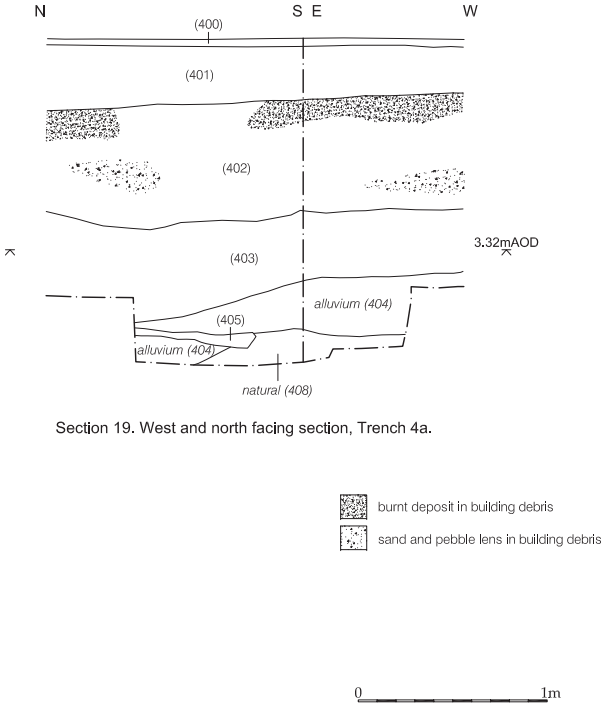
PROJECT:	Abbey Retail Park, Barking & Dagenham, London
SCALE:	Plan 1:75/Sections 1:30 at A3
REPORT No:	CP10721
CLIENT:	Estates and Agency Properties Ltd
DRAWN BY:	AB
DATE:	April 2014
FIGURE:	5

KEY:

		Context numbers:	
Height mAOD		(101)	deposit/fill
Section location		[101]	cut
Limit of excavation		{101}	structure

Figure 5: Trench 3, plan and sections.





Section 19. West and north facing section, Trench 4a.

Wardell Armstrong Archaeology 2014

PROJECT:

Abbey Retail Park, Barking & Dagenham, London

CLIENT:

Estates and Agency Properties Ltd

SCALE: Plan 1:75/Section 1:40 at A4

DRAWN BY: AB

DATE: April 2014

KEY:

Height mAOD
Section location
Limit of excavation

Context numbers:

(101) deposit/fill
[101] cut
{101} structure

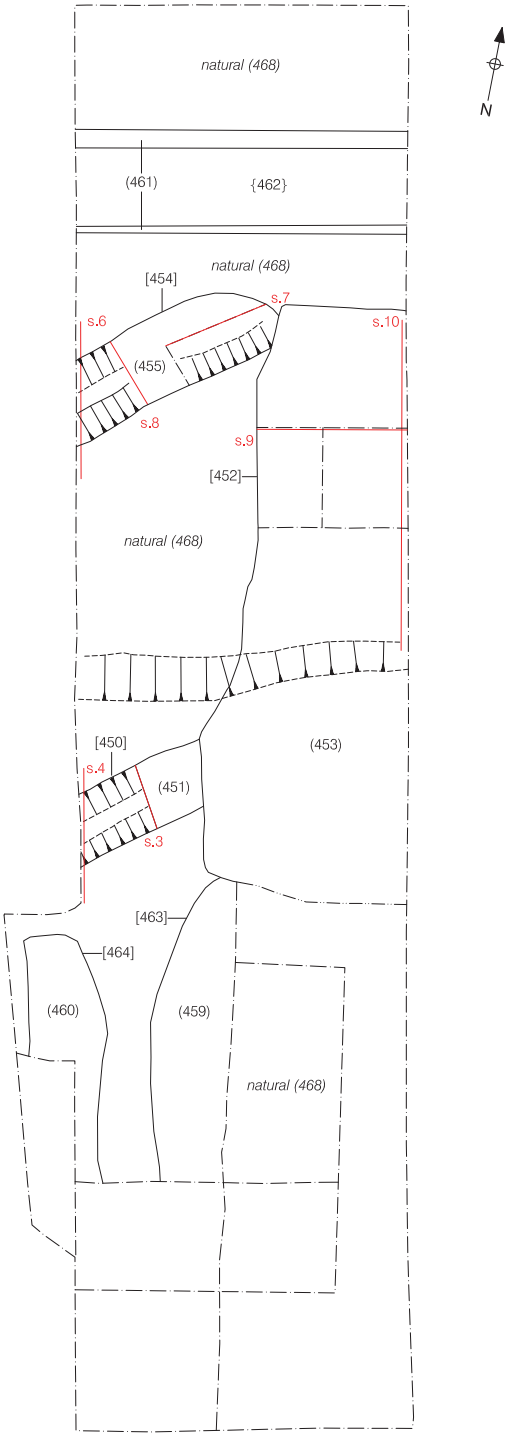
REPORT No:

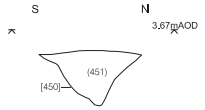
CP10721

FIGURE:

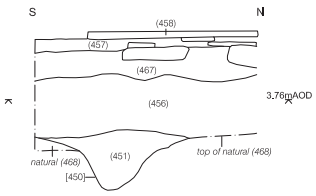
6

Figure 6: Trench 4a, plan and section.

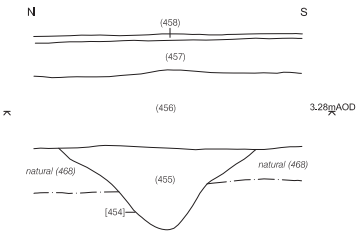




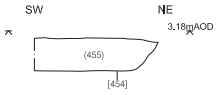
Section 3. East facing section, across ditch [450].



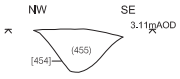
Section 4. East facing section, Trench 4b.



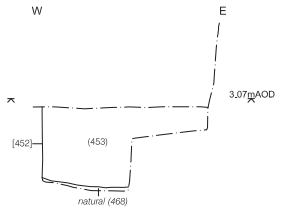
Section 6. East facing section, Trench 4b, across ditch [454].



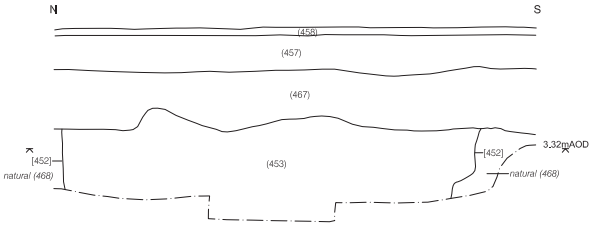
Section 7. South-east facing section across ditch [454].



Section 8. South-west facing section, across ditch [454].



Section 9. South facing section, Trench 4b.



Section 10. West facing section, Trench 4b.

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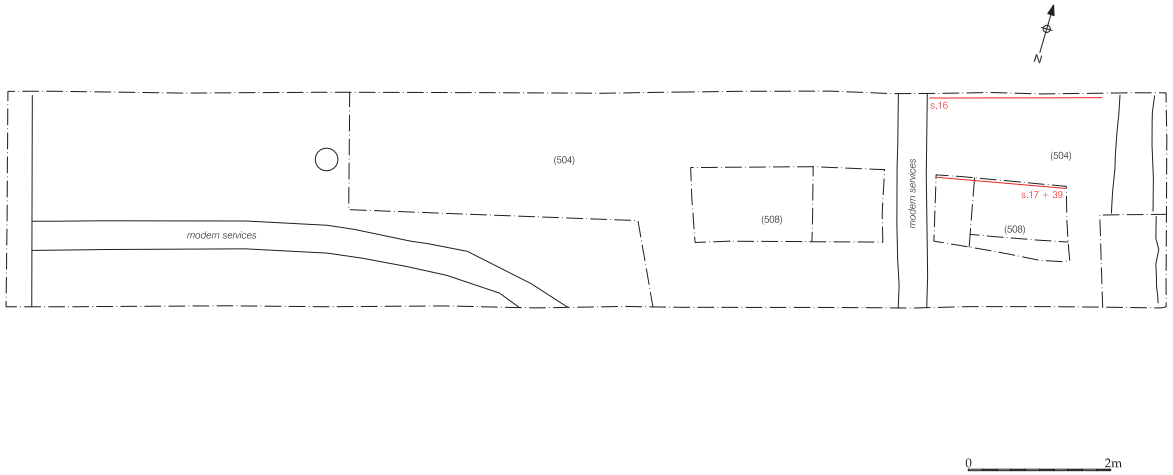
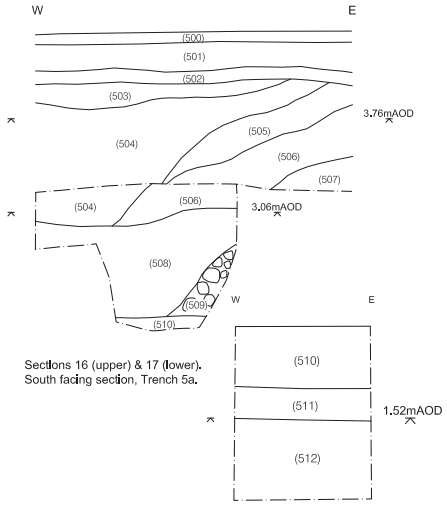
PROJECT:	Abbey Retail Park, Barking & Dagenham, London
SCALE:	Plan 1:50/Sections 1:40 at A3
REPORT No:	CP10721
CLIENT:	Estates and Agency Properties Ltd
DRAWN BY:	AB
DATE:	April 2014
FIGURE:	7

KEY:

		Context numbers:	
Height mAOD		(101)	deposit/fill
Section location		[101]	cut
Limit of excavation		{101}	structure

Figure 7: Trench 4b, plan and sections.





Sections 16 (upper) & 17 (lower).
South facing section, Trench 5a.

Section 39. South facing section.

0 2m

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Archaeology
2014

PROJECT:

Abbey Retail Park,
Barking & Dagenham, London

CLIENT:

Estates and Agency
Properties Ltd

SCALE: Plan 1:75/Sections 1:40 at A3

DRAWN BY: AB

DATE: April 2014

KEY:

Height mAOD
Section location
Limit of excavation

Context numbers:
(101) deposit/fill
[101] cut
{101} structure

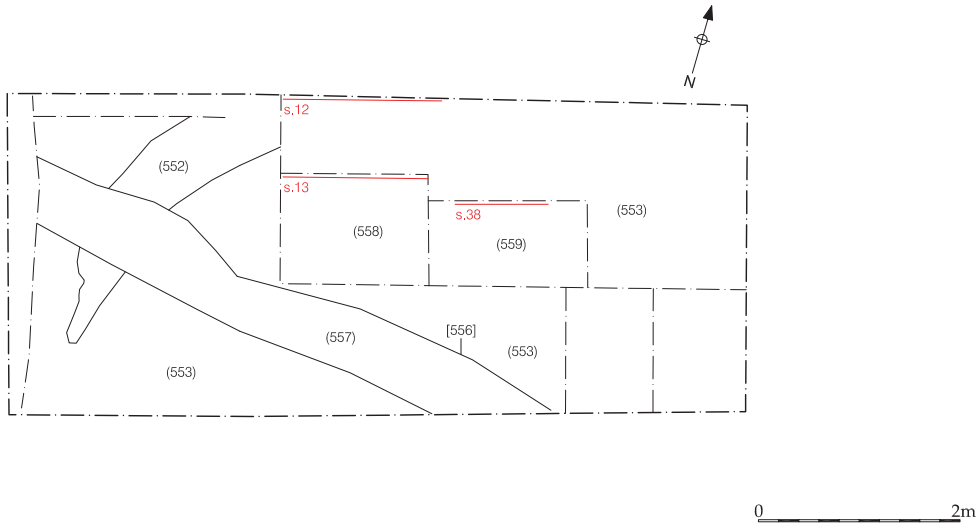
REPORT No:

