
4.0 ARCHAEOLOGY

INTRODUCTION

- 4.1 This Chapter assesses the likely significant effects of the construction and operational phases of the proposed development on archaeological remains. It incorporates the results of an Archaeological Desk Based Assessment (DBA) (Appendix 4.1). The Archaeological DBA includes a Geoarchaeological Desk Based Assessment (Appendix A of Appendix 4.1)
- 4.2 The Chapter describes the assessment methodology; the legislative and policy framework; the baseline conditions at the proposed development site and surroundings; the likely significant environmental effects; the mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed.
- 4.3 Built Heritage is considered in Volume 3 of this ES which details the findings of a Heritage, Townscape and Visual Assessment.

LEGISLATION AND PLANNING POLICY CONTEXT

- 4.4 The following subsection provides a summary of relevant planning policy at a national, regional and local level as well as key legislation. These planning policies and legislation form the basis of planning decision-making in relation to archaeology.

Legislation

- 4.5 The Ancient Monuments & Archaeological Areas Act 1979¹ (as amended) has informed the assessment of effects within this Chapter and is detailed further in Appendix 4.1.

Policy

National

- 4.6 The National Planning and Policy Framework (NPPF)² has informed the assessment of effects within this Chapter and is detailed further in Appendix 4.1.

Regional

- 4.7 The London Plan³ (Policy HC1 Heritage Conservation and Growth) has informed the assessment of effects within this Chapter and is detailed further in Appendix 4.1.

Local

- 4.8 The following local policy has informed the assessment of effects within this Chapter and is detailed further in Appendix 4.1:
- The London Borough of Richmond Upon Thames's Local Plan⁴ (Policy LP7 Archaeology; Site Allocation SA15); and
 - Ham and Petersham Neighbourhood Plan⁵ (Site Allocation OS3).

Policy Guidance

- 4.9 The following Guidance has informed the assessment of effects within this Chapter, and is detailed further in Appendix 4.1:
- National Planning Practice Guidance (NPPG) (July 2019)⁶; and
 - Historic Environment Good Practice Advice In Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment⁷.

ASSESSMENT METHODOLOGY

- 4.10 The assessment process involves the production of an Archaeological Desk Based Assessment (DBA) contained within Appendix 4.1. The Archaeological DBA includes a Geoarchaeological DBA.
- 4.11 The first step in the assessment process is the identification of known and potential archaeological receptors that may be affected by the proposed development. Archaeological receptors are either designated (World Heritage Site, Scheduled Monuments, Registered Battlefields) which are identified on the National Heritage List for England (NHLE) or areas of importance identified in local planning policy, or non-designated heritage assets.
- 4.12 As defined in the Planning Policy Guidance (PPG), non-designated heritage assets are: *'buildings, monuments, sites, places, areas or landscapes identified by plan-making bodies as having a degree of heritage significance meriting consideration in planning decisions but which do not meet the criteria for designated heritage assets.'*
- 4.13 Non-designated heritage assets can comprise known heritage receptors, for example finds or features recorded in the Historic Environment Record or assets recorded in local planning policy. The potential for previously unrecorded archaeological assets is also considered.
- 4.14 Not all features recorded on Historic Environment Records are non-designated assets. As outlined in Managing Significance in Decision-Taking in the Historic Environment, Historic Environment Records includes *'assets that are known to have been or destroyed or known only from antiquarian sources'*; they are no longer physically present.

Similarly, there is potential for non-designated heritage assets that are not recorded on the Historic Environment Record or recorded in local planning policy to be present. Such remains may include previously unrecorded sub-surface remains, landscape features or buildings identified through an appraisal of sources or identification through a site visit.

- 4.15 PPG states that there are two categories of non-designated sites 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...

(2) Other non-designated heritage assets of archaeological interest'

- 4.16 The value / significance of a non-designated heritage asset may change following assessment and evaluation prior to a planning decision and move from the second to the first category.
- 4.17 The PPG states that applicants should, if required, submit an appropriate DBA and, where necessary, a field evaluation.

Scope of the Assessment

- 4.18 An Archaeological DBA is included as Appendix 4.1 to this chapter. The site or 1km study area contains no designated archaeological assets. The potential for significant receptors beyond the 1km study site has been considered and none identified. As such no indirect effects to the setting of designated assets has been identified; operational effects to archaeology have been scoped out of this Chapter.
- 4.19 The Archaeological DBA has been undertaken in line with the Chartered Institute for Archaeologists (CIfA's) Standards and Guidance for Desk Based Assessments (2017) and uses the following data sources in the compilation of the baseline data:
- Greater London Historic Environment Record, including Historic Landscape Characterisation, for the proposed site and for a 1km search radius;
 - Map regression based on Ordnance Survey maps and tithe/enclosure maps and apportionments held at the relevant archives;
 - National Heritage List for England;
 - Historic England Archive;
 - Pastscape;
 - Environment Agency Lidar Data; and
 - Online Aerial Imagery.
- 4.20 The site has been subject to a Geoarchaeological DBA (Appendix A within Appendix 4.1). The Geoarchaeological DBA was undertaken by QUEST (University of Reading) based on

