

5 Cultural heritage

Introduction

- 5.1 This chapter considers the impacts of the proposed development on the historic environment, including designated and undesignated heritage assets such as archaeological remains, historic buildings and areas and designed landscapes.

Legislation and policy

- 5.2 National and international policy recognises the value and significance of cultural heritage and the public interest in the preservation of particular assets, and sets out mechanisms to ensure that it is taken into account in planning decision making. Sites and features of identified interest are protected by the *Ancient Monuments and Archaeological Areas Act 1979*, as amended, and within the planning system by the *Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990*.
- 5.3 National planning policy guidance on the conservation of the historic environment is provided by Planning Policy Statement 5: *Planning for the Historic Environment* (PPS5), published in March 2010. Guidance on implementation of this policy is provided in the accompanying *Planning for the Historic Environment Practice Guide*. The objectives of the PPS are to conserve the historic environment for its own intrinsic value and to take account in decision making of its potential instrumental value for place making and contribution to sustainable development. Designated and undesignated heritage assets are distinguished from the wider definition of the historic environment, the majority of which is not covered by protective designation.
- 5.4 Detailed policies on development management concern the need to clearly define the significance of any potentially affected site or area, the pre-application information requirements, including for archaeological field evaluation, and the principles to be considered in determining any proposal for change potentially affecting heritage assets. There is an overall requirement to gather sufficient information to ensure an adequate understanding of the significance of an asset before any decisions affecting its future are made. A key concept in the PPS is that of proportionality; and that the information required, efforts to preserve, and degree of public benefits necessary to offset any harm or loss of an asset should be based on an understanding of its significance. Paragraphs 176-191 of the draft National Planning Policy Framework (July 2011) set out emerging policy on the historic environment, including to “conserve heritage assets in a manner appropriate to their significance” and to “contribute to our knowledge and understanding of the past by capturing evidence from the historic environment and making this publicly available, particularly where a heritage asset is to be lost”.

- 5.5 The Localism Bill was enacted in November 2011, thereafter becoming the Localism Act. Different parts of the Act will, however, come into effect at different times over the coming months. The Act enables Regional Spatial Strategies, including the East of England Plan, to be abolished, but this will be undertaken by statutory order by the government in due course (it is currently understood that this will be around March / April 2012), subject to consultation. Whilst the East of England Plan remains part of the development plan until it is formally abolished, the government has advised that the proposed abolition of Regional Spatial Strategies should be regarded as a material consideration by local planning authorities when deciding planning applications. It should therefore be afforded limited weight in the determination of this planning application.
- 5.6 The overall local planning guidance for archaeology and built heritage in the district is provided by the South Cambridgeshire District Council *Development Control Policies* (2007), predominately within chapter 8. The relevant policies for this chapter are policy CH/1, which requires the protection of important areas and features of historic landscapes during development and policy CH/2, which requires the protection of archaeological sites in accordance with national policy.
- 5.7 The adopted *Northstowe Area Action Plan* (July 2007) considers heritage issues for the full scheme in section D9. This includes objectives for the archaeological and historic environment resource at D9a - d, and policy NS/18 concerning the potential reuse of existing structures of historic interest. The *Site Specific Policies DPD* (2010) includes policy SP15 on the green separation between the conservation areas at Longstanton and Oakington and the development at Northstowe.

Methodology

- 5.8 The EIA includes an update of the desktop archaeology reports produced in 2002 and 2007 to ensure all relevant information from the Cambridgeshire Historic Environment Record and recent changes to policy and guidance are included, an appraisal of all the site evaluations (2004 - 2007) and an update from other recent site investigations in the vicinity. The desk-based study assesses the cultural heritage of the site and its environs as they appear in existing information through designation, the national or local archaeological record, documentary sources or other studies. The study area covers the proposed development site itself and a c.3 kilometre radius from a centre point positioned at Toad Acres Park¹. The data sources consulted are outlined in table 5.1. All heritage assets (both designated and undesignated) are illustrated on figures 5.1 and 5.2, with additional detail on the development area in figure 5.9, and are listed in the gazetteers in technical appendix B1.

¹ This location was chosen to ensure the two outlying areas shown in the July 2011 scoping report at Bar Hill Farm and Oakington Airfield and proposed for earthworks were included in the HER search request.

Table 5.1 Data sources consulted

Cambridgeshire County Council Historic Environment Record
Communities and Local Government, 2010, Planning Policy Statement 5: Planning for the Historic Environment
Collcutt, S., 1999, The setting of cultural heritage features, <i>Journal of Planning and Environmental Law</i> , 498-513
Dyer, C., 2003 The archaeology of medieval small towns, <i>Medieval Archaeology</i> , Vol 47
English Heritage, 2008, Conservation principles – policies and guidance for the sustainable management of the historic environment
English Heritage, 2011, The setting of heritage assets: English Heritage guidance
Evans, C., 1991, Archaeological Investigations at Hatton’s Farm, Longstanton, Cambridgeshire 1991 CAU Report No. 16
Evans, C. and Dickens, A., 2002, Longstanton New Settlement, Cambridgeshire: Archaeological desktop assessment CAU Report No. 489
Evans, C. and Mackay, D., 2004, Longstanton, Cambridgeshire, A village hinterland CAU Report No. 696
Evans, C., Mackay, D. and Appleby, G., 2007, Longstanton, Cambridgeshire, A village hinterland (III) CAU Report No. 755
Evans, C. et al., 2008, Borderlands: The archaeology of the Addenbrooke’s Environs, South Cambridge Cambridge Archaeological Unit
Evans, C. et al., 2011, An Inland Bronze Age: Excavations at Striplands Farm, West Longstanton in Proceedings of the Cambridge Antiquarian Society
Francis, Paul, 2004, RAF Oakington; An operational history and gazetteer of surviving structures
Gdaniec, K., 1992, Archaeological investigations at Hatton’s Farm, Longstanton, Cambridgeshire: Part II – watching brief monitoring CAU Report No. 57
Institute for archaeologists, 2008, Standards and guidance for archaeological desk based assessment
Johnson, A.E., 2006, Cambridge Golf Course & Land North of Rampton Road, Longstanton: Magnetometer Survey Oxford Archaeotechnics
Lambrick, G. and Hind, J., 2005, Planarch 2: Review of Cultural Heritage Coverage in Environmental Impact Assessments Oxford Archaeology
Lambrick G., 2008, Setting Standards; A Review, IFA working group on the setting of cultural heritage features
Mackay, D., 2007, Northstowe, Longstanton, Cambridgeshire: An Archaeological Watching Brief CAU Report No. 781
Paul, S. and Cutler, R., 2008, Longstanton western bypass excavations, Cambridgeshire, 2007: Archaeological post-excavation assessment Birmingham Archaeology report no. 1559
Pevsner, N., 1970, Buildings of England; Cambridgeshire
Roberts, B.K. and Wrathmell, S., 2000, An Atlas of Rural Settlement in England English Heritage Publications
Victoria County History, 1989, The Victoria County History of Cambridgeshire and the Isle of Ely: Volume IX HMSO
http://ads.ahds.ac.uk/

- 5.9 Given the volume of information amassed in the production of the EIA for the 2007 Northstowe application, it was decided following consultation with the county archaeologist to submit the suite of reports produced since 2002 on a CD as technical appendix B2. The significance of the archaeology has been described and published by Cambridge Archaeology Unit (CAU) in the site evaluation reports produced between 2004 and 2007, published in journals and contextualised on a regional scale (Evans *et al.* 2008). The extensive published material on the archaeological sites identified within the study area

used a Roman numeral site identification, but it was agreed for this EIA to establish a change from this point forward. This is reflected in the accompanying archaeological mitigation strategy at technical appendix B3 and shown on figure 5.10 e.g. (TOR 7/S3). Otherwise the non-designated archaeological sites have been given a unique TOR identification reference alongside the Cambridgeshire HER reference number, e.g. (TOR 1/MCB 8615). Where relevant, reference is made to the archaeological site investigations recorded in the study area and referred to as 'Events', e.g. *Event 1-88*. The full gazetteer is provided within technical appendix B1, but the locations and types of investigation are illustrated on figure 5.8.

- 5.10 The chapter makes use of the zone of theoretical visibility (ZTV) and viewpoint (VP) photographs produced for the landscape and visual effects assessment in chapter 4. A number of the representative viewpoints illustrate localised effects in detail. The most relevant to this assessment are VPs 19 to 25 (figures 4.37 to 4.43). The methodology for production of these images is outlined in the annex to the landscape chapter. All photographs are taken from publicly accessible locations. No visualisations are provided, as there are currently no detailed proposals; the only parameters for the EIA are the land use layout, building heights, density and access and movement figures 2.2 to 2.5 (the parameter plans).

Scope of work

- 5.11 The intention of the assessment is to provide a description of the likely value, extent, state of preservation and potential significance of heritage assets within the development site and the wider study area that could potentially be affected by the proposed development. The potential effects of the proposed development can then be assessed. It includes consideration of all nationally and locally identified buildings and areas and their settings and of the overall historic character of the area. The archaeological element of the study was undertaken with reference to the Institute for Archaeologists' Code of Conduct and appropriate standards (revised 2008).
- 5.12 This chapter considers only the tangible cultural heritage of the present land use, built environment and archaeological evidence. It does not cover other categories of cultural heritage, such as the extensive oral history archives, commitment to establish a museum or the potential to reflect the heritage of the area in the public art developed for Northstowe. Discussions are ongoing regarding the potential for providing a museum in existing buildings in a later phase of Northstowe and to identify a viable end user.

Scoping opinions

- 5.13 The response to scoping issued by South Cambridgeshire District Council dated 15 September 2011 relayed the opinion of the Cambridgeshire County Council archaeology officer. It was stated that care was needed with regard to the extent of the study area to ensure it was of appropriate size, and consultation was required with the Historic Environment Record in order to identify all known undesignated heritage assets. The ES also needed to

consider the importance of the landscape and heritage features. The assessment methodology for determining effects on the heritage resource was supported. A historic environment management plan was recommended as a suitable document to provide detail on the mitigation of impacts of the development. Full details of the councils' scoping responses and how these were taken into account in the preparation of the ES are included in technical appendix A. English Heritage made no response to scoping, but has been consulted in providing updates on designations.

- 5.14 The response from the Longstanton and District Heritage Society mentioned RAF Oakington, specifically the exclusion of the airfield buildings / structures from phase 1², and the acknowledged gaps in the knowledge of the archaeology in the areas of the golf course not previously evaluated.
- 5.15 A number of changes have been made to the master plan since the scoping opinion was requested, the most significant being the reduction in the area of land in the south earmarked for earthworks necessary to provide fill across the primary development site. The extent of this Hatton's Road attenuation ponds area is identical to the 2007 extended infrastructure area north of the A14 and has been subject to archaeological evaluation. The area within Oakington Airfield abutting the Cambridgeshire Guided Busway (CGB), identified in the scoping report as a potential area of excavation and infrastructure work, is no longer included in the application and is not considered further.

