



Archaeological Desk Based Assessment

Broadfields
Innovation and
Business Park Land
at Broadfields, East
Horndon,
Brentwood, Essex

September 2022 | Project Ref 06789A

HCUK Group is a multi-disciplinary environmental practice offering expert advice in archaeology, heritage, landscape, arboriculture, and planning. It began life in 2010 as Heritage Collective LLP, before becoming Heritage Collective UK Limited in 2014. In the coming years diversification saw the addition of Archaeology Collective, Landscape Collective and Planning Collective, before all strands came together to be branded under a single umbrella: HCUK Group, based on the acronym for the original company. A home working company since the beginning, we are pleased to employ a talented workforce of consultants and support staff, who are on hand to advise our clients.



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Non-Technical Summary

This archaeological assessment has been prepared by HCUK Group, on behalf of MM Properties (London) Ltd. to inform planning proposals for the development of the Broadfields Innovation and Business Park on land west of Tilbury Road called Broadfields, East Horndon, Brentwood, Essex.

The report has confirmed that the application site does not contain any designated archaeological assets such as world heritage sites, scheduled monuments or registered battlefields, where there would be a presumption in favour of their physical preservation in situ and against development. This report refers only to archaeological matters and does not assess the significance or impacts on heritage assets (Listed Buildings, Registered Historic Parks and Gardens, Conservation Areas).

The historic and modern settings of archaeological assets (scheduled monuments) within a 1km radius of the application outline have been assessed, and it is determined that the significance of these assets would in no way be adversely affected by the form of development proposed within the site, either in terms of an effect on their physical form/fabric or through change to the contribution made by their setting.

There are no previously recorded non-designated heritage assets within the boundary of the application site.

It is located to the west of one of the two principal late Saxon and medieval manorial centres within the parish but the Site was presumably an area used for agricultural land. This assessment has shown that there is generally a low potential for encountering archaeological remains of either the prehistoric or historic periods.

The site area is presently unused land and has become covered in scrub, brambles and areas of dense vegetation. Lidar information shows that the site contains some earthworks, although these appear to relate to modern activity associated with Broadfields Farm on the Tilbury Road frontage.

Given the absence of any known previous intrusive development within the site area, archaeological remains could survive across the Site relatively undisturbed and below ground effects on potential archaeological remains may be anticipated as a result of the proposed employment space development.

The need and scope of any further archaeological works at the site would need to be discussed and agreed with the archaeological advisor to the local planning authority.

1. Introduction

Background

- 1.1** This archaeological desk-based assessment has been prepared by James Meek MCIfA (Director, Archaeology) at HCUK Group, with information taken from a previous desk-based assessment of land to the east of the site¹ carried out by Anne Johnson BA PhD MCIfA, Archaeologist at Archaeology Collective (part of the HCUK Group) on behalf of MM Properties (London) Ltd. Documentary and cartographic research has been carried out and updated by Anne Johnson.
- 1.2** This report assesses the archaeological potential of the proposed development of the Broadfields Innovation and Business Park on an area of land to the east of Tilbury Road and south of the A127 Southend Arterial Road, known as Broadfields at East Horndon, Brentwood, Essex (Figures 1 and 2). The site covers approximately 11.7ha of former agricultural land centred at National Grid Reference (NGR) 563219 189088 which is referred to hereafter as the 'Site'.
- 1.3** The development proposals in September 2022 are for the '*Outline planning application with all matters reserved except access for development of up to 36,000 sqm of employment floorspace within Use Classes E(g), B2 and B8 including an enterprise hub of micro and small units for small businesses, an ultra-rapid electric vehicle charging facility for 16 cars and a children's play area*'.
- 1.4** The purpose of this assessment is to determine and assess the archaeological potential of the Site and to assess the significance of any relevant heritage assets identified. The report is informed by site inspection, historical information, and by data relating to heritage assets. It seeks to provide sufficient information to allow an informed understanding of the potential impact of the proposed development on the significance of those assets, and to consider the need for solutions (design, engineering etc) where necessary. The report will not address designated or non-designated built heritage, including listed buildings and historic parks and gardens. These are addressed in a Heritage Statement prepared by HCUK Group (2021).
- 1.5** The report considers heritage assets of archaeological interest, including finds/findspots of artefactual and ecofactual material (e.g. stone tools, bone), and locations, features or objects referenced from historic documents. Where appropriate, it refers to archaeological and palaeoenvironmental deposits, including sub-surface archaeological remains of features, buildings and structures.

¹ Archaeology Collective 2017

- 1.6** This assessment has been prepared in accordance with Standards and Guidance for Historic Environment Desk-Based Assessment² published by the Chartered Institute for Archaeologists (CIfA). It takes into account the National Planning Policy Framework (NPPF) and local planning policy where relevant.
- 1.7** This desk-based assessment comprises an examination of digital data held by the Essex Historic Environment Record (HER) together with documentary research. It incorporates map regression indicating the impact of change over time.
- 1.8** This data has been collected for an area comprising a 1km radius around the Site boundary, which is referred to as the 'study area'. This radius has been selected on the basis of professional judgment as being sufficient to determine the archaeological potential of the Site, taking into account its location, topography, and character.
- 1.9** As noted above, information gathered for the previous desk-based assessment for East Horndon Hall has also been used in this report.

Geology and Topography

- 1.10** The British Geological Survey (BGS) identifies the underlying solid geology across the entire Site as being London Clay Formation (clay, silt and sand), a sedimentary Bedrock formed approximately 34 to 56 million years ago in the Palaeogene Period in a local environment previously dominated by deep seas.
- 1.11** The BGS identifies superficial deposits (Figure 3) within the site area as mostly Head (clay, silt, sand and gravel), deposits formed up to 3 million years ago in the Quaternary Period in a local environment previously dominated by subaerial slopes. A band of Alluvium – clay, silt, sand and gravel runs in north to south direction (from the southern boundary) across two thirds of the site. These deposits were formed in the Holocene and are fluvial in origin and form beds and lenses of deposits reflecting the channels, floodplains and levees of a former river or estuary.
- 1.12** The soils are recorded as slowly permeable seasonally wet, slightly acid but base-rich, loamy and clayey soils with impeded drainage, with moderate fertility supporting habitats of seasonally wet pastures and woodlands. The heavy and poorly drained clay substrate would not have been conducive for early settlement and agriculture. The previous report noted that 'Even at the end of the 19th century, documentary sources show that the heavy clay soils at East Horndon Farm were proving difficult to cultivate'. The poorly draining land was confirmed during the site visit.

² CIfA 2020

- 1.13** The Site is formed of three large fields roughly rectangular fields (Figure 2). The southern field runs directly from Tilbury Road to adjacent agricultural land to the west. The central field is located to the rear of Broadfields Farm and runs to woodland to the west. The northern field runs west from the property north of Broadfields Farm and doglegs around the new housing estate to the north and a property and its yard area lying on the southern side of the A127. It also runs to the woodland to the west.
- 1.14** The development area is roughly level at around 19m above Ordnance Datum (aOD) to the south rising to around 21m aOD to the north. Figure 4 illustrates the general topography of the area with blue being the lowest levels at around 10m and orange rising up to around 60m aOD at the top of the map. The site area is a consistent green/blue colour at around the 19-21m aOD mark.
- 1.15** The Historic Landscape Characterisation report for Essex shows that the Site and study area lie within Brentwood Zone 86: Mar Dyke Lowlands which is described as follows:

HLCA 86. Mar Dyke lowlands. A large character area around the Mar Dyke with a distinctive grid-like grain to its layout of ancient origin. This is generally a low lying basin of land rising steadily to the east and with a raised island to the west. The surrounding landscape rises in all directions, it is intensively farmed and strongly rural in character. In the low lying areas field boundaries are provided by drains and the fields themselves are generally regular in shape, long slightly sinuous boundaries run down from high ground to the north. Distinctive tall hawthorn/elm hedgerows follow wide verged historic lanes and tracks across the area. The area contains some small reservoirs along with a scattering of smaller ponds and some medieval moated sites, small ponds were a common feature of the post-medieval landscape. Much of the low lying land was fen commons until the 1930s. The dispersed farms are generally located along the roadsides, and settlement is clustered around the handful of nucleated crossroad settlements located in this area.³

Site Visit

- 1.16** A site visit/walkover was undertaken on the 17th of February 2021. The southern field and northern field were accessed and viewed, but the central field to the rear of Broadfields farm was not accessed. Based on information from aerial photographs and Lidar data, as well as the ground conditions of the other fields, a walkover of this part of the site would not have been a very fruitful exercise.

³ Bennet, A 2011

- 1.17** The southern and northern fields were a mixture of grassland, with patches of scrub vegetation and large clumps of brambles. The actual ground surface was very uneven underfoot due to clumps of grasses and water logged (but firm) soils. Brambles posed significant trip hazards. Taller scrub and saplings were very noticeable in the northern field. The actual ground surface could not be discerned for any earthwork features or other visible evidence for archaeological remains.
- 1.18** The field to the south of the Site is an arable field which is a stark contrast to the unmanaged grassland that covers the proposed development area. The church of All Saints can be seen from Tilbury Road, but could not be seen from the areas of the Site accessed.
- 1.19** A raised embankment carries the A127 at a level above the Site. The housing estate on the corner with the A127 also seems to have been partially built on raised ground, or on a natural raised area.
- 1.20** A shipping container is located in the northern field. This has been here for a number of years as can be seen via aerial photographs of Google Maps, and formerly even had a trackway running up to it.
- 1.21** Photographs taken on the site visit are shown below:



Photo 1: View north from southern boundary of southern field across the Site



Photo 2: View northeast from southern field across the Site towards Broadfields Farm



Photo 3: View west across centre of southern field showing mix of unmanaged grassland



Photo 4: View north-north east from boundary with central field towards modern housing



Photo 5: View southwest from southern boundary of Site across managed agricultural field



Photo 6: View north-northeast from Tilbury Road towards Church of All Saints



Photo 7: View northwest from Tilbury Road showing Broadfields Farm



Photo 8: View northwest from Tilbury Road across modern housing at junction with A127



Photo 9: View south across northern field of Site, showing shipping container



Photo 9: View east along northern boundary of the Site showing raised level of A127



Photo 10: View south from northern boundary of Site across the proposed development area

2. Methodology

Sources

- 2.1** In preparing this assessment we have compiled readily available archaeological and historical information from documentary and cartographic sources, primarily:
- Information held by the Essex Historic Environment Record on known archaeological sites, monuments and findspots within 1km of the Site;
 - Maps and documents held by the Essex Record Office and online;
 - The National Heritage List for England curated by Historic England;
 - National Archives;
 - British Library;
 - Bodleian Library, Oxford; and
 - Records made during a site visit on 17th February 2021.
- 2.2** This desk-based assessment was prepared during the COVID-19 pandemic and so records offices and other archive repositories were closed during its preparation. The information used in the previous desk-based assessment of land at East Horndon Hall prepared by Anne Johnson (Archaeology Collective part of HCUK Group) could be used to augment this report.
- 2.3** Information gathered from the above sources has been verified and augmented as far as possible by site inspection, in order to arrive at conclusions on the significance of the archaeological remains that have been identified.
- 2.4** This report has been produced in accordance with the Standard and Guidance for Historic Environment Desk-Based Assessment issued by the Chartered Institute for Archaeologists (CIfA, 2020). These guidelines provide a national standard for the completion of desk-based assessments.

Assessment

- 2.5** The assessment seeks to understand and define the significance of heritage assets identified from the sources above, taking into account the categories of special interest defined in the NPPF, primarily archaeological interest and historic interest.
- 2.6** The importance of a heritage asset is the overall value assigned to it based on its heritage significance, reflecting its statutory designation or, in the case of undesignated assets, the professional judgement of the assessor (Table 1).

Table 1: Criteria for Assessing the Importance of Heritage Assets

| Importance of the asset | Criteria |
|--------------------------------|---|
| Very high | World Heritage Sites and other assets of equal international importance |
| High | Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Registered Battlefields, Grade I and II* Listed Buildings, and undesignated heritage assets of equal importance |
| Medium | Conservation Areas, Grade II Registered Parks and Gardens, Grade II Listed Buildings, heritage assets on local lists and undesignated assets of equal importance |
| Low | Undesignated heritage assets of lesser importance |

2.7 The assessment also considers change to the setting and significance of scheduled monuments, where appropriate. It does not assess significance and impacts to heritage assets such as Listed Buildings and Registered Historic Parks and Gardens.

Archaeological Potential

2.8 The report concludes with (1) an assessment of the archaeological potential of the Site, (2) an assessment of the significance of any archaeological remains that may be present, and (3) an assessment of the likely effects of the proposed development on heritage assets, both in terms of physical impact and (where relevant) change to setting.

3. Relevant Policy Framework

National Planning Policy Framework

3.1 The significance of a heritage asset is defined in the National Planning Policy Framework (NPPF) 2021 as being made up of four main constituents, architectural interest, historical interest, archaeological interest and artistic interest. The setting of the heritage asset can also contribute to its significance. Setting is defined in the NPPF as follows:

"The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral."

3.2 The assessments of setting and significance (and the assessments of impact) are normally made with primary reference to the four main elements of special significance identified in the NPPF.

3.3 Paragraph 203 of the NPPF describes the approach to be taken towards non-designated heritage assets, as follows:

"The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset."

3.4 Footnote 68 of the NPPF, which is attached to paragraph 203, states that "Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets." Further guidance on non-designated heritage assets is contained in National Planning Practice Guidance, as revised in July 2019, notably paragraph 040 which states that "Irrespective of how they are identified, it is important that the decisions to identify them as non-designated heritage assets are based on sound evidence", and paragraph 041 which in full reads as follows:

"What are non-designated heritage assets of archaeological interest and how important are they?"

The National Planning Policy Framework identifies two categories of non-designated heritage assets of archaeological interest:

(1) Those that are demonstrably of equivalent significance to scheduled monuments and are therefore considered subject to the same policies as those for designated

heritage assets (National Planning Policy Framework footnote 63). They are of 3 types:

those that have yet to be formally assessed for designation.

those that have been assessed as being nationally important and therefore, capable of designation, but which the Secretary of State for Digital, Culture, Media and Sport has exercised his/her discretion not to designate.

those that are incapable of being designated by virtue of being outside the scope of the Ancient Monuments and Archaeological Areas Act 1979 because of their physical nature.

The reason why many nationally important monuments are not scheduled is set out in the document Scheduled Monuments, published by the Department for Digital, Culture, Media and Sport. Information on location and significance of such assets is found in the same way as for all heritage assets. Judging whether sites fall into this category may be assisted by reference to the criteria for scheduling monuments. Further information on scheduled monuments can be found on the Department for Digital, Culture, Media and Sport's website.

(2) Other non-designated heritage assets of archaeological interest. By comparison this is a much larger category of lesser heritage significance, although still subject to the conservation objective. On occasion the understanding of a site may change following assessment and evaluation prior to a planning decision and move it from this category to the first.