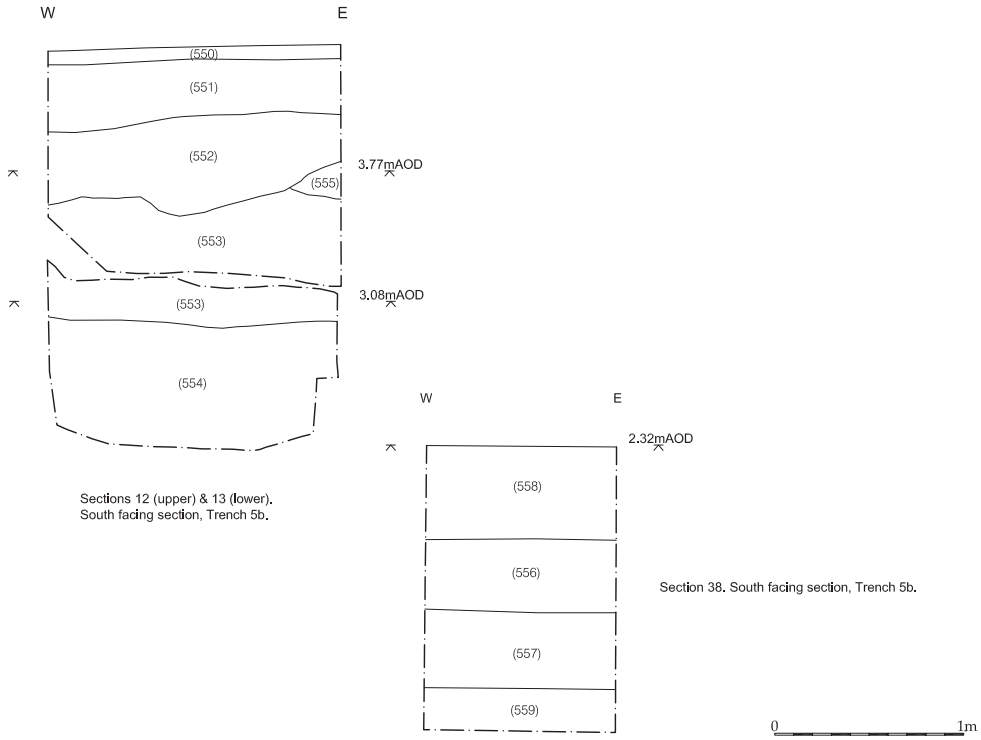
CP10721

FIGURE:

8

Figure 8: Trench 5a, plan and sections.





Sections 12 (upper) & 13 (lower).
South facing section, Trench 5b.

Section 38. South facing section, Trench 5b.

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PROJECT:
Abbey Retail Park, Barking & Dagenham, London

CLIENT:
Estates and Agency Properties Ltd

SCALE: Plan 1:75/Sections 1:40 at A4

DRAWN BY: AB

DATE: April 2014

KEY:

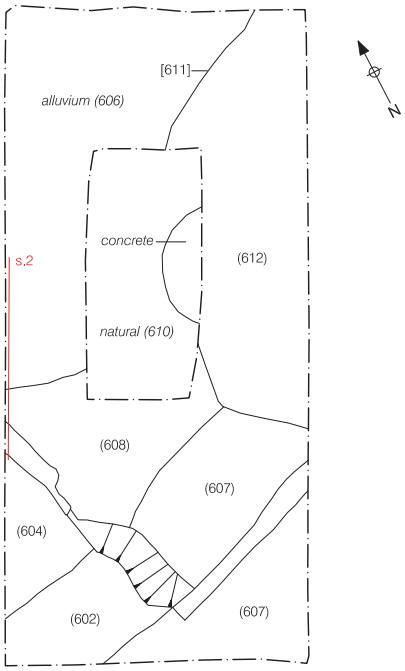
Height mAOD
Section location
Limit of excavation

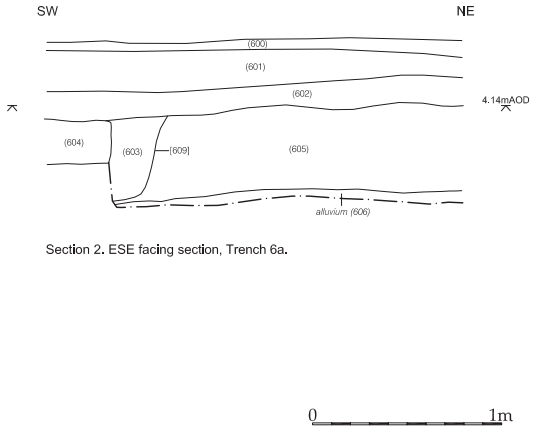
Context numbers:
(101) deposit/fill
[101] cut
{101} structure

REPORT No:
CP10721

FIGURE:
9

Figure 9: Trench 5b, plan and sections.





Section 2. ESE facing section, Trench 6a.

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Archaeology
2014

PROJECT:

Abbey Retail Park,
Barking & Dagenham, London

CLIENT:

Estates and Agency
Properties Ltd

SCALE: Plan 1:75/Section 1:40 at A4

DRAWN BY: AB

DATE: April 2014

KEY:

Height mAOD
Section location
Limit of excavation

Context numbers:

{101} deposit/fill
[101] cut
{101} structure

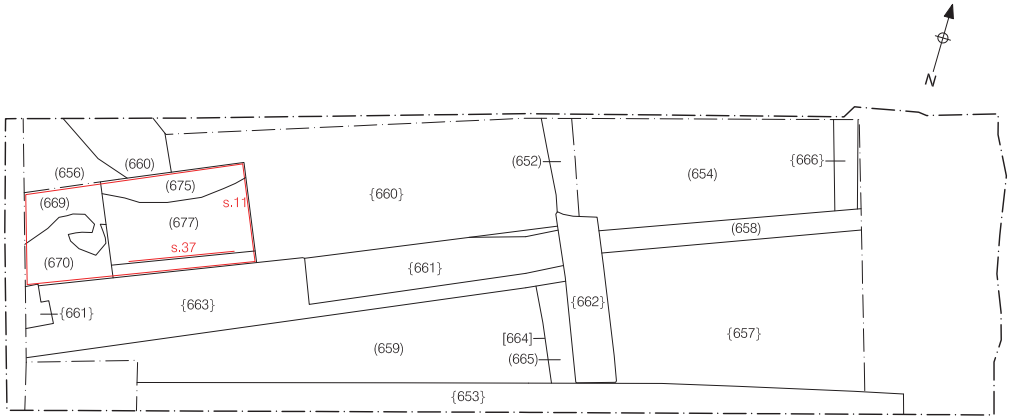
REPORT No:

CP10721

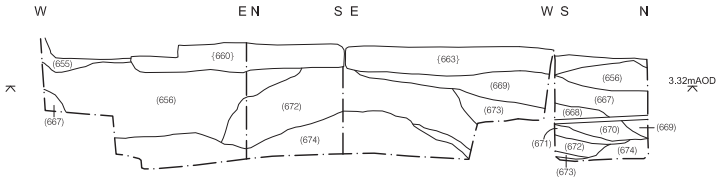
FIGURE:

10

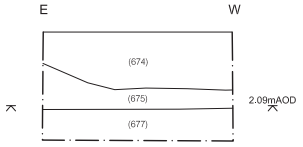
Figure 10: Trench 6a, plan and section.



0 2m



Section 11. Box section, Trench 6b.



Section 37. North facing section, Trench 6b.

0 1m

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PROJECT:

Abbey Retail Park, Barking & Dagenham, London

CLIENT:

Estates and Agency Properties Ltd

SCALE: Plan 1:75/Sections 1:40 at A4

DRAWN BY: AB

DATE: April 2014

KEY:

Height mAOD
Section location
Limit of excavation

Context numbers:

(101) deposit/fill
[101] cut
{101} structure

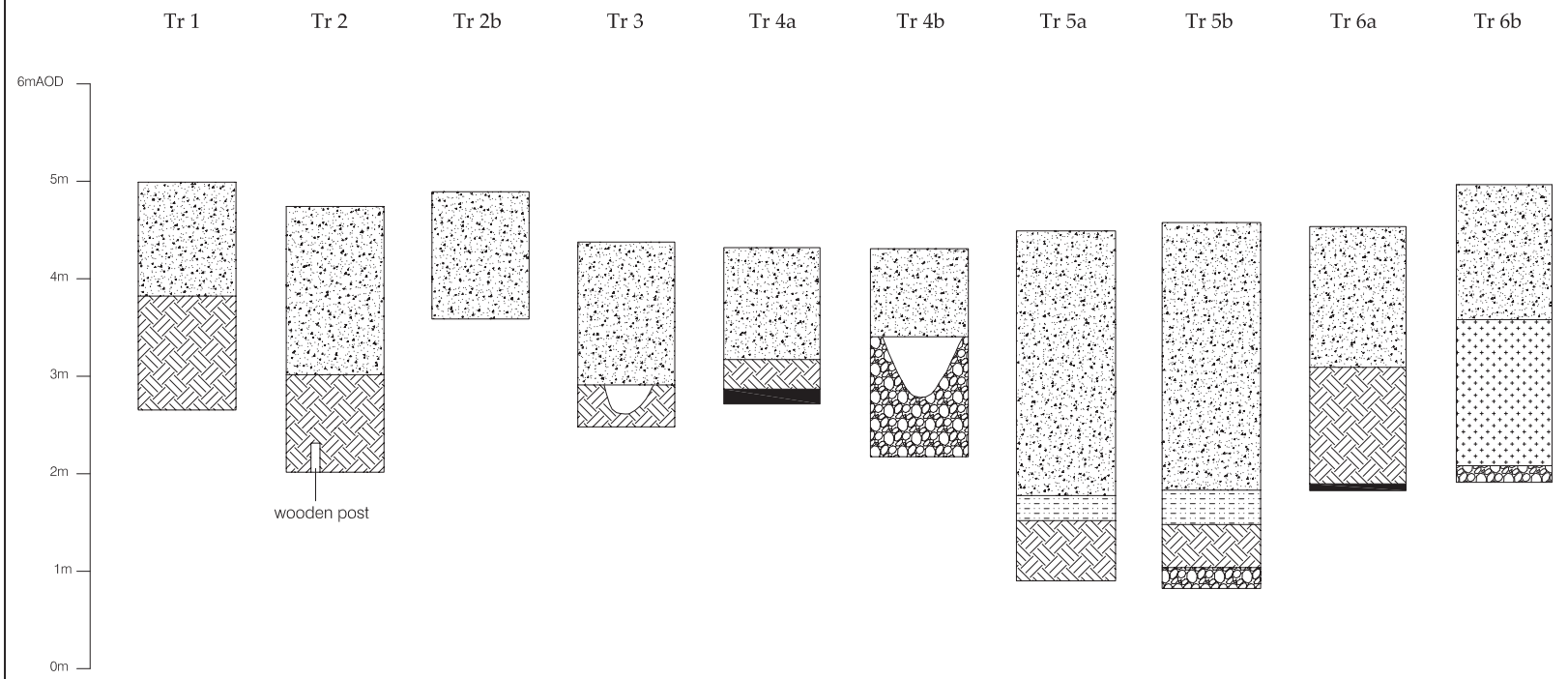
REPORT No:

CP10721

FIGURE:

11

Figure 11: Trench 6b, plan and sections.



