

13 ARCHAEOLOGY AND CULTURAL HERITAGE

13.1 INTRODUCTION

13.1.1 This SEI chapter of the ES assesses the likely significant effects of the changes to the Proposed Development in terms of archaeology and cultural heritage, and should be read in conjunction with Chapter 12 of the ES 2016.

13.1.2 The cultural heritage comprises three 'strands' of potential receptors:

- historic buildings and structures (some of which may be scheduled, listed or locally designated);
- the historic landscape (elements of which may be protected by legislation or by designation); and
- archaeological deposits (elements of which may also be protected by legislation or by designation, and which are generally below-ground).

13.1.3 The approach taken in this assessment has been to examine in detail the area of the RAF Upper Heyford Conservation Area (the Application Site), and an area of 1km around it (the Study Area). From this information the assessment considers the heritage sensitivity of the Application Site by identifying known archaeological or historical features within it and using this information to judge the unknown archaeological potential of it. It also looks at the effects of the Proposed Development on the setting of designated heritage assets within the Study Area and within its visual envelope. The assessment looks at the significance of the effects of the Proposed Development upon this resource and includes an outline evaluation and mitigation strategy to reduce any significant effects identified.

13.2 ASSESSMENT APPROACH

Methodology

13.2.1 Environmental Impact Assessment (EIA) uses the baseline data to describe the survival and extent of cultural heritage features that may be affected by the Proposed Development. The assessment methodology presented here is based on that outlined in the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3 Part 2, in the amended document HA 208/07, issued by the Highways Agency in August 2007. Although this was written for road schemes in particular, it is accepted as current best-practice in relation to the assessment of archaeology and cultural heritage. This updated version of DMRB divides the cultural heritage resource into three sub-topics: Archaeological Remains, Historic Buildings and Historic Landscape.

13.2.2 The methodology applies the same three stages for each type of cultural heritage receptor, but the criteria used to decide both the sensitivity of individual receptors within each sub-topic and the magnitude of impact on them are specific to the particular topic. The assessment of the significance of the effects is identical in all three cases. Details of these criteria are given below.

13.2.3 Impact assessment refers to the change that is predicted to take place to the existing condition of the environment as a result of the Proposed Development.

**ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION**

Archaeology and Cultural Heritage

13.2.4 The significance of an effect is generally determined as the combination of the 'sensitivity and/or value; of the affected environmental receptor and the predicted 'extent' and/or 'magnitude' of the impact or change. The assessment of significance ultimately relies on professional judgement, although comparing the extent of the impact with criteria and standards specific to each environmental topic can guide this judgement.

13.2.5 Details of criteria specific to this assessment are defined in **Tables 13.1 - 13.3** and **Table 13.4 - 13.6**. **Table 13.7** outlines the significance matrix.

13.2.6 Determination of the sensitivity of receptors (sites and features) has been based mainly on existing designations, but allows for professional judgement where features are found which do not have any formal national or local designation.

Table 13.1: Receptor Sensitivity/ Value - Archaeology

| Receptor Sensitivity/ value | Description |
|------------------------------------|--|
| Very High | World Heritage Sites (including nominated sites). Assets of acknowledged international importance. Assets that can contribute significantly to acknowledged international research objectives. |
| High | Scheduled monuments (including proposed sites). Undesignated assets of schedulable quality and importance. Assets that can contribute significantly to acknowledged national research objectives. |
| Medium | Designated or undesignated assets that contribute to regional research objectives. |
| Low | Designated and undesignated assets of local importance. Assets compromised by poor preservation and/or poor survival of contextual associations. Assets of limited value, but with potential to contribute to local research objectives. |
| Unknown | The Importance of the resource cannot be ascertained. |

Based on: DMRB HA208/07 Annex 5 Table 5.1.

13.2.7 There is the potential for previously unknown below-ground archaeological features and deposits to be present. These would be of unknown sensitivity.

Table 13.2: Receptor Sensitivity/ Value - Historic Buildings

| Receptor Sensitivity/ value | Description |
|------------------------------------|--|
| Very High | Structures inscribed as of universal importance such as World Heritage Sites. Other buildings of recognised international importance. |

ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION
Archaeology and Cultural Heritage

| Receptor Sensitivity/ value | Description |
|------------------------------------|--|
| High | Scheduled monuments with standing remains. Grade I and Grade II* (Scotland: Category A) Listed buildings. Other Listed buildings that can be shown to have exceptional qualities in their fabric or historical associations not adequately reflected in the listing grade. Conservation Areas containing very important buildings. Undesignated structures of clear national importance. |
| Medium | Grade II (Scotland: Category B) Listed buildings. Historic (unlisted) buildings that can be shown to have exceptional qualities in their fabric or historical associations. Conservation Areas containing buildings that contribute significantly to its historic character. Historic Townscape or built-up areas with important historic integrity in their buildings, or built settings (e.g. including street furniture and other structures). |
| Low | 'Locally Listed' buildings (Scotland Category C(S) Listed buildings). Historic (unlisted) buildings of modest quality in their fabric or historical association. Historic Townscape or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures). |

Source: DMRB HA208/07 Annex 5 Table 6.1.

Table 13.3: Receptor Sensitivity/ Value - Historic Landscape

| Receptor Sensitivity/ value | Description |
|------------------------------------|--|
| Very High | World Heritage Sites inscribed for their historic landscape qualities. Historic landscapes of international value, whether designated or not. Extremely well preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s). |
| High | Designated historic landscapes of outstanding interest. Undesignated historic landscapes of outstanding interest. Undesignated historic landscapes of high quality and importance, and of demonstrable national value. Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s). |
| Medium | Designated special historic landscapes. Undesignated historic landscapes that would justify special historic landscape designation, landscapes of regional value. |

ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION
Archaeology and Cultural Heritage

| Receptor Sensitivity/ value | Description |
|-----------------------------|---|
| | Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s). |
| Low | Robust undesignated historic landscapes. Historic landscapes with importance to local interest groups. Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations. |

Source: DMRB HA208/07 Annex 5 Table 7.1.

Identification of the types of Impact

13.2.8 Impacts are defined as the physical changes to the environment attributable to the construction and operation of the Proposed Development. They are different from effects. The significance of the effects of the Proposed Development are generated by the level of impacts and the sensitivity of the resource.

13.2.9 Impacts to the cultural heritage resource may be of a number of kinds:

- Direct impacts resulting in destruction of monuments, buildings or buried remains;
- Direct impacts resulting in destruction e.g. by compression of buried deposits, vibration or by drying out of waterlogged remains;
- Indirect impacts upon setting, reducing the appreciation of the resource e.g. by noise, visual intrusion, dust; and
- Severance by removing a monument or site from its context.

13.2.10 Construction impacts are most commonly direct impacts. These may involve:

- Demolition and clearance works, including topsoil stripping; and
- Excavation e.g. for structures/services, planting, drainage works.

13.2.11 They may also be other direct impacts, for instance:

- Vibration damage to historic buildings and other structures from piling;
- De-watering of environmentally sensitive deposits through drainage alterations; and
- De-watering may also occur through cumulative minor impacts to drainage.

13.2.12 There may also be setting issues (indirect impacts) affecting scheduled monuments, Listed buildings, other designated sites or the wider historic landscape, such as:

- Alteration of their surrounding;
- Noise affecting the context and appreciation of historic sites;
- Dust; and
- Visual intrusion through the removal of screening.

**ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION**

Archaeology and Cultural Heritage

13.2.13 In any area where topsoil is removed the below-ground archaeology can be adversely affected. Removal of topsoil is an archaeological impact as it exposes any archaeology that may be present immediately beneath the topsoil, which is then damaged by subsequent movement of vehicles and plant involved in construction activities (i.e. through rutting, disturbance and compaction). In addition, it is possible that topsoil removal without archaeological supervision may result in overstripping, which would have a direct impact upon archaeological deposits located beneath the topsoil, or understripping, where archaeological features are concealed beneath a thin layer of topsoil but are then exposed and unprotected from subsequent construction activities.

13.2.14 The impact of excavation for groundworks, foundations, roads and services could be major. Where ground disturbance is likely to exceed 0.25m in depth this could result in the destruction of all shallow below-ground archaeological features and severe truncation of deeper features.

13.2.15 There are a number of variables in determining magnitude of change. These include the sensitivity or vulnerability of a site to change (for example, depth of alluvium, or the presence of made-ground), the nature of past development or management effects, and the differing nature of Proposed Development processes such as piling and topsoil stripping.

13.2.16 The survival of archaeological deposits within any given area is often uncertain at this stage without further physical archaeological evaluation, as is their exact extent. Magnitude of change can be difficult to predict with any certainty, for that reason.

Table 13.4: Magnitude of Impact - Archaeology

| Magnitude of Impact | Description |
|---------------------|---|
| Major | The Proposed Development would cause a large change to existing environmental conditions. Change to most or all key archaeological materials, such that the resource is totally altered. Comprehensive changes to setting. |
| Moderate | The Proposed Development would cause a noticeable change to existing environmental conditions. Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset. |
| Minor | The Proposed Development would cause a small change to existing environmental conditions. Changes to key archaeological materials, such that the asset is slightly altered. Slight changes to setting. |
| Negligible | The Proposed Development would cause no discernible change to existing environmental conditions. Very minor changes to archaeological materials, or setting. |
| Uncertain | Impact unknown due to uncertainty as to the value. |

Based on: DMRB HA208/07 Annex 5 Table 5.2.

ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION
Archaeology and Cultural Heritage

Table 13.5 Magnitude of Impact - Historic Buildings

| Magnitude of Impact | Description |
|---------------------|---|
| Major | The Proposed Development would cause a large change to existing environmental conditions. Change to key historic building elements, such that the resource is totally altered. Comprehensive changes to the setting. |
| Moderate | The Proposed Development would cause a noticeable change to existing environmental conditions. Change to many key historic building elements, such that the resource is significantly modified. Changes to the setting of an historic building, such that it is significantly modified. |
| Minor | The Proposed Development would cause a small change to existing environmental conditions. Change to key historic building elements, such that the asset is slightly different. Change to setting of an historic building, such that it is noticeably changed. |
| Negligible | The Proposed Development would cause no discernible change to existing environmental conditions. Slight changes to historic buildings elements or setting that hardly affect it. |

Source: DMRB HA208/07 Annex 5 Table 6.2.

Table 13.6: Magnitude of Impact - Historic Landscape

| Magnitude of Impact | Description |
|---------------------|---|
| Major | The Proposed Development would cause a large change to existing environmental conditions. Change to most or all key historic landscape elements, parcels or components; extreme visual effects; gross change of noise or change to sound quality; fundamental changes to use or access; resulting in total change to historic landscape character unit. |
| Moderate | The Proposed Development would cause a noticeable change to existing environmental conditions. Changes to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, noticeable differences in noise or sound quality, considerable changes to use or access; resulting in moderate changes to historic landscape character. |
| Minor | Changes to few key historic landscape elements, parcels or components, slight visual changes to few key aspects of historic landscape, limited changes to noise levels or sound quality; slight changes to use or access; resulting in limited changes to historic landscape character. |
| Negligible | The Proposed Development would cause no discernible change to existing environmental conditions. Very minor changes to key historic landscape elements, parcels or components, virtually unchanged visual effects, very slight changes in noise levels or sound quality; very slight changes to use or access; resulting in a very small change to historic landscape character. |

Source: DMRB HA208/07 Annex 5 Table 7.2.

