



EDF ENERGY SUBSTATION
Millfields Road
Hackney
E5

London Borough of Hackney

An archaeological evaluation report

October 2007



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Summary (non-technical)

This report presents the results of an archaeological evaluation carried out by the Museum of London Archaeology Service on the site of the EDF Energy Substation, Millfields Road, Hackney, London, E5. The report was commissioned from MoLAS=PCA by Capita Symonds Ltd on behalf of the client EDF Energy.

Following the recommendations of the English Heritage Greater London Archaeology Advisory Service (GLAAS) two evaluation trenches were excavated on the site.

The results of the field evaluation have helped to refine the initial assessment of the archaeological potential of the site. These results indicate that the potential for the survival of archaeological deposits on the site is low due to the depths of modern truncation encountered in the two trenches and also observed during current ground works associated with the present phase of construction work across the site. Archaeological deposits were not present in the areas examined. It is therefore recommended that no further archaeological work take place.

Contents

1	Introduction	1
1.1	Site background	1
1.2	Planning and legislative framework	2
1.3	Planning background	2
1.4	Origin and scope of the report	2
1.5	Aims and objectives	3
2	Topographical and historical background	4
2.1	Geology and topography	4
2.2	Prehistoric (450,000BC - AD43)	5
2.2.1	<i>Palaeolithic– Neolithic</i>	5
2.2.2	<i>Bronze Age (1,800–600 BC) – Iron Age (600 BC–AD43)</i>	5
2.3	Roman	6
2.4	Early and later medieval	7
2.4.1	<i>Saxon (AD 400–1000)</i>	7
2.4.2	<i>Later Medieval (1000–1500)</i>	8
2.5	Post medieval	9
3	The evaluation	11
3.1	Methodology	11
3.2	Results of the evaluation	12
3.2.1	<i>Evaluation Trench 4</i>	12
3.2.2	<i>Evaluation Trench 5</i>	13
3.3	Assessment of the evaluation	13
4	Archaeological potential	15
4.1	Realisation of original research aims	15

4.2	General discussion of potential	15
4.3	Significance	16
5	Assessment by EH criteria	17
6	Proposed development impact and recommendations	19
7	Acknowledgements	20
8	Bibliography	21
9	NMR OASIS archaeological report form	22
9.1	OASIS ID: molas1-31133	22

List Of Illustrations

Front cover: Photograph of site during present phase of construction work but prior to archaeological evaluation

Fig 1 Site location	25
Fig 2 Trench locations	26
Fig 3 Plan of Trench 4 and Trench 5	27
Fig 4 Section 1 of Trench 4	28

1 Introduction

1.1 Site background

The evaluation took place at the site of the EDF energy substation, Millfields Road, Hackney E5, hereafter called ‘the site’ (Fig 1). It is located in presently derelict/disused land, and is bounded by a current EDF energy substation site to the west and south; by the south wall of Millfields Park to the north and by Hackney Borough Waste Services Depot land to the east.

The centre of the site lies at National Grid reference 535870 186305. Modern pavement level near to the site lies at *c* 6.3m OD. The existing ground level within the site lies at *c* 6.9m – 7.1m OD. The site code is OL-03707.

A method statement for an archaeological evaluation was previously prepared, which covers the whole area of the site (Bull, 2007). The *method statement* document should be referred to for information on the natural geology, archaeological and historical background of the site, and the initial interpretation of its archaeological potential.

An archaeological field evaluation was subsequently undertaken on two evaluation trenches at the site between 20/08/07 and 24/08/07 (Fig 2).

1.2 Planning and legislative framework

The legislative and planning framework in which the archaeological exercise took place was summarised in the *Method Statement* which formed the project design for the evaluation (see Section 1.3, Bull, 2007).

1.3 Planning background

The evaluation was undertaken in response to a condition placed on planning permission (Permission on Planning Application for the switchyard: 2007/0030, condition no.3; condition on Planning Application 2007/0033 for the GIS switch room) extracted as shown:

3. No development shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved by the Council, as local planning authority. The development shall only take place in accordance with the detailed scheme approved pursuant to this condition. The archaeological works shall be carried out by a suitably qualified investigating body acceptable to the Council. REASON: To safeguard the archaeological interest of the site, which is within an Area of Archaeological Priority.

The *Method Statement* noted above set out the methodologies followed during the for the evaluation trenches and during the post-excavation analysis and reporting stages. This document is the report on the evaluation.

1.4 Origin and scope of the report

This report was commissioned from the Museum of London Archaeology Service and Pre-Construct Archaeology (MoLAS-PCA) by Capita Symonds Ltd on behalf of the client EDF Energy. The report has been prepared within the terms of the relevant Standard specified by the Institute of Field Archaeologists (IFA, 2001).

Field evaluation, and the *Evaluation report* which comments on the results of that exercise, are defined in the most recent English Heritage guidelines (English Heritage, 1998) as intended to provide information about the archaeological resource in order to contribute to the:

- formulation of a strategy for the preservation or management of those remains; and/or
- formulation of an appropriate response or mitigation strategy to planning applications or other proposals which may adversely affect such archaeological remains, or enhance them; and/or
- formulation of a proposal for further archaeological investigations within a programme of research

1.5 Aims and objectives

All research is undertaken within the priorities established in the Museum of London's *A research framework for London Archaeology*, 2002

The following research aims and objectives were established in the *Method Statement* for the evaluation (Section 4):

The limited nature of the proposed works and the archaeological evaluation makes it unreasonable to establish many specific archaeological research objectives. The archaeological brief is essentially limited to establishing the levels and nature of surviving archaeological deposits, and to ensure that the digging of Evaluation trenches does not involve unnecessary destruction of such deposits. Nevertheless, in addition, a few broad research questions can be outlined:

- Can the character and levels of the natural deposits reported in the watching brief be further clarified?
- Is there any evidence of organic residues surviving within the present alluvial deposits that may aid in dating the alluvial and pre alluvial sequence?
- Is there further evidence in support of Bronze Age activity within the site and how does this compare with the features recorded in nearby Shaft EAST-4?
- Is there any evidence of past land exploitation post alluvial deposition?

2 Topographical and historical background

A detailed description of the topographical, historical and archaeological background of the site was provided in the previous archaeological method statement (Section 2, Bull, 2007). A summary of that information follows below.

2.1 Geology and topography

The site is situated *c* 80m west of the River Lea Navigation canal, approximately 400m south of Lea Bridge, where the Canal splits from the Lea River. The Lea Valley Mapping Project (Burton et al, 2004) reconstructed the topography of the valley at the start of the Holocene (in the Early Mesolithic). Much of the valley floor in the Temple Mills to Hackney Wick area was re-worked during the Late Glacial, as demonstrated by a date of 12240 \pm 80 BP from organic remains within bedded lake deposits, sandwiched within the gravel in the Stratford marsh area (Corcoran and Swift 2004).