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Archaeology
2014

PROJECT:

Abbey Retail Park,
Barking & Dagenham, London

CLIENT:

Estates and Agency
Properties Ltd

SCALE: 1:75 at A4

DRAWN BY: AB

DATE: April 2014

KEY:

- Modern
- Post-medieval
- Organic layers
- Archaeological features
- Alluvial deposits
- Gravels
- Solid geology

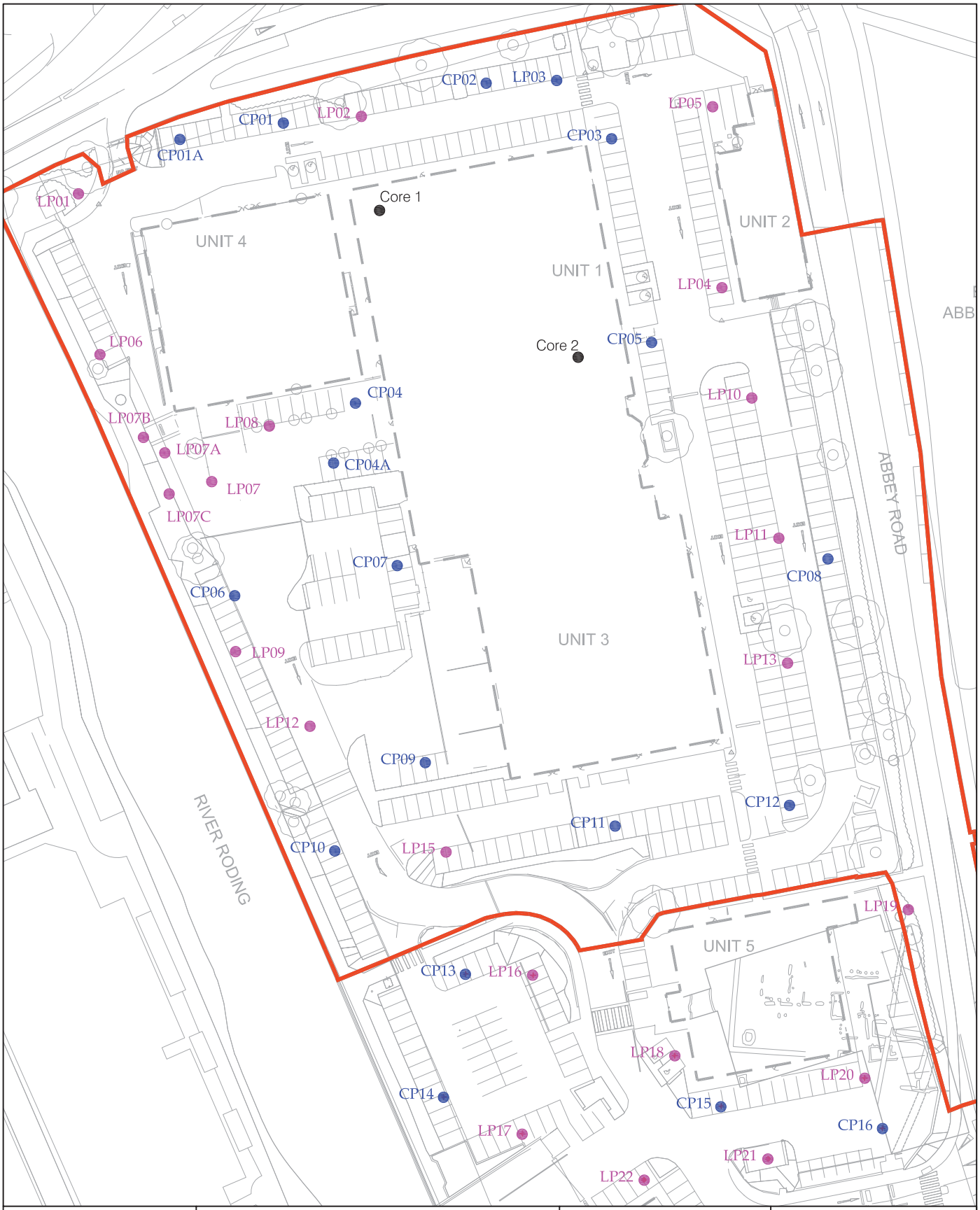
REPORT No:

CP10721

FIGURE:

12

Figure 12: Deposit model representing levels of activity throughout the evaluation area.



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PROJECT:	Abbey Retail Park, Barking & Dagenham, London
SCALE:	1:1,000 at A4
REPORT No:	CP10721
CLIENT:	Estates and Agency Properties Ltd
DRAWN BY:	AB
DATE:	May 2014
FIGURE:	13

KEY:

- Site boundary
- Cores
- Boreholes

Figure 13: Core and borehole location plan.

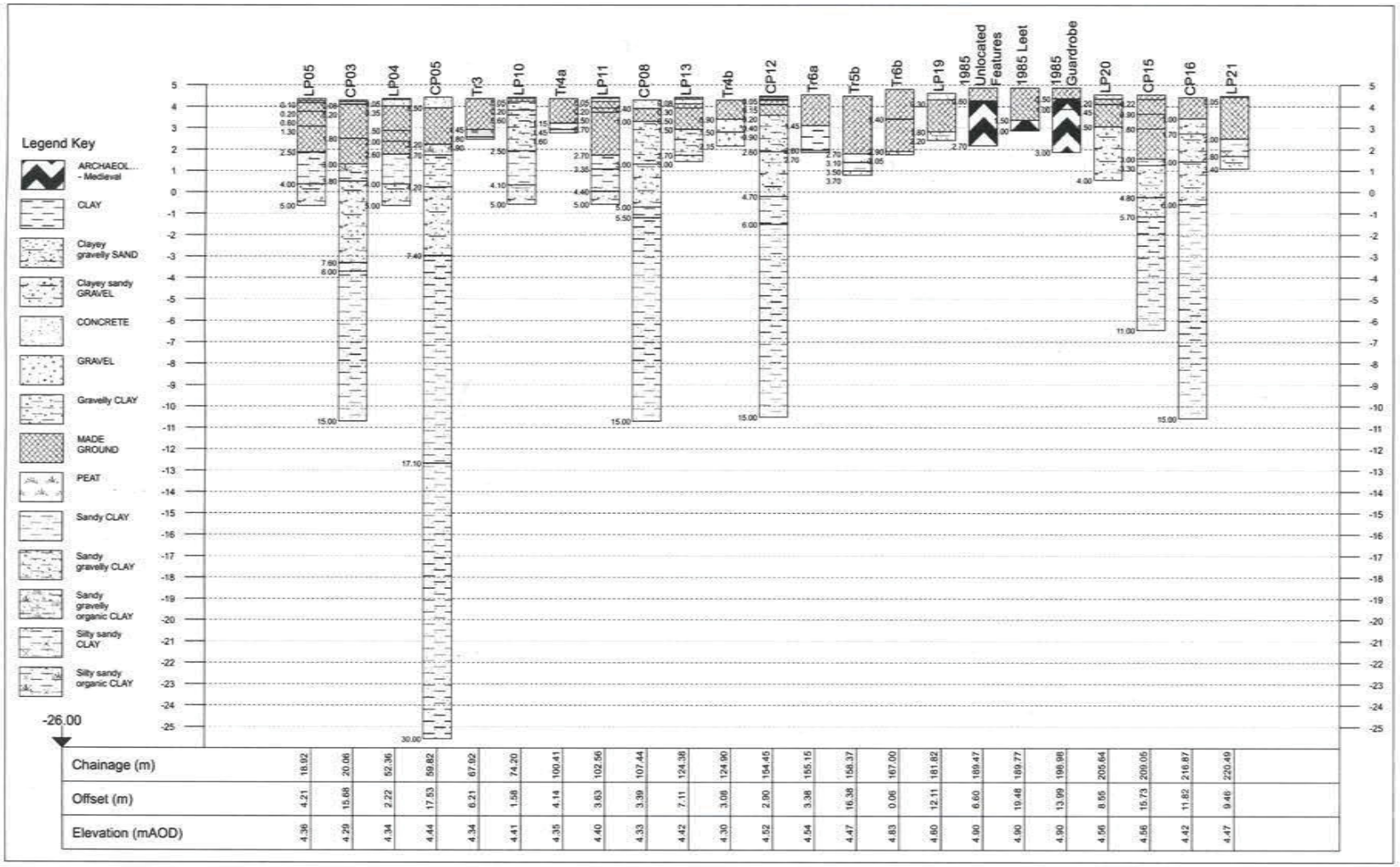

Figure 14: Deposit model; Transect 1.

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PROJECT:

Abbey Retail Park, Barking & Dagenham, London

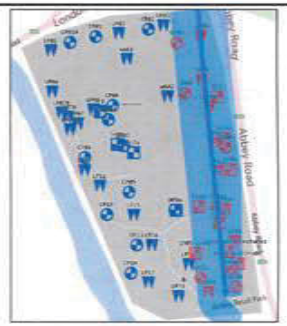
CLIENT:

Estates and Agency Properties Ltd

SCALE: Vertical 1:300
Horizontal 1:1,350 at A4

DRAWN BY: ND/AB

DATE: June 2014



REPORT No:

CP10721

FIGURE:

14

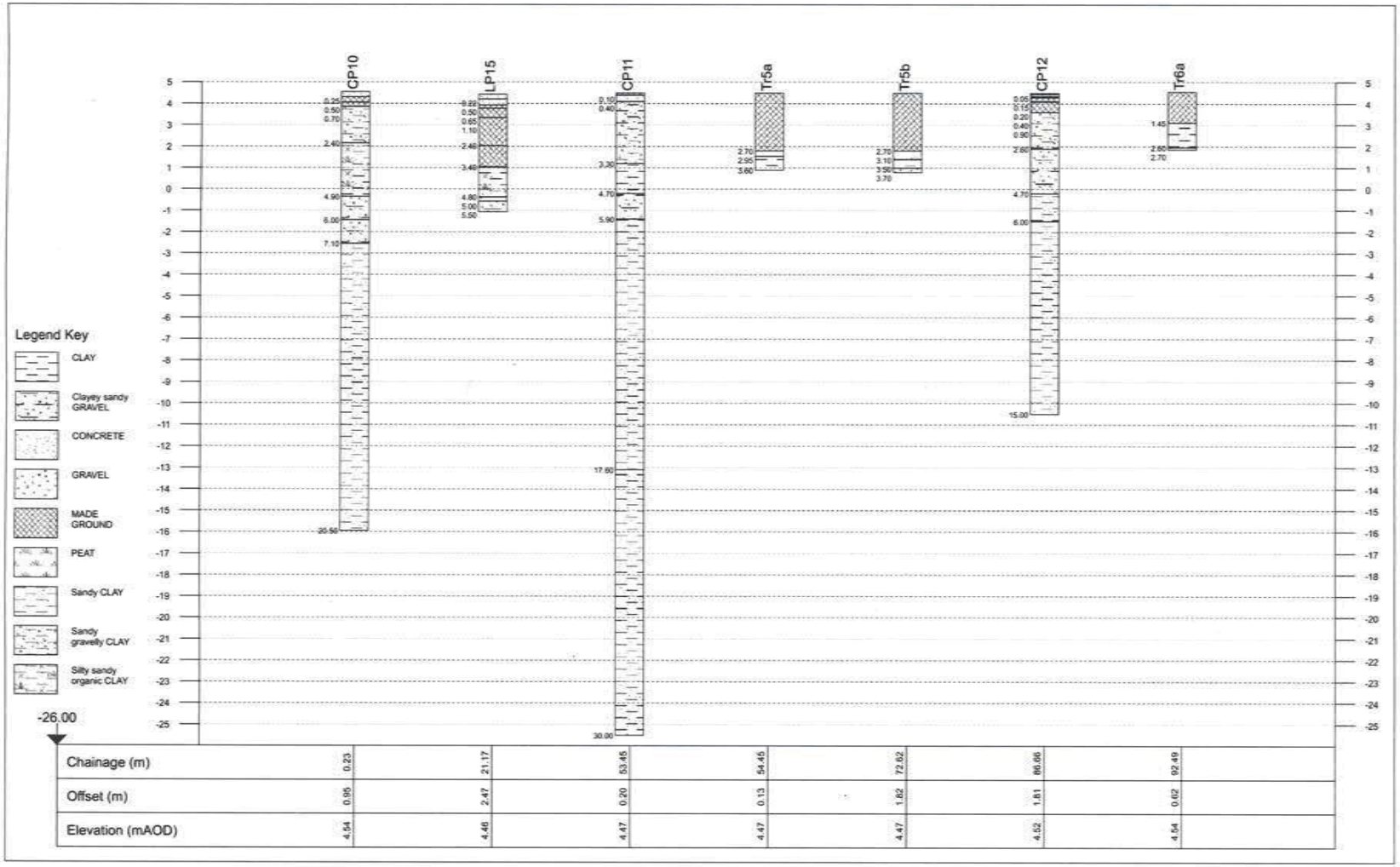


Figure 15: Deposit model; Transect 2.