13.2.17 The predicted environmental effect outlined in **Table 13.7** below represents the effect without mitigation. The overall effect is calculated based on the sensitivity of receptor and the magnitude of change upon it.

**ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION**

Archaeology and Cultural Heritage

13.2.18 Where the significance of the effect is designated 'unknown' then further investigation of the issue is generally necessary. This may include further details on the impacts or further clarification of the presence and/or nature of the cultural heritage resource.

Table 13.7: Significance Matrix

| | Magnitude of Impact | | | | | | |
|-----------------------------|---------------------|-----------------|--------------------|--------------------|--------------------|-----------|-----------|
| | | Major | Moderate | Minor | Negligible | No Change | Uncertain |
| Receptor Sensitivity/ Value | Very High | Very High | Very High/ High | Moderate/ High | Slight | Neutral | Uncertain |
| | High | High | Moderate/High | Moderate/Slight | Slight | Neutral | Uncertain |
| | Medium | Moderate/ High | Moderate | Slight | Neutral/ Slight | Neutral | Uncertain |
| | Low | Moderate/Slight | Slight | Neutral/ Slight | Neutral/ Slight | Neutral | Uncertain |
| | Negligible | Slight | Neutral/ Slight | Neutral/ Slight | Neutral | Neutral | Uncertain |
| | Unknown | Unknown | Unknown | Unknown | Unknown | Neutral | Uncertain |

Source: Based on DMRB HA208/07 Chapter 5, Table 5.1

Summary of Sources Consulted

13.2.19 The following range of sources holding primary and secondary data recording cultural heritage features have been consulted:

- The National Heritage List and National Monuments Record (NMR) - (now the Historic England (formerly English Heritage) Archive) - digital records of designated sites (scheduled monuments, Listed buildings, registered parks and gardens, historic battlefields), and archaeological monuments and activities;
- The Oxfordshire Historic Environment Record (HER) (maintained by Oxfordshire County Council) - records of archaeological sites, monuments and cropmarks (2006, consulted for update in June 2016);
- Aerial photographs held by Historic England in Swindon (2006, consulted for update of images held in April 2015);
- The Oxfordshire County Record Office and Centre for Oxfordshire Studies (maintained by Oxfordshire County Council) - historic maps and documentary sources;
- The Sackler Library, Oxford - published sources;
- Archives of former RAF Upper Heyford (held by the Dorchester Group - detailed technical drawings of buildings, structures and services);

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

- Reports on previous archaeological and geotechnical investigations within the Site and the Study Area (held by Oxford Archaeology and as referenced in the in the footnotes);
- Secondary and documentary sources held by Oxford Archaeology (OA);
- On-line archaeological and historical records held by the Archaeology Data Service (<http://ads.ahds.ac.uk/>) and the Defence of Britain Project (<http://www.britarch.ac.uk/projects/dob/index.html>);
- Past reports, in particular the Conservation Plan (ACTA et. al 2005¹), a Landscape Character Assessment of the Airbase South of the Cold War Zone (ACTA 2006²) and RAF Upper Heyford (Airfield Research Publishing 1996) and the previous EIA for development at Upper Heyford (OA 2007³);
- Conservation Areas, Cherwell District Council website;
- Conservation Area Appraisal, Cherwell District Council 2006; and
- A walkover of the Application Site and its surroundings was undertaken in May 2015.

Aerial Photography

13.2.20 Aerial photographs dating from the 1930s were examined at the former NMR in Swindon (now Historic England Archive). The shallow, light free draining soils over the Oolitic Limestones of the Cotswolds and East Cherwell Uplands quickly parch in dry conditions and are, therefore an ideal soil type for the identification of archaeological sites by aerial photography if taken at the right time of year. However, prior to the 1990s, relatively little aerial photography could be undertaken in the area of RAF Upper Heyford due to the flight restrictions imposed by the presence of the United States Air Force (USAF). The closure of the Flying Field in 1994 coincided with a succession of hot summers and aerial reconnaissance soon added significantly (nearly 300 new sites) to the number of identified sites in the area (Featherstone and Bewley, 2000, 13 - 24⁴). The majority of the new sites identified were interpreted as being Iron Age in date. This has led to a significant reinterpretation of the nature and scale of later prehistoric settlement on the Limestone uplands. Prior to the 1990s the area was believed to be characterised by isolated and widely scattered enclosures. Now, although enclosures still predominate, they are often to be found in groups such as represented here (Barclay et al, 1996, 5⁵).

13.2.21 Whilst many cropmarks were discovered close, and in some cases adjacent, to the RAF Upper Heyford Conservation Area, no definite cropmarks have been identified within it. This could be due to the fact that archaeological features may have been destroyed during the construction of the airfield, but as other evidence shows (geophysics and limited trenching) this is unlikely to be the case all over this area. It could therefore either be due to the masking effect of made ground used to level the airfield in which case any archaeological features would be buried, screened and

¹ ACTA , OA and the Tourism Company (2005) *Former RAF Upper Heyford Conservation Plan* (Unpublished report)

² ACTA (2006) *Landscape Character Assessment of the Airbase South of the Cold War Zone*

³ Oxford Archaeology, 2007 *Heyford Park, Oxfordshire, Environmental Impact Assessment*

⁴ Featherstone, R. & Bewley, R. (2000) 'Recent Aerial Reconnaissance in North Oxfordshire', *Oxoniensia* 65 13-26

⁵ Barclay, A. Bradley, R. Hey, G. and Lambrick, G. (1996) 'The Earlier Prehistory of the Oxford Region in the Light of Recent Research', *Oxoniensia* 61, 1-20

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

protected from view and/or damage or to the fact that arable land is the best medium for identifying crop/soil marks, not pasture or concrete.

13.2.22 However, Google Earth (GE) images labelled as dating to 2004, show a series of circular and semi-circular pasture marks across much of the Flying Field and these are discussed further below.

Legislative and Policy Framework

13.2.23 This assessment has taken into account relevant national and local legislation, policy and guidance, including:

- Town and Country Planning Act 1990;
- Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999;
- Ancient Monuments and Archaeological Areas Act 1979;
- National Planning Policy Framework (March 2012);
- Oxfordshire County Council Oxfordshire Structure Plan 2016 (Adopted October 2005);
- The Cherwell Local Plan 2011-2031 (Adopted July 2015);
- The Cherwell District Council Local Plan 1996;
- Non-Statutory Cherwell Local Plan 2011; and
- RAF Upper Heyford Revised Comprehensive Planning Brief (supplementary planning document) Sustainability Appraisal March 2007.

National

13.2.24 The National Planning Policy Framework (NPPF) (DCLG 2012⁶) replaced Planning Policy Statement 5: (PPS5) Planning for the Historic Environment (issued March 2010) which in turn replaced the two Planning Policy Guidance Notes, PPG 15 and PPG 16.

13.2.25 The NPPF sets out the Government's planning policies on the conservation of the historic environment and the rationale for its conservation. It covers all aspects of the historic environment within a common set of policies, which recognise that heritage assets are a non-renewable resource and that heritage conservation has wider benefits, while accepting that the level of conservation should be commensurate with the significance/sensitivity of the assets concerned. It is supported by developing guidance, in this case, Conserving and enhancing the historic environment, updated 10/04/2014.

13.2.26 The policy takes a holistic approach to the historic environment, identifying all elements within this environment that are worthy of consideration in planning matters as 'heritage assets'. A heritage asset is identified by NPPF as an environmental component that holds meaning for society over and above its functionality. This term includes buildings, parks and gardens, standing, buried and submerged remains, areas, sites and landscapes, whether designated or not and whether or not capable of designation. NPPF states that:

"When considering the impact of a Proposed Development on the significance of a designated heritage asset, great weight should be

⁶ DCLG *National Planning Policy Framework*, 2012

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II Listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II * Listed buildings, grade I and II * registered parks and gardens, and World Heritage Sites, should be wholly exceptional" (para 132).

"In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance." (para 128).

"The effect of an application on the significance of a non designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset" (Para 135).

13.2.27 NPPF also discusses how the historic environment could also make a positive contribution to the design of new development as set out policies:

"In determining planning applications, local planning authorities should take account of:

- **the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;**
- **the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and**
- **the desirability of new development making a positive contribution to local character and distinctiveness"** (para 131).

13.2.28 The Hedgerow Regulations 1997 make provision for the protection of hedgerows considered to be of landscape and/or historical and natural history importance. The Regulations state that a hedgerow can be considered to be 'important' if it meets certain criteria; in summary:

- It marks a boundary between parishes existing before 1850;
- It marks an archaeological feature or a site that is a scheduled monument or noted on the Historic Environment Record; or

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

- It marks the boundary of a pre-1600 estate or manor or a field system pre-dating the Enclosure Acts.

13.2.29 Before the removal of any hedgerow to which these Regulations apply, Cherwell District Council must be notified. If the planning authority considers the hedgerow to be of some historic significance, it may serve a hedgerow retention notice to the effect that the hedgerow should not be removed.

Planning Background: The Regional and Local Context

13.2.30 'The South East Plan' was the Regional Spatial Strategy for the South East. It was revoked by the Secretary of State for Communities and Local Government in March 2013. The revocation of the South East Plan decentralises planning powers to local authorities. However, the NPPF requires councils to work together to address strategic priorities across boundaries and development requirements which cannot be wholly met within their own areas under the duty to co-operate. The policies relating to Upper Heyford have been replaced with Cherwell Local Plan Policy Villages 5: Upper Heyford, which forms part of the Cherwell Local Plan (adopted July 2015).

13.2.31 The Cherwell District Council Local Plan 1996 (Adopted November 1996) refers to protection of the cultural heritage through implementation of a series of saved policies; Policies C18-27. There is also the non-Statutory Cherwell Local Plan 2011 which was approved by the LPA but never adopted.

13.2.32 The Cherwell Local Plan (Adopted July 2015), represents the most up to date plan to be considered within the planning process. The policy most relevant to archaeology and cultural heritage is Policy ESD15: The Character of the Built and Historic Environment, which states that new development should:

"Contribute positively to an area's character and identity by creating or reinforcing local distinctiveness and respecting local topography and landscape features including skylines, valley floors, significant trees, historic boundaries, landmarks, features or views, in particular within designated landscapes, within the Cherwell Valley and within Conservation Areas and their setting

Conserve, sustain and enhance designated and non designated 'heritage assets' (as defined in the NPPF) including buildings, features, archaeology, Conservation Areas and their setting, and ensure new development is sensitively sited and integrated in accordance with advice in the NPPF and NPPG. Regeneration proposals that make sensitive use of heritage assets, particularly where these bring redundant or under used buildings or areas, especially any on English Heritage's [now Historic England's] At Risk Register, into appropriate use will be encouraged.

Include information on heritage assets sufficient to assess the potential impact of the proposal on their significance. Where archaeological potential is identified this should include an appropriate desk based assessment and, where necessary, a field evaluation."