recent geotechnical investigations, with the aim of assessing the geoarchaeological and paleoenvironmental significance and potential of the site; to determine whether there are justifications for further work on the site based on current knowledge; and to outline a preliminary strategy for on-site investigation (if required). The geotechnical site investigations comprised window sampler holes (WS1 to WS18) advanced between 27th and 29th April 2021 and six deep boreholes (BH1 to BH6) advanced between 16th and 19th August 2021 across the site (Enzygo 2021, Appendix 7.1).

Study Area

4.21 The following study areas have been chosen for the archaeological assessment. There are no strict parameters for the setting of study areas. This has been defined based on professional judgement and experience, of potential significant direct and indirect effects likely to arise from the scheme:

- Archaeological study area: a 1km buffer from the site has been used to identify designated or non-designated archaeological assets which might be directly or indirectly impacted by the scheme and inform the potential for previously unrecorded archaeological remains.

Assessment Criteria

Assessing Heritage Significance and Sensitivity

4.22 The significance of a heritage asset is defined in the NPPF as “*The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting.*” In the case of many heritage assets their importance has already been established through the designation (i.e. scheduling, listing and register) processes applied by Historic England (HistE)⁸.

4.23 In order to assess the heritage significance of previously unrecorded or non-designated heritage assets, the criteria used by the Department of Culture, Media, and Sports publication, ‘Principles for Selection of Listed and the Scheduled Monuments Policy Statements’⁹ published by the same body, are used. The criteria for establishing significance of heritage assets for this assessment are presented in Table 4.1 below.

Table 4.1 Determining the heritage significance of a Heritage Asset

Heritage Significance	Description
International	Archaeological sites or monuments of international importance, including World Heritage Sites.
National	Scheduled Monuments and remains of comparable quality, assessed with reference to the DCMS's principles of selection for scheduled monuments (Paragraph 12.3.10 and 12.3.11; DCMS 2013).
Regional/Country	Archaeological sites and remains which, while not of national importance, score well against most of the DCMS's principles of selection for scheduled monuments.
Local	Archaeological sites that score less well against the DCMS's principles of selection for scheduled monuments.
None	Areas in which investigation techniques have produced negligible or only minimal evidence for archaeological remains, or where previous large-scale disturbance or removal of deposits can be demonstrated.

- 4.24 Significance has been assigned to effects relative to the heritage significance, its sensitivity to change and the magnitude of impact in accordance with best practice.
- 4.25 The sensitivity of a heritage receptor / resource is determined by evaluating a receptor's susceptibility to change and heritage significance. For direct physical impacts to below ground archaeological remains this is assessed in terms of potential reduction of heritage significance through the physical impact of a monument or building.
- 4.26 The criteria for assessing sensitivity to change is set out in Table 4.2 below.

Table 4.2 Sensitivity of Heritage Receptor/Resource

Sensitivity	Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present international or national heritage significance; or
Moderate	The receptor/resource has moderate capacity to absorb change without significantly altering its present regional heritage significance; or The site makes a moderate contribution to the setting / heritage significance of a designated heritage asset.
Low	The receptor/resource is tolerant of change without detriment to its heritage significance, is of low or local heritage significance; or
Negligible/Neutral	Negligible perceptible change to the significance of a building, archaeological site, or Conservation Area due to a change in setting.

4.27 Not all designated heritage assets will require full assessment for impacts on an individual basis. Where a designated heritage asset has been excluded, a clear justification is provided, for example if the asset is sufficiently far away, and well screened from the site. Also, not all assets require the same level of assessment. As set out in paragraph 194 of the NPPF, the level of detail required is that which is sufficient to inform the nature and degree of effect of the proposed development within the site on the significance of the heritage asset in question.

Assessing Magnitude of Impact/Change

4.28 The nature and likelihood of the impacts of the scheme on archaeological features is assessed against clearly defined criteria.

4.29 Archaeological resources are susceptible to a range of direct impacts during site preparation as well as construction related activities, including:

- Site clearance/site preparation activities that disturb archaeological remains;
- Excavation that extends into archaeological sequences, for example foundations, or re-landscaping (for example attenuation ponds) resulting in the removal of the resource;
- Piling activities resulting in disturbance and fragmentation of the archaeological resource; and
- Dewatering activities resulting in desiccation of waterlogged remains and deposits.

4.30 Any such impacts are discussed, and value/sensitivity criteria applied; the significance of effects has been assessed using the magnitude of impact/change criteria set out in Table 4.3. Magnitude of impact/change are both used in this assessment; magnitude of impact may be more accurate when assessing physical impact to archaeological remains or a built heritage asset, whilst magnitude of change may be more appropriate when considering indirect changes to the setting of heritage assets.

