

Folkestone Road Depot, East Ham, London, E6

Archaeological Desk-based Assessment





**FOLKESTONE ROAD DEPOT,
EAST HAM
LONDON
E6**

Archaeological Desk-based Assessment

Prepared for
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Greater London**

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Summary

Wessex Archaeology was commissioned by Newham Borough Council to undertake an Archaeological Desk-Based Assessment of a council depot at Folkestone Road, East Ham, London in advance of any future application for planning permission. The Site covers an area of approximately 10.5 hectares under the jurisdiction of Newham Borough Council and is centred on National Grid Reference (NGR) 543666/183172.

The purpose of the study is to gauge the archaeological potential of the Site and to establish as far as available information will allow, the extent of previous ground intrusion at the Site, therefore indicating the likelihood for the survival of archaeological remains. A circular Study Area extending for 500m from the Site centre has been considered in order to provide an archaeological and historical context for interpretation.

The Site is situated within a designated Archaeological Priority Area, in proximity to a riverine environment in a Study Area which reflects a low level of prehistoric activity. A **low** potential exists for the recovery of related deposits in areas of the Site previously subjected to lower levels of ground intrusion. The Site occupied marshland/reclaimed agricultural land until the late 19th century and was situated away from historic settlement centres.

Extensive phases of ground reduction, and increase have been identified across the Site as a result of previous use as a sewage works and refuse Site. The extent of ground intrusion resulting from the addition and removal of buildings and the general landscaping of the Site has also been addressed. It is suggested that conditions for the survival of potential buried archaeological remains are **extremely low**.

Further Works and Mitigation

As a result of the factors outlined above, it is anticipated that geotechnical investigations may be required in advance of any future planning submission and the results interpreted to substantiate the depth and extent of made ground across the Site highlighted in the course of this report.

Dependant on the results of these investigations archaeological work in the form of a mitigation strategy may be required by the Greater London Archaeological Advisory Service. This may include a targeted archaeological watching brief in those areas not subject to previous ground intrusion.

This mitigation process would require agreement with English Heritage (Greater London Archaeological Advisory Service).

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Acknowledgements

Wessex Archaeology was commissioned by Newham Borough Council to undertake an archaeological desk-based assessment of land at the Folkestone Road Depot, East Ham, London. Wessex Archaeology would like to thank Steve Elwood, SMR Officer for the Greater London Sites and Monuments Record and Bruce McSweeney and Dave Stevens of Newham Borough Council for their assistance in the compilation of this report.

This report was researched and compiled by Katharine Barber and the illustrations were prepared by Kitty Brandon. The Site visit was undertaken by Katharine Barber. The project was managed for Wessex Archaeology by Lawrence Pontin.

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Archaeological Desk-based Assessment

1 INTRODUCTION

1.1 Project Background

1.1.1. Wessex Archaeology was commissioned by Newham Borough Council to undertake an Archaeological Desk-Based Assessment of a site occupied by the Folkestone Road Depot, East Ham, London in advance of any future applications for planning permission. (**Figure 1**; hereafter the Site). The Site lies under the jurisdiction of Newham Borough Council and is centred on National Grid Reference (NGR) 543666/183172. There are no outline development proposals concerning the Site at present.

1.1.2 The purpose of the study is to gauge the archaeological potential of the Site and to establish as far as available information will allow, the extent of previous ground intrusion at the Site, therefore indicating the likelihood for the survival of archaeological remains. The results are based on information concerning the historic development of the site and associated infrastructure (See **Figures 2** and **3**). For the purposes of this study the Site has been divided into six different areas (**Areas A-G; Figure 2, Plates 1-9**). These roughly correspond with areas of differing ground surface level identified at the time of the Site inspection.

1.1.3 Any future development at the depot would be likely to necessitate ground intrusion at various locations across the Site. The Site covers an approximate area of 10.5 hectares.

1.2 Landscape and Geology

1.2.1 The Site is accessed at the west from Folkestone Road and at the east from Jenkins Lane. The depot is bounded by school playing fields to the north, the North Circular Road to the east, allotment gardens to the south and south-west, a Thames Water compound to the south and west and Folkestone Road to the west.

1.2.2 The Site is situated in the historic parish of East Ham, west of the River Roding (and the Back Roding tributary) which defines the boundary with Barking. The Site is currently occupied by the council depot incorporating workshops, car pound, car parking, maintenance compounds and administration buildings. The Site has been formally occupied by a sewage works and landfill/refuse site and has consequently been subject to intensive land remodelling. This is reflected in the dramatic difference in surface levels across the site which reaches its highest in **Area G** where the capped mound of the former refuse tip is occupied by the Borough car pound.

- 1.2.3 The geology of the Site is determined by the path of the River Roding. The underlying geology of the Site comprises Alluvial deposits overlying Thames gravels (MoLAS 2000, Maps 1-11). Historically the Site was situated in open marshland bounding the western bank of the River Roding on the east side of East Ham (South End) settlement.

2.0 METHODOLOGY

2.1 Scope

- 2.1.1. The aim of this assessment is to detail the known information relating to sub surface archaeology at the Site and to assess the potential for the presence of previously unknown elements that may be impacted by the proposed development.
- 2.1.2 The archaeological resource within a 500m circular Study Area (**Figure 1**) of the Site centre has been considered in order to provide a context for the discussion and interpretation of the known and potential resource. Beyond the 500m Study Area, the historic centre of Barking is situated west of the River Roding north-east of the Site. Activity associated with the settlement is largely confined to the east bank of the river and has not been identified within the 500m Study Area to date.
- 2.1.3 A brief summary of the sources consulted is given below.

2.2 Research

- 2.2.1 Various publicly accessible sources of primary and synthesised information were consulted.

Greater London (GLSMR) Sites and Monuments Record

- 2.2.2 English Heritage maintains a database of archaeological sites and findspots for the 33 London boroughs. All records within the Study Area were examined. A synthesised summary is presented as **Appendix 1**.
- 2.2.4 SMR's are not a record of all *surviving* elements of the Historic Environment but a record of the discovery of a wide range of archaeological and historical components of the Historic Environment. The information held within them is not complete and does not preclude the subsequent discovery of further elements of the Historic Environment that are at present unknown.

Legislative and Planning Documents

- 2.2.5 The London Plan: Spatial Development Strategy for Greater London was published in 2004 and sets out the Mayor's strategic plan for "an integrated social, economic and environmental framework for the future development of London, looking forward 15–20 years." The Islington Unitary Development Plan (UDP) sets out the council's planning policies, and provides the basis for all the council's planning decisions. Newham's UDP was adopted on 6th June 2001. These plans were consulted to inform of any existing development controls relating to the historic environment. This document has been prepared in accordance with national guidelines including Planning Policy Guidance (PPG) Notes 15 and 16.

- 2.2.6 The results of a review of this legislation and where relevant details of any statutory designations are included in **Section 4** of this report.

Documentary Sources

- 2.2.7 A search of other relevant primary and secondary sources was carried out via the Greater London Sites and Monuments Record, on line, from information provided by the Borough Council and in Wessex Archaeology's own library. The sources consulted are listed in the References (**Section 8**).

Cartographic Sources

- 2.2.8 A search of historic manuscripts and Ordnance Survey maps was undertaken. The study of maps and other associated historical sources helps to clarify the archaeological potential of the Study Area in two ways. Firstly, it suggests aspects of the medieval and later land-use prior to its modern development. Secondly, it pinpoints areas within the Study Area which, as a result of that development, are likely to have become archaeologically sterile. This is particularly significant for the Folkestone Road Depot. The maps relevant to the Site are listed in the References section (**Section 8**).

Aerial Photographs

- 2.2.9 Under certain conditions sub-surface archaeological features can be visible on Aerial Photographs (AP's). Given the urban setting of the site, aerial photography would provide no additional historic information regarding the study area.

Site Visit

- 2.2.10 The Site was visited on Monday 30th July 2007. The aim of the visit was to assess the general aspect, character, condition and setting of the Site and to identify any potential impacts not evident from sources. A photographic record of the visit was made and is held in the project archive, selected images are included in the report (**Plates 1-9**).

Best Practice Guidance

- 2.2.11 This assessment has been carried out in accordance with the Institute of Field Archaeologists' Standards and Guidance for Archaeological Desk-Based Assessment (IFA 2001).