Scoping Criteria

13.2.33 No formal scoping exercise was undertaken as part of this EIA process.

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

13.2.34 The general approach and methodology has been to collate and analyse information relating to the cultural heritage resource, including archaeological sites and monuments, local geology and topography, ground conditions, historic buildings and historic landscape features within the Study Area. This was undertaken to determine the likely nature, extent, preservation and value of any cultural heritage receptors that may be present.

13.2.35 A gazetteer of all identified cultural heritage features within the Study Area is provided in **Appendix 13.1** (**13.1A** refers to historic buildings in the vicinity within the Upper Heyford Airbase and **13.1B** all other heritage assets). These features have each been given an Oxford Archaeology (OA) site number. **Figure 13.1** shows the location of all identified heritage assets within the Study Area. **Figure 13.2** shows all designated heritage assets and nearby Conservation Areas. **Figure 13.3** showing a more detailed view of the Application Site. **Figures 13.4** to **13.7** comprise copies of the relevant historic mapping showing pertinent details of the Application Site. **Figure 13.8** shows the landscape character areas of the Application Site and surrounds. **Figure 13.9** and **13.10** comprise aerial photographs of the Application Site in 1961 and 2016.

13.2.36 This assessment has been conducted with regard to the Chartered Institute for Archaeologists (CIfA) standards as set out in the Standards and Guidance for historic environment desk-based assessment (CIFA 2014⁷). The assessment methodology presented here is based on that outlined in the Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3 Part 2, in the amended document HA 208/07, issued by the Highways Agency in August 2007.

Limitations to the Assessment

13.2.37 Previously unknown below-ground archaeological features and deposits can often survive undetected until an intrusive archaeological investigation or development work takes place. Very little archaeological excavation has been carried out within the Application Site and Study Area. As a general rule a low level of previous work increases the level of uncertainty of an assessment of the archaeological potential of an area. In general, therefore it should not be assumed that an absence of evidence for below ground archaeological features and deposits provides an accurate picture of the archaeological potential of an area.

13.3 BASELINE CONDITIONS

Site Description and Context

Topography and Geology

13.3.1 The Application Site lies just to the south of Camp Road in the south west corner of the RAF Upper Heyford Conservation Area. It lies within the area populated by prefabricated school buildings. Away from these buildings the Application Site also includes areas used for organised sports such as baseball.

13.3.2 The Application Site lies mainly within Area 9 (School Huts) and partially in Area 10 (Sports Field and Large Buildings). Areas 9 and 10 are defined within the RAF Upper Heyford Conservation Area Appraisal (Areas 10E and 10D Cherwell District Council 2006⁸), they have been renumbered for clarity within this report, see **Figure 13.8**.

⁷ CIfA (2014) *Standards and Guidance for historic environment desk-based assessment*

⁸ Cherwell District Council. April 2006. *RAF Upper Heyford Conservation Area Appraisal*

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

Areas 9 and 10, have been assessed against the criteria set out in **Table 13.3**. Area 9 is considered to have a Negligible significance, while Area 10 is considered to have a Low significance.

13.3.3 The Application Site falls within the historic parish of Upper Heyford and lies on the very edge of the East Cherwell Plateau. It is flat to gently sloping and comprises grassed and tarmacked areas with the majority of the 1930s school buildings remaining. One row of these buildings has been demolished parallel to the northern fence. To the west of the entrance gate the foundations for these building have been removed, but to the east they remain and can be seen to be constructed of concrete slabs only slightly extending into the ground surface.

13.3.4 The underlying geology of the Application Site is composed of Mid Jurassic Greater Oolite Limestone (BGS Sheet 218). On the slopes of the Cherwell Valley to the west the underlying strata of the Inferior Oolite and Upper Lias are successively exposed. The Greater Oolite supports a light, calcareous well-drained soil of the Aberford Association, which is a fertile soil suitable for arable cropping (SSEW 1984, 71)⁹. These soils are rarely deep and archaeological features and deposits that may be present are very susceptible to plough truncation. Where they survive undisturbed archaeological deposits may be very close to the ground surface.

Baseline Survey Information - Archaeology

Designated Sites within RAF Upper Heyford

13.3.5 The Application Site falls within the RAF Upper Heyford Conservation Area as defined and described with the Conservation Area Appraisal (CDC 2006¹⁰). Within the Conservation Area there are a number of scheduled monuments and Listed buildings (**Figure 13.2**).

13.3.6 Five Cold War structures within the former RAF Upper Heyford were scheduled in December 2006 under Section 1 of the Ancient Monuments and Archaeological Areas Act of 1979 (all OA 1128). These are:

- The Hardened Telephone Exchange;
- The Battle Command Centre;
- The Quick Reaction Alert Area (ORAA): this includes hardened aircraft shelters, security fence, watch tower, fuel supply point and hardened crew buildings;
- The Northern Bomb Store and Special Weapons Area: this is contained within a security fence and includes 'special' and conventional bomb stores; and
- The Avionics Maintenance Facility.

13.3.7 The nearest of these scheduled sites to the Application Site, The Avionics Maintenance Facility, lies c.140m to the north of the Application Site and the rear of both the protective earth bank and the concrete structure will be intervisible with the site.

⁹ Soil Survey of England and Wales [SSEW] (1984) Soils and their Use in South East England (Bulletin no.15)(Lawes Agricultural Trust, Harpendon)

¹⁰ Cherwell District Council. April 2006. *RAF Upper Heyford Conservation Area Appraisal*.

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

13.3.8 Several structures around the Application Site have recently been listed at Grade II by the DCMS (April 2008) following recommendations by OA (ACTA et al, 2005)¹¹ (plotted on **Figure 13.2**). These are:

- Three Nose Docking Sheds (OA 1123-5);
- Squadron Headquarters (OA 1127); and
- The Control Tower (OA 1126).

13.3.9 The nearest of these Listed buildings, the Nose Docking Sheds, lies c 600m to the north east of the Application Site and has no intervisibility with the area.

Designated Sites within the Study Area

13.3.10 There is one other scheduled monument within the Study Area; the Upper Heyford Tithe Barn (OA 1057), dating to the early 15th century (c 800m west of the Application Site).

13.3.11 There is one registered park and garden within the Study Area, Middleton Park (OA 1024), which is a Grade II listed 18th/19th century landscaped park (c 900m south of the Application Site). Rousham Hall, a Grade I listed 17th century house with pleasure gardens laid out in the 1720s and extended by Kent in between 1737-41, lies c 2km to the south west of the Application Site and is plotted on **Figure 13.2**.

13.3.12 There are 27 Listed buildings within the Study Area. These include:

- OA 1057 Grade I Listed building (c 790m west of the Application Site);
- OA 1006 and OA 1018 Grade II* Listed buildings (nearest Grade II* Listed building to the Application Site is OA 1018, c 750m west of the Application Site);
- OA 1002-1017, OA 1019-1023, OA 1074, OA 1120-1122 Grade II Listed buildings (nearest Grade II Listed building to the Application Site is OA 1022, c 500m west of the Application Site); and
- OA 1062 Grade III (locally) Listed building (c 4km east of the Application Site)/

13.3.13 In addition to the Airbase there are three Cherwell District Council Conservation Areas within the Study Area. These comprise:

- OA 1109 Rousham Conservation Area which includes the historic cores of both Upper Heyford and Lower Heyford and lies just to the west, adjoining the Application Site;
- OA 1104 Somerton Conservation Area c 2km to the north west; and
- OA 1105 Ardley to the north east of the Flying Field.

13.3.14 The perimeter of the site is potentially visible from parts of the Rousham/Heyford Conservation Area on the road between Upper and Lower Heyford, and possibly in distant views from one part of Rousham Gardens.

Archaeology within the Application Site

¹¹ ACTA, OA and the Tourism Company (2005) Former RAF Upper Heyford Conservation Plan (Unpublished document)

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

13.3.15 No archaeological sites have been identified within the Application Site itself apart from a series of former areas of hardstanding associated with the original 1930s RAF airfield (OA 1154) and a former field boundary seen on the first edition 6" OS map of 1885 (OA 1091). These features are of Negligible/Minor sensitivity.

13.3.16 The Application Site has the potential to contain as yet unidentified archaeological deposits and finds, the likelihood of which is discussed below.

Historic hedgerows

13.3.17 The hedge marking the westernmost boundary (OA 1116) runs along the line of Port Way, a Roman Road (OA 1047 – see below for details). Whilst the road can be traced on all historic maps it is unclear as to whether a hedge followed it on the earliest maps and it is perhaps unlikely to have been hedged as it crossed the unenclosed land seen in 1797 (**Figure 13.4**). A hedge is probably shown for the first time on the Upper Heyford Enclosure map of 1842 (**Figure 13.6**).

13.3.18 The walkover undertaken in May 2015 showed that this was a well established hedge typical of enclosure, with Hawthorn and May being the predominant species. The undergrowth was such within the Application Site that no banks/ditches could be seen. On inspection of the road side of the hedge the road could be seen to lie above the verges on both sides, especially on the western side where the verge slopes quite steeply down to the field. There is less of a slope on the eastern side, but it is possible that the raised road may reflect the fact that the original Roman Road would have been raised, consisting of an agger, probably with flanking ditches.

13.3.19 The southernmost boundary of the Application Site is first seen on the 1842 Enclosure map and is currently more fence than hedge. There is no eastern boundary as such, although a line of tall fir trees form part of it. The northern boundary is defined by a hedge first shown as a hedge on the Upper Heyford Enclosure map (**Figure 13.6**). A road on a slightly different alignment is seen on the 1797 map to the north, part of which may have been reused when Camp Road was formalised. It is likely that the northern boundary hedge was laid out at this time.

13.3.20 The Hedgerow Regulations Guide (1997¹²) states that:

13.3.21 Subject to regulation 8(4), hedgerows are important for the purposes of the Regulations if they:

“Have been in existence for 30 years or more; and

Satisfy at least one the criteria set out in Part 2 of Schedule 1 to the Regulations.”

13.3.22 Schedule 1 criteria relevant to archaeology and history are those summarised above.

13.3.23 Out of these hedges only OA 1116 will be protected under the Hedgerow Regulations as marking an archaeological feature on the HER, ie Port Way, none of the others do this or pre-date the 1850s Enclosure Acts.

Archaeological work

¹² DEFRA *The Hedgerow Regulations 1997 A Guide to Good Practice*

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

13.3.24 Whilst no archaeological investigations have taken place within the Application Site, a number of limited investigations have been undertaken within the Study Area, the most relevant of which were located within the Flying Field to the north. A series of 14 trenches were excavated by John Samuels Archaeological Consultants during May 1999¹³ (OA 1085) in the north east of the Flying Field, some of which indicated an area of very heavily disturbed ground with contamination. Other trenches excavated in the east of the Flying Field showed variable survival with two trenches showing undisturbed sequences and two others showing disturbance of subsoils.

