

LEA VALLEY OLYMPIC AND PARALYMPIC PARK London

Undergrounding Shafts EAST-1 & WEST-1 (South Crescent, West Ham)

London Borough of Newham

A report on the evaluation

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Summary (non-technical)

This report presents the results of two archaeological watching briefs/evaluations carried out by MoLAS-PCA, the Museum of London Archaeology Service (MoLAS) and Pre-Construct Archaeology Limited (PCA), on the site of the proposed Shafts EAST-1 and WEST-1 (formerly known as EDFE-1 and NGR-1), South Crescent, West Ham, London Borough of Newham E16. The report was commissioned from MoLAS-PCA by Capita Symonds for the London Development Agency.

Excavation of material at Shaft West-1 revealed undisturbed natural gravels to be overlain by a thick band of clay. Above this was a thinner layer of peat containing organic material like tree roots and reed stems. This is representative of a prehistoric landscape comprised of marshland. Overlaying this peat horizon was a sequence of clays that are representative of previous land surfaces in the Lea Valley's history. Above this was modern made ground.

Excavation at Shaft East-1 revealed a thick layer of modern made-ground directly overlying undisturbed natural alluvial gravels. It is likely that post-war redevelopment of the area led to truncation of all deposits above the gravel that may have contained archaeological material. A clay and gravel horizon that underlies this is also a natural deposit.

Although both shafts showed an absence of material archaeology, the sequences of stratigraphy recorded are significant in understanding the past environmental conditions of the locale. Above these layers were several modern deposits, representative of post-war redevelopment and remediation of the area prior to its present day industrial usage.

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1 Introduction

1.1 Site background

At the time of excavation, Shaft West-1 was within the open yard of a scaffolding company. Immediately to the west was the road South Crescent, to the east an electrical sub station and to the south a large building owned by N.T.L. (figure 2).

The site of Shaft East-1 was located within the working business premises of EDF Energy. Situated in what was a car park, it is bordered to the west by a transformer house, to the north and northeast by electricity pylons, to the southeast by a warehouse and to the south by another car park (figure 2).

The OS National Grid References for the center of the shafts are East-1: 538993 181932 and West-1 538863 182013.

The current ground level at the position of the proposed shafts was c.6.20mOD at Shaft West-1 and 1.66mOD at Shaft East-1. The site code is OL-00505.

As part of the Powerlines Undergrounding scheme it is proposed to sink access shafts to the cable tunnels. An *archaeological impact assessment* has been prepared detailing the natural geology, archaeological and historical background of the site, and the initial interpretation of its archaeological potential (MoLAS-PCA [Burton] 2005). A *Method statement* was subsequently prepared (MoLAS-PCA [Moore] 2005), which formed the project design for the evaluation.

1.2 Planning and legislative framework

A general background to the planning and legislative framework covering all sites included in the Lower Lea Valley Olympic applications was included in the previous *Environmental statement* (Capita Symonds 2004).

1.3 Planning background

In accordance with local and national policies, archaeological evaluation of the site in advance of its redevelopment was required as part of the planning process. Evaluation is intended to define the archaeological potential and significance of any deposits present on the site, so that the local authority can formulate responses appropriate to any identified archaeological resource.

The Newham Powerlines Undergrounding Planning Application No. LB Newham P/05/0824, Conditions 33 & 34 (relating to the Main Works) are:

33. *Prior to the commencement of the Remediation Works a programme of archaeological investigation and work shall be completed in accordance with a written scheme for investigation and work which has been submitted and approved in writing by the Local Planning Authority. Such a scheme shall comprise a methodology for recording and historic analysis, which considers building structure, architectural detail and archaeological evidence.*

Reason: Archaeological remains may survive on the site. The Local Planning Authority wishes to secure the provision of archaeological investigation and the

subsequent recording of any remains prior to development, in accordance with the guidance and model condition set out in PPG15.

34. Prior to the commencement of the Main Works a programme of archaeological investigation and work shall be completed in accordance with a written scheme for investigation and work which has been submitted and approved in writing by the Local Planning Authority. Such a scheme shall comprise a methodology for recording and historic analysis, which considers building structure, architectural detail and archaeological evidence.

Reason: Archaeological remains may survive on the site. The Local Planning Authority wishes to secure the provision of archaeological investigation and the subsequent recording of any remains prior to development, in accordance with the guidance and model condition set out in PPG15.

1.4 Origin and scope of the report

This report was commissioned from MoLAS/PCA by the London Development Agency (LDA). 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 Archaeological background

1.5.1 Modern topography

The site is located on the floodplain (valley floor) of the River Lea, c 1.5km to the north of its confluence with the River Thames. The modern topography and drainage of the area has been much modified by man and bears little resemblance to the landscape of the site in historic and prehistoric times. Ground raising prior to industrial development has masked the natural land surface by several metres of 'made ground'. Similarly, very little remains in the modern landscape of the natural course of the Lea, which today flows through a series of mostly man-made canalised and culverted channels.

1.5.2 Geoarchaeology

The log of the recent geotechnical borehole NGT/EDFE BH1A suggests the Pleistocene gravel surface lies at around -0.3m OD, about 2m below the present ground surface in the vicinity of EAST 1 and WEST 1. However, previous work at

Twelvetreets Crescent to the west of the site and along the A1011 to the east suggests that there is great variation within short distances in the Pleistocene gravel and alluvial sequences in this area. It is not possible to tell from the geotechnical records whether these differences are of Pleistocene origin and led to an irregular prehistoric/historic landscape that may have been a mosaic of islands and stream channels, or whether the irregular gravel surface is the result of historic activity.