Limitations of the study

- 5.16 The assessment's conclusions are limited by the extent of existing information. Its usefulness in predicting the actual archaeological resource must therefore be qualified. While there have been informative schemes of non-intrusive survey, in the form of aerial photography analysis and some geophysical survey, that have allowed an appreciation of the possible archaeological potential, complete survival of archaeological deposits across all areas of the proposed development cannot be fully quantified. A scheme of evaluation, pre-commencement of construction, should greatly add to our understanding and knowledge.
- 5.17 A large proportion of the primary development site is currently an operational golf course and has not been evaluated by either geophysical survey or evaluation trenching. Therefore the true significance of the archaeological resource here cannot be fully quantified. The postulated significance is based upon the expert archaeological opinion of CAU who have evaluated the surrounding area and found similar characteristics and configurations that have been analysed and dated.
- 5.18 The detail on the design rationale and proposed appearance of the buildings is provided in the design and access statement. The proposed development is

² A press release issued by HCA and Gallagher dated the 11.3.11 outlined the intention to retain a number of the airfield buildings/structures at RAF Oakington.

described in chapter 2 of this ES and the master plan for the EIA is shown in figures 2.2 to 2.5 (the parameter plans).

Cumulative effects

- 5.19 The potential for cumulative effects with future phases of Northstowe is considered in chapter 14.

Assessment of significance

- 5.20 The broad criteria developed for measures of the importance or sensitivity of the resource affected, and the magnitude or scale of the change are shown on figures 5.5 and 5.6 respectively. The generic definitions of the degree of the potential effects can then be generated by feeding the two resultant sets of criteria into the degree of effect matrix (figure 5.7). Effects of more than moderate degree are classed as significant effects for the purposes of the EIA. Chapter 3 explains the assessment methodology used throughout this ES.
- 5.21 In order to assess the potential effects on cultural heritage of the proposed development, the chapter first makes an overall assessment of the components, qualities and level of importance or value of all heritage assets within the 3 km study area, including above and below ground archaeology and structures and their settings. The evaluation of significance is ultimately a matter of professional judgement.
- 5.22 The issue of setting concerns the potential contribution of surrounding land to the significance of any single asset or group of assets. *The setting of heritage assets: English Heritage guidance* (2011) aims for a consistent approach to assessment of setting and the range of historic, visual or functional relationships of an asset to the surrounding land area. These include both physical attributes and perceptual values, depending on the nature of an asset and its present surroundings. Potentially significant views can be deliberately designed or incidental, or the result of later changes. The importance of the surrounding land or particular views or vistas to the significance of a feature or building, and to how it is understood and appreciated, can therefore vary greatly.
- 5.23 The assessment of value, coupled with reference to national and local legislation, relevant policy statements and best professional practice, allows a judgement to be made of the significance of the asset. The focus is the inherent value and importance of the historic asset itself, which is clearly separated in the assessment from any public amenity value particular sites may have, or potential contribution to tourism or other interests.
- 5.24 The judgement of the magnitude of change likely to occur as a result of development is based on available information on the proposed development; immediate and direct changes such as ground disturbance for construction, the removal of existing structures, routes or trees, any changes to drainage and the land form, or from the addition of new structures and transport networks, changes to views of or from heritage features, or to perception of their priority

in the landscape. The potential effects of development on the settings of either buildings or areas can depend very much on issues of detailed design, such as specific architectural treatments, that may not be available for outline planning applications.

Baseline

Introduction

- 5.25 This section outlines the designated and undesignated assets in the study area as recorded in the Cambridgeshire Historic Environment Record (CHER) and through designation. This includes the results of the most recent (2009-10) archaeological evaluations in the area. These assets are shown on figures 5.1 and 5.2, with additional detail on 5.9. There are currently no nationally designated scheduled monuments on the site, with the majority of the records relating to archaeological sites identified through the numerous schemes of evaluation. The study area currently includes a single scheduled monument, the motte castle with earlier medieval settlement at Giant's Hill. A total of 157 records are listed within the 3 km study area.

Geology

- 5.26 The geological conditions within the study area played a significant role in the settlement, land management and hydrology organisation from the prehistoric period through to the present. The Soil Survey of England and Wales (SSEW 1983) shows the study area within the clay plain 6 km north west of Cambridge upon Jurassic and Cretaceous clays. The underlying geology comprises heavy Kimmeridge and Ampthill Clays and is bisected by the course of the Oakington Brook, whose narrow valley-corridor is marked by a 400 m wide band of lighter Greensands. Longstanton itself is located on a 700-1,200 m wide ridge of Third and Fourth Terrace gravels that continues north west towards Willingham.
- 5.27 The recent large scale evaluation and excavations within the study area, at Striplands Farm, Longstanton and at Oakington, suggest much greater population densities in the countryside around the walled town that became Roman Cambridge than had previously been realised (Evans *et al.* 2011). The environs survey also suggests that geology and topography were determining factors for settlement during the later prehistoric period, with several sites revealing clear evidence of continuity from at least the later Bronze Age. The archaeological evidence has shown that specific parts of this landscape were organised to facilitate a concerted colonization early in the 1st millennium BC, reaching its zenith between the Late Iron Age and Romano-British period.

Prehistoric: Palaeolithic to Iron Age

- 5.28 The earliest archaeological record within the study area is a findspot recording the chance discovery of a single **Palaeolithic** handaxe (TOR 77/MCB 16267). A scheme of fieldwalking at Slate Farm in 1989 by Cotswold Archaeological

Trust (*Events 9 and 10*), adjacent to the A14 and in the south of the study area revealed an extensive flint scatter and possible working site dating to the **Mesolithic** (TOR 54/MCB 7796). An area to the north east of this scatter was revealed during evaluations as part of the proposed road infrastructure works associated with the A14 (Evans et al. 2007). The flints recovered were typical of Late Mesolithic / Early Neolithic assemblages and included an axe and probable pick (TOR 104/S28).

- 5.29 **Neolithic** features in the form of pits and postholes were revealed during excavation in relation to the construction of the Longstanton bypass early in 2007 (TOR 124 and 125/MCB 18155 and 18156). A number of large shallow pits contained sherds of Middle Neolithic pottery, while several post holes were dated by the recovery of sherds of Late Neolithic pottery. This concentration may have been structural or occupational in origin, but no clear pattern could be identified (*Events 78-80*; Paul, S. and Cutler, R. 2008). Sherds of pottery dating from the Middle Neolithic to the Early Bronze Age were recovered along with seven pieces of fresh, unabraded flint found in the lower fill of a pit. Animal remains retrieved from numerous features across the site included domestic species such as cattle, horse and pig. A large number of antler fragments were recovered from one of the pits. Three of these fragments showed signs of sawing (serrations in the cross sections), indicating a level of manufacturing, possibly tool making.
- 5.30 The remains of three ploughed-out **Bronze Age** ring barrows were identified through aerial photography analysis at Home Field, Histon (TOR 38/MCB 5180). A scheme of fieldwalking revealed evidence of a Bronze Age flint scatter (TOR 58/MCB 13030). There are a number of other below ground ring ditch features of probable contemporary date in the study area; one is identified among numerous geological anomalies at Willingham (TOR 71/MCB 8948). Another undetermined example at Hatton's Farm, east of Longstanton (TOR 83/S3), was identified by aerial photos and tested by trenching and geophysical survey but the site's origins remain inconclusive.
- 5.31 A series of detailed evaluations to the north of Longstanton, on Striplands Farm prior to development (*Event 43*), resulted in a complex area of settlement, water management and woodworking (TOR 79/S5) dating to the Late Bronze Age. The identified features range from parallel ditches and house foundation slots to large wells or watering holes, one of which contained the preserved remains of a series of stakes and a horizontal log probably representing a step. A series of separate intercutting pit features contained quantities of worked and unworked wood, including a 'log ladder', two axe hafts and several flint flakes. Further excavation nearby revealed several structures, including a possible round house, with small pits and two large deep-cut pit-wells for water management. These wells yielded the region's largest Bronze Age pottery assemblage, along with animal bone that was recovered with the preserved remains of timber wattling, in addition to another possible log ladder. All these finds indicate the height of settlement activity in this area to be Late Bronze Age to Early Iron Age. The location of the Striplands settlement at the interface between an inland gravel ridge (between 700-1,200 m wide) and Ampthill clay shows a significant

undertaking to effectively create and manage a habitable area (Evans *et al.* 2011, 74). The Striplands Farm settlement appears at this stage to be the only pre-Iron Age site recorded in this inland location away from both the Ouse and Cam river valleys and their rich prehistoric utilisation (Evans *et al.* 2011, 73.).

- 5.32 A small pit (TOR 98/S9) containing Middle Bronze Age material was found east of Larksfield Farm during the second phase of evaluation in 2005 by CAU (*Event 41*, Evans *et al.* 2006), within an ovoid enclosure assigned to the Iron Age because of its form and proximity to other similar sites. The evaluation was limited by the presence of many greenhouses and planting beds and failed to establish the existence of this earlier phase of settlement to the south of the larger Romano-British settlement (see below TOR 135/S19). A magnetometer survey as part of the third phase of evaluation within Oakington Airfield (*Event 55*) revealed traces of a large round-cornered enclosure with associated linear features and possible pits. The enclosure was thought to be Romano-British on stylistic grounds, but subsequent evaluation trenches (*Event 60*, Evans *et al.* 2007) revealed it to be of Late Bronze Age to Early Iron Age date and to comprise a V-shaped ditch (TOR 112/S33). A large pit containing Late Bronze Age / Early Iron Age pottery was also excavated, along with a rectangular pit that showed signs of burning and a small number of postholes.
- 5.33 While some of the Bronze Age sites investigated in the study area showed evidence of settlement continuing into the **Iron Age**, there are a number of chance pottery finds (TOR 1/MCB 8615) and sparse remains such as a ring gully and small pit partially excavated at Home Farm, Longstanton in 1997 (TOR 69/MCB15902). Although indicating activity in the Iron Age, neither explicitly describes the form, layout or detail of settlement organisation or landscape management at this time.
- 5.34 Aerial photography, excavation and geophysical survey have revealed a densely packed settlement dating to the Iron Age and **Romano-British** period at Hatton's Farm (TOR 135/S10 and S19). Trial trenches were first excavated in January 1991 in advance of the construction of the golf course. Two trenches across the cropmark complex revealed dense evidence of Romano-British settlement, consisting of a number of round houses lying within ditched compounds, themselves with droveways and settlement enclosure ditches. The excavated evidence suggested two distinct phases of settlement, Late Iron Age and Roman. A single 154 m trench was excavated through the centre of the 8.4 ha cluster along the southern boundary of the golf course by CAU in 2004 (*Event 29*). Four graves (of two adults and two adolescents) were revealed (but not excavated) in this trench. These were not shown in aerial photograph analysis or geophysical survey, and are therefore an unexpected discovery. Metal detecting close to these graves discovered a rich concentration of Roman metalwork possibly relating to the site of a former shrine, and together these two discoveries may indicate a potential cemetery site. The settlement complex incorporates two Iron Age compounds, a sub-square enclosure at the northern end and a sub-circular one in the southern area.