Where an asset is thought to have archaeological interest, the potential knowledge which may be unlocked by investigation may be harmed even by minor disturbance, because the context in which archaeological evidence is found is crucial to furthering understanding.

Decision-making regarding such assets requires a proportionate response by local planning authorities. Where an initial assessment indicates that the site on which development is proposed includes or has potential to include heritage assets with archaeological interest, applicants should be required to submit an appropriate desk-based assessment and, where necessary, a field evaluation. However, it is estimated that following the initial assessment of archaeological interest only a small proportion – around 3% – of all planning applications justify a requirement for detailed assessment."

3.5

Paragraph 205 of the NPPF also makes provision for the recording of heritage assets that are likely to be demolished or destroyed by development.

Relevant Local Policies

- 3.6** The Brentwood Replacement Local Plan was formally adopted by the Council on 25th August 2005. The current version of the Replacement Plan includes saved policies to August 25th 2008.
- 3.7** The Council are currently in the process of preparing a new local plan to guide development to 2033 and this is now an important material consideration in the consideration of this application. 'The Brentwood Local Plan' was submitted to the Secretary of State for examination on 14 February 2020. Within the documentation for the Local Plan are documents specifically relating to the Brentwood Enterprise Park (dated 8 June 2021).
- 3.8** The following Brentwood Replacement Local Plan policies are relevant to this assessment:

Table 2: Local Policies

| Local Plan Policy | Relevant Policy |
|--|--|
| <p>C18 - Ancient Monuments and Archaeological Sites</p> | <p>Where important archaeological sites and monuments, whether scheduled or not, and their settings are affected by a proposed development, there will be a presumption in favour of their preservation in situ.</p> <p>In situations where there are grounds for believing that the proposed development would affect important archaeological sites and monuments, developers will be required to arrange for an archaeological field assessment to be carried out before the application can be determined thus enabling an informed and reasonable planning decision to be made.</p> <p>In circumstances where preservation is not possible or feasible, then development will not be permitted until satisfactory provision has been made for a programme of archaeological investigation and recording prior to the commencement of the development.</p> |

4. Archaeological Background

Introduction

- 4.1** The Site does not contain any designated archaeological assets, such as scheduled monuments or registered battlefields for which there would be a presumption in favour of preservation *in situ* and against development proceeding. Two scheduled monuments lie within the 1km study area and one Grade II* Registered Historic Park and Garden. Listed Buildings are not dealt with within this report.
- 4.2** The Essex HER contains records of two designated archaeological heritage assets within the study area and 31 non-designated archaeological heritage assets. None of these are located within the Site.

Timescales

- 4.3** Timescales used in this assessment:

Table 3: Timescales

| Period | Approximate date | |
|------------------------|-----------------------|-------------|
| Palaeolithic | c.450,000 – 12,000 BC | Prehistoric |
| Mesolithic | c. 12,000 – 4000 BC | |
| Neolithic | c.4000 – 1800 BC | |
| Bronze Age | c.1800 – 600 BC | |
| Iron Age | c.600 BC – AD 43 | |
| Roman (Romano-British) | AD 43 – c. AD 410 | Historic |
| Saxon / Early Medieval | c. AD 410 – AD 1066 | |
| Medieval | 1066 – 1485 | |
| Post-Medieval Period | 1485 – 1800 | |
| Modern | 1800 – Present | |

Designated Heritage Assets

Scheduled Monuments

- 4.4** Two adjacent scheduled monument areas lie 640 and 800m northwest of the northwest boundary of the application site, within Thorndon Country Park: the site of Thorndon Old Hall and gardens (yellow area to north of site labelled with HER

reference 1849; Figure 5), centred on NGR 562362 189827 and the site of the former parish church and churchyard of St. Nicholas, West Horndon, centred on NGR 562417 189653 (yellow area labelled as 8151; Figure 5); both sites were scheduled on 24th February 2004 (Appendix 1).

4.5

Thorndon Old Hall (HER reference 1849; Figure 5) was originally a medieval moated manor house which was altered and extended in the period 1573-90 into an extensive Elizabethan red-brick mansion house. The hall was built upon elevated ground, with extensive views southwards towards the Thames Estuary, which lies 10 km distant. John Walker's 1598 estate map shows the southern façade of the hall, with a path leading southwards, through a gatehouse, towards the church. A detached kitchen/bakehouse, clock tower and large formal garden lay at the rear of the hall, with orchards to the west; all were enclosed by a brick wall, with a second gatehouse on the northwest side. The hall was demolished and replaced by a new mansion on a completely new site c.2 km further north in the mid-late 18th century. The scheduled area includes not only the site of the old hall and its walled precinct, but also the site of the large detached stable block to the east, the scheduled boundary extending eastwards as far as Mill Wood. The site visit confirmed that views towards the application site are obstructed by hedgerows and the raised line of the A127 and tree belts. The impact on the setting of the monument by the proposed development is considered to be neutral, and consequently there will be no change to the significance of the monument.

4.6

The second scheduled monument is the site of the former parish church of St Nicholas, West Horndon (HER reference 1851; Figure 5) which lies c.125 m south-southwest of the Old Hall, at a significantly lower level (c.3 m) below the edge of the ridge upon which the hall stands; the boundary between the two is demarked by an old hedge which separated the deer park surrounding the hall from farmland beyond. The church foundations are visible today as a slightly raised area in the grass and as parchmarks in particularly dry weather, occupying a rectangular footprint measuring approximately 26 x 8m. The site is covered by a scatter of building debris (bricks and roof tiles). The church was built in the 15th century, possibly on the site of an earlier building. The late 16th century map estate map shows that the church stood centrally within the rectangular churchyard which is estimated to have measured c.100 x 30m. The path from the south façade of the old hall to the church passed through a gate tower and down a flight of steps to the churchyard. The parishes of West Horndon and Ingrave were amalgamated in 1712; both parish churches were demolished in 1734 and replaced by the new parish church of St. Nicholas, which was sited centrally within Ingrave village to better serve the local population. The site visit confirmed that, as with the adjacent hall site to the north, there is no intervisibility between the scheduled area and the application site. The impact on the setting of the monument by the proposed development is considered to be neutral, and consequently there will be no change to the significance of the monument.

Registered Historic Park and Garden

- 4.7** The Grade II* Historic Park and Garden of Thorndon Park lies within the 1km study area. The boundary of this registered historic park and garden runs through the woodland on the western side of the Site and is shown on Figure 5 as a dotted area to the west and northwest of the Site. It is an early 18th century park and woodland constructed by Lord Petre, with mid 18th century developments to the park and pleasure grounds by Lancelot Brown and subsequent minor additions in the 1790s probably by Richard Woods. It is now a country park and golf course. The registered historic park and garden will be intervisible with the proposed development. A settings impact to GPA3 standard would be needed for the development proposals, though it is assumed one will be undertaken within a Heritage Statement for the proposals, which will also address listed buildings.

Non-Designated Heritage Assets

- 4.8** The HER data is shown on Figure 5, showing the distribution of HER entries within the 1km study area.

Prehistoric

| HER Ref: | Site Name | Summary | Period |
|----------|--|--|-------------|
| 18637 | Halfway House to Herongate Reservoir Triplication Scheme | A watching brief on the pipeline from Halfway House to Herongate recorded six find spots (18633 - 18638). Four fragments of burnt flint were observed, presumably prehistoric. | Prehistoric |
| 16254 | Fieldhouse | Cropmark of a ring ditch, around 15 metres in diameter, visible on an aerial photograph. | Prehistoric |
| 17000 | Thorndon Country Park, south of the Old Hall | A fieldwalking survey of 96.12 hectares of Thorndon Country Park was undertaken prior to forestation. Burnt flint was recovered. | Prehistoric |

- 4.9** The Palaeolithic period (Old Stone Age) represents the earliest known period of human culture. The hunter-gatherers of this period came to Britain during interglacial periods and following the last Ice Age, at a time when Britain and the continent were still linked by a land bridge. Very little evidence survives for their temporary camp sites, apart from characteristic large stone (mainly flint) handaxes, which are usually found on river terraces, usually as residual artefacts, having been re-deposited by later fluvial action. No finds of Palaeolithic date have been recorded within the Site or study area.

- 4.10** During the Mesolithic period (c.12,000 BC), as the climate warmed and vegetation increased, hunter gatherer communities moved between seasonal camps, following herds of animals, fishing, and making more sophisticated flint tools. By c.6000 BC, the ice sheets finally melted, sea levels rose and Britain became an island. The

majority of Mesolithic material found in Greater London and Essex consists of isolated flintwork from surface or riverine contexts.⁴ No finds of Mesolithic date have been recorded from within the Site or study area.

- 4.11** The Neolithic period (New Stone Age) is characterised by the first farming communities, who carried out large-scale wood and land clearance to provide land for the cultivation of crops and animal rearing. These settled communities were the first to build large earth and stone-built monuments for burial, and probable ceremonial and ritual functions. Pottery vessels appeared for the first time alongside the continued refinement of flint tools and weapons. No finds of Neolithic date have been recorded within the application site or the wider study area.
- 4.12** The cropmark of a ring ditch c.15 m in diameter, possibly the remains of a ploughed-down Bronze Age burial mound, has been observed on an aerial photograph c.1.3 km south-southwest of the application site (HER reference 16254). However, reappraisal by the National Mapping Programme interpreted this feature as a former pond mapped by the Ordnance Survey in 1872 rather than a prehistoric feature, and it can now be discounted as a prehistoric monument (although still remains recorded on the HER).⁵
- 4.13** A fieldwalking survey carried out across an area of 96 ha within Thornton Country Park, in advance of forestation, (HER 17000) located a large and dense concentration of burnt flints immediately south of Thorndon Old Hall, c.750m northwest of the application site. Burnt flints were used primarily during the Bronze Age as pot boilers to heat water and as tempering for pottery vessels.⁶ Archaeological monitoring (watching brief) in 1991 along the line of a water pipeline running from Halfway House to Herongate on the north side of the Southend Arterial Road (Halfway House to Herongate Reservoir Triplication Scheme) recorded four fragments of burnt flint, presumed to be of prehistoric date at a location 270m north of the application site (HER 18637).⁷ It is possible that both records of burnt flint within the study area may relate to prehistoric (late Neolithic or Bronze Age) so-called 'burnt mounds' which are often found close to watercourses. The shattered stone fragments are interpreted as the remains of stones heated in fires which were then dropped into water for cooking or bathing purposes.
- 4.14** There is no evidence from the study area for prehistoric activity apart from the finds of burnt flint, both found reasonably close to watercourses and likely to be specific to these locations. The ring ditch has been discounted as an archaeological feature. There is no evidence for similar activity within the application site, and it is probable

⁴ Lewis 2000.

⁵ Ordnance Survey 6-inch 1st Edition, Sheet 75, 1872.

⁶ Germany 1994.

⁷ Brooks 1991.

that the clay geology with its heavy soils would be more likely to have been wooded in the prehistoric period and not attractive to early farmers. On present evidence, the potential for encountering prehistoric remains of any period within the application site is considered to be low.

- 4.15** Due to the paucity of prehistoric remains of all periods excluding possible evidence for Bronze Age burnt mound, within the study area, should any prehistoric remains be present, including stray finds, their significance may be considered slightly higher than low as it would provide new evidence for activity in the area. Should remains be present they would thus be of at least low to moderate importance.

Roman

| HER Ref: | Site Name | Summary | Period |
|----------|--|---|--------|
| 18636 | Halfway House to Herongate Reservoir Triplication Scheme | A watching brief on the pipeline from Halfway House to Herongate recorded six find spots (18633 - 18638). 1 fragment of ?Roman brick was seen. | Roman |
| 18638 | Halfway House to Herongate Reservoir Triplication Scheme | A watching brief on the pipeline from Halfway House to Herongate recorded six find spots (18633 - 18638). One fragment of Roman brick was observed. | Roman |
| 17009 | Thorndon Country Park, Roman brooch | A metal detecting find of a Roman brooch at N.G.R c.TQ 62328974. | Roman |

- 4.16** The A1023, which runs through the centre of Brentwood, 6 km northwest of the application site, follows the course of the Roman road linking Colchester (*Camulodunum*) with London (*Londinium*) via Chelmsford.⁸ There is no evidence for a Roman settlement at Brentwood, whose foundation appears to have originated in the later 12th century within a forest clearing.⁹ The Roman town of Chelmsford (*Caesaromagus*) lies 19 km to the northeast of the application site.

- 4.17** Two definite, and one possible, finds of Roman material have been recorded within the 1km radius study area. Archaeological monitoring along the line of a pipeline between Halfway House and Herongate in 1991 identified a fragment of Roman brick 175m north of the Site (HER 18638); a second fragment of brick of possible Roman origin was recorded at a distance of 175 m north of the first find (HER 18636). A Roman brooch was found by metal detecting in Thorndon Country Park, 890m northwest of the Site (HER 17009).

- 4.18** Taking into consideration the extremely sparse evidence from the study area, and the heavy clay soils which would not have been favourable for settlement, it seems

⁸ Margary 1973; Route 3a.

⁹ Powell et al 1983.

likely that any evidence for Roman activity is likely to comprise at most remains associated with agricultural activity rather than any settlement remains. The archaeological potential for encountering Roman activity within the application site is therefore considered to be low and would probably comprise stray finds. Stray finds would be considered to be of low archaeological importance.

Saxon/Early Medieval

4.19 The EHER contains no records for the Saxon period either within the application site or the wider study area. The Horndon place-name derives from Old English (Anglo-Saxon) elements meaning 'thorn' and 'hill'.¹⁰ The present church of All Saints, East Horndon, which was built in the last quarter of the 15th century, shows evidence for the incorporation of re-used Norman building material, and a divergence in orientation in its axis indicates the existence of an earlier building.¹¹ There is a strong possibility therefore that the Norman church may have had a late Saxon predecessor.

4.20 The earliest documentary evidence derives from the Norman taxation document compiled in 1086, and looking back to 1066, known as the Domesday Book, which shows that Torinduna ('*Thornhill*') [Horndon] was in the hands of three owners:

Land of Swein of Essex: *Alwine, a thegn of King Edward, held Horndon TRE [in the time of King Edward, 1066] and King William gave [it] to Robert. Now Swein holds [it] and Sigeric [holds it] of him as 1 manor and as 5 hides¹² and 15 acres. Then as now [there were] 2 ploughs in demesne and the men [had] 3 ploughs and [there were] 3 villains. [There were] then 7 bordars; now 10. [There were] then 4 slaves; now 1. [There are] 2 hides of woodland 2 sokemen with 50 acres, having now as then half a plough. In this manor Swein received a horse, 8 head of cattle, 20 pigs, 60 sheep. Now [there are] 4 head of cattle, 12 pigs, 50 sheep. It was then worth 100s.¹³*

Land of William Peverel: *Drogo holds Horndon of William, which Æthelmær, a free man, held TRE [in the time of King Edward, 1066] as a manor and as 1½ hides. Now [there] are 3½ hides and 21 acres. Then as now [there were] 2 ploughs in demesne. The men [had] then 2 ploughs; now 3. [There was] then 1 villain; now none. [There were] then 4 bordars; now 11. [There were] then 3 slaves; now 2. [There was] then 1 cow, 60 sheep, 11 pigs. [There are] now 5 cows, 15 pigs, 60 sheep. [There were] then 4 sokemen and now the same, holding 2½ hides and 21 acres of the same land. And 56 acres of it have been taken away. Then as now*

¹⁰ Gelling & Cole 2000.