Previous work in the vicinity suggests that the site was located at the western edge of the valley bottom. The modern hillside slopes sharply up from the site towards the west, where London Clay bedrock is exposed, onto the Hackney Gravels, which form the river terrace. This slope reflects the topography of the ancient landscape, which would have remained as seasonally inundated ground above the wetland areas of Hackney Marsh to the east, and below the higher gravel terraces to the west. The character of the site would have been marginal in the prehistoric period and probably into Roman times.

In the vicinity of the site a stream or series of tributary streams of the Lee, draining the valley side, appear to have existed, which have carved out channels into the London clay bedrock. One such channel was recorded in geoarchaeological augerholes during the evaluation at Lea Bridge Road to the north of the site (Mills, in Taylor 2004). The existence of past stream channels and perhaps associated wetter, more marshy land than further north and south, is reflected in the modern characteristics of the local landscape, which retains much open land in this area.

The heights of alluvial and natural deposits were confirmed by the recent watching brief within the site. A borehole recorded the surface of natural gravels at *c* 4.2m OD (MoLAS-PCA 2007b), while a late Pleistocene–Early Holocene land surface was observed at *c* 5.1–5.5m OD (roughly 1.5 to 2m below present ground level). This surface lay beneath truncated alluvial deposits, which were recorded to a maximum height of *c* 6.3m OD.

A geoarchaeological evaluation at the EDF electricity substation and the former Hackney power station recorded deposits in two shafts, one located *immediately south of the proposed site* (Shaft EAST-4) and the other *c* 150m to the west, (WEST-3). The top of the Pleistocene gravel was found at 4.83m OD in Shaft EDFE-4 and 4.9m OD in Shaft NGT-3.

Ground level on Millfields Road at the entrance to the site is *c* 6.3m OD. There is no evidence to suggest that there has been any significant ground raising on this part of the Hackney Marsh, as seen elsewhere across much of the Lower Lea Valley to the south of the site. Deposits of modern (ie 20th century) made ground were recorded

across the EDF Energy substation site to a depth of *c* 1.5m. The made ground relates to the construction and demolition of a power station that formerly existed within the site.

2.2 Prehistoric (450,000BC - AD43)

Isolated finds of prehistoric date have been recorded in the vicinity of the site, giving further indications of the nature of prehistoric expectation of the site.

2.2.1 Palaeolithic– Neolithic

The site is located in an area where Palaeolithic flint assemblages have been found. The majority of these finds are antiquarian observations and therefore their spatial locations are not always securely located. Where records were available for the finds, it was indicated that the Palaeolithic artefacts were recovered from the junction of Hackney Gravel and Taplow gravel deposits, beyond the low lying alluvial area of the site.

The site lies *c* 1km to the north of one of the largest assemblages of Palaeolithic material to have been found in Britain. This was at Lower Clapton where an assemblage of flint artefacts including 159 hand axes, 18 rough outs, 4 cores, 69 retouched and 210 un-retouched flakes were recovered. These tools were found by the antiquarian WG Smith during house building in the late 19th century.

A Levallois flint flake was found on a site along Lea Bridge Road in 1995. The flint flake can be dated to between 240,000 to 40,000 BC.

To the east of the site, in the Hackney Marshes, a number of artefacts including 13 hand axes and some flakes have been recovered (*c* 1.1km to the east, although the grid reference is poorly located). The Lea Valley has also produced a range of faunal remains from the Palaeolithic period including remains of bears, elks and mammoths.

No finds from the Mesolithic period have been recovered from the area but a poorly located assemblage of Neolithic material including hand axes, flakes blades and arrow heads were found in the vicinity of the site in the Hackney Marshes. However, an archaeological site at 122 Lea Bridge Road to the north showed evidence of alluvial deposits above the gravel.

Changes in land use, such as forest clearance, can be detected in sediments through, for instance, a change in the quantity and type of pollen, molluscs, insects, diatoms and seeds within a sample. Diatoms are microscopic unicellular algae and are found in a wide range of aqueous environments. As habitats and environments change the species colonising those environments also change. Pollen studies may show a variation in the amount of tree cover or in dominant species.

2.2.2 Bronze Age (1,800–600 BC) – Iron Age (600 BC–AD43)

The Lea Valley was well populated during the Bronze Age and a number of prehistoric artificial-island dwellings built on timber piles were found to the north of the site during the construction of reservoirs in the area. The Lea Valley has also produced a number of high status finds that can be described as votive offerings. It is thought to have been a practice during the later prehistoric period to throw valuable objects into water as an offering to the gods. These offerings include a bronze shield

and sword. A hoard of Bronze Age spearheads was found during the construction of the Lea Valley Pumping Station to the east of the site in 1885.

The recent archaeological investigation, immediately adjacent to the site at the Millfields Road Powerline undergrounding shaft, recorded evidence of Bronze Age activity. The activity was dated by the presence of burnt flint and daub flecks in some of the fills of cuts encountered in the western half of Shaft EAST-4, comprising a plethora of features cut through the underlying silty sand colluvial/alluvial subsoil. Five irregular or severely truncated features were clustered toward the southwest side of the shaft, possibly representing water holes, or even areas of concentrated ground disturbance, such as might be caused by animals. Two parallel ditches were recorded, oriented roughly north–south, of which the easternmost truncated several of the irregular features and terminated within the limit of excavation. Four groups of postholes appeared to focus on the space to the north of this terminal, possibly intended to funnel livestock into a small driveway extending south beyond the limit of excavation. The ditches gradually silted up, perhaps due to heavy floods across the floodplain to the north and east, which may occasionally have extended onto the site. Two groups of postholes appear to postdate these sediments. The first group (comprising 16 post- and stakeholes) marked the edge of the western ditch on its eastern side, and extended south-east in a double row, possibly terminated by a north–south row of stakes. The second group (comprising 5 post and stake holes) marked the terminal of the eastern ditch in a loose rectangular formation. These may indicate the continuing use of the area as it began to get wetter, possibly through increasing flooding generated by a rise in the water table. The posts may be contemporary with a recut of the western ditch.

Overall, the evidence indicates Bronze Age exploitation of the Hackney Marsh immediately to the east of the site, within a much wider landscape of Bronze Age occupation. It is possible that a small drove way extends north–south either side of the excavation area, and also that the western ditch extends northwards further into the marsh and into the site. It is notable that the north–south alignment of the ditches is perpendicular to the nearest approach of the River Lea to the north. The ditches may have been intended to link this marshland grazing resource with possible settlement on the higher ground to the south and west.