- 5.35 As identified in aerial photographs of the Hatton Farm site area, a complex series of cropmarks (TOR 152/S37), probably representing stock enclosures and field boundaries, were identified in what is now the northern limit of the golf course. A watching brief was undertaken during soil stripping in the northern half of the car park (Gdaniec, K. 1992; *Event 2*). The evidence confirmed a contemporary date for two ditch systems to the features exposed to the south (TOR 135/S19). The ditches recorded may well have formed the boundaries of fields (or drains to control the water table in this area) and / or house enclosures, currently undecipherable through the complexity of cropmarks and geology shown in the aerial photography.
- 5.36 The most common forms of settlement structure / feature identifiable on both aerial photographs and geophysical survey within the study area were circular and sub-circular enclosures. Aerial photography assessment of the Longstanton area identified a pair of interconnected sub-circular enclosures of probable Iron Age date immediately adjacent to and east of the CGB in the south east of the study area (TOR 91/S17). Within the former Oakington airfield are a complex series of interconnected enclosures, with associated pits and / or ditches (TOR 85/S16 and TOR 87/S15), with selective trenching producing Mid to Late Iron Age pottery. The latter enclosure possessed far greater evidence of 2nd and 3rd century Romano-British material and suggests clear evidence for the continued use of these circular structures. Towards the northern end of the airfield, and located within an extensive Romano-British settlement site (TOR 86/S18) is a series of interlinked sub-circular compounds 30 metres in diameter (TOR 114/S36). From the evidence retrieved during the targeted evaluations in the vicinity (*Event 60*), these features would be of Mid / Late Iron Age in date.
- 5.37 Greater detail of Iron Age settlement layout, livestock management and house structures began to be realised from initial geophysical survey and subsequent detailed trench evaluation to the south of the golf course (*Event 51*). An Iron Age sub-circular enclosure / round house with associated ring gullies, pits and ditches (TOR 89/S7) was uncovered, along with a large quantity of domestic rubbish. Probably contemporary, and identified through geophysical survey and selective trenching, to the west of this settlement is a circular enclosure possibly utilised as a stock enclosure (TOR 88/S8). This phase of evaluation found further evidence of a small-scale Iron Age settlement or farmstead, comprising ditches, pits and postholes, containing pottery, burnt clay and animal bone (TOR 92/S6).
- 5.38 The geophysical survey undertaken at Cambridge Golf Course in 2006 also uncovered a complicated set of Iron Age enclosures (TOR 110/S38). The survey revealed a well-defined sub-rectangular enclosure measuring c.40 m by 20 m, with 'antenna-like' ditches emerging from it that encompass a circular anomaly to the north west. A second enclosure on a similar alignment was revealed approximately 100 m to the south west. In total this settlement complex measures c.2.3 ha and has been suggested as a possible banjo-like enclosure (Evans *et al.* 2008, 179). A second large Iron Age enclosure lies outside of the proposed development to the south west of the study area near New Close Farm. It consists of a complex enclosure c.100 m in diameter and

0.25 ha in size (TOR 134/S12) and is associated with a dense Romano-British settlement area further east.

- 5.39 A single Iron Age enclosure *c.* 25 m by 30 m in size was uncovered as part of the extensive excavations for the Longstanton bypass to the west of the village (TOR 123/MCB 18107). An internal ditch was recorded separating the enclosure into distinct areas (Paul and Cutler 2008); it may have been for stock control or to surround a settlement. Several almost whole pots dating from the Early to Mid Iron Age were found within the enclosure ditch and could be the result of deliberate deposition. Animal remains retrieved from numerous features across the site included a large quantity of domestic species such as cattle, horse and dog, but also smaller quantities of wild hare and deer. Some animal bone was found to be burnt and some also displayed butchery marks, representing small-scale domestic consumption.
- 5.40 An area adjacent to Rampton Road, Willingham, to the north of the study area produced some evidence of occupation dating to between the 2nd and 4th centuries AD following the recovery of domestic pottery and hearth material (TOR 2/MCB 8615A). A further 100 metres north of this site, a grave containing human remains (TOR 49/MCB 5563), with two intact pots (TOR 50/MCB 5565), was uncovered in 1934. Immediately next door at no.168 Rampton Road, a large quantity of Roman pottery, with fragments of bone, iron and shell were revealed following the excavation of hole in the garden (TOR 59/CB 14715). A possible pottery production site is intimated from chance pottery finds (TOR 51-53) and possible contemporary enclosure identified at this hilltop location to the north at Over (TOR 57/MCB 8300). Whilst settlement evidence in the study area was hinted at from discoveries of Roman coins by metal detecting to the south west adjacent to the A14 (TOR 24/MCB 11767; TOR 25/MCB 11770), and chance discoveries of pottery sherds in gardens at Oakington Vicarage (TOR 36/MCB 5175) and Oakington Manor (TOR 37/MCB 5176), the recent large scale evaluations have successfully located several settlement foci.
- 5.41 To the west of Longstanton, and as part of the Striplands Farm evaluations (*Event 42*), a Romano-British settlement with Saxon continuation was uncovered (TOR 151/S20). From initial identification by aerial photography of a network of enclosures and fieldwalking, confirming a date of between the 2nd and 4th centuries AD from the retrieved pottery assemblage, trenching revealed a high density of archaeology, including boundary ditches, pits, gullies and two inhumations. The majority of features were contemporary in date to the pottery recovered, with the evidence revealing an overall shift in the focus of the settlement from south west to north east during this period. This may be indicative of response to a rise in the water table in this locale. A number of narrow rectangular enclosures were identified, along with a series of internal linear divisions forming smaller enclosures or paddocks of contemporary date but located to the south of the settlement area (TOR 80/MCB 16341).
- 5.42 Within the Oakington airfield area, some sherds of pottery were recovered in 1939 (TOR 44/MCB 5259) located south west of what is now believed to be

an exceptionally large Romano-British settlement (TOR 86/S18) of some significance due to its extent and initial findings from evaluation (*Event 64*). Geophysical survey at the northern end of the airfield (*Event 54*) identified a complex of sub-rectangular compounds with small interior sub-divisions. This 'ladder-like' arrangement of paddocks cut the established Iron Age enclosures (TOR 114/S36) c.290 m to the north, one of which was interpreted as possessing a form reflective of a masonry building. These enclosures probably extend further westward than any of the non-intrusive surveys indicate. Closer analysis of the geophysical survey and aerial photography in this area suggests a single settlement complex covering more than 24 hectares, possibly with distinct components or quarters representing a formal settlement design (Evans *et al.* 2007, 153). The discovery within the small number of evaluation trenches possible (limited by the discovery of unexploded ordnance during the work) of near complete tiles and part of a column shaft, along with 950 2nd - 4th century sherds of Roman pottery, suggests a masonry building of significance, perhaps another villa or a *mansio* (a building with an official civic function) (*ibid.*).

- 5.43 In the southern part of the study area, south east of Slate Hall Farm, a large building with a courtyard was identified by geophysical survey (*Event 50*). This substantial villa or *mansio* complex (TOR 102/S27), measuring c.120 m by 70 m and containing several internal sub-divisions produced over 1,160 sherds of Roman pottery; building material attesting to a hypocaust heating system; 16 coins; two bronze bracelets; an iron stylus and many horse fittings, suggesting stables. Like much of the other recovered evidence in the study area, this indicates a date of between 2nd and 4th century and the lack of Iron Age material recovered suggests an entirely new Roman foundation on this site (Evans *et al.* 2005).
- 5.44 The place name evidence indicates the present Longstanton and Oakington settlements were in existence by the **Saxon** period (see the historic outline below). Fragments of at least five Anglo Saxon grave-covers and part of a probable cross-shaft were found during restoration of All Saints' Church (TOR 48/MCB 05457a). The first recorded archaeological evidence was uncovered in Oakington in 1928, when three inhumations with spears, knives and a shield boss were found when a pasture field was ploughed for a nursery garden (TOR 46/ MCB 5270). The site later became the village recreation ground. The placement of new play equipment in 1993 revealed human bones, prompting an excavation (*Event 78*) that found three further adult skeletons (TOR 62/MCB 10912). Remains collected from spoil heaps indicate the destruction of at least three other burials. One cremation and 25 inhumations were found, of men, women and children, with the latter's graves possessing grave goods, including brooches and beads.
- 5.45 An evaluation immediately north of and adjacent to this recreation ground (*Event 47*) revealed archaeological features across the site, consisting of ditches, postholes, buried soils and three inhumations, dating mostly to the Middle Saxon period (TOR 109/MCB 17253). Some potential Roman / early Saxon ditches were identified along with a series of north east to south west aligned boundaries that may be later in date than the cemetery. The human

remains identified are almost certainly part of the 6th century AD Anglo-Saxon cemetery that lies adjacent to the evaluation area, part of which was excavated in 1994.

- 5.46 Evaluation was carried out in arable fields to the west of Longstanton, at the site of a proposed residential development (*Event 17*; Cutler and Duncan 2003). A number of Saxon and medieval remains were encountered, comprising field boundaries and possible traces of ridge and furrow (TOR 63/MCB 15718). Features relating to late Saxon and medieval settlement, comprising boundary ditches and pits were recorded close to Over Road, and may relate to the former settlement at Green End. There is evidence of continuous occupation in some zones up to the 15th century, at which time the area may have become largely depopulated.
- 5.47 A concentration of Saxon settlement activity was located on high ground at Striplands Farm adjacent to the B1050 during evaluations by CAU in 2004 (*Event 15*). A spread of occupation material was identified, with detailed excavations in 2005 (*Event 43*) uncovering late Saxon / Saxon-Norman remains (TOR 78/MCB 1633). The concentration of activity was noted to decrease towards the north, where the remains consisted of boundary ditches, a linear arrangement of pits and some large pit / well features. No further evidence of settlement activity was recorded. The main focus is towards the south east along the High Street road frontage, suggestive of settlement back plots, most likely occurring towards the current road line. A programme of archaeological excavation at Striplands Farm in 2009 (*Event 74*) recorded a number of Saxo-Norman features in the south eastern corner of the site, intercut by medieval pits and a post medieval pond (TOR 81/MCB 16342). Excavations adjacent to this plot in 2007 by Birmingham Archaeology (*Event 65*) uncovered a large north west to south east aligned boundary ditch established during the 10th-11th century, which was recut and maintained until the 13th-14th centuries (TOR 120/MCB 17804). The excavator felt that this boundary ditch may have defined the back plots to properties formerly fronting onto the High Street.