4.31 The magnitude of impact/change is a product of the extent of development impact on an asset or its setting. The magnitude of change is rated as Major, Moderate, Minor, Negligible/ Neutral. Change can be direct or indirect, adverse or beneficial. The criteria for assessing the magnitude of impact/change are set out in Table 4.3 below.

Table 4.3 Magnitude of Impact/Change

Magnitude of Impact/Change	Direct Impact/Change	Indirect Impact/Change
Major Adverse	Complete removal of an archaeological site.	Substantially harmful change to the significance of a designated heritage asset through change within the setting.
Moderate Adverse	Removal of a major part of an archaeological site and loss of research potential / significance	Partial transformation of the significance of an archaeological site e.g. the introduction of significant noise or vibration levels to an archaeological monument leading to changes to amenity use, accessibility, or appreciation of an archaeological site.
Minor Adverse	Removal of an archaeological site where a minor part of its total area is removed but the site retains significant future research potential.	Minor harm to the significance of an archaeological monument.
Negligible/Neutral	Negligible impact from changes in use, amenity, or access.	Negligible perceptible change to the significance of an archaeological site due to a change in setting.
Minor Beneficial	Land use change resulting in improved conditions for the protection of archaeological remains.	Decrease in visual or noise intrusion on the setting of an archaeological site, or monument.
Moderate Beneficial	Land use change resulting in improved conditions for the protection of archaeological remains plus interpretation measures (heritage trails, etc.)	Significant reduction or removal of visual or noise intrusion on the setting of an archaeological site, or monument. Improvement of the wider landscape setting of an archaeological site, or monument. Improvement of the cultural heritage amenity, access or use of an archaeological site or monument.
Major Beneficial	Arrest of physical damage or decay to an archaeological site, its cultural heritage amenity and access or use.	Significant enhancement to the setting of an archaeological site, its cultural heritage amenity and access or use.

Significance of Effect

- 4.32 The significance of the impact of the proposed development on archaeological and heritage assets is determined by the heritage significance of the asset and the magnitude of impact to the asset.
- 4.33 The judgement of the significance of effects takes into consideration the impact on the heritage asset’s heritage significance (as defined in Annex 2 of the NPPF).
- 4.34 Table 4.4 below presents a matrix that demonstrates how the significance of effect is established:

Table 4.4 Evaluation of Significance of Effect

		Magnitude of Impact/Change			
		Major	Moderate	Minor	Negligible / Neutral
Sensitivity of Heritage Asset	High	Major	Major	Minor	Negligible
	Moderate	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Minor – Negligible	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

'Substantial', 'Major' and 'Moderate' levels of effect are 'significant' in the context of the EIA Regulations. 'Minor' and 'Negligible' are not significant in the context of the EIA Regulations.

- 4.35 Effects shaded dark grey are considered significant in terms of the EIA Regulations 2017, unless otherwise stated. However, professional judgement is also used in considering the significance of effects.

Consultation

- 4.36 Consultation has been carried out (February/March 2022) with Historic England in relation to the scope of the assessment in addition to the approach to recommended public outreach and archaeological investigation.

ASSUMPTIONS AND LIMITATIONS

- 4.37 This assessment is based upon data obtained from publicly accessible archives (as described in paragraph 4.1 of Appendix 4.1). Data was received from Greater London Historic Environment Record in September 2021.