The sheltered position of the site, cut off from the direct influence of the Thames by a ridge of higher ground to the south and within an area that lay slightly above the main axis of the River Lea, may have been exploited by people in the past, especially as a tributary of the Lea, the upper valley of which is known to have been occupied by prehistoric people, may have crossed this area. It is not yet known, however, whether the predominantly clayey alluvium recorded in the area represents any or all of: redeposited alluvium; colluvial deposits (transported down the valley); wet meadowland soils; abandoned channels; and/or intertidal mudflats and salt marsh. Examination of the deposits themselves is needed if they are to be reliably interpreted.

The lack of organic deposits in the scant borehole data available from the area suggests the potential for past environmental reconstruction from biogenic remains and for radiocarbon dating the alluvial sequence may be low.

1.5.3 Prehistoric

There is a low potential for isolated finds of redeposited prehistoric material, reworked by the River Lea, or perhaps for Bronze Age votive offerings deposited in the river or its tributary streams. Palaeoenvironmental evidence might be recovered detailing changes to the river regime, climate, flora or fauna in the prehistoric period, perhaps with associated evidence for human impacts on the local environment. However much of this potential is likely to have been removed by post-medieval industrial activity in the area.

Any *in situ* remains of prehistoric and later date preserved within peat or alluvial deposits are considered to be of moderate importance for their potential to contribute significantly to understanding London's hydrology and river systems and tributaries in shaping London's history, and the relationships between rivers and floodplains (Museum of London 2002). In addition such evidence can help develop in characterising changing climatic conditions (Museum of London 2002). However, any remains providing evidence for prehistoric water management will be of high importance due to their regional rarity.

Such remains share group value with any similar evidence in the other parts of the Olympic development area in terms of collective interpretation and status.

1.5.4 Roman

There is a low potential for isolated finds of the Roman period on the site. There have been no finds of the Roman period found in the immediate vicinity.

Any redeposited Roman evidence is considered to be of low importance, as to date the finds from the area suggest that any such remains would be either redeposited or heavily fragmented and offer limited potential to contribute to the published priorities

(local research agenda). Any significant in situ remains that were present could be of moderate importance.

Such remains share group value with any similar evidence in the other parts of the Olympic development area in terms of collective interpretation and status.

1.5.5 Saxon

There is a low potential for isolated finds of the Saxon period on the site. There is little archaeological evidence for the Saxon period in the vicinity of the site.

Any redeposited Saxon evidence is considered to be of low importance as to date the finds from the area suggest that any such remains would be either redeposited or heavily fragmented and offer limited potential to contribute to the published priorities (local research agenda). Any significant in situ remains that were present could be of moderate importance.

1.5.6 Medieval

There is a low potential for remains of the medieval period on the site. The site area was known as the Abby Marsh during this period. Evidence for land drainage, revetments or canalisation of the Lea might be expected, although no such evidence was found during excavations at Stratford Langthorne abbey to the north.

Any redeposited medieval evidence is considered to be of low importance as to date the finds from the area suggest that any such remains would be either redeposited or heavily fragmented and offer limited potential to contribute to the published priorities (local research agenda). Any significant in situ remains that were present could be of moderate importance and share group value with any similar evidence in the other parts of the Olympic development area in terms of collective interpretation and status.

1.5.7 Post-medieval–modern

There is a high potential for evidence of the industrial development of the site area during the 19th century. The site remained as low lying marsh and fields, known as the ‘Abby Marsh’ and later ‘West Marsh’ until the development of the area during this time.

Any evidence of earlier landscape management is unlikely to have survived truncation associated with the industrial development.

Any post-medieval land use evidence (industrial use) is considered to be of moderate importance because it characterises the area’s townscape and has potential to contribute to the understanding of London’s place as an industrial power (Museum of London 2002). Any such post-medieval evidence shares group value with any such evidence in the other parts of the Lea Valley in terms of collective interpretation and status.

1.6 Aims and objectives

The following research aims and objectives were established in the *Method Statement* for the evaluation (Section 2.2) and are intended to address the research priorities established in the Museum of London's *A research framework for London Archaeology* (2002):

- Given the paucity of geoarchaeological information in general in this area can these sites help develop a more detailed model of the valley deposits?
- Are there gravel deposits extending as far as this site which contain evidence for Palaeolithic artefacts or ecofacts?
- Is there any peat on the site which can inform the Palaeoenvironmental understanding of ancient landscapes?
- Is there any evidence for prehistoric human exploitation, including agriculture, of the landscape? Is there evidence for colluvial deposits which may represent early evidence of agricultural erosion? If so, is it possible to characterise the status of the occupation or land use exploitation?
- What evidence is there for Roman and post-Roman exploitation?
- What evidence is there for water/river management, especially associated with Stratford Langthorn Abbey?
- Is there evidence of 19th and 20th century industrial activity?

The results of the recording of the evaluation and watching brief exercises will be used to gauge the extent and the importance of archaeological survival on this site and in the vicinity. This information may be used in future stages of building design and construction programming, and to inform a decision on an application for planning consent.

The works will follow the guidance set out in: Archaeological Guidance Paper 3 Standards and Practices in Archaeological Fieldwork in London; Archaeological Guidance Paper 4: Archaeological Reports Archaeological Paper 5: Evaluations.