2.3 Roman

After the Roman foundation of Colchester (Camulodunum) and London (Londinium) in the mid first century AD, a network of settlements and roads was established in the Thames Valley. During the 400-year Roman period, London became Britain's major port and commercial and administrative centre. The London to Colchester Roman road runs southwest–northeast from Liverpool Street, crossing the River Lea at Old Ford, *c.* 1.5km to the south of the site. A further Roman road may pass close to the site (see below). Excavations have established that a Roman settlement existed in an area close to Old Ford.

The River Lea is likely to have been an important route in the Roman period. It may have been used to supply the London area both with agricultural produce and, in the later period, with pottery from Much Hadham, via the River Stort.

Small, nucleated settlements and an organised system of larger villa estates typically located along the major roads radiating out from Londinium, acted both as markets and as producers supplying the City, particularly with agricultural produce. The prosperity of these settlements appear to have followed the general socio-economic trends that characterise the Roman period, with prosperity in the early 2nd century followed by a general decline in the late 2nd to early 3rd century and a brief revival in the 4th century.

Roman road infrastructure

A Roman way to Great Dunmow (Essex) crossed the Lea and the later line of the Lea's Hackney Cut near Pond Lane Bridge. Its course, near which a sarcophagus was found at Lower Clapton, presumably led north-eastward through Hackney from the Roman road through Bethnal Green, which ran by Old Ford to Colchester (VCH 1995, 4).

The digging of a railway line in Hackney Marshes in 1839 produced several poorly located Roman stone coffins, notably around the Temple Mills area of the Lea Valley. The presence of such remains in and around Temple Mills suggest a permanent crossing point and nearby settlement. Excavations in the Church Road / Grange Park area of Leyton to the east of the Lea, c 2km to the north-east of the site, have produced evidence of Roman occupation revealing that the eastern part of the Lea Valley was settled at this time. A number of Roman finds have also been made in Victoria Park and Clapton Park, as well as in Lower Clapton to the south of the site; the Springfield Park area of Hackney at some distance to the north has similarly produced a number of stone coffins suggesting cemeteries nearby.

2.4 Early and later medieval

2.4.1 Saxon (AD 400–1000)

During the early medieval period the site is likely to have been marshland some distance from settlements located on the higher drier ground at the sides of the valley.

Many of the small nucleated settlements that make up the present Borough of Hackney are probably Saxon in origin. Hackney, Hoxton and Clapton, are all Saxon place names. The name Hackney refers to the well-watered meadows by the River Lea marshes and Clapton means the 'farm on the hill'.

Despite the etymology, little physical evidence has been found to substantiate the documentary evidence for settlement in the immediate vicinity of the site. Evidence of settlement appears to concentrate further south at Old Ford, in an area previously established as a Roman crossing of the Lea, and at Stratford where fragments of Saxon pottery were recovered during excavations at the former market depot and a timber revetment was recorded at Gibbins Yard.

The Mill Fields, which this site occupies, are reputedly the site of a battle in AD527 between Octa, King of Kent and grandson of Hengest, and the victorious Erchenwein, founder of the kingdom of Essex (the evidence for the battle site is suspect, however, as the source merely refers to a battle taking place by a river near London; VCH 1995, 10). There was early settlement on the high ground at Clapton to the west of the marshland and a trackway following the line of the Roman road to Waltham Abbey.

By the end of the 6th century south-east England was divided between small Anglo-Saxon kingdoms, all recognising the primacy of King Ethelbert of Kent. The area of Stratford lay in the East Saxon kingdom with the River Lea forming the boundary with Mercia. Essex was conquered by the Danes in the 9th century and the River Lea was adopted as the boundary of the Danelaw following the settlement between Alfred the Great and Guthrum. The River Lea is mentioned in the Anglo-Saxon Chronicle entry for the year AD894 when Alfred trapped a Viking fleet in the river by building forts on both banks. The Danes fled to Quatbridge-on-Severn pursued by Alfred. The fleet was captured and the forts destroyed by the citizens of London to prevent reuse. However, archaeological investigations into the Anglo-Saxon origins of the rivers have been inconclusive. The river pattern does seem to go back to at least the 11th century.

The River Lea was navigable during the Saxon period and a possible Saxon boat measuring 20 feet in length was found at the Lea Bridge filtering beds in 1830. A second boat dated to AD950 – 1050 was found in Springfield Park, *c* 1.5km to the north of the site, in 1987 (GLSMR 080121).

2.4.2 Later Medieval (1000–1500)

During the medieval period Hackney became a long scattered settlement with a number of constituent hamlets. Before 1066 most of the later parish of Hackney formed part of the Bishop of London's large manor of Stepney (VCH 1995, 92-101). There are seven mills listed in Domesday belonging to Stepney Manor. These would have been located along the River Lea to the east of the site, although their exact location is uncertain. The SMR lists at least one of these (GLSMR ref no. 080118) as being *c* 1.1km to the east of the site, based on later cartographic evidence.

The Knights Templar were given lands in Hackney Marsh, possibly within the reign of Henry II. The order built a water mill at Temple Mills between 1185 and 1278. By 1308 this adjoined another mill described as under the same roof, within the 35 acre estate. The mills and estate (mainly comprising meadow, used for pasturage and grass mowing for production of hay) passed swiftly on to the Knights Hospitaller after suppression of the Templar's Order in 1312. At the Dissolution the lands passed to the Crown and were known as the manor of Hackney or *Kingshold* in 1539–40 (VCH Middlesex Vol 10, 92-101). The presence of the mills on the river gave rise to the area around the site being known as Mill Fields and the road leading to the river crossing near Lea Bridge called Mill Field Lane.

Extensive commonable lands of Hackney parish, on which landholders enjoyed rights of pasturage from first of August (Lammas rights), comprised (among others), North and South Mill Fields, and most notably Hackney marsh. The regulation of Lammas rights chiefly concerned the marsh, where in 1185 the *humbra* or marshy meadow was distinguished from the *quabba* or bog. Hackneymead was an alternative name for Hackney marsh in 1535. It is known that a number of present day road alignments within Hackney existed in the medieval period, notably Lea Bridge Road to the north and Homerton High Street to the south.

2.5 Post medieval

The earliest map of the area is John Rocque's map of 1746, which shows the area of the site within open marsh, near to the west bank of the Lea. The Lea Bridge area of Clapton was marginal land and would have been susceptible to frequent flooding, which may explain why Rocque depicts the presence of an eastward tending lane (Marsh Lane) altering course significantly to the south towards Wick Lane.