Assumptions

- 2.2.12 The GLSMR data consists of secondary information derived from varied sources, only some of which have been directly examined for the purposes of this Study. The assumption is made that this data, as well as that derived from other secondary sources, is reasonably accurate. Listed buildings within the Study Area have been checked in the GLSMR and the English Heritage Listed Buildings Online. The information is available to registered users and is stated to be 'complete, but has not yet been fully assured'.

3.0 LEGISLATIVE AND PLANNING BACKGROUND

3.1 National Legislation and Planning Guidance

Archaeology

3.1.1 The main legislation concerning the protection of important archaeological sites is the *Ancient Monuments and Archaeological Areas Act 1979* (as amended). This act provides for nationally important archaeological sites to be statutorily protected as Scheduled Ancient Monuments (SAM's). Under this act Scheduled Monument Consent (SMC) must be sought for any works which may affect a designated Scheduled Monument.

3.1.2 The principal national guidance on the importance, management and safeguarding of the archaeological resource within the planning process is *Planning Policy Guidance Note 16: Archaeology and Planning* (PPG 16) issued by the Department of the Environment in November 1990. The underlying principle of this guidance is that archaeological resources are non-renewable, stating that:

...Where nationally important archaeological remains, whether scheduled or not, are affected by proposed development there should be a presumption in favour of their physical preservation. (Para. 8)

3.1.3. Paragraph 19 states:

In their own interests...prospective developers should in all cases include as part of the research into the development of a site...an initial assessment of whether the site is known or likely to contain archaeological remains.

3.1.4 Paragraph 22 adds:

Local Planning Authorities can expect developers to provide the results of such assessments ...as part of their application for sites where there is good reason to believe there are remains of archaeological importance.

3.1.5 In addition paragraph 25 advises:

Where planning authorities decide that the physical preservation in situ of archaeological remains is not justified in the circumstance of the case...it would be entirely reasonable for the planning authority to satisfy itself, before granting planning permission, that the developer has made appropriate and satisfactory provision for the excavating and recording of the remains. Such excavation and recording should be carried out before the development commences, working to a project brief prepared by the planning authority and taking advice from archaeological consultants.

Conservation Areas and Listed Buildings

3.1.6 Conservation Areas and Listed Buildings are given statutory protection through the Planning (Listed Buildings and Conservation Areas) Act 1990. This protection is achieved by the inclusion of suitable buildings within the lists of buildings of special architectural and historic interest (Listed Buildings) and the designation of Conservation Areas.

3.1.7 Sections 16 and 66 of the Act [(Planning (Listed Buildings and Conservation Areas) Act 1990)], require “....authorities considering applications for planning permission or listed building consent for works which affect a listed building to have special regard to certain matters, including the desirability of preserving the setting of the building”.

3.1.8 Guidance on the identification and protection of historic buildings, conservation areas, historic parks and gardens and other elements of the historic environment is provided by Planning Policy Guidance Note 15: Planning and the Historic Environment (PPG 15) issued by the Department of the Environment in September 1994.

3.2 Regional Planning Guidance

3.2.1 The London Plan: Spatial Development Strategy for Greater London was published in 2004 and sets out the Mayor’s strategic plan for “an integrated social, economic and environmental framework for the future development of London, looking forward 15–20 years.” The legislative onus is devolved to unitary borough councils to ensure that the strategic plan is implemented. Sections 4.60-62 deal with the management of the built heritage and archaeology of London. The relevant policies are summarised below:

3.2.2 Policy 4B.10 sets out the Mayor’s strategic plan to protect the built environment, stating that “UDP policies should seek to maintain and increase the contribution of the built heritage to London’s environmental quality, to the economy, both through tourism and the beneficial use of historic assets.”

3.2.3 Policy 4B.11 covers heritage conservation and states that the enhancement of the historic environment is based on a full understanding of the special character of historic assets and their landscape setting.

3.2.4 Policy 4B.14 states that the Mayor in conjunction with borough councils and English Heritage will protect the archaeological resource in London. UDP’s are to contain adequate legislative provision to ensure the protection of archaeological remains and the enhancement of their interpretation.

3.3 Borough Planning Guidance

3.3.1 The London Borough of Newham (LBN) Unitary Development Plan (UDP), adopted 6th June 2001 contains policies and explanatory text relating to the management of archaeology.

3.3.2 The Greater London Archaeology Advisory Service (GLAAS - part of English Heritage) provides impartial advice to Newham Council. Sites of potential archaeological importance, to which this policy relates, can be defined as any site within an Archaeological Priority Area (APA). APA’s are defined by GLAAS as areas having particular interest or value as sites where it can reasonably be shown from existing sources of information (most notably the Greater London Sites and Monuments Record) that remains of archaeological importance may survive. For further information, please refer to SPG Note ‘Archaeological Code of Practice’. An archaeological assessment (either a desk study or a preliminary field investigation) will normally be required for any development involving a site more than 0.4 acres within an APA. The Council will also require such an assessment for smaller sites within the APA’s, and sites outside the APA’s, where this is clearly justified by the archaeological sensitivity of the site. Developers should undertake early

consultation with the Council, and recognised archaeological organisations such as GLAAS, to avoid uncertainty and later delays.

3.3.3 Policy EQ43 of the UDP concerning archaeology states that :

“ the council will promote the conservation, protection and enhancement of the archaeological heritage of the borough. Developers of sites of potential archaeological importance will be required to produce a written report, as part of the application for planning permission, on the results of an archaeological assessment or field evaluation carried out by a suitably qualified archaeological contractor; and when remains of importance are identified, the council will seek preservation of the remains in situ. On other important sites, where the balance of other factors is in favour of granting planning permission by means of the imposition of conditions on the grant of planning permission, and possibly by legal agreements, the council will ensure that adequate provision is made for the protection, excavation and recording of remains, and the subsequent publication of the records of excavation, providing a written account of the archaeological exploration, including records of finds.

The Council will promote co-operation between landowners, developers and archaeological organisations in accordance with the British Archaeologists' and Developers' Liaison Group Code.” (London Borough of Newham, 2001).

4.0 ARCHAEOLOGICAL AND HISTORICAL DEVELOPMENT OF THE SITE

4.1 Prehistoric (500,000BC-43AD)

4.1.1 Evidence for Prehistoric activity within the Study Area is sparse and poorly provenanced. The only ground investigations to date comprise pollen sampling in proximity to the sewage works which revealed organic sediment dating from the Neolithic period (4000BC-2201BC; **WA 1**). The recovery of various prehistoric artefacts was recorded during unspecified works in the Roding Valley in 1882 (**WA 2**). Finds included two hand axes, two retouched and four unretouched flake implements and a miscellaneous worked fragment. It is not known whether these objects were found together or over a wider area. Given the unprovenanced nature of these artefacts, the SMR attributes a general grid reference for these artefacts. The record is shown within the study area on Figure 1 to reflect a general prehistoric presence in the locality of the Roding Valley. It must be borne in mind that the illustrated location does not represent the actual findspot.

4.1.2 The topography and geology of a landscape can be used to interpret and substantiate the potential for the recovery of archaeological deposits. Prehistoric activity is commonly focused at prominent geographical locations. The Site is situated approximately 240m of the River Roding on alluvial deposits historically characterised by marshland. River and river side sites are often afforded an increased archaeological potential often being preferred locations for permanent and transient settlement sites, fording and meeting point and often represent territorial boundaries. Finds commonly found in association with riverine environments include votive offerings, lost artefacts or evidence for hunting and settlement activity.

4.2 Romano-British (43AD-410AD)

4.2.1 No evidence for Romano-British activity is recorded within the Study Area. Excavations undertaken to facilitate the Northern Outfall Sewer in the 1860's west of the church of St Mary Magdalene approximately 830m south-west of the Site identified evidence for a small Roman cemetery, indicating the possibility of a settlement (Weinreb & Hibbert 1983, 255).

4.3 Saxon (AD410-1066) -Medieval (AD 1066 - 1499)

4.3.1 Historical evidence for the Saxon and Medieval periods has not been investigated and quantified through archaeological means. There are no recorded archaeological sites or investigations within the Study Area dating from these periods.

4.3.2 The Site lies at the western extent of the parish of East Ham in the Hundred of Becontree. The western boundary is defined by the line of the Back River (a loop of the Roding). Barking settlement lies to the north-east beyond the 500m Study Area.