Medieval

Villages in the study area

- 5.48 The 3 km study area includes the ancient parishes of Long Stanton All Saints and Long Stanton St Michael, and parts of Oakington, Westwick, Rampton, Willington and Swavesey. The parish boundaries were established early, with a number based on lines running north eastwards from the main Cambridge to Huntingdon road (the Roman road Via Devana), and others preserving mere ways, brooks and field furlongs (e.g. the distinctive western parish boundary of Long Stanton All Saints).
- 5.49 The settlements were all in existence by the Saxon period (an origin reflected in the place names), within large Saxon holdings that were reorganised after the Norman Conquest. Common to all of the study area is strong nucleation within each parish, with few farms established outside the villages. The

typical pattern of a system of three or four open fields farmed on a rotational system, alongside smaller closes and meadows immediately next to the village, was established by the medieval period. The study area is therefore an example of countryside replanned in the early medieval period.

- 5.50 Some differences between the villages are attributable to the proximity to the fen edge and the changes in water levels over the medieval period. Use of the fens was significant for Rampton and Willingham, which contained large areas of fens and mere. The changing water levels led to the abandonment of some areas for drier ground during the medieval period. Much of the northern part of the study area experienced annual flooding until the large scale fen drainage schemes in the 17th century.
- 5.51 The settlement of Long Stanton (the form of the name until the two parishes were combined in 1953) spread along the road over 2 kilometres. It was one of the most populous villages in the area at Domesday and throughout the medieval period. The polyfocal form of the village is in part the result of a complex manorial history, with numerous named manors and subdivisions (e.g. Cheyneys, Colvilles, French Lady's Manor, Tonys Fee and Walwyns), each a focus of an area laid out in regular tofts along the street. The two parish churches, both first recorded in 1217, were also focal areas for settlement. Outside these areas there was some common edge encroachment at Green End to the north by the 13th century, possibly a survival of the earlier more dispersed Saxon settlement pattern.
- 5.52 Alongside the arable use in the open fields were small areas of moor and meadow, but very little woodland. There was a complex and dense network of footpaths and tracks through the village and its hinterland, including back lanes running parallel to the High Street (preserved in some of the present footpaths). A series of tracks or baulks led north east from the village through the open fields. Just before enclosure these were named as Ely Way, Moor Way, Purcell or Poswell Way, More Baulk, Broad Way and Stanwell Way.
- 5.53 Oakington has a more compact form, based on a road that branches into two parallel roads with possible former greens. The medieval settlement focus was on Church Lane and Water Lane, in the east of the present village, mainly around the 12th century Church of St Andrew. There were also tofts laid out on either side of Water Lane. Much of the parish was a manor held by Crowland Abbey, which established a walled manorial farmstead on the site of the present Manor Farm. The abbey archives preserve a lot of detail on cultivation and management of the estate at Oakington. Again, the land was divided into three open fields although some had been enclosed and converted into leys by the 1490s.
- 5.54 The adjacent parish of Westwick is a small and late settlement, on either side of the road. It had no church and in the medieval period was linked first to the church at Cottenham then to St Andrew's at Oakington. Westwick bridge over Beck Brook was recorded in 1279. There were two manors in the parish, one to the north of the road named as Belbouches manor, the other to the south at Westwick Hall.

- 5.55 Rampton is on the fen edge, with the highest flood line in the northern part of the parish. For much of the medieval period it may have been dependent on the much larger fen village of Willingham. The main early focus was to the east at the church and manor, with an 18 hectare park established by the 13th century around the incomplete motte castle at Giant's Hill. In contrast to the other villages in the study area, Rampton includes an element of deliberate planning in the village to the west, where the green and tofts around it were laid out c1270 after a grant to the lord of the manor of a licence for a market and fair.

Medieval archaeology sites in the study area

- 5.56 A great proportion of the recorded sites (16 within the study area) are remnants of medieval agriculture in the form of ridge and furrow, which has long been considered a clear indication of intensively organized medieval agriculture. The most well-defined series of earthworks and associated ridge and furrow lies to the south east of the church, on Rampton Road, comprising a series of house platforms, terraced ditches and leats (TOR 5/MCB 9261). This concentration is closely associated with the large ditched system and headland boundaries, and ridge and furrow to the east at Nether Grove (TOR 133, 137/MCB 2289). Further extensive earthworks are present in the vicinity of The Manor and Grove Cottage (TOR 18/MCB 10857). The land to the south of Nether Grove was investigated by CAU in 2004 (*Event 22*), where geophysical survey revealed evidence of a building of late medieval date (TOR 90/S24) and contemporary to the extant ridge and furrow.
- 5.57 In its consideration of a request to add these earthworks, referred to as Longstanton shrunken medieval village, to the schedule of monuments, English Heritage concluded that the national importance and criteria for scheduling were not fulfilled and the request was rejected (letter received 06.10.2011). The conclusions state that the date of the earthwork features cannot be stated to be medieval with any degree of certainty and that nationally important archaeological remains could not be quantified or deemed likely from the geophysical and earthwork surveys. The conclusions confirm that the earthworks are of local significance.
- 5.58 The possible former location of the medieval Hatton's manor is postulated from the concentrated remnants with associated pond outlines at Southwell (TOR 14, 19). On the southern edge of All Saints parish, ridge and furrow survives in a field of pasture (TOR 17/MCB 10306). Along the northern edge of the field a hollow way survives that is probably the original line of the Meadow Way, the main medieval route from Longstanton to the Huntingdon road. Another concentration has been plotted at Green End Farm (TOR 20/MCB 10896), with subsequent investigations (*Event 18*) confirming documentary evidence for a hamlet in this location (TOR 15/MCB 10303). Artefactual remains point to activity at this location for the period between the 11th and 14th centuries, with settlement organised around a field system with housing fronting onto Over Road.

- 5.59 An excellently preserved series of ridge and furrow is recorded to the south east of St Michael's Church, to the north west of Mill Lane (TOR 75/MCB11779). Their identification prompted a detailed earthwork survey during evaluation in 1991 at the adjacent Machine Barn Farm (*Event 20*). Although some medieval features and artefacts were recovered from this investigation, the majority were post-medieval in date (TOR 76/MCB 16234).
- 5.60 The heart of the medieval settlement of Longstanton is centred on land at Old Farm, adjoining High Street (TOR 65/MCB 15730), with cartographic evidence (the 1816 enclosure map) depicting tofts along this street frontage. Excavation to the south in 2007 (*Event 65*) revealed a series of medieval quarry pits and ponds (TOR 130/MCB 18590). The former site of a windmill was investigated in 1991 at Hatton's Farm (now Cambridge Golf Course). A windmill is documented at this site on 18th century maps and is recorded as having ancillary buildings. A mound or stance for the former structure stood to a height of 0.45 m (TOR 74/MCB 10096) and was evaluated during the site work (*Event 2*). The site overlies and seals a portion of an Iron Age enclosure (TOR 152/S11). To the south of Longstanton and within Oakington airfield is a site described as the possible site of a Bishop's palace (TOR 32/MCB 3660). There are no discernible earthworks on site, but to the south during archaeological evaluation within the airfield by CAU in 2006 (*Event 61*) geophysical survey followed by evaluation trenching revealed the foundations of a probable stone-footed building with four trenches uncovering settlement features of predominantly 12th/13th century date (TOR 116/S35).
- 5.61 The southern portion of the study area reflects the documentary evidence for a shrunken medieval village at Westwick (TOR 55/MCB 8148), with the associated earthworks of the former Belbouches manor to the north of Station Road (TOR 138/MCB 5182) and two further plots of ridge and furrow either side of Westwick Hall (TOR 140,141/MCB 08959). Evidence of Oakington's medieval origins lies in many recorded medieval earthworks (TOR 3/MCB 9202), such as the 10 m wide ridge and furrow strips, c.0.6 m high in places, with an associated contemporary hollow way (TOR 4/MCB 9220) situated to the north, with banks and / or ponds and some house platforms 0.60 m high. The site of a medieval cross is depicted at the main crossroads south east of Oakington village centre in 1833 (TOR 43/MCB 05256). Chance discoveries of domestic medieval pottery are recorded in the Oakington village area, at Coles Lane (TOR 42/MCB 5193) and adjacent to Water Lane (TOR 121/MCB 17966), where test pit surveys for the CGB in 2006 (*Event 69*) revealed 14th/15th century pottery. A total of eight extensive areas of ridge and furrow are recorded in the vicinity of Oakington and Westwick (TOR 142-149), all of which are adjacent to probable medieval farmsteads and settlement areas.
- 5.62 The original documented location for the early medieval village of Rampton is on the western edge of the village (TOR 56/MCB 8163), closely associated with the church. Records attest to a shift in settlement away from this site after the construction of a castle on Giant's Hill in 1144 AD (TOR 155/**scheduled monument 20452**). It is the remains of an unfinished castle, constructed during the civil war between King Stephen and Geoffrey de Mandeville. The castle consists of a roughly rectangular, flat topped mound,

with markedly curved south and east sides, up to 1.5 m above the adjacent land. It is surrounded by a deep flat bottomed moat or ditch up to 2 m deep. There are causeways to the north west and south west, with earthworks in the field to the west, probably representing the medieval village with associated ridge and furrow in the former open fields. All of these adjacent fields are included in the scheduled area.

Built heritage and landscape features

- 5.63 Surviving buildings of medieval date are the churches and some of the early fabric of the higher status houses. In Longstanton, All Saints church (LB1, grade I) dates from the reconstruction of the church after a fire in 1349. The church is built of fieldstones, and was formerly part thatched. In the churchyard is a medieval cross (LB3, TOR 30/MCB 03512a). The thatched St Michael's Church (LB6, grade II*) was founded by the lords of Colvilles manor and dates largely to the mid 13th century. A 13th century well is recorded at the church (TOR 10/MCB 10297). Manor Farm (LB4) is of 15th century origin, with the timber frame now encased in 19th century gault brick. It was originally described in the statutory list as being of 17th century date, but the medieval origins of the house have been confirmed by dendrochronology analysis of timbers within the present building, which date from 1450 - 1475. The house has been identified as a rebuild of Cheyneys Manor, which was recorded from the 13th century. In Oakington, the Church of St Andrew (LB12, grade II*) is also of 13th century origin, and is again built of pebblestones. Church Farmhouse (LB13) is a 15th century timber framed open hall with crosswing. All Saints church, Rampton is at the eastern end of the village, close to the early medieval settlement focus and castle and falls just outside the study area. Within the planned village around the green are the remains of a medieval market cross (LB26).
- 5.64 The continuity of occupation within the present built up area of the villages is evident in some landscape features, in particular the significant number of visible village earthworks and the areas of ridge and furrow cultivation marks. The visible settlement earthworks are TOR 3/9202, TOR 4/9220, TOR 5/9261, TOR 15/10303, TOR 18/10857, and TOR 55/8148. TOR 133/137/2289, TOR 138/ 5182 and TOR 157/5182 and the areas of ridge and furrow are TOR 12/10299, TOR 14/10302, TOR 17/10306, TOR 20/10896 and TOR 75/MCB11779. Footpaths and tracks fossilise some of the old back lanes between the medieval tofts and routes through the closes at Long Lane, and some pre-enclosure alignments remain as tracks, field boundaries and land drains. The boundaries of the conservation areas at Rampton, Oakington and Longstanton include significant areas of these earthworks. The Longstanton conservation area was extended in 2005, following the appraisal of the two separate designations formerly tightly drawn around the building groups focused on the two churches at All Saints and St Michael.