¹¹ Brooke & Sorensen 1923.

¹² The hide was nominally the amount of land which could be ploughed by a single plough and an eight-ox team in a year. This measurement was variable, according to the land quality, and could vary between 60 and 180 acres.

¹³ Translation of Little Domesday Book Folio 42r.

*there is woodland for 100 pigs, pasture for 60 sheep. It was then worth 60s; now 100s.*¹⁴

Land of Bishop Odo of Bayeux: *In Horndon the bishop has 20 acres which 1 free man held TRE [in the time of King Edward, 1066]. It is worth 30d.*¹⁵

4.21 Æthelmær’s holding has been identified as the manor which was known in the medieval period as ‘Abbots’, whose manor house lay on the site of, or close to, the present East Horndon Hall.¹⁶ In addition to the agricultural land, the manor contained a significant amount of woodland, sufficient to provide pannage (wood pasture) for 100 pigs.

4.22 The location of the late Saxon settlement of the manor held by Æthelmær, which according to the Domesday Book comprised at least 12 households, is unknown; it may have lain between the existing East Horndon Hall and the church, an area now occupied by the modern A127 arterial road, but may equally have lain in proximity to the existing East Horndon Hall, possibly to the northeast of the Site.

4.23 The Site area lies outside of any likely focus of the late Saxon settlement and it is considered most likely the Broadfields Site would have lain within agricultural land surrounding any settlement, which may have comprised woodland as noted above. There is considered to be a low potential for archaeological remains from this period to be present within the site. Agricultural remains of this period would be of low archaeological importance. Settlement remains, if present, would be considered to be of moderate archaeological importance.

Medieval

| HER Ref: | Site Name | Summary | Period |
|----------|--|--|----------|
| 27279 | Church of All Saints, West Horndon | Church, C15, C16 and early C17. | Medieval |
| 19618 | East of Old Pond hall - Possible moated site - Thorndon | The site includes a rectangular earthwork feature (moat) | Medieval |
| 52392 | A Portable Antiquities Scheme findspot of Medieval date. | A Portable Antiquities Scheme findspot of Medieval date. | Medieval |
| 5154 | Church of All Saints, East Horndon | Chancel, nave, transeptal chapels (2-storied), north chapel (contains Tyrell tomb of 1476), probably all from the last quarter of the 15th century.. | Medieval |
| 1849 | Old Thorndon Hall, West Horndon | Foundations of brick on site of Old Hall, middle of parish. Surrounded by deserted | Medieval |

¹⁴ Translation of Little Domesday Book Folio 90r.

¹⁵ Translation of Little Domesday Book Folio 23v.

¹⁶ Morris 2005.

| | | | |
|-------|--|---|---------------------------|
| | | medieval settlement and has an associated deer park | |
| 1851 | Site of St Nicholas's Church, West Horndon | The site of the former church is south of site of Old Thorndon Hall | Medieval |
| 1853 | East of site of St Nicholas's Church, West Horndon | Medieval findspot found in 1979. Included - Floor Tile; Brick; Human Remains; Tile; Worked Object; Brick; Vessel; Brick | Medieval |
| 27434 | East Horndon | C16, and later, timber framed house, now clad in brick. | Medieval to Post Medieval |
| 19317 | Ingrave Common | medieval and post-medieval Common Land | Medieval to Post Medieval |
| 19619 | Old Thorndon Hall - Possible Mill site and unknown feature | The Location of the mill is suggested by documentary evidence. A Watermill | Medieval to Post Medieval |
| 19615 | Old Hall Pond - Thorndon Park | The pond is situated to the east of the site of Old Thorndon Hall | Medieval to Post Medieval |
| 49306 | East Horndon Mills | Site of a windmill | Medieval to Post Medieval |

4.24 In the twenty-year period between the Norman Conquest and the compilation of the Domesday Book in 1086, the acreage of the Norman knight Drogo's manor had been reduced by 56 acres, but the population had grown to 17 households, and the value had increased from 60s to 100s. By 1598 only the manor house (East Horndon Hall) and the adjacent church remained (Figure 8).

4.25 This manor was one of several properties in Essex granted by Kings Richard I and John to Hugh de Neville, the King's Chief Forester, who endowed it to the monks of Waltham Abbey at the beginning of the 13th century, thereby acquiring the name *Abbatis* ('Abbots'), which was first documented in 1254.¹⁷ In his history of Essex, published in 1763-8, the local historian Reverend Philip Morant recorded an agreement made between the Abbot & Convent of Waltham and the rector of East Horndon whereby the latter would permit the construction of a chapel 'within the bounds of their own Court' in return for an annual payment of 5s.¹⁸

4.26 The second Domesday manor in East Horndon lay at Heron, close to the northern edge of the parish, whose moated manor house was occupied by the Tyrell family until 1837; the original manor house was demolished in the 18th century, although the medieval moat still survives.

4.27 The Norman church of All Saints (HER 5154; HER 27279), which lies c.380m northeast of the Site on the opposite side of the A127 Southend Arterial Road, was rebuilt by the Tyrell family in the late 15th century (Photo 6). The church still retains the tomb and effigy of Alice, wife of Sir John Tyrell, who died in 1422, and their

¹⁷ White 1848; Reaney 1935.

¹⁸ Morant 1768: 212.

children. Both the north and south chapels were built to house interments of the Tyrell family.

- 4.28** The church stood at a midpoint in the long and narrow north-south orientated parish, which originally extended from Heron Hall in the north to the northern outskirts of the village of Bulphan in the south. East Horndon was the most easterly of seven similar-shaped medieval parishes, extending from the high ground to the north onto the lower lying ground, exploiting the various woodland, common and agricultural resources.¹⁹
- 4.29** Archaeological excavations in 1957-9 revealed that there has been a building on the site of Thorndon Old Hall, West Horndon, situated c.770m northwest of the Site, since the early 15th century, and probably earlier (HER 1849).²⁰ Two periods of medieval construction and alteration were identified. The earliest remains relate to the hall first documented in 1414, when the then owner John Fitz-Lewis was granted a licence 'to empark 300 acres, to surround the lodge within this park with walls and to crenellate and embattle the lodge'.²¹ The hall stood in the centre of the deer park. The excavations revealed a central rectangular footprint constructed with massive brickwork, with an outer brick wall with buttresses and bastions, which were encircled by a moat. Extensions to the east and west of the hall were built over the infilled moat in c.1450. The area of Thorndon Old Hall is a scheduled monument, List No. 1021226; Appendix 1).
- 4.30** Archaeological finds of 15th to 16th century Flemish floor tiles from the site of the former church of St Nicholas (HER 1851; HER 1853), which lies adjacent to the south of Thorndon Old Hall, suggest a similar 15th century origin, although it may stand on earlier remains. The church site is also a scheduled monuments (List No. 1021225; Appendix 1). The site of a possible medieval watermill, shown on the Walker Estate Map of 1598, lies at the southern end of Old Mill Pond (HER 19619); the mill site was probably buried when the pond was enlarged and new dams constructed in the 18th century. Old Mill Pond was probably created in the 15th century serving not only as a millpond, but also as part of the water management system serving the old hall and feeding the moat (HER 19615). An earthwork feature within the woodland c.70 m east of Old Hall Pond may represent a further medieval moated site (HER 19618).
- 4.31** Other medieval (or medieval / post-medieval) sites within the 1 km radius study area include the Ingrave Common (HER 19317), 950m to the north of the Site; and the

¹⁹ Similar shaped neighbouring parishes, from east to west were: West Horndon with Ingrave, Childerditch, Little Warley, Great Warley, Cranham and Upminster.

²⁰ Marshall & Robertson 1972.

²¹ Roskell, Clark & Rawcliffe 1993.

find of a silver belt or horse mount found 440m east of the application site (HER 52392).

- 4.32** Cartographic evidence shows that the principal focus of settlement within the parish of East Horndon in the post-medieval period lay at Herongate, in the northern part of the parish, rather than at either of the manorial centres of East Thorndon (Abbots) or Heron Hall itself (Information taken from the Francis Lamb map of Essex from 1678, not illustrated as it provides no information regarding the site area). How far this settlement pattern mirrors that of the medieval period is uncertain. The location of a manor house and church in the centre of the parish suggests that they provided an early focus of settlement, which appears to have subsequently drifted northwards. The impetus for this change probably lies in the acquisition of 'Abbots' manor by Waltham Abbey at the beginning of the 13th century, who would have farmed it as a grange for agricultural profit rather than as a manorial centre, a role which was taken over by the manor of Heron under the Tyrrell family.
- 4.33** No medieval settlement remains have been recorded in the vicinity of either All Saints Church or East Horndon Hall. However, there is a possibility that a settlement or small agricultural hamlet may have lain between them, an area now occupied by the modern A127 arterial road, but may equally have lain in proximity to the existing East Horndon Hall to the east of the Site. .
- 4.34** The Site lay in agricultural land surrounding East Horndon Hall and as such is most unlikely to have been used for settlement. The potential for hitherto unknown medieval archaeological remains, excluding those associated with agricultural practices, to be present within the site is considered low, and their archaeological importance would also be considered low.

Post Medieval & Modern

| HER Ref: | Site Name | Summary | Period |
|----------|---|---|---------------------------|
| 19615 | Old Hall Pond - Thorndon Park | The pond is situated to the east of the site of Old Thorndon Hall | Medieval to Post Medieval |
| 49306 | East Horndon Mills | Site of a windmill | Medieval to Post Medieval |
| 27280 | Stabling at Church of All Saints | C17 timber framed stable. | Post Medieval |
| 27281 | Freman monument in churchyard of Church of All Saints, West Horndon | Railed enclosure containing three C18 tombs. | Post Medieval |
| 27433 | Dunton Hills | C17, and later, house with timber framed cottage attached. | Post Medieval |
| 19614 | Thorndon Park | Brick construction on west side of wood north-west of Old Hall Pond - conduit | Post Medieval |
| 5155 | Church of All Saints, East Horndon | The west tower fell and was partly rebuilt in the early 17th century.. | Post Medieval |
| 5156 | Near Churchyard | Area of clay exposed in road cutting, unknown function. | Post Medieval |

| | | | |
|-------|--|---|---------------|
| 8551 | Thorndon Park | C18-C19 park and woodland; late C18 walled garden; Capability Brown (1766 and 1772) largely obliterated earlier formal elements. | Post Medieval |
| 9964 | The Octagon, Thorndon Country Park | Embanked enclosure c.150m across heavily overgrown, especially on the north side. Garden | Post Medieval |
| 17005 | Thorndon Country Park, post medieval pottery around Old Hall | A large quantity of post-medieval pottery and brick in areas to the immediate east and west of the Old Hall. | Post Medieval |
| 17006 | Thorndon Country Park post-medieval tile near St. Nicholas'c | A concentration of post-medieval tile, recorded during a fieldwalking survey of Thorndon Country Park, at N.G.R TQ 62388965, marks the location of the Church of St. | Post Medieval |
| 1850 | Old Thorndon Hall, West Horndon | Building on site since 1414. Includes many elements: The great house; bakehouse; stable; barn; enclosure; garden; building; gatehouse; garden wall; deer park; pond; watermill; field boundary; trackway; | Post Medieval |
| 1852 | Site of St Nicholas's Church, West Horndon | Site of former church, south of site of Old Thorndon Hall | Post Medieval |
| 1854 | West Horndon - Old Thorndon Hall, 'Pigeon Mound' | Pigeon Mound, mound, 200yds west of Old Hall site, c100ft in diameter, 12ft high. Part of Landscape Park | Post Medieval |
| 20828 | Thorndon Park in World War Two | Military occupation at Thorndon Park during World War II | Modern |

4.35 Following the dissolution of the monasteries by King Henry VIII, Waltham Abbey was dissolved on 23 March 1540, and all its estates, including East Horndon, were sold by the Crown to lay owners. East Horndon was purchased, together with West Horndon (Thorndon Old Hall), by Sir William Petre in 1544.²² A survey (written inventory) compiled in 1566, reveals the extent of the manor and mentions land surrounding 'the capitall mansion and dwelling house of Easte Horndon'.²³ The document also mentions the 'site of the manor', which may imply that the house was no longer standing at that time, and also refers to stables, barns, a mill house and other agricultural buildings which had been built on the former garden and courtyards.

4.36 The earliest fabric in the present East Horndon Hall, which stands around 135m to the east of the Site, is a timber-framed core of 16th century date, and it is possible that this house was built in the period between the surveys of 1566 and 1598 (HER 19615), at which date John Walker's estate map shows the principal buildings pictorially (Figure 8). Although the map copy is indistinct and it is difficult to

²² Morant 1768.

²³ Essex Record Office D/DP M1325.

distinguish the details²⁴, the house appears to have been a two-storey, three-bay building; there is a square possible formal garden at the rear, and an orchard with a pond to the west, fronting the Tilbury road. A three-bay single-storey building (with chimney at west end) and a barn with a central door stand close to the southern boundary of the yard, which was accessed on the east side from the track leading from what is now known as Nightingale Lane. This track crosses the northeastern side of the application site and continued up Church Hill to the church; the land to the east of this track, within the northeastern tip of the application site, was glebe land, containing a single building close to the track. South of the 'yard' is a narrow strip of land entered from the Tilbury road, containing the dovecote. The field to the south, comprised a stand of woodland/plantation alongside the Tilbury road and a field known as 'Dovehouse Mead'.

- 4.37** The 1598 map shows that the Site was occupied by two large fields, the southern one seemingly corresponding to the existing southern field. It is indicated as surrounded by tree lined boundaries and has a few trees within it at the eastern end, perhaps suggesting less dense woodland than that to the east. The large northern field encompasses the central and northern existing fields and extends further to the north, in land now severed by the A127. A large rectangular feature in the northern field is shown but its function is unclear, although a number of similar features are shown on the wider map and are likely to indicate ponds.
- 4.38** The HER contains several references to post-medieval activity in and around the Church of All Saints: the early 17th century rebuilding of the west tower (HER 5155); the findspot of an area of clay exposed in a road cutting associated with post-medieval pottery and tile fragments (HER 5156); the 18th century Freman monument in the churchyard (HER 27281), and a 17th century timber-framed stable building (HER 27280).
- 4.39** John Walker's map of 1598 (Appendix 3.2) also shows pictorial representations of the church of St. Nicholas (HER 1852) and Old Thorndon Hall (HER 1580). The Thorndon estate passed from the Fitz-Lewises to the Mordaunt family in 1526, and from 1573 to the Petre family. At this time the house was rebuilt into a fine Elizabethan mansion and the estate improved. The 1598 estate map records the final post-medieval layout of the hall, with its walled precinct, gatehouses, bakehouse, stable block, barns, deer park, pond, watermill, trackways, watercourses, dams, woods, orchards and formal gardens (HER 1854; List No. 1021226).