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PROJECT:

Abbey Retail Park, Barking & Dagenham, London

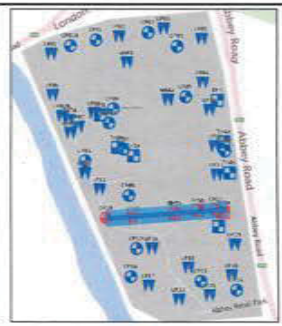
CLIENT:

Estates and Agency Properties Ltd

SCALE: Vertical 1:300
Horizontal 1:1,350 at A4

DRAWN BY: ND/AB

DATE: June 2014



REPORT No:

CP10721

FIGURE:

15

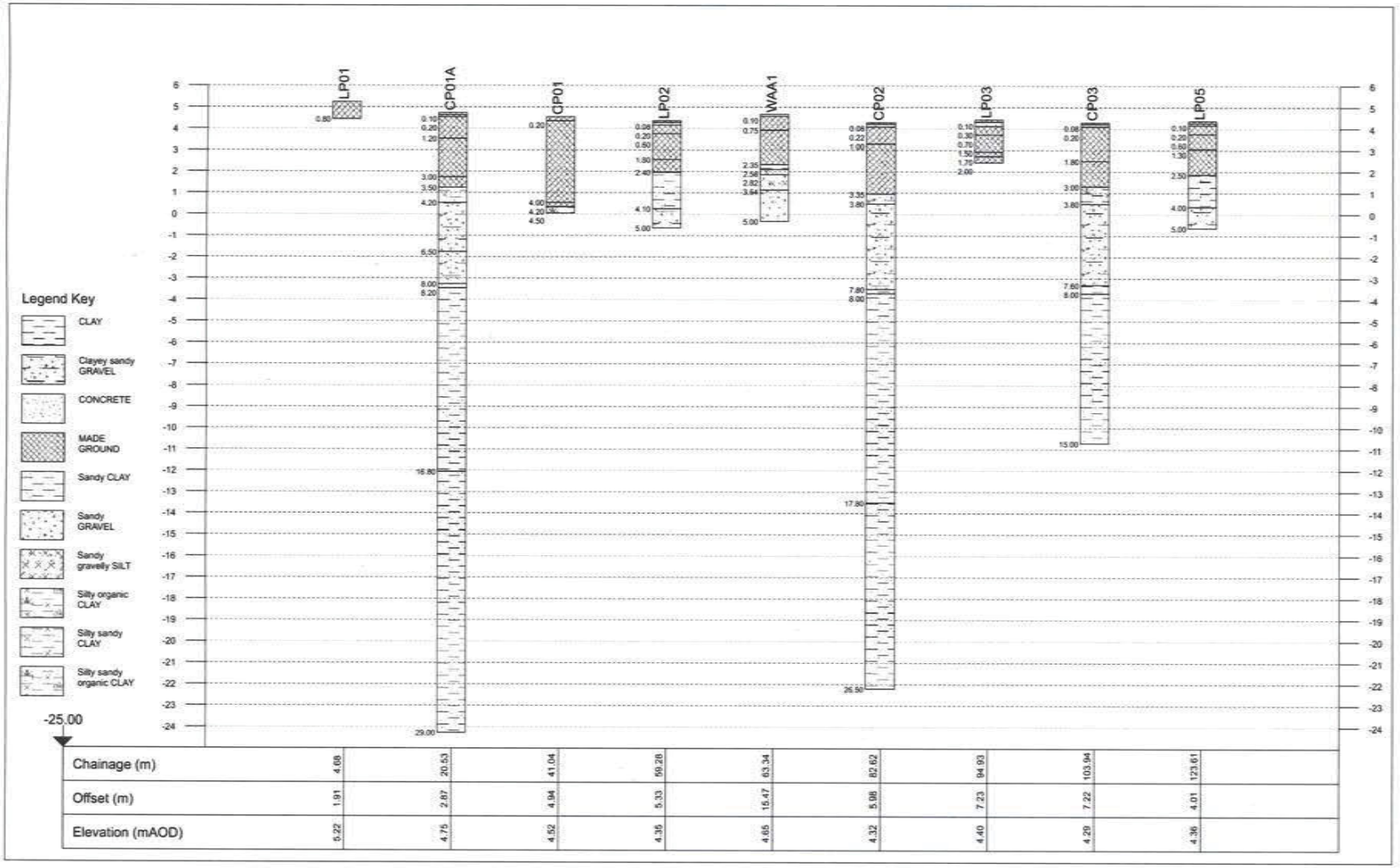


Figure 16: Deposit model; Transect 3.

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Wardell Armstrong Archaeology 2014

PROJECT:
Abbey Retail Park, Barking & Dagenham, London

CLIENT:
Estates and Agency Properties Ltd

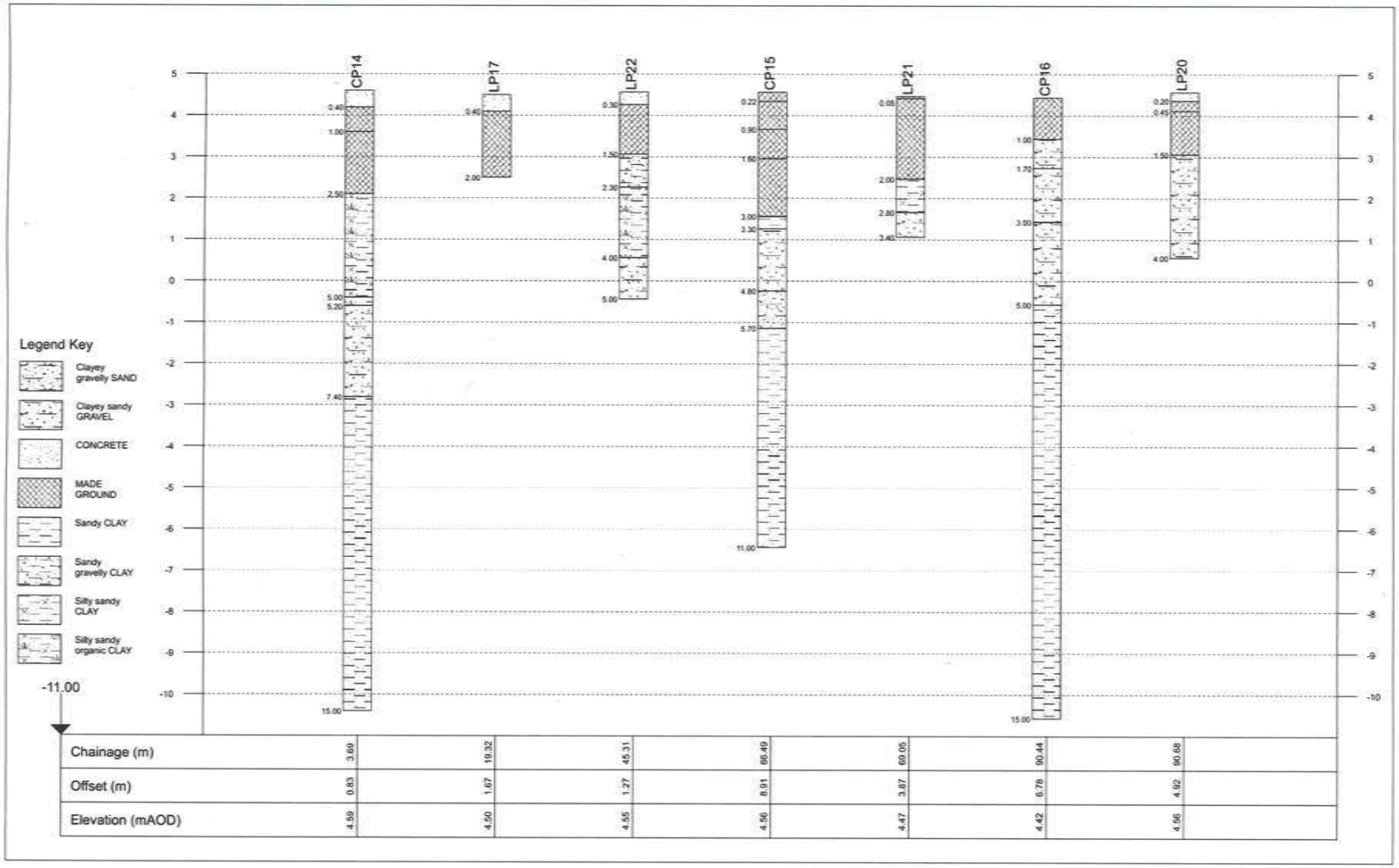
SCALE: Vertical 1:300
Horizontal 1:1,350 at A4

DRAWN BY: ND/AB

DATE: June 2014

REPORT No:
CP10721

FIGURE:
16



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Wardell Armstrong Archaeology 2014

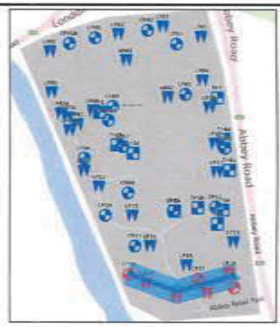
PROJECT:
Abbey Retail Park, Barking & Dagenham, London

CLIENT:
Estates and Agency Properties Ltd

SCALE: Vertical 1:300
Horizontal 1:1,350 at A4

DRAWN BY: ND/AB

DATE: June 2014



REPORT No:
CP10721

FIGURE:
17

Figure 17: Deposit model; Transect 4.