13.3.25 OA undertook a geophysical survey in the Flying Field, covering two separate areas one at the end of the eastern runway and nib and that to the west (OA 1113, 1114). The 2006 geophysical survey consisted of a detailed magnetic survey. The results of this work informed a targeted trenched evaluation in 2007 in the area of OA 1113 in the west, c 700m to the north of the Application Site. This discovered two sides of a ring ditch of probable Iron Age date, interpreted as a round house, a further curvilinear ditch, probably indicative of Iron Age settlement and the remains of ridge and furrow. These features are likely to be associated with the cropmarks seen just outside the Flying Field in this area (OA 1054). All these features lay below a layer of made ground associated with levelling and landscaping undertaken when the Flying Field was laid out. The geophysical survey in the east of the airfield revealed undated linear ditches (OA 1114).

13.3.26 Thames Valley Archaeological Service (TVAS) undertook geophysical survey and archaeological trial trenching on land to the north of Camp Road and north east of the Application Site (OA 1149). The geophysical survey identified several anomalies; however, the subsequent trial trenching demonstrated that these features were a result of geological changes and agricultural activity¹⁴¹⁵.

Archaeological Baseline

The Palaeolithic Period (c 500,000 BC to c 8500 BC)

13.3.27 Palaeolithic populations were hunter gatherers and few in number who periodically exploited the periphery of the ice sheets. Climatic conditions varied widely during this period with at least four full glaciations recorded with intervening warm periods suitable for human exploitation.

13.3.28 The countryside exploited by the hunter gatherers was therefore sometimes open grassland but often semi-tundra with dwarf birch and willow scrub (Evans 1975¹⁶). Very little remains to indicate their presence and what there is has often been disturbed from its original depositional sequence by later re-working through glacial, riverine and human activity. Remains of the period are therefore highly ephemeral and consist mainly of stone tools and remains of the animals with which Palaeolithic populations co-existed and hunted.

13.3.29 Palaeolithic hunter gatherers may potentially have been periodically exploiting the resources of the region, utilising river valleys, such as that of the Cherwell to access

¹³ John Samuels Archaeological Consultants, 1999, An Archaeological Evaluation Excavation at the Former RAF Upper Heyford, Oxfordshire, undertaken on behalf of the Cooper partnership

¹⁴ TVAS (2015) Land at Camp Road, Upper Heyford, Oxfordshire. An Archaeological Evaluation. *Unpublished Report*

¹⁵ TVAS (2015) Land at Camp Road, Upper Heyford, Oxfordshire. Geophysical Survey (Magnetic). *Unpublished Report*.

¹⁶ Evans, J. (1975) *The Environment of Early Man in the British Isles* (Paul Elek, London)

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

hunting territories within the peripheries of the Thames watershed (Lewis et al 1992¹⁷). In the Oxfordshire region, the river terrace gravels are the principal sources of Palaeolithic artefacts.

13.3.30 There are no recorded sites or finds of Palaeolithic origin within the Application Site or the Study Area. Although numerous artefacts dating to the Palaeolithic period have been recovered throughout Oxfordshire, the vast majority are from south and west Oxfordshire.

The Mesolithic Period (c 8500 - c 3400 BC)

13.3.31 Evidence for Mesolithic activity is more prevalent than for the preceding Palaeolithic period, but still mainly comprises isolated surface finds or artefacts retrieved from rivers. Mesolithic populations were again few in number and were mainly hunter gatherers re-colonising Britain after the end of the last Ice Age. Mesolithic remains are seldom recognised during formal excavation but can be detected during large scale and systematic fieldwalking exercises. Much evidence of Mesolithic date will have been disturbed by later erosional activity by rivers and agriculture and/or masked by the build-up of alluvium and colluvium within river valleys.

13.3.32 Evidence suggests that Mesolithic communities were exploiting areas within the Thames Valley and alongside its tributaries (Lewis, 2000, 54-55¹⁸) such as the Cherwell. By the later Mesolithic period, the Cherwell Valley may potentially have been the focus for seasonal camps and small scale clearances of woodland during spring to summer with winter hunting on the adjacent higher ground.

13.3.33 Mesolithic microliths and other flints found near the confluence of the Cherwell and Ray may possibly be associated with a riverside encampment, and there have been further finds in the Cherwell Valley not too far away from the Application Site (Case, 1986, 18¹⁹).

13.3.34 There are no recorded sites or finds of Mesolithic origin within the Application Site, although a Mesolithic lithic implement was recovered within the Study Area during an archaeological evaluation in Ardley (OA 1031).

The Neolithic period (c 3400 - 2400 BC)

13.3.35 Settlement evidence for the Neolithic period can be more easily recognised than from the Palaeolithic and Mesolithic periods including structures and earthworks and there is a wider selection of find types including pottery entering the archaeological record. Monument types represented from this period include long barrows, mortuary enclosures, cursus monuments, causewayed enclosures, henges and the first instances of barrows with encircling ring ditches.

13.3.36 Pollen studies have suggested that woodland clearances for animal husbandry and, to a limited extent, agriculture began in the early Neolithic period. These clearances coincide with a change from lime with oak and pine woodland to beech

¹⁷ Lewis, J., Wiltshire, E. & Macphail, R. (1992) 'A Late Devensian/Early Flandrian Site at Three Ways Wharf, Uxbridge: Environmental Implications' in Needham, S. & Machlin, M. (eds) (1992) *Alluvial Archaeology in Britain* (Oxbow, Oxford)

¹⁸ Lewis, J, 2000 *The Archaeology of Greater London*

¹⁹ Case, H. (1986) 'The Mesolithic and Neolithic in the Oxford Region' in Briggs, G., Cook, J. and Rowley, T (1986) *The Archaeology of the Oxford Region* (Oxford University Department for External Studies, Oxford)

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

dominated woodland by c 2,000 BC. These clearances are also associated with the first, albeit limited, appearance of cereal grains in the archaeological record (Girling and Grieg, 1977²⁰). Studies of snail assemblages appear to confirm that woodland clearances were occurring throughout the south of Britain with an increase in grassland suggesting use of the cleared areas for grazing (Allen, 1991²¹). The Neolithic clearances initially appear to have consisted of relatively small and temporary assarts within the woodland. There was a shift from a relatively mobile pastoral society utilising riverine resources in spring and autumn with hunting in upland woodland during the winter, to a more settled husbandry based society, with clearer territorial definition by the later Neolithic.

13.3.37 In the Upper Thames region (which includes the Limestone uplands adjacent to the Cherwell) Neolithic settlement may have spread into areas peripheral to the Thames Valley along tributary valleys such as the Cherwell (Barclay et al, 1996, 6 - 14²²). Interestingly there appears to be a divide along the line of the Cherwell. To the west, the Cotswold Massif is characterised by the presence of Long Barrows of the Cotswold/Severn type which appear to be entirely lacking east of the Cherwell.

13.3.38 The majority of the evidence for Neolithic settlements in Oxfordshire is located in the south of the county on the gravel terraces (Steane, 1996, 20²³). This is due in part to the large scale gravel extraction which has taken place near Yarnton and Wallingford, and the associated archaeological excavations.

13.3.39 There are no recorded sites or finds of Neolithic origin within the Application Site or Study Area. The nearest Neolithic evidence is from Steeple Aston (c 2km west of the Application Site, and hence to the west of the River Cherwell where a pit possibly dating to the Neolithic, and other redeposited Neolithic artefacts were recovered during an excavation (Cook & Hayden, 2000, 101²⁴).

The Bronze Age (c 2400 - 700 BC)

13.3.40 During the Bronze Age, an intensification of land use may be associated with a change in agricultural practices in response to increasing population and associated greater social complexity (Cunliffe 1991²⁵). Natural divisions of land such as river lines (eg the Cherwell) and ridges would also probably have become more important as boundaries (Salway 1999²⁶, figure 6) with rivers also becoming important communication routes. The beginnings of extensive colluviation and silting into watercourses, resulting from increasing woodland clearances and arable uptake, can be attributed as starting in the later Bronze Age.

13.3.41 The divide between the east and west sides of the River Cherwell suggested in the Neolithic period appears to continue into the earlier Bronze Age with a greater number of ring ditches recorded in the Cotswolds to the west of the Cherwell compared

²⁰ Girling, M. & Grieg, J. (1977) 'Palaeoecological Investigations of a Site at Hampstead Heath, London', *Nature* 268, 45-47

²¹ Allen, M. (1991) 'The Vegetational History at Barton' in Clark, R. (ed) Excavations at Barton Ring Ditches, Landscape History and Archaeology, *Bedfordshire Archaeological Journal* 19)

²² Barclay, A Bradley, R Hey, G and Lambrick, G (1996) 'The Earliest Prehistory of the Oxford Region in the Light of Recent Research', *Oxoniensia* 61, 1-20

²³ Steane, J. (1996) *Oxfordshire* (Pimlico County History Guides, London)

²⁴ Cook, S and Hayden, C (2000) 'Prehistoric and Roman Settlement near Heyford Road, Steeple Aston, Oxfordshire', *Oxoniensia*, 65, 161-210

²⁵ Cunliffe, B. (1991) *Iron Age Communities in Britain* 3rd edition (Routledge, London)

²⁶ Salway, P. (1999) 'Roman Oxfordshire. The Tom Hassall Lecture for 1997' *Oxoniensia* 64 1-22

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

with the East Cherwell Uplands, on the edge of which Upper Heyford lies (Featherstone and Bewley, 2000, pg.21²⁷).

13.3.42 The most characteristic feature of the Middle and Late Bronze Age in Britain, and especially in the Thames Valley, is the appearance of a managed and established farming landscape with land divisions and identifiable settlements (Miles, 1997, pg.9²⁸). Extensive sites have now been recognised on the Terraces of the Thames Valley at Yarnton/Cassington, Stanton Harcourt, Farmoor, Dorchester and Abingdon. The uplands of the Cotswolds and East Cherwell remain, however, apparently little exploited and possibly peripheral until the later Bronze Age/Early Iron Age. Where upland sites have been recognised there is evidence that they may have been involved in pastoral stock keeping, specifically of cattle and sheep.

13.3.43 There are no recorded sites or finds of Bronze Age origin within the Application Site. However, evidence for Early Bronze Age activity near to Upper Heyford can be found at Fritwell, where the name of the medieval administrative area of 'Ploughley Hundred' took its name from the Ploughley Barrow. This is a probable Bronze Age barrow located on high ground within the parish of Fritwell, and first noted by Plot in 1724 (Pugh, 1959, pg. 2 & 135²⁹). It is also conceivable that a peculiar circular triple ditched enclosure on the edge of the plateau to the south west of the Application Site, overlooking Lower Heyford may be a henge monument (Featherstone and Bewley, 2000, Plate 7³⁰) (OA 1034) dating to this period. In addition, a Bronze Age barrow in Ardley (OA 1071) is recorded in the HER as being seen as a cropmark, although the area is now affected by housing. Cropmarks representing a possible pit alignment (OA 1052) are located to the east of the Flying Field.

The Iron Age (c 700 BC - AD 43)

13.3.44 The archaeological record for the Iron Age shows an expanding population developing increasingly intensive farming methods (Miles, 1997, pg.13³¹). This has led to there being a deeper imprint of Iron Age activity on the landscape, and as such evidence of Iron Age settlement within Oxfordshire is plentiful and complex (Miles, 1986, pg.51)³². The area in which the Application Site lies is no exception, with an Early Iron Age enclosure having been recorded south of Fritwell (Henig & Booth, 2000, pg.9³³), and numerous cropmarks recently identified on aerial photographs likely to be of Iron Age origin.