²⁴ The only copy of this coloured map available for study in the Essex Record Office is a black and white photostat, which makes some of the mapped features difficult to interpret, as the original has a colour key. The surveyor has added three lines of annotation across the yard which are unreadable on the available copy.

- 4.40** The 8th Baron, Robert James Petre (1713-1742), was a great horticulturalist and plant collector who built large hot houses on the estate to grow tropical fruit. In the period 1740-1742 he had 60,000 trees planted in the park. The 'Pigeon Mound', a c.4 m high mound, upon which once stood an octagonal brick building (HER 1854), and 'The Octagon', a large embanked enclosure within which plants and seeds from New England were grown (HER 9964), were part of the grand scheme of improvements. The site of an 18th century menagerie is marked by earthworks within the northern part of Menagerie Plantation, over 1km north of the Site. Lavish plans were drawn up by the French surveyor Sieur Bourginion to improve the gardens, and landscape the estate. However, owing to the untimely death of the 8th baron in 1742, these plans were not implemented, and by the time his infant son reached his age of majority and finally inherited the estate the hall had fallen into decay. He therefore decided to build a new hall in the Palladian style c.2 km north of the old hall, which was finally demolished in c.1762.
- 4.41** Thorndon Park (HER 8551), which was purchased by Essex County Council in 1939, has been designated a Grade II* Registered Park (List No. 1000314; Appendix 1). The HER includes a number of post-medieval finds and features within Thorndon Country Park including pottery and tile found around the site of Thorndon Old Hall and the church (HER 17005 and HER 17006), and a brick built structure, possibly a conduit, recorded to the northwest of Old Mill Pond (HER 19614).
- 4.42** Further post-medieval HER records within the study area include a standing (and listed) building known as 'Dunton Hills' (HER 27433) which lies 650m south of the Site.
- 4.43** Chapman and Andrés County map, published in 1777 (Figure 9), is the earliest to name East Horndon Hall; at least three small buildings are shown to the east of the hall. The Site is shown as open land with Tilbury Road to the east and strips of woodland to the west. The northern and southern boundaries are not defined and presumably the map is indicating it is all agricultural land.
- 4.44** The most comprehensive map of the fields is given by Lord Petre's c.1817 Estate Survey Book (Figure 10).²⁵ This shows the field layout as presently exists for the central and southern field. The northern field comprises two north to south aligned larger fields that have now been truncated by the A127 and further changed through the construction of the property on that road and the modern housing in the northeastern corner. On this map the central field is shown as stippled and tinted green which may suggest woodland, but this cannot be confirmed.

²⁵ Essex Record Office D/DP P109.

- 4.45** The tithe map of 1845 for East Horndon (Figure 11) shows half of the site area with the same field layout as above. The western half of the actual Site lies outside the boundary of this map and is not shown on any other Tithe map, but the describes both of the three truncated (by the map) fields as 'part of'. All of the land is recorded as being owned by Lord William Henry Francis Petre and occupied by George Willis. On the map field 165 is called Rear Park Field and is recorded as being used for grass land; 166 is Further Park and is recorded as being arable; 168 is called Further Abridge(?) and recorded as being arable; and the final field 169 is called Dove House Mead and is recorded as grassland. George Willis occupied East Horndon Hall.
- 4.46** The 1st Edition 25-inch Ordnance Survey Sheet, surveyed just 20 years later (1868, surveyed 1865) (not illustrated) shows no change to the Site layout from the Tithe Map or estate map. The 1896 map (Figure 12) shows an almost identical layout but the pond noted on the estate map is clearly shown confirming the feature was indeed a pond. There is no change on the 1920 Ordnance Survey map (Figure 13).
- 4.47** The A127 Southend Arterial Road was built across the centre of the parish in 1924, isolating East Horndon Hall and the rectory from the church and is shown clearly on the 1945 Ordnance Survey map (Figure 14). The road had been dualled by the early 1930s. The 1945 map also shows the property fronting the A127, shown as two small plots. A residential building is shown on the western side of the Tilbury Road frontage, which corresponds with the property north of Broadfields. Two other houses are shown on the A127 frontage, but it is assumed that these were demolished when the new area of housing was built directly northeast of the Site.
- 4.48** Thorndon Hall and Park were used as a military encampment during World War II (HER 20828).
- 4.49** The map regression and other records have shown that the Site has been used as agricultural land and has remained undeveloped since the at least 1598. There is consequently considered to be a low potential for post-medieval or modern archaeological remains to be encountered within the Site. If remains are present they would most likely be associated with agricultural activities and be considered of low archaeological importance.

Unknown

| HER Ref: | Site Name | Summary | Period |
|----------|--|---|---------|
| 18635 | Halfway House to Herongate Reservoir Triplication Scheme | A watching brief on the pipeline from Halfway House to Herongate recorded six find spots (18633 - 18638). 1 fragment of greenish granite stone recovered. | Unknown |
| 45543 | Mill Wood, Thorndon Country Park | Possible ancient semi-natural woodland | Unknown |

- 4.50** There are two sites of unknown date recorded within the study area on the HER. These are an area of woodland northwest of the Site to the north of the A127 within the Registered Historic Park and Garden of Thorndon Hall. Part of the woodland would have linked with the woodland on the western side of the Site, but that area is not included within the HER entry
- 4.51** The final record is that of a greenish granite stone recovered during a watching brief (HER 18635) as well as possible areas of casting waste.

Previous Archaeological Work

- 4.52** The Essex HER records 13 archaeological investigations within the study area. The closest to the application site was a field visit to a road cutting close to Church Hill, on the opposite side of the A127, which identified a small quantity of post-medieval material (EEX17759) located some 650m to the northwest, and archaeological observation in the course of pipeline construction from Halfway House to Herongate Reservoir (EEX52708) located north of the Site, which recorded isolated finds at various locations including 4 fragments of burnt flint, a Roman brick fragment (with another possible), and a fragment of granite thought to have derived from modern building material.
- 4.53** The majority of archaeological investigations within the study area have been carried out within Thorndon Country Park some 730m to the northwest of the Site. Excavations were carried out in the late 1950s on the site of Old Thornton Hall (EEX6696) and in 1992 on the site of 'The Octagon' garden earthwork (EEX31340). Various projects have been carried out in the park including field observation (EEX6697, 6711), field survey (EEX6698), field survey & fieldwalking (EEX43310), metal detecting (EEX43323), contour survey and trial trenching (EEX52329 & EEX52330) and geophysical survey (EEX52331 & EEX52550).
- 4.54** In 2017 the desk-based assessment for the East Horndon Hall site was carried out by Archaeology Collective (part of HCUK Group) the results of which have been included within this assessment.
- 4.55** Apart from known and mapped medieval and post-medieval features relating to Thorndon Old Hall and its environs, little of further archaeological interest has been identified.

Aerial Photographs and Lidar data

- 4.56** As part of this assessment aerial photographs have been observed to note if any changes to the Site have occurred in more recent years. This has shown that the southern field has remained relatively unchanged as rough grassland with overgrown vegetation for recent years. The central field was previously rough ground, but was

then partly landscaped or at least cleared of vegetation to create access areas around the field. In more recent years these areas of clearance have become less and vegetation has encroached back onto the site (Figures 16 and 17).

- 4.57** The northern field has also mostly been left as rough pasture, although at some point possibly since 2000, a shipping container was placed within the field (which is still present). The purpose of this is uncertain but modern aerial photography indicates that at one point a cleared area of vegetation provided easy access to it, though this has since become overgrown again.
- 4.58** As the Site is covered in large patches of dense vegetation, interrogation of Lidar data has been undertaken. Lidar stands for Light Detection and Ranging, and is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth. The information is made available through Open Government software and includes Digital Terrain Modelling (DTM) which records only those pulsed laser readings which penetrate through gaps in vegetation (the lowest readings) to provide a representation of the ground surface. Figure 7 shows 1m resolution DTM Lidar data for the Site which has been manipulated to enhance any earthworks within the Site. The plot shows that the area is quite rough to the north and south, with patches in the central field being clearer associated with the former clearance and access created. A modern pond can be seen on the southern boundary of the field and linear areas of rolled (possibly levelled) grassland to the east and in a strip through the centre of the field. Within the northern field a large oval anomaly can just be seen to the left of centre of the field which may be the remains of the pond shown on earlier maps. No earthworks indicative of significant archaeological remains can be seen within the Site.

5. Impact Assessment

Proposed Development

- 5.1** The proposed Broadfields Innovation and Business Park development comprises the development of a sustainable business park at land known as Broadfields. in the fields to the southwest of the junction of the A127 and Tilbury Road. Figure 18 shows an illustrative plan of what the proposed development may look like.
- 5.2** The description of the Broadfields Innovation and Business Park development is as follows: *'Outline planning application with all matters reserved except access for development of up to 36,000 sqm of employment floorspace within Use Classes E(g), B2 and B8 including an enterprise hub of micro and small units for small businesses, an ultra-rapid electric vehicle charging facility for 16 cars and a children's play area'*.
- 5.3** It comprises a series of large commercial units with ancillary office accommodation arranged across the entire site area with a series of access roads and car parking surrounding them, as well as significant planting and landscaping. The proposed main access to the area will be from Tilbury Road south of the present Broadfields Farm. The farm is not shown on the map and this later 20th century farm will be demolished.
- 5.4** A potential new waste and recycling depot is proposed in the southeastern corner.
- 5.5** Four ponds are also proposed within the Site to assist with drainage.

Factors Affecting Archaeological Survival

- 5.6** Archaeological remains can survive as earthworks and as below ground archaeological features, finds and layers. Part of the assessment process is to consider what factors may have affected archaeological survival. That is to say, what conditions would have enhanced the chances of survival and what conditions would have reduced the chances of survival.
- 5.7** The subject of archaeological preservation has been covered comprehensively elsewhere²⁶, and it is a subject which is subject to ongoing review as our understanding grows. The following addresses some familiar scenarios for assessment reports such as this, to allow the reader an insight into some 'typical' scenarios.

²⁶ Historic England 2016. Preserving Archaeological Remains. Decision-taking for Sites under Development

- 5.8** In rural locations such as this at Broadfields, below ground remains are likely to be sealed by a relatively thin series of layers: typically a topsoil of c.100-200mm and a subsoil of 100-300mm. Therefore archaeological deposits may be sealed by only a 200-500mm depth of deposits from present ground surface. There are variations to this including landscapes affected by colluvial or alluvial deposits, but these should not be present at this site.
- 5.9** Earthworks are most common in areas not subject to modern, mechanised ploughing, although earthworks can be preserved in hedgerows, wooded areas and even as plough-reduced remnants within arable fields. The Broadfields site has not been subject to modern ploughing as far as can be told from available aerial photographs, other than clearance works in the central field.
- 5.10** Hydrology has a significant role to play in the preservation of remains and proximity to watercourses and wetlands should be considered as it affects the variety and type of artefacts/ecofacts that could be present on a site. This site is known as being often waterlogged, as was the case during the site visit although the ground was firm underfoot rather than boggy, suggesting it is poorly draining rather than an area where there is a very high potential for palaeoenvironmental remains. It should be noted that if cut archaeological features (such as pits or ditches) are present within the site area then these could contain soils more conducive to the preservation of environmental remains. The acid nature of the soils noted in the geology section above, does reduce this potential though.
- 5.11** The entire Site will be subject to development all of which will require groundworks which could expose, damage or destroy underlying archaeological remains. Groundworks could include topsoil stripping, landscaping works, construction of roads, parking areas or locations for contractor's compounds or materials storage. The construction of the proposed ponds will cause significant below ground disturbance. The construction of the proposed new buildings could include strip, piled or raft foundations, all of which would impact on below ground archaeological remains if present.

Designated Heritage Assets

- 5.12** A site visit has confirmed that in both cases views towards the Site are obstructed by long-established woodland, which has been mapped since the end of the 16th century, and is designated Ancient and Semi-Natural Woodland. The line of the A127 runs between the Site and the scheduled monuments to the north, further severing any connection between them. The impact on the setting of the monuments by the proposed development is considered to be neutral, and consequently there will be no change to the significance of these monuments.

Non-Designated Heritage Assets

- 5.13** No known archaeological assets have been identified within the Site and the potential for remains of all periods (both prehistoric and historic) is considered low. This assessment indicates that the Site has been agricultural land throughout all of its known history. It is considered that some past ploughing of the Site is likely to have occurred in the past as two of the fields were recorded as arable on the Tithe Apportionment and this will have had some truncating effect on any underlying remains if present. However, as there has been a lack of actual physical development on the Site, archaeological remains if present are likely to survive relatively intact across the area.
- 5.14** If archaeological remains survive in the footprint of the proposed development area, it is likely that they will be removed or disturbed by the proposed construction related activities. Any ground moving activities associated with the construction of the proposed development have the potential to disturb hitherto unknown archaeological remains.
- 5.15** Although this assessment considers that the potential for archaeological deposits to be present within the Site is low, the need and scope of any further archaeological works that might be needed in advance or during development of the Site would still need to be discussed **and agreed** with the Archaeological Advisor to the local planning authority.

6. Conclusions

- 6.1** Development proposals for the Broadfields Innovation and Business Park, East Horndon, Brentwood, Essex will comprise commercial warehouses for a range of industrial, light industrial and logistics type uses with ancillary office accommodation, as well as associated access, infrastructure and landscaping proposals.
- 6.2** The purpose of this report is to inform those development proposals by highlighting any areas of potential archaeological significance at an early stage in the process. The assessment has confirmed that the application site does not contain any designated archaeological heritage assets of archaeological interest, such as World Heritage Sites, scheduled monuments, registered parks and gardens or registered battlefields, where there would be a presumption in favour of their physical preservation in situ and against development.
- 6.3** In line with the policies of the local planning authority and national government guidance as set out in the NPPF, an archaeological desk-based assessment has been undertaken to clarify the archaeological potential of the Site.
- 6.4** Potential impacts upon the designated archaeological assets (scheduled monuments) in the site's wider zone of influence have been considered, and this assessment concludes that the implementation of the proposed development will not result in an adverse impact on, harm to, or loss of significance from either of the identified scheduled monuments of Thorndon Old Hall (List No. 1021226) and the adjacent former Church of St Nicholas (List No. 1021225), either in terms of an effect on their physical fabric or through changes to their wider setting.
- 6.5** Based on the information within the HER, supplemented by historic mapping, the application site has been shown to have a low potential for archaeological remains of both the prehistoric and historic periods.
- 6.6** Some previous disturbance through agricultural ploughing is likely to have occurred to any archaeological remains that may survive within the Site, although this is unlikely to have removed anything but the shallowest of buried archaeology.
- 6.7** On the basis of available evidence, it is considered that the proposed development accords with current legislation, the planning policies contained within the NPPF and the policies of the adopted Brentwood Local Plan.
- 6.8** The need for and scope of any further archaeological works that would be needed in advance or during development of the Site would need to be discussed **and agreed** with the Archaeological Advisor to the local planning authority.