2 The Evaluation

2.1 Methodology

All archaeological excavation and monitoring during the evaluation and subsequent mitigation excavation were carried out by a joint MoLAS-PCA team in accordance with the *method statement* (MoLAS-PCA [Moore] 2005). The archaeological investigation of Shaft West-1 was designed on an observing Watching Brief because it was demonstrated to MoLAS/ Pre-Construct Archaeology Ltd. that the ground was heavily contaminated. Such was the level of contamination that English Heritage that observing and recording deposits from the side of the examination was an appropriate methodology.

The Watching Brief on Shaft West 1 was undertaken on all ground reduction works. These works began with the excavation of a circular shaped pit measuring 20m in diameter, excavated to a depth of 2m. The pit was then stepped in and a process of shoring started. Ground reduction commenced a month later. The full depth of the shaft is approximately 20m below ground level, whilst the archaeological monitoring ceased once the shaft reduction revealed natural gravel.

A mechanical excavator supplied by the main contractor was used to excavate the shaft under the supervision of an archaeologist.

The shaft was located by the archaeologist on site measuring to points on south crescent and the N.T.L building (to the south and east of the shaft respectively). This information was then electronically collated and plotted on to the OS grid using CAD.

Levels were gathered from an on site engineer working for the contractors. 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).

Shaft East-1 was initially designed on an evaluation exercise. However, a slight change to the planned location of the shaft meant that it was seen to be located over several manholes and the concrete foundations of previous buildings¹. It was agreed with English Heritage that the archaeological investigation would start as a Watching Brief to see if an evaluation trench could be inserted at any stage. Smaller than Shaft West-1, an initial circular pit measuring approximately 10m in diameter was excavated. A concrete and steel ring, measuring approximately 7.5m in diameter was positioned within this pit and subsequently the deposits were removed using a mechanical excavator sitting in the ring. Hydraulic rams fixed at regular intervals around the circumference of the ring were used to push the ring into the ground. As the ring was sunk, additional concrete rings were added. This process continued until the modern overburden was removed. Waterlogging was a problem and though a pump was used to drain the shaft, it became increasingly difficult to view deposits.

The shaft was positioned and levels supplied by the main contractor. Written and drawn records of all archaeological deposits encountered were made in accordance with the principles set out in the MoLAS site-recording manual, (MoLAS, 1994).

The sites have produced: 2 shaft location plans; 11 context records; 3 plans; 3 section drawings at 1:20; The site records can be found under the site code OL-00505 and will be archived by LAARC.

¹ Moore, P. *pers. comm.*

2.2 Results of the evaluation

2.2.1.1 Watching Brief Shaft West-1

The shaft was monitored to a depth of c.5.10m below ground level (–2.42mOD).

Table 1 Details of depositional sequence in Shaft WEST-1

Location	Shaft West-1, South Crescent, West Ham
Dimensions	20m N/S by 20m E/W
Modern ground level	2.70m OD
Base of modern fill	0.20m OD
Top of soil horizon observed	0.20m OD
Level of base of deposits observed	-2.42m OD
Thickness of deposits of archaeological interest (i.e.: soil horizon) observed	2.62m
Context numbers	[1 to 8]

The lowest deposit revealed within Shaft West-1 was the natural gravel, context (8). This was recorded at a depth of –1.60m OD. Sealing the natural gravels was a deposit of blue coloured alluvial clay, (7). This was encountered at a level of -0.86mOD and had average thickness of 0.74m.

Overlying this clay was a band of peat (6). This contained organic material such as tree roots and reed stems. The layer was found at a level of –0.44mOD and was 0.40m thick. The peat confirms the area was once covered in a boggy marshy terrain rich in plants and vegetation. Sealing the peat was a layer of clay mid orangey grey in colour (5). This deposit was 0.40m thick and was at a level of 0.30mOD. Above this layer was another clay band (4), darker than context (5) and bluey grey in colour, and the first non-made ground deposit encountered. The layer was 0.41m thick and was found at a level of 0.65mOD.

Above the clay (4) was a thick black layer of modern industrial material (3). This layer was 1.04m thick and was found at a level of 1.64mOD. Wood shards, red and yellow frogged brick fragments, small slag pieces (less than 100mm in size) and mortar fragments were all found in this layer. Sealing this deposit was a layer of yellow building sand (2). Contained in this deposit were fragments of modern brick and modern fibrous Hessian sheets. The layer was 0.34m thick and was found at a level of 1.95mOD. Finally above context (2) was a dark orange brown silty sand deposit (1), 0.64m thick and found at a level of 2.64mOD. Reinforced concrete boulders, 20th century brick fragments, plastic, tarmac, wood, iron and more Hessian sheeting were all observed in context (1). Context (1) and (2) may both be levelling or backfill layers, whilst (1), (2) and (3) may be connected with the recent history of the particular area which was used as a coal loading area for a power station. A thin layer of modern concrete (+) capped the stratigraphy.

2.2.1.2 Watching Brief Shaft East-1

The shaft was monitored to a depth of c.5.50m below ground level (–2.84mOD) where a circular area measuring 7.5 by 7.5m was exposed.