Post-medieval

- 5.65 During the post-medieval period, change in the organisation of the agricultural landscape was minimal; the rotational system of open field cultivation

remained in place largely intact across the parishes of the study area until formal parliamentary enclosure in the early 19th century. In each parish there were some examples of small-scale enclosure, sometimes short-lived. In Long Stanton All Saints there was some consolidation within the open field arable by 1600, through the engrossing of strips, especially in Inholms, but an attempt to enclose the arable in the parish was successfully resisted by tenants in the 1620s. The hierarchy of fen drainage created from the 17th century extended into the northern part of the study area and the site area includes several small drains that link into Reynolds Ditch then into Westwick Brook south of Rampton (the channel straightened and within banks) and then to New Cut and Cottenham Lode.

- 5.66 There were changes to the manorial organisation of the two parishes of Long Stanton from the early 17th century through the creation of a single large estate by the Hatton family. John Hatton had acquired the lease of the rectory estate in 1583 and the estate was consolidated by the purchase of Colvilles, Cheyneys and Walwyns manors in 1616 and 1617. An existing house to the north of All Saints church was developed from the 1580s as the main residence and the other medieval manors were either abandoned (Colvilles) or lost status, becoming farmhouses (Cheyneys).
- 5.67 In the other villages, a number of the medieval manors were similarly reduced to the status of farmhouses (for instance Manor Farm at the former walled manor of Crowland Abbey in Oakington). In Rampton a new manor house was built in the early 17th century on a new site to the west. It was built as a hall house on a medieval pattern of timber frame, which was encased in red brick later in the century. The move to a new location away from the church and the original medieval focus may have been motivated by a wish to avoid changing flood levels.
- 5.68 In All Saints there was a new area of settlement encroachment at Golden End by the 17th century in a gap in the medieval tofts north of St Michael. In parallel some significant areas of medieval settlement were abandoned; at Belbouches manor at Westwick, to the south of Water Lane at Oakington, and off Long Lane at Long Stanton All Saints. For a period the small settlement area at Green End was abandoned, before being re-established in the 19th century (see the account of recent excavations in this area).
- 5.69 A new influence was the extension of Hatton's manor in Long Stanton through the creation of an ornamental park across c22 acres of former medieval tofts along High Street north of the church. Hatton also laid out a new private road to the house from the Cambridge / Huntingdon turnpike road, replacing the old route of Meadow Way further south. This increase in status was short-lived; the house was reduced in size in 1792, was disused from 1812 and was demolished in 1851. For the rest of the 19th century the site of the house and park on High Street remained open, dividing the straggle of development at Long Stanton All Saints.
- 5.70 The parliamentary enclosure of the study area began the process of simplification of the complex medieval landscape (the enclosure acts were in

1811 for Long Stanton All Saints, 1813 for St Michael, 1833 for Oakington, 1856 for Westwick and 1839 for Rampton, although the latter was not executed until 1852). Some of the main baulks between the open fields and routes between the villages were retained, either as roads, e.g. More Baulk, or as part of the new network of field boundaries. After enclosure a small number of new planned farmsteads were created outside of the villages within the new field layout. Examples were Inholms Farm within the new fields at Stanwell Field to the east, Noon Folly Farm laid out in the south of the parish, and to the west Trinity College Farm.

- 5.71 Another large estate was assembled from the 17th century by the Linton family based on Westwick Hall. A new house replaced the 17th century Westwick Hall in 1855 and new parkland was laid out. This is shown in development on the enclosure map, including a formal drive to the north, parkland and walled gardens, with a large fox covert to the north alongside Westwick brook, on the former site of Belbouches manor. The group of buildings included a corn windmill, a dovecote and malthouses retained from the earlier manor house.
- 5.72 A number of other new gentry houses were built through the 19th century, some possibly on the sites of earlier manorial holdings. In the north of Long Stanton were Hatton House and Brookfield House, on the possible site of another manorial subdivision named as Campes. St Michael's Mount (also known as Belle Vue) was built close to the former site of Colvilles manor. These houses built from the early 19th century were all of gault brick and slate, as were many of the new cottages, replacing the earlier vernacular based on use of timber frame and thatch.
- 5.73 In 1874 the Hatton estate of 1,700 acres was sold and dispersed. The resulting changes to agriculture generally reinforced the trend for fewer, larger farm units, mainly continuing from the old farmsteads within the village. Several isolated farms such as New Close Farm and New Farm to the north of the railway date from this period.
- 5.74 The layout and historic character of the study area can be seen on the 1st edition OS map dated 1882 (figures 5.3 and 5.4).
- 5.75 The study area as a whole illustrates the strong nucleation characteristic across the area. For each parish the irregular (but broadly south west to north east aligned) layout and dense network of closes by the villages and linking lanes contrasts with the surrounding landscape of straight-edged enclosure fields. The routes through the fields retain some of the integrated pre-enclosure network of baulks and tracks, although the railway creates a significant break between Long Stanton and Rampton. The drainage of the fen edge is most evident in the hierarchy of ditches and drains in the north of the study area in Willingham, Rampton and towards Swavesey, but extends as far south as Long Stanton All Saints. The overall impression of the study area is of the dominance of arable fields, with little woodland and a tight network of closes by the village. The relatively new addition of the orchards is a strong presence in the north and eastern parishes.

- 5.76 The map shows the polyfocal layout of the two parishes of Long Stanton and the large areas of open land and closes between the several focal areas of development that generally retain medieval or manorial locations. In the south there is a focus at St Michael's church at the staggered crossroads on Wilson's Road, with a few large farm courtyards named as The Grange, Machine Barn Farm, and Belle Vue, the latter a polite scale house set in landscaped grounds. The site of Colvilles manor to the south is marked as a Bishop's palace (this derives from a record of a visit by Elizabeth I that was misattributed to Long Stanton). There are several small wooded closes to the north of St Michael, including one larger area named as Bush Copse, and the scatter of the 17th century encroachment at Golden End. The second focus is at All Saints Church, the two farms (Church Farm and Manor Farm) and the key route of Long Lane that links the closes to the south and the tracks north of the church. There is a large gap in the street where the former site of Hatton's manor is marked, with the carriage road opposite leading to the turnpike road to the west. The northern area is a longer straggle of farms; Printice Farm close to the former manor, and Home Farm and Striplands Farm on the west side of the road. The differing character of the two new gentry houses at Brookfield House and Hatton House is clearly evident. The only dispersed elements are the old encroachment at Green End and Fishponds to the north and the new farm at Inholms, laid out on a regular three-courtyard plan and set on one of the old routes through the open fields.
- 5.77 The village of Oakington has a more complex road layout, but shares the pattern of the cottages and large courtyards of the farms within the village streets, and the large regular fields of enclosed arable land. These are surrounded by small closes by the village and laid out in a regular sequence along Water Lane up to Beck Brook. The main routes north are across the fields from Mill Road near the church to a track by Belle Vue at St Michael. There are also several smaller tracks linking to the parish boundary (Stanwell Way). These are on a straight alignment and were probably laid out at enclosure rather than retaining existing routes.
- 5.78 Westwick has a different character from the dominance of the designed landscape at Westwick Hall, with the enclosed gardens and parkland around the house, and a large area to the north along the brook marked as Fox Covert. The large model farm is arranged around several courtyards and associated with orchards.
- 5.79 The planned form of the hamlet of Rampton around the green is evident, with a regular layout of plots extending north and south. The brook to the south runs within embankments, abutting an open area named as New Ground Common. There is a single large courtyard of farm buildings at Manor Farm adjacent to the church on the edge of the hamlet. To the west a large area is named as Rampton Park, adjacent to the earthworks of the moat and former castle at Giant's Hill.

Relevant undesignated archaeology assets

- 5.80 A number of archaeological events uncovered post-medieval finds and features, some of which show continued agricultural practices, e.g. at Machine Barn Farm, off Long Stanton Road (TOR 8/MCB 10209), and at Halton Farm (TOR16/MCB 10304). A fieldwalking survey by CAU in 2006 (*Event 56*) recovered 123 sherds of post-medieval ceramics and 31 shards of post-medieval glass. These are likely to be indicative of agricultural manuring practices over this field. Discoveries as part of the Longstanton bypass in 2007 (*Events 78-80*) revealed a series of field ditches of uniform shape and size with datable deposits of pottery and glass (TOR 126/MCB 18157), while similar features, such as plough scars (TOR 127/MCB 18158) were interpreted as being contemporary to the excavated and datable features elsewhere along the bypass alignment.

Built heritage and landscape features

- 5.81 A number of houses in the study area retain 17th century fabric. In Long Stanton St Michael, The Grange (LB8) is on the site of the medieval French Lady's Manor, founded c.1250 (TOR 11/MCB 10298). It is of 17th century origin, but has a formal brick front of 1787. The surviving cottages of this date are mostly timber frame and thatch, including the large cottage at Magdalene Cottage (LB 9). In Oakington buildings of this date, either timber frame or clunch and generally thatched, are 25 and 27 High Street (LB 11), the additions to Church Farmhouse (LB13), including the insertion of a chimney stack into the open hall, and 68 High Street (LB14), a late 16th century timber framed house with 19th century additions. The adjacent 69 High Street (LB 15) is an early 18th century cottage. Whitehall Farm at the west end of the village (LB 10) is also early 18th century and is cased in brick.
- 5.82 In Rampton, The Manor (LB 19) is an early 17th century timber frame house that was later encased in red brick with shaped gables. The largest grouping in the study area is the group of cottages and modest houses at the planned village around The Green (LBs 21, 22, 23, 24, 25).
- 5.83 Outside the villages on the western edge of the study area, the barn at Trinity College Farm (LB 28) is of late 16th century date. It was relocated from elsewhere, as the farm was newly created after the 1840 enclosure of Swavesey parish.
- 5.84 Few later buildings in the study area are listed. There are two late 19th century water pumps in Longstanton (LB 5, 27), the latter in a prominent position on the corner of Station Road. In contrast to the other parishes, the village of Westwick is almost entirely 19th century in date and has a coherent design approach because of the influence of the estate at Westwick Hall. The 1855 Westwick Hall (LB 16) is set within the remaining elements of the designed landscape (HB/A35) to either side of the road, with the large model farm built of distinctive polychrome brickwork to the east (LBs 17, 18). The extant unlisted buildings included in the HER include the two Nonconformist chapels in Oakington (HB/A32, 33), as well as a number of graves (TOR 118).