13.3.45 The proliferation of enclosed sites now recognised on the upland limestones of the Cotswolds and East Cherwell plateau (on which the Application Site stands) has been interpreted as the result of colonisation of the upland massifs during the Early to Middle Iron Age (Miles, 1986, 12³⁴). This colonisation will probably have initially spread along

²⁷ Featherstone, R. & Bewley, R. (2000) 'Recent Aerial Reconnaissance in North Oxfordshire', *Oxoniensia* 65 13-26

²⁸ Miles, D. (1997) 'The Later Prehistory of the Oxford Region (The Tom Hassall Lecture for 1996)', *Oxoniensia* 62, 1-20

²⁹ Pugh, R. B. (ed) (1959) *A History of the County of Oxford Volume 6, Ploughley Hundred* (Oxford University Press)

³⁰ Featherstone, R. & Bewley, R. (2000) 'Recent Aerial Reconnaissance in North Oxfordshire', *Oxoniensia* 65 13-26

³¹ Miles, D. (1997) 'The Later Prehistory of the Oxford Region (The Tom Hassall Lecture for 1996)' *Oxoniensia* 62, 1-20

³² See fn 30

³³ Henig, M. & Booth, P. (2000) *Roman Oxfordshire* (Sutton Publishing, Gloucestershire)

³⁴ Miles, D. (1986) 'The Iron Age' in Briggs, G., Cook, J. and Rowley, T (1986) *The Archaeology of the Oxford Region* (Oxford University Department for External Studies, Oxford)

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

tributaries of the Thames, such as the Cherwell. The great majority of the sites recognised comprise enclosed farmsteads or stock enclosures, broadly of the 'banjo' type. Enclosed sites are rare within the main Thames Valley and it is possible that these upland enclosures represent a differing form of land tenure (perhaps a greater degree of private landholding) than the apparently more communal open settlements within the Thames Valley. As such these enclosures may represent a foretaste of the prevalent Villa sites that were to become established on the Cotswold uplands during the Roman period (Hingley, 1984, 72-88³⁵). It should, however, be borne in mind that unenclosed sites in the form of open settlements, without deep boundary features, may also have been present here but these will not show up as clearly on aerial photographs and may only now survive as artefact scatters within the plough soil.

13.3.46 The Later Iron Age was a period of burgeoning population growth, despite a worsening climate, with an increasingly complex social hierarchy becoming established (Cunliffe, 1991³⁶). During the Later Iron Age the Study Area may have lain within a border area between the Catuvellauni to the east, Dobunni to the west and Atrebatas to the south, with a boundary perhaps formed by Aves Ditch (OA 1027) in the east of the Flying Field. The river line of the Cherwell has also been proposed as a boundary line between the Catuvellauni and the Dobunni (Salway, 1999 Fig. 6³⁷). During the Late Iron Age it is becoming evident that these border areas may have attracted more centralised type of settlement known as an *Oppida* (town). These *Oppida* may have served as ports of entry for trade along the Thames to Kent and the continent as well as centres for political exchange. Examples from the Thames Valley include Dyke Hills at Dorchester and one at Abingdon. A similar function could be ascribed to upland sites, defined by linear ditch systems such as the Berkshire Grim's Dyke and more pertinently the extensive linear ditch system of the Oxfordshire Grim's Dyke between Woodstock and Charlbury. It has been noted that the Thames Valley *Oppidum* at Dyke Hills (Dorchester) and Abingdon may be paired on opposite banks of the Thames, which probably served as a boundary (Salway, 1999, 1-22³⁸ and Lambrick, 1998³⁹).

13.3.47 Within the Study Area there are four sets of cropmarks clearly showing banjo enclosures which date to the Iron Age (OA 1028, 1037, 1044, 1111). In addition, two areas of enclosures/settlement site cropmarks (OA 1025 and 1058) appear to also include banjo enclosures, and as such would also date to this period. There are also a number of cropmarks in the Study Area which are not as easy to accurately date, but which are most likely to have Iron Age origins due to their proximity to the known Iron Age sites in the area. These comprise:

- three sets of circular cropmarks (OA 1029, 1045 and 1087);
- nine groups of linear and rectilinear enclosures (OA 1033, 1039, 1040, 1041, 1048, 1067, 1083, 1086 and 1088); and
- two groups of cropmarks depicting both linear and circular enclosures (OA 1038 and 1054).

13.3.48 Archaeological trench excavation targeted on geophysics anomalies within the western part of the Flying Field revealed the presence of two ring ditches, interpreted as evidence for Iron Age houses and settlement probably associated with the cropmarks seen just to the west of the Flying Field boundary here (OA 1113). Probable prehistoric

³⁵ Hingley, R. (1984) 'Towards Social Analysis in Archaeology: Celtic Society in the Iron Age of the Upper Thames Valley' in Cunliffe, B. & Miles, D. (1984) *Aspects of the Iron Age in Southern Central Britain* (Oxford University Monograph No. 2)

³⁶ Cunliffe, B (1991) *Iron Age Communities in Britain* 3rd edition

³⁷ Salway, P. (1999) 'Roman Oxfordshire. The Tom Hassall Lecture for 1997' *Oxoniensia* 64 1-22

³⁸ Ibid.

³⁹ Lambrick, G. (1988) 'Frontier Territory Along the Thames' *British Archaeology* No. 33

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

ditches were also identified during the excavation of evaluation trenches in 1999 (OA 1085).

13.3.49 Other investigations have also been undertaken to the south east of the Flying Field (OA 1107, OA 1108, OA 1111, OA 1112). These investigations revealed a series of Iron Age farmsteads of mainly Middle Iron Age date (OA 1108) and ditches (OA 1112), with cropmark evidence suggesting a further banjo enclosure nearby (OA 1112).

Romano-British Period (AD 43 - 410)

13.3.50 Roman Oxfordshire was divided politically between three long-established tribal city states or *civitates*; the Catuvellauni, the Atrebatas and the Dobunni, so despite there being small towns and settlements within what is now Oxfordshire, there was no central administration settlement and no major towns (Henig & Booth, 2000, pg. 34⁴⁰). The postulated Late Iron Age boundary, Aves Ditch, forming the boundary between the Civitas of the Catuvellauni to the east and Dobunni to the west (OA 1027) appears to have remained an important feature in the Roman administration of the British province. This appears to have survived throughout Roman rule into the 4th century and beyond and is now a parish boundary (Salway, 2000, Figs 1, 2 and 7-8⁴¹).

13.3.51 It has long been suggested that Aves Ditch was originally not an Iron Age boundary, but built as a Roman Road. However, this has been disproven by the recent work on the Ditch by Sauer et al (2005⁴²). The work did suggest however, that banks, associated with ditches such as this, were often used as routeways for minor traffic in the Roman period.

13.3.52 The most prominent aspect of Roman archaeology within Oxfordshire is the villas, of which there are many examples. The nearest of these to the Application Site is that at Middleton Stoney (c 2.5km to the south of the Site) (Young, 1986, 60⁴³). The majority of Roman Oxfordshire villas appeared particularly from the second century and seemed to have formed estate centres with a primary interest in agriculture (Henig & Booth, 2000, 82⁴⁴). By the late Roman period (4th century) they may be the landed estates of government officials and churchmen (Salway 1999⁴⁵). Once more however, there appears to be a divide along the line of the Cherwell with a greater prevalence of Villa sites to the west compared with the east Cherwell uplands.

13.3.53 There is very little structural evidence for early Roman military occupation in the region, except the early Roman fort at Alchester, which lies at the junction of Akeman Street Roman Road with the main (probably military) road from the south coast port of Chichester via Silchester and Dorchester to Watling Street at Towcester (Salway, 1999, 1-22⁴⁶). Akeman Street became established soon after the consolidation of Roman rule as the major route between the Civitas capitals of St Albans (Verulamium) and Cirencester (Corinium). This major road lies just to the south of the Study Area (c 1.5 km) and crosses the Cherwell on the northern edge of Kirtlington. The Port Way (OA 1047), forming the western boundary of the Application Site, is a spur branching north

⁴⁰ Henig, M. & Booth, P. (2000) *Roman Oxfordshire* (Sutton Publishing, Gloucestershire)

⁴¹ Salway, P. (2000) *Roman Britain: A Very Short Introduction* (Oxford University Press)

⁴² Sauer E, W, Booth P, Erwin P, Hacking P, Hoffmann B, Knight S and Robinson M 2005, *Linear earthwork, tribal Boundary and Ritual Beheading: Aves Ditch from the Iron Age to the Early Middle Ages*. BAR British Series **402**

⁴³ Young, C. (1986) 'The Upper Thames Valley in the Roman Period' in Briggs, G., Cook, J. and Rowley, T (1986) *The Archaeology of the Oxford Region* (OU Department for External Studies, Oxford)

⁴⁴ See fn 38

⁴⁵ See fn 41

⁴⁶ Salway, P. (1999) 'Roman Oxfordshire. The Tom Hassall Lecture for 1997' *Oxoniensia* 64 1-22

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

from Akeman Street, running from Oxford to Hanwell. 'Port' refers to its destination, the market, in this case Oxford and is a they word used in the Saxon period (Sauer, 1998, 10⁴⁷). Margary (1967, 168⁴⁸) describes the road (number 164A) **"As far as Heyford a road follows it and is somewhat raised, and then green lanes, sometimes showing agger, mark it"**. The presence of Roman roads attracted associated roadside settlements and related activities and also cemeteries/burials. Whilst there is no hard and fast rule, minor Roman roads which have an agger foundations and metalled surface, are usually up to c 5m wide with the flanking ditches positioned anywhere between 1-15 m either side of the road surface (Paul Booth, Oxford Archaeology pers. comm.).

13.3.54 There is one further recorded Romano British site within the Study Area; a number of Romano British pottery sherds found south of Ardley in 1973 (OA 1060).

The Early Medieval Period (AD 410 - 1066)

13.3.55 Little is known of the period in the area after the withdrawal of the Romans from Britain. The 1839 Ardley Tithe Map shows that the parish boundary mostly follows the line of Aves Ditch (OA 1027), which suggests that the ditch was still a visible landmark when the parishes were laid out in the early medieval period. It is therefore plausible that Aves Ditch was also a boundary prior to the formation of the parish, and was perhaps used as a tribal boundary in the 7th and 8th centuries between the kingdoms of Mercia to the north, Wessex to the south and Hwicce to the west. However, Blair highlights the uncertainty of allocating exact boundaries to tribes during this period (Blair, 1994, 52⁴⁹).

