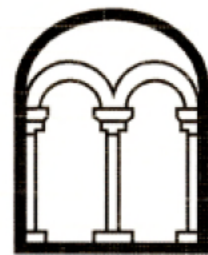


**LAND TO THE WEST OF THE
HOWBURY HALL ESTATE
RENHOLD
BEDFORDSHIRE**

**DESK-BASED
HERITAGE IMPACT ASSESSMENT**

Albion
archaeology



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HERITAGE IMPACT ASSESSMENT**

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Preface

All statements and opinions in this document are offered in good faith. This document has been prepared for the titled project or named part thereof and was prepared solely for the benefit of the client. The material contained in this report does not necessarily stand on its own and should not be relied upon by any third party. This document should not be used for any other purpose without an independent check being carried out as to its suitability and the prior written authority of Albion Archaeology (a trading unit of Central Bedfordshire Council). Any person/party relying on the document for such other purposes agrees and will by such use or reliance be taken to confirm their agreement to indemnify Albion Archaeology for all loss or damage resulting therefrom. Albion Archaeology accepts no responsibility or liability for this document to any party other than the persons/party by whom it was commissioned. This document is limited by the state of knowledge at the time it was written.

Albion Archaeology is grateful to Phillips Planning Services Ltd for commissioning the report on behalf of The Howbury Hall Estate. We would also like to acknowledge the assistance of the staff at the Bedford Borough Council Historic Environment Record.

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Key Terms

Throughout this report the following abbreviations are used:

BARS	Bedfordshire Archives and Records Service
CIfA	Chartered Institute for Archaeologists
HER	Historic Environment Record
LPA	Local planning authority
NHLE	National Heritage List for England
NPPF	National Planning Policy Framework
OS	Ordnance Survey
PAS	Portable Antiquities Scheme
PDA	Proposed development area



Non-technical Summary

Phillips Planning Services Ltd, on behalf of Howbury Hall Estate, are gathering baseline information in support of a planning application for the residential development of land to the west of the Howbury Hall Estate at Renhold in Bedfordshire.

Albion Archaeology was commissioned to prepare this desk-based heritage impact assessment. It describes the significance of known and potential heritage assets within the proposed development area (PDA), including the contribution made by their setting. It also assesses the likely impact of development on those heritage assets (and on the setting of heritage assets in the vicinity) and describes how that impact can be mitigated.

Archaeological potential and impact

Prehistoric and Roman heritage assets recorded within a 1km-radius study area around the PDA comprise find-spots, cropmarks and excavated small-scale farmstead settlement sites. Anglo-Saxon heritage assets from the study area consist of excavated pits containing settlement-related debris. Evidence for the medieval period indicates a dispersed pattern of settlement with Howbury Hall being the probable site of the manor house of Hoobury Manor. The PDA probably lay in the open fields with a possible site of a windmill inferred from documentary evidence in the south of the PDA. Medieval ridge and furrow earthworks survive within the parkland around the hall, although not within the south part of the PDA where they have been erased by later cultivation.

The Howbury estate developed through the post-medieval period with expansion of the landholding to include much of the parish of Renhold; the PDA remained farmland with part of it in landscaped parkland. Modern heritage assets in the vicinity of Howbury Hall consist of evidence for a WWI tented encampment to the south-west of house.

The proposal is for residential development adjoining the built-up eastern edge of Bedford, accessed from the A428 St Neots Road. The largest part of the proposed development would be on fields currently under arable cultivation in the north part of the PDA, with a smaller area to include the access set in the west edge of the parkland to the south of Howbury Hall.

Any groundworks associated with residential development, associated infrastructure and landscaping would typically comprise foundation and service trenches, roadworks for access and infrastructure as well as individual landscaping. Developments of this type can typically have variable potential impact on sub-surface archaeological remains and earthworks, ranging from no change to moderate harm, depending on the configuration of the development and the nature of the remains.

Any direct impact of the development on potential buried archaeological remains could be mitigated by measures to investigate and record the presence/absence, nature and significance of the potential buried archaeological remains. This could be achieved by a programme of archaeological works (secured by condition) prior to or during development.



Significance of setting and impact

The proposed development would be located at least 300m to the west of the grade II listed buildings at Howbury Hall. Development would have a negligible impact on the immediate setting of the buildings where the significance derives from the survival of the buildings as a related group standing within a secluded immediate setting. This part of the site is screened by mature tree planting in the garden which extends around the east, west and south sides of the listed buildings.

Development on the PDA has the potential to impact on the wider, designed landscape setting of the house and associated buildings. The house stands in parkland with mature trees and discrete tree belts and copses at its edges. The largest part of the PDA is set in the arable farmland that extends to the north of Howbury Hall. The arable fields in the PDA are screened from the listed buildings at the centre of the estate by a tree belt along its south-west side. The south part of the PDA occupies a relatively small part of the existing parkland in the south-west corner of the estate. This area is shown on historical maps as a separate field, Great Mill Field, separated by a narrow tree belt until it was merged with the parkland in the mid-19th century. The loss of this section of the parkland would leave the majority of the parkland, which lies nearer to the house, intact. The impact of the development would result in slight harm to this aspect of the listed buildings' setting.

The slight harm to the setting of the listed buildings could be minimised by careful screening of the development area with new tree planting along its east edges and enhancement of the existing tree belts. The objective should be to prevent the development being an intrusive element in relation to the historic landscape where it is visible from the road to the south and also to screen the listed buildings from the PDA, retaining the experience of the house as isolated within its own landscape setting.

On balance, the proposals would result in slight harm to the designed landscape setting. Given the significance of the heritage assets' importance, this would represent a moderately significant impact. However, with the appropriate mitigation measures described above, the harm would be reduced and would certainly represent less than substantial harm in terms of Section 196 of the NPPF. In such cases, the NPPF requires the harm to be weighed against the public benefits of the proposal. The following table summarises the relative significance of heritage assets and their setting, and the development impact in the light of the nature of the development.

Date of archaeological heritage asset	Potential for heritage assets within the PDA	Importance of heritage asset	Impact of development	Significance of impact (without mitigation)
Prehistoric (before AD 43)	Low to moderate	Low to moderate	No change to moderate harm	Insignificant to significant
Roman (AD 43– c. 410)	Low to moderate	Low to moderate	No change to moderate harm	Insignificant to significant
Anglo-Saxon (c. 410–1066)	Low	Low to moderate	No change to moderate harm	Insignificant to significant



Date of archaeological heritage asset	Potential for heritage assets within the PDA	Importance of heritage asset	Impact of development	Significance of impact (without mitigation)
Medieval (1066–1550)	Low	Low to moderate	No change to moderate harm	Insignificant to significant
Post-medieval (1550 to 1900)	Low	Low	No change to moderate harm	Insignificant to moderately significant
Modern (1900 to present)	Negligible	Negligible	No change to moderate harm	Insignificant
Heritage asset	Potential setting issue	Value of setting attribute	Potential impact of development	Significance of impact (before mitigation)
Howbury Hall listed buildings/structures	Yes	Moderate positive	Slight harm	Moderately significant
Listed buildings in Green End and Top End	No	n/a	n/a	n/a
Listed buildings in Church End	No	n/a	n/a	n/a



1. INTRODUCTION

1.1 *Planning Background*

Phillips Planning Services Ltd, on behalf of Howbury Hall Estate, are gathering baseline information in support of a planning application for the residential development of land to the west of the Howbury Hall Estate at Renhold in Bedfordshire.

Albion Archaeology was commissioned to prepare this desk-based heritage impact assessment. It describes the significance of known and potential heritage assets within the proposed development area (PDA), including the contribution made by their setting. It also assesses the likely impact of development on those heritage assets (and on the setting of heritage assets in the vicinity) and describes how that impact can be mitigated.

This document has been drafted in accordance with the revised *National Planning Policy Framework* (NPPF), which was issued by the government in June 2019.

1.2 *Site Location and Description*

Renhold is a civil parish located on the east edge of Bedford, in the Borough of Bedford unitary authority area. The built-up area of Bedford extends into Renhold with modern residential development on the east side of Norse Road. The rest of the parish is mainly rural in character, with dispersed settlement along Green End, Top End and Church End with some modern infill and expansion of settlement.

The PDA occupies two arable fields and a smaller area of pasture adjoining the existing built-up area on the east edge of Bedford, centered on NGR TL 09250 51800 (Figure 1).

The area to the west of the PDA contains modern residential housing and the Norse Road Cemetery. The PDA is separated from the adjoining residential development on the west by a bridleway within a strip of land between c.25m and 45m wide (Image 6). The PDA is bounded to the north-east by arable farmland. The narrower section of the PDA in the south lies within an area of parkland pasture. Howbury Hall, a small country house, is c.350m to the east of the PDA.

1.3 *Topography and Geology*

The PDA is at a height of c.30m OD. The ground slopes gently down towards the south-west, draining towards the Renhold Brook which flows southwards to join the Great Ouse near Castle Mill.



The bedrock, Peterborough Member mudstone formed approximately 164 to 166 million years ago in the Jurassic Period¹. Superficial geological deposits consist mainly of Oadby Member diamicton, formed up to 2 million years ago in the Quaternary Period under ice-age conditions. A section at the south of the PDA may consist of Biddenham Member, sand and gravel, laid down by a river up to 3 million years ago during the Quaternary Period.

1.4 Planning Policy and Research Frameworks

National and regional planning policy and research frameworks provide the context within which the heritage assets affected by the proposed development can be characterised and their significance assessed. The potential impact of the proposals on them can then be evaluated and, as necessary, appropriate mitigation measures proposed. This will include potential impacts on the setting of heritage assets within and close to the PDA.

1.4.1 National policy framework

This assessment aims to implement the vision for the historic environment as set out in the revised *National Planning Policy Framework—Section 16: Conserving and enhancing the historic environment* (NPPF) that was published in June 2019 (MHCLG 2019).

Annex 2 of the NPPF defines heritage assets as: “A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing)”.

Designated assets comprise, amongst others, Scheduled Ancient Monuments, Listed Buildings, Registered Parks and Gardens and Conservation Areas. Undesignated assets are any heritage assets that may formally be identified by the LPA to be important for the area, for example through local listing or as part of the plan-making process. These undesignated assets are still material in planning decisions and evidence of local listing and information on these heritage assets is held in the local Historic Environment Record (HER).

According to the NPPF the significance of heritage assets is demonstrated by their value to this and future generations because of their archaeological, architectural, artistic or historic interest and their setting.

The NPPF is accompanied by a set of Good Practice Advice notes and other documents, issued by Historic England (HE 2014; 2015a and b; 2017).

1.4.2 Planning (Listed Buildings and Conservation Areas) Act 1990

The Planning Act 1990 gives statutory protection to buildings and areas of special architectural or historic interest.

¹ Contains British Geological Survey materials ©NERC 2021.



The practice of ‘listing’ buildings enables those of historic and/or architectural significance to be recognised and appropriately protected. The list is authorised by the Secretary of State for Digital, Culture, Media and Sport (DCMS). Under Part 1 Section 7 of the Act no demolition, alteration or extension of a listed building can be undertaken unless authorised by the local planning authority or the Secretary of State, subject to a number of provisions.

Part 2 of the Act, sections 69 and 71, outlines the statutory responsibility of local authorities to undertake designation of conservation areas, perform timely reviews of these decisions and publish proposals for the preservation and enhancement of any conservation areas in their authority area. Local planning authorities manage their responsibilities by commissioning Conservation Area Appraisals that consider:

- historical development of the conservation areas,
- historic buildings,
- spaces and structures still present,
- and any issues that may affect their future preservation.

These appraisals are then used to inform management plans that set out the requirements for the ongoing and future preservation of the character of a conservation area. Exercising of the local authority’s planning functions must consider the preservation and enhancement measures outlined in the local management plans and provisions set out in the various planning Acts, including Part 1 of the 1990 Act.

1.4.3 Scheduled Monuments and Archaeological Areas Act 1979

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport.

The Ancient Monuments and Archaeological Areas Act 1979 gives statutory protection to scheduled monuments and under the terms of Part 1 Section 2 of the Act it is an offence to damage, disturb or alter a scheduled monument either above or below ground without first obtaining permission from the Secretary of State. The Act does not make provisions for the protection of the setting of scheduled monuments, but this is covered under current planning policy (NPPF).

1.4.4 Local Planning Policy

In January 2020 The Bedford Borough Local Plan 2030 was adopted by Full Council². This document has replaced policies relating to heritage that were previously covered by the Council’s development plan 2021.