In the late 1760's and 1770's, the River Lea was canalised with the digging of the Hackney Cut Navigation, which bypassed the shallow bends of the river around Hackney Marsh. Cartographic sources of the site area at the end of the 18th century of show the site within a fields (probably fallow), bounded to the south by an east-west lane (the precursor to present day Millfields Road) that runs from the vicinity of modern day Lower Clapton Road in the west to a bridge crossing the New Cut to the east, allowing access to the pastures and open marshland of Hackney Marsh.

Ashpital's 1831 map of Hackney parish indicates that the site lay within the north-eastern part of a field under ownership of St Thomas' Hospital (STH) and the adjoining field of John Powells (JP). Hedgerows (with possible drainage ditches) border the site to the north. The lane to the south is labelled 'Pond Lane', running to Cow Bridge over the New Cut to the southeast. The fields around, including the site, remain as meadow.

Stanford's map of 1862 indicates virtually no change within the site. Settlement has increased around Lea Bridge to the north-west, with nursery gardens and a dock present beside Hackney Cut. The most significant change is the construction of East London Waterworks Filter beds occupying the fields to the north-east of the site, south of Lea Bridge. The relatively wet character of the land nearby is emphasised by the existence of watercress beds south of Pond Lane, as depicted in the OS 1st edition map of 1868.

By 1896 a 'Fireworks manufactory' has been constructed to the west of the site. To the south of Pond Lane (now renamed Millfields Road) dense rows of residential terraced housing replaced the former fields, nurseries and watercress beds. A boathouse has been constructed along the towpath to the east of the site. Bacon's map of 1900 illustrates that the fireworks manufactory to the west of the site had given way to Clapton Orient Football Ground (the club designation since moved on to several sites in the past century and now plays as Leyton Orient Football team).

A Disinfecting Station, incorporating three buildings (the Cleansing building itself, caretaker's lodge and shelter), lies to the immediate southwest of the site. The station and shelter were used to isolate people whose homes were being disinfected. Their property was steam-cleaned using power supplied by the Hackney Borough Electricity Works, which also supplied Hackney for electric street lighting. The north-westernmost part of which is present within the site. Both institutions were built between 1900 and 1901 to the designs of architects Gordon and Gunton. An adjacent refuse destructor supplied heat, and a wharf was built on land leased by the Lea Conservancy for bringing in coal and removing waste. The power, at the east end of Millfields Road, was built in brick with stone dressings (VCH 1995, 108-105) passed to London Electricity Board in 1947 and still operated, as a substation, in 1994. Beyond the northern footprint of the power station, the site itself appears to occupy open (waste?) land and meadow.

The 3rd edition OS map of 1913 shows little change within the site from the previous maps. A miniature rifle range is present across the north of the site. A large scale complex of buildings occupied the Electricity Works within the site and to the south to Millfields Road.

Post WWII mapping shows that the outline of the former power station has shifted to the north, to cover some of the eastern half of the site, leaving assumed open ground to the west. The land to the north of the site (including the northern tip of the site) remains as fields. The rifle range to the west of the site has been removed, although a faint track way is still to be seen. The power station covering the majority of the adjacent land remained constant until the latter quarter of the 20th century.

Aerial photographs of the site in the latter half of the 20th century indicate limited development until *c* 1960, when several rectangular structures, from single to three storeys in height have appeared (NMR aerial photograph RAF/543/1059, Frame 72, 13 September 1960). Concrete yards dominate the open space around the buildings, although green open land lies to the west of the site (in the vicinity of the present day AIS switching field). Later aerial photographs show clearer depiction of the buildings, including the fan-shaped water intake chamber in the north part of the site, open air in 1971 (NMR aerial photograph MAL/7106, Frame 134, 20May 1971). In the early 1970s the buildings occupying the site were demolished, followed by further demolition of the remaining southern part of the power station in the mid-1980s. The site was presumably levelled to make way for the current open area and vehicular access from Millfields Road. A portion of the west wall of the power station still remains to the south of the site, and is a useful indicator of the size and scale of the former power station.

3 The evaluation

3.1 Methodology

All archaeological excavation and monitoring during the evaluation was carried out in accordance with the preceding *Method Statement* (Bull, 2007), and the MoLAS *Archaeological Site Manual* (MoLAS, 1994).

However, a revised evaluation strategy proved necessary after the completion of the *Method Statement*. Following further on-site exploratory work, it became clear that in the area of the proposed Switch room Substation building the existing below-ground features (massive ducting tunnels) were more extensive than previously thought. Indeed, they extended to the full width of the footprint of the proposed Switch room Substation building and have taken out all potential archaeological deposits/survival there. Trenches 1, 2 and 3 were located in this area and were therefore not achievable. Trench 4 was achievable and was expanded to take account of this loss. Trench 5 remained achievable. English heritage approved this revised approach (Fig 2).

Archaeological evaluation Trench 4 was located across the south-western part of the proposed switch house footprint to provide information about the nature and levels of archaeological survival in the vicinity and whether any further prehistoric features as identified by the previous evaluation to the south survive within the site (Fig 3).

Archaeological evaluation Trench 5 was located along the western extent of the site (Fig 3).

The slab/ground was broken out and cleared by contractors under MoLAS supervision. Trenches were excavated by machine by the contractors, and monitored by a member of staff from MoLAS-PCA.

The locations of evaluation trenches were recorded by members of the MoLAS survey team.

A written and drawn record of all archaeological deposits encountered was made in accordance with the principles set out in the MoLAS site recording manual (MoLAS, 1994). Levels were calculated by a traverse via engineering spot heights provided by the on-site contractor.

The site has produced: a trench location plan; 4 context records; one section drawing at 1:20; and a series of digital photographs.

The site records can be found under the site code OL-03707 in the MoL archive.

3.2 Results of the evaluation

For trench locations see Figs 2 and 3.

3.2.1 Evaluation Trench 4

Location	South west area of site
Dimensions	17m E/W by 7-11.50m N/S by 2.54m depth
Modern ground level/top of slab	7.12m OD
Base of modern fill/slab	5.69m OD
Depth of archaeological deposits seen	0.30m deep
Level of base of deposits observed	5.42m OD
Natural observed	5.54m OD

Evaluation Trench 4 was excavated in an L shape to the north and west of an existing Switchhouse (Fig 2). The trench was machine excavated to depths of between 2m in the south west and 2.54m in the east (Fig 3).