- 4.3.3 A hamlet within the parish is alluded to in the Domesday Book (1086) straddling the boundary between East Ham and North Woolwich south of the Site. The settlement is documented to have been destroyed by floods during the Medieval period (VCH 1973, Becontree Hundred). It was subsequently abandoned and is therefore not visible in the modern landscape. Chapman and Andre's Map of 1777 (**Figure 4**) shows a series of roads leading onto the marsh from a central approximately north-south running track, which follows the line of the Back Roding on the east side of the Site. This area is likely to represent the former medieval settlement. From the beginning of the 16th century, flooded lands at north Woolwich were reclaimed but only used for grazing until the 19th century (*ibid*).
- 4.3.4 Until the later 12th century, references to 'Ham' (Low lying pasture) do not distinguish between east and west. In 1086, the population of two manors in East Ham was recorded as 72, indicating a substantial village. Between the 14th and 17th centuries West Ham grew while East Ham appears to have stagnated or declined, remaining an agricultural village until the 19th century. (*ibid*). This may be the result of flooding in the area.
- 4.3.5 The location of the Site on historic marshland in proximity to a riverine environment means that it is likely to have been subject to flooding and therefore not a preferred location for building. During the Medieval period, nearly half the land forming the East Ham levels lay within the abbeys of Stratford and Barking. Church records document flooding problems in the locality. In 1309, the monks of Stratford sought licence to appropriate the rectory of East Ham and pleaded poverty resulting from flood damage. A reference in 1421 records marshland belonging to Hugh, Lord Burnell within East and West Ham to be submerged underwater (VCH 1973, marshes and sea defences). A survey dating from 1563 shows East Ham under the jurisdiction of the Commissioners of a Court of Sewers. Beside Back River in the locality of the Site, Sibley meads, Dunns Mead, Butells Marsh and Parley Marsh are named (VCH 1973, Marshes and Sea Defences).
- 4.3.6 Evidence suggests that during the 15th and 16th centuries, the East Ham levels were affected by serious and prolonged flooding. The 1563 survey also makes reference to land reclamation efforts at this time. Flooding in the locality is also indicated by the fact that the area was left vacant until the late 19th century and even then its use is limited to non residential activity.
- 4.3.7 In 1580, along with West Ham, there are three hamlets mentioned in the locality. These comprise Wallend, Plashet and Green Street. The closest of these, Wallend lies to the north of the Site where the modern Barking Road through East Ham crosses the River Roding. The name probably derives from a wall against the Roding Back River (Weinreb & Hibbert 1983, 256).
- 4.3.8 Primary responsibility for repair and maintenance of the flood defences, however, rested on the landowners and tenants of the marshland. Serious flooding created impossible situations for small tenants by destroying assets and increasing their responsibilities (VCH 5, 1966, 238).

4.4 Post-Medieval (1500-1799)-Modern

- 4.4.1 The archaeological record for the Post-medieval period within the Study Area is again sparse. This represents a low level of archaeological investigation in the locality and the marshland nature of the area at this time.
- 4.4.2 The development of East Ham was slow throughout the Post-medieval period. As late as 1670 there were only 79 houses in the parish (VCH 1973).
- 4.4.3 The Roding Navigation Act of 1737 provided for improvement to the river, consisting of cleansing and widening, to permit barge navigation between Ilford and Barking Quay. The Roding was known before the 16th century as River Hile, this name being preserved as the stem of Ilford (VCH 1966, 184). These widening measures may have resulted in a reduction in flood risk along the banks of the Roding making the land more viable for building. However it is clear that East Ham and particularly its southern lands remained predominantly rural until the 19th century. The cartographic development of the Site is outlined below.

18th Century Mapping

- 4.4.4 Rocque's map of 1746 (not reproduced) shows a focus of settlement at 'Southend' at the junction of Ranccliffe Road with High Street South (then Millers Well Lane and Church Street). The centre of East Ham is focussed at the Barking Road/High Street junction with a further cluster of buildings at North End at the northern extent of the modern High Street.
- 4.4.5 Chapman and Andre's Map of 1777 (**Figure 4**) shows the site located on marshland running along the west side of the Roding River from the East Ham Levels. The marshes are accessed by a lane way preserved in the modern streetscape in the line of Vicarage Lane. A lane runs parallel to the western bank of the Back Roding to cross the river to Barking north of the Site. This road led southwards to the former settlement near the Thames outside the Site boundary. The line of Folkestone Road along the western Site boundary is partially in place leading onto and terminating at the marshes. The 1805 1" Ordnance Survey Map shows a similar picture (not reproduced).

19th Century Mapping

- 4.4.6 During the second half of the 19th century, East Ham was the fastest growing town in the country the population trebled in each of the decades between 1881 and 1911 to 133, 500 (VCH 1973). The only major industry in the area was to the south at Beckton Gasworks and the docks and factories at North Woolwich.
- 4.4.7 Fishing was the most important industry for the area for 500 years until the end of the 19th century, with 220 Barking smacks (two-masted, sail-powered fishing boats) listed in the middle of that century (Weinreb & Hibbert, 1983, 410). By 1650 Barking was firmly established as a fishing port, and supplied the London and Essex fish markets with much of their trade. Sea fishing started in the 14th century, reaching its peak in the 18th and 19th. Pollution of the River Roding resulted in the cessation of river fishing in the 19th century (Wessex Archaeology 2005, 8).

- 4.4.8 The 1864 First Edition of the 25" Ordnance Survey (**Figure 5**) shows the first large scale view of the Site, again reflecting the majority of the Site as vacant. The land is crossed by a series of land drains presumably to drain the marshland for agricultural purposes. A drain running south of the northern boundary of the Site is still open in the present day. The line of Folkestone Road is partially in place along the western Site boundary. Within the Site two small rectangular buildings are shown at the south-western corner of **Area A** (Refer **Figure 2**) at the approximate location of the garages/entrance road. At the extreme north-western corner of the Site (**Area A**), a small area of land is enclosed in an L-shape. There are no structures marked within this area.
- 4.4.9 By the event of the Second Edition 25" OS dating from 1897 (**Figure 6**), the northern portion of the Site is in use as a sewage works (**WA 3**). A single building occupies the footprint of the two structures shown in **Area A** on the preceding map and is named 'Lodge'. The land parcel occupied by the sewage works roughly corresponds with **Area A** and the majority of **Area D**. Precipitation tanks are located at the north-west corner of **Area D** at the approximate location of the refuse lorry parking. The remainder of the Site is occupied by green field divided by water drainage channels.
- 4.4.10 Outside the Site boundary at the site of the modern Thames Water site (Between **Areas B and E**) a hospital for infectious diseases is depicted. While the hospital itself lies outside the Site the north-eastern corner of its associated land plot extends into **Areas E, C and A** and access to the hospital from Folkestone Road traversed the southern extent of **Area B**.
- 4.4.11 During the 1880's and 1890's there were frequent outbreaks in East Ham of infectious diseases such as smallpox, typhoid and diphtheria. Statistics record 253 cases of smallpox in 1885 with 37 deaths; 123 cases in 1894 with 4 deaths and 192 cases of diphtheria resulting in 62 deaths. As a consequence of this rise in demand for medical care, a temporary isolation hospital was opened in 1893 in an 'iron hut by the sewage works' (VCH 1973, East Ham-Local Government and Public Services). In 1902 the hospital was moved, still in temporary buildings, to a new site in Roman Road.
- 4.4.12 The 1897 map shows a cruciform building within the southern portion of the field with two small ancillary buildings to the west and north-east. All lie outside the present Site boundary. The hospital is located away from the population centre on marginal ground (as was common for such institutions) east of High Street South. It is accessed via a track off the line of Folkestone Road opposite Vicarage Lane which runs along the southern boundary of **Area B**.
- 4.4.13 Given the short life span of the hospital (9 years) and its temporary nature, it is unlikely that associated activity spread beyond the temporary buildings and all components would appear to have been removed wholesale to their new location in 1902. Subsequent mapping of the Site does not record any trace of the hospital.