² <https://bbcdevwebfiles.blob.core.windows.net/webfiles/Planning%20and%20Building/local-plan-2030/Local%20Plan%202030%20ADOPTED%20VERSION.pdf> Accessed: 22/03/21



Heritage is covered under Policy 41S—Historic environment and heritage assets—and provides a framework for managing change to the historic environment. This document highlights the important contribution made by the borough’s historic environment to local character and distinctiveness and recognises that it is a finite source worthy of protection and sensitive management. For any development proposal likely to affect a heritage asset(s) a description of the assets significance and how the proposal will seek to preserve or enhance the asset/setting, or how it will seek to minimise harm, must be submitted to inform the decision-making process.

1.4.5 Good Practice Advice

Historic England (officially the Historic Buildings and Monuments Commission for England) is a non-departmental public body that advises the government on heritage issues within England. Historic England has produced updated guidance on the application of NPPF³ (2019), and its Heritage Protection Guide explains in detail how planning law applies to historic buildings and places. This is currently only available online in html format⁴.

A number of Good Practice Advice (GPA) notes have also been issued⁵, which provide information to assist the relevant parties in implementing historic environment policy in the NPPF and the related guidance given in the national Planning Practice Guide. Historic England’s advice acknowledges the primacy of relevant legislation, the NPPF and PPG; it supports the implementation of national policy, but does not constitute a statement of Government policy, itself. It is not intended to be prescriptive and alternative approaches may be equally acceptable, provided they comply with legislation, national policies and objectives. Currently the documents comprise:

- GPA1 - The Historic Environment in Local Plans
- GPA2 - Managing Significance in Decision-Taking
- GPA3 - The Setting of Heritage Assets
- GPA4 - Enabling Development and Heritage Assets

The existing context and objectives for Historic England’s work are currently expressed in its *Research Strategy* (2016). Historic England also supports the draft *Heritage 2020 Framework* (Heritage Alliance 2015), which sets out the shared strategic priorities for organisations working together to maximise the public benefit of the historic environment in England.

Historic England has also produced an extensive library of more specific guides covering a wide range of heritage topics, and most of these are available for free download⁶. The Introductions to Heritage Assets series and technical guidelines are particularly pertinent.

³ <https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/> Accessed: 22/03/21

⁴ <http://historicengland.org.uk/advice/hpg> Accessed: 22/03/21

⁵ <https://historicengland.org.uk/advice/planning/planning-system> Accessed: 22/03/21

⁶ <https://historicengland.org.uk/images-books/publications>. Accessed: 22/03/21



1.4.6 Conservation Principles

Guidance on assessing the significance of heritage assets is provided by Historic England's (formerly English Heritage) *Conservation Principles, Policies and Guidance* (2008).

The principles outlined in the document provide a framework for the sustainable management of the historic environment. These principles include the idea that the understanding of the significance of places is vital and that significant places should be managed to maintain their values. Heritage values provide a means of looking at the significance of a place under different categories to identify a range of potential heritage values and associations for that place.

The categories outlined in *Conservation Principles* are evidential, historical and aesthetic. Evidential value derives from the potential of a place to yield evidence about past human activity. Historical value derives from the ways in which past, people, events and aspects of life can be connected through a place to the present. This is considered under illustrative and associative values. The first concerns how the heritage asset relates to history overall, for instance considering how it relates to the development of housing and social history. The second concerns the historical associations of the heritage asset, e.g. known owners, architects etc. Aesthetic value derives from the ways in which people draw sensory and intellectual stimulation from a place.

1.4.7 Regional and local research frameworks

Research frameworks that have been devised for the region are *Research and Archaeology: A Framework for the Eastern Counties – 2 Research Agenda and Strategy* (Brown and Glazebrook 2000), *Research and Archaeology Revisited: a revised framework for the East of England* (Medlycott 2011) and specifically for Bedfordshire: *Bedfordshire Archaeology. Research and Archaeology: Resource Assessment, Research Agenda and Strategy* (Oake et al 2007).

These documents provide a comprehensive chronological review of the historic environment as investigated so far within Bedfordshire and the eastern counties, as well as establishing a research agenda and strategy for future investigations and for consolidating and integrating current knowledge. They are therefore vital tools for the assessment of any heritage asset within its local, regional and national historic environment setting.

The relevant research aims for each period are discussed in Section 2.7.

1.5 Methodology

This desk-based assessment was carried out in accordance with the Chartered Institute for Archaeologists' *Standard and guidance for historic environment desk-based assessment* (CIfA 2020).

The study identifies known heritage assets within a 1km-radius search area centred on the PDA (Figures 2–4), referred to as the “study area”. The



proposed development area is referred to as either the PDA or “the site”. The assessment also considers the likely impact of development on hitherto unidentified heritage assets that may potentially be affected by development within the PDA.

The criteria for assessing significance and impact are based on those formulated by the Design Manual for Roads and Bridges, Volume 11, Part 3 (Cultural Heritage). They are listed in Appendix 4.

The principles outlined in *Conservation Principles Policies and Guidance for the Sustainable Management of the Historic Environment* (English Heritage 2008) provides a framework for the sustainable management of the historic environment. These are used to assess the evidential, historical, aesthetic and communal value of heritage assets.

During the preparation of this document, the sources of information listed below were consulted.

1.5.1 Bedford Borough Council’s Historic Environment Record (HER)

This is a database of archaeological information containing written and pictorial records of known archaeological monuments, previous archaeological investigations (“events”), find-spots, including data collected by the Portable Antiquities Scheme (PAS), and buildings of historical and archaeological significance.

The HER contains information specific to Bedford Borough and is maintained by Bedford Borough Council.

The HER enquiry number for the site is BBHER 064 (2020-2021).

1.5.2 Heritage Gateway database and NHLE

The Heritage Gateway is an online database that provides integrated access to local and national heritage information resources and collates entries of all Historic Environment Records throughout England, including the National Heritage List for England.

The National Heritage List for England (NHLE) is the official and up-to-date database for all nationally designated assets, including listed buildings, scheduled monuments, registered parks and gardens, registered battlefields and protected wreck sites.

It is noted, however, that the results provided by the Heritage Gateway do not provide as thorough coverage of a given area as a search of the relevant Historic Environment Record itself and can therefore only ever provide a general background to a specific study area.

1.5.3 Previous archaeological investigations

Information on previous archaeological investigations is held in the HER and either catalogued under its relevant HER number and/or additionally under its



own “Event”. Information from previous archaeological investigations can give valuable evidence as to the presence, absence, nature and date of below-ground heritage assets within a given area of investigation.

1.5.4 Cartographic data

Early maps and other illustrations of an area can be a very productive area of research. Often they indicate dramatic changes in land use during the post-medieval and modern periods. This can be very helpful in appreciating how the archaeological resource may have been affected by the changes in farming practices and expansion of settlements that took place during the 19th and 20th centuries in particular.

Cartographic data used for this heritage assessment has been provided by the Bedfordshire Archives and Records Service (BARS).

1.5.5 Site visit

A preliminary site visit was undertaken on 19th March 2021 with the following aims:

- To verify, where appropriate, the results of the desk-based study.
- To examine any areas of archaeological potential identified during research for the assessment, in particular with a view to gauging the possible survival or condition of any remains present.
- To consider the significance of any above-ground structures, historic buildings or historic landscape features present.
- To assess issues of setting and views.

A selection of photographic images taken during the walk-over is bound at the back of the report (Images 1–12). Their locations are shown on Figure 6.



2. ARCHAEOLOGICAL HERITAGE ASSESSMENT

2.1 Introduction

This section provides information on heritage assets within the PDA and the surrounding area. It includes designated and undesignated heritage assets. The former comprise assets with statutory protection such as Scheduled Ancient Monuments and Listed Buildings. The undesignated assets are derived from information in the Historic Environment Record (HER) maintained by Bedford Borough Council. The HER encompasses a wide range of information relating to the historic environment such as extant and former monuments, the location of find-spots and archaeological investigations. It includes non-listed buildings which are considered to be of historical interest, as well as the locations of former buildings, quarries and tracks etc., known from historical records.

The main objective of this section is to assess archaeological remains and the potential for currently unknown archaeological remains within the PDA by examining the available evidence from the PDA and the surrounding area. The potential for archaeological remains within the PDA is assessed in Section 2.7.

2.2 Previous Archaeological Investigations

Investigations in an area c.300m south-west of the PDA produced evidence of settlement dating from the early Iron Age to the Roman period. Work carried out during the 1990s (EBD280, EBB1195, 1196 and 1297) identified a complex sequence of enclosures (Edgeworth 2001). Further work in 2000 (EBD276) recorded a superimposed series of farmsteads, including Iron Age roundhouses and a late Roman building (Albion 2000).

Areas immediately north-west of the PDA (EBD74, EBD541 and EBB600) and on the west edge of the study area (EBB566 and EBB610) were subject to archaeological evaluation. These identified widespread medieval furrows, a few Roman features in the north part of the area, and part of an Iron Age settlement adjacent to the north-west side of Norse Road Cemetery.

Open-area excavation (EBB1194) adjacent to the Norse Road Cemetery, c.200m west of the north-west of the PDA, found enclosures and quarry pits dating from the early-middle Iron Age (Meckseper and Ingham 2017). It is likely that the enclosures were primarily used for livestock management, but the finds assemblage suggests that settlement may have been located close to the excavated area.

A small open-area excavation (EBB771) was undertaken c.200m north-west of the PDA, targeted on Roman features identified during evaluation (EBB74). A few Roman ditches and medieval furrows were found, but more significant was a concentration of pits dating from the late Anglo-Saxon period. The pits contained some pottery, smithing debris and other domestic debris, suggesting the existence of a nearby settlement (Meckseper et al. 2017).



Archaeological works for the construction of the A421 Great Barford Bypass included some undertaken on the south-east edge of the study area (Timby et al. 2007). This included an open-area excavation at Site 9 (Water End West), c.700m east of the PDA. This identified evidence for middle Anglo-Saxon (7th–8th century AD) activity with pits and fence lines, succeeded by a short-lived late Anglo-Saxon (9th–11th century AD) settlement with beam-slot and post-built structures, pits, fence lines and ditches (Leech and Hardy 2007, 161–77).

Details of all archaeological ‘events’ in the study area are tabulated in Appendix 3.

2.3 Designated Heritage Assets

2.3.1 Scheduled monuments

There are no scheduled monuments in the study area.

The nearest examples comprise prehistoric sub-surface remains forming part of a prehistoric ritual landscape c.1km+ to the south-west of the PDA and a medieval ringwork (NHLE 1009627) located c.1.2km to the south-east of the PDA.

2.3.2 Listed buildings

There are nine grade II listed buildings/structures within the study area, ranging in date from the 17th to 19th centuries.

The nearest to the PDA are Howbury Hall and associated buildings/structures, located between c.330m and 400m east of the PDA.

- NHLE 1114907 - Dower Cottage, 18th-century
- NHLE 1138189 - Howbury Hall, house rebuilt in mid-19th century
- NHLE 1138221 - Ice house, early 19th-century
- NHLE 1311948 - Dairy and laundry, early 18th-century
- NHLE 1321202 - Stable block, early 18th-century
- NHLE 1321203 - Walled garden, 18th-century

The other three listed buildings are located on the north-easternmost edge of the study area in Renhold Green End and Renhold Top End.

- NHLE 1114915 - 57 and 57A Top End, two cottages, 17th-century
- NHLE 1114916 - The Cottage, Top End, house, 17th-century
- NHLE 1311969 - 52 Green End, cottage, 18th-century

To the north, just outside of the study area is a group of listed buildings on higher ground (c.49m OD) at Church End. Although outside the study area, these are included because they partially overlook the PDA. They comprise:

- NHLE 1138110 - Parish Church of All Saints, Grade I
- NHLE 1114903 - The Old Vicarage, Grade II, former vicarage c.1700
- NHLE 1321239 - Tithe Farmhouse, Grade II, farmhouse, 17th-century



- NHLE 1138135 - Barn to Tithe Farm, Grade II, 18th-century
- NHLE 1114901 - Church Farmhouse, Grade II, barn, 17th-century
- NHLE 1114902 - Barn to Church Farm, Grade II, 17th-century

Where relevant these buildings are discussed in more detail in the appropriate chronological section below. The location of the buildings is shown in Figure 3 and full details of the designated buildings in the study area are set out in Appendix 1.

2.4 Undesignated Heritage Assets

2.4.1 Prehistoric (before AD 43) and Roman (AD 43–c.410)

Cropmarks (HER 1478) which extend over a large area of the gravel terraces to the south of the river Great Ouse include Neolithic and Bronze Age prehistoric ritual or burial monuments. A small part of this area extends into the southernmost edge of the study area; however these cropmarks are located at least 500m south of the PDA and are not representative of the types of archaeological sites which have been found on the clay land above the river terraces. The cropmark (HER 15491) of a Bronze Age ring ditch *c.*450m south-east of the PDA occupies a similar topographical position to the cropmarks noted above.