BASELINE CONDITIONS

- 4.38 The locations of archaeological assets considered in the assessment are presented in Figures 4.1 and 4.2.
- 4.39 An assessment of the archaeological potential of the site by period is outlined in the Archaeological DBA contained within Appendix 4.1. The assessment includes a Geoarchaeological DBA (Appendix A within Appendix 4.1).
- 4.40 The site contains no known non-designated archaeological assets recorded in the GLHER. No statutory designations (Scheduled Monuments) are located within or immediately adjacent to the site.
- 4.41 The west of the site falls within the Archaeological Priority Area (APA) for Ham Fields (GLHER DLO33497), assigned due to potential for early prehistoric flint artefacts. The east of the site is located within the APA for Ham (GLHER DLO33461); which covers the historic core of Ham and Ham House and associated 17th century pleasure gardens. There is also potential for prehistoric occupation within the Ham APA.
- 4.42 The site has not been subject to previous intrusive archaeological investigation. The desk-based assessment includes relevant archaeological investigations within the 1km study area. Generally, the archaeological evaluations in the vicinity of the site have recorded post-medieval, 17th – 18th century, land-use and fragmentary evidence of prehistoric occupation. No archaeological evidence of medieval or early medieval Ham has been identified in close proximity to the site.
- 4.43 As part of this assessment, QUEST has undertaken a review of the geoarchaeological potential of the site based on an appraisal of geotechnical site investigations from the site (Appendix A within Appendix 4.1). The geotechnical site investigations comprised window sampler holes (WS1 to WS18) advanced between 27th and 29th April 2021 and six deep boreholes (BH1 to BH6) advanced between 16th and 19th August 2021 across the site (Enzygo 2021, Appendix 7.1).
- 4.44 The geotechnical site investigations recorded a sequence of London Clay overlain by Kempton Park Gravels overlain by Made Ground. Whilst it is recognised that the site investigations were taken for geotechnical rather than archaeological purposes, the inclusions suggest a modern date for the Made Ground. Made Ground varied in depth between 0.4 and 1.2m across the site with localised deep truncation. The presence of no buried topsoil or sub-soil deposits suggests horizontal truncation across the site.
- 4.45 As outlined in Appendix 4.1, Pleistocene remains are the geological and biological deposits laid down by various agents – water, wind and ice between 2.6 million and 11,500 years ago. The Pleistocene sediments recorded on this site (the Kempton Park Gravel and Langley Silt) provide insights into the former landforms, climatic conditions and environments during the period in which they were deposited. The organic-rich deposits recorded in the nearby vicinity at Isleworth and Twickenham have more

potential to provide such insights due to the biological remains they can contain (e.g. pollen, seeds, wood and insects). Recent advances in direct dating techniques, including OSL (optically stimulated luminescence), ESR (electron spin resonance), and AAR (amino acid racemization), have added further significance to Pleistocene remains, enabling us to achieve more reliable dating, relevant both to artefacts and to an understanding of landscape evolution.

- 4.46 Palaeolithic artefacts in primary context or significant numbers have never been recorded from the Kempton Park Gravel, but the likely Middle and Upper Palaeolithic occupation of Britain for short intervals during the period in which the Kempton Park Gravel was deposited means that the possible preservation of Palaeolithic remains cannot be ignored. OS maps, e.g. Six Inch London Sheet M (1920), show a gravel pit working Kempton Park Gravel on the western edge of the Ham meander with a note: 'Flint Implements found AD 1905-1910'. This was the gravel working now occupied by the Thames Young Mariners lagoon and the flint implements appear to have been surface finds of Mesolithic and later age comprising axes, adzes, scrapers, awls, chisels and knives as well as arrowheads, hammerstones and flint shards, many of which now form part of the Edwards Collection in the Museum of Richmond.
- 4.47 A review of the geotechnical data by QUEST concludes that no evidence of organic deposits were recorded in the boreholes put down through the Kempton Park Gravel at the Application Site, nor in the window samples, though most if not all of these did not penetrate to the levels OD at which organic beds were recorded in Isleworth and Twickenham. It is noted that the deposits mapped as Kempton Park Gravel at the application site are significantly different from those found in Isleworth and Twickenham; it seems possible that these represent two different depositional episodes. The presence of organic remains within the fine-grained beds of the Ham meander loop cannot be entirely ruled out at this stage.
- 4.48 In terms of the historic development of the site, the GLHER records a number of Mesolithic, Neolithic and Bronze Age flint artefacts which indicates transient occupation across the Thames Valley. The high number of early prehistoric finds has led to the area being assigned an Archaeological Priority Area.
- 4.49 There is relatively scant evidence for Iron Age and Romano-British occupation within the vicinity of the site; the closest occupation site is the 3rd – 4th century rural Roman settlement identified at St John Hospital, north of the Thames.
- 4.50 Ham is not recorded as a pre-conquest manor in 1086, however the earliest documentary reference to Ham dates to the 12th century when *Hamma* was included in the royal demesne as a member of Kingston. Much of the architectural and archaeological evidence for the development of the settlement dates to the 17th century and in particular the construction of Ham House in 1610.

- 4.51 Early historic mapping records the settlement of Ham comprising a linear settlement along Ham Street; the site lies immediately west of Ham Street. 18th century mapping records the presence of a structure at the eastern limit of the site (Appendix 4.1, Figure 4; Rocque 1746). This lies in the same location as 'Ham Street Farm' as recorded on the 1842 Tithe Map (Appendix 4.1, Figure 6; Ham Tithe Map). Later OS maps indicate that the farm becomes known as Manor Farm or Hatch Farm. The western part of the site is recorded as 'Ham Fields' in 1842 and is owned by the Earl of Dysart; the farm is owned by William Hatch. It is noted that the wider settlement was referenced as *Ham cum Hatch* or *Ham with Hatch* until the late Victorian period.
- 4.52 The records of the Tollemache family of Ham House are held at Surrey History Centre (SHC K58). These include several leases relating to Manor Farm during the late C19 and early C20 (K68/6/273-4; 277-80). These indicate it was leased to Mr Robert Ward in 1897 and then in 1918 to FA and AW Secrett, who used it as a dairy farm (RLSA 637.065 L082 Manor Farm #1-5).
- 4.53 The site and surrounding settlement remained semi-rural in character until the mid-20th century.
- 4.54 Prefabricated houses were erected on the site in 1946, which were still in-situ in 1952 (RLSA LCF4235). The housing estate was laid out within the study site around two areas of green space in the centre/east and centre/west of the site (Appendix 4.1, Figure 11, 1946 OS Aerial Photograph). In 1949 the Ham and Petersham Estate was put up for sale (RLSA LC/1812). The estate was demolished to make way for high-rise housing in the early 1960s.
- 4.55 Manor Farm was given up by the Secrett family at the end of the 1950s and the farmhouse demolished in 1958. The site was developed into the existing 192 flats for Richmond Council, by contractor George Wimpey (RLSA PLA/12345) in 1964-66. Ham Village Green comprises the eastern section of the site.