- 5.85 The significant landscape elements from the post medieval history are several small areas of designed landscape identified by Cambridge Gardens Trust and recorded in the HER. These are the parkland at Westwick Hall (HB/A35) and gardens at Rampton Manor Farm and Belle Vue St Michael (HB/A30). A series of enclosures overlying the medieval settlement in the land around the former castle at Giant's Hill was recorded as "The Parks" through the 17th and 18th centuries (HB/A37). It is undated, but may have related to the moated manor on the site in the 15th century. Another place name potentially referring to a very small emparked area is at Hare Park to the north of Rampton (HB/A36).
- 5.86 The dominant character of the conservation areas (see figure 5.2) is post medieval. The Longstanton conservation area includes the listed buildings concentrated in two areas at the churches of the former parishes of All Saints and St Michael, including unlisted buildings mainly of 19th century date, and extends south to include the house and grounds at St Michaels Mount. Much of the conservation area is the significant landscape setting, either woodland such as that running south along Woodside, or the large areas of shrunken village and ridge and furrow cultivation marks bounded by the old route of Long Lane. The Oakington conservation area is smaller and more tightly drawn around the historic core at the church, but includes the area of medieval earthworks on Water Lane. The conservation areas at Rampton and Westwick both include areas of parkland landscape at the former castle at Giant's Hill and the designed landscape at Westwick Hall.

The airfield

- 5.87 A very detailed history of Oakington airfield was given in the 2004 report by Paul Francis submitted with the 2007 application (included in technical appendix B2 on CD). Only a brief summary is therefore provided here.
- 5.88 The airfield (TOR 153/CB15144, the Cambridge HER gives a single reference for the whole airfield) is one of a series created from scratch from 1934 onwards. The Air Ministry acquired the 353 acres between Longstanton and Oakington in 1938. The layout followed the standard pre-war expansion period neo-Georgian designs for individual buildings and the division of operations across the site. There were some changes once the war commenced, in particular from the requirement to disperse aircraft around the site, which meant that not all the planned hangars were built. One new element was a form of cantilevered pillbox later referred to as Oakington pillboxes. The airfield was operational from July 1940. In addition to the airfield, domestic sites were dispersed through the villages (mainly temporary siting of Nissen huts) and the RAF used Brookfield House, Belle Vue and Manor Farm during the war. The RAF retained the airfield after the war, transferring to the army in 1973.
- 5.89 Direct effects on the villages of the creation of the airfield were the stopping up of routes or the restriction of access to a large area. Several roads were removed completely; Wilson's Road to the east of the village (an old pre-enclosure route that also served Inholms Farm), the roads north from

Oakington, and the eastern section of Rampton Road. An additional effect after the war was for new housing development in Longstanton, which from the 1950s has infilled the spaces in the polyfocal village form. These piecemeal housing areas have generally retained the property and close boundaries of the earlier layout.

- 5.90 Surviving elements of the airfield are the layout to the south of Rampton Road, with the core of administrative and technical buildings, runways and the airfield defences dispersed around the periphery. The airfield defences include a group of ten cantilevered Oakington pillboxes (eight within the airfield itself and two at strategic locations outside it) built in 1941 for the Bomber Command base. Nine of these have recently (01/12/2011) been listed at grade II. They are shown on figure 5.2, with the numbers given in the airfield gazetteer (Francis, 2004, technical appendix B2), which are referenced in the list description. They are described as the largest surviving group of a rare and distinctive building type, with several retaining internal fixtures, and one retaining the associated air raid shelter. Another Oakington pillbox on Wilson's Road to the west (TOR 156/MCB 17777) is much altered and was not listed, although its group value is recognised.
- 5.91 There is a FW/3/22 type pillbox (TOR 158), one of eight in total surrounding the airfield, immediately adjacent to the south eastern corner of the phase 1 site area. It is located adjacent to the former railway line (now CGB) at the eastern end of Rampton Road.

Assessment of importance

Archaeology

- 5.92 The undesignated archaeological resource within the study area is considered to be of high importance based upon evaluation results and evidence for settlement areas from as early as the Bronze Age. Prior to archaeological investigations in the study area, the perception academically was that this inland landscape, distant from preferred and acknowledged prehistoric riverine locations in the region, was devoid of prehistoric land use due to the known water-retentive qualities of the clay geology and its unsuitability for settlement and agriculture (Evans *et al.* 2008). The ingenuity of the Bronze Age settlers in creating deep wells to ensure a constant resource of water for their settlement unit was revealed by site investigations at Striplands Farm and greatly advanced regional archaeological awareness of prehistoric landscape archaeology.
- 5.93 There are more than 15 Iron Age settlement enclosures within the study area, reflecting what was the primary colonisation period within this landscape. These enclosures are between 0.2 and 0.5 ha in size, with varying combinations of ditch enclosures for secondary activity or stock husbandry. Elsewhere in the region the settlement layout at this time has been revealed as sub-square in form, especially along the western fen-edge of Cambridgeshire. The study area contains two Iron Age sites of significant scale to suggest a potential 'distinguished' tribal origin (Evans *et al.* 2008, 179). Outside of the

proposed development, site TOR 134/**S12** consists of a complex enclosure *c.* 100 m in diameter and is associated with a dense Romano-British settlement area. Within the primary development site, site TOR 110/**S38** extends over an estimated 2.3 ha and comprises two small ‘banjo-like’ enclosures. The lack of finds relating to these types of Iron Age settlements may be due to their use as seasonal ritual centres where feasting occurred.

- 5.94 The Romano-British sites recorded in the study area are again of significant size and scale and attest to wealth and concerted, organised management of the landscape at the time. There are recorded sites identified in close proximity to the A14 in the south of the study area, relating to the route of the Roman Cambridge to Godmanchester Road. The main concentration of settlement appears to have occurred along the spine of the gravel ridge with sites **S10**, **S19** (both represented by TOR 135) and **S9** (cropmark feature) giving a total size of between 8 and 11ha, with site **S18** (TOR 86) to the south within Oakington Airfield at least three times the size at *c.* 24 ha. This would make this latter site, which appears from geophysical evidence and some trench evaluation to be organised into delineated quadrants with a possible roadway, three times the size of Roman Cambridge (*ibid.* 181).
- 5.95 The initial evidence for site **S19** (TOR 135) shows a dense concentration of paddocks arranged alongside a north west to south east trackway / road. A single 154 m trench was excavated through the centre of the 8.4 ha cluster along the southern boundary of the golf course by CAU in 2004 (*Event 29*). Four graves (two adults and two adolescents) were revealed (but not excavated) in this trench, but were not shown in aerial photography analysis or geophysical survey, and were therefore an unexpected discovery. Metal detecting close to these graves discovered a rich concentration of Roman metalwork, possibly relating to the site of a former shrine, and together these two discoveries indicate a potential cemetery site. The following description was given for the site complex:
- “Site XIX [**S19**] settlement seems quite extraordinary...its features area extremely dense...with settlement occurring throughout. The exposure of what seems to be part of a formal cemetery...adjacent to the probable location of a contemporary shrine...would also suggest that this site seems special and rather different.”
- 5.96 The evidence for the Roman period from the initial schemes of evaluation within the study area would seem to suggest at least three major farmsteads / villa sites, one of which (TOR 102/**S27**) comprises a major building complex with bathhouse and a winged corridor building. The artefacts recovered from this site would seem to indicate high status or perhaps an administrative role, situated in the vicinity of the Roman road.
- 5.97 Although none of the remains are designated, either locally or nationally, they derive their archaeological interest from their place within a significant prehistoric archaeological landscape and impacts to this archaeological interest will need careful management as part of the proposed development. The

archaeology on site and in the study area is considered to be of high importance.

Built heritage and historic landscape

- 5.98 The listed buildings in the study area are of high importance. These buildings are mainly concentrated in the historic villages and have a shared agricultural origin and a clear vernacular, with some early survivals of timber frame and thatch and the use of gault brick that became common from the early 19th century. The group of Oakington pillboxes are set within the airfield except for the example on Rampton Road. Areas of the villages that have been least affected by the large amount of recent development are designated conservation areas. The designated areas include significant elements of the landscape setting of medieval earthworks and cultivation evidence, particularly at Longstanton, and of later parkland that contributes to the character of the villages. The conservation areas are all of medium importance.
- 5.99 Undesignated assets and landscape character resources of significance are the FW/3/22 pillbox close to the site boundary, and the field boundaries and land drains that derive from the pre-enclosure landscape and link to hierarchy of fen drainage. These are of low importance.
- 5.100 Table 5.2 summarises the importance of the heritage assets within the study area.

Table 5.2: Heritage assets, summary of importance	
Receptor	Importance of receptor
<i>On site</i>	
Archaeology	High
Landscape resources - field boundaries and drains	Low
<i>Study area</i>	
Archaeology	High
Listed buildings	High
Conservation areas	Medium
FW/3/22 pillbox on Rampton Road	Low

Potential effects

- 5.101 The proposed development could be a source of impacts on the cultural heritage value or significance of the site and its surrounding area through:
- Ground disturbance for construction activities
 - The removal of existing buildings, landscape elements or character
 - The new built form, its scale, extent, appearance and character
 - The new road layout, access and patterns of circulation
 - Changes to the visual qualities of the site

- 5.102 Avoidance or reduction of adverse effects through the developing design is integral to the iterative process of EIA; such measures that have been included in the design of the proposed development are described in the proposals chapter and are taken into account in this assessment. The assessment of effects that follows considers the potential effect without any additional mitigation. An appropriate programme of mitigation could reduce the severity of an adverse effect or remove it completely, and these measures are described in the mitigation section later in this chapter.
- 5.103 The proposed development will take place in five phases over approximately eight years, so construction and operational effects will occur concurrently.
- 5.104 The impact assessment that follows makes use of the landscape and visual assessment viewpoints in figures 4.19 to 4.43 in chapter 4. Those viewpoints most relevant to this assessment are VP 19 and VP 20 on the edge of the Longstanton conservation area, VPs 23 - 25 on the CGB that shows views of the village edge, and a number of more distant views in which the village of Longstanton and the spire of All Saints church appear.