Cropmarks (HER 1830) in an area between 150m and 700m west of the PDA include enclosures, droveways and boundary ditches. Small settlement (HER 22626) dating between the middle Iron Age and Roman periods has been excavated within this area, *c.*200m west of the PDA. (See also ‘events’ EBD 276 and EBB 1195).

Cropmarks (HER 16700) recorded adjacent to north-east side of the PDA are interpreted as part of a probable Iron Age or Roman rectangular enclosure.

Investigations extending over a large area to the north-west of the PDA identified two areas with evidence of Iron Age and Roman activity (HER 5178). Subsequent open-area excavations (EBB1194 and EBB771) uncovered: a small Iron Age farmstead, *c.*200m west of the PDA on north-west side of Norse Road Cemetery; and a few Roman ditches *c.*200m north of the PDA.

Cropmarks (HER21995) located on the far east edge of the study area at Workhouse End are probably related to a complex, multi-period late Iron Age and Roman settlement just outside the study area which formed Site 8 on the A421 bypass excavation (Timby et al. 2007).

There are three recorded find-spots of prehistoric material, two of which came from the PDA while the third is unlikely to be from the PDA. There are two find-spots for worked flint, recovered from the south end of the PDA under arable cultivation—a Bronze Age thumbnail scraper (HER 15910) and a Neolithic or Bronze Age flake (HER 15911), which were found during field walking at Howbury Hall (*Bedfordshire Archaeology* 21, 139).



A flint hand axe (HER 21491) dating from the Lower Palaeolithic period (c.250,000 to 200,000 BP) was recorded by the Portable Antiquities Scheme (PAS). The published coordinate data places it just east of the south part of the PDA; however, the locational data is only given to the nearest 1km square and so it is likely that the genuine find-spot lies further to the south on the river terrace deposits from which the majority of the material of this date has been recovered.

2.4.2 Anglo-Saxon (c.410–1066) and medieval (1066–1550)

The manorial history of Renhold was described by Page (1912), and is re-examined in a survey of the parish (Colombo 1984). Renhold is not mentioned in Domesday Book; although the manor of Salpho in the west part of the parish does appear.

A group of late Anglo-Saxon pits, which contained settlement-related debris, was excavated a short distance to the north of the PDA (EBB771).

Three manors are recorded from the 13th or 14th centuries: Salpho, Flavells and Renhold. Renhold Manor was divided between three co-heirs on the partition of the barony of Bedford in 1265. The two largest of these, known as Renhold Manor and Hoobury Manor, were reunited as Renhold Manor after 1351. Howbury Hall would appear to be the site of the manor house for Hoobury Manor.

The settlement pattern in Renhold forms a dispersed pattern consisting of a series of 'Ends': Church End, Salph End, Top End, Water End and Workhouse End. Colombo (1984, 9) suggests that the arrangement of Howbury Hall, standing in fields isolated from other settlement, is likely to be a result of the relatively late foundation of the manor, following the division of Renhold Manor in 1265.

Ridge and furrow earthworks (HER 3325) are recorded on aerial photographs and by the National Mapping Programme. Some of the recorded ridge and furrow is in the south part of the PDA. Other areas are located nearby to the east and south with smaller areas on the east and north edges of the study area.

In the south part of the PDA, the site of a former medieval windmill (HER 6606), has been inferred from a mixture of medieval documentary and later field-name evidence.

A castle motte earthwork (HER 335) known as Risinghoe Castle, located c.550m south-west of the PDA, probably dates from the 12th century.

Castle Mill (HER 336) is the probable site of a mill in the medieval period, c.500m south-west of the PDA.

HER 17074 at Top End, on the north edge of the study area, indicates the probable extent of the medieval origins of this linear settlement, forming part



of a dispersed pattern of medieval settlement across the parish. Adjacent to Top End are curvilinear cropmarks (HER 17714) of a medieval trackway.

2.4.3 Post-medieval (1550–1900)

In 1538 Renhold Manor was granted to Sir John Gostwick, who enlarged it with land in the parish formerly owned by Newnham Priory, so that it comprised almost the whole parish. In 1641, the property passed to Sir William Becher, whose family held it until 1781. The manor and estates were bought by Nathaniel Polhill of Southwark, and it remains in the Polhill family to the present day. In 1919, a large part of the Howbury estate was sold off. The parish remained rural in character through the post-medieval period, retaining the dispersed settlement pattern established in the medieval period.

The HER includes records for a number of post-medieval ‘monuments’ and ‘buildings’ in the study area. A number of these are records for the sites of demolished structures known from historical maps and records

Of most significance for the present study is Howbury Hall Park (HER 7004), an 18th-century landscape park which extends across the south end of the PDA. The north part of the former park is under arable cultivation while the south half survives as parkland with mature trees standing in pasture. The garden area around the house has tree planting which includes conifers.

Monuments related to extractive industries comprise:

- (HER 1328) site of a 19th-century brickworks, 100m west of the PDA on south side of St Neots road.
- (HER 14498) site of brick kilns at Risinghoe, c.600m south-west of the PDA.
- (HER 6718) site of gravel pit shown on late 19th-century maps, in Howbury Park just south of the PDA.

Transport-related monuments comprise:

- (HER 8016) an extant staunch on the river Great Ouse at Castle Mill, dating from the 19th century.
- (HER 12889 and 12891), sites of two former milestones marked on historical maps on the St Neots Road, south of Howbury Park.
- (HER 22621) the Ouse Navigation which opened on this section of the river in 1689.

Buildings and structures, both extant and demolished comprise:

- (HER9470) Site of demolished 19th-century barn at Top End, c.700m north-east of the PDA.
- (HER 9484) Lodge, Howbury Hall, mid-19th-century lodge.
- (HER 9485) Ladyfield, 18th-century farmhouse at Howbury Hall, c.500m east of PDA.
- (HER 12892), site of smithy in Renhold.



- (HER 12894) site of boathouse on 1900 map.
- (HER 12895) site of lock on 1900 map.
- (HER 12896) site of wind pump on 1926 map.

2.4.4 Modern (1900–present day)

There are three HER entries which record modern heritage assets in the study area:

- (HER 21994) site of WW1 tented camp, located to the south-west side of the house at Howbury Hall, c.300m east of the PDA. Earthwork boundaries possibly associated with the camp are identified on historical aerial photographs and LIDAR data.
- (HER 6550) war memorial in Top End, commemorating both World Wars, erected in its present location in 1958, c.750m north of the PDA.
- (HER) Norse Road Crematorium built 1995. Located c.200m west of the PDA.

2.5 Cartographic Evidence

This section contains a discussion of selected historical maps, illustrating the changes occurring on the PDA and in its general vicinity from the early 19th century onwards. Note that access to historical maps has been limited by the closure of the local record office due to Covid 19 restrictions.

2.5.1 1826 Estate Map 1765 (Figure 5)

This is an estate map showing the Manor of Howbury, the property of John Polhill dated 1826 (BARS ref. no. PO68). It is stated on the map that it was based on a copy of a 1781 map. The copy available at the time of preparing the report includes the south half of the PDA.

This map shows the parkland surrounding Howbury Hall, indicated as an area of even shading with trees. The fields corresponding to the present PDA are shown with a narrow ruled pattern, possibly indicating that these fields were under cultivation at this time. The boundary between this area and the parkland to the east was formed by a narrow belt of trees.

The layout of the area around the hall has remained largely unchanged up to the present day with the access drives, garden area, buildings and field boundaries surviving in the modern plan. The most noticeable difference is that the parkland was more extensive at this time, extending to the north of the house

2.5.2 1885, 1901 and 1926 edition Ordnance Survey (no figure)

The 1885 map shows little overall change from the earlier estate plan. The north part of the PDA remains as two large fields. In the south, the tree belt which formerly divided Great Mill Close and Little Mill Close has been removed by this time and the area corresponding to the south of the PDA has been merged with the rest of the open parkland.



A narrow rectangular feature labelled as a gravel pit is indicated adjacent to the south end of the PDA on the 1885 map. On the 1901 edition the same feature is labelled 'old gravel pit'. It remains visible on the 1926 map but by this time an area of woodland in the south-west corner of the park has been extended to include the former pit.

The 1880s map shows an avenue of trees on a track from Howbury Hall to Top End at the north. This map also shows entrance lodges at the end of the two drives leading to the house from the St Neots road.

The 1901 map shows that the area to the north-east of the house, which had been parkland in 1826, has been divided up to form nine small fields. The 1926 map shows this area has been altered to form four fields.

2.5.3 Summary of cartographic evidence

Historical maps indicate little change in the area of the PDA and relatively little change in the overall layout in the area around the house.

Evidence from the 1826 map suggests that the south part of the PDA, in Great Mill Close, may have been under cultivation at that time and was later incorporated in the open parkland pasture. This would explain an apparent lack of ridge and furrow noted in this field during the site visit.

The larger part of the PDA, to the north, has remained unchanged in plan. The two fields here are likely to have been under cultivation during the period covered by the historical mapping.

2.6 Site Visit

The site was visited on 21st March 2021. Photographs showing the site conditions are bound at the back of the report (Images 1–12), with a plan indicating the location and direction of the photographic images (Figure 6).

The proposed site entrance is at the south on St Neots Road, A4280 (Image 1). The proposed access cuts across a wooded area in the south-west corner of the park surrounding Howbury Hall.

The south part of the PDA is in parkland-type pasture (Images 2 and 3). This area is the westernmost part of an extensive area of parkland located between Howbury Hall and the St Neots Road (e.g. Image 7). It is bounded by a hedge-line with mature trees along the north and west sides, by woodland to the south, and merges with extensive parkland to the east. In contrast to some of the other parkland, this area appears to show no clear ridge and furrow earthworks. It also contains relatively few trees. On the 1826 estate map (Figure 5) this area was in Great Mill Close, and appeared at that time to be under cultivation.

The largest part of the PDA consists of two fields which are under arable cultivation (Images 4 and 5). The west side is bounded by a hedge with mature trees, the south side by a bridleway which is separated from the field



by a newly planted hedge, and the north and east sides by a hawthorn hedge. The two fields are separated by a hawthorn hedge and drainage ditch.

Outside of the PDA, on the west side is a bridleway with a wide grassed corridor that separates the PDA from the adjacent housing development (Image 6). The housing and roofs of some buildings on the Elms Farm industrial estate to the west of the PDA are partly visible from the PDA during the winter (Image 12).

The listed buildings at Howbury Hall are screened from the PDA by mature tree planting, which forms part of the garden attached to the house (Images 8–10).

The tower of All Saints' Church at Church End in Renhold is just visible above trees to the north of the PDA (Image 11).

2.7 Assessment of Potential and Significance

The criteria for assessing significance are listed in Appendix 4.

2.7.1 Prehistoric (before AD 43)

A Lower Palaeolithic (*c.*250,000 to 200,000 BP) hand axe recorded by the PAS seems most likely to have been recovered from the gravel terraces to the south of the PDA. Evidence of this date is unlikely to be found on the PDA.

A Bronze Age flint scraper and Neolithic or Bronze Age flint flake found on the PDA are likely to form part of a background scatter in the area. The majority of the evidence from this period has been recovered from the gravel terraces to the south of the PDA.

Iron Age settlement activity on the clay lands to the north of the gravel terrace has been characterised by the excavation of two small farmsteads found to the west of the PDA, close to the Renhold Brook. These small farmstead sites appear different in character to larger, more intensively utilised sites found on the gravel terraces to the south of the PDA.

No sub-surface prehistoric remains or cropmarks have been recorded from the PDA, but based on evidence from the wider study area, there is *low to moderate* potential for remains of this date to survive within the site.

The research framework for Bedfordshire notes that more work is needed to understand the development of prehistoric settlement, whilst an emphasis of categorisation of rural settlement during the Iron Age is required (Oake 2007, 9–11).

If remains of this period did survive within the PDA, they would probably be of *low to moderate* significance depending on their exact nature.



2.7.2 Roman (AD 43–c.410)

Evidence from this period has been recovered in the vicinity of the PDA. A small Roman farmstead was excavated to the west of the PDA and traces of Roman ditches were found in excavations to the north of the PDA. A rectangular cropmark feature next to the north-east side of the PDA is interpreted as a late Iron or Roman enclosure. Cropmarks on the extreme east edge of the study area are likely to represent peripheral activity associated with Iron Age and Roman settlement excavated on the line of the Great Barford bypass.