20th Century Mapping

- 4.4.14 The 1920 OS map (**Figure 7**) shows the vacated hospital plot. This area and adjacent **Area B** are occupied by allotments at this time. **Area G** remains

undeveloped. There has however been a dramatic expansion of the sewage works including extensive ground excavation to facilitate associated filter beds. The majority of **Area D** is occupied by filter beds and tanks, these roughly correspond with the modern locations of the IMPS practice ground, the Highways Compound, the Sewer Section Offices, ASB offices and the Refuse Lorry Parking (**Refer figure 2**). The site of the modern admin building (**Area C**), Vehicle workshop (**Area A**) and the western portion of **Area E** are occupied by the Engine House and garden landscaping to the west. Un-named buildings are also shown against the northern boundary of Area A.

- 4.4.15 The layout is similar in 1950 (**Figure 8**) with the addition of a building adjacent to the south-west corner of the engine house at the site of the modern admin building and a small extension to the tanks at the approximate site of the modern Refuse Lorry Park.
- 4.4.16 The 1962 Ordnance Survey edition (not reproduced, within copyright) shows a dramatic expansion of the sewage works, particularly to the south into **Areas E** and **G** where further tanks and beds have been excavated. The eastern portion of **Area G** is recorded as an open area, however marked gradients suggest that the land has been artificially raised. This area represents the site of the refuse dump which was subsequently capped and landscaped and is now the site of the car pound. Within the western portion of the Site, buildings at the site of the canteen parking and vehicle workshop within **Area A** have been demolished and rebuilt at the approximate site of the canteen. At this date **Area B** has been developed. It would appear that the garages extant today on the south side of the entrance road are in place with a series of Adjacent structures to the rear. In the present day the ground level of **Area B** is lower than adjacent **Area A**. A downslope depicted at the western extent of **Area B** and outside the eastern boundary of the area suggest that ground level in this Area has been reduced.
- 4.4.17 This pattern is largely reflected on the 1966 Ordnance Survey Edition. On the 1975 Ordnance Survey Map, the site is still labelled 'Refuse and Sewage Works, although it would appear that the majority of the sewage beds have been infilled. The SMR holds a record concerning the landfill site (**WA 3**). The entry records that 'it is not known whether the site was made or worked land and the date of infill is unknown, although all are of 19th century date'. Given that the Site is no longer in use as a refuse site, Environment Agency online mapping showing the extent of the landfill site does not include the Folkestone Road site.
- 4.4.18 The 1975 OS Map shows a building in **Area C** at the site of the modern administration building and the structure adjacent to the extant garages in **Area B**. All other preceding buildings and filtration beds within **Areas A, D, E and G** are not shown. The refuse area in **Area G** occupies the same footprint as on the preceding map but does not yet cover the size and extent shown today. The 1984 OS Edition shows that the adjacent building to the rear of the garages in **Area B** has been demolished and the modern canteen and vehicle workshop in **Area A** are extant. A building occupies the approximate site of the modern admin building in **Area C** although it does not represent the footprint of the structure extant today. The whole of the eastern portion of the Site is vacant (**Areas D, E, F and G**).

- 4.4.19 By 1996 the new admin office has been built (**Area C**) as has the minibus garage, the signwriters shop and animal welfare compound in **Area E**. The areas occupied by the highways compound, refuse lorry parking and ASB Offices in **Area D** are also defined.

4.5 Cultural Heritage Definitions

- 4.5.1 The Site lies within an Archaeological Priority Area (Refer **Figure 1**) defining the flood plain of the Roding River and Barking Area. There are no Conservation Areas or further Areas of Archaeological potential within the Study Area.
- 4.5.2 There are no Scheduled Ancient Monuments within the Study Area.
- 4.5.3 There are no Listed Buildings within the 500m Study Area.

5.0 EXISTING AND POTENTIAL ARCHAEOLOGICAL IMPACTS

5.1 Existing Impacts

General

- 5.1.1 Knowledge of the recorded historic environment resource can assist in the prediction of buried archaeological remains that may also be present, but as yet undiscovered. However, the potential for the survival of such remains depends partly on the impacts that previous land use may have had on any present remains. Given the nature of previous land use and the extensive ground remodelling undertaken, this factor is particularly significant in consideration of the present Site.
- 5.1.2 The Site would appear to have retained green field/drained marshland status into the mid-late 19th century, occupying a marshy peripheral location on the western bank of the River Roding. The Folkestone Road boundary of the Site would appear to have been in place by the late 18th century when Chapman and Andre show a laneway leading to the marshes at a comparable location.
- 5.1.3 Geotechnical investigations to establish the level of contamination at the Site have been undertaken. However, investigation logs holding data of deposit depths were not available for consultation and the depth of natural ground, overlying deposits or the excavation depths of sewage tanks, beds and landfill areas is not, therefore proven.
- 5.1.4 It is probable that the pre-developed site occupied a flat marshland location with a gentle slope eastwards towards the channel of the River Roding. The current Site reflects a series of different levels which jar against the natural topography of the surrounding area, reflecting a high level of ground remodelling. The differences specific to each Area (**A-G**) are characterised below in order to outline the level of ground intrusion per area and therefore the level of potential for the survival of archaeological deposits within that area. In the absence of trial pit and borehole and level data, this information can be used to suggest areas of ground reduction and build up.

Specific-Land Characterisation

- 5.1.5 The seven Areas (**A-G**) outlined below are illustrated on **Figure 2**. Each Area represents a difference in ground level identified during the Site inspection.

Area A

- 5.1.6 Land within **Area A** is on a level with Folkestone Road to the west and represents the least 'landscaped' area of the Site. Ground intrusion in this area has been limited to building foundations and road and infrastructural works (Refer **Figures 2 and 3**).

Area B

- 5.1.7 **Area B** is currently occupied by the lower car park and ground level lies approximately 1.5m below the adjacent Area A. Historic mapping does not suggest any difference in ground level in this Area until the 1920's when a scarp slopes suggests a change in gradient. Buildings are shown as extant in this area in the 1960's and 70's.

Area C

- 5.1.8 **Area C** is occupied by the administration building and comprises land raised slightly above the eastern extent of Area A but below rising land in adjacent **Areas D and E**. The area inclines gradually west to east.

Area D

- 5.1.9 **Area D** occupies a raised plateau approximately 2m above the level of adjacent **Area A**. The compounds occupy predominantly level ground accessed via roads inclining northwards from the lower level **Area F**. Historically, this area has been subject to extensive ground excavation to accommodate the sewage works. It may be that this area was later subject to landfill, the surface being artificially raised and later capped and landscaped as in **Area G**.

Area E

- 5.1.10 **Area E** occupies an area of rising ground rising from the level of Area A to over 2m above **Area C** at its northern extent. Land continues to rise to the boundary with **Area G** where the main land fill site was situated. Historically the eastern part of this area has been subject to extensive ground excavation to accommodate the sewage works. It may be that this area was later subject to landfill, the surface being artificially and later capped and landscaped.

Area F

- 5.1.11 **Area F** incorporates the line of the access road running approximately east to west from **Area C** to the Jenkin's Lane exit. The road rises gently west to east and is flanked to the north and south by the rising ground of **Areas D, E and G**. The road traverses an artificial cutting between these areas. The eastern portion of the area was previously occupied by filtration beds associated with the sewage works.

Area G

- 5.1.12 **Area G** is currently occupied by the borough car pound which occupies an artificially raised plateau apparently formed from the capped and landscaped former refuse tip.

Summary

- 5.1.13 Historic analysis of the Site has identified extensive building and ground intrusion from the late 19th century through to the modern day, much of which would have involved wholesale earth removal (eg. filtration beds and tanks associated with the Sewage works and ground reduction to accommodate landfill). This high level of intrusion is particularly notable across **Areas D, E and G**. The level of ground reduction in **Area B** is suggested but its nature has not been quantified. It is extremely likely that any surviving archaeology in these areas has been destroyed by this level of ground intrusion.
- 5.1.14 The historic construction of infrastructure and services at the Site including drainage (**Refer Figure 3**) is likely to have further impacted upon any predating archaeological remains. The impact of infrastructural works may be of particular significance in **Areas A and C** where lower levels of ground remodelling would appear to have taken place.
- 5.1.15 Overall, considering the extensive phases of ground remodelling, the addition and removal of buildings and the general landscaping of the Site (outlined on **Figure 2**), it is suggested that conditions for the survival of potential buried archaeological remains are **extremely low**. This is particularly true of the eastern half of the Site (**Areas D, E, F and G**) where extensive ground intrusion/build up has been proven.