Table 2 Details of depositional sequence in Shaft EAST-1

Location	Shaft East-1, South Crescent, West Ham
Dimensions	7.5m NS, 7.5m EW
Modern ground level	1.66m OD
Base of modern fill	-1.84m OD
Top of soil horizon observed	-1.84m OD
Level of base of deposits observed	-2.84m OD
Thickness of deposits of archaeological interest (i.e.: soil horizon) observed	c.1.00m
Context numbers	[1 to 3]

At a height of approximately –2.84mOD, a deposit of gravely-clay (3) represents the lowest layer of stratigraphy observed under archaeological supervision on site. This was composed of sub-rounded, dark-grey, medium flint gravel within a dark grey-brown clay matrix. Extensive waterlogging within the shaft caused considerable difficulty in identification of differing layers. A mechanical grab-bucket was used for excavation and changes in soil composition were not identified in situ but by examination of removed spoil.

The next layer to be encountered in the sequence was a layer of alluvial gravel (2) at a height of –1.84mOD. This was very similar in appearance to (3) with sub-rounded medium sized stones constituting the layer, minus the clay matrix. This layer is representative of the latest natural horizon in the shaft.

Because only post-war fill (1) was found above the ground (2) it is suggested that following demolition of structures in the post-war period, the area was levelled and a process of ground remediation embarked upon. This layer was approximately 3.40m in thickness and contained such modern materials as bricks, metals and timber scraps.

2.3 Stratigraphic discussion of the site

2.3.1 Buried topography

The stratigraphy recorded in the evaluation trenches and previous geotechnical investigation has been added to the updated Olympics / Lower Lea Regeneration version of the Lea Valley Mapping Project database.

2.4 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’.

Although the watching brief / evaluation of Shaft West-1 uncovered no archaeological remains, the sequence of the stratigraphy recorded is very useful. Variation in the deposition of gravels, peats and clays give an indication of the environmental processes that operated in the Lea Valley in the Holocene. The survival of peat in this area is rare and its presence is a good indicator of marshy settings in which evidence of prehistoric communities are often found. Overlying clays are indicators of sea level

changes and possibly widespread changes in the landscape. With ground containing modern material lying directly above these layers, it would appear a process of significant remediation has occurred.

Shaft East-1 produced no archaeological material. The stratigraphy that was observed is typical of what is expected in the Lower Lea Valley- a sequence of gravels and clays. Post-war remediation destroyed alluvial and any archaeological deposits.

3 Archaeological Potential

3.1 Realisation of original research aims

The extent to which the evaluation has been able to address the research objectives established in the *Method Statement* for the evaluation is discussed below:

- *Given the paucity of geoarchaeological information in general in this area can these sites help develop a more detailed model of the valley deposits?*

Although no archaeological finds or structures were discovered in either shaft excavation, the information recorded of depths and characteristics of stratigraphic layers is highly significant. As stressed in the method statement, (Moore, 2005), any knowledge gained concerning the archaeo-environmental sequence holds good potential to contribute to our understanding of the Lea Valley.

Gravel observed in Shaft East-1 is most likely a Pleistocene deposit, where glacial melt-waters carved through existing higher gravel plains and deposited channel bars in the newly cut floodplain. The confluence of the Lea and the Thames gave rise to large gravel banks. The origins of the gravels are unsure as they combine several existing deposits as well as newly transported material. Due to the truncation by modern material in this shaft, it is impossible to comment further on history due to the lack of overlying, characteristic alluvial deposits.

Shaft West-1 is far more useful in recreation of an archaeo-environmental picture in the Lea Valley. Whereas the lowest gravels observed are likely to be the same as in Shaft East-1, the overlying blue clay layer represents another phase of alluvial deposition. However, it is the peat layer that overlies these that remains most significant. Rising sea levels and the associated decrease in the flow-rates of tributaries lead to the creation of peat layers. These are traditionally useful for their preservation of archaeological and environmental materials and are excellent indicators of past environmental conditions in which communities may have lived and exploited their surroundings. Although no human evidence was seen, the existence of this layer is encouraging for future investigation in the locality.

Clay layers sealing the peat in Shaft West-1 imply a reversion to lower sea levels and the re-emergence of tributaries depositing fine particles. Any further alluvial accumulation has been truncated by the layer of made ground that is assumed to be part of a post-war remediation event.

- *Are there gravel deposits extending as far as this site which contain evidence for Palaeolithic artefacts or ecofacts?*

Gravel deposits observed in both shaft excavations showed no evidence of Palaeolithic occupation in the form of either artefacts or ecofacts.

- *Is there any peat on the site which can inform the Palaeoenvironmental understanding of ancient landscapes?*

Peat was observed in Shaft West-1. Although samples could not be collected, its very presence is encouraging for the survival of an occupation layer within the locality that could yield information on previous floral and faunal species that existed in past environments. Peat formation represents a period of waterlogging in the Holocene as a consequence of change in sea levels, therefore shedding light on palaeoenvironmental processes in effect in the Lower Lea Valley.

- *Is there any evidence for prehistoric human exploitation, including agriculture, of the landscape? Is there evidence for colluvial deposits which may represent early evidence of agricultural erosion? If so, is it possible to characterise the status of the occupation or land use exploitation?*

Evidence for human exploitation of the landscape is lacking from deposits in both shafts. Ditches and pits that we might expect to find as being indicators of agricultural practices were not present.

- *What evidence is there for Roman and post-Roman exploitation?*

No evidence for archaeological activity from this period was observed in either shaft excavation.

- *What evidence is there for water/river management, especially associated with Stratford Langthorn Abbey?*

No evidence for water management was observed. It is likely that post-war remediation work has destroyed soil horizons and features representative of this period.