13.3.56 A decapitated man dating to this period was found during excavations of Aves Ditch in the 1990s, to the south east of the Flying Field (OA 1046), also suggesting the Ditch was still visible at this time (Sauer et al 2005⁵⁰). Such burials are not unheard of in this period, with examples seen at Higham Ferrers in Northampton and four have been found in the ditches associated with Grim's Ditch in South Oxfordshire (*ibid* 47)⁵¹. Such burials are often seen as ritual in nature, although it would have also been easier to dispose of a body in a ditch than elsewhere. Sauer *et al.* suggests that the bank associated with the Ditch was still used as a routeway at the time (*ibid* 53)⁵² and suggests that the burial lay at a crossroads of some antiquity. Often bodies buried at crossroads at this time were criminals or people Christians did not want in their cemeteries, an idea strengthened here perhaps by part of the head being dug up and removed at a later date.

13.3.57 The discovery of early medieval inhumations with grave goods (OA 1043) to the south east of the Flying Field, just to the south of the junction between Camp Road and Chilgrove Drive, in the nineteenth century, may be linked to an early settlement. The exact location of this discovery is not known but appears to be located close to Aves Ditch, the present parish boundary. It was common in this period to locate cemeteries close to parish boundaries.

13.3.58 There are no recorded settlement sites of early medieval origin within the Application Site. The presence of a Saxon burial mound to the south east of Little

⁴⁷ Sauer, E 1998, 'In Search of the Port-way: Excavations in the Area of the Moated Site North of St. Mary's Church in Kidlington', *Oxoniensia*, vol 63, 11-22

⁴⁸ Margary, I, D 1967 *Roman Roads in Britain*

⁴⁹ Blair, J. (1994) *Anglo Saxon Oxfordshire* (Alan Sutton Publishing Ltd, Gloucestershire)

⁵⁰ Lambrick, G. (1988) 'Frontier Territory Along the Thames' *British Archaeology* No. 33

⁵¹ See fn 49

⁵² See fn 49

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

Heyford, and other nearby graves (Pugh, 1959, pg. 186⁵³) makes it possible that this area was settled from the 6th century. It is also possible that settlements existed at the other local locations now occupied by villages.

13.3.59 It was not until the eleventh century that Oxfordshire as an administrative area was formed. Blair believes the formation of Oxfordshire can be dated with confidence to just before the first references to it, as *Oxnaford scire* in 1010-11 and *provincia Oxnafordnensi* in 1012 (1994, 104)⁵⁴. The use of the route of Port Way presumably continued during this period, as its alignment is still used today.

The Later Medieval Period (AD 1066 - 1550)

13.3.60 During the later medieval period, the landscape in the area within which the Application Site lay was probably similar to that seen on the post-medieval maps discussed below; utilised as common arable and grassland and settlements which still exist today within areas of arable.

13.3.61 There are a number of settlements within the Study Area which are mentioned in Domesday (1086). The Domesday Book records that an estate assessed at 10 hides was held in 'Haiford', (Pugh, 1959, pg.197)⁵⁵, whilst a certain Ralph held five hides in Lower Heyford (Ibid, pg. 183)⁵⁶. 'Haiford' would therefore appear to represent Upper, rather than Lower Heyford. Domesday Book also mentions Somerton as being under the lordship of Odo of Bayeux and Miles Crispin (Ibid, pg. 291)⁵⁷, and Ardley is recorded as being held by Robert d'Oilly (Ibid, pg. 8)⁵⁸.

13.3.62 The medieval settlement of Upper Heyford c 500m to the west of the Application Site shows signs in the form of earthworks, that it was larger during the medieval period than the existing extent of the medieval remains suggest. The early village centred on the church and manor house (VCH, vol 6, 196-205)⁵⁹. It took its name from a ford which used to cross the river that was perhaps used mainly during the time of the hay harvest (ibid). The VCH from historical sources has mapped the open fields of the village and the Application Site lies in Caulcott Field prior to enclosure in the 19th century. Remnants of ridge and furrow have been found during the evaluation at the west end of the flying field (OA 1113) and can be seen from aerial photographs taken of the village (NMR - 24-181/30 and 36, 24481/23).

Post-Medieval Period (AD 1550+)

13.3.63 The earliest map consulted showing the Application Site and its surroundings in any detail is the Davies Map of Oxfordshire, dating to 1797 (**Figure 13.4**). This was not intended as an accurate portrayal but does give some indication of the land use across the Study Area, road layout and settlement.

13.3.64 Davies shows the area of the Application Site bounded by a road to the west and the forerunner to Camp Road in the north. It appears to lie within an unenclosed landscape, in contrast to the fields shown to the north. As discussed above it is likely to have lain within one of the open fields of the village. In the south of the Application Site

⁵³ Pugh, R. B. (ed) (1959) *A History of the County of Oxford* Volume 6 (Oxford University Press)

⁵⁴ Blair, J. (1994) *Anglo Saxon Oxfordshire* (Alan Sutton Publishing Ltd, Gloucestershire)

⁵⁵ See fn 52

⁵⁶ See fn 52

⁵⁷ See fn 52

⁵⁸ See fn 52

⁵⁹ VCH, vol 6, 196-205

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

there appears to be the head of a small valley with a stream, no sign of this exists today, and it may have been levelled and filled in when the airbase was constructed.

13.3.65 The Enclosure map of 1842 (**Figure 13.6**) shows the newly enclosed landscape with Camp Road shown and the southern boundary of the Application Site marked by a field boundary. No features are shown within the Application Site itself and this is how it is depicted on all subsequent maps (eg the 1st edition 1-inch map of 1833 (**Figure 13.5**) and the 1st edition 6-inch map of 1885 (**Figure 13.7**) until the 1920s when the airfield was laid out, after which roadways and aprons were constructed within the Application Site (OA 1103, **Figure 13.1**). Aerial photographs taken in 1954 show that those had been replaced with the buildings seen on the Application Site today with the area to the east still mostly undeveloped.

Summary of Archaeological Potential

13.3.66 The potential for the Application Site to contain primary archaeological deposits from the Palaeolithic period is very low. On the Limestone upland, on which former RAF Upper Heyford stands, any deposits which may have contained *in situ* Palaeolithic material will have long since been eroded away. The potential of the Application Site to contain dislocated artefacts of the Palaeolithic period is uncertain, but probably very low. Any artefacts which do survive will most likely have undergone a high degree of transportation.

13.3.67 Similarly, the potential for the Application Site to contain significant archaeological deposits of the Mesolithic period is very low, although there is a higher potential for artefacts of this period to remain in the plough/top soils. Although these artefacts may also have been affected by transportation, concentrations of discoveries may prove to be informative.

13.3.68 Despite the presence of Neolithic features at Steeple Aston, there are no archaeological features and artefacts within the Application Site and Study Area. In addition, the overall lack of Neolithic evidence to the east of the River Cherwell suggests a low potential for archaeology of this period to be discovered within the Application Site.

13.3.69 In a similar pattern to the Neolithic period, there are less recorded Bronze Age sites to the east of the River Cherwell than to the west. However, the presence of a barrow at Ardley (OA 1071), the pit alignment near Ashgrove Farm and the Ploughley Barrow, on similar high ground to the Application Site, do suggest a higher potential for Bronze Age archaeology. In addition, the presence of the circular triple ditched enclosure (OA 1034) on the edge of the plateau overlooking Lower Heyford to the south of the Application Site, may have been a focal point of Bronze Age activity and as such it is likely that activity associated with this feature occurred within the Study Area. Therefore, there is an uncertain but moderate potential for Bronze Age archaeology within the Application Site.

13.3.70 There is a very high potential for evidence of Iron Age settlement to be present within the Application Site. Iron Age ring ditches have been found in the Flying Field and evidence for settlement has been found throughout the Study Area, especially in the form of 'banjo' enclosures which are common in the area.

13.3.71 Many of the enclosures identified as being potentially Iron Age in date within the Study Area may well have continued in existence into the early Roman period. The Roman Road, Port Way, which forms the western boundary of the Application Site, is well known and is likely to have attracted settlement and burial in places along its length and

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

there may be evidence for the road itself below ground within the Application Site in the form of an agger and/or ditches.

13.3.72 It is known from Domesday that the majority of the surrounding villages to the Application Site existed by the 11th century. It is therefore likely that these were the main settlement sites throughout the medieval period, and as such it is unlikely that there were additional settlements within the Application Site. During the later medieval and post-medieval periods, the Site probably lay within one of the communal open fields of Upper Heyford, used for arable purposes. It is unlikely that there would be settlements dating to these periods on the Application Site, although the early medieval inhumations (OA 1043) to the south east of the Flying Field, may suggest an unknown early settlement nearby. The 19th century maps show the Application Site as a field with no development upon it until the RAF airfield was laid out before the Second World War, when concrete tracks and aprons were laid out.

Previous Impacts and survival

13.3.73 The archaeological potential of the Application Site will depend upon the different level of disturbance caused by the construction of the pre-war roadways and construction of the school buildings and associated infrastructure which occurred during the first half of the 20th century. The development of the Site is discussed further in paragraph 13.3.84-13.3.101.

13.3.74 The roadways and tarmacked areas seen on the 1945 OS map are plotted on **Figure 13.1** and are unlikely to have caused much disturbance below ground.

13.3.75 The school buildings are pre-fabricated hut type buildings and/or single storey brick structures. From those already demolished to the east of the main gate it appears that they had minimal foundations and were constructed on a concrete base c 0.20m thick, which only slightly extended into the original topsoil/ploughsoil. This type of foundation would have caused minimal if any, disturbance to below ground deposits. Any disturbance below ground for the areas of hardstanding associated with these structures and any levelling for the sports pitches would be localised and in most cases minimal. This assumes that the Application Site was relatively level to start with so that no significant earth moving was required. Where these concrete building platforms have been removed to the west of the main gate further disturbance below ground may have occurred during this process.

13.3.76 The Application Site has been investigated using two bore holes, both just within the south eastern boundary to the west of the tennis court. BH06 identified no topsoil, but showed 0.3m of clay directly over limestone, the other BH 201 showed 0.2m of topsoil over 1.10m of clay (Waterman 2011⁶⁰). Neither of these boreholes shows obvious disturbance, although it is possible that some occurred where the topsoil was absent, suggesting either some truncation or just mis-identification. However, information from the geotechnical sources is indicative only as they only provide a small window into the ground and the exact interpretation of deposits can be problematic.

13.3.77 Levels of potential survival and differing levels of disturbance have been plotted on **Figure 13.3**.

⁶⁰ Waterman Energy, sept 2011, by Geocorp Site Investigation Factual report

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

Heritage Baseline Survey – Historic buildings and landscape

13.3.78 This topic is to be considered first in relation to the listed and historic buildings in the villages of Upper and Lower Heyford and their Conservation Area, second the Rousham historic landscape and registered park and garden (RPG) (the Heyfords and Rousham are all included in the Rousham Conservation Area), and lastly the RAF Upper Heyford Conservation Area.

Historic Villages and Listed buildings

13.3.79 The historic village centre of Upper Heyford lies entirely within the Rousham Conservation Area, and extends from the Heyford/Somerton road down to the Oxford Canal and River Cherwell. At the bottom end of the village lies the Grade II listed Manor Farmhouse with its medieval barn, a scheduled monument (OA 1017 and 1057), near to the Grade II* listed church of St Mary (OA 1018). Most of the historic village buildings lie in the single street rising up to the top of the village, and include ten Grade II Listed buildings dating between the 16th and 19th centuries (OA 1016-1022). None of these have any intervisibility with the site, due to the falling terrain and false crest just below the site.