Effects during construction

Archaeology

- 5.105 The proposed development will involve extensive groundworks, both in the primary development site and the southern area earmarked for fill material, which will inevitably have an impact on all below ground archaeological remains, where they are known or suspected to exist.
- 5.106 The baseline information comprises the results of geophysical surveys, fieldwalking, aerial photography analysis and extensive trench evaluations, which have identified a significant concentration of late prehistoric sites within the development areas north of Rampton Road and east of Hattons Road. The detailed investigations that have taken place across the study area have led to over 42 previously unknown sites being identified, the majority of which are of high importance, although not considered of national importance and schedulable quality. The importance of the archaeology across the phase 1 site is considered high, with a large physical change predicted to occur as a result of the phase 1 development. This will therefore be a substantial, significant adverse effect.
- 5.107 While it is acknowledged in local and national policy that preservation *in situ* of archaeological remains should be considered as a first option, the proposed development works present an opportunity to advance our knowledge of the wider historic landscape and its evolution since prehistoric times. There would be an advancement of knowledge at a local level arising from the archaeological investigations, which will add to the existing archaeological record from the investigations along the A14 and at Striplands Farm.
- 5.108 It has been agreed through consultation with Cambridge Heritage Environment Team to define the archaeological resource within the development red line in

order to agree in principle the form and level of suitable archaeological mitigation. The resource and suggested strategy for mitigation is reflected in detail in the accompanying written scheme of investigation produced by Cambridge Archaeology Unit (see technical appendix B3). A total of six zones have been defined and these are represented in relation to the proposed development at figure 5.10.

Built heritage

- 5.109 The construction of the proposed development will result in a direct change to the site character. Its current value is low, serving as part of the general context of the golf course within a landscape of 20th century agriculture. The identified receptors are the landscape resources of historic origin, the field boundaries and drains. These locally distinctive features provide links to the wider context of the fen edge and are of low importance. These features are retained within the proposed development as the basis of the network of swales and drains to create the grain of the new development. There will therefore be no loss of these site features and no effect is predicted.
- 5.110 There is potential for highway works or construction traffic to impact on a number of small and potentially vulnerable features set directly on the road (although all lie outside the application boundary). These are a water pump on a brick base near Striplands Farm on Station Road (LB27), and the pillboxes on Rampton Road; one next to the CGB and the grade II listed Oakington pillbox opposite Long Lane. The routes for HGVs are set out in the construction section of chapter 2. The routes will not go through the village centre and will avoid all historic areas. No effects are predicted.

Effects post-construction

Archaeology

- 5.111 The remains of an unfinished motte castle on Giant's Hill in Rampton to the east of the site (TOR 155 / **scheduled monument 20452**) consist of a roughly rectangular, flat topped mound, with markedly curved south and east sides, up to 1.5 m above the adjacent land. It is surrounded by a deep, flat bottomed moat or ditch up to 2 m deep. There are causeways to the north west and south west, with earthworks in evidence in the field to the west, probably representing the medieval village with associated ridge and furrow in the former open fields. All of these adjacent fields are included in the scheduled area and effectively form the immediate setting of this national monument. Whilst its elevated position may have once afforded long distance views across the fens, its present setting alongside Rampton Road and on the eastern edge of the village affords no direct intervisibility with the site area. There is no functional link between the two site areas and a strong visual separation afforded by the alignment of the CGB (see VP 23, figure 4.41). No significant effects are predicted on this scheduled monument or its setting as a consequence of the proposed development.

Built heritage

- 5.112 The historic pattern of development in the study area means the listed buildings are distributed within the small historic village centres, and are now absorbed within the modern built up areas. A common aspect across the study area is the lack of connection between each village within its parish; a factor of the historic pattern of nucleation.
- 5.113 The effects of distance and topography in limiting the presence of the site area within the landscape are illustrated in the ZTV (figure 4.16) and viewpoint photographs provided in the landscape and visual effects chapter 4. The flat landscape and the lack of elevated vantage points result in a very close horizon with few long distance views. For much of the study area to the south the site is not predicted to be visible, either at Oakington or at Westwick. VP 10 (figure 4.28) at 2.5 km distance from the site illustrates the lack of connection. At Rampton to the east, the ZTV predicts greater visibility of the development, including in the village centre. In VP 7 (figure 4.25) on the northern edge of Rampton, Longstanton is identifiable by the church spire and water tower of the airfield, but otherwise appears as a narrow band of vegetation on the horizon. The closer view in VP 23 (figure 4.41) shows the strength of the division imposed by the CGB. It is predicted therefore that no effects will occur to listed buildings or conservation areas at Oakington, Westwick or Rampton as a result of the proposed development.
- 5.114 Within the village of Longstanton, the two churches are the only buildings of high status and with prominence above the domestic scale. All Saints church (LB1) is set on the crossroads, within a group that includes the former rectory and Church Farm opposite. This group is now enclosed within recent development, with no open vistas or strong relationship to the agricultural land of the parish. The church spire has a landmark role in the wider area (see the viewpoints on the east side of the study area: VPs 6 and 7 and VPs 23 and 24 on the site boundary (figures 4.24 4.25, 4.41 and 4.42)), where it is recognisable although not prominent in the wide views, along with the airfield water tower, allowing the location of the village to be identified.
- 5.115 The proposed development could result in a change in attributes that contribute to the setting of the church through a reduction in this landmark role through the additional development to the north east. This is a change to a single and small element of the significance of this building and will be a small change resulting in a slight effect. This is not significant for the EIA.
- 5.116 The church of St Michael (LB6) has a contrasting low form and a thatched roof. Visual presence is not a major element of the significance of the church and its setting is based on the immediate curtilage and the contribution of the close group of associated buildings and the street layout. No effects are predicted.
- 5.117 The closest listed structure is the cantilevered pillbox on Rampton Road (no. 439). The principal element of the setting of this building is the functional relationship to the airfield and the rest of the group of pillboxes that served to

defend the airfield. Modern development is already a significant presence in the setting, and no effects are predicted from the proposed development. In addition to a number of very small features (LBs 2, 3, 5, 7), the other listed structures (LBs 4, 8, 9) are of domestic scale grouped around the churches and are now set within areas of new development. For these buildings there is no expectation of wider setting relationships extending to the site area to the north. No effects are predicted on these listed buildings from the proposed built development between 340 m (LB2) and 927 m (LB9) distant.

- 5.118 The key characteristics of the relationship of the conservation area at Longstanton to the surrounding land are the value of the remaining agricultural character and of vistas across the open fields. The approach taken in the 2005 boundary review that combined the two small conservation areas at All Saints and St Michael was to include the landscape setting within the designated area, so most of the land that is of value to the conservation area is now within it. The vistas identified in the conservation area appraisal are internal and do not extend outwards beyond the boundary of the designation. As the viewpoint photographs in chapter 4 show, the flat topography creates short views and a very close horizon, and the screening effect of quite minor hedgerows and vegetation is significant.
- 5.119 In considering the setting of the village, the conservation area appraisal refers to how the trees and vegetation “form a virtual green wall around the village buildings when viewed from the countryside beyond” (9.9, pg 11). The approaches to the village from each direction make a differing contribution to character and appearance. The greatest is in the approaches from the south east and the south west, in which the spire of All Saints church is a prominent landmark. The northern approach, from Willingham, is the least distinctive. The approach along Rampton Road changes from the open quality of the airfield, and rural character of much of the south side of the road, to the modern development closest to the conservation area. VP 20 (figure 4.38), 200 m from the site, illustrates how the village edge is integrated within vegetation, and VP 22 (figure 4.40) illustrates lack of visual or spatial relationship with Longstanton along the flat, straight alignment.
- 5.120 The contribution of the golf course to the setting of the conservation area is minimal given its divergence from the agricultural pattern. The lack of visual and spatial relationships are illustrated in the viewpoint photographs. The closest to the conservation area boundary is VP 19, figure 4.37, taken from where Long Lane continues north as one of the tracks across. The difference in qualities is evident in views from points north towards the golf course (VPs 15-18, figures 4.33-36).
- 5.121 The site area at present therefore does not make a significant contribution to the conservation area as part of its landscape setting, nor does it feature in the main approaches of value.
- 5.122 The ZTV (figure 4.16) shows some small areas where the proposed development is predicted to be visible, but confirms that for much of the village there will be no direct visibility. Within the conservation area, these

areas of predicted visibility include some of Long Lane and the adjacent earthworks in the field to the rear of Manor Farmhouse, and sections along School Lane and Woodside.

- 5.123 The extent of recent new development in the northern part of the village emphasises the difference in character between the small historic area and the overall village, where modern development is proportionately dominant. That relationship will be reinforced by the presence of additional development in the north. Similarly, the linear and polyfocal form of the historic village has largely been blurred by recent development.
- 5.124 The proposed development will result in change to the setting of the conservation area from several sources: the combined effect of the increased presence of development and divergence of character of the northern part of Longstanton, of minor changes to views including of the spire of All Saints church, to approaches and main routes including continuation of Long Lane, and to the overall agricultural context. Together these will result in a medium to small change to character and appearance through the changed balance of development and fields, resulting in a moderate to slight effect. This effect is significant for the EIA.

Mitigation

- 5.125 The following section summarises how the adverse effects the proposed development will have on the archaeological resource will be mitigated. This approach is in line with South Cambridgeshire District Council's adopted Northstowe Area Action Plan (NAAP, 2007), objective D9/a, which stipulates that future development proposals to create the settlement of Northstowe should "develop an appropriate Archaeological Strategy which mitigates any adverse effects of the new settlement on the archaeological resource." The predicted substantial effect on archaeology can be wholly mitigated through a programme of excavation to include schemes of community involvement and followed by dissemination to the local community and wider archaeological community.
- 5.126 While the very process of excavation can be viewed as destructive, it does yield the most reliable evidence and can lead to an expression of the past for those that live, or are planning to live, close to the site of discovery. The known and suspected rich archaeological resource would be destroyed through erosion, dewatering processes and other varying levels of development infrastructure, and therefore excavation is vindicated since much data that would otherwise be lost will be created and disseminated locally and amongst the archaeological community. Therefore, a written scheme of investigation (WSI) has been produced by CAU and agreed and endorsed by Cambridge Heritage Environment Team and is presented as technical appendix B3. It is intended that the archaeological excavation for each phase will be carried out prior to commencement of infrastructure works.