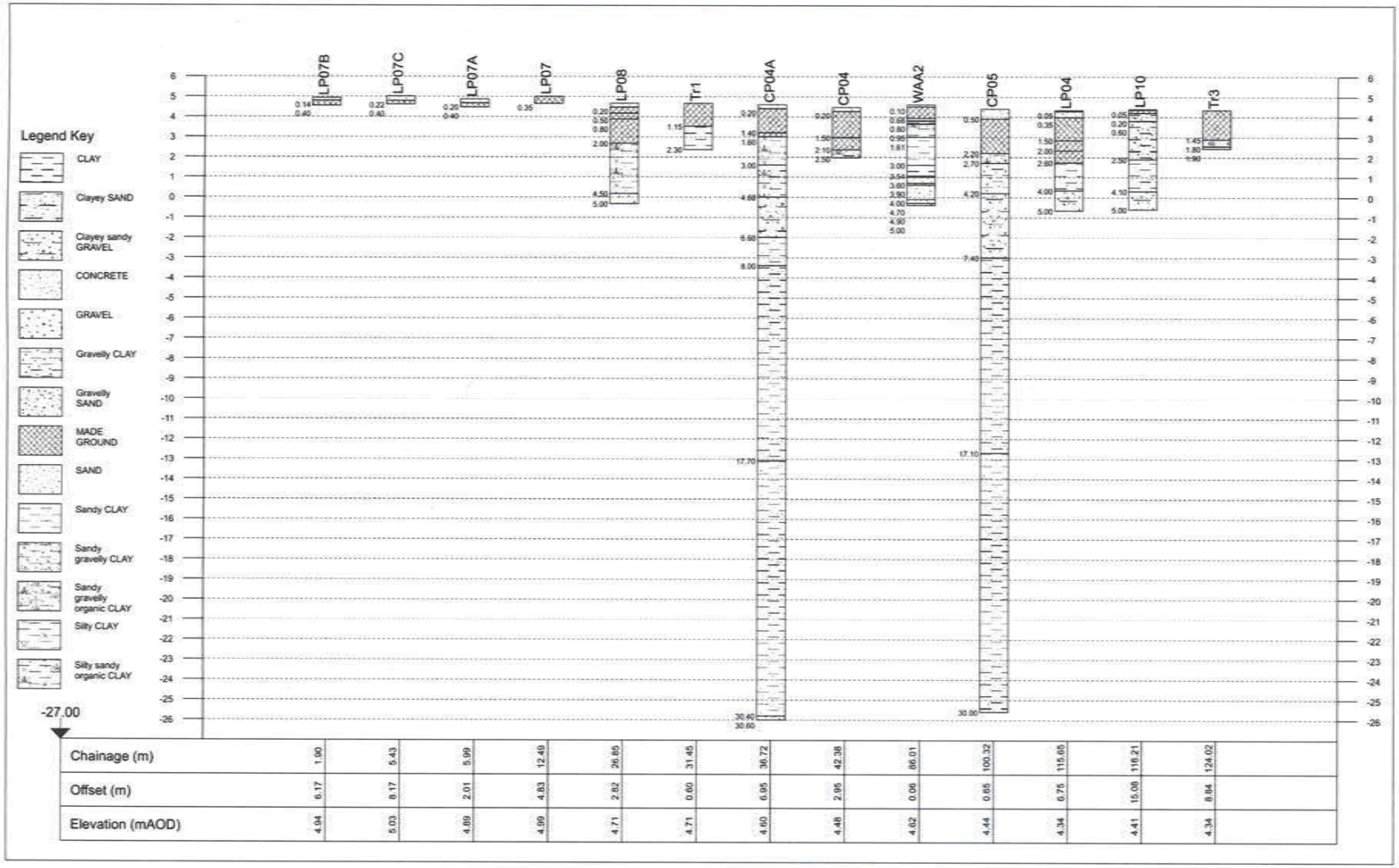


Figure 18: Deposit model; Transect 5.

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PROJECT:

Abbey Retail Park, Barking & Dagenham, London

CLIENT:

Estates and Agency Properties Ltd

SCALE: Vertical 1:300
Horizontal 1:1,350 at A4

DRAWN BY: ND/AB

DATE: June 2014

REPORT No:

CP10721

FIGURE:

18

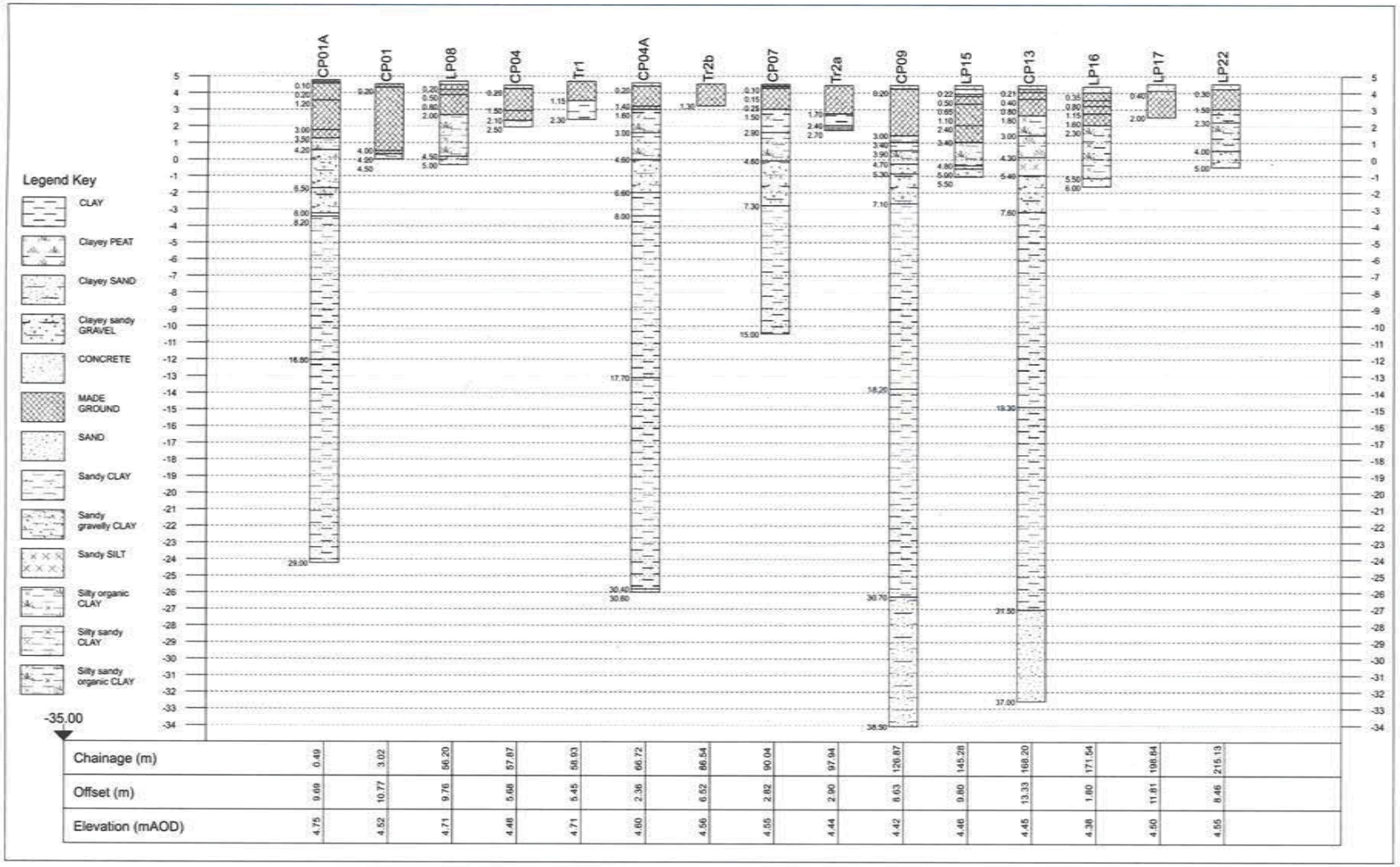

Figure 19: Deposit model; Transect 6.

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PROJECT:

Abbey Retail Park, Barking & Dagenham, London

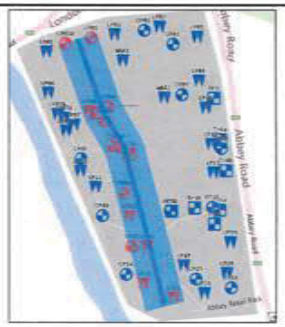
CLIENT:

Estates and Agency Properties Ltd

SCALE: Vertical 1:300
Horizontal 1:1,350 at A4

DRAWN BY: ND/AB

DATE: June 2014

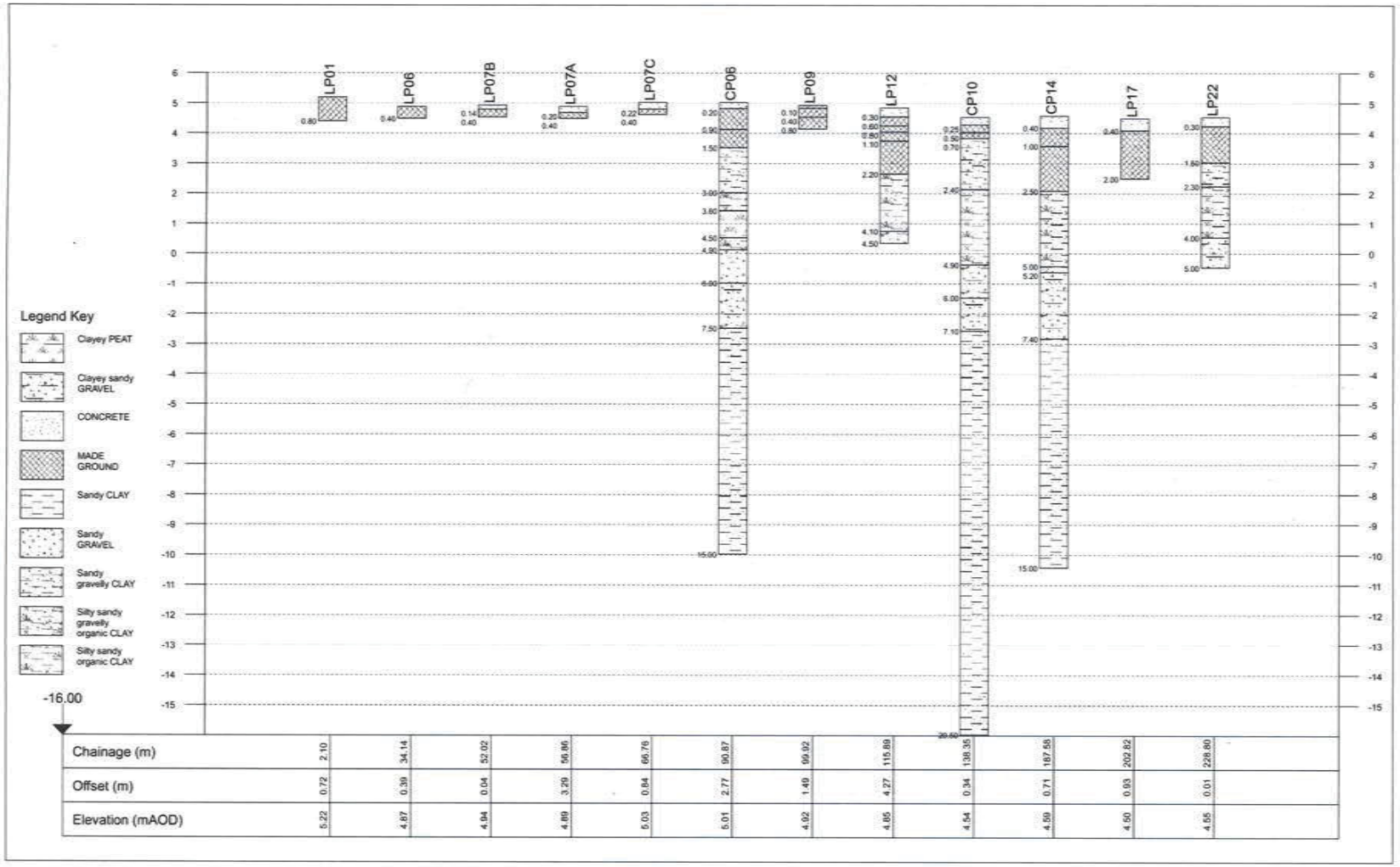


REPORT No:

CP10721

FIGURE:

19



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Wardell Armstrong Archaeology 2014

PROJECT:

Abbey Retail Park, Barking & Dagenham, London

CLIENT:

Estates and Agency Properties Ltd

SCALE: Vertical 1:300
Horizontal 1:1,350 at A4

DRAWN BY: ND/AB

DATE: June 2014

REPORT No:

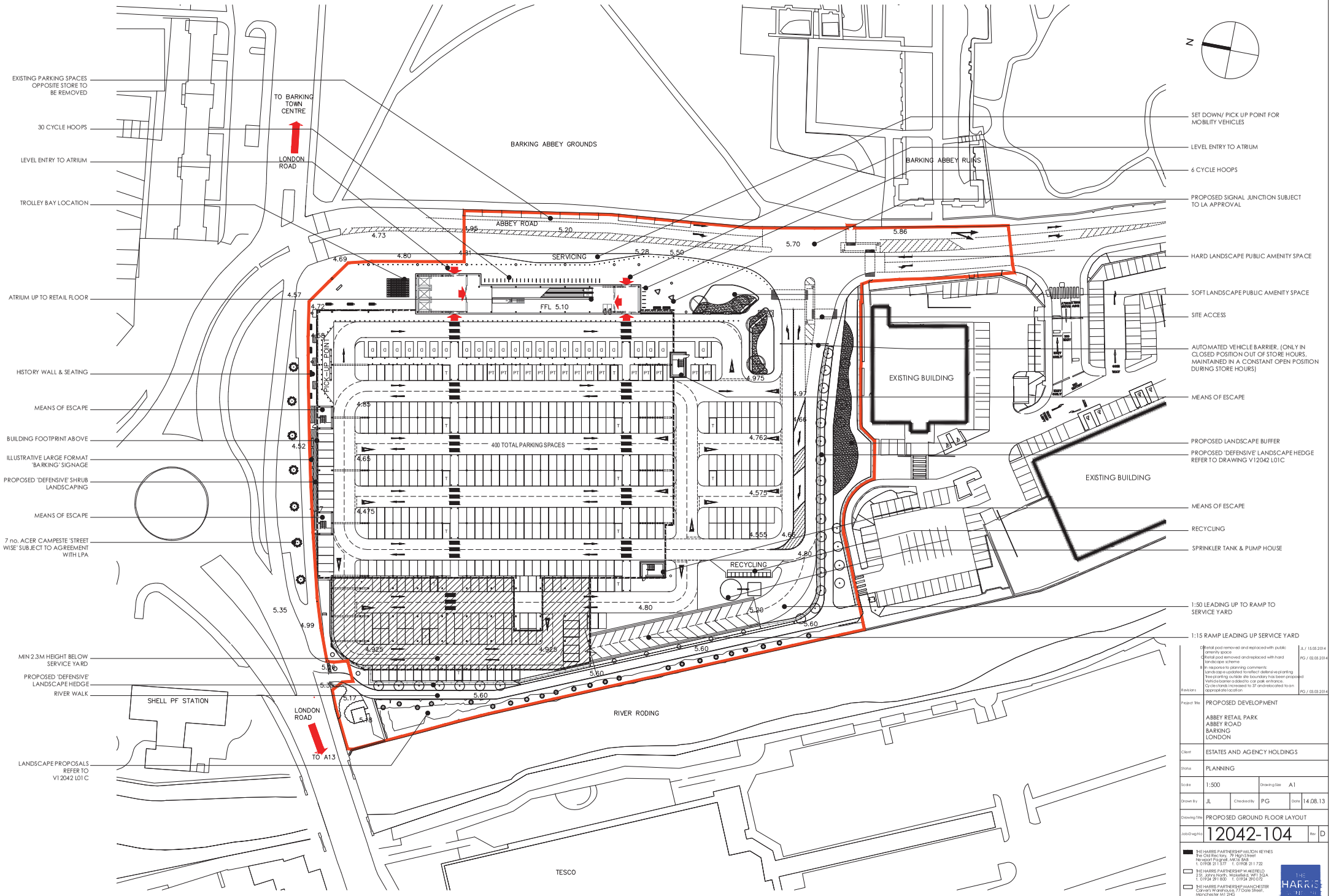
CP10721

FIGURE:

20

Figure 20: Deposit model; Transect 7.

APPENDIX 4: PROPOSED DEVELOPMENT PLANS



Revisions	
D	Retail pod removed and replaced with public amenity space — JL / 15.05.2014
C	Retail pod removed and replaced with hard landscape scheme — PG / 02.05.2014
B	In response to planning comments: Landscape updated to reflect defensive planting. Tree planting outside site boundary has been proposed. Vehicle barrier added to car park entrance. Cycle stands increased to 37 and relocated to an appropriate location — PG / 03.03.2014

Project Title	PROPOSED DEVELOPMENT ABBEY RETAIL PARK ABBEY ROAD BARKING LONDON
Client	ESTATES AND AGENCY HOLDINGS
Status	PLANNING
Scale	1:500 — Drawing Size A1
Drawn By	JL — Checked By PG — Date 14.08.13
Drawing Title	PROPOSED GROUND FLOOR LAYOUT
Job/Dwg No	12042-104 — Rev D

THE HARRIS PARTNERSHIP MILTON KEYNES
The Old Rectory, 79 High Street
Newport Pagnell, MK16 8AB
t. 01908 211 577 f. 01908 211 722

THE HARRIS PARTNERSHIP WAKEFIELD
2 St. Johns North, Wakefield, WF1 3QA
t. 01924 291 800 f. 01924 291 072

THE HARRIS PARTNERSHIP MANCHESTER
Carver's Warehouse, 77 Dale Street,
Manchester M1 2HG
t. 0161 238 8555 f. 0161 244 5809

THE HARRIS PARTNERSHIP READING
101 London Road, Reading, RG1 5BY
t. 0118 930 7700 f. 0118 936 8642

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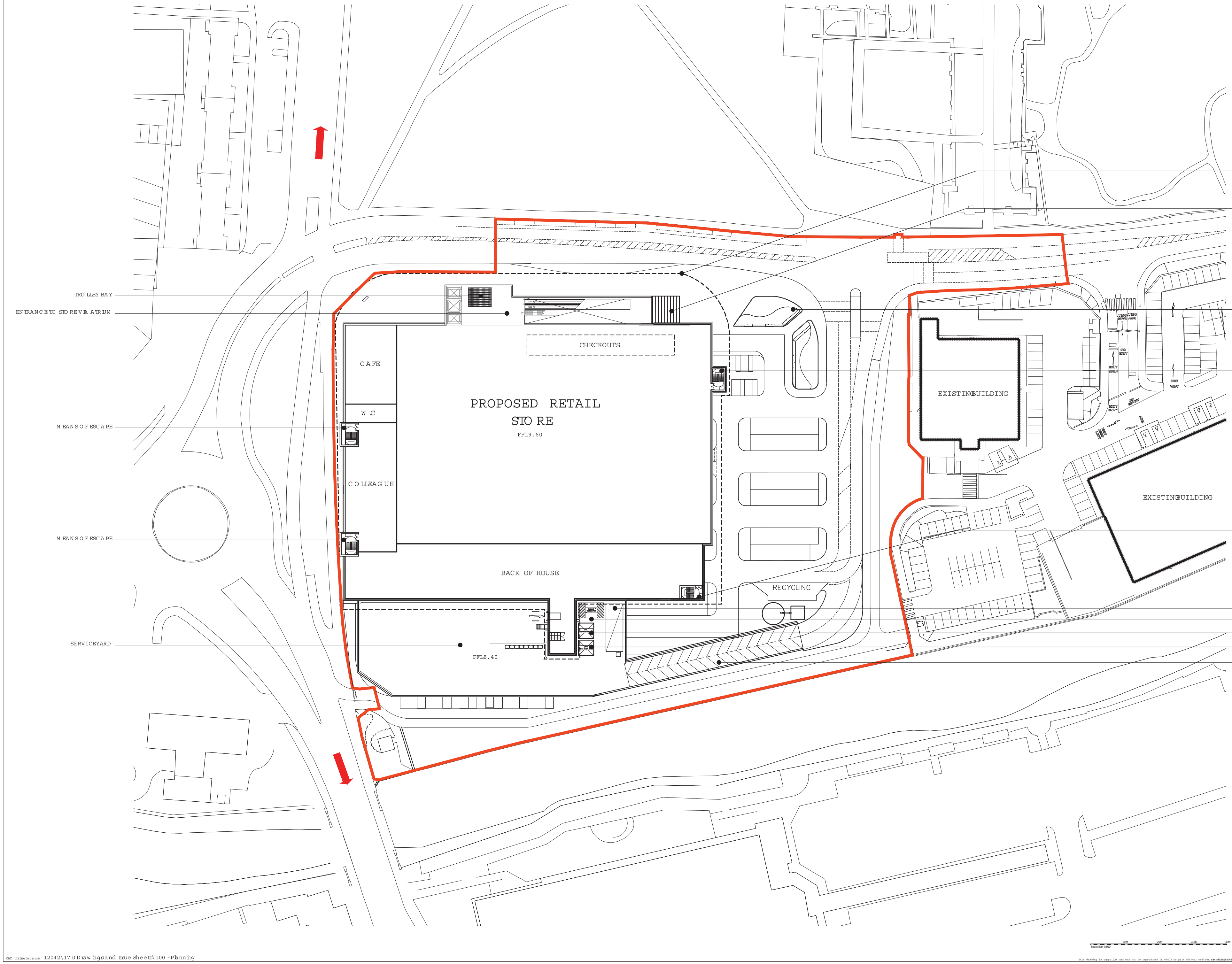
CAD file reference 12042\17.0 Drawings and Issue Sheets\100 - Planning



Revisions		
D	Retail pod removed and replaced with public amenity space	JL / 16.05.2014
C	Retail pod removed and replaced with hard landscape scheme	PG / 02.05.2014
B	Landscape removed from plan and shown more appropriately on the ground floorplan 12042/104 Rev B	PG / 03.03.2014

Project Title	PROPOSED DEVELOPMENT ABBEY RETAIL PARK ABBEY ROAD BARKING LONDON		
Client	ESTATES AND AGENCY HOLDINGS		
Status	PLANNING		
Scale	1:500	Drawing Size	A1
Drawn By	JL	Checked By	PG
Date	14/08/13		
Drawing Title	PROPOSED RETAIL FLOOR LAYOUT		
Job-Dwg No	12042-105	Rev	D

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The Old Rectory, 79 High Street
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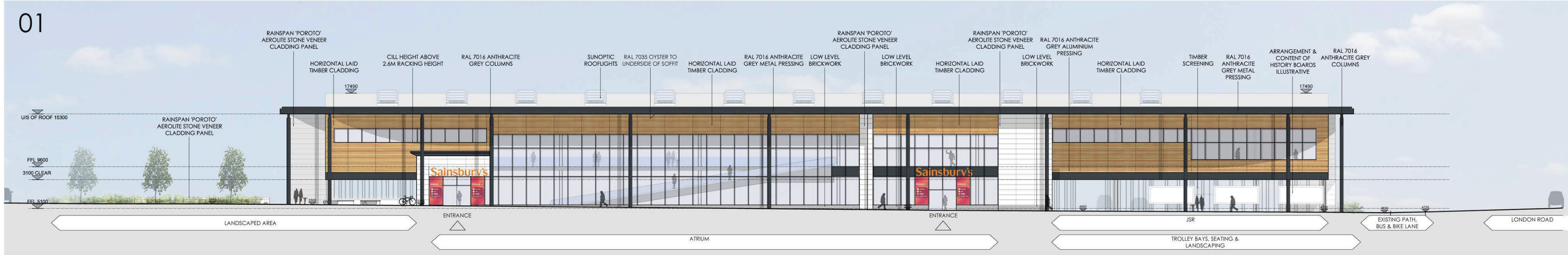
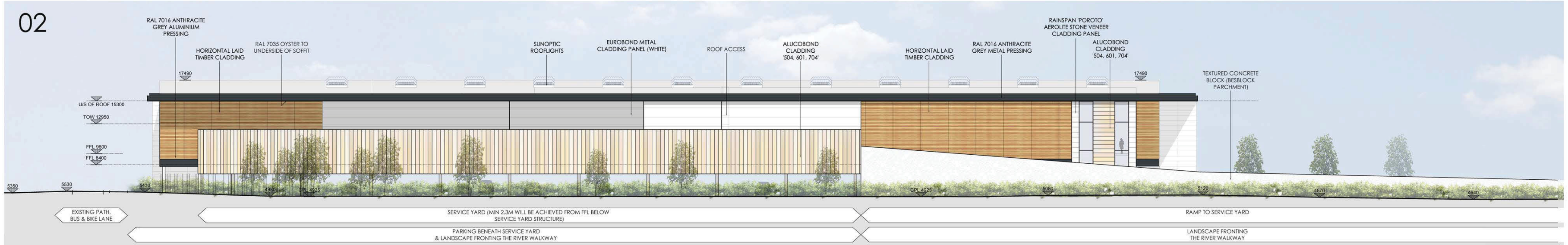
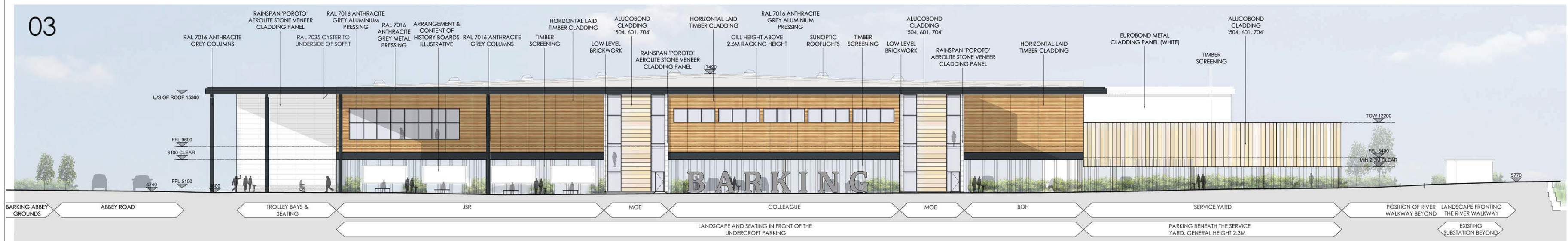