Summary of Archaeological Potential and Assessment of Significance

- 4.56 There are no known archaeological remains within the site. The potential for previously unrecorded archaeological remains is based on an appraisal of recent geotechnical site investigations, the historical development of the site and proximity to known occupation sites.
- 4.57 Past impacts within the site comprise construction and demolition activities associated with the current housing, and Manor Farm in the east of the site. Construction and demolition of the mid-20th century prefabricated development is likely to have required superficial rather than substantial ground disturbance, as with historic plough activity across the site. A review of recent geotechnical site investigations does suggest general horizontal truncation across the site (Enzygo August 2021, Appendix 7.1).

- 4.58 The potential for geoarchaeological and paleoenvironmental evidence within the site has been considered by QUEST (Appendix 4.1). The Geoarchaeological DBA concludes that the potential for organic deposits cannot be entirely discounted based on available evidence and that the site has potential to inform about the local depositional development of the Kempton Park Gravels, as the recorded heights are significantly lower than that seen at Isleworth and Twickenham. Based on available evidence the significance of the underlying quaternary deposits is considered local. The sensitivity of these remains is considered **Minor** in line with the criteria outlined in Table 4.2.
- 4.59 The potential for early prehistoric occupation, in the form of residual flint artefacts within or on the Kempton Gravels cannot be entirely ruled out. Based on past impacts such remains are likely to be fragmentary rather than well-preserved and of local significance. Whilst this is a general theoretic potential across the site, areas outside the footprint of the current development in the west of the site are identified in particular.
- 4.60 There is high potential for buried remains associated with Manor Farm in the east of the site, adjacent to Ham Street. A farm is known at this location from at least the 18th century. As the farm was demolished in the 1950's foundations and footing associated with this asset are likely to be fragmentary rather than well-preserved and of local significance. The potential for well-preserved earlier medieval or early medieval roadside occupation is considered low due to later development. It is noted that the proposed development retains this eastern area as open space and no physical impact in this area is proposed. The western part of the site is historically agricultural and there is low potential for significant occupation evidence from the historic periods.
- 4.61 In summary, the assessment has identified that the proposed development has the potential to effect fragmentary early prehistoric evidence of local heritage significance in the west of the site. As the resource is considered of local heritage significance, the sensitivity of these remains is considered **Minor** in line with the criteria outlined in Table 4.2.

POTENTIAL IMPACTS

During Construction

- 4.62 The Archaeological DBA and the Geoarchaeological DBA of the site concludes that archaeological finds or features of prehistoric date may survive at depth, or outside of former structural foundations.
- 4.63 This potential archaeological resource is considered likely to be of local, rather than regional or national heritage significance. The sensitivity of these remains is considered **Minor** in line with the criteria outlined in Table 4.2.
- 4.64 Construction activities associated with the proposed development, such as building foundations and infrastructure excavations have the potential to physically impact these

remains. The Magnitude of Impact/Change on archaeological remains during the construction phase is considered **Moderate Adverse**: Removal of a major part of an archaeological site and loss of research potential / significance. The significance of this affect is considered **Minor** in line with the criteria outlined in Table 4.2; **Not Significant**.

During Operation

- 4.65 As is stated above no indirect effects to the setting of designated assets has been identified; operational effects to archaeology have been scoped out of this Chapter.

MITIGATION

During Construction

- 4.66 There are no known archaeological remains within the site with moderate potential fragmentary locally significant early prehistoric occupation evidence to be impacted by the proposed development. It is recommended that a staged programme of archaeological works is secured as a condition of planning which will allow the identification of archaeological assets, if present, within the site and a suitable mitigation strategy to be developed and agreed with LBRuT and their archaeological advisors. It is recommended that the programme of further works includes provision for geoarchaeology as recommended in Appendix 4.1. It is also recommended that a programme of public outreach is also secured as a condition of planning.