Natural slightly silty sandy gravel [3] was recorded at a height of 5.03m OD. This layer consisted of some lenses of silt, moderately dense orange/brown medium sand and gritty to coarse occasionally sub-rounded but mostly sub-angular flint pebbles that represent terrace gravel deposits. Overlying this, and recorded at a height of 5.54m OD, was a 0.40m thick layer of firm orange/brown natural sandy/clay brickearth [2]. This deposit contained iron staining through frequent fine root action (Fig 4).

Above this was a 0.25-0.30m deposit of dirty light brownish grey sandy/clay brickearth [1]. This deposit was recorded at a height of 5.69m OD and contained occasional fragments of post-medieval CBM and 19th century pottery sherds. This deposit looks like disturbed natural brickearth, truncated and discoloured grey by a large overlying deposit of 19th-21st century made-ground.

This 1.20m thick levelling layer of made-ground, recorded at heights of up to 7.12m OD, consisted of dumps of coal, ash, re-deposited gravel, sandy silt, concrete and brick rubble and represents levelling deposits for a tarmac surface associated with the sub-station.

The natural brickearth and gravel deposits were truncated in several areas by concrete foundations and in the south west by a brick lined cable inspection pit associated with the switchhouse to the south.

No archaeological features or deposits dating to earlier than the 19th century were present in this evaluation trench.

3.2.2 Evaluation Trench 5

Location	Western extent of site
Dimensions	9.10m N/S by 5.40m E/W by 3.60m depth
Modern ground level/top of slab	6.74m OD
Base of modern fill/slab	3.14m OD
Depth of archaeological deposits seen	N/A
Level of base of trench	3.14m OD
Natural observed	3.14m OD

Trench 5 was located along the western extent of the site between a newly constructed cable culvert to the east and an operational substation to the west (Fig 2). The trench measured 9.10m N/S by 5.40m E/W and was excavated to a depth of 3.60m (Fig 3).

Natural slightly silty sandy gravel [4] was recorded at a height of 3.14m OD and continued in all directions beyond the limit of excavation. This moderately dense layer consisted of occasional silt, light orange medium sand and small to coarse sub-rounded to sub-angular pebbles and represents terrace gravel deposits. These natural gravels had been truncated from above, possibly quarried or removed for the construction of a coal storage area.

Overlying the natural deposit was a large 2.90m thick dump of coal containing ash and occasional re-deposited lenses of sandy gravel. This deposit, which was recorded at a height of 5.44m OD and continued in all directions beyond the limit of excavation, probably represents fuel storage during the coal burning phase of the power station.

Above this was a 1.20m thick 20th-21st century levelling layer of sandy silt, brick and concrete rubble associated with both the sub-station and backfilling by the contractor during present re-development ground works. This deposit was recorded at a height of 6.74m OD and represents the current ground surface.

Because of the deep truncation down into the natural sands and gravels no archaeological deposits have survived in this area of the evaluation.

3.3 Assessment of the evaluation

GLAAS guidelines (English Heritage, 1998) require an assessment of the success of the evaluation ‘in order to illustrate what level of confidence can be placed on the information which will provide the basis of the mitigation strategy’.

During the evaluation no archaeological deposits were encountered across the site. The two evaluation trenches have provided two targeted areas of the site. In the western part of the site, Trench 5 has shown the likelihood for the survival of archaeological deposits to be low due to modern truncation to depths of 3.50m below the present ground surface resulting in the removal of all deposits down to natural sands and gravels.

In the south-west area of the site, Trench 4 has shown that in areas truncated by service trenches and foundations all archaeological deposits have been removed. In some areas the modern truncation has been less severe and natural brickearth deposits

have survived. Because of this there is a small potential for the survival of deep cut features, although none were found during this evaluation.

4 Archaeological potential

4.1 Realisation of original research aims

- Can the character and levels of the natural deposits reported in the watching brief be further clarified?

Natural silty sandy gravel that represents river terrace gravels was recorded across the site at a height of *c.*5m OD which is very similar to heights recorded previously at Shaft EAST-)to the immediate south of the evaluation area (MoLAS-PCA 2007). Overlying this was a deposit of sandy clay brickearth that survived to heights of 5.54m OD in the south and 5.70m OD in the north east of the site. No streams or tributaries streams were observed during the evaluation.

- Is there any evidence of organic residues surviving within the present alluvial deposits that may aid in dating the alluvial and pre alluvial sequence?

No organic residues or alluvial deposits were present in the two evaluation trenches.

- Is there further evidence in support of Bronze Age activity within the site and how does this compare with the features recorded in nearby Shaft EAST-4?

No evidence for Bronze Age activity was present in the two evaluation trenches.

- Is there any evidence of past land exploitation post alluvial deposition?

The two evaluation trenches have provided no evidence for past land exploitation. Only natural sandy/clay brickearth disturbed by modern truncation was recorded during the evaluation.

4.2 General discussion of potential

The evaluation has shown that the potential for survival of ancient ground surfaces (horizontal archaeological stratification) on the site is low due to the depths of modern truncation associated with the sites use as a power station. There is some potential for survival of cut features such as ditches, pits and post holes but no such features were present during the evaluation. Such possible survival is likely to be extremely limited in most areas because of the depth of modern foundations and underground services.

All deposits have been truncated down to natural at depths of between 5.69m OD and 3.14m OD by modern activity in the area of the evaluation. If any archaeological features or deposits are to survive it will be at depths of between 1.40m and 3.60m below the present ground surface of *c.*6.74m - 7.12m OD.

During the evaluation observations made on current ground works undertaken by the developer revealed that the depth of modern truncation in the north east corner of the site is approximately 0.80m below the present ground surface slab. The potential for the survival of archaeological deposits and features in this area of the site, which is outside the area of proposed works, is more promising.

4.3 Significance

The results of the evaluation have shown that the chances of survival for archaeological deposits of any significance on the site are low.

5 Assessment by EH criteria

The recommendations of the GLAAS 1998 guidelines on *Evaluation reports* suggest that there should be:

‘Assessment of results against original expectations (using criteria for assessing national importance of period, relative completeness, condition, rarity and group value)’ (Guidance Paper V, 4 7)

A set of guide lines was published by the Department of the Environment with criteria by which to measure the importance of individual monuments for possible Scheduling. These criteria are as follows: *Period*; *Rarity*; *Documentation*; *Survival/Condition*; *Fragility/Vulnerability*; *Diversity*; and *Potential*. The guide lines stresses that ‘these criteria should not...be regarded as definitive; rather they are indicators which contribute to a wider judgement based on the individual circumstances of a case’.¹

In the following passages the potential archaeological survival described in the *Method Statement* and Section 3.2 above will be assessed against these criteria.