5.2 Potential Impacts

- 5.2.1 Relevant development activities which may impact upon the archaeological resource, are:
- Excavation, ground disturbance and ground compaction as a result of building (Particularly concerning basement and foundation construction), access, surfacing, service installation.
 - Temporary landtake during construction phase including, stockpiling, storage and temporary site access.
- 5.2.2 These activities could lead to the following effects on the Historic Environment resource:
- Permanent complete or partial loss of an archaeological feature or deposit as a result of ground excavation.
 - Permanent or temporary Loss of the physical and/or visual integrity of a feature, monument, building or group of monuments.
 - Damage to resources as a result of ground excavation.
 - Damage to resources due to compaction, desiccation or water-logging.
 - Damage to resources as a result of ground vibration caused by construction.
- 5.2.3 All ground intrusive activity proposed at the Site beyond made ground will pose threats to any surviving archaeological deposits or features that survive *in situ*.

6.0 ARCHAEOLOGICAL POTENTIAL

6.1 Introduction

- 6.1.1 This section of the report details the archaeological constraints in terms of the proposed development and is based on information derived from the sources listed in the **Methodology**, taking into account the likely effects of previous land use on the preservation of potential remains.

6.2 Legislative and Planning Constraints

- 6.2.1 For ease of reference details of any statutory and/or local planning designations are detailed separately below.

Scheduled Monuments

- 6.2.2 There are no Scheduled Monuments within the Study Area.

Designated Areas

- 6.2.3 The Site is situated within an Archaeological Priority Area (which includes Barking and the flood plain of the River Roding). There are no Conservation Areas within the Study Area.

Listed Buildings

- 6.2.4 There are no listed buildings within the Study Area.

6.3 Archaeology

- 6.3.1 Archaeological information directly regarding the Site is sparse reflecting its peripheral location and the low level of archaeological investigation undertaken in the locality to date.
- 6.3.2 Archaeological evidence reflects human presence in the Study Area during the prehistoric period. Historic and cartographic documentation shows the Site situated in marshland away from settlement. The area was drained by the mid 19th century and possibly used for agricultural purposes. The Site was not occupied until the late 19th century when the sewage works was built.
- 6.3.3 Of significance is the location of the Site in proximity to the historic line of the Back Roding tributary and River Roding, establishing an increased potential for the recovery of riverine and marshland associated artefacts and deposits.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Summary of Archaeological Constraints

- 7.1.1 Overall, an **extremely low** potential for the survival of archaeological deposits within the Site footprint has been identified. The least modified area of the Site is **Area A**, modifications in this area would appear to be limited to building foundations (Refer **Figure 2**). As such, **Area A** holds a **low** potential for the survival of archaeological deposits. **Area B** would appear to have

been subject to ground reduction, although this is not substantiated by geotechnical or cartographic data.

7.2 Further Works and Mitigation

- 7.2.1 The Site is situated within a designated Archaeological Priority Area. Extensive ground intrusion and movement across the Site has resulted in an **extremely low** potential for the survival of archaeological deposits. However, the Site lies in proximity to a riverine environment in a Study Area which reflects some prehistoric activity and a potential for the recovery of related deposits in areas of the Site subject to lower levels of ground intrusion remains.
- 7.2.2 As a result of these factors, it is anticipated that geotechnical investigations may be required in advance of any future planning submission and the results interpreted to substantiate the depth and extent of made ground across the Site highlighted in this report.
- 7.2.3 Dependant on the results of these investigations archaeological work in the form of a mitigation strategy may be required by the Greater London Archaeological Advisory Service. This may include a targeted archaeological watching brief in those areas not subject to previous ground intrusion.
- 7.2.4 This mitigation process would require agreement with English Heritage (Greater London Archaeological Advisory Service).

8 References

Cartographic Sources

Maps highlighted in **bold** are included as figures in the report. Maps less the 50 years old are still in copyright and can therefore not be reproduced.

Rocque's map of London c.1737-1746 (As far east as East Ham settlement only); Published 1747).

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Listed Building information

Secondary source material

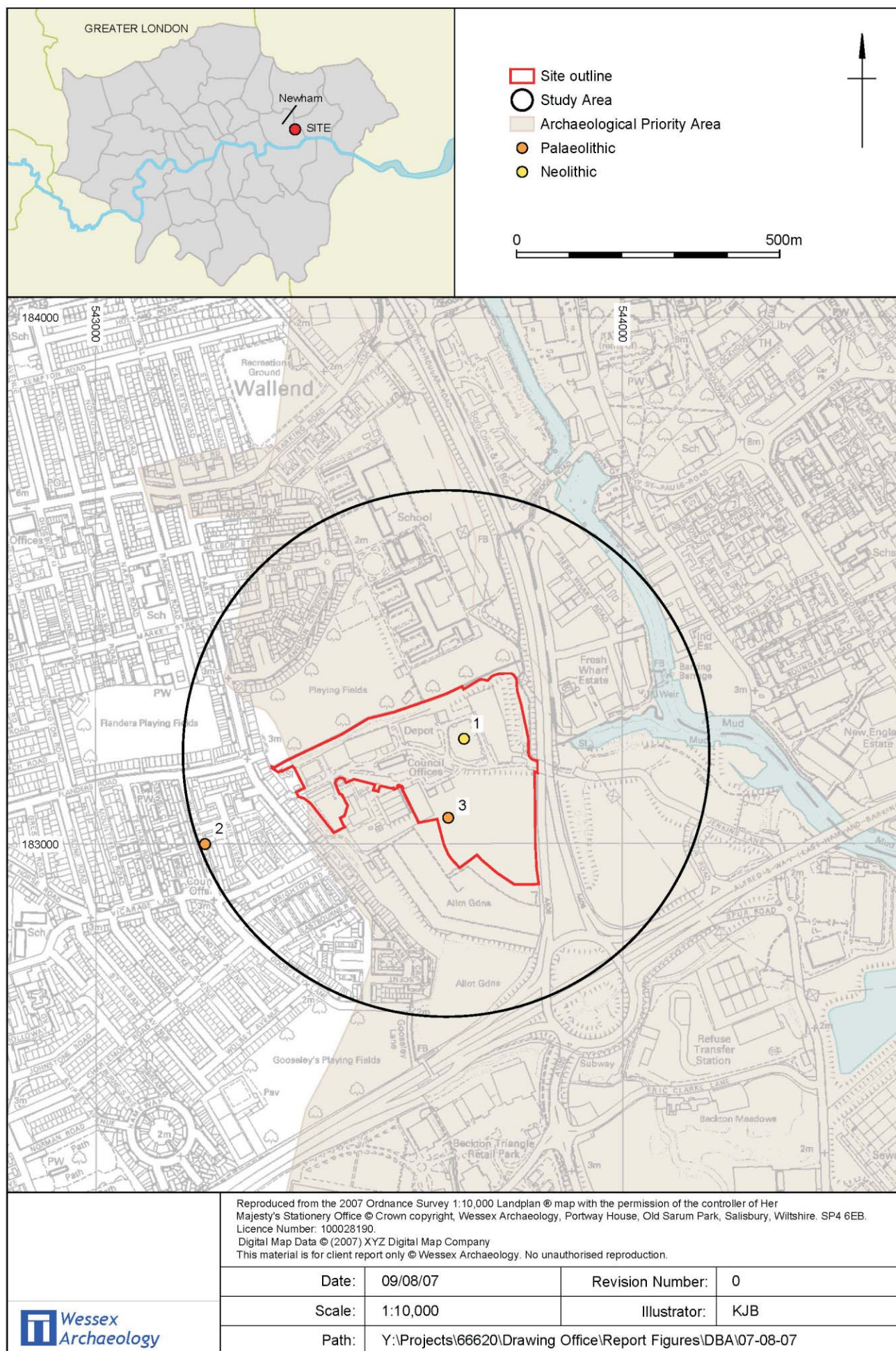
Newham Borough Council website

GIS Mapping, Statutory and land
designations

Landfill information

9 APPENDIX 1- GAZETTEER OF SITES AND FINDSPOTS ON FIGURE 1

WA No.	GLSMR Monument ref	Site Code	Statutory Designation	Address	Description	Type	Easting	Westing	Period
1	MLO78161	POLLEN 10		Oaken Trough, East Ham Sewage Works	Peat bed 2m deep sampled for pollen. Recorded Neolithic sediment (4000BC-2201BC).	Environmental Sampling	543700	183200	Neolithic
2	MLO22718			East ham	Unspecified works in the Roding Valley prior to 1882 by Worthington Smith revealed 2 hand axes, 2 retouched flake implements, 4 unretouched flake implements and a miscellaneous worked fragment. Not known whether they were found together or separately.	Findspot	543208	183000 Approx. grid reference	Palaeolithic
3	MLO72789			Folkestone Road	Landfill site listed by the Environment Agency It is not known whether the site was made or worked land and the date of the infill is not known closer than 19 th /20 th century date.	Site	543670	183050	Palaeolithic