RESIDUAL IMPACTS

During Construction

- 4.67 Table 4.5 sets out a summary of the potential mitigation and assessment of residual effects arising from the scheme during demolition and construction. The assessment of the effects has used the significance criteria matrices set out in Table 4.1, Table 4.2, Table 4.3 and Table 4.4.
- 4.68 The implementation of the programme of archaeological work at the site will result in the preservation by record of archaeological deposits. The resulting research will contribute to the increased knowledge and understanding of the landscape and settlement evolution of the site and wider area. It is recognised that this offsets rather than reduces the overall effects on archaeology which remain **Minor Adverse; Not Significant** in EIA terms.
- 4.69 The implementation of a programme of public benefit and outreach will also provide public benefits that offset the impacts of the scheme. The resulting research will contribute to the increased knowledge and understanding of the landscape and

settlement evolution of the wider area. This is considered to slightly reduce the overall effects on archaeology to **Negligible; Not Significant** in EIA terms.

During Operation

- 4.70 There will be no operational and maintenance impacts on buried archaeological assets as impacts would occur during the construction phase as assessed above.
- 4.71 No significant adverse effects have been identified and therefore no further mitigation or enhancement is proposed.

Table 4.5 Summary of Residual Effects

Description of Impact/Receptor	Potential Impact	Mitigation Measure	Residual Impact
During Construction			
Archaeological remains of local to regional significance	Moderate Adverse impact, pre-mitigation	The implementation of the programme of archaeological work at the site will result in the preservation by record of archaeological deposits within the site. The implementation of a programme of public benefit and outreach will also provide public benefits that offset the impacts of the scheme.	Negligible (Not Significant)
During Operation			
None	No significant adverse effects have been identified	None required	None

CUMULATIVE IMPACTS

- 4.72 There are no strict guidelines for assessing cumulative effects. In terms of direct cumulative effects, due to the physical localised character of sub-surface archaeological remains, construction of 'other developments' will generally not result in cumulative direct impacts on designated or non-designated archaeological assets. The exception to this is archaeological deposits which extend beyond the site which would be impacted by removal of contemporary deposits by development in the immediate vicinity. The potential for archaeological deposits to extend substantially beyond the limit of the site and be impacted by 'other developments' is considered low, with the exception of the

underlying Holocene deposits which extend across a large part of the Thames Valley. Whilst it is recognised that 'other' development may also physically impact the geoarchaeological sequence, the extent of the area of interest, depth of the deposits and type of development impacts (generally piling), the significance of the resource will largely remain unchanged. Cumulative effects are assessed as being **Negligible Adverse; Not Significant in EIA terms.**