- *Is there evidence of 19th and 20th century industrial activity?*

Three separate layers of made ground constitute the modern overburden in Shaft West-1. Material from within these layers appears to be very modern. However, some slag inclusions are suggestive of metalworking processes in the locality. Coal fragments are likely to be from a coal-fired power station, of which the site formed a loading area. Inclusions within layers of made ground in Shaft East-1 suggest a post-war phase of remediation works. Materials included in this horizon include timbers, bricks and metal fragments, all given the impression of a very modern deposit.

3.2 General discussion of potential

Potential archaeological retrieval on both sites is limited to alluvial soil deposits that may give scope on other nearby sites to the investigation of past environmental issues.

3.3 Significance

Very little is yet known about the evolving environment of the Lower Lea and its relationship to the changing landscape and river regime of the Thames and to the archaeology of the river terraces on either side of the valley floor.

If subsequent work in the vicinity can investigate this sequence, this could contribute to our current understanding of the past environment of the site and its surroundings and would be undoubtedly of local significance. However, there is nothing to suggest that it would be of regional or national importance.

Any evidence of prehistoric, Roman, Saxon and medieval activity would similarly aid in our understanding of the past land use of the site and of the area in general.

4 Proposed Development Impact and Recommendations

The proposed development at both Shafts West-1 and East-1 does not extend beyond the areas already investigated during the watching brief/ evaluation exercises. Each shaft has been excavated to a depth where undisturbed natural deposits have been encountered. Although excavation is continuing downwards, there is no archaeologically sensitive material that could potential be destroyed.

5 Acknowledgements

MoLAS/PCA would like to thank Capita Symonds, specifically Peter Hine for commissioning this investigation on behalf of the London Development Agency. We would also like to thank David Divers (English Heritage, GLAAS) for his advise and support during this project. Special thanks are due to the main contractors, Murphy's, especially John Murphy for their help and co-operation. The authors would like to thank those who helped in the field, namely John Crisp and Rebecca Lythe. They would also like to thank Josephine Brown for the CAD drawings, Nick Bateman for overall project co-ordination and Peter Moore for project management.

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7 NMR OASIS archaeological report form

1.7 OASIS ID: preconst1-19444

Project details

Project name	Undergrounding Shafts EAST-1 and WEST-1, South Crescent, West Ham
Short description of the project	<p>This report presents the results of two archaeological watching briefs/evaluations carried out by MoLAS-PCA, the Museum of London Archaeology Service (MoLAS) and Pre-Construct Archaeology Limited (PCA), on the site of the proposed Shafts EAST-1 and WEST-1 (formerly known as EDFE-1 and NGR-1), South Crescent, West Ham, London Borough of Newham E16. The report was commissioned from MoLAS-PCA by Capita Symonds for the London Development Agency. Excavation of material at Shaft West-1 revealed undisturbed natural gravels to be overlain by a thick band of clay. Above this was a thinner layer of peat containing organic material like tree roots and reed stems. This is representative of a prehistoric landscape comprised of marshland. Overlaying this peat horizon was a sequence of clays that are representative of previous land surfaces in the Lea Valley's history. Above this was modern made ground. Excavation at Shaft East-1 revealed a thick layer of modern made-ground directly overlying undisturbed natural alluvial gravels. It is likely that post-war redevelopment of the area led to truncation of all deposits above the gravel that may have contained archaeological material. A clay and gravel horizon that underlies this is also a natural deposit. Although both shafts showed an absence of material archaeology, the sequences of stratigraphy recorded are significant in understanding the past environmental conditions of the locale. Above these layers were several modern deposits, representative of post-war redevelopment and remediation of the area prior to its present day industrial usage.</p>
Project dates	Start: 06-06-2006 End: 16-10-2006
Previous/future work	No / No
Any associated project reference codes	OL-00505 - Sitecode
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Industry and Commerce 1 - Industrial
Investigation type	'Part Excavation','Watching Brief'

Prompt Direction from Local Planning Authority - PPG15

Project location

Country	England
Site location	GREATER LONDON NEWHAM WEST HAM Undergrounding Shafts EAST-1 and WEST-1, South Crescent, West Ham
Postcode	E16
Study area	300.00 Square metres
Site coordinates	TQ 53899 18193 50.9420351443 0.190836710902 50 56 31 N 000 11 27 E Point
Site coordinates	TQ 53886 18201 50.9421105179 0.190655173409 50 56 31 N 000 11 26 E Point
Height OD	Min: -1.84m Max: 0.20m

Project creators

Name of Organisation	MoLAS/PCA Ltd
Project brief originator	MoLAS/PCA
Project design originator	Peter Moore
Project director/manager	Peter Moore
Project supervisor	Mike Bazley
Project supervisor	Mike Bazley
Type of sponsor/funding body	London Development Agency

Project archives

Physical Archive recipient LAARC

Digital Archive recipient LAARC

Project bibliography 1

Publication type Grey literature (unpublished document/manuscript)

Title Method Statement for an Archaeological Evaluation of Shaft East-1 and a Watching Brief at Shaft West-1, South Crescent, West Ham, London Borough of Newham. MoLAS/PCA unpublished report

Author(s)/Editor(s) Moore, P.