5.127 A total of six zones have been defined and are represented in relation to the proposed development at figure 5.10. In summary, the work envisaged for each of the six zones will be:

- **Zone 1: Negligible archaeological potential, no further work.** These are areas of land within the proposed development that have been extensively evaluated but been found to be of low / negligible significance in terms of the archaeological resource uncovered. These areas are the majority of the earthworks between Hattons Road and Wilsons Road in the south; the northern area surrounding **S39** and extending westwards to the parcel of land abutting the B1050; from the western limit of S19 to the edge of the 'sports hub' containing S3 and S11 and finally the large rectangular field parcel in the south eastern corner earmarked for the balancing lake, c.4 ha in size
- **Zone 2: Preservation in situ, known archaeology sites undisturbed by proposed development, in particular S3 and S11.** For these sites, suitable fencing or barriers should be erected prior to commencement of any construction work to clearly demarcate the archaeological areas and prevent any accidental disturbance or damage during enabling or initial construction works. The identified archaeological remains in the western side of the primary development site (**S3, S11**) that have been earmarked for preservation in situ lie in an area proposed as sports pitches / hub. It has been proposed that the ground in this area is made up / raised above present ground level to effectively create level sports pitches, while at the same time preserving the archaeological remains here. The importing of soil will create a buffer, between 0.2 - 0.7 metres thick, that will effectively augment the existing topsoil / subsoil overburden, allowing the installation of drainage without damaging potentially sensitive archaeological horizons.
- **Zone 3: Primary investigation routes.** These areas are positioned along proposed roads and swales to provide initial evaluation between the gravel ridge and clay plain outside the known archaeological site areas in the primary development site. The completed surveys have generally (but not completely) identified the full archaeological resource and it was agreed to treat the initial groundworks, from haulage roads that will become primary roads and creation of site drainage channels (swales), as the primary investigation areas. The value of applying such an initial investigation strategy is bolstered by the conclusions of the Oxford Archaeotechnics geophysical survey of the golf course (*Event 51*); in that the disturbance caused to buried archaeological horizons by the construction of the golf course appears to have been of a superficial nature (Johnson 2006). This approach will also test the conclusion that the clay soils were initially of secondary importance during the Early / Middle Iron Age, probably due to their poor drainage and the level of energy required to achieve a reasonable agricultural yield (Evans *et al.* 2006, 34), but that they were brought into cultivation in the Late Iron Age either as a consequence of population increase or a technological innovation

- **Zone 4: ‘Landscape zone’ between S19 and S37 and currently of unknown potential.** The findings from initial investigations along zone 3 will aid the level and concentration of further excavation at an intensity appropriate to the nature, extent, survival and likely relationship of the archaeology uncovered. This zone appears to have some archaeological features shown as cropmarks on aerial photographs and seen in the watching brief (*Event 2*) and limited trenching (*Event 31*). Not enough of the area has been investigated to categorise it as being utilised as former settlement. Following the area being stripped back and settlement / occupation evidence being revealed, the level of sample excavation will require confirmation with Cambridge Heritage Environment Team, but will be similar in approach to the sites known to lie within zone 5 (see below)
- **Zone 5: Dense concentration of archaeology requiring full excavation.** There are areas identified for extensive excavations that will take place for sites deemed crucial to revealing the settlement organisation and evolution of the complex prehistoric landscape north of Rampton Road (**S10, S19, S37, S38**). The large Roman settlement complex, S19 with Iron Age enclosures S9 and S10, were evaluated in 2004 and 2005 and detailed geophysical survey took place in 2006 following initial identification on aerial photographs. Surveys have shown that settlement was arranged symmetrically on either side of a *c.* 20 metre wide ‘drove’ road orientated north west - south east. Settlement appears to have been originally very dense and may have supported high population levels, but no high status finds have thus far been uncovered. Four graves were located along the southern boundary of the phase 1 area in 2004, along with metal detector finds suggesting a contemporary shrine. The remainder of this cemetery or other burials are considered to be likely to occur within this dense settlement area. While S19 has been described as a ‘quasi-village’ settlement (Evans *et al.* 2008, 181) the S37 site consists of a dense cluster of sub-rectangular enclosures, suggesting phasing indicating a farmstead complex. However, S38 appears a “differently complicated Iron Age settlement” and is described as “distinguished” in terms of its layout and complexity (*ibid.* 179). It has not been evaluated thus far but geophysical survey illustrates a *c.* 2.3 ha site comprising two small ‘banjo-like’ settings, an unusual site for the eastern part of the country. The large rectangular Iron Age enclosure to the south of Bar Hill Farm (**S13**) is proposed for excavation within the application boundary. The latter site requires closer investigations as it is three times the size of the other Iron Age enclosures identified, which may reflect a settlement or livestock enclosure(s)
- **Zone 6: areas of low archaeological potential on the clay plain.** The findings from initial investigations along zone 3 will aid the level and concentration of further excavation at an intensity appropriate to the nature, extent, survival and likely relationship of the archaeology uncovered. While there is every chance that contemporary finds to S38 may be uncovered in this zone of low potential, the detailed

geophysical survey in 2006 (*Event 51*) that pinpointed the detail and complexity of S38 showed little in the way of further archaeological sites on the Ampthill clay plain. The same geophysical survey assisted in defining the western extent of S19, with the eastern edge following the edge of the clay / gravel divide and the edge of the terrace. Uncertainty remains on what lies in the landscape between the terrace edge and the south western extent of S38

- 5.128 It should be noted that the southern portion of S19 extends beyond the boundary of the phase 1 development area. As it stands, c.7.6 ha of the suspected 11 ha of S19 is proposed for full detailed excavation, as outlined at technical appendix B3. The bisection of the site is seen as a temporary effect, with the opportunity to investigate the southern portion coming forward in a future phase of Northstowe.

Guiding principles

- 5.129 The WSI produced by CAU (technical appendix B3) details the specific research objectives for the main archaeological periods within the phase 1 development area, namely Bronze Age, Iron Age, Romano-British and Post-Roman / Early medieval. For the most complex and dense concentration of archaeological sites (Iron Age and Romano-British), a series of major research themes are outlined in order to focus the extensive excavations. Broad timescales for the necessary excavation, as well as sampling strategies, including environmental sampling, recording methods, artefact recovery and processing are presented in the WSI. Best practice guidelines for the post-excavation assessment³ will be adhered to prior to determining the requirements for detailed analysis of the archaeological findings and essential publication of the results.
- 5.130 The principle of preservation in situ is that the archaeological remains will be protected and preserved for future generations. For the avoidance of doubt for construction contractors, fencing or appropriate barriers should be erected around archaeology sites earmarked for preservation by record to avoid accidental damage or disturbance during any enabling or construction works that may occur within their vicinity. Fencing and barriers can be removed from the areas once they have been completed excavated / preserved by record and approved following appropriate monitoring meetings with the Cambridge Historic Environment Team.
- 5.131 Details on the phasing of the development and the required earthworks strategy are provided in the construction section of chapter 2. The principal aim is the necessity to lift ground levels above the 1-in-100 year flood level (including an allowance for climate change) to provide flood protection where necessary and to enable the development plots to be drained to the proposed attenuation lakes in the south east of the site. The complex logistics required

³ Lee, E. 2006 Management of research projects in the historic environment (MoRPHE) English Heritage

to deliver the strategy have been developed with archaeological mitigation requirements at the fore.

5.132 To ensure these proposals are transparently applied to the many contractors that will be deployed to build out the proposed development, all proposed archaeological protection measures will be provided in a construction environmental management plan (CEMP) for each phase of development and agreed in consultation with Cambridge Historic Environment Team.

5.133 Clear and concise statements on the exclusion of construction activities in areas identified for preservation in situ will be provided in the CEMP, but in general should include:

- Groundworks, topsoil stripping, excavations, earthmoving or landscaping
- Construction of haulage roads
- Vehicle movement, tracking or parking
- Storage or disposal of any materials or liquids
- Location of temporary buildings
- The routing of services, including temporary construction-related activities

5.134 In the unlikely event that features of archaeological interest are uncovered during construction outside of investigation areas, further appropriate surveys and investigations will be undertaken. In the first instance, the Cambridge Historic Environment Team will be informed and the methodology for appropriate archaeological investigations will be discussed and agreed. These investigations will ensure that no significant residual effects will arise.

Community involvement and dissemination of information

5.135 It is widely recognised in government guidance and policy that the historic environment provides the basis for a community's sense of place and connectivity with past communities that shaped the local landscape. It is important for communities to understand this local significance of their historic environment, as it will assist and empower individuals to instigate important social inclusion projects that can aid local economic stability.

5.136 The rich archaeological resource within the development area will be preserved by record under approved schemes of investigation, as outlined in technical appendix B3. A number of strategies are given for the dissemination of the information gleaned from these investigations to the local population, bolstered by the assistance of specialist academic advisors who will assist with placing the discoveries in a regional and national context as appropriate. A balance is required to ensure that what is uncovered is easily disseminated to the local community, while being excavated to a high standard to ensure archaeological research agendas and scientific analysis is carried out for the academic community to place the findings in context with similar contemporary sites.

5.137 The potential opportunities for community involvement will have no impact on the development programme, as they are tasks that can be undertaken during the site investigation work, or during the post-excavation analysis. The main opportunities would be dissemination of information, practical involvement with the archaeological site work and various community projects. The investigations associated with these proposals will generate an abundance of information and will take place over many months. This extended timescale for just the archaeological investigations will present many dissemination opportunities to the local community, for example:

- Excavation open days
- Online excavation diary / blog
- Monthly information leaflets / pamphlets / newsletter
- Selective media coverage – local paper, local news
- Temporary displays produced in association with local history society and schools
- Talks / lectures by academic advisors and site director as required
- Excavation training to schools, local society members and other interested members of the community
- Training in finds processing.

5.138 Recent advances in media, such as android mobile phone technology and realtime video excavation feeds, present the opportunity to educate and eradicate previous misconceptions of archaeological excavations. Technological advances, such as creating mobile phone activated applications (Apps) that would update local residents on findings, and provide a video diary at times where public participation in the excavations is not possible, will be investigated. Research projects as part of university departments in marketing and media, or computer science, may assist in delivering a unique Northstowe heritage App that local schools or heritage societies can participate in. There could also be a dedicated Northstowe heritage Twitter account that would keep local residents, and interested archaeologists, aware of progress. This could potentially open discussion up to a wider audience in instances of enigmatic discoveries. Applying the latest media tools could lead to a wider sector of the local community feeling they are part of their local heritage, whilst ensuring wider academic coverage. This empowerment is key to a local community understanding and valuing the currently unknown and intangible buried archaeological heritage.

Built heritage

5.139 With regards to the built heritage resource, the NAAP objective D9/b stipulates that proposed development should “minimise any adverse impacts on the setting and character of listed buildings and conservation areas in the surrounding area”.

5.140 The mitigation of adverse effects has been considered during the design development throughout the evolution of the master plan with the purpose of avoiding or reducing any adverse potential effects. This mitigation has been incorporated as an intrinsic part of the design process. The measures proposed

and the use made of the existing historic landscape character in the master plan are described in the proposals section and outlined in paragraph 4.100 in the landscape and visual chapter.

Residual effects

5.141 The significant residual effects are summarised in table 5.3.

Table 5.3: Residual effects							
Topic	Significant residual effects	Importance of receptor	Magnitude of change	Duration	Nature	Degree of effect	Level of certainty
Cultural heritage	<i>Effects during construction</i>						
	Knowledge gained through excavation required to mitigate substantial effect on the on site archaeology	High	Large	Long term	Beneficial	Substantial	Absolute
	Bisection of southern portion of S19	High to medium	Medium	Short term	Adverse	Moderate	Absolute
	<i>Effects post-construction</i>						
	Incomplete archaeological appreciation of S19	High to medium	Medium	Short term	Adverse	Moderate	Absolute
Effects on Longstanton conservation area through changes to setting	Medium	Medium to small	Long term	Adverse	Moderate to slight	Reasonable	