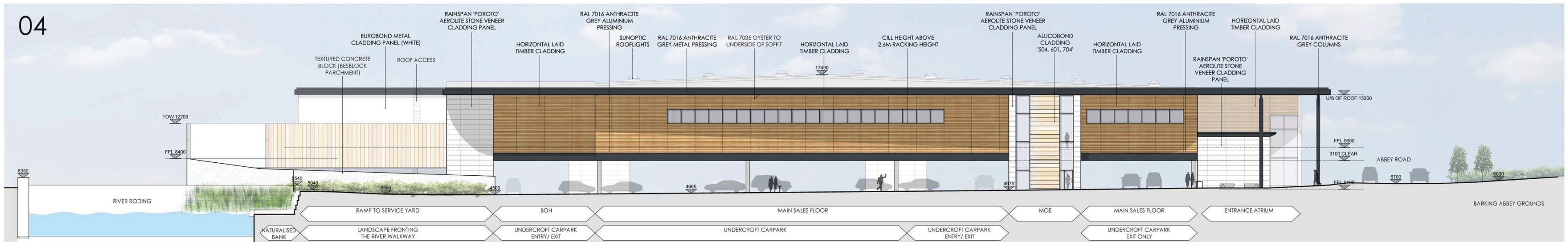
EAST ELEVATION - MAIN SHOP FRONT FACING ABBEY ROAD



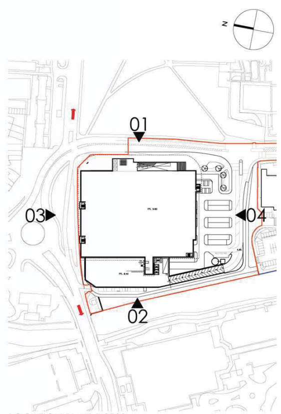
WEST ELEVATION - REAR ELEVATION FACING RIVER RODING



NORTH ELEVATION - FACING LONDON ROAD ROUNDABOUT



SOUTH ELEVATION - FACING STORE ACCESS ROAD



LOCATION PLAN 1:2500

Project Title	PROPOSED DEVELOPMENT ABBEY RETAIL PARK ABBEY ROAD BARKING LONDON
Client	ESTATES AND AGENCY HOLDINGS
Status	PLANNING
Scale	1:250
Drawing Size	A1
Drawn By	JL
Checked By	PG
Date	14/08/13
Drawing Title	PROPOSED ELEVATIONS
Job-Dwg No	12042-106
Rev	C

THE HARRIS PARTNERSHIP MILTON KEYNES
The Old Rectory, 79 High Street
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t. 01908 211 577 f. 01908 211 722

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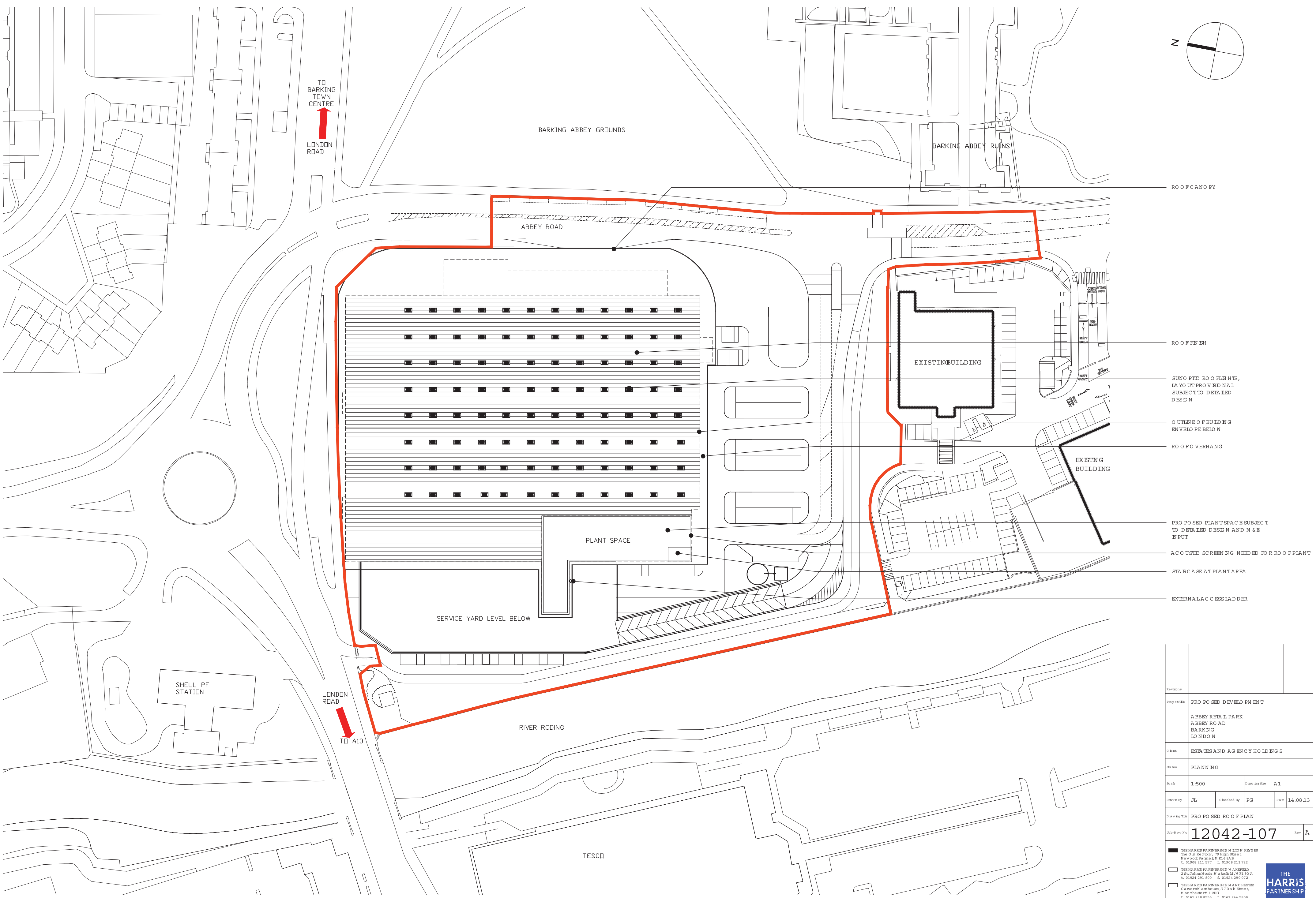

Revisions	
Project Title	PROPOSED DEVELOPMENT ABBEY RETAIL PARK ABBEY ROAD BARKING LONDON
Client	ESTATES AND AGENCY HOLDINGS
Status	PLANNING
Scale	1:500 — Drawing Size A1
Drawn By	JL — Checked By PG — Date 14.08.13
Drawing Title	PROPOSED ROOF PLAN
Job-Dwg No	12042-107 — Rev A

THE HARRIS PARTNERSHIP MILTON KEYNES
The Old Rectory, 79 High Street
Newport Pagnell, MK16 8AB
t. 01908 211 577 f. 01908 211 722

THE HARRIS PARTNERSHIP WAKEFIELD
2 St. Johns North, Wakefield, WF1 3QA
t. 01924 291 800 f. 01924 290 072

THE HARRIS PARTNERSHIP MANCHESTER
Carver's Warehouse, 77 Dale Street,
Manchester M1 2HG
t. 0161 238 8555 f. 0161 244 5809

THE HARRIS PARTNERSHIP READING
101 London Road, Reading, RG1 5BY
t. 0118 950 7700 f. 0118 956 8642

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APPENDIX 5: PROJECT BRIEF

Brief for archaeological evaluation to inform a planning application for Barking Abbey Retail Park ref 13/00852

Background

This brief sets out fieldwork parameters and other considerations that EH GLAAS would expect to see addressed in a formal methodology for archaeological pre-determination at the above site.

Around half of a site covering a total of around 4ha is formally proposed for development with the remaining half also proposed for development in the near future.

Prehistoric, Saxon and medieval remains are likely to be present at the site, as demonstrated by earlier investigations. The extent and nature of some of these earlier investigations cannot be fully established due to the limitations of the surviving records.

The methodology should be informed by a full understanding of the known site conditions and past history as summarised in the desk based assessment (Wardell-Armstrong, 2013). The final report should also be informed by the applicant's detailed development plans.

A deposit identified geotechnically as made ground overlies the site beneath hardstanding. In most places this seals a thick deposit of alluvium over gravel. This model was developed by Wardell Armstrong but modelling data is currently restricted to the northern half of the 4ha site.

In view of the depth of deposits at the site, stepped and/or shored trenches will be needed in order to allow safe access for investigation and recording.

The **overarching aim** of the work will be to investigate, record and model the presence or absence of archaeological remains across the site and where present to establish their date, character, extent, survival and significance.

Site-specific questions that should inform the trenching programme:

- Can the absence of surviving alluvium in the Wardell Armstrong model be said to reliably indicate archaeological sterility?
- Can the extent of modern terracing or cut and fill work be identified across the site and how has this affected archaeological survival?
- Is there archaeological interest in the deposits identified as 'made ground' in the geotechnical report?
- What impact have the footprints of the current retail buildings had on buried potential?

- Can the accurate extent of the unclear 1980s and 1990s investigations be reliably surveyed in using results from the trenching and can it additionally be established whether any hitherto unrecorded preservation *in situ* of remains found in those investigations was allowed for following those investigations?

Additional questions for the evaluation report to consider:

- What is the potential for nationally-important remains is present at the site? Importance should be established using the guidance in the scheduling criteria.

- Can the site be zoned into areas of relatively higher and lower archaeological potential? Zoning should be shown graphically and by period.

- How do the development proposals affect different areas across the site? Consider basement extents, foundations and other development groundworks. Use overlay maps to illustrate this.

- How does the sequence in the south of the site relate to the WA deposit model created and now refined for the north?

Other requirements for inclusion in the WSI

Regular (at least weekly) monitoring visits with EH GLAAS will be necessary.

All fieldwork and reporting must comply with the current GLAAS Standards and Guidance document.

Proposals for an environmental sampling and assessment programme will be agreed for the WSI, in consultation with the EH Science Advisor, Dr Sylvia Warman.

Significant finds on site should be notified to GLAAS immediately.

Phasing of the trenching work may be appropriate. Block and panel fencing is likely to be needed for trench safety when the site is unattended. Provision of pumps may be needed on site to allow trench investigation at depth.

Pro rata contingency for further trenching and specialist attendance should be allowed for.