Location plan showing Site outline, Study Area, WA numbers and designated areas

Figure 1



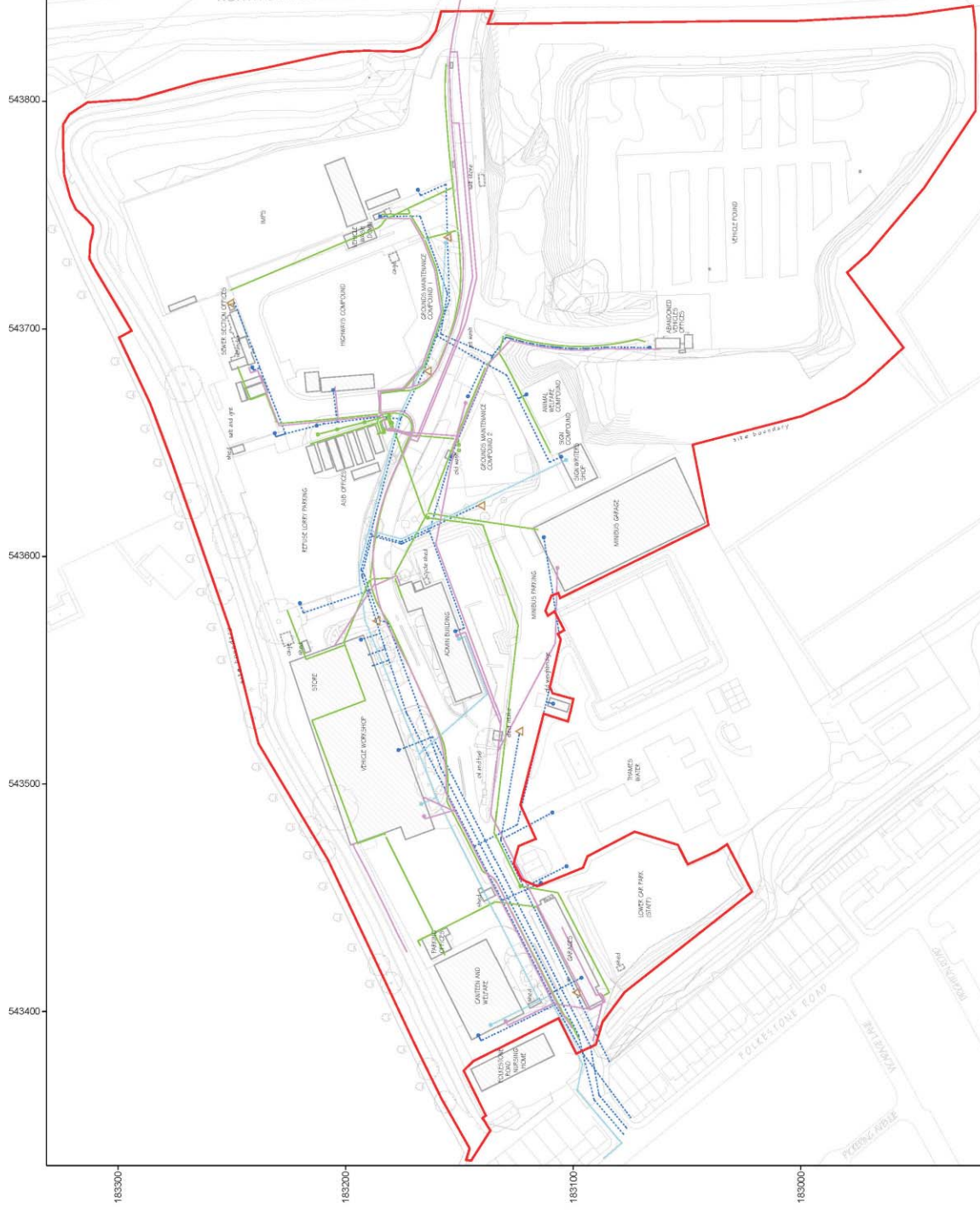
- Site outline
- Water services
- Electric services
- Gas services
- Fire hydrants
- CCTV duct

0 100m

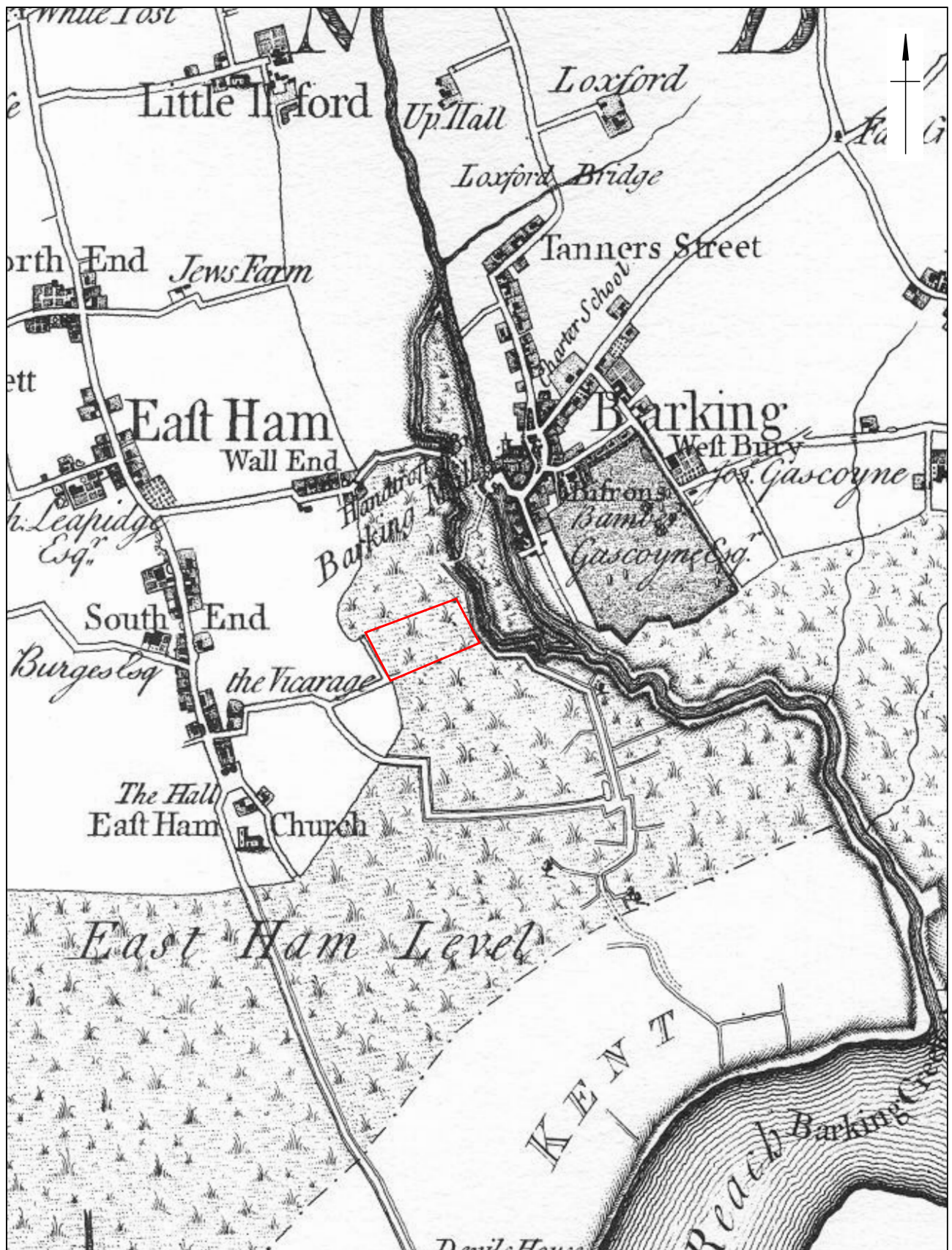
Basemap © Newham Borough Council


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Development Site showing areas excavated to facilitate drainage