No sub-surface Roman archaeological remains or find-spots have so far been recorded on the PDA, but based on evidence from the surrounding study area there is *moderate* potential for remains of Roman date to survive within the site.

The research framework for Bedfordshire states that little detailed work has been carried out on the characterisation of rural settlement in the Roman period. Patterns of settlement nucleation or dispersal are areas of considerable significance, but are little understood (Oake 2007, 11). Of particular relevance to the study area is the need to examine potential differences between settlement in the river valleys and those on the clay plateau in the north of the county (Oake 2007, 11).

If remains of this period did survive within the PDA, they would probably be of *low* to *moderate* significance depending on their exact nature.

2.7.3 Anglo-Saxon to medieval (c.410 - 1550)

Late Anglo-Saxon settlement-related evidence has been excavated a short distance to the north of the PDA.

Howbury Hall is probably the site of the manor house of Hoobury Manor, which was formed at the division of Renhold Manor in 1265. It appears to have been an isolated manor house standing within its fields with no evidence for associated settlement (Colombo 1984, 7–8). The position of the PDA and evidence for adjacent areas of ridge and furrow earthworks suggest that the PDA stands in what would have been part of the open-field system during the medieval period. However, within the south part of the PDA (currently pasture parkland) later cultivation appears to have removed any above-ground traces of medieval ridge and furrow. The south part of the PDA may have been the location of a windmill (HER6606) in the medieval period.

The potential for archaeological heritage assets of Anglo-Saxon or medieval date to survive on the PDA, apart from cultivation features, is assessed as *low*.

The research framework for Bedfordshire highlights that work is needed to understand early-middle Anglo-Saxon settlement structure and distribution patterns and how these relate to late Roman settlement (Oake 2007, 13). Later Anglo-Saxon research questions deal with the development of rural settlement, economy and society, with particular focus on the Anglo-Saxon/medieval



transition (Edgeworth 2007, 98). For the medieval period, few rural settlements have been investigated in the county. Oake stresses the potential for acquiring information about the origins, diversity and development of villages from within or around the edges of existing settlements (2007, 14). In addition, characterisation of settlement forms, understanding how they grow, shift and disappear is of local and regional importance (Oake 2007, 14; Medlycott 2011, 70). In particular, the importance of studying 'Ends' in more detail has been highlighted (Oake 2007, 14).

If any medieval, or Anglo-Saxon, assets were present on the PDA, they would probably be of *low* to *moderate* significance, depending on their exact nature.

2.7.4 Post-medieval (1550–1900)

The PDA is situated on land which appears to have been under arable cultivation or maintained as parkland pasture during the post-medieval period. If earlier archaeological features exist within the PDA, it is likely that they will have been subject to a degree of truncation due to the action of ploughing during the post-medieval and modern periods, particularly in the larger north part of the site. If earlier archaeological remains survive in the south of the site, these may be better preserved due this area being under parkland for at least part of the post-medieval period. There is a possibility of some disturbance at the south end of the PDA due the presence of quarrying, indicated by a gravel pit (HER 6718) on historical maps. Evidence for more significant disturbance due to clay extraction for brickmaking appears to have been confined to the area south of the St Neots Road.

The potential for sub-surface remains dating from this period to survive in the PDA is assessed as *low*. It is likely that any such remains would be of *low* significance.

2.7.5 Modern (1900–present day)

Evidence for modern activity within the estate consists of earthworks associated with a WW1 tented encampment (HER 21994) located immediately south-west of Howbury Hall, 300m from the PDA.

The potential for modern sub-surface heritage assets within the PDA is assessed as *negligible*. Any modern sub-surface remains found within the PDA would be of *negligible* significance.



3. SETTING

The NPPF defines setting as “*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.*” (MHCLG 2019, Annex. 2).

Current Historic England guidance on *The Setting of Heritage Assets* (2017) recommends the steps that ought to be followed in assessing the impact of development on the settings of heritage assets. These are:

- Step 1: identify which heritage assets and their settings are affected;
- Step 2: assess whether, how and to what degree these settings make a contribution to the significance of the heritage asset(s);
- Step 3: assess the effects of the proposed development, whether beneficial or harmful, on that significance;
- Step 4: explore the way to maximise enhancement and avoid or minimise harm;
- Step 5: make and document the decision and monitor outcomes.

This document aims to address Steps 1–4 in order to assist the LPA in expediting Step 5. Steps 1 and 2 are addressed in this section and Steps 3–4 in Section 4.3 **Error! Reference source not found.**

The PDA consists of arable fields with a smaller area of parkland pasture at the south. Historically this area has been under arable cultivation and pasture during the post-medieval and modern periods.

To the west of the PDA modern development forms the eastern extent of the built-up area of Bedford. This comprises residential housing and a cemetery which were developed from the 1990s onwards. It is screened from the PDA by a hedge-line with mature trees. The area to the north and east is under arable or pasture with the buildings of Howbury Hall c.300m east of the PDA. To the south of the PDA is the St Neots Road with the A421 Bedford southern bypass beyond.

Setting assessment Step 1: affected heritage assets

Designated heritage assets located nearest to the PDA are the group of six Grade II listed buildings/structures at Howbury Hall, between c.330m and 400m east of the PDA:

- NHLE 1114907 - Dower Cottage, 18th-century
- NHLE 1138189 - Howbury Hall, house rebuilt in mid-19th century
- NHLE 1138221 - Ice house, early 19th-century
- NHLE 1311948 - Dairy and laundry, early 18th-century
- NHLE 1321202 - Stable block, early 18th-century
- NHLE 1321203 - Walled garden, 18th-century



These buildings are located relatively near to the PDA at the centre of the Howbury Hall estate, forming a group situated within the parkland and garden attached to the house. These buildings occupy a setting that could potentially be affected by the proposed development.

Three listed buildings are located on the north-easternmost edge of the study area in Renhold Green End and Renhold Top End.

- NHLE 1114915 - 57 and 57A Top End, two cottages, 17th-century
- NHLE 1114916 - The Cottage, Top End, house, 17th-century
- NHLE 1311969 - 52 Green End, cottage, 18th-century

These buildings and other listed buildings located just outside of the study area in Green End and Top End are situated at least 800m from PDA within rural settlement locations that are distinct and separate from that of Howbury Hall. The setting of these buildings would not be affected by the proposed development.

A group of listed buildings located c.700m to the north of the PDA, outside of the study area are included for consideration because these buildings occupy higher ground which partially overlooks the landscape occupied by the PDA.

- NHLE 1138110 - Parish Church of All Saints, Grade I
- NHLE 1114903 - The Old Vicarage, Grade II, c.1700
- NHLE 1321239 - Tithe Farmhouse, Grade II, 17th-century
- NHLE 1138135 - Barn to Tithe Farm, Grade II, 18th-century
- NHLE 1114901- Church Farmhouse, Grade II, barn, 17th-century
- NHLE 1114902 - Barn to Church Farm, Grade II, 17th-century

These buildings occupy a rural settlement location. The setting is formed by the church and adjacent historic farmhouses, farm buildings and a row of (undesigned) early 20th-century estate cottages facing the road which winds through Church End. Viewed from the north-east edge of the PDA, only the upper part of the church tower is visible above the trees (Image 11 and Figure 6). Given the distance and the screening between the PDA and Church End, the setting of these buildings would not be adversely affected by the development.

Setting assessment Step 2: contribution of setting

The grade II listed buildings and structures and structures at Howbury Hall can be considered as a group. The buildings stand at the centre of the estate within a garden area which has a curved boundary along its south, west and east sides, bounded by mature tree planting. To the south the land consists of parkland pasture, dotted with specimen trees. One of the drives leading to the front of the house remains, while the main access is now the rear drive, off Green End.

A number of aspects of setting could be considered to contribute to the significance of these designated buildings.



In terms of the physical surroundings and associations, aspects of setting include:

- The survival of the buildings as a group with the historic relationship between the buildings.
- Relation of the buildings to the designed historic landscape with aspects of the historic garden/pleasure grounds and landscaped parkland at the south of the buildings.
- Isolated location consisting of a small country house at the centre of its own estate.

In terms of the way the site is experienced, aspects of the setting include:

- The immediate surroundings of the buildings, including the main house, have a relatively secluded, enclosed character. During the 18th century the designed landscaped with drives to the front of the house would have been intended to display the house from the main entrance to the south. With the mature tree planting in the gardens the house and service buildings to the rear are now largely screened from view with the house barely visible from the St Neots Road.
- The setting is a relatively quiet rural setting, although with some road noise from the St Neots Road and Bedford Southern Bypass.

Aspects of the current setting of the Grade II listed buildings and structures at Howbury Hall make a *moderate positive* contribution to the significance of these heritage assets.



4. IMPACT ASSESSMENT

4.1 *The Proposed Development*

The proposal is for residential development adjoining the built-up eastern edge of Bedford, accessed from the A428 St Neots Road. The largest part of the proposed development would be on fields currently under arable cultivation in the north part of the PDA, with a smaller area to include the access set in the west edge of the parkland to the south of Howbury Hall.

4.2 *Impacts on Archaeological Heritage Assets*

Any groundworks associated with residential development, associated infrastructure and landscaping would typically comprise foundation and service trenches, roadworks for access and infrastructure as well as individual landscaping. Developments of this type can typically have variable potential impact on sub-surface archaeological remains and earthworks, ranging from *no change* to *moderate harm*, depending on the configuration of the development and the nature of the remains.

Based on archaeological background information from the surrounding study area the probability for archaeological heritage assets on the PDA has been assessed as: *low* to *moderate* for the prehistoric period; *moderate* for the Roman period; *low* for the Anglo-Saxon and medieval period; *low* for the post-medieval period; and *negligible* for the modern period. The importance of potential heritage assets on the PDA varies by period with the most significant being rated as *low* to *moderate* for the prehistoric to medieval periods (see table below).

If any archaeological remains were of *moderate* importance, the impact on potential archaeological heritage assets (without mitigation) could, therefore, range from *insignificant* to *significant*. However, any direct impact of the development on potential buried archaeological remains could be mitigated by measures to investigate and record the presence/absence, nature and significance of the potential buried archaeological remains. This could be achieved by a programme of archaeological works (secured by condition) prior to or during development.

4.3 *Impacts on Setting of Heritage Assets*

The assessment has identified that development on the PDA has the potential to impact on aspects of the setting of the listed buildings and structures at Howbury Hall. It has also identified that their setting make a *moderate positive* contribution to the significance of these heritage assets (Section 3).

Setting assessment Step 3: development effects on significance

The proposed development would be located at least 300m to the west of the grade II listed buildings at Howbury Hall. Development would have a *negligible* impact on the immediate setting of the buildings where the significance derives from the survival of the buildings as a surviving related group standing within a secluded immediate setting. This part of the site is



screened by mature tree planting in the garden which extends around the east, west and south sides of the listed buildings (Image 10).

Development on the PDA has the potential to impact on the wider, designed landscape setting of the house and associated buildings. The house stands in parkland with mature trees in the parkland and discrete tree belts and copses at its edges. The largest part of the PDA is set in the arable farmland that extends to the north of Howbury Hall. The arable fields in the PDA are screened from the listed buildings at the centre of the estate by a tree belt along its south-west side (Image 9). The south part of the PDA occupies a relatively small part of the existing parkland in the south-west corner of the estate. This area is shown on historical maps as a separate field, Great Mill Field (Figure 5), separated by a narrow tree belt until it was merged with the parkland in the mid-19th century. The loss of this section of the parkland would leave the majority of the parkland, which lies nearer to the house, intact. The impact of the development would result in *slight harm* to this aspect of the listed buildings' setting.

Setting assessment Step 4: maximise enhancement and avoid/minimise harm

The slight harm to the setting of the listed buildings could be minimised by careful screening of the PDA with new tree planting along its east edges and enhancement of the existing tree belts. The objective should be to prevent the development being an intrusive element in relation to the historic landscape where it is visible from the road to the south and also to screen the listed buildings from the PDA, retaining the experience of the house as isolated within its own landscape setting.

On balance, the proposals would result in *slight harm* to the designed landscape setting. Given the significance of the heritage assets' importance, this would represent a *moderately significant* impact. However, with the appropriate mitigation measures described above, the harm would be reduced and would certainly represent *less than substantial harm* in terms of Section 196 of the *NPPF*. In such cases, the *NPPF* requires the harm to be weighed against the public benefits of the proposal.

4.4 Summary

The following table summarises the relative significance of archaeological heritage assets, and their setting, and the development impact in the light of the nature of the development.