SUMMARY AND CONCLUSION

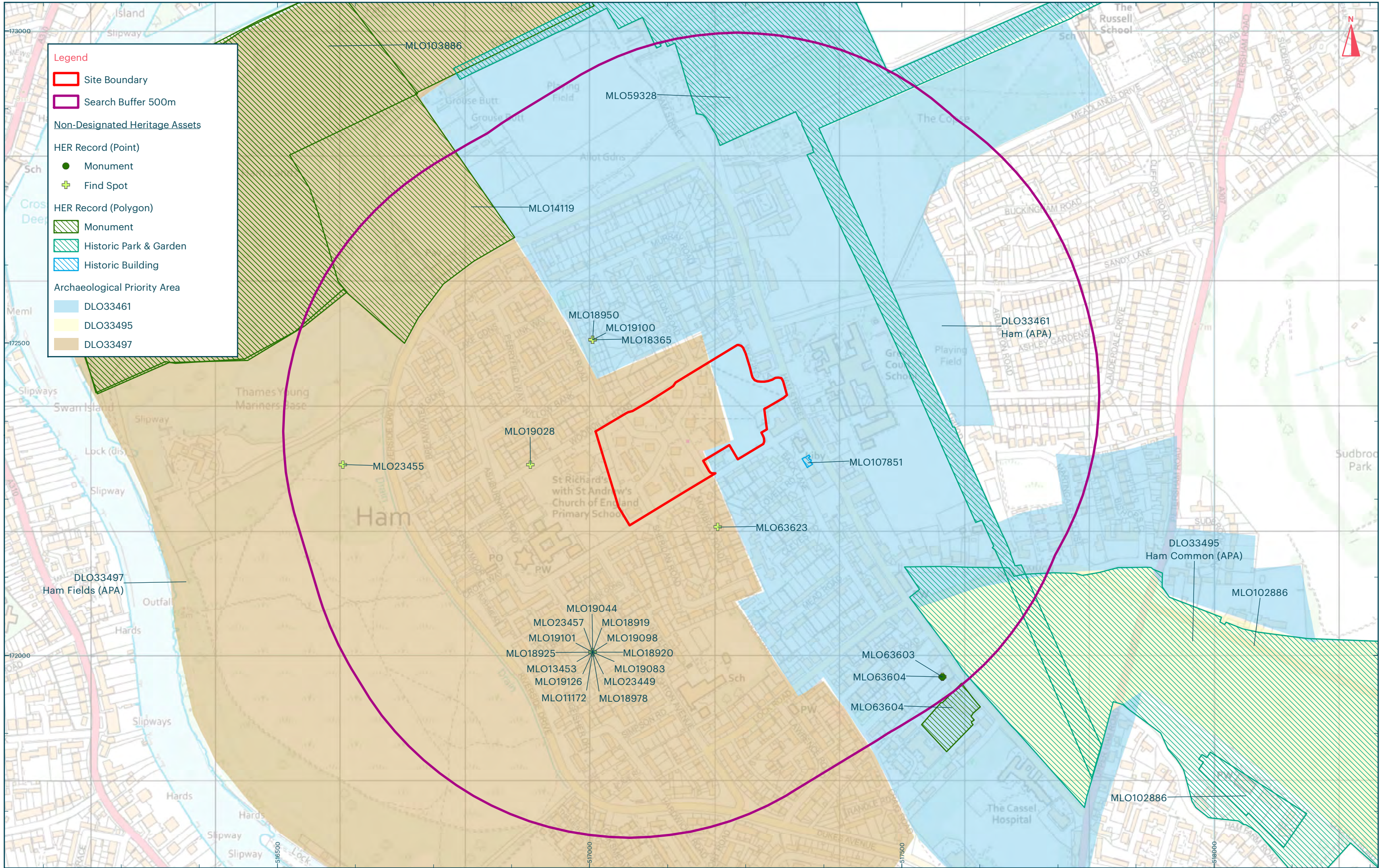
- 4.73 This Chapter presents the findings of the assessment of likely significant effects of the construction and operational phases of the proposed development in terms of archaeology. It incorporates the results of an Archaeological DBA (Appendix 4.1) and a Geoarchaeological DBA contained in Appendix A within Appendix 4.1.
- 4.74 There are no known archaeological remains within the site. The potential for previously unrecorded archaeological remains is based on an appraisal of recent geotechnical site investigations, the historical development of the site and proximity to known occupation sites and Archaeological Priority Areas. Based on available evidence there is considered moderate potential for fragmentary locally significant early prehistoric occupation evidence to be impacted by the proposed development.
- 4.75 The potential for geoarchaeological and paleoenvironmental evidence within the site has been considered by QUEST (Appendix A within Appendix 4.1). The geoarchaeological desk-based assessment concludes that the potential for organic deposits cannot be entirely discounted based on available evidence. As the recorded heights of the Kempton Park Gravels are significantly lower than that seen at Isleworth and Twickenham, the site has potential to inform about the local depositional development of the underlying gravels. Based on available evidence the significance of the underlying quaternary deposits is considered local. The sensitivity of these remains is considered **Minor**.
- 4.76 Construction activities associated with the proposed development, such as building foundation and infrastructure excavations have the potential to physically impact these remains. The Magnitude of Impact/Change on archaeological remains during the construction phase is considered **Moderate Adverse**: Removal of a major part of an archaeological site and loss of research potential / significance. The significance of this affect is considered **Minor** in line with the criteria outlined in Table 4.2; **Not Significant in EIA terms.**
- 4.77 It is recommended that a staged programme of archaeological works is secured as a condition of planning which will allow the identification of archaeological assets, if present, within the site and a suitable mitigation strategy to be developed and agreed with LBRuT and their archaeological advisors. It is recommended that the programme of works includes geoarchaeological evaluation. The resulting research will contribute to the increased knowledge and understanding of the landscape and settlement evolution

of the wider area. It is recognised that this offsets rather than reduces the overall effects on archaeology which remain **Minor Adverse; Not significant** in EIA terms.

- 4.78 The implementation of a programme of public benefit and outreach will provide public benefits that offset the impacts of the scheme. This is considered to slightly reduce the overall effects on archaeology to **Negligible; Not Significant** in EIA terms.
- 4.79 The assessment identified no significant cumulative effects to archaeology.

REFERENCES

- 1 Ancient Monuments and Archaeological Areas Act (1979)
- 2 Ministry of Housing, Communities and Local Government (2021) National Planning Policy Framework.
- 3 Greater London Authority (2021) The London Plan.
- 4 London Borough of Richmond upon Thames (2018) Local Plan.
- 5 Ham and Petersham Neighbourhood Forum (2019) Ham and Petersham Neighbourhood Plan 2018 - 2033.
- 6 Department of Communities and Local Government. (DCLG) (2019). Planning Practice Guidance, UK, HMSO.
- 7 Historic England (2015). Historic Environment Good Practice Advice in Planning: 2 – Managing Significance in Decision-Taking in the Historic Environment, UK, HMSO.
- 8 English Heritage. (2011). Seeing the History in the View: A Method for Assessing Heritage Significance within Views, UK, HMSO.
- 9 Department for Culture, Media and Sports (DCMS), (2013). Scheduled Monuments & nationally important but non-scheduled monuments. DCMS.