 Approximate Site outline

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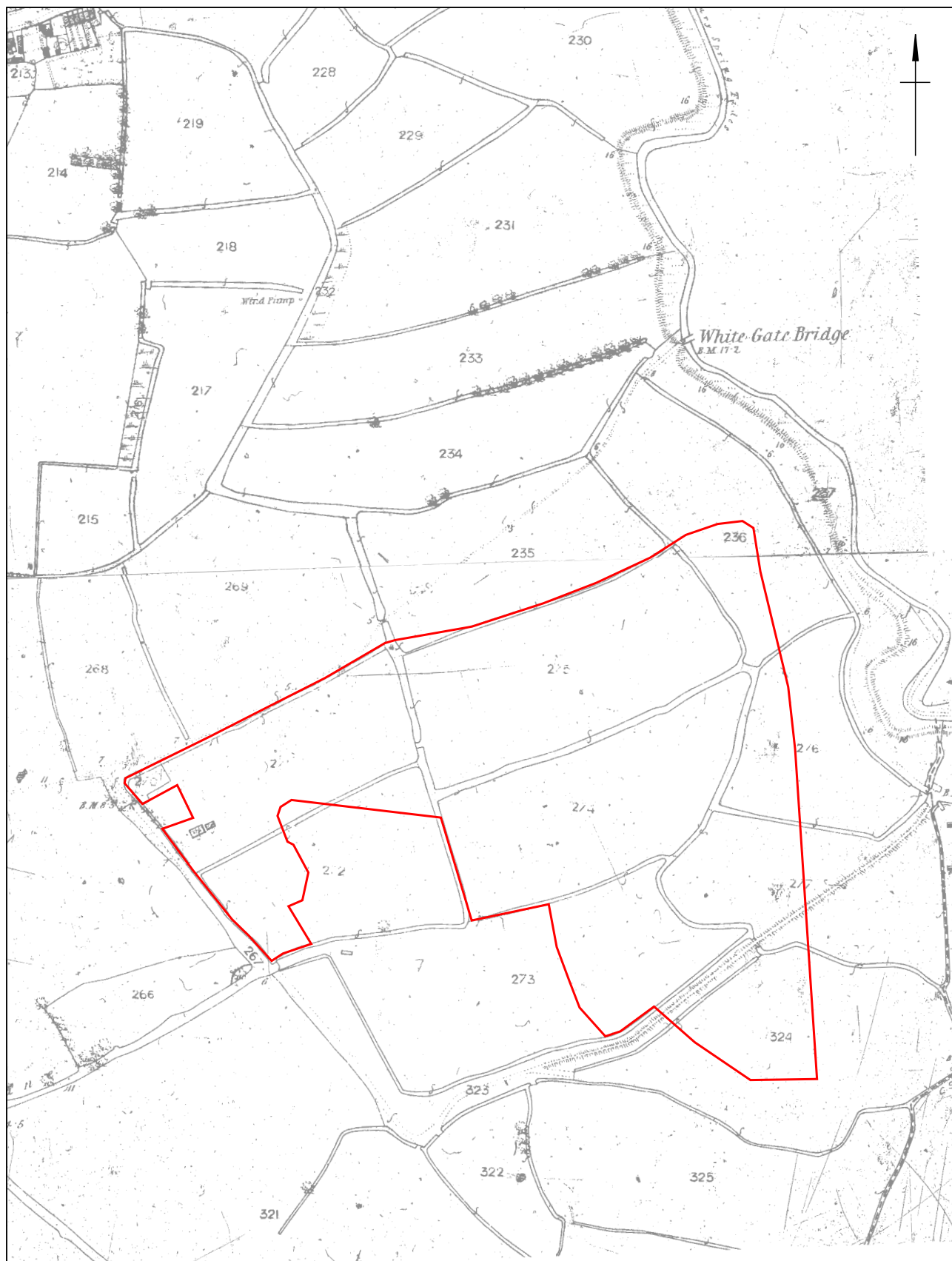
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Chapman and Andre's Map of the County of Essex, 1777 showing approximate Site location

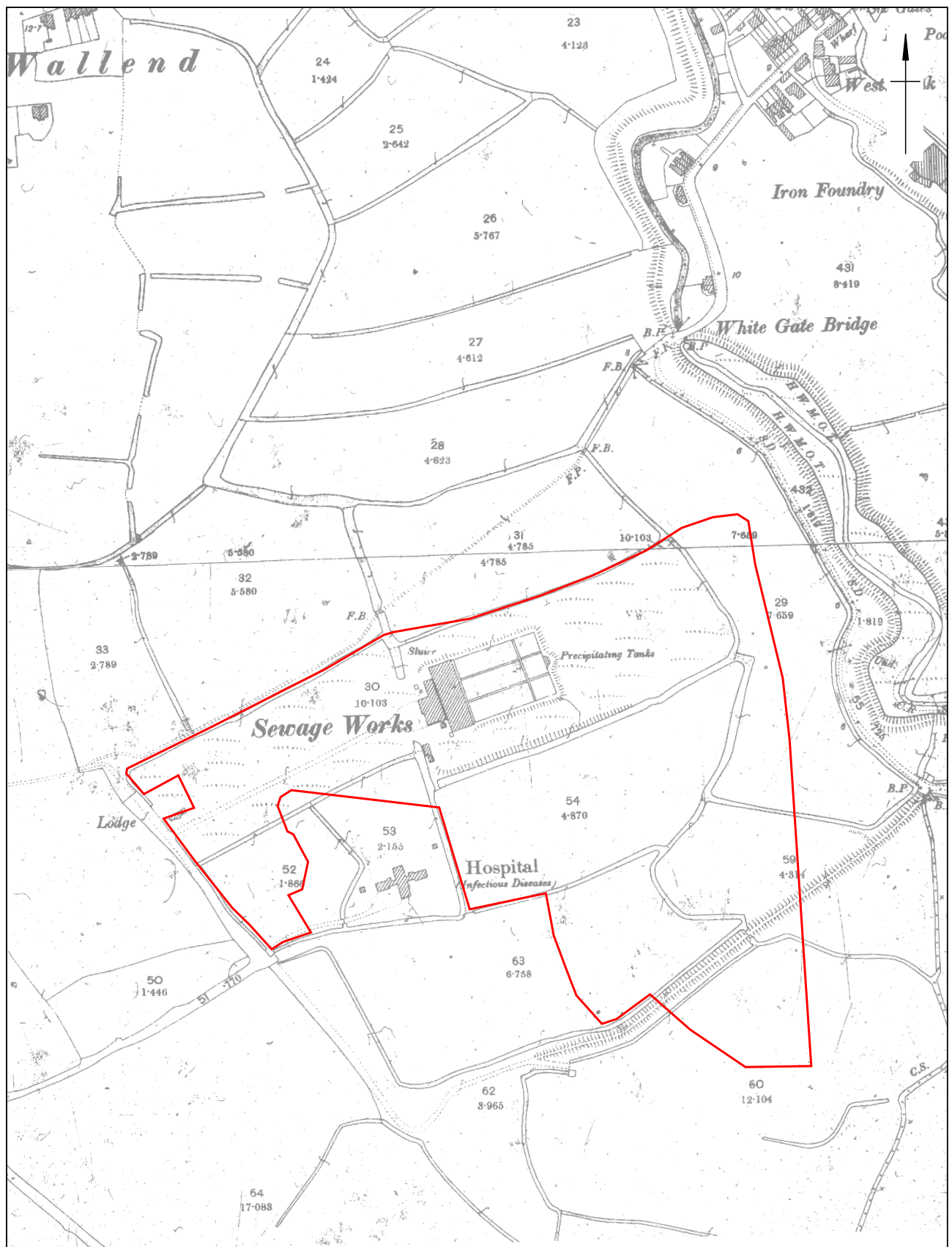
Figure 4



 Site outline	This material is for client report only © Wessex Archaeology. No unauthorised reproduction.		
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	Scale:	Approx 1:4,000	Illustrator: KJB
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First Edition of the Ordnance Survey 25" Series, 1864 showing Site boundary