Date of archaeological heritage asset	Potential for heritage assets within the PDA	Importance of heritage asset	Impact of development	Significance of impact (without mitigation)
Prehistoric (before AD 43)	Low to moderate	Low to moderate	No change to moderate harm	Insignificant to significant
Roman (AD 43–c 410)	Low to moderate	Low to moderate	No change to moderate harm	Insignificant to significant
Anglo-Saxon (c.410–1066)	Low	Low to moderate	No change to moderate harm	Insignificant to significant



Date of archaeological heritage asset	Potential for heritage assets within the PDA	Importance of heritage asset	Impact of development	Significance of impact (without mitigation)
Medieval (1066–1550)	Low	Low to moderate	No change to moderate harm	Insignificant to significant
Post-medieval (1550 to 1900)	Low	Low	No change to moderate harm	Insignificant to moderately significant
Modern (1900 to present)	Negligible	Negligible	No change to moderate harm	Insignificant
Heritage asset	Potential setting issue	Value of setting attribute	Potential impact of development	Significance of impact (before mitigation)
Howbury Hall listed buildings/structures	Yes	Moderate positive	Slight harm	Moderately significant
Listed buildings in Green End and Top End	No	n/a	n/a	n/a
Listed buildings in Church End	No	n/a	n/a	n/a

4.5 Confidence Rating for the Current Study

This assessment carries a rating of reasonable confidence. However, as a general rule, desk-based assessments cannot be used as a predictive tool for the precise location and characterisation of sub-surface archaeological deposits. The nature of desk-based studies means that they rely on artefacts being reported and logged in the HER and information from intrusive investigations in the vicinity of the subject site and the wider landscape. The unpredictable nature and presence of sub-surface and therefore non-visible archaeological remains has to be borne in mind.



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6. APPENDICES

6.1 Appendix 1: Designated Heritage Assets within the 1km-radius Study Area

6.1.1 Scheduled monuments

There are no scheduled monuments in the study area.

6.1.2 Listed buildings

HER No. NHLE No.	Name	Description	Grade
1138189 1739	Howbury Hall	Small country house. C18 origins, substantially rebuilt 1849 after fire, by James Horsford, for Polhill family (Bedfordshire Times, 28 July 1849). Mainly rendered, but brick visible to part of rear. Slate roof. Symmetrical facade, 2 storeys, with 2 storey wings projecting from rear.	II
1138221 9486	Ice house, Howbury Hall	Ice house. Early C19. Red brick. Small, circular in plan, set into earth bank.	II
1114907 1737	Dower Cottage, Howbury Hall	Cottage, formerly pair of gardeners' cottages. C18, with C20 repairs and alterations. Red brick, with hipped old clay tile roof. 3-room plan, 2 storeys.	II
1114915 9481	57 and 57A Top End	2 cottages, possibly originally one house. C17 with C19 and C20 alterations. Timber framed with pebble-dashed exterior. C20 tile roof. 3-room plan overall, one storey and attics.	II
1114916 9476	The Cottage, Top End	House. C17. Colour washed rough cast over timber frame. Old clay tile 2-span roof over double pile plan. 2 storeys.	II
1311948 1738	Dairy and laundry, Howbury Hall	Dairy and laundry block. Early C18. Timber framed, with red brick infill and colour washed plaster rendering. Hipped old clay tile roof. 3-room plan, one storey and attics.	II
1311969 9478	52 Green End	Cottage. C18. Timber framed, with weather boarding to W, and colour washed infill, some plaster, some brick, elsewhere. Thatched roof. 2-room plan to E with 3 bays to W outhouse. One storey and attics.	II
1321202 1736	Stable Block, Howbury Hall	Stable block. Early C18, belonging to original house. Timber framed with red brick infill, mainly rendered with pebbledash. Hipped old clay tile roof. Set around 3 sides of a courtyard, 2 storeys.	II
1321203 9487	Walled Garden, Howbury Hall	Garden wall. C18. Red brick. Encloses large rectangular area.	II

6.2 Appendix 2: Undesignated Heritage Assets within the 1km-radius Study Area

6.2.1 Monuments

HER No.	Name	Description	Period
335	Risinghoe Castle, Bedford	Earthwork remains of medieval motte castle. Probably built during 12th century.	Medieval
1328	Brickworks	The site of a brickworks with kilns, which was in existence by 1854 and operated until c.1903.	Post-medieval to Modern



HER No.	Name	Description	Period
1478	Cropmarks on the Grange Estate: Willington	A group of cropmarks including ring ditches, one a double ring, and small rectangular or subrectangular enclosures.	Prehistoric and Roman
1830	Iron Age/Roman Occupation and ridge and furrow earthworks	An area of cropmarks indicating enclosures, droveways and boundary ditches. Archaeological investigation found evidence of activity dating from the Neolithic to the Roman period.	Prehistoric and Roman
3325	Ridge and furrow; Renhold parish	Areas of ridge and furrow recorded from aerial photographs. Destroyed by gravel extraction in places. This record was updated in 2018 to reflect the surviving earthworks, based upon the work of the National Mapping Programme.	Medieval
5178	Iron Age, Roman and Medieval Occupation; Norse Road, Bedford	Excavations occurred prior to a housing development on Norse Road in Bedford. The excavations uncovered the remains of a small Iron Age farmstead, a small area of Roman occupation and the remains of medieval ridge and furrow.	Prehistoric, Roman and Medieval
6718	Gravel pit; Howbury Park	Site of former Victorian-period gravel extraction pit.	Post-medieval
8016	Castle Mills Staunch	19th-century staunch, one of the most complete remaining examples.	Post-medieval
12889	Milestone (Site of)	Milestone '54 miles from London'. Deemed of local interest.	Post-medieval
12891	Milestone (Site of)	Site of milepost. Deemed to be of local interest.	Post-medieval
14498	(Site of) Brick Kilns, Risinghoe	Site of a post medieval brick kiln at Risinghoe, believed to have been in use at least up to 1871.	Post-medieval
15491	Ring Ditch, East of Castle Dairy Farm	The cropmark of a Bronze Age ring ditch, east of Castle Dairy Farm	Prehistoric
16700	Cropmark, north-west of Howbury Hall	Part of a probable Iron Age or Roman rectangular enclosure is visible as cropmarks on historic aerial photographs. Located about 665 metres SSE of Little Church Farm.	Roman
17074	Top End medieval settlement	The medieval origins of the settlement of Top End.	Medieval
17714	Cropmarks; east of Top End	A curvilinear medieval trackway is visible as cropmarks on historic aerial photographs. Located about 152 metres NE of Brook Farm, two parallel curvilinear ditches extend from Green End NE about 212 metres.	Medieval
21994	First World War Military Camp; Howbury Hall, Renhold	Possible ditches and boundary of a First World War tented military camp is visible as earthworks on remote sensing data and historic aerial photographs and was mapped as part of the Bedford Borough NMP project.	Modern
21995	Bronze Age /Romano-British Settlement Cropmarks; Workhouse End, Renhold	A possible Bronze to Roman settlement is visible as cropmarks on aerial photographs. The settlement is located southeast of Workhouse End and comprises an agglomeration of curvilinear enclosures with a further two smaller (18-27metres across) enclosures located to the east. A linear ditched feature is also visible. A Late Iron Age to Roman settlement was identified from excavation to the south (MBD16675), which this enclosure may be associated with or possibly could be the focus of earlier Bronze Age to Iron Age settlement activity.	Prehistoric and Roman
22621	River Great Ouse Post-Medieval Navigable Extent	The navigable extent of the River Great Ouse in Bedford Borough.	Post-medieval



HER No.	Name	Description	Period
22626	Iron Age/Romano-British Settlement; Asgard Drive	Archaeological investigations were conducted at Norse Road in 1993 prior to residential development. The remains of a small scale rural settlement dating from the middle Iron Age to the Romano-British period were recorded. The site comprised a complex of enclosures within which no clear focus of settlement could be identified. 3 pits or post holes suggested the possibility of earlier (early Iron Age) activity in the area. Traces of a medieval plough headland and ridge and furrow cultivation were also encountered.	Prehistoric and Roman

6.2.2 Buildings

HER No.	Name	Description	Period
336	(Site of) Castle Mill	The site of a mill in the medieval period, subsequently part of farm buildings.	Medieval
6550	Renhold Memorial; Top End	War Memorial commemorating both World Wars. Moved to present location c.1958	Modern
6606	(Site of) windmill	Site of demolished medieval windmill, inferred from documentary and field-name evidence	Medieval
9470	Barn to Old Forge; Top End (Site of)	19th-century timber-framed barn. Demolished c.2010	Post-medieval
9484	Lodge, Howbury Hall, St Neots Road	Mid-19th-century yellow brick lodge with projecting central wing. Slate roof with barge boards, finials and pediments. One storey.	Post-medieval
9485	Ladyfield; Howbury Hall	Farmhouse. 18th-century rear section with 19th-century front addition. 17th-century timber-framing from earlier house in wall between rear and front sections.	Post-medieval
14499	Bricklayers Arms Public House, Risinghoe	A post medieval Public House the Bricklayers Arms was recorded on the 1843 Tithe Award for Goldington.	Post-medieval
12892	Smithy, Renhold (Site of)	'Smithy' marked on 1882 OS map. Documentary evidence from 1725.	Post-medieval
12894	(Site of) Boathouse	Site of Boathouse, deemed of local interest. Marked on 1900 OS map	Post-medieval
12895	(Site of) Lock	On the 1900 revision of 1882 OS map as 'Lock'.	Post-medieval
12896	Windpump (Site of)	Shown on 1926 OS map as 'wind pump'.	Post-medieval
22510	Norse Road Crematorium	Crematorium built in 1995	Modern

6.2.3 Landscapes

HER No.	Name	Description	Period
7004	Howbury Hall Park	18th-century landscape park.	Post-medieval

6.2.4 Find-spots

HER No.	Name	Description	Period
15899	Post-Medieval Sherd; Castle Mill	A post medieval (C16th-C17th) base sherd of a jug or jar.	Post-medieval
15910	Bronze Age Flint; Howbury Hall	A Bronze Age flint (thumbnail scraper) found while field walking.	Prehistoric
15911	Neolithic/Bronze Age Flint; Howbury Hall	A field walking survey at Howbury Hall saw a gun flint and a Neolithic to early Bronze Age flint collected.	Prehistoric
21491	Flint Hand Axe	Lower Palaeolithic flint hand axe recorded by PAS. (c.250,000 to 200,000 BP).	Prehistoric



6.3 Appendix 3: 'Events' within the 1km-radius Study Area

Event ID	Name	Description	Date/Company
EBD74	Land off Norse Road, Bedford; Archaeological Field Evaluation	<p>Trial trench evaluation revealed remains of the early-middle Iron Age, Roman and medieval periods.</p> <p>The medieval remains consist of furrows, widely distributed across the development area. The evidence for activity in the Roman period comprises two parallel ditches and a possible hearth, which contained large amounts of fired clay and charcoal. The most significant archaeological remains date from the early-middle Iron Age period. These were located along the eastern edge of the south field. They represent the remains of a small rural farmstead situated within ditched enclosures. The ditches correspond to those identified by the geophysical survey. It is likely that the development area includes the majority of the farmstead.</p>	<p>2006</p> <p>Albion Archaeology</p>
EBD276	Iron Age and Roman Farmstead at Norse Road, Bedford	Archaeological investigations identified a sequence of super-imposed farmsteads were identified, which dated from the early Iron Age through to the late Roman period. The investigated features comprised enclosure ditches and the remains of 3 early Iron Age round buildings and 1 late Roman building.	<p>2000</p> <p>BCAS</p>
EBD280	Norse Road Archaeological Assessment	The assessment of the archaeological remains at Norse Road has revealed the remains of settlements dating to a period from the earlier Iron Age to the end of the Roman period. The date assigned to these sites is derived almost exclusively from fragments of pottery found in Surface Artefact Collection and from trial trench excavation.	<p>1993</p> <p>Bedfordshire County Archaeological Services</p>
EBD531	Land off Norse Road, Bedford; Archaeological Desk Based Assessment	An archaeological desk-based assessment of approximately 24 ha. The desk-based assessment has concluded that field trials may be necessary to further assess the potential for archaeological remains, given the size of the development and the proximity of known archaeology.	<p>2005</p> <p>University of Leicester Archaeological Services</p>
EBD541	Norse Road, Bedford	<p>A geophysical survey was undertaken of an area outlined for residential development and cemetery extension. It located a number of anomalies of archaeological potential.</p> <p>Positive linear anomalies in Area 2 seem to indicate a feature typical of an Iron Age farmstead. A positive curvilinear anomaly suggests the presence of a roundhouse. Within the roundhouse two discrete positive anomalies provide evidence of pits, possibly used for storage during the Iron Age. To the west of the roundhouse a number of positive linear anomalies divide the land into small enclosures possibly representing Iron Age field systems. To the southeast of the farmstead a number of positive and negative linear anomalies representing cut features and earthworks can be noted. A large negative area anomaly is evident in the north eastern limits of Area 2. This anomaly represents a possible former earthwork. A number of positive area anomalies in Area 1 may be related to geological or pedological activity. Discrete positive anomalies indicating the presence of possible pits were identified within Area 3.</p>	<p>2006</p> <p>University of Leicester Archaeological Services</p>