Date 2005

Project bibliography 2

Publication type Grey literature (unpublished document/manuscript)

Title Undergrounding Shafts East-1 and West-1, South Crescent, West Ham. MoLAS/PCA unpublished report

Author(s)/Editor(s) Humphrey, R

Author(s)/Editor(s) Bazley, M

Entered by Richard Humphrey (rhumphrey@pre-construct.com)

Entered on 20 October 2006

2 OASIS:

Please e-mail [English Heritage](mailto:English.Heritage@ahds.ac.uk) for OASIS help and advice
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Cite only: <http://ads.ahds.ac.uk/oasis/print.cfm?ID=19493> for this page

Appendix 1: Glossary

Alluvium. Sediment laid down by a river, and usually well-sorted. Can range from sands and gravels deposited by fast flowing water and clays that settle out of suspension during overbank flooding. Other deposits found on a valley floor are usually included in the term alluvium. Peat develops when there is little mineral sediment deposition and impeded drainage, which limits biological decay; and tufa accumulates when springs rich in calcium carbonate discharge in damp well-vegetated situations.

Arctic Beds. Cold climate deposits, pre-dating the Last Glacial Maximum and sometimes found within the gravels of the Lower Lea. They may survive within parts of the floodplain not reworked by the river during the Late Glacial.

Ecotone. A zone that lies between areas of contrasting environment, such as on the wetland/dryland margins.

Holocene. The most recent epoch (part) of the Quaternary, covering the past 10,000 years during which time a warm interglacial climate has existed. Also referred to as the 'Postglacial' and (in Britain) as the 'Flandrian'.

Knickpoint. A fall in base level (such as the low sea level at the end of the Pleistocene) gives rise to a discontinuity in the longitudinal profile of a river ie: steepening of the downstream channel gradient. The river tends to adjust to such a change by increased flow, which leads to increased erosion in the steepened section of the river and this results in the steepened section (knickpoint) cutting back in an upstream direction.

Last Glacial Maximum. The height of the glaciation that took place at the end of the last cold stage, around 18,000 years ago.

Late Glacial. The period following the Last Glacial Maximum and lasting until the climatic warming at the start of the Holocene. In Britain this period is subdivided into a warm 'interstadial' episode the Windermere Interstadial, followed by a renewed cold ('stadial') episode, in which local ice advances occurred (the Loch Lomond Stadial).

Pleistocene. Used in this report to refer to the earliest part of the Quaternary, the period of time until the start of the Holocene, about 10,000 years ago. However, since the present Holocene epoch is almost certainly only a warm interglacial episode within the oscillating climate of the Quaternary, it is often seen as being part of the Pleistocene epoch, in which case the terms Pleistocene and Quaternary are interchangeable. As it is necessary, in this report, to differentiate between the events that took place at various times during the last cold stage and earlier in the Quaternary and those that took place during the Holocene, the Pleistocene is used to refer to the parts of the Quaternary pre-dating the climatic amelioration that took place at the start of the Holocene.

Quaternary. The most recent major sub-division (period) of the geological record, extending from around 2 million years ago to the present day and characterised by

climatic oscillations from full glacial to warm episodes, when the temperate was as warm as if not warmer than today. To a large extent human evolution has taken place within the Quaternary period.