13.3.80 The historic village centre of Lower Heyford lies entirely within the Rousham Conservation Area, and extends from the Heyford/Somerton road down to the Oxford Canal and River Cherwell. At the bottom end of the village lies the church and primary village centre, while Freehold Street rises up the hill, with seven Grade II Listed buildings falling within the Study Area dating between the 16th and 19th centuries (OA 1012-1015 and 1120-1122). None of these have any intervisibility with the site, due to the falling terrain. Outside of the village centre along the Somerton Road near the unlisted 19th-cent. 'Steam Mill' building (within the Conservation Area) the perimeter of the site is potentially just visible.

Rousham RPG

13.3.81 The Grade I registered park and garden of Rousham is one of the most renowned English designed landscapes, and of outstanding importance. On the north side of the house overlooking the Cherwell valley a more formal garden by Charles Bridgeman of the 1720s was transformed by William Kent for General Dormer in the 1730s with the creation of a series of rustic walks along sinuous paths past groves, grottoes, and falling waters, in a landscape populated by statues and temples (Batey & Lambert; Hunt).⁶¹

13.3.82 The principal views from the house across the north lawn (terminating in Scheemaker's Lion statue at the head of the terrace above the river) include the 'designed view' of the Gothic Mill on the River Cherwell and the more distant 'eyecatcher' on the hill near Steeple Aston, a prominent triumphal arch that is itself a Listed building, and all these are part of the wider view of the landscape of the Cherwell valley.

13.3.83 Only from the western part of the garden, where the lower areas near the river are largely hidden from longer views by surrounding trees, is there one more elevated view, from the terrace above the 'Praeneste Arches' (by the Dying Gladiator statue) where the horizon to the north east (and the Upper Heyford water tower) can be seen, and the perimeter of the Site is potentially just visible in winter as a small part of a much wider view. This is 'Viewpoint 5 – Rousham Park. Dying Gladiator' in the Landscape and

⁶¹ Batey and Lambert 1990; Hunt 1987. Mavis Batey and David Lambert, *The English Garden Tour* (London 1990), 156-61; John Dixon Hunt, *William Kent, Landscape Garden Designer* (London 1987), 79-88.

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

Visual Amenity Assessment (Chapter 12), Fig. 12.7. Views out of the garden from both above and below the arches were part of the designed way of seeing the gardens as described in the famous letter from the gardener William MacClary in 1750.⁶²

RAF Upper Heyford

13.3.84 The following description of the historic development of Upper Heyford Airbase, from the First World War to the end of the Cold War, is included to provide a context for the development of the whole of the military landscape. The Application Site itself was the location of school premises in the USAF phase (1960s-1990s). The buildings are of little heritage significance or architectural interest except generally as part of the history of the site.

World War I (1914-1918)

13.3.85 The military occupation of the land dates from 1916 when it came briefly into use for the Royal Flying Corps. At this time Canadian engineers laid out a field with six hangars and a tarmac hangar apron. This apron may also have served as part of the runway, making Upper Heyford the first airfield in Britain to be so equipped. The airfield opened in 1918 as Number Three Mobilisation Station with 122, 157 and 158 Squadrons and the Canadian Royal Air Force were also established at Upper Heyford. The aerodrome covered 267 acres, of which 46 acres were taken up by station buildings. The type, layout and quantity of buildings were typical of Training Depot Stations built at this time, but the actual position of technical and domestic accommodation was unique to Upper Heyford (ACTA 2006, pg. 2⁶³).

13.3.86 The war ended before the Squadrons became active, and the airfield was not kept on the permanent list of RAF stations. By the end of the 1920s the site was deconstructed as roads were broken up, underground services removed and all buildings were demolished with the exception of 'one small hut' (Dobinson 2000⁶⁴). The 3rd edition Ordnance Survey map of 1923 shows no evidence of the airfield. The land was returned to New College Oxford in 1919 at the end of the war, and not re-purchased by the President of the Air-Council until 1924 (ACTA et. al 2005 21⁶⁵).

The Trenchard Years (1924-1930)

13.3.87 In 1923 the 52-Squadron scheme for the airbase was the first within the Gloucestershire/ Oxfordshire group of airfields to get Treasury approval. The land was therefore repurchased in 1924 and funds allocated to build a permanent bomber station. The land purchased extended beyond the World War I site to include land south of Camp Road, and at this time an aerodrome was designed for three squadrons of twelve aircraft with an additional 50% reserves. During this period Sir Hugh Trenchard, the Chief of Air Staff between 1919 and 1930, heavily influenced the strategic selection of bases, and to some extent their layout. This influence is clearly reflected in the plan at RAF Upper Heyford, and was the model on which airfields of its type were based in the period 1925-1934. The radial road pattern of the Trenchard layout has survived despite later infill, and provides clear structure to the landscape north of Camp Road.

⁶² Mavis Batey, 'The Way to View Rousham by Kent's Gardener', *Garden History* 11.2 (Autumn 1983), 125-132.

^{63A} CTA (2006) *Landscape Character Assessment of the Airbase South of the Cold War Zone*

⁶⁴ Dobinson, C (2000) 'Twentieth Century Fortifications in England', XI.1 and XI.2 *The Cold War*, Council for British Archaeology York, Typescript Report

⁶⁵ ACTA, OA and the Tourism Company (2005) *Former RAF Upper Heyford Conservation Plan* (Unpublished report)

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

13.3.88 The design layout of the airbase was influenced by dispersal, to avoid large numbers of aircraft, equipment and men being hit by a single bombing run. However, tests showed that the buildings needed to be 400 yds apart to ensure that no more than one was destroyed by a single bomb. This however proved to be impractical. Therefore, like at RAF Bicester, there was only a modest separation, although the layout was more dispersed than in World War I. A new range of single and two-storey permanent technical buildings were constructed including some building types which had not been seen before. New typologies of domestic buildings were also constructed at Upper Heyford such as the Barrack Blocks and Married Quarters. Also of the same period are avionic structures dating from 1926, which demonstrate the development from the domestic architecture described above.

13.3.89 Following the construction programme, the airfield became operational in 1927 when Oxford University Air Squadron used it to gain flying experience, and in 1928 the RAF were again reinstated. Between 1931 and 1942 the airbase at Upper Heyford regularly housed at least three bomber squadrons.

The RAF Expansion Period (1934-9)

13.3.90 The RAF Expansion Period refers to the era of German re-armament, resulting in the expansion and reorganisation of the RAF, until the outbreak of war. This led to large-scale rebuilding of Britain's airfields, as reflected in the phase of construction within the southern landscape at Upper Heyford Airbase. Pre-war considerations are reflected in the architectural design of the buildings of this period, which do not have the grandeur of earlier structures.

13.3.91 RAF Upper Heyford played an important role in preparing Britain's air force for World War II. Perhaps the most significant contribution was the use of one of its aircraft as a test target for the Daventry BBC transmitter, in researching the use of radio waves in detecting enemy aircraft. The increasing threat from Germany led to the formation of six new squadrons, and during the first six months before the outbreak of the war, it was primarily engaged in crew training.

World War II (1939-1945)

13.3.92 The outbreak of the war in 1939 led to a change in the role of the airbase, as operational Squadrons were put on a war footing and training became paramount. The base also continued to be involved in the development of military radio and radar technology, and nationals from all Commonwealth and allied nations passed through training courses there. The 16 Operational Unit was the station's principal resident unit for the majority of the war and the unit took part in the first Thousand Bomber raid in Cologne, the second 'Millennium' raid to Essen, the third Thousand Bomber raid on Bremen and the 'Main Force' raids against Hamburg and Dusseldorf. During this period there was limited construction within the airbase.

The First Cold War 1945-1964

13.3.93 The primary historical and archaeological interest of the former airbase is its role during the Cold War, in particular the substantial 'Cold War landscape' within the Flying Field.

13.3.94 The period 1945-50 was the time of the Marshall Plan, the hardening of attitudes between the Eastern and Western Blocs, culminating in the Berlin Airlift and the Korean

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

War and the emergence of China as a significant communist power. At this time RAF Upper Heyford was relatively quiet and largely remained as a training unit.

13.3.95 The period 1950-1963 was the time of Mutually Assured Destruction (MAD), and in 1950 the British Government approved the formation of permanent United States Air Force (USAF) bases in Britain. In June 1950 work began at former RAF Upper Heyford to remodel the airfield extensively, and it became one of Strategic Air Command's (SAC) 'principal bases in Britain' (MPP 2001⁶⁶). In all approximately 170 new buildings were erected at this time, as well as runways, spectacles, aprons and hardstanding. The main buildings of sensitivity dating from this period are located within the Cold War landscape, to the north of the Application Site, although some construction also took place to the south. To the south of Camp Road, the USAF occupation of the airbase saw the beginnings of expansion of the residential areas and the development of 'Little America'.

Sustained Deterrence USAFE 1965-1979

13.3.96 The later 1960s was the beginning of the period of détente culminating in President Nixon's visits to Beijing and Moscow, which continued through the 1970s and saw the hardening of NATO and the Warsaw Pact frontline bases.

13.3.97 In March 1965 the USAF stopped regular SAC rotations in England, and RAF Upper Heyford was transferred to the United States Airforce Europe (USAFE). In 1966 France withdrew from NATO, and all US aircraft on French bases were redeployed, thus the 66th Tactical Reconnaissance Wing of the 4th Allied Tactical Force was moved to the airbase. In this phase the airbase continued to be used as a forward base by SAC, and with the use of B52 bombers the runway was widened. In the late 1960s and early 1970s new buildings were erected within the Flying Field, and within the technical and residential areas to the south.

13.3.98 The next phase of operation in the 1970s was of 'Sustained Deterrence', which saw a major episode of building, in order to house the three Squadrons of 20th Tactical Fighter Wing. These changes and the subsequent hardening of buildings created the 'Landscape of Flexible Response' and the base became operational in the 1970s with the arrival of 20th Tactical Fighter Wing's three squadrons (55th, 77th & 79th). These were equipped with F111 'Aardvark', and by July 1971 RAF Upper Heyford could claim to be the largest fighter base in Europe. To the south the USAF occupation saw the expansion of 'Little America', particularly the construction of bungalows employing a standard design and materials.

13.3.99 As a result of the vulnerability of these aircraft, Hardened Aircraft Shelters (HASs) were provided between 1977 and 1980. Within the Flying Field the Hardened Telephone Exchange and Battle Command Centre, were constructed. These are now designated as scheduled monuments (OA 1128).

The Second Cold War 1980-1993

13.3.100 The 20th Tactical Fighter Wing's role changed in 1984 with improved Warsaw Pact defences, and the F111s were replaced in the UK by the introduction of mobile Ground Launched Cruise Missiles. In 1987 a Treaty led to the dismantling of medium and short-range nuclear missiles, and by this date the 42nd Squadron joined Upper Heyford. Several of these took part in the suppression of Libyan air defences in 1986. From the 1980s the threat from the Soviet Union declined, although F111s from Upper Heyford were involved in the First Gulf War (1991) and the Kurdish Relief (1992), as well as

⁶⁶ English Heritage's Monuments Protection programme

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

operations during the Bosnian Conflict. Strategic arms treaties of 1991 and 1993 led to the end of the Cold War. In 1993 the F111s left Upper Heyford, and the base was handed back to the MoD in 1994.