Event ID	Name	Description	Date/Company
		A cluster of these possible pits in the east of this survey area may suggest a centre of activity here.	
EBB562	Bedford River Valley Park; Archaeological Desk-based Assessment	The Marston Vale Trust was promoting the creation of the Bedford River Valley Park (BRVP), a large country park, in the area between the eastern edge of Bedford and the village of Willington. Albion Archaeology was commissioned to write an archaeological desk-based assessment to accompany and inform the master planning process for the park.	2006-2007 Albion Archaeology
EBB566	Land North of Norse Road, Bedford: Archaeological Evaluation	Trial trench and non-intrusive investigation on c.23ha north of Norse Road, as a preliminary to preparation of a Scheme of Archaeological Resource Management. The archaeological evaluation indicated that the evaluation area had been predominantly arable since the medieval period and that the land parcel had reached its present shape by the late C18th. Out of 33 archaeological trenches investigated only a single, isolated, archaeological feature was noted. This was a pit probably dating from the Iron Age.	2003 Albion Archaeology
EBB600	Norse Road, Bedford: Geophysical Survey Report	Geophysical survey over 24.4ha located a number of anomalies of possible archaeological origin. An arrangement of positive linear anomalies suggests the presence of a possible Iron Age farmstead in the eastern limits of Area 2 and a number of possible pits are evident in all three survey areas.	2006 Stratascan
EBB610	Land North of Norse Road, Bedford	Rapid magnetic scanning was used and both this and the detailed survey produced almost entirely negative results.	2003 WYAS Archaeological Services
EBB687	A421/A428 Great Barford Bypass; Archaeological Evaluation	Trial trench evaluation, combined with the results of DBA, fieldwalking and geophysical surveys, identified 12 key areas of archaeological interest along the proposed route of the bypass. The sites represented were farming settlements and associated activity, and range in date from the early/ middle Iron Age to the medieval period. The stretches of road corridor between these areas contained a dispersed pattern of archaeological remains dating from the Bronze Age/ early Iron to the post-medieval period. The majority of these features were agricultural field boundaries, drainage ditches and plough furrows.	1992 Northamptonshire Archaeology
EBB688	A421 Great Barford Bypass; Archaeological Excavation	The geophysical survey and trial trenching along the A421 established the location of nine areas of archaeological deposits with the potential for further investigation. Six sites were confirmed for excavation and four further sites were designated for Strip, Map and Sample. Fieldwork began in began in September 2004 until March 2005. In total, 9 sites were investigated in detail revealing evidence of activity from early prehistoric times through to the post-medieval period. Earlier prehistoric activity was sparse and largely evidenced through a flint scatter over the entire route and a single Neolithic pit on Site 2. Isolated early Bronze Age pits were located at Sites 2 and 6. Following an apparent hiatus in the Middle Bronze Age small scale activity	2005 Oxford Archaeology



Event ID	Name	Description	Date/Company
		reappeared at Site 2 in the later Bronze Age-early Iron Age. More widespread occupation and associated activities were apparent from the Middle Iron Age and have been documented at Sites, 2, 4, 6 and 7. Sites 2, 4 and 6 continued to be occupied into the Later Iron Age. By the early Roman period Site 6 has become abandoned shortly followed by Site 2 but activity was still evident at Sites 1, 4, 7 and 8. Of these only Site 8 continued to be inhabited into the later Roman period although a late Roman cemetery was excavated at Site 4 suggesting continued occupation nearby. Site 8 also saw some post-Roman activity as did the adjacent site at Site 9 where a small hamlet was established in the late Saxon-early medieval period possibly over an earlier mid-late Saxon settlement. Two new sites, 3 and 5, saw small settlements established dating to the 10-13th and 12th centuries respectively; both were abandoned by the 14th century.	
EBB769	The Old Forge, 33 Top End, Renhold, Beds; Watching Brief	Development comprised demolition of existing dwelling and construction of new dwelling. Monitoring revealed no archaeological features or finds.	2011 Archaeological Solutions
EBB771	Late Saxon Evidence from Norse Road, Bedford	Albion Archaeology undertook a series of archaeological excavations to the north of the Norse Road Cemetery in Bedford, on land earmarked for the cemetery's expansion. An initial evaluation of the area in 2006 had identified areas of archaeological potential dating from the Iron Age to the medieval period, and the excavations targeted three areas of potential Roman ditches and a possible hearth. Although the excavations did reveal a small number of Roman ditches and evidence for medieval agriculture, most of the features dated to the late Saxon period. These consisted of an area of concentrated pitting, probably located at the periphery of a small settlement. The pits were backfilled with a variety of burnt and unburnt deposits containing domestic refuse, as well as waste products from craft activities such as smithing and brewing.	2010 Albion Archaeology
EBB772	Castle Mill Airfield, Willington; DBA Feb 2001	Evaluations and geophysical survey carried out at Castle Mill Airfield.	2001 Phoenix Consulting Archaeology Ltd
EBB773	Castle Mill Airfield, Willington; Archaeological Evaluation	Archaeological evaluation	2002 Albion Archaeology
EBB774	Castle Mill Airfield, Willington; SARM	Scheme of Archaeological Resource Management (SARM)	2002 Albion Archaeology
EBB775	Consultancy Report on an Archaeogeophys ical Survey at	None recorded	2004 Archaeologica



Event ID	Name	Description	Date/Company
	Castle Mill Airfield 2004; Geophysical Survey		
EBB777	Castle Mill Airfield; SARM October 2002	Scheme of Archaeological Resource Management (SARM)	2002 Albion Archaeology
EBB1194	Land North of Norse Road; Excavation	<p>Development of c. 12ha piece of land north of Norse Road for housing.</p> <p>The excavations revealed evidence for an early to middle Iron Age settlement, characterised by a series of enclosures strung out over a distance of c.150m along the western bank of a tributary of the Renhold Brook. It is likely that they represent settlement and animal enclosures within a pastoral landscape.</p> <p>In a later phase a series of pits was established, truncating some of the enclosures, but possibly contemporary with others. The pits most likely represent quarry pits for clay for building material or water pits. They were backfilled with mainly sterile material mixed with small quantities of animal bone and pottery which represent refuse from the Iron Age enclosures or a settlement nearby.</p> <p>The last phase within the site is defined by a small post-built structure of uncertain form. Its central posthole contained a possible ritual deposit of a dog skull and skin with four paws. Remnants of medieval agriculture in the form of sub-surface furrows were identified across the entire excavated area. Two of these 'furrows', on a different alignment, may form a possible trackway.</p>	2011 Albion Archaeology
EBB1195	Norse Road, Bedford; Excavation	Excavation followed earlier trial work and concentrated on the north-east corner and southern side of the Iron Age enclosure, locating the complete course of the ditch and its entrance in the east. Few internal features were located.	1996 Bedfordshire County Archaeological Services (BCAS)
EBB1196	Norse Road, Bedford; Geophysical Survey	Geophysical survey of 9ha area of cropmarks identified from aerial photographs.	1993 Geophysical Surveys of Bradford
EBB1236	A428 Southern Bypass; Archaeological Work	<p>Archaeological desk-based assessment undertaken in October 1992 to assess the proposed route of the A428 Great Barford Bypass (BCAS: Archaeological Assessment).</p> <p>The DBA was followed by a trial trench evaluation carried out by Northamptonshire Archaeology. The evaluation, combined with the results of the DBA, fieldwalking and geophysical surveys, identified 12 key areas of archaeological interest along the proposed route of the bypass. The sites represented were farming settlements and associated activity, and range in date from the early/ middle Iron Age to the</p>	1990 to 1994 Occasionally BCAS Northamptonshire Archaeology Oxford Archaeology



Event ID	Name	Description	Date/Company
		<p>medieval period. The stretches of road corridor between these areas contained a dispersed pattern of archaeological remains dating from the Bronze Age/ early Iron to the post-medieval period. The majority of these features were agricultural field boundaries, drainage ditches and plough furrows.</p> <p>During 2004-5 Oxford Archaeology carried out a series of archaeological excavations along the proposed route of the Great Barford Bypass (A421).</p>	
EBB1296	Risinghoe Castle	Nothing found during excavation	1943
EBB1297	Norse Road; Watching Brief	Watching brief	1997 BCAS

6.4 Appendix 4: Significance and Impact Criteria

6.4.1 Criteria for assessing the importance of heritage assets

Importance of Asset	Designation of Assets	Definition of Importance
<i>Very High</i>	World Heritage Sites	Places of international importance due to its 'outstanding universal value'
<i>High</i>	Scheduled monuments Listed buildings (Grade I or II*) Registered parks/gardens (Grade I or II*) Battlefields	Places or structures of national importance. Undesignated heritage assets and archaeological remains of potentially equivalent value. This includes assets which: are rare in the historic environment record or are a good example of a type site or have a high potential to add to regional and national research criteria
<i>Moderate</i>	Listed buildings (Grade II) Registered parks and gardens (Grade II) Conservation areas Undesignated	Places or buildings of regional or high local importance. This includes assets which: are more commonly found in the historic environment record or have particular regional associations or may have important associations on a local or parish level (e.g. they have meaning to local population or embody something of the special identity of a locality) have moderate potential to add to local and regional research criteria
<i>Low</i>	Undesignated	Assets which: are relatively poorly preserved or have limited significance on a local level have a low potential to add to local and regional research criteria



Importance of Asset	Designation of Assets	Definition of Importance
<i>Negligible</i>	Undesignated	Places or buildings that demonstrably have no archaeological, historical or cultural importance – usually backed up field evaluation – that there is no possibility that anything of significance exists or where any potential surviving remains have no value within the context of the current study.
<i>Uncertain</i>	Undesignated	Sites where there is evidence that a heritage asset may exist, but where there is insufficient information to determine its nature, extent and degree of survival given current knowledge (e.g. cropmarks untested by fieldwork or random finds spots).

6.4.2 Criteria for assessing the setting of heritage assets

Value of Setting Attribute	Effect on Significance of Heritage Asset
<i>High</i>	Makes a major contribution to the significance of the heritage asset, for example because it is itself a significant heritage asset or because it is a very prominent feature of the setting. Substantial change to this attribute would almost certainly considerably reduce the significance of the setting as it relates to the asset and would not normally be reversible.
<i>Moderate</i>	Makes a moderate contribution to the significance of the heritage asset, for example, because it is itself a locally significant heritage asset or a notable feature of the setting. Substantial change to this attribute would almost certainly reduce the integrity of the asset's setting and to some degree reduce the significance of the setting as it relates to the asset. Such changes may be temporary or reversible, but might persist for a longer term.
<i>Slight</i>	Makes a minor contribution to the significance of the asset, for example having no heritage value in itself or comprising a small element in the setting. Substantial change to this attribute might lead to a slight loss of its overall integrity or significance of the setting of the asset. The changes may be short term.
<i>Neutral</i>	Makes no apparent contribution to the setting of the asset.
<i>Slightly Intrusive</i>	Comprises a small intrusive element in the setting of the asset, or one that is itself a heritage asset. The intrusiveness may be limited to a short term. Removal of the attribute would not normally be justified but mitigation would be beneficial.
<i>Moderately Intrusive</i>	Detracts somewhat from the significance of the heritage asset, but is not a very prominent feature of the setting and does not involve large-scale activities or emissions. The attribute itself may have some heritage value, thus offsetting its intrusiveness. Removal or mitigation of the intrusion would increase the significance of the setting in relation to the asset.
<i>Highly Intrusive</i>	Detracts highly from the significance of the heritage asset and has no heritage value in its own right. This might be because it is a very prominent feature of the setting, involves large-scale activities or produces copious emissions. Removal or mitigation of the intrusion would almost certainly increase the significance of the setting in relation to the asset.