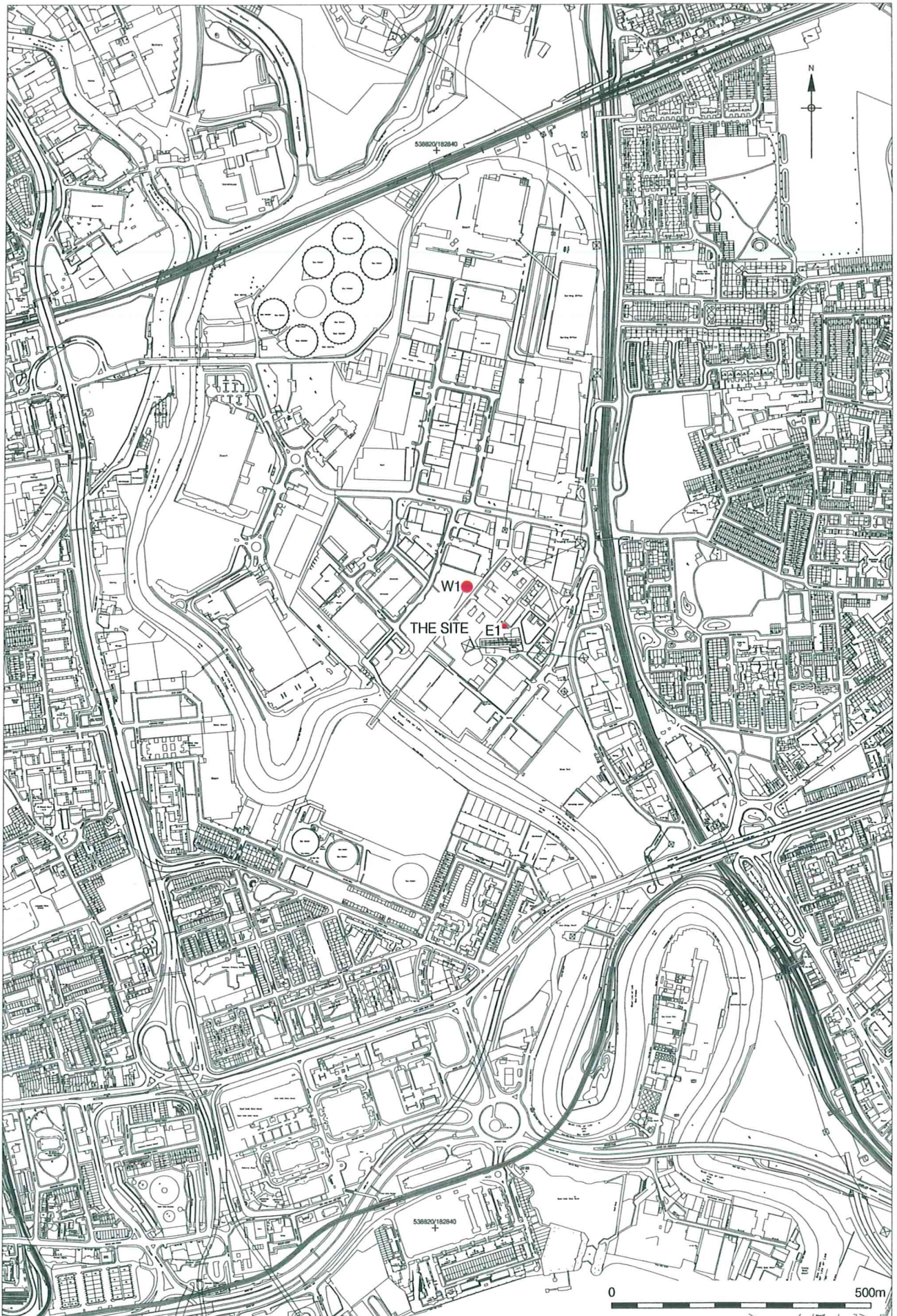


Figure 1
Site location
1:10,000

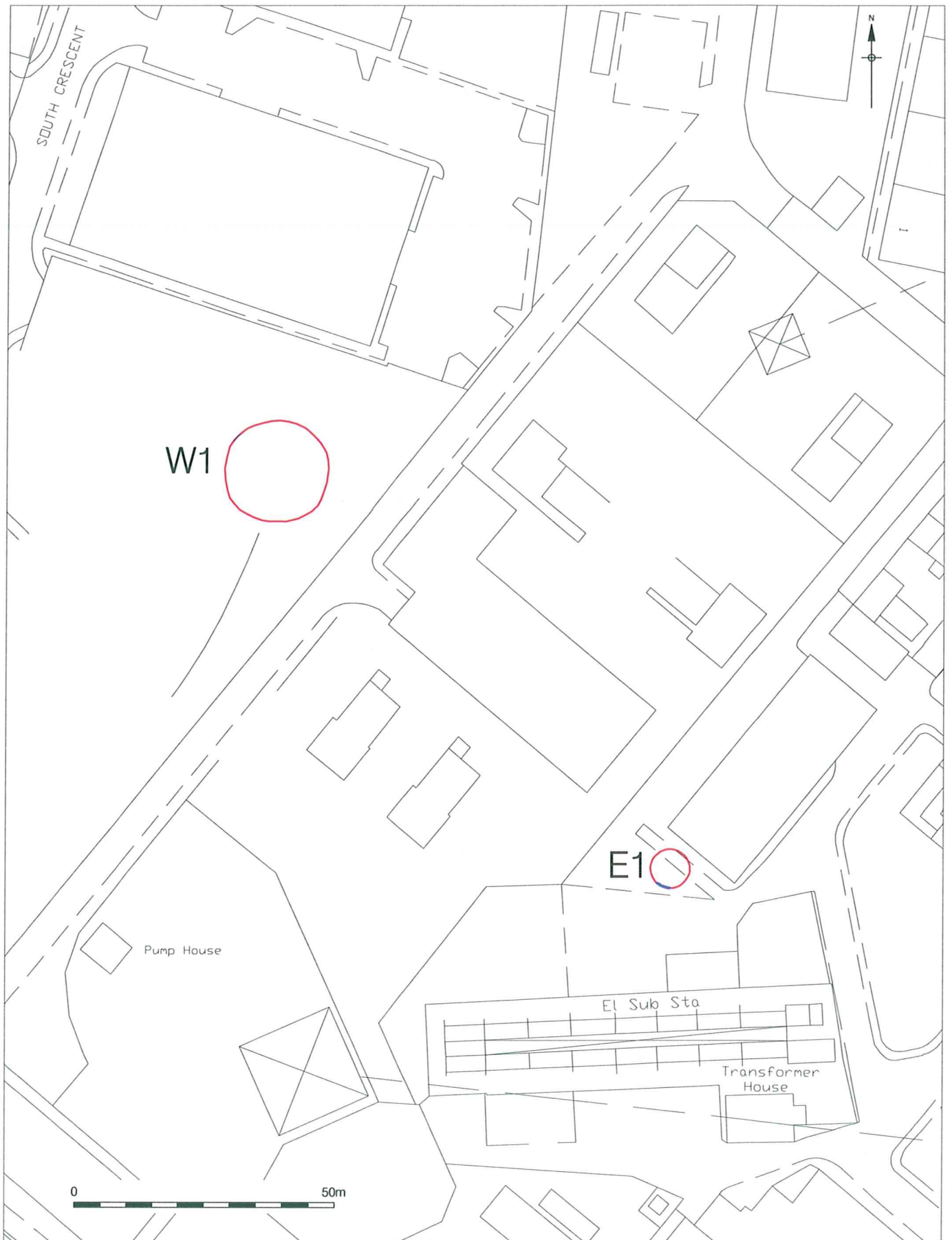
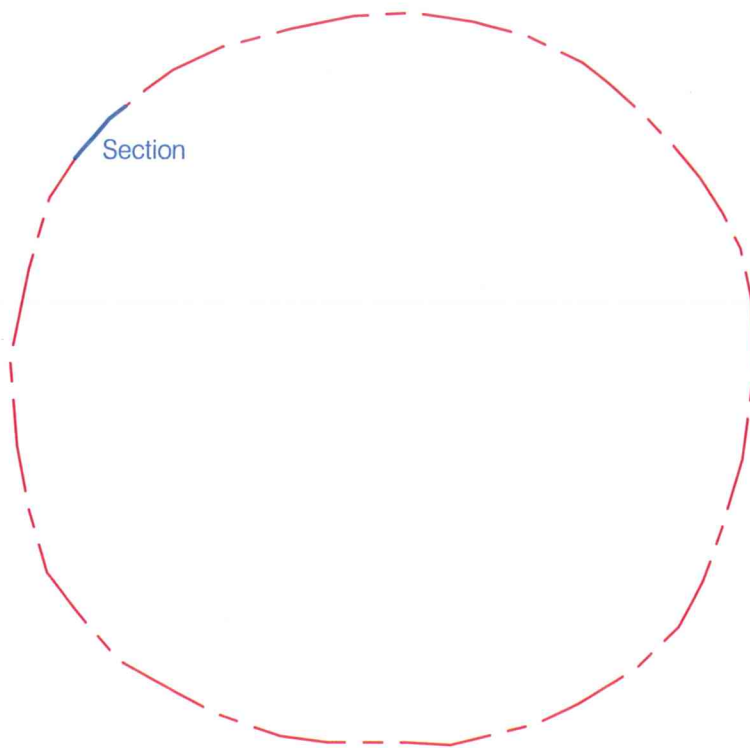
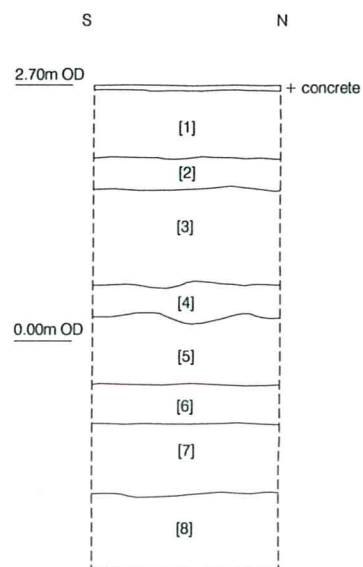