Sources Consulted

Maps

- 1594 John Norden. *Map of Essex* (British Library Add MS 33769 f.3).
- 1598 John Walker. Estate Map. *A True platt and survey of the mannors of Weast Hornedon, East Hornedon, feldehouse, noke halle, Ames, with the ferme called Sallmons, Belsers hatch, goate house and others. Surueyed and measured and Sett forth by John Walker* (Essex Record Office D/DP P5).
- 1678 Francis Lamb. *Essex actually surveyed with the several Roads from London &c. ...*²⁷
- 1777 John Chapman & Peter André. *A Map of the County of Essex from an Actual Survey taken in 1772, 1773 & 1774*. Sheets 17 and 22.
- 1799 Charles Budgen Ordnance Surveyor's Drawing (British Library OSD 138 pt.2/8 (Brentwood)).
- 1805 Anon. Ordnance Surveyor's Drawing (British Library OSD 134 (East Tilbury)).
- 1805 Ordnance Survey 1st Series 1-inch Sheet 1.
- c.1817 *Survey Book of an Estate, belonging to the R:H: Lord Petre in the County of Essex continued* (Essex Record Office D/DP P109).
- 1845 East Horndon Tithe Map. (National Archives IR 29/12/178).
- 1868 Ordnance Survey 25-inch 1st Edition (surveyed 1865). Essex Sheet LXVIII.13.
- 1896 Ordnance Survey 25-inch 2nd Edition (revised 1895). Essex Sheet LXVIII.13.
- 1920 Ordnance Survey 25-inch (revised 1915). Essex Sheet LXXX.11.
- 1938 Ordnance Survey 6-inch. Essex Sheet LXXXSE.
- 1945 Ordnance Survey 25-inch (revised 1940). Essex Sheets LXXX.8,9,11 & 12.
- 1960 Ordnance Survey 6-inch.
- 1968 Ordnance Survey 1:2500.
- 1972 Ordnance Survey 1:2500.

Documents

- 1566 *Survey of Ingatestone Hall estate* (Essex Record Office D/DP M1325).

²⁷ <http://www.leventhalmap.org/id/14571>

Unpublished Reports

- Archaeology Collective, 2017. *Archaeological Desk-Based Assessment: Land east of East Horndon Hall, Brentwood, Essex*, Project Ref: AC00448A by Anne Johnson
- Bennett, A. 2016. *Archaeological Desk-Based Assessment for West Horndon Flood Alleviation Scheme, Brentwood* Prepared, for ECC Flood Team. Essex County Council: Chelmsford.
- Brooks, H. 1991. *Halfway House to Herongate Reservoir Triplication Scheme*. Report on a watching Brief Essex County Council.
- Germany, M. 1994. *Thorndon Park, Brentwood. Archaeological Assessment*. Essex County Council Field Archaeology Group.
- Jarvis, L. 2017. *Land east of East Horndon Hall, Brentwood, Essex: Heritage Statement* Heritage Collective Limited.
- Kemble, J. 2007. *The Place-names of East Horndon*, Essex Place-names Project (Essex Society for Archaeology & History) Essex Record Office: Chelmsford e-book28
- Peet, I. 1995. *Old Thorndon Pastures, Thorndon Country Park, Brentwood, Essex*.
- Roberts, J.L. 1997. *'The Ruin of Rural England': an interpretation of late nineteenth century agricultural depression, 1879-1914* Doctoral thesis submitted to Loughborough University, July 1997.
- Wardill, R. 1997. *Thorndon Park Gatehouse (West) Geophysical Survey*.

Secondary Sources

- Bennett, A. 2011. *Historic Landscape Characterisation report for Essex*, Essex County Council: Chelmsford.
- Brooke, J. & Sorensen, M. (eds.) 1923. *An Inventory of the Historical Monuments in Essex. Volume IV. (South East)*, Royal Commission on Historical Monuments (England). HMSO: London. (p.36-38)
- Brown, N. & Glazebrook, J. 2000. *Research and Archaeology: a Framework for the Eastern Counties, 2. research agenda and strategy*, East Anglian Archaeology Occasional Paper No. 8: Norwich.
- Buckley, D.G. 1980. *Archaeology in Essex to AD 1500: in memory of Ken Newton* Council for British Archaeology (CBA) Research Report No. 34. London.

²⁸ www.essex.ac.uk/history/esah/essexplacenames

- CiFA (2020) *Standard and Guidance for historic environment desk-based assessment*.
Published December 2014, updated 2020.
- Clutton, G. & Mackay, C. 1970. *Old Thorndon Hall, Essex: A History and Reconstruction of its Park and Garden*, The Garden History Society Occasional Paper No.2: 27-39.
- Essex County Council 1992. *Thorndon County Park*, Essex County Council: Chelmsford.
- Gelling, M. & Cole A. 2000. *The Landscape of Place-Names*, Shaun Tyas: Stamford.
- Kuypers, Rev. Canon C.T. 1930. *Thorndon: Its History and Associations*. Brentwood Diocesan Magazine.
- Margary, I.D. 1973. *Roman Roads in Britain*, 3rd. Edition. John Baker: London.
- Marshall and Robertson 1972. *Excavations at Old Thorndon Hall 1957-1959*.
- Mills, D. 1991. *Dictionary of English Place Names*. Oxford University Press.
- Morant, P. 1768. *The History and Antiquities of the County of Essex*, Volume 2. London.
- Morris, J. (ed.) 2005. *Domesday Book: Essex*, Phillimore & Co. Ltd: Chichester.
- Powell, W.R. 1963. *A History of the County of Essex Volume 3: Roman Essex*, Victoria History of the Counties of England. Published for the Institute of Historical Research by Oxford University Press: Oxford.
- Powell, W.R., Board, B.A., Briggs, N., Fisher, J.L., Harding, V.A., Hasler, J., Knight, N. & Parsons, M. 1983. *A History of the County of Essex Volume 8: Accounts of the parishes of Chafford and Harlow hundreds, including Brentwood, Hrlow and Thurrock*, Published for the Institute of Historical Research by Oxford University Press: Oxford.
- Reaney, P.H. 1935. *The Place-Names of Essex*, English Place-Name Society Volume XII. Cambridge University Press.
- Roskell, J.S., Clark, L. & Rawcliffe, C. (eds.) 1993. *The History of Parliament: the House of Commons 1386-1421*, Alan Sutton: Stroud.
- Starr, C. 1988. *East Horndon Church: a History and Guide*, Redundant Churches Fund: London.
- White, 1848. *White's Directory of Essex*.

Aerial Photographs

© Historic England EPW 059331, EPW059388, EPW059390, 13th September 1938.
<http://www.britainfromabove.org.uk/>

Internet Resources

British Geological Society online viewer:

<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

Google Earth www.googleearth.co.uk

<http://www.all-saints-east-horndon.co.uk/History.asp>

<http://www.thorndonhall.co.uk/thorndon-hall-history.htm>

<http://www.essexrecordofficeblog.co.uk/tag/waltham-abbey/>

http://www.essexlifemag.co.uk/out-about/places/treasures_of_the_essex_record_office_thorndon_hall_1_4602671

APPENDIX 1: Scheduled Monument Information – details from Historic England

OLD THORNDON HALL AND GARDENS

Scheduled Monument List Entry Number: 1021226

Date first listed: 24-Feb-2004

Location: Herongate and Ingrave Parish, Brentwood, Essex

National Grid Reference: TQ 62362 89827

The area of the scheduled monument is shown on Plate 1 below, and it overlies the Registered Historic Park and Garden of Thorndon Hall

Reasons for Designation

The manor of Thorndon has an illustrious and well-documented history which the above and below ground remains of the hall and gardens elucidate. Successive overlays of house and associated landscaped gardens bring to life the history of the manor of Thorndon from its medieval origins through to the end of the 18th century when it was abandoned in favour of a new site to the north. The transformation of the small medieval moated site of the early 15th century into a large and rambling medieval house, next remodelled into a splendid Elizabethan country residence by the first Lord Petre and finally modified into a Palladian mansion by the eighth Lord is clearly demonstrated in the archaeological record. Although partly excavated, much remains undisturbed for future investigation.

Both archaeological and historical records demonstrate the architectural qualities of the Old Hall. The Elizabethan house was undoubtedly a very fine example of its period: a typical brick mansion with a skyline broken by chimneys, towers and gables. The Palladian house was never completed but would also have been impressive in its day. The gardens demonstrate changes in landscape design over the centuries. The Elizabethan landscape reflects the style of the period: squared gardens laid out in quarters, frequently with open and closed knots within view of the important reception rooms of the house. The 'Orchard' dominates the area of garden on the west side of the mansion, a smaller orchard adjoins the entrance courtyard. The occupation of roughly half the immediate grounds of Old Thorndon Hall by plantations of fruit trees signifies the importance of orchards in early English gardens. The importance of the landscaping innovations of the eighth Lord Petre cannot be underestimated. Petre's undisputed achievements in the field of importation and naturalisation of exotic species and his unrivalled hot-house collection were unparalleled. His skillful arrangement of form and colour within his gardens were praised eloquently by contemporary writers and proved a powerful influence on subsequent garden design; Thorndon was the setting for gardens and nurseries that became famous throughout England.

Details

The monument includes the above and below ground remains of Old Thorndon Hall and its associated gardens, including remains of the moated medieval manor and Old Hall

and the area of gardens around the house which formed the original landscaped gardens of the 16th century, partially redesigned in the 18th century. The site is located on the summit of a steep south facing slope (giving views over the Thames estuary) within a small wood (Old Hall Wood) which forms part of Thorndon Country Park (South). To the south of the park is the A127 connecting Basildon and Southend; two miles to the north is the town of Brentwood. The underlying geology of the park is London Clay.

The history of the estate of Thorndon dates back to the Domesday Survey of 1086 when the Saxon manor of 'Torninduna' was held by Suain of Essex. In 1414 Henry V gave licence to the then owner, a vintner called Lewis John, 'to empark 300 acres, to surround his lodge within this park with walls and to crenellate and embattle the lodge'. In 1573 Sir John Petre of Ingatestone (later first Lord Petre) bought the estate from a family friend Lord John Mordaunt and immediately set about rebuilding the house and redesigning the gardens. Over the next 20 years the house and gardens were transformed and the final results are accurately depicted on a map of 1598 by John Walker and a drawing of 1669 (the latter by an artist accompanying Duke Cosmo of Tuscany on his visit to England).

In 1734 the eighth Lord Petre, Robert James, a renowned enthusiast for botany and horticulture, undertook an ambitious project to rebuild the hall and landscape the gardens. A Venetian architect, Giacomo Leoni, was hired to redesign the house, and a French surveyor called Bourginion was employed to draw up a plan for a new landscape garden. The resultant garden design was complex and included a water garden, menagerie, colossal hot-houses (called 'stoves') and a huge nursery of plants. The stoves were reputed to be the largest in size and number in England, incorporating a pineapple stove and others, for exotic fruits such as guava, ginger, lime and bananas. An avid plant collector and a pioneer in the naturalisation of these exotics, the estate boasted a collection of over 700 different species, with over 40,000 trees planted between 1741-42. The premature death in 1742, from smallpox, of the eighth Lord Petre curtailed the project, and although much was implemented, it was then left to decay for many years until the ninth Lord Petre reached his majority. In 1763 the ninth Lord Petre took the radical decision to abandon and demolish the Old Hall and build a completely new mansion some distance to the north.

The succession of houses and formal gardens at Old Thorndon Hall are contained within the site of a much larger early 18th century park and woodland, which is itself Listed Grade II* on the Register of Parks and Gardens. Known as Thorndon Park, the grounds were further landscaped in the mid-18th century by Lancelot "Capability" Brown, with minor additions in the 1790s, probably by Richard Woods.

The Elizabethan garden is accurately depicted on the Walker map of 1578. The whole garden, some 200m north-south by 400m east-west, is enclosed within a brick wall which has two gatehouses, one along the northern circuit and one in the southern (the latter providing access to the courtyard). Archaeological resistivity surveys in 1997 have shown that the foundations of these brick walls and the gatehouses still survive below ground. Within this walled enclosure, the garden is further subdivided into smaller enclosures (these internal garden walls also survive below ground): the 'Great Garden' was to the immediate north of the Hall, 'The Orchard' to the west and stables were to the east. The layout of the 'Great Garden' incorporated terraced walks with steps leading

down to sunken geometric plots. In the centre was the 'Great Vault', a circular basin providing the water supply to the house. 'The Orchard' had regular plantations of fruit trees (145 trees in all) subdivided by paths. Although the subsequent Georgian landscaping removed some of the Elizabethan garden features, the survival of its wall foundations facilitates its reconstruction and suggests that archaeological levels from this period survive well.

The Georgian landscaping changed 'The Orchard' into an area of formal gardens with a central mound, known as the 'Pigeon Mount'. Archaeological excavations in 1995 following a resistivity survey revealed the foundations of an octagonal structure on the mound; finds included substantial quantities of baked clay, presumably the remains of nesting boxes. It is therefore likely (also given the mound's name) that a large dovecote (6.5m in diameter) stood atop the mound during the 18th century. Terracing shows that a path ascended the dovecote, and its central position within formal gardens suggests a probable dual function of viewing platform and dovecote. The 18th century landscaping retained the stables to the east and added a kitchen garden and a number of stoves or hot-houses; this area has not yet been the subject of a resistivity survey; however, it is thought that there is likely to be good below ground survival of archaeological levels (as there is to the west of the house) and the area is therefore included in the scheduling.

At the centre of the area of protection are the remains of the house itself. Archaeological excavations carried out from 1956 to 1959 confirmed the three main periods of construction: the early 15th century house of Lewis John; the Elizabethan mansion of the first Lord Petre, and the 18th century rebuild by the eighth Lord Petre. The earliest building was fairly small and moated; by the mid-15th century the house had extended over the moat and transformed from a compact moated hall into a large rambling country mansion represented in the archaeological record by massive foundations of brick with buttresses and curved bastions.

The Elizabethan mansion walls survive in places above ground to a height of approximately 0.5m and are solid brickwork of English bond with alternate courses of headers and stretchers. An elaborate sewer system also survives from this period.

The excavations identified an 18th century addition in the form of a chapel and associated wall which used Flemish as opposed to English bond. The Elizabethan mansion was not completely pulled down, although the east wing was rebuilt, the rest was remodelled room by room and enlarged by the construction of a bakehouse range, new farm buildings and a banqueting house. The late 17th century demolition of the house left only the brick foundations and subterranean features of the hall, as much of the masonry was carted to the site of the new Thorndon Hall and incorporated in that building. The six pillars in the south front of the New Hall are most probably those prepared for the portico of the Old Hall.