Figure 5



 Site outline

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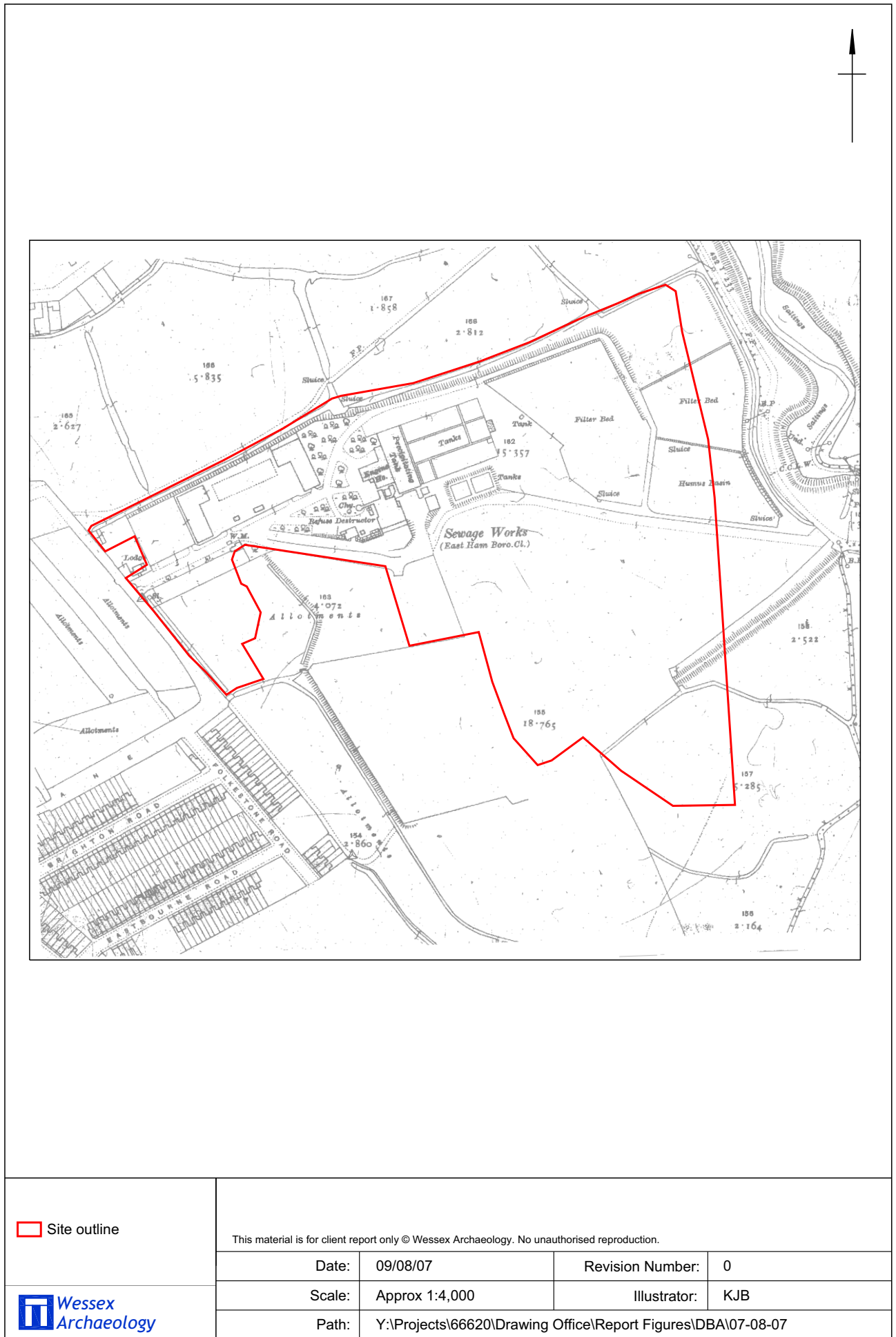
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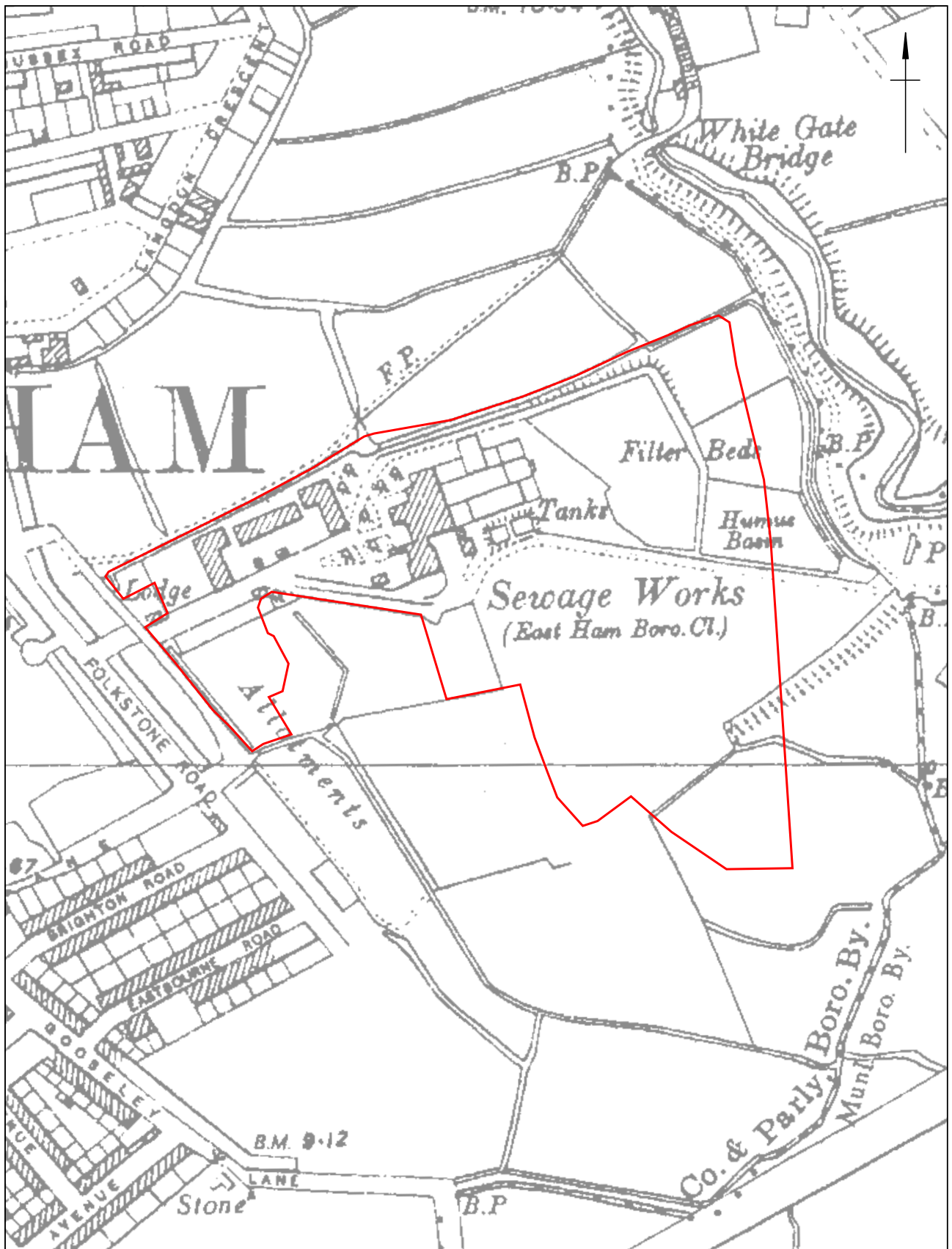
Second Edition of the Ordnance Survey 25" Series, 1897 showing Site boundary

Figure 6



Third Edition of the Ordnance Survey 25" Series, 1920 showing Site boundary

Figure 7



 Site outline

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6" Ordnance Survey Map, 1950 showing Site boundary

Figure 8



Plate 1. View across Area A. Looking west from Folkestone Road entrance



Plate 2. View across Area B. Looking south-east



Plate 3. View of Area C taken from Area E showing difference in ground level between two areas. Looking north-west



Plate 4. Looking south across Area D showing downslope towards Area F.



Plate 5. Difference in ground level between Areas A and D. Looking north



Plate 6. Difference in ground levels between Areas E and G. Looking south-east



Plate 7. Area F. Looking east with land rising north to Area D and south to Area G



Plate 8. Land rising towards car pound, Area G. Looking south-east from Area D



Plate 9. View across car pound on plateau, Area G. Looking north



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