Criterion 1: period

No evidence for archaeological activity from any period was found.

Criterion 2: rarity

No evidence for archaeological activity was found.

Criterion 3: documentation

As no archaeological features were recorded during the evaluation there is nothing to relate to any previous documentary evidence for the Bronze Age, Roman period or the Medieval period.

Criterion 4: group value

No evidence for archaeological activity was found, therefore value is not at issue.

Criterion 5: survival/condition

The evaluation has shown that any archaeological remains were truncated to dramatically different levels across the site. In the west, as demonstrated by evaluation trench 5, it is likely that archaeological remains have been truncated by modern activity. In the area of this trench, coal storage dumps have truncated all horizontal deposits into natural gravel to a depth of 3.60m below present ground level. In the south-west area of the site, trench 4 has illustrated that all horizontal deposits have been truncated down to natural brickearth at depths of 1.50m below the present ground surface. Where less truncation has taken place, there may be archaeological survival

Criterion 6: fragility

No evidence for archaeological activity was found, therefore fragility is not at issue.

Criterion 7: diversity

Although no archaeological features were found during this evaluation due to truncation, the previous archaeological work on the nearby tunnel shaft (MoLAS-

¹ Annex 4, DOE, Planning and Policy Guidance 16, (1990). For detailed definition of the criteria see that document. Reference has also been made to Darvill, Saunders & Startin, (1987); and McGill, (1995)

PCA 2007a) has shown the presence of Bronze Age activity in areas beyond that of this evaluation. This evaluation was therefore unable to address archaeological diversity.

Criterion 8: potential

The results of this evaluation have shown little potential to add to our understanding archaeological activity in the area.

6 Proposed development impact and recommendations

The proposed redevelopment involves construction of a new Air Insulated Switchgear (AIS) switch yard and the excavation and construction of the service culvert running north-west from the adjacent cable underground shaft (previously excavated archaeologically as Shaft EAST-4, MoLAS-PCA 2007a).

A new two-storey switchgear switch room with cable basement below is also proposed. All these developments will impact on any surviving archaeological deposits.

The results from evaluation Trench 4 have also provided no evidence for the presence of archaeological deposits. The results taken from evaluation Trench 5 have shown that the likelihood for the survival of archaeological deposits in this area of the site is low so any new development in the immediate area should have minimal/no impact.

7 Acknowledgements

The author would like to thank the client, EDF Energy and in particular Ian Boyack of EDF Energy for his on site help, Capita Symonds for commissioning the report on behalf of the client, and staff from the Murphy Group for on site help and co-operation.

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9 NMR OASIS archaeological report form

9.1 OASIS ID: molas1-31133

Project details

Project name EDF Energy Substation, Millfields Rd, Hackney E5

Short description of the project This report presents the results of an archaeological evaluation carried out by the Museum of London Archaeology Service on the site of the EDF Energy Station, Millfields Road, Hackney, London, E5. The report was commissioned from MoLAS by Capita Symonds Ltd on behalf of the client EDF Energy. Following the recommendations of the English Heritage Greater London Archaeology Advisory Service (GLAAS) two evaluation trenches were excavated on the site. The results of the field evaluation have helped to refine the initial assessment of the archaeological potential of the site. These results indicate that the potential for the survival of archaeological deposits on the site is low due to the depths of modern truncation encountered in the two trenches and also observed during current ground works associated with the present phase of construction work across the site.

Project dates Start: 20-08-2007 End: 24-08-2007

Previous/future work Yes / No

Any associated project reference codes OL-03707 - Sitecode

Type of project Field evaluation

Site status Local Authority Designated Archaeological Area

Current Land use Industry and Commerce 1 - Industrial

Methods & 'Targeted Trenches' techniques

Development type Service infrastructure (e.g. sewage works, reservoir, pumping station, etc.)

Prompt Direction from Local Planning Authority - PPG16

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

Project location

Country England
Site location GREATER LONDON HACKNEY HACKNEY EDF ENERGY
SUBSTATION, Millfields Road, Hackney, E5
Postcode E5
Study area 3000.00 Square metres
Site coordinates 0 0 535870 00 00 N 186305 00 00 E Point
Height OD Min: 3.14m Max: 5.54m

Project creators

Name of MoLAS
Organisation
Project originator brief MoLAS project manager
Project originator design MoLAS
Project director/manager Kieron Tyler
Project supervisor Paul Thrane
Type of EDF Energy
sponsor/funding
body

Project archives

Physical Archive No
Exists?

Physical recipient Archive LAARC

Physical Archive ID OL-03707

Digital recipient Archive LAARC

Digital Archive ID OL-03707

Digital Contents 'Survey'

Paper recipient Archive LAARC

Paper Archive ID OL-03707

Paper available Media 'Context sheet','Plan','Unpublished Text'

**Project
bibliography 1**

Publication type Grey literature (unpublished document/manuscript)

Title EDF Energy Substation, Millfields Road, Hackney E5

Author(s)/Editor(s) 'Thrale, P'