All modern gates, turnstiles, fencelines and posts are excluded from the scheduling, although the ground beneath them is included.

Sources

Books and journals

Duchars, A, Thorndon Country Park, (1980)

- Duchars, A, Thorndon Country Park, (1980)
- Duchars, A, Old Thorndon Hall, (1970)
- Essex County Council, , Country Parks Archaeological Survey, (1994)
- Garwood, A, The Pigeon Mount, Thorndon Hall, Archaeological evaluation, (1995)
- Garwood, A, Thorndon Park, Brentwood, Essex, (1994)
- Garwood, A, Thorndon Park, Brentwood, Essex, (1994)
- Magalotti, Count , Travels of Cosmo III Grand Duke of Tuscany: Old Thorndon Hall, (1669), 463-4
- Peet, I, Old Thorndon Pastures: Contour Survey, (1995)
- Peet, I, Old Thorndon Pastures: Contour Survey, (1995)
- Ward, J C, Marshall, K, Old Thorndon Hall, (1972)
- Wardill, R, Thorndon Park Gatehouse (West) Geophysical Survey, (1997)
- Buckley, D G, 'Essex Archaeology and History' in Work Undertaken By Essex County Council Archaeology Section, , Vol. 8, (1976), 180-2
- Buckley, D G, 'Essex Archaeology and History' in Work Undertaken By Essex County Council Archaeology Section, , Vol. 8, (1976), 180-2
- Buckley, D G, 'Essex Archaeology and History' in Work Undertaken By Essex County Council Archaeology Section, , Vol. 8, (1976), 180-2
- Clutton, G, Mackay, C, 'Garden History Society' in Garden History Society Occ. Paper 2: Old Thorndon Hall, Essex, A History and reconstruction, (1970)
- Clutton, G, Mackay, C, 'Garden History Society' in Garden History Society Occ. Paper 2: Old Thorndon Hall, Essex, A History and reconstruction, (1970)
- Clutton, G, Mackay, C, 'Garden History Society' in Garden History Society Occ. Paper 2: Old Thorndon Hall, Essex, A History and reconstruction, (1970)
- Clutton, G, Mackay, C, 'Garden History Society' in Garden History Society Occ. Paper 2: Old Thorndon Hall, Essex, A History and reconstruction, (1970)
- Clutton, G, Mackay, C, 'Garden History Society' in Garden History Society Occ. Paper 2: Old Thorndon Hall, Essex, A History and reconstruction, (1970)
- Clutton, G, Mackay, C, 'Garden History Society' in Garden History Society Occ. Paper 2: Old Thorndon Hall, Essex, A History and reconstruction, (1970)
- Clutton, G, Mackay, C, 'Garden History Society' in Garden History Society Occ. Paper 2: Old Thorndon Hall, Essex, A History and reconstruction, (1970)
- Marshall, K, 'Medieval Archaeol.' in Essex: Old Thorndon Hall, (1958), 202
- Marshall, K, 'Medieval Archaeol.' in Essex: Old Thorndon Hall, (1958), 202
- Marshall, K, 'Medieval Archaeology' in Essex: Old Thorndon Hall, , Vol. 3, (1959), 315
- Marshall, K, 'Medieval Archaeology' in Essex: Old Thorndon Hall, , Vol. 3, (1959), 315
- Marshall, K, 'Medieval Archaeology' in Essex: Old Thorndon Hall, , Vol. 3, (1959), 315

Other

Collis, C V, Thorndon Park Phoenix of an Age, 1994, Post. grad. Dissertation

Collis, C V, Thorndon Park Phoenix of an Age, 1994, Post. grad. Dissertation

English Heritage, List of Registered Gardens, (2003)

English Heritage, Registered Gardens, (2003)

English Heritage, Registered Gardens, (2003)

English Heritage, Registered Parks and Gardens, (2003)

In Essex SMR, Collis, CV, The Pigeon Mount, (1994)

In Essex SMR, Cott, PJ, The Pigeon Mount, Thorndon Country Park, A Resistivity Survey, (1994)

In Essex SMR, ECC Landscape Officer, Pigeon Mount, (1994)

Title: D/DP P5 West and East Horndon Source Date: 1598 Author: Publisher: Surveyor:
In Essex Record Office

Title: ERO D/DP P5 Source Date: 1598 Author: Publisher: Surveyor: In ERO

Title: Plan of Thorndon Estate Source Date: 1733 Author: Publisher: Surveyor: ERO D/DP
P23/1

FORMER PARISH CHURCH AND CHURCHYARD OF ST NICHOLAS

Scheduled Monument List Entry Number: 1021225

Date first listed: 24-Feb-2004

Location: Herongate and Ingrave Parish, Brentwood, Essex

National Grid Reference: TQ 62417 89654

Shown in red on Plate 1 below

Reasons for Designation

A parish church is a building, usually of roughly rectangular outline and containing a range of furnishings and fittings appropriate to its use for Christian worship by a secular community, whose members gather in it on Sundays and on the occasion of religious festivals. Children are initiated into the Christian religion at the church's font and the dead are buried in its churchyard. Parish churches were designed for congregational worship and are generally divided into two main parts: the nave, which provides accommodation for the laity, and the chancel, which is the main domain of the priest and contains the principal altar. Either or both parts are sometimes provided with aisles, giving additional accommodation or spaces for additional altars. Most parish churches also possess towers, generally at the west end, but central towers at the crossing of nave and chancel are not uncommon and some churches have a free-standing or irregularly sited tower. Many parish churches also possess transepts at the crossing of chancel and nave, and south or north porches are also common. The main periods of parish church foundation were in the 10th to 11th and 19th centuries. Most medieval churches were rebuilt and modified on a number of occasions and hence the visible fabric of the church will be of several different dates, with in some cases little fabric of the first church being still easily visible. Parish churches are found throughout England. Their distribution reflects the density of population at the time they were founded. In regions of dispersed settlement parishes were often large and churches less numerous. The densest clusters of parish churches were found in thriving medieval towns. A survey of 1625 reported the existence of nearly 9000 parish churches in England. New churches built in the 18th, 19th and 20th centuries increased numbers to around 18,000 of which 17,000 remain in ecclesiastical use. Parish churches have always been major features of the landscape and a major focus of life for their parishioners. They provide important insights into medieval and later population levels or economic cycles, religious activity, artistic endeavour and technical achievement. A significant number of surviving examples are identified to be nationally important.

The surviving fabric, both above and below ground, of the medieval church of St Nicholas and the archaeological levels preserved both within the church and in the surrounding churchyard will contain important archaeological evidence regarding the monument's history. Study of these remains, along with documentary evidence, will illustrate the church's demise from a medieval church of some importance, enjoying full parochial status, to little more than a ruin by the 18th century when it was demolished by Robert James, the eighth Lord Petre.

The archaeological levels will not only contain information illustrating the fabric and history of the church, but will contain artefactual and environmental evidence for the period in which it was constructed.

Details

The monument includes the above and below ground remains of St Nicholas's Church, located on high ground within Thorndon Country Park, approximately 450m to the west of Mill Wood. The remains of the church lie 4m to the south of an ancient hedgeline which currently divides parkland from agricultural land. An area immediately to the south of the hedgeline includes the foundations of the church; it is slightly raised and has recently been taken out of cultivation. The site of Thorndon Old Hall, dating from the early 15th century, lies about 150m to the north on the other side of the hedgeline and is protected as a separate scheduling.

The above ground remains of the church take the form of a slightly raised area in the grass, covered by a scatter of building debris including bricks and roof tiles. The foundations of the church walls survive below ground, their course partly traceable as a slight parchmark (pale area of grass caused by underlying masonry restricting the flow of nutrients and moisture from the soil). Although the precise measurements of the church cannot be ascertained from above ground features, the slightly raised area and parchmarks indicate a length of approximately 26m by 8m wide. As with the church, the area occupied by the churchyard is indicated only by minor earthworks; 16th century maps, however, show it to have been approximately 100m long by 30m wide, with the church depicted in a central position. In order to encompass both church and churchyard and allow for a protective margin of 10m around the rather indistinct earthworks and parchmarks, the area of protection is 120m long by 50m wide.

Documentary and cartographic sources show that the medieval church dates from the 15th century at the latest. Archaeological finds of 15th to 16th century Flemish floor tiles from in and around the site appear to confirm this dating; however, the below ground foundations could reveal an earlier date of construction, perhaps even the existence of a previous building on the site.

The Church of St Nicholas served the parish of West Horndon until the 18th century. In 1712 the parishes of West Horndon and Ingrave were united by a parliamentary bill, promoted by Robert, the seventh Lord Petre, owner of Thorndon Hall and holder of the advowsons of both churches. The bill permitted Lord Petre to demolish both the old churches on condition that at his own expense he built a new church on a site more convenient to the worshippers. He died before he could put his plans into effect and it was left to his son, the eighth Lord Petre, when he took possession of the estate in 1732, to demolish the old churches and build a new church for the combined parishioners.

The old parish church of St Nicholas is shown on a Walker map of 1598 with a crenellated west tower, weathercock and south porch. Documentary sources state that at the time of the church's demolition in 1734 it had 'grown ruinous'.

All modern fences and fence paths are excluded from the scheduling, although the ground beneath them is included.

Sources

Archaeological Advisory Group, , Country Parks Archaeological Survey, (1992)

Garwood, A, Thorndon Park, Brentwood, Essex, (1994)

Morant, P, History of Essex, (1768), 215

Morant, P, History of Essex, (1768)

Royal Commission on Historical Monuments, , An Inventory of the Historical Monuments in Essex, (1923), 167

Buckley, D G, 'Essex Archaeology and History' in Work Undertaken By Essex County Council Archaeology Section, (1976), 180-2

Buckley, D G, 'Essex Archaeology and History' in Work Undertaken By Essex County Council Archaeology Section, (1976), 180-2

Clutton, G, Mackay, C, 'Garden History Soc. Occ. Paper 2' in Old Thorndon Hall, Essex: A History of its Park and Garden, (1970), 27-39

Other

ESMR, Gilman, P, 1851, (1986)

Essex SMR entry, Gilman, P, 1851, (1986)

II*, English Heritage, Register of Parks and Gardens, (2003)

Title: Country Parks Archaeological Survey, Thorndon Park Source Date: Author:

Publisher: Surveyor: Archaeological Advisory Group

Title: D/DP P5 West and East Horndon Source Date: 1598 Author: Publisher: Surveyor:
In Essex Record Office

Title: D/DP P5 West and East Horndon Source Date: 1598 Author: Publisher: Surveyor:
Essex Record Office



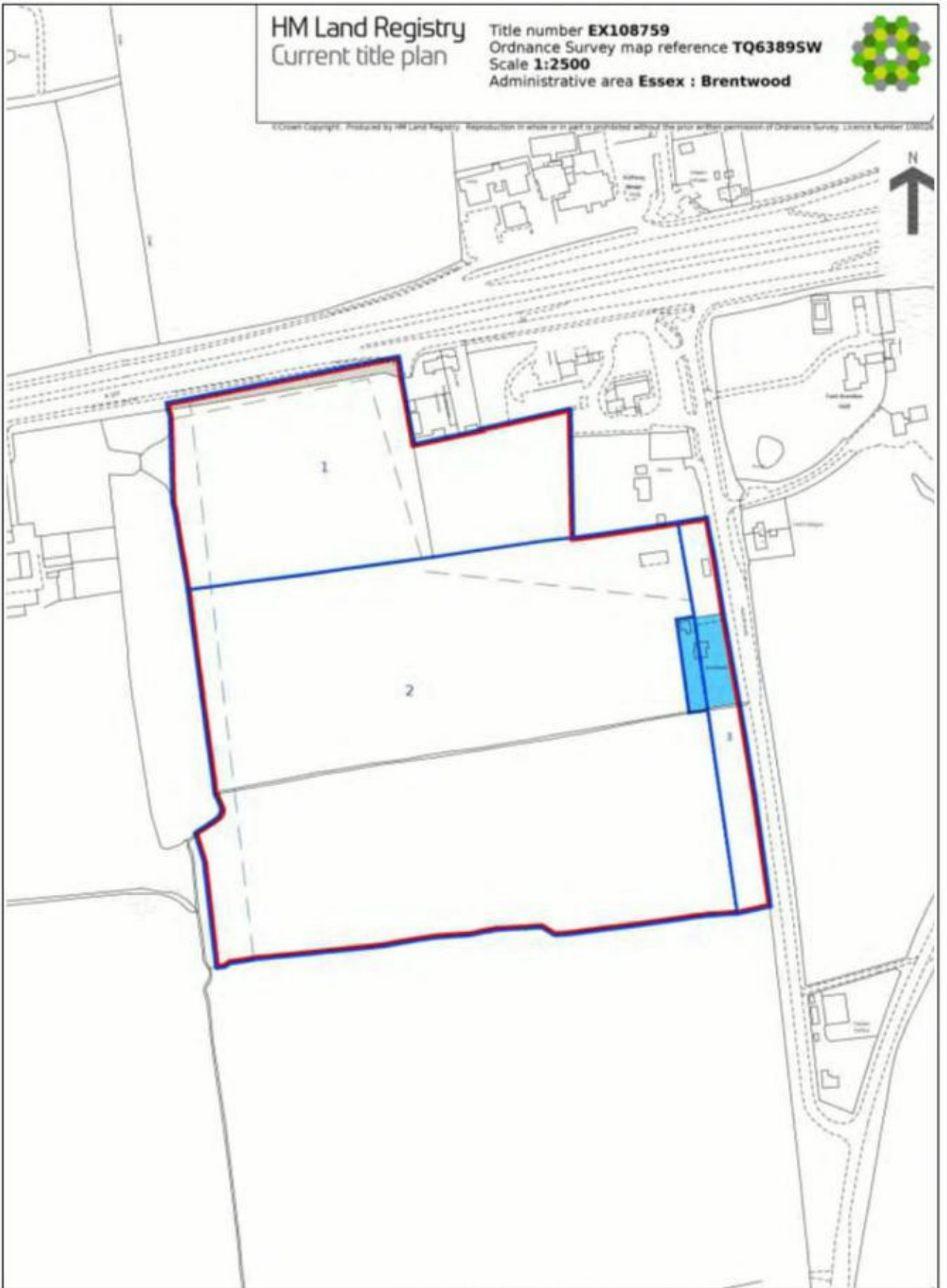
Plate 1: Locations of scheduled monuments 1021226 and 1021225 in red and Registered Historic Park and Garden of Thorndon Hall in green (information from Historic England)