Greater London Archaeology Advisory Service
October 2013

APPENDIX 6: LEVEL DATA

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR 14				AREA: TRENCH #1			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
1	5.27	6.80	1.53	2.45	4.35		34
1	5.27	6.80	1.53	3.31	3.49		33
1	5.27	6.55	1.28	2.67	3.88		35
2	"	"	"	2.69	3.86		35
3	"	"	"	2.69	3.86		35
4	"	"	"	2.70	3.85		35
5	"	"	"	2.71	3.84		35
6	"	"	"	2.61	3.94		35
7	"	"	"	2.60	3.95		35
8	"	"	"	2.29	4.26		35
9	"	"	"	2.71	3.84		35
10	"	"	"	3.27	3.28		35
11	"	"	"	2.74	3.81		35
12	5.27	6.55	1.28	2.69	3.86		35
13	"	"	"	3.86	2.69		35
14	"	"	"	2.69	3.86		35
15	"	"	"	2.66	3.89		35
16	"	"	"	2.71	3.84		35
17	"	"	"	2.70	3.85		35
18	"	"	"	3.24	3.31		35
19	"	"	"	2.70	3.85		35
20	"	"	"	2.76	3.79		35
21	"	"	"	2.71	3.84		35
22	"	"	"	2.74	3.81		35
23	5.27	6.55	1.28	2.79	3.76		35
24	"	"	"	2.72	3.83		35
25	"	"	"	2.73	3.82		35
26	"	"	"	2.14	4.41		35

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR 14				AREA: TRENCH # 2			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
1	4.71	6.31	1.60	2.77	3.54		30
2	"	"	"	2.18	4.13		30
3	"	"	"	2.40	3.91		30
4	"	"	"	2.16	4.15		30
5	"	"	"	2.17	4.14		30
6	"	"	"	2.94	3.37		30
7	"	"	"	2.90	3.41		30
8	"	"	"	2.94	3.37		30
9	"	"	"	2.66	3.65		30
10	"	"	"	2.88	3.43		30
11	"	"	"	2.81	3.50		30
12	"	"	"	2.92	3.39		30
13	"	"	"	2.84	3.47		30
14	"	"	"	3.46	2.85		30
15	"	"	"	4.05	2.26		30
16	"	"	"	2.92	3.39		30
17	"	"	"	2.85	3.46		30
18	"	"	"	2.77	3.54		30
19	"	"	"	2.80	3.51		30
20	"	"	"	2.81	3.50		30
1	4.71	6.31	1.60	2.25	4.06		31
1	4.71	6.31	1.60	3.16	3.15		32

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR 14				AREA: TRENCH #3			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
1	4.63	5.92	1.29	2.80	3.20		23
1	4.63	5.92	1.29	3.28	2.64		24
1	4.63	5.92	1.29	2.98	2.94		25
1	4.63	5.92	1.29	3.14	2.78		26
1	4.63	5.90	1.27	2.65	3.25		27
2	"	"	"	2.68	3.22		27
3	"	"	"	2.62	3.28		27
4	"	"	"	1.95	3.95		27
5	"	"	"	2.26	3.64		27
6	"	"	"	2.71	3.19		27
7	"	"	"	2.75	3.15		27
8	"	"	"	3.41	2.49		27
9	4.63	5.90	1.27	3.50	2.40		27
10	"	"	"	3.35	2.55		27
11	"	"	"	2.75	3.15		27
12	"	"	"	2.81	3.09		27
13	"	"	"	3.32	2.58		27
14	"	"	"	2.74	3.16		27
15	"	"	"	1.92	3.98		27
16	"	"	"	2.74	3.16		27
17	4.63	5.90	1.27	2.76	3.14		27
18	"	"	"	2.73	3.17		27
19	"	"	"	2.96	2.94		27
20	"	"	"	2.66	3.24		27
21	"	"	"	2.77	3.13		27
22	"	"	"	2.71	3.19		27

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR 14				AREA: TRENCH 3			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
23.	4.63	5.90	1.27	1.95	3.95		27
24	"	"	"	2.71	3.19		27
25	"	"	"	2.81	3.09		27
26	"	"	"	3.41	2.49		27
27	"	"	"	2.65	3.25		27
28	"	"	"	2.64	3.26		27
29	"	"	"	3.02	2.88		27
30	"	"	"	2.87	3.03		27
31	"	"	"	2.70	3.20		27
32	"	"	"	2.86	3.04		27
1	4.63	5.90	1.27	2.01	3.89		28
1	4.63	5.90	1.27	2.01	3.89		29

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR14				AREA: TRENCH # 4A			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
1	4.63	5.90	1.27	2.58	3.32		19
1	4.63	5.90	1.27	2.80	3.10		20
2	"	"	"	2.75	3.15		"
3	"	"	"	2.88	3.02		"
4	"	"	"	2.77	3.13		"
5	"	"	"	2.75	3.15		"
6	"	"	"	2.05	3.85		"
7	"	"	"	2.07	3.83		"
8	"	"	"	2.04	3.86		"
9	"	"	"	2.80	3.10		"
10	"	"	"	2.67	3.23		"
11	"	"	"	2.77	3.13		"
12	"	"	"	2.64	3.26		"
13	"	"	"	1.81	4.09		"
14	"	"	"	2.80	3.10		"
15	"	"	"	2.80	3.10		"
16	"	"	"	2.88	3.02		"
17	"	"	"	2.80	3.10		"
18	"	"	"	2.07	3.83		"
19	"	"	"	2.77	3.13		"
20	"	"	"	2.78	3.12		"
21	"	"	"	2.82	3.08		"
22	"	"	"	3.15	2.75		"
23	"	"	"	3.15	2.75		"
24	"	"	"	2.82	3.08		"
25	"	"	"	2.95	2.95		"

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR14				AREA: TRENCH #4B			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
1	4.63	5.88	1.25	2.21	3.67		3
1	4.63	5.88	1.25	2.12	3.76		4
1	4.63	6.68	2.05	2.73	3.95		5
2	"	"	"	3.05	3.63		"
3	"	"	"	3.37	3.31		"
4	"	"	"	3.39	3.29		"
5	"	"	"	3.74	2.94		"
6	"	"	"	3.94	2.74		"
7	"	"	"	4.49	2.19		"
8	"	"	"	3.57	3.11		"
9	"	"	"	3.36	3.32		"
10	"	"	"	2.72	3.96		"
1	4.63	5.88	1.25	2.20	3.68		6
1	4.63	5.88	1.25	2.70	3.18		7
1	4.63	5.88	1.25	2.77	3.11		8
1	4.63	5.88	1.25	2.81	3.07		9
1	4.63	6.68	2.05	3.67	3.01		10
11	4.63	6.68	2.05	3.28	3.40		5
12	"	"	"	3.58	3.10		"
13	"	"	"	3.24	3.44		"
14	"	"	"	3.65	3.03		"
15	"	"	"	3.67	3.01		"
16	"	"	"	3.91	2.77		"
17	"	"	"	4.31	2.37		"
18	"	"	"	3.63	3.05		"

THIS → the base of the trench, NOT the strips!

← [redacted]

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR14				AREA: TRENCH #4B			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
19	4.63	6.68	2.05	3.85	2.83		5
1	4.63	6.68	2.05	3.36	3.32		10

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR 14				AREA: TRENCH # 5A			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
1	4.63	6.12	1.49	1.70	4.42		18
2	"	"	"	2.39	3.73		"
3	"	"	"	2.53	3.59		"
4	"	"	"	2.46	3.66		"
5	"	"	"	2.46	3.66		"
6	"	"	"	2.45	3.67		"
7	"	"	"	2.94	3.18		"
8	"	"	"	2.49	3.63		"
9	"	"	"	2.39	3.73		"
10	"	"	"	2.43	3.69		"
11	"	"	"	2.86	3.26		"
12	"	"	"	2.91	3.21		"
13	"	"	"	4.03	2.09		"
14	"	"	"	3.51	2.61		"
15	"	"	"	2.87	3.25		"
16	"	"	"	2.47	3.65		"
17	"	"	"	3.32	2.80		"
18	"	"	"	3.92	2.20		"
19	"	"	"	2.86	3.26		"
20	"	"	"	2.90	3.22		"
21	"	"	"	2.87	3.25		"
22	"	"	"	2.29	3.83		"
23	"	"	"	2.91	3.21		"
24	"	"	"	1.76	4.42		"
1	4.63	6.12	1.49	2.36	3.76		
2	4.63	6.12	1.49	3.06	3.06		

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR 14				AREA: TRENCH #5B			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
1	4.63	6.03	1.40	2.26	3.77		12
2	4.63	6.03	1.40	2.95	3.08		13
1	4.63	6.03	1.40	1.81	4.22		15
2	"	"	"	2.10	3.93		15
3	"	"	"	2.48	3.55		15
4	"	"	"	2.61	3.42		15
5	"	"	"	2.49	3.54		15
6	"	"	"	2.82	3.21		15
7	"	"	"	3.25	2.78		15
8	"	"	"	3.71	2.32		15
9	"	"	"	2.55	3.48		16
10	"	"	"	2.70	3.33		16
11	"	"	"	2.62	3.41		16
12	"	"	"	2.42	3.61		16
							*

WARDELL ARMSTRONG ARCHAEOLOGY

LEVEL SHEET

SITE CODE: ABR 14				AREA: Trench # 6A			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
1	4.63	6.68	2.05	3.28	3.40		1
2	"	"	"	3.07	3.61		1
3	"	"	"	3.07	3.61		1
4	"	"	"	3.06	3.62		1
5	"	"	"	3.21	3.47		1
6	"	"	"	2.36	4.32		1
7	"	"	"	2.38	4.30		1
8	"	"	"	2.83	3.85		1
9	"	"	"	2.32	4.36		1
10	"	"	"	2.63	4.05		1
11	"	6.12	1.49	4.28	1.84		1
12	"	"	"	3.89	2.23		1
13	"	"	"	4.16	1.96		1
1	"	6.68	2.05	2.54	4.14		2

WARDELL ARMSTRONG ARCHAEOLOGY **LEVEL SHEET**

SITE CODE: ABR 14				AREA: TRENCH #6B			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
1	4.63	6.68	2.05	3.36	3.32		11
1	4.63	6.50	1.87	2.76	3.74		14
2	"	"	"	2.59	3.91		14
3	"	"	"	2.88	3.62		14
4	"	"	"	3.51	2.99		14
5	"	"	"	3.97	2.53		14
6	"	"	"	2.85	3.65		14
7	"	"	"	2.67	3.83		14
8	"	"	"	2.76	3.74		14
9	"	"	"	2.71	3.79		14
10	"	"	"	3.91	2.59		14
11	"	"	"	2.73	3.77		14
12	"	"	"	2.71	3.79		14
13	"	"	"	2.66	3.84		14
14	"	"	"	2.67	3.83		14
15	"	"	"	2.72	3.78		14
16	"	"	"	2.63	3.87		14
17	"	"	"	2.67	3.83		14
18	"	"	"	2.58	3.92		14
19	"	"	"	2.68	3.82		14
20	4.63	6.50	1.87	2.66	3.84		14
21	"	"	"	2.66	3.84		14
22	"	"	"	2.72	3.78		14
23	"	"	"	2.58	3.92		14
24	"	"	"	2.68	3.82		14
25	"	"	"	2.63	3.87		14
26	"	"	"	2.40	4.10		14
27	"	"	"	2.40	4.10		14
28	"	"	"	3.38	4.12		14
29	"	"	"	2.62	3.88		14
30	"	"	"	3.08	3.42		14

WARDELL ARMSTRONG ARCHAEOLOGY **LEVEL SHEET**

SITE CODE: ABR 14				AREA: TRENCH #6B			
LEVEL NO.	**TBM**	**IH**	**BS**	**FS**	**RL**	**AREA**	**Drawing No**
31	4.63	6.50	1.87	2.89	3.61		14
32	"	"	"	2.60	3.90		14
33	"	"	"	3.08	3.42		14
34	"	"	"	2.48	4.02		14
35	"	"	"	2.52	3.98		14
36	"	"	"	2.30	4.20		14
37	"	"	"	1.73	4.77		14