Date 2007

Issuer or publisher MoLAS

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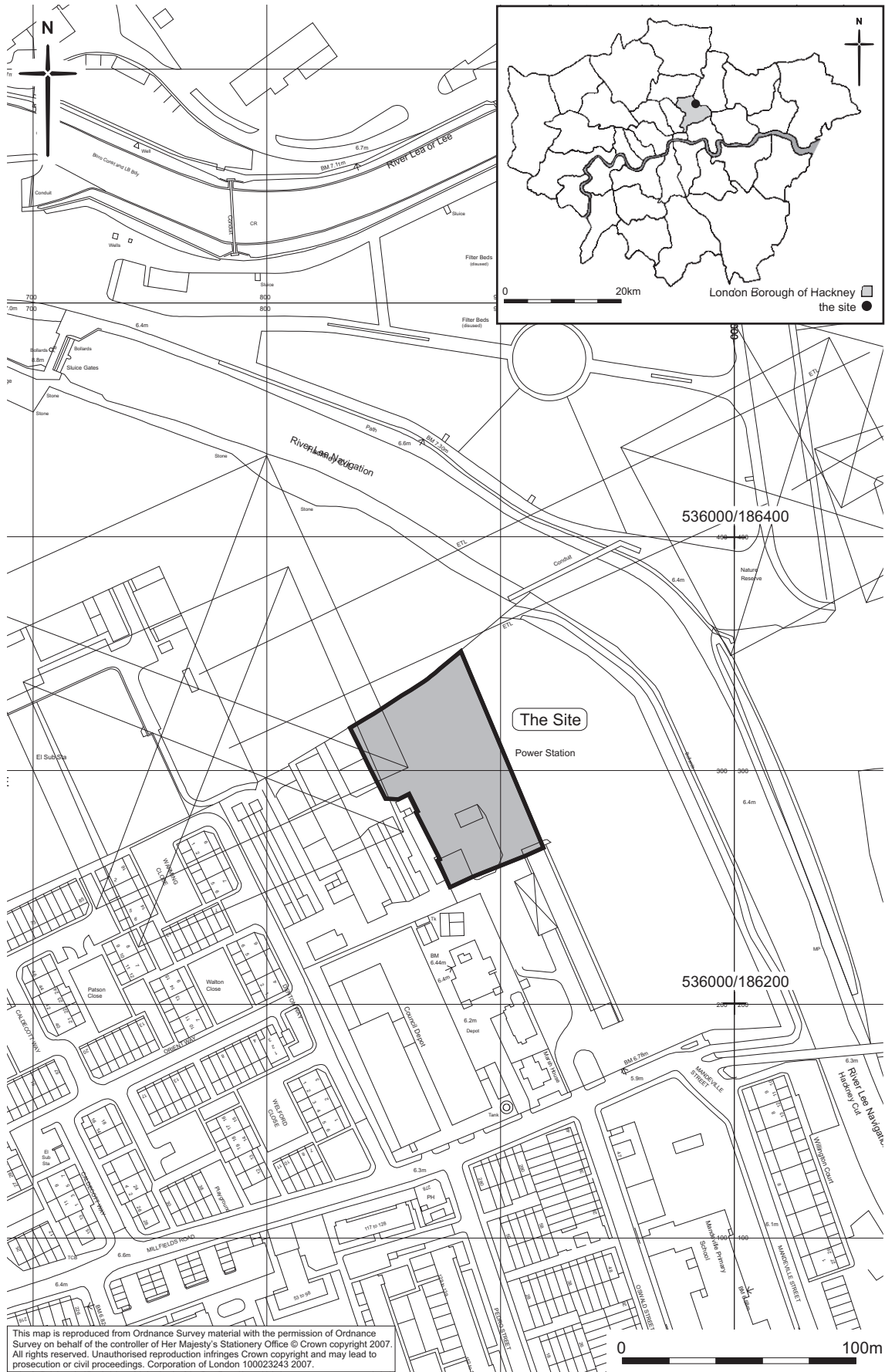