7. Figures



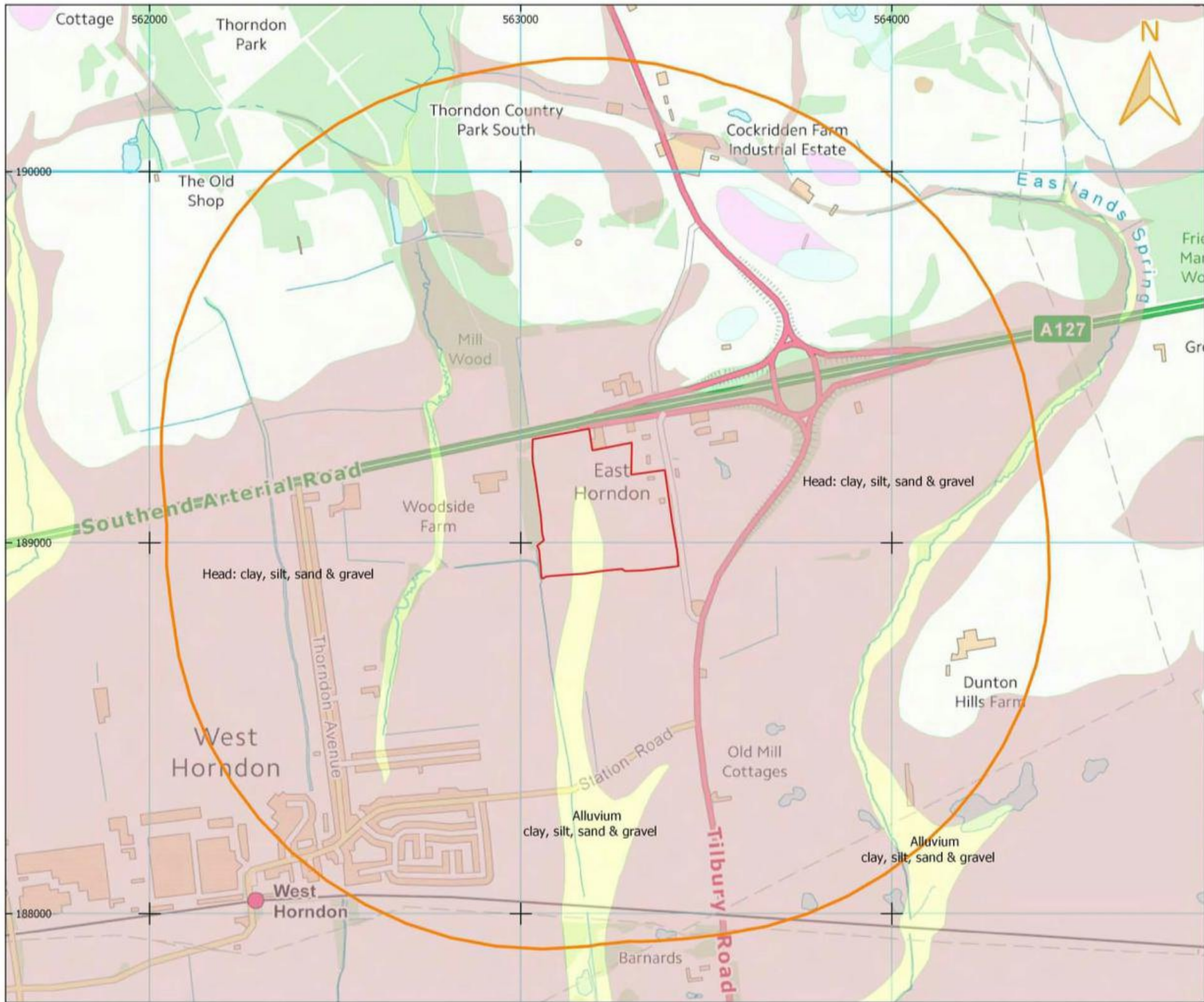
Ordnance Survey © Crown copyright [2008] All rights reserved. Licence number LAN1001544

Figure 1: Site location



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Figure 2: Site plan



Key:

- Application Site
- 1km Study Area

HCUK GROUP
 Archaeology Collective

Broadfields, East Horndon, Brentwood, Essex

Figure 3
 Geology: superficial deposits



Key:

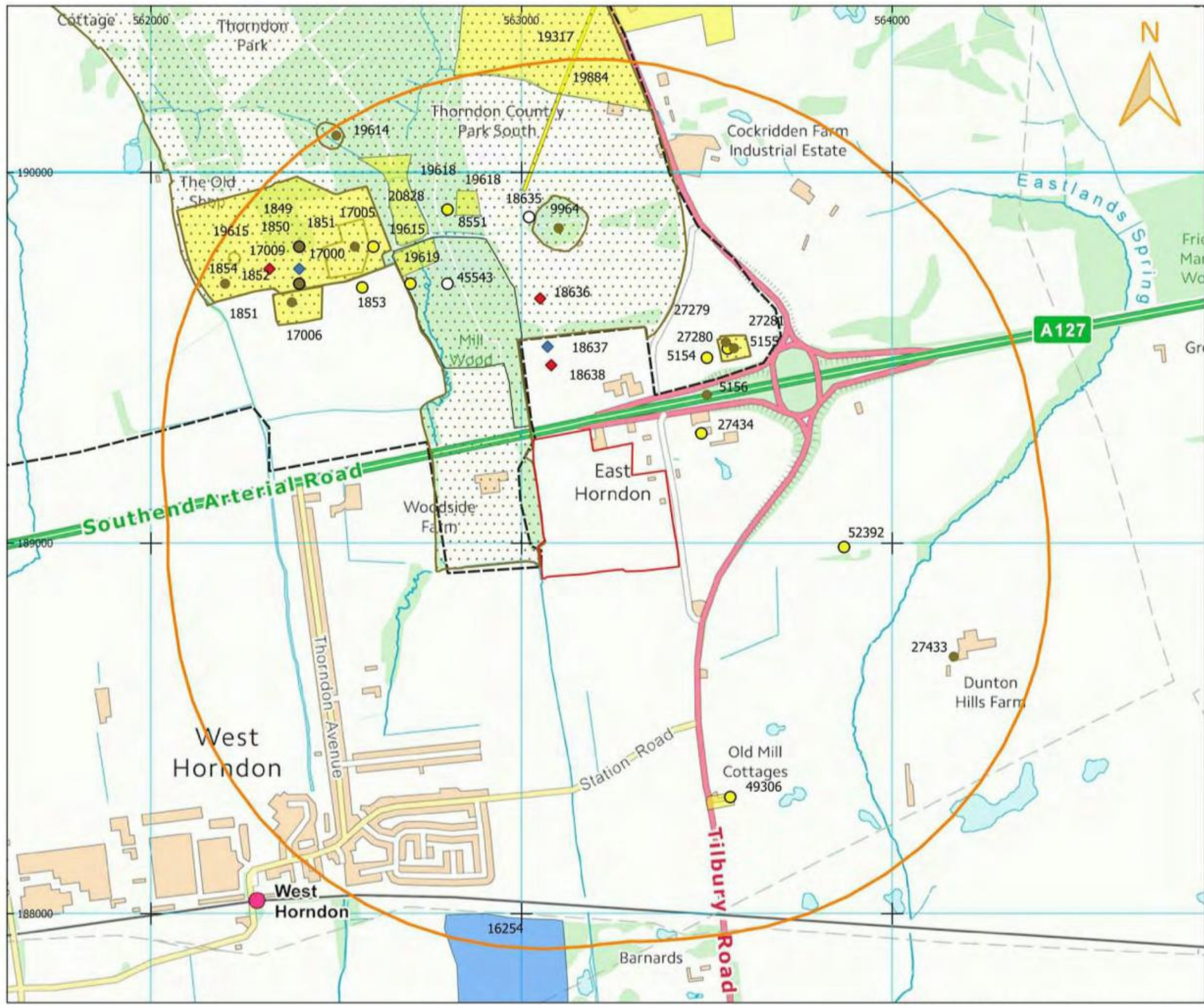
- Application Site
- 1km Study Area

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 Archaeology Collective

Broadfields, East Horndon, Brentwood, Essex

Figure 4
 Topography

Project No. HCE7896 | 18/12/2013 | Revision 0 | Drawn By: AJ



Key:

- Application Site
- 1km Study Area

Monument (point)

- ◆ Prehistoric
- ◆ Roman
- Medieval
- Post-medieval
- Undated

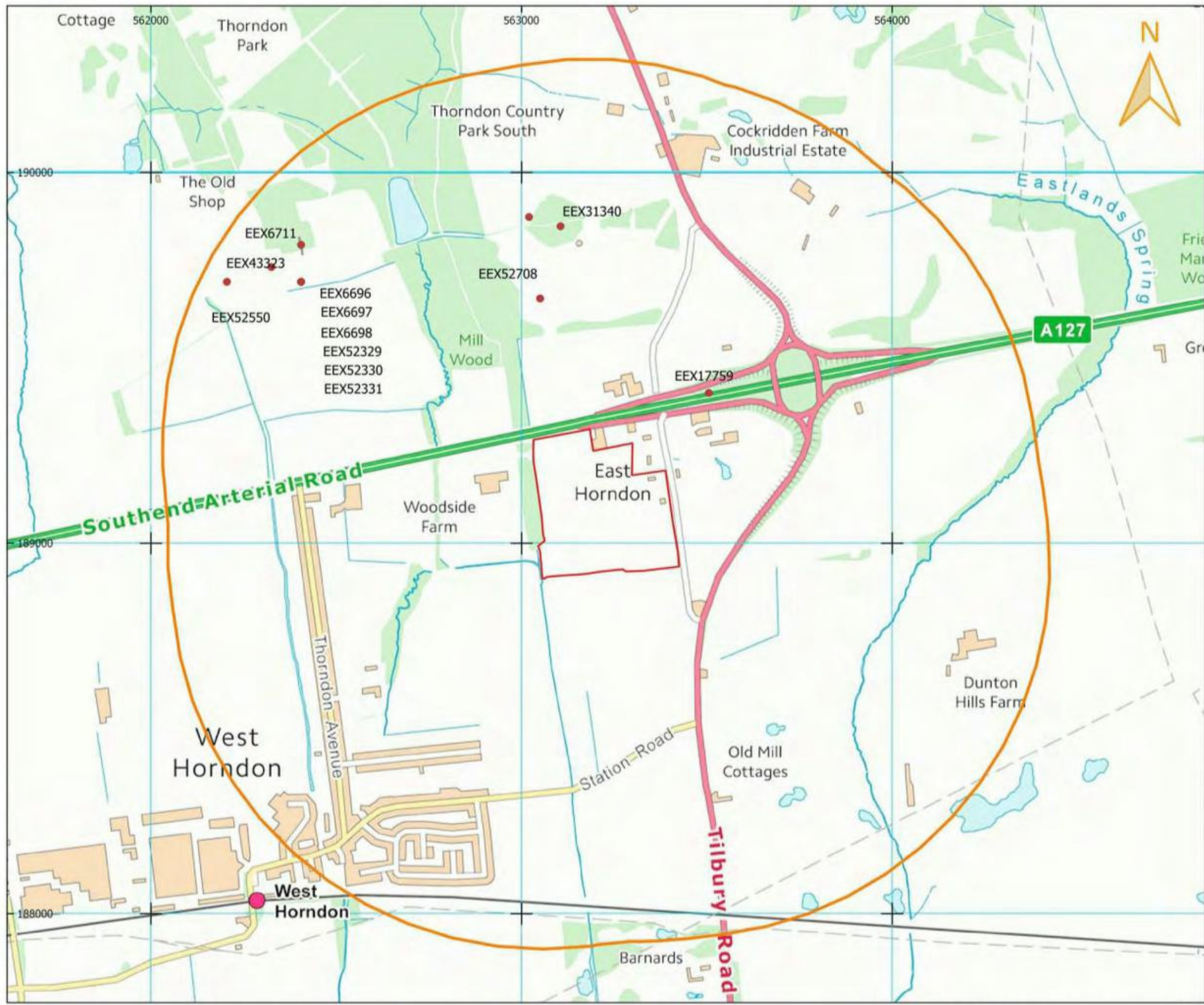
Monument (area)

- Prehistoric
- Medieval
- Post-medieval
- Modern
- Undated
- Medieval linear

Broadfields, East Horndon, Brentwood, Essex

Figure 5

Essex HER entries within the 1km radius study area



Key:

- Application Site
- 1km Study Area

HCUK GROUP
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Broadfields, East Horndon, Brentwood, Essex

Figure 6
 Archaeological investigations recorded by Essex HER within the 1km radius study area



Key:

- Application Site

HCUK
GROUP
Archaeology
Collective

**Broadfields,
East Horndon,
Brentwood, Essex**

Figure 7
Lidar image 1m DTM (2019)

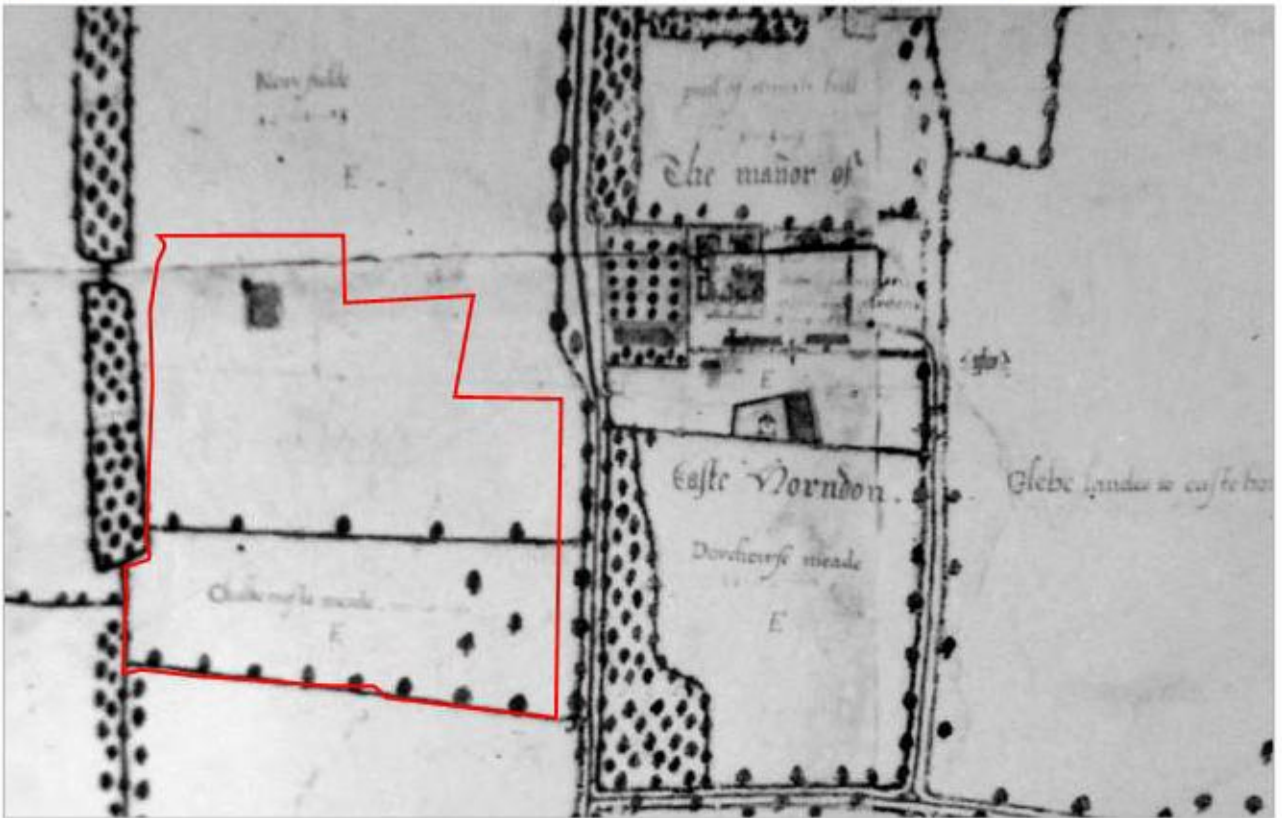


Figure 8: 1598. John Walker. Estate Map (Essex Record Office D/DP P5)