6.4.3 Criteria for assessing the magnitude of development impact on assets

Magnitude of impact on asset	Effect of Impact
<i>Substantial Harm</i>	Causes total destruction of or permanent change to most key elements of the asset that results in major loss of integrity and reduction in significance. Substantial change to the setting of the asset. Any such change would almost certainly result in total loss of significance of the asset and would not normally be reversible.
<i>Moderate Harm</i>	Either: causes permanent change to or loss of many key elements of the asset that lead to a moderate loss of its overall integrity and reduction in significance. Moderate change to the setting of the asset. Or: temporarily causes major loss of integrity and significance, e.g. through restricting accessibility and visibility, or by altering its setting.
<i>Slight Harm</i>	Either: causes permanent change to some key or peripheral elements of the asset, or changes to the setting of the asset, that lead to a slight loss of its overall integrity or significance. Or: temporarily causes moderate loss of integrity and significance, e.g. through restricting accessibility and visibility, or by altering its setting.
<i>No change</i>	No appreciable change to the asset or its setting.
<i>Slight Benefit</i>	Either: delivers some improvement to the asset that does not increase its overall integrity or significance. Or: arrests an existing process of adverse change.
<i>Moderate Benefit</i>	Either: causes long-term improvement of the asset, involving some increase in its integrity or significance. Or: reverses an existing process of adverse change.
<i>Substantial Benefit</i>	Causes major benefit to the asset that increases its integrity and significance. Such change would almost certainly increase the significance of the asset.

6.4.4 Significance of effects matrix

Importance of asset	High	<i>Insignificant</i>	<i>Significant</i>	<i>Highly Significant*</i>	<i>Very Highly Significant**</i>
	Moderate	<i>Insignificant</i>	<i>Moderately Significant</i>	<i>Significant</i>	<i>Highly Significant*</i>
	Low	<i>Insignificant</i>	<i>Slightly Significant</i>	<i>Moderately Significant</i>	<i>Significant</i>
	Negligible	<i>Insignificant</i>	<i>Insignificant</i>	<i>Insignificant</i>	<i>Slightly significant</i>
	Uncertain	<i>Unknown (Insignificant?)</i>	<i>Unknown (Significant?)</i>	<i>Unknown (Highly Significant?)</i>	<i>Unk. (V. Highly Significant?)</i>
	No Change	Slight Harm	Moderate Harm	Substantial Harm	
	<i>Magnitude of impact (on the asset or its setting)</i>				
<p>* Highly significant impacts will require “<i>exceptional</i>” development justification</p> <p>** Very highly significant impacts will require “<i>wholly exceptional</i>” development justification</p> <p>Otherwise, judgements should be balanced with regard to the scale of any harm or loss and the importance of the heritage asset</p>					

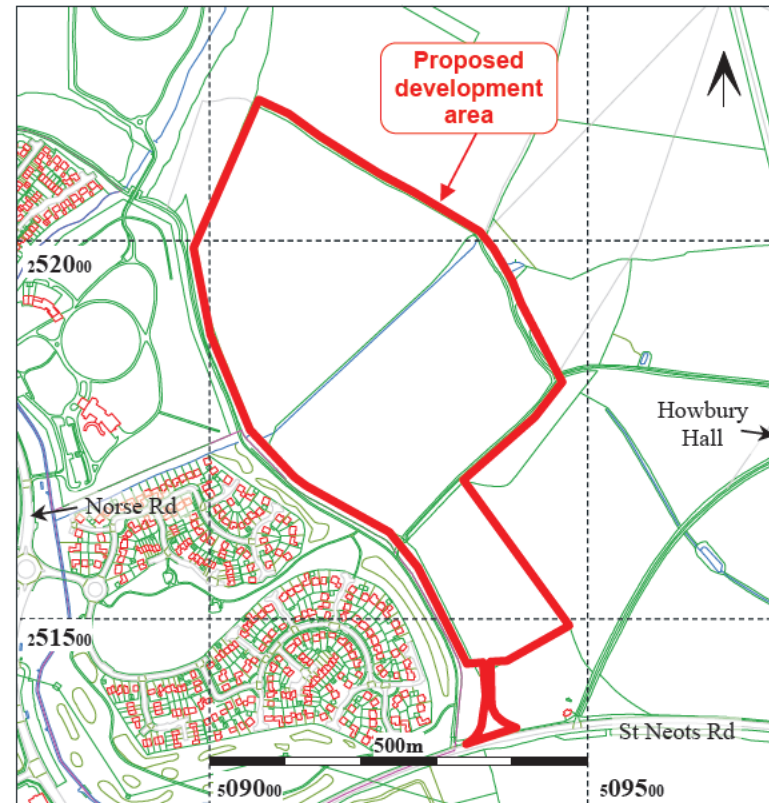
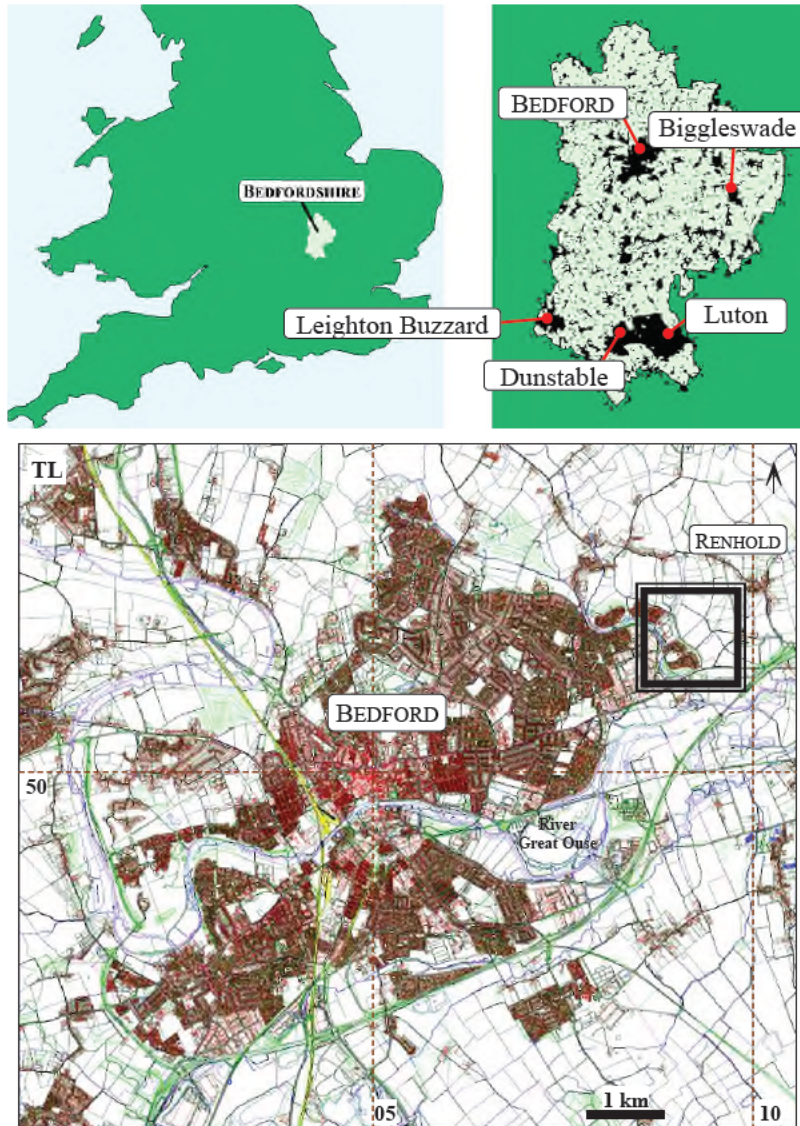
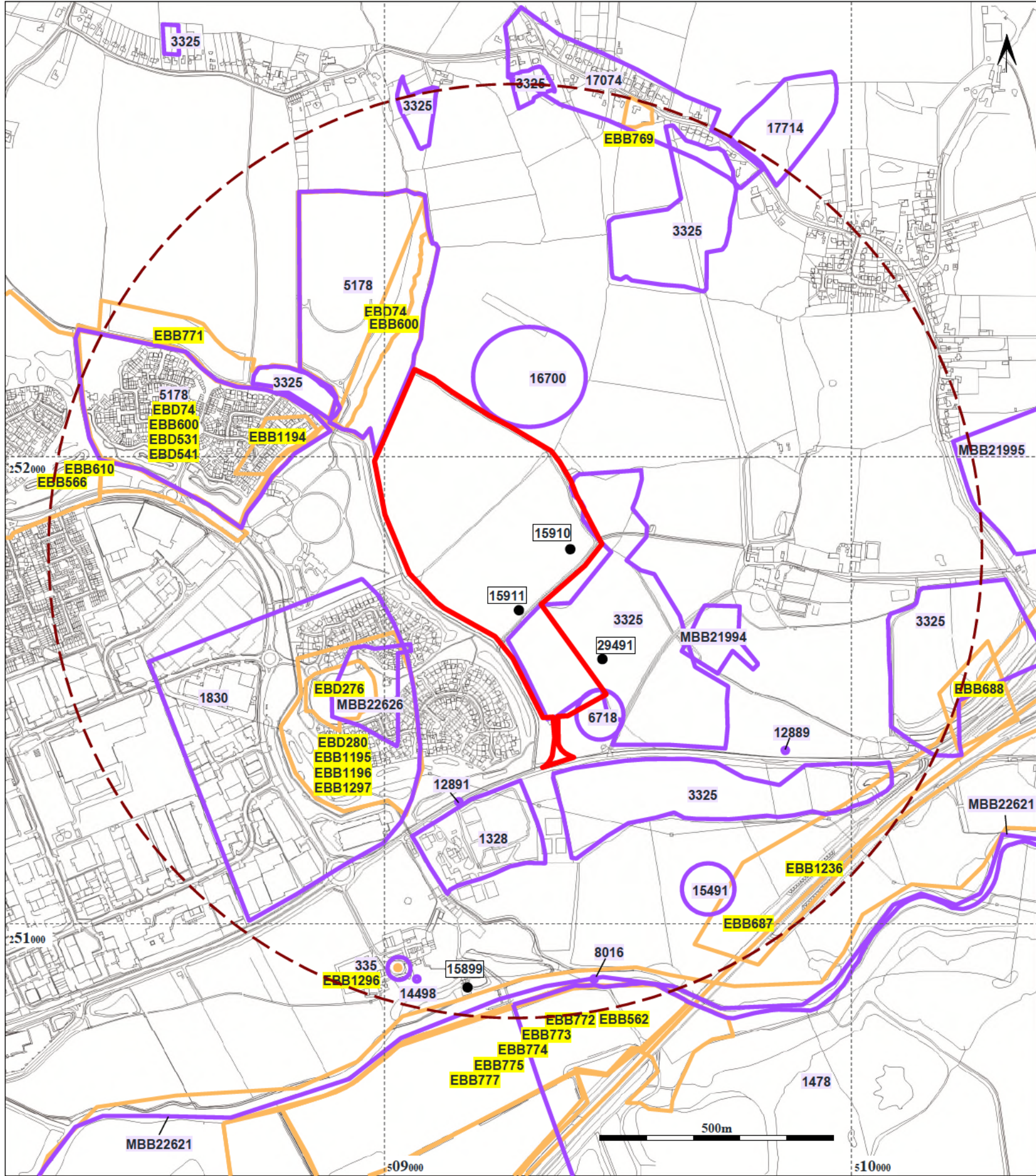