Fig 1 Site location

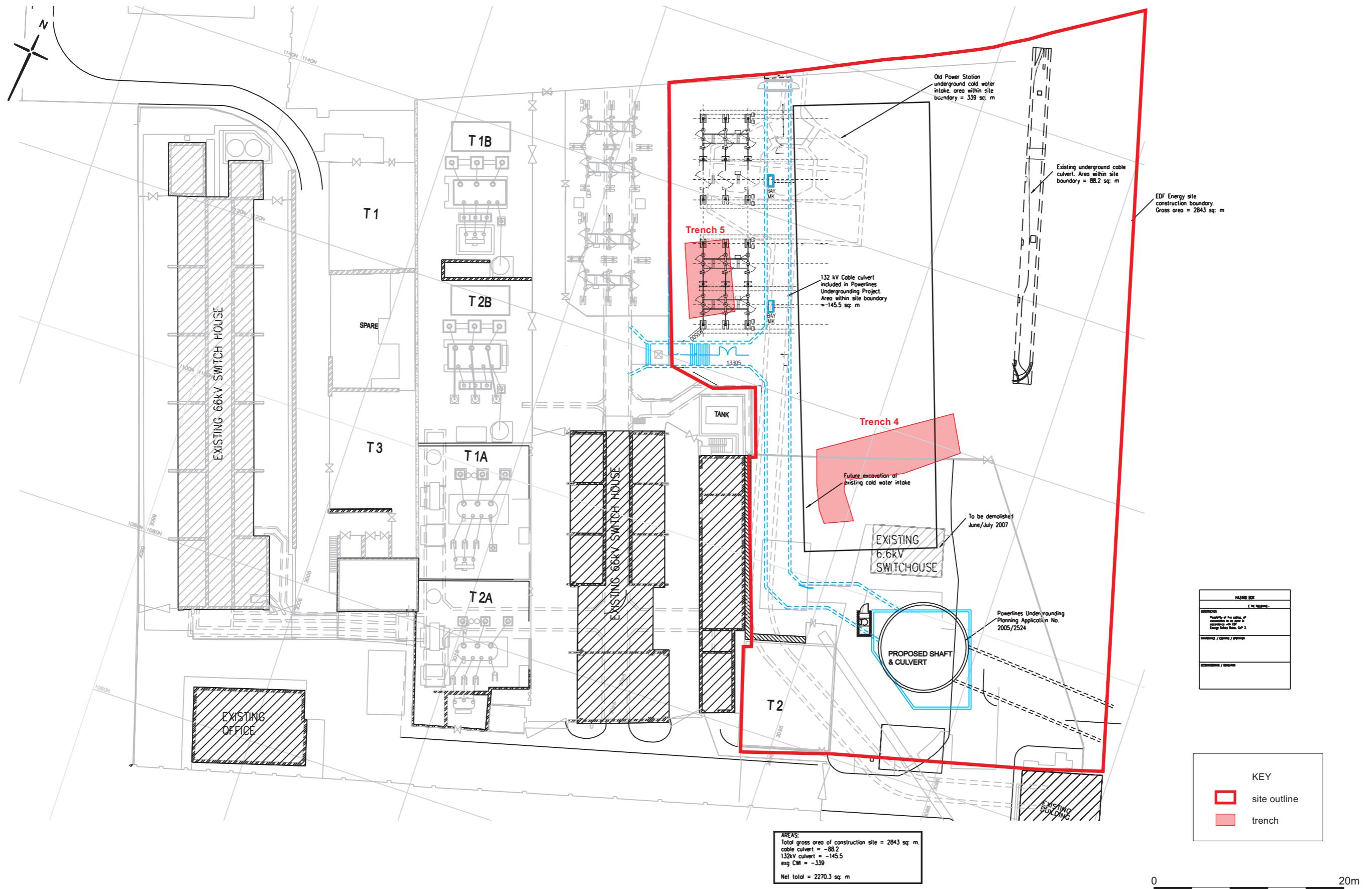


Fig 2 Trench locations

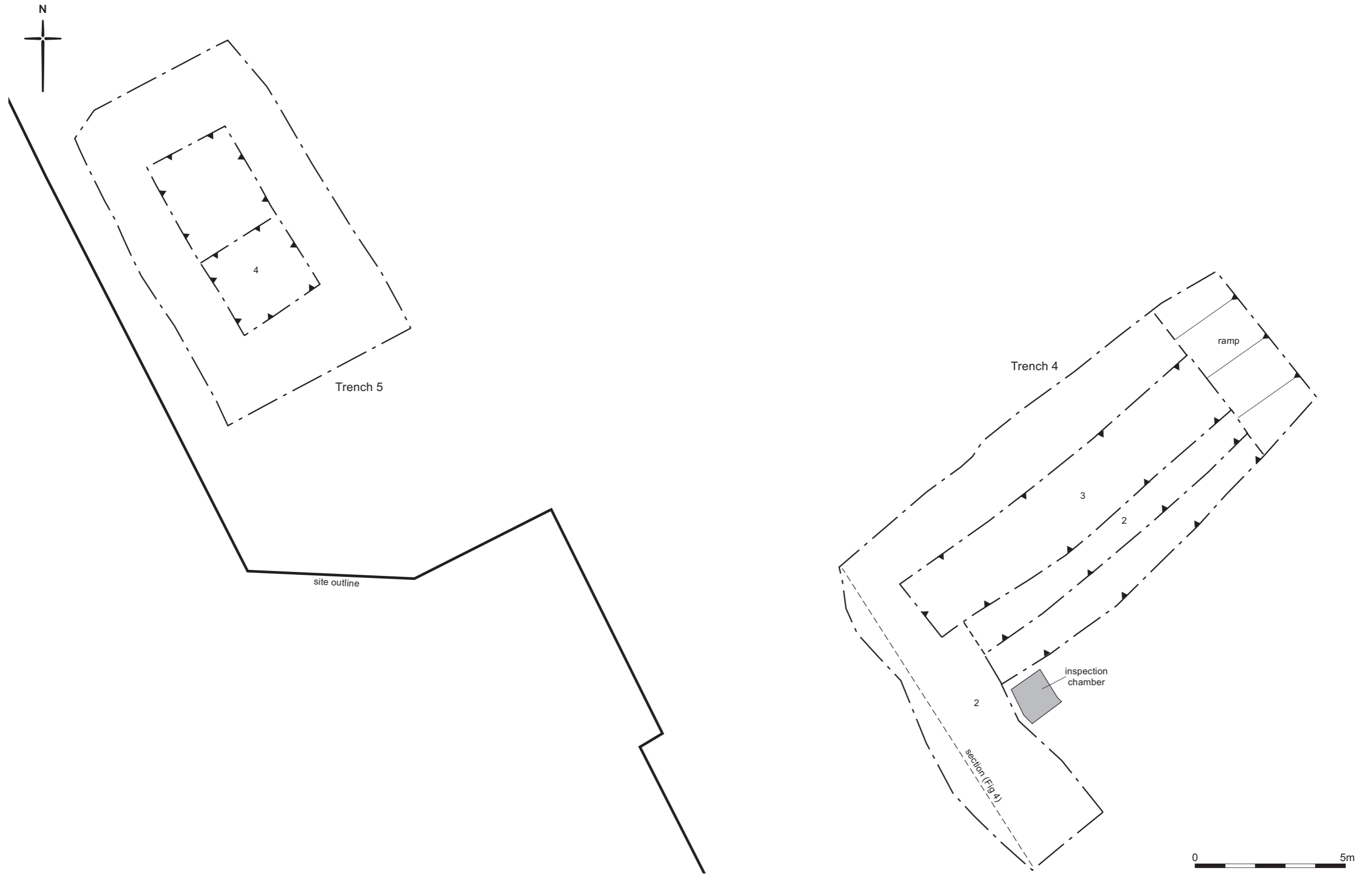


Fig 3 Plan of trench 4 and trench 5

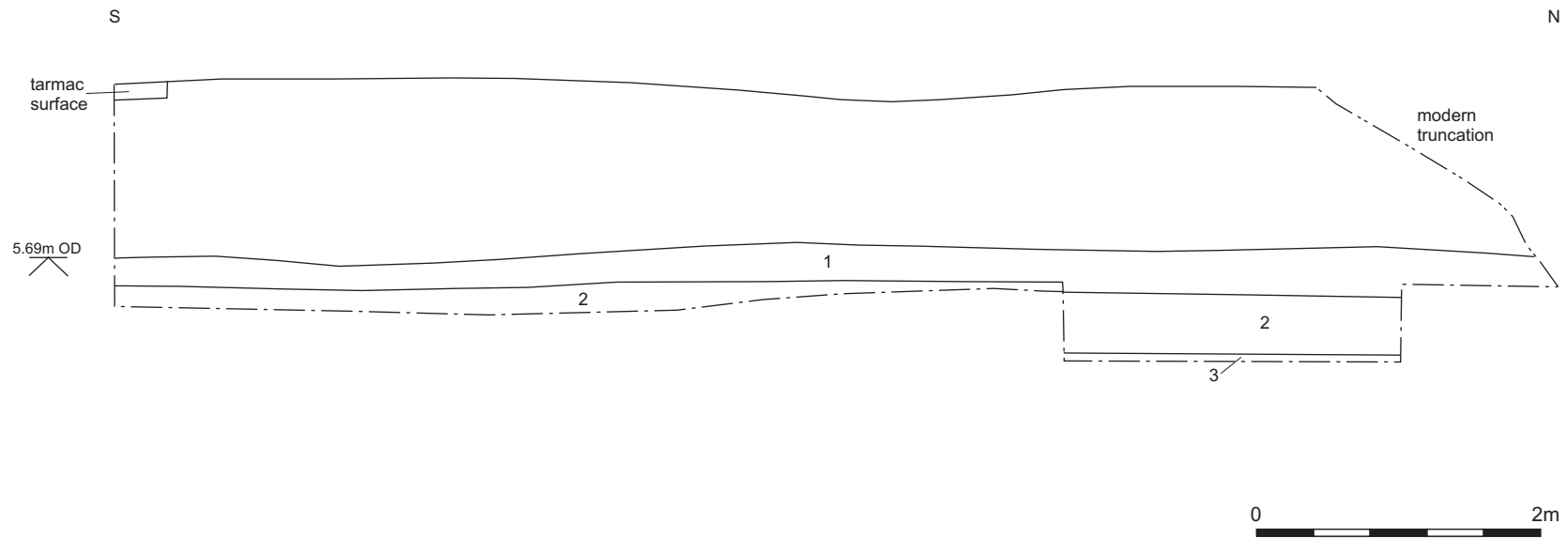


Fig 4 Section 1 of trench 4