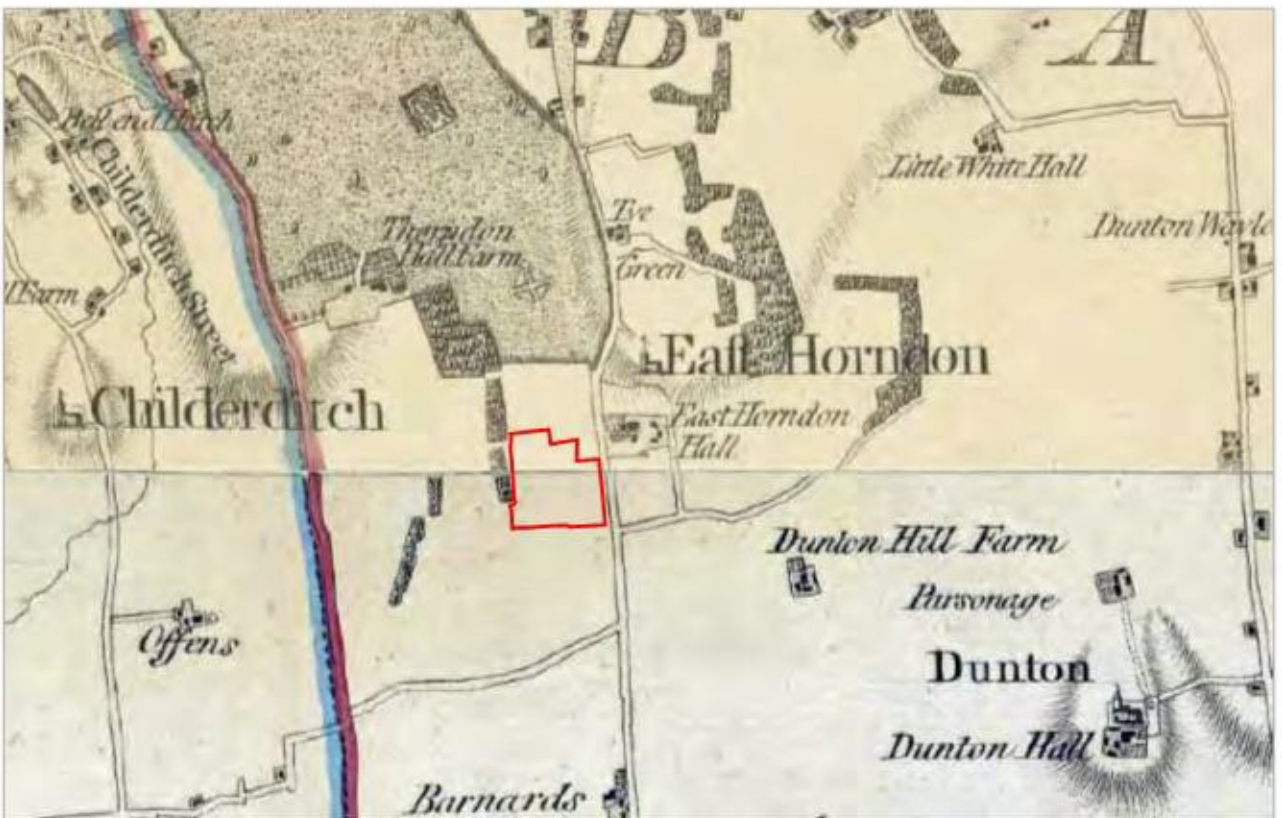


Figure 9: 1777. John Chapman & Peter André. A Map of the County of Essex from an Actual Survey taken in 1772, 1773 & 1774. Sheets 17 and 22



Figure 10: c.1817. East Horndon Hall. *Survey Book of an Estate, belonging to the R:H: Lord Petre in the County of Essex continued* (Essex Record Office D/DP P109)

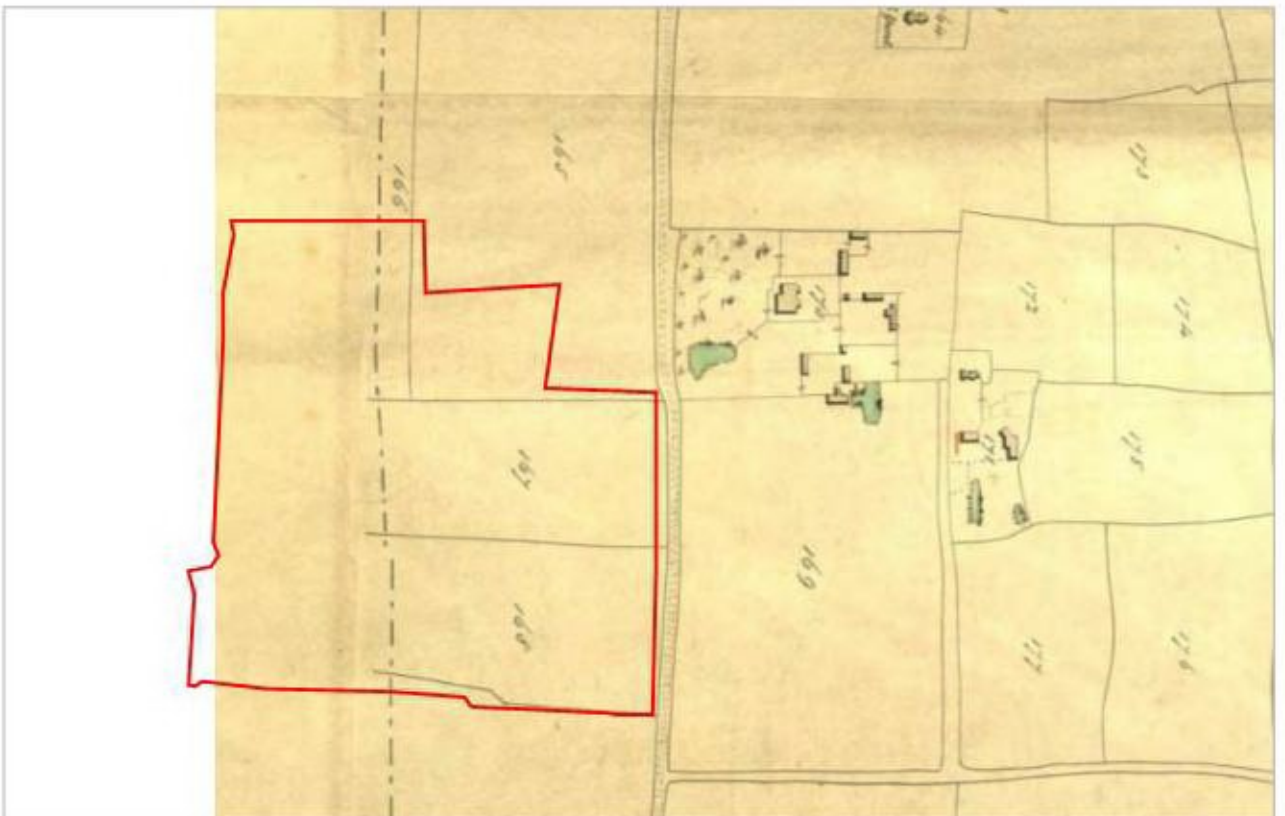


Figure 11: 1845. East Horndon Tithe Map. (National Archives IR 29/12/178)



Figure 12: 1896. Ordnance Survey 25-inch 2nd Edition (revised 1895). Essex Sheet LXVIII.13.

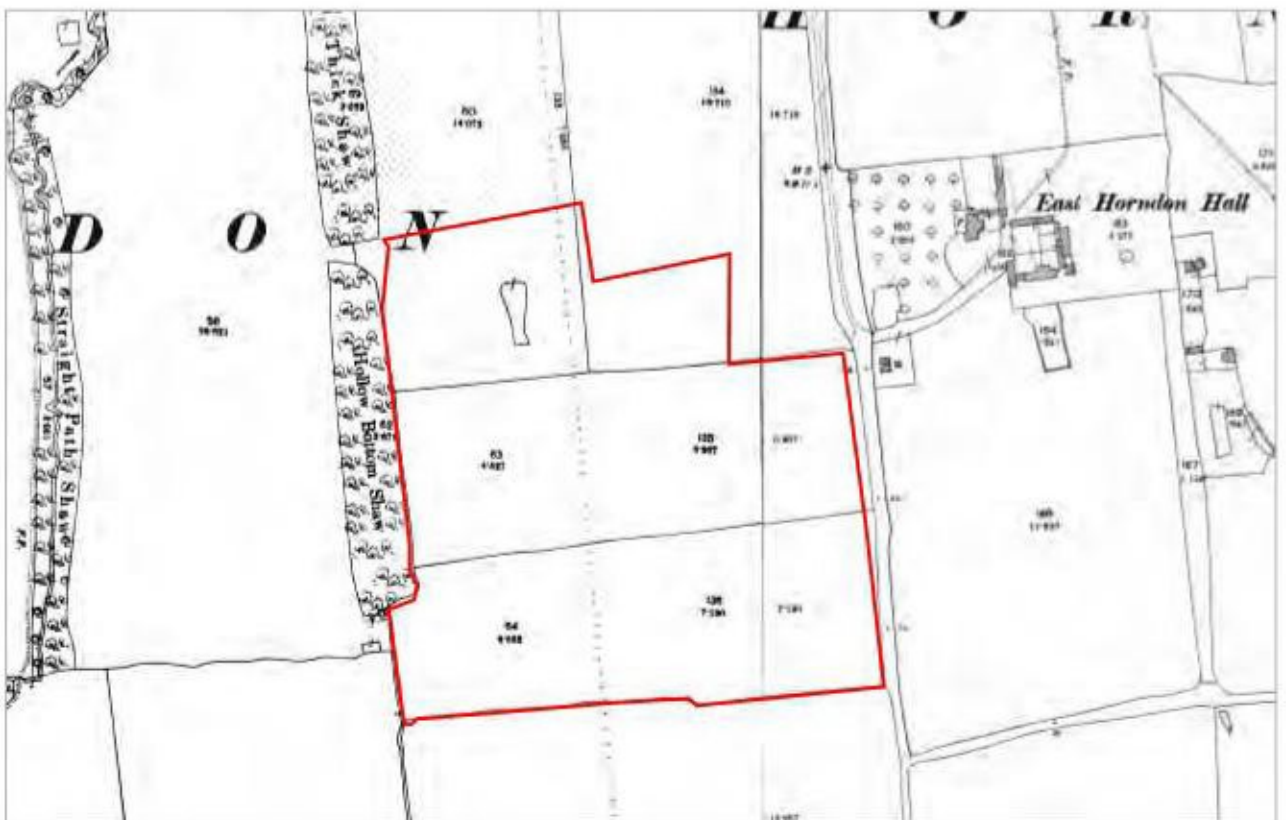


Figure 13: 1920. Ordnance Survey 25-inch 3rd Edition (revised 1915). Essex Sheet LXXXX.11.



Figure 14: 1945. Ordnance Survey 25-inch map (surveyed 1940). Essex Sheets LXXX, 8,9,11 & 12



Figure 15: 1968-72. Ordnance Survey 1:2500



Figure 16: 2011. Satellite image © Google Earth



Figure 17: 2020. Satellite image © Google Earth

Figure 18: Illustrative site plan, provided by the client



| m | BH | GF | FF | SF / mezz | TOTAL GIA (including Office space) | Office Area |
|------------------|----|------|-----|-----------|------------------------------------|-------------|
| B1 | 6 | 920 | 194 | | 1114 | 194 |
| B2 | 9 | 900 | 300 | | 1200 | 600 |
| B3 | 9 | 1220 | 300 | | 1520 | 600 |
| B4 | 9 | 424 | 160 | | 584 | 320 |
| B5 | 9 | 920 | 110 | | 1030 | 220 |
| B6 | 12 | 2550 | 200 | 200 | 2750 | 400 |
| B7 | 12 | 2040 | 200 | 200 | 2440 | 400 |
| B8 | 12 | 2970 | 210 | 210 | 3390 | 420 |
| B9 | 9 | 2594 | 200 | | 2794 | 400 |
| B10 | 12 | 2590 | 200 | 200 | 2990 | 400 |
| TOTAL | | | | | 19802 | 3954 |
| 20% of TOTAL GIA | | | | | 3960.4000 | |

- LEGEND**
- Building Use Class E
 - Building Use Class B2 / B8
 - Access roads and service yards- Asphalt
 - Parking bays - Grass blocks
 - Pedestrian footways and cycle paths - Bound gravel
 - Application boundary
 - Retention pond - Refer to drainage strategy Dark Blue
 - Grass verges and open spaces - Refer to Landscape Plans Kaki Green
 - 12 to 15m perimeter vegetated zone - Refer to Landscape Plans Dark Green
 - Buffer planting - Refer to Landscape Plans Orange
 - Vegetated swale planting - Refer to Landscape Plans Yellow
 - Tree planting - Refer to Landscape Plans
 - Surface Water attenuation Light Blue

Indicative Site Layout
scale 1:1250 @ A1

| Revision | Notes | Date | Drawn By | Checked By |
|----------|---------------------|------------|----------|------------|
| - | Issued for review | 12.02.2021 | AS | NW |
| A | Issued for review | 17.03.2021 | AS | NW |
| B | Issued for review | 29.04.2021 | AS | NW |
| C | Issued for planning | 14.06.2021 | AS | NW |
| D | Issued for review. | 06.09.2021 | AS | NW |
| E | Issued for review. | 07.09.2021 | AS | NW |

| | |
|---|-------------------------------------|
| Project: Broadfields Innovation and Business Park | Client: MM Properties (London) Ltd. |
| Date: 07.09.2021 | Title: Indicative Site Layout |
| Drawn: AS | Status: Planning |
| Checked: NW | Drawing: 0503-A20-007 |
| Scale: 1:1250 @ A1 | Rev: E |

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