Figure 1: Site location plan

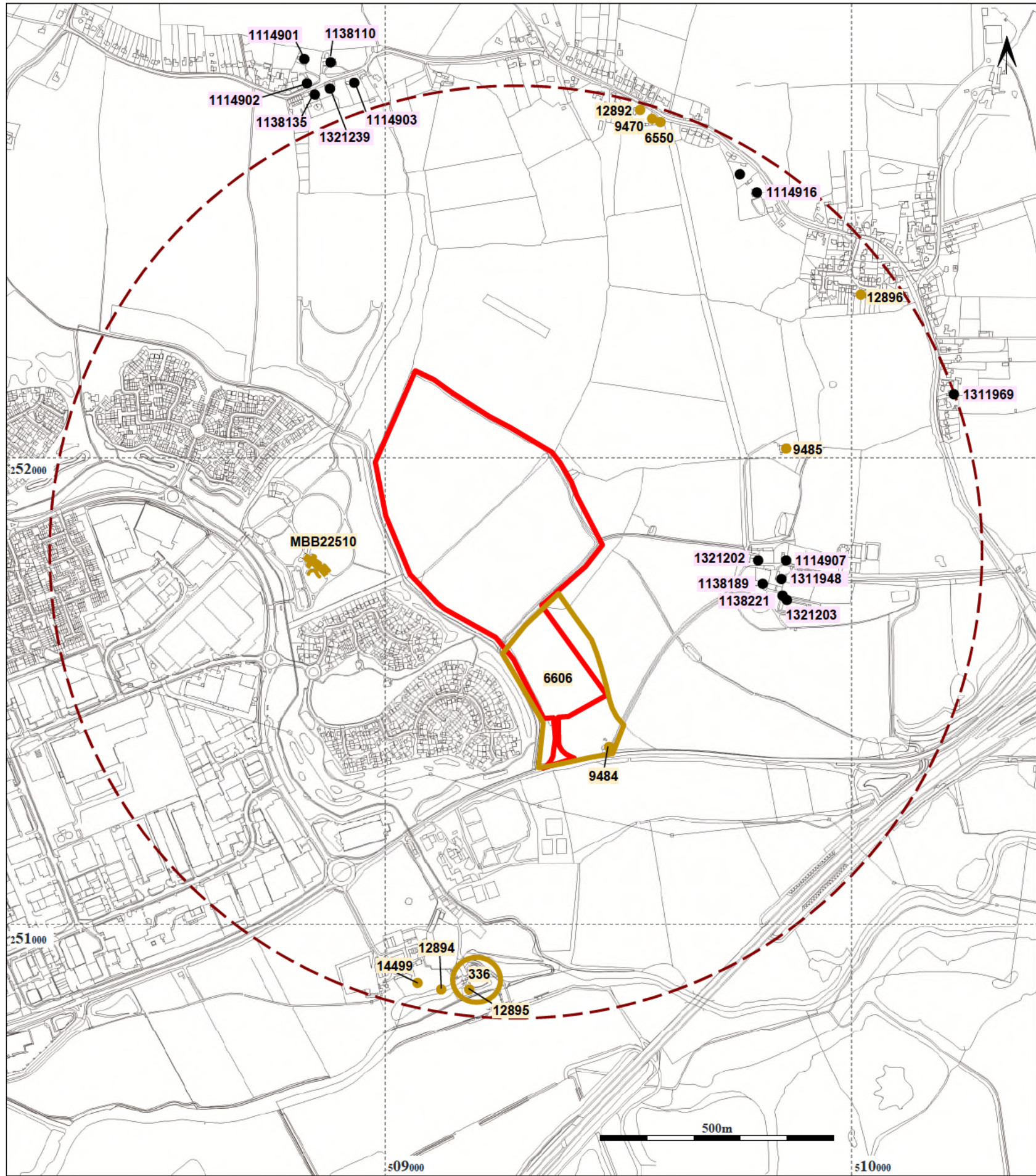
Map data © Crown Copyright and database right 2021 Ordnance Survey 100049029 Central Bedfordshire Council



- 1km-radius study area
- Proposed development area
- Event
- Monument
- 12345 ● Find-spot

Figure 2: Monuments, events, and find-spots within a 1km-radius study area

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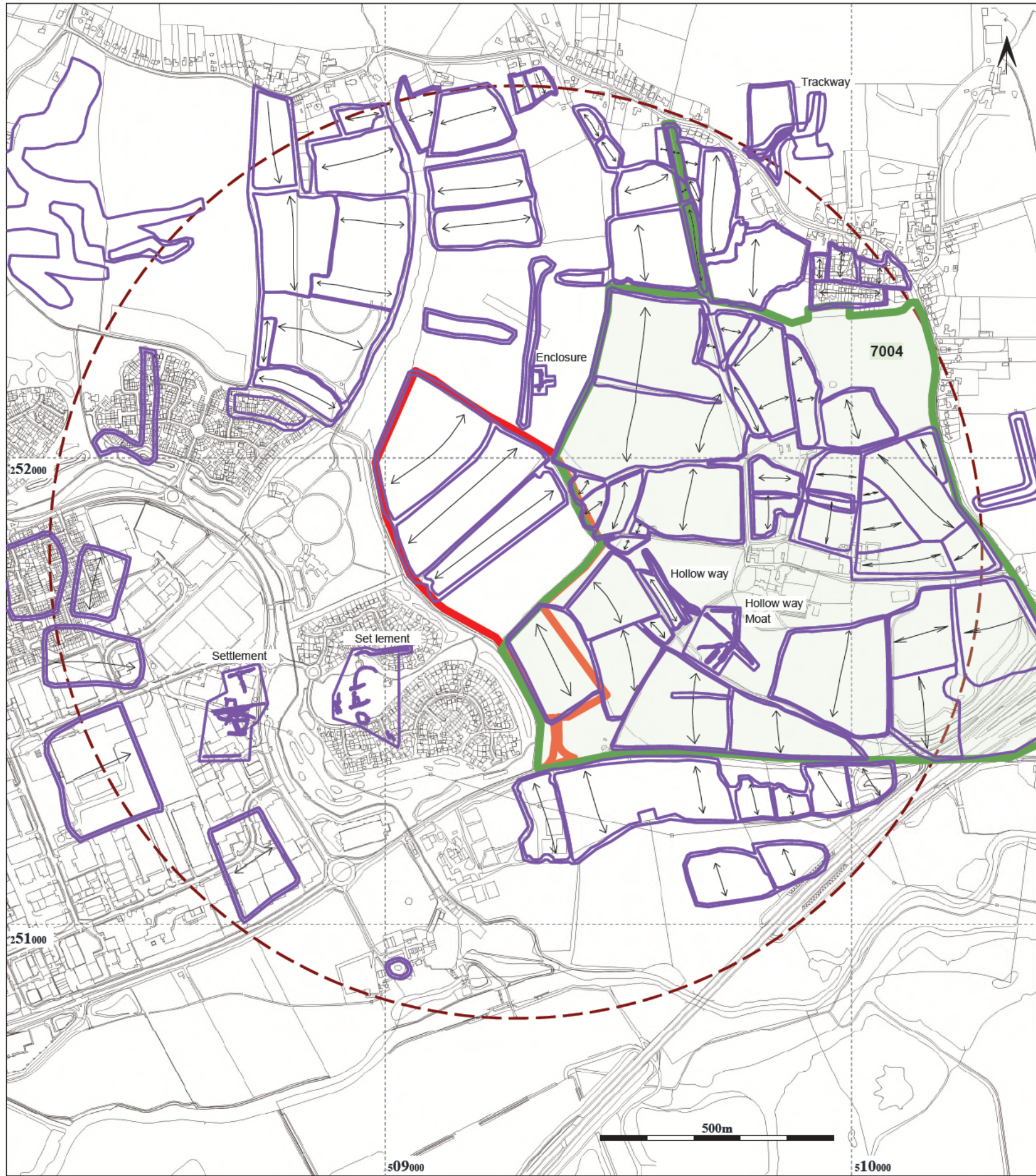
-  1km-radius study area
-  Proposed development area
-  1234567 • Listed building (NHLE number)
-  12345 ■ Other important building (HER number)

Figure 3: Listed buildings and other important buildings within a 1km-radius study area

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-  1km-radius study area
-  Proposed development area
-  7004 Howbury Hall Park
-  NMP area
-  Alignment of ridge and furrow

Figure 4: Historic landscape elements within a 1km-radius study area

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Figure 5: 1826 Estate Map

BARS ref: PO68 (position and size of PDA best fit to map)

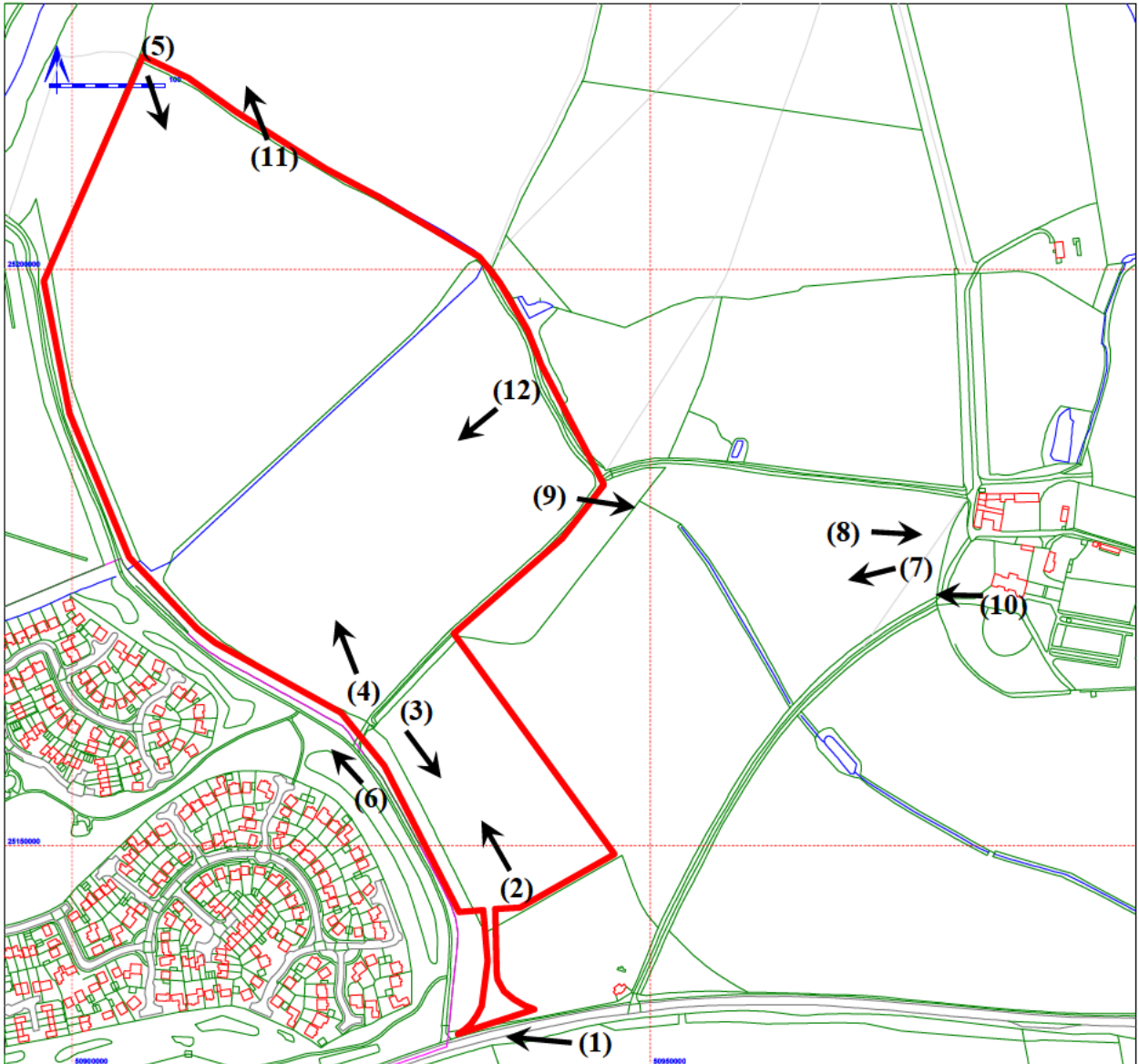


Figure 6: Image locations for site visit photographs

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Image 1: St Neots Road, looking west with PDA on the right
(Shows wooded area at south of PDA, the location of the proposed access to the site.)



Image 2: South part of PDA, looking north-north-west
(Shows area of parkland with few trees and no ridge and furrow earthworks.)



Image 3: South part of PDA, looking south-east
(Same area as previous image, looking southwards towards St Neots Road.)



Image 4: Main part of PDA, seen from bridleway at south of the site
(Looking NNW, showing two arable fields that make up the main part of the PDA.)



Image 5: Main part of PDA, seen from northernmost corner of the site
(Looking south showing two large arable fields that make up the main part of the PDA.
The hedge-line dividing the two fields is just visible in the distance.)



Image 6: North-south path along west edge of PDA
(PDA situated behind hedge-line on right of image.)



Image 7: Parkland to west of house, looking towards PDA
(Looking west from location just west of house and stables.)



Image 8: Looking east towards stables and house at Howbury Hall
(Shows west end of stables at left and tree planting that screens the house.)



Image 9: Looking towards Howbury Hall from east corner of PDA

(Looking through tree-belt along towards Howbury Hall, showing tree planting on west side of the house and part of the stable block which is just visible at left.)



Image 10: Front of Howbury Hall, looking west towards PDA

(Shows trees and shrub planting that screen the house.)



Image 11: Looking from north-east edge of PDA towards Church End
(Looking NNW towards Church End, with tower of All Saints' Church just visible above the trees.)



Image 12: Looking south-west across the PDA
(Housing on Asgard Drive and a building on Elms Farm industrial estate are partly visible during the winter when the trees are not in leaf)

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