Figure 2
Shaft locations
1:1,000



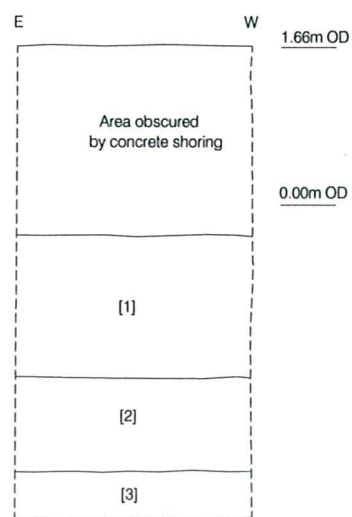
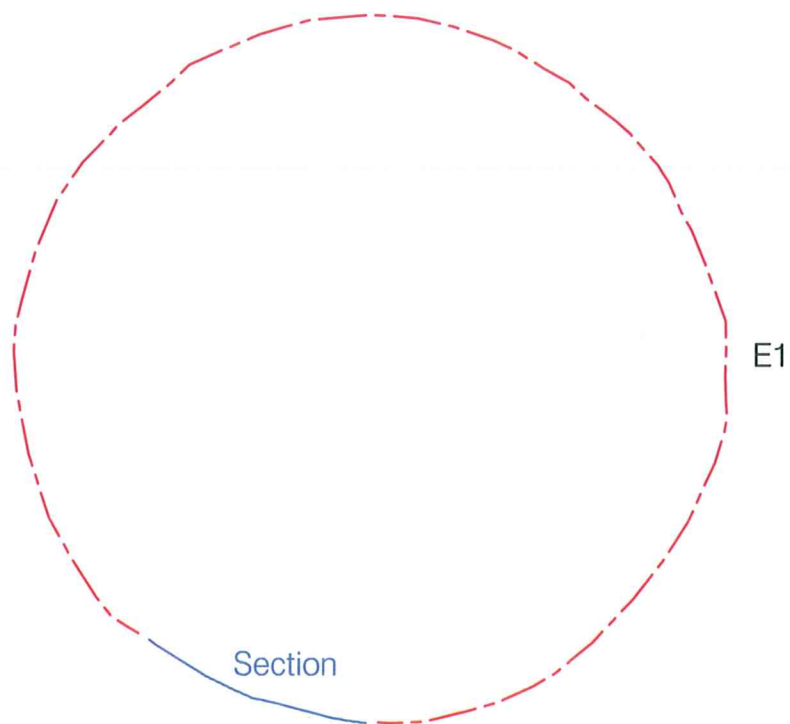
0 10m



Representative section in Shaft W1
East facing

0 5m

Figure 3
Plan and Section of W1
Plan 1:200 , Section 1:80



Representative section in Shaft E1
North facing



Figure 4
Plan and Section of E1
1:80