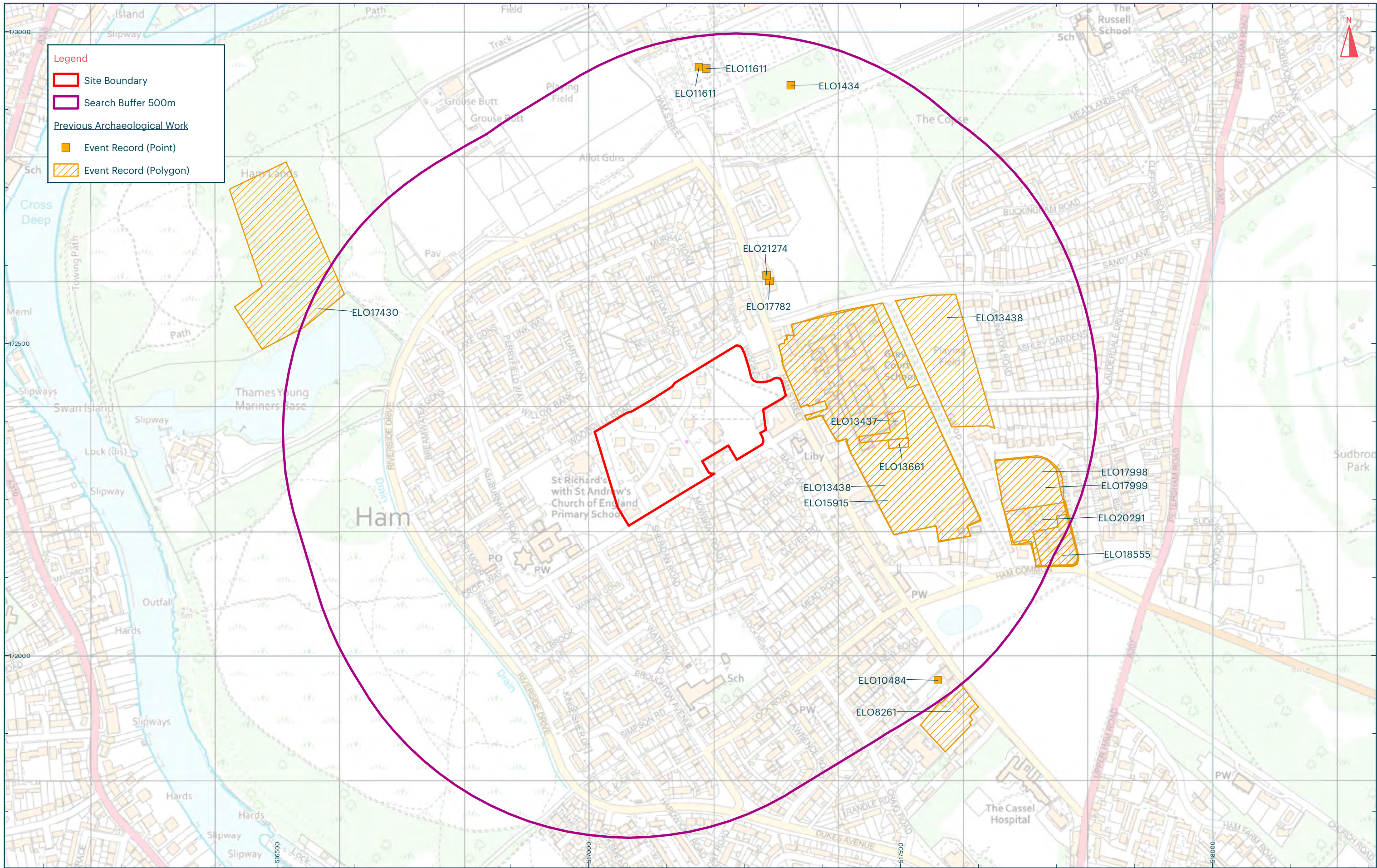
Legend

- Site Boundary
- Search Buffer 500m
- Non-Designated Heritage Assets**
- HER Record (Point)**
 - Monument
 - Find Spot
- HER Record (Polygon)**
 - Monument
 - Historic Park & Garden
 - Historic Building
- Archaeological Priority Area**
 - DLO33461
 - DLO33495
 - DLO33497

Title:
Figure 4.1: HER Data Plot - Monuments data
Address:
Ham Close Estate, Richmond upon Thames

Scale at A3: 1:5,500

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Title:
Figure 4.2: HER Data Plot – Event data
Address:
Ham Close Estate, Richmond upon Thames

Scale at A3: 1:5,500
0 200m