13.3.101 This phase of operation is reflected in further construction within the Cold War landscape largely to serve the 42nd Squadron. Structures considered to be of national sensitivity within the Cold War landscape to the north, include the Quick Reaction Alert Area (now scheduled) and a Squadron Headquarters (Grade II listed) (OA 1128, 1127).

Built Heritage on the Proposed Development Site

13.3.102 The Site has a large number of huts from the former Upper Heyford High School (1966-1975), built in a regular array in a grid of streets, with institutional buildings on the central axis aligned on the front gate. These do not appear on site plans of 1942 and 1945 (Air Ministry 5671/42 and 1607/45) and first appear on an aerial photograph of c.1954 when there were up to 100 huts. Their origin was unknown to the author of the 'Airfield Research' report who described them as 'monolithic concrete hutting' (Paul Francis 1996, 64).

13.3.103 According to the 'Hadites' school history⁶⁷; Upper Heyford High School was established in the Fall of 1966, in an old barracks, where prisoners of war were sometimes held during World War II. Most of the students and faculty came from American bases in France after French President Charles De Gaulle withdrew his country from military involvement with NATO and told the American armed forces to leave.

13.3.104 There was an elementary school and a junior high school at Upper Heyford at the time, but high school students attended Lakenheath High School, staying in dorms during the school week and returning home on weekends. However, when the Americans who had been in France arrived at Upper Heyford and High Wycombe, there were far too many new students for Lakenheath to accommodate, and there wasn't time to build a new high school, so the old barracks were made available and became Upper Heyford High School. Maroon and white was selected as the school colours, and Rick Hunter '68 and Mike Brown '69, came up with the school nickname, the Hadites.

13.3.105 In the Fall of 1975, the school closed at Upper Heyford and was moved to RAF Croughton, but was still called Upper Heyford High School until the end of the Spring semester in 1982. Beginning with the Fall semester of 1982, the school officially became Croughton High School. With the end of the Cold War and reduction of American forces in Europe, CHS was closed in 1997, bringing an end to the Hadite legacy⁶⁸.

13.3.106 The huts were arranged in a separate enclosed area, with two ranks of huts on either side of a central area which contained the administrative buildings. There were four rows of 5 or 6 huts on each side, and two further rows of 6 huts on each side flanking the entrance. Built of brick or concrete blocks with corrugated asbestos sheet roofs in light steel trusses, a number of these have been recorded prior to demolition by OA. The original layout of the buildings is shown on **Figure 9** of the ES 2016. **Figure 10** of the ES 2016 shows the present day layout.

⁶⁷ <http://garystuff.homestead.com/cool.html>

⁶⁸ Hadite History retrieved from <http://garystuff.homestead.com/cool.html>

ENVIRONMENTAL STATEMENT

SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

13.4 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

Development Impacts on archaeology

13.4.1 Whilst the details of development have yet to be finalised the impacts from the Proposed Development likely to affect the archaeological heritage resource are:

- Removal of buildings and existing foundations/hardstanding on the Application Site; and
- Construction of housing, insertion of services and any landscaping.

13.4.2 Housing will be 2-3 storeys high, will not be basemented and have strip foundations. Drainage trenches and an attenuation basin will be excavated and it is likely that topsoil will be stripped across the Application Site prior to construction. No significant earth moving or landscaping is proposed. The topsoil stripping, and the excavation of the footprints of the houses and the drainage trenches will all impact on any archaeological remains present.

Impacts on known archaeology

13.4.3 There are no known sites of significant archaeological interest within the Application Site, although remains of the Port Way Roman Road (OA 1047) may extend into the western strip of the Application Site in the form of an agger surface and/or flanking ditches. Remains of the Roman Road would be of Medium sensitivity depending on its survival and extent. If affected by the Proposed Development, below ground impacts on any remains may be large and may result in its total destruction in this area. However, given that only one small section of a much longer road will be affected, the impact is considered overall to be moderate leading to a **Moderate Adverse effect**.

13.4.4 Remains associated with the tarmacked areas of the 1920s airfield (OA 1103), were present on the Application Site until the 1980s when they were removed during the development of the area. If any remains did survive they would be of negligible sensitivity and the effect upon them would be **Neutral**.

Impacts on unknown archaeology

13.4.5 It is possible that along the whole route of Port Way as yet unknown sites and finds may be present dating from the Roman period, as cemeteries/burials and buildings were often located along these roads.

13.4.6 The whole Application Site has a high potential to contain deposits relating to settlement dating to the Iron Age and Romano-British periods. The evidence for this relates to the large amount of such sites seen in the Study Area.

13.4.7 There may be evidence of medieval and post-medieval activity within the Application Site. This activity is likely to relate to the agricultural use of the landscape. Whilst the sensitivity of any such remains is uncertain they are unlikely to be important.

13.4.8 In areas which have been identified as relatively undisturbed, eg the majority of the Application Site below the concrete hut bases and the grassed and tarmacked areas, survival of any archaeological features is likely to be good, particularly within the grassed areas. Given the unknown sensitivity of the potential archaeological remains, it is not possible to provide an assessment of the actual impact or significance of effect at

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

this stage, further work would be needed to define the presence and sensitivity of this resource.

Impacts on the Historic Hedgerow

13.4.9 The hedgerow running along the western side of the Application Site is 'important' using the criteria of the 1999 Hedgerow Regulations. However, this will be retained during development as the western boundary of the Application Site, leading to a **Negligible effect**.

Development Impacts on Built Heritage

13.4.10 There are no significant impacts on listed or unlisted buildings in either of the village Conservation Areas of Upper and Lower Heyford. The potential visibility of the site from the road between Lower and Upper Heyford in the vicinity of the Steam Mill will be a minor or negligible impact of no significance for the building.

13.4.11 The scheduled Avionics Building dating from the Cold War era will be visible across the road from the north side of the Application Site. The Proposed Development will be visible from the protective earth banks surrounding the concrete structure. The change from a modest series of school buildings to houses, in the area to the south of Camp Road does not perhaps constitute a significant change in setting, while it obviously would be a change in the character of its environs. The Avionics building has its working face on the north side, and its southern aspect was its rear, that was to probably designed to disguise its use and significance to anyone passing along the road. It was clearly not designed to provide a viewing platform and was in no sense a place for any but highly restricted access. The minor impact of its change in setting would be a **Slight/Moderate Adverse effect**.

13.4.12 The loss of the unlisted Conservation Area buildings of the former school site is no more than a **Slight Adverse effect** as the buildings are of low significance despite their limited historic interest as part of the peripheral use of the site in the late and post-war periods.

Development Impacts on Conservation Areas

13.4.13 There are no significant impacts on the village Conservation Areas of Upper and Lower Heyford, or their setting. The potential visibility of the site from parts of the Conservation Area on the road between Lower and Upper Heyford would be a minor or negligible impact on high sensitivity Conservation Areas, resulting in an overall **Slight Adverse effect**.

13.4.14 The impact of the Proposed Development on the RAF Upper Heyford Conservation Area will result in the loss of the buildings in the south west corner. The Conservation Area has been assessed as having a High value, however within the Conservation Area the Application Site has been assessed as having low significance. The demolition of the buildings, and construction of housing within the Application Site would have a minor impact on the high value Conservation Area as a whole resulting in an overall **Slight Adverse effect**.

Development Impacts on Historic Landscapes

13.4.15 The Proposed Development has the potential to impact upon the setting of the Rousham registered park and garden (and Conservation Area). The registered park and

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

garden has a number of key views linking the gardens to the wider landscape. The enjoyment of these views was part of the original intention for the designed landscape, which is of national and indeed international significance as one of the finest and best known English gardens of the period. Accordingly, the views form part of the setting of registered park and garden and have been assessed as having a very high value.

13.4.16 The visibility of the Proposed Development from the registered park and garden of Rousham has been assessed in Chapter 11 Landscape and Visual Impact Assessment (LVIA). While much of the construction activities would be screened from Rousham by the intervening vegetation, there is the potential for views of the Proposed Development above the hedgerow line and above the trees. The LVIA has identified two views in which restricted views of the proposed development would be visible, from above the Praeneste Arcade [Viewpoint 5], adjacent to the sculpture of the Dying Gladiator and also from the River Cherwell near Heyford Bridge.

13.4.17 The LVIA concluded that the Proposed Development would form a relatively small element of these views and as such, 'the character of the immediate surroundings would remain intact and the view would continue to be characterised by the architectural elements in the park, designed landscape and the surrounding agricultural fields' (Chapter 11 paragraph 11.4.33). It is recognised that during the operational phase of the proposed development factors such as lighting associated with residential properties and street lighting are potential effects (para 11.4.38).

13.4.18 Where the Proposed Development would be visible it would change only a small part of these Very High value viewpoints. Following the assessment carried out in Chapter 11 the magnitude of impact upon these views is thus considered to be Negligible, resulting in a **Minor Adverse effect** upon the setting of Rousham registered park and garden.

13.4.19 While much of the Proposed Development would be screened from the park it is not certain whether street lighting associated with the development would be visible behind this screening, particularly in the winter months when the level of screening would be lessened by the loss of leaves. If the street lighting associated with the proposed development were to be visible from the registered park and garden this would result in a minor impact on a very high value receptor, resulting in a **Moderate Adverse effect**.

13 MITIGATION AND ENHANCEMENT

Mitigation by Design

13.4.20 To avoid possible impacts to any remains of the Roman Port Way which may extend along the western boundary of the Application Site, no built development will occur within 12m of this boundary, which would ensure that there will be no impact to this feature by preserving it *in situ*. This has reduced the potential significant effects on this feature through mitigation by design.

13.4.21 Mitigation by design has also ensured the retention of the historic hedgerow (OA 1116 deemed Important by the 1999 Hedgerow Regulations).

13.4.22 To avoid significant impacts on the setting of Conservation Areas and historic landscapes, the Proposed Development would follow a sensitive design which limits the impact of the Proposed Development upon the views of the wider landscape from Rousham registered park and garden. Lighting would be designed to avoid a series of

**ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION**

Archaeology and Cultural Heritage

lights being visible along the skyline in distant views from Rousham and the Conservation Areas towards the Application Site.

13.4.23 The loss of Conservation Area buildings within the site will be mitigated by the completion of historic building recording within the site and a comprehensive report on the history and structures of the Application Site.

Additional Mitigation

13.4.24 Evaluation of the grassed areas within the Application Site would allow an assessment of the presence, survival, importance and location of any archaeological remains in the area. The results of this work would inform the need for and/or scope of any further mitigation.

13.4.25 Depending on the level of sensitivity of the features found it is likely that the excavation and recording of any features found would mitigate the impacts of the development through preservation by record.

13.4.26 Any archaeological strategy for the Application Site would need to be discussed with the Oxfordshire County Archaeologist, prior to any development commencing.

13.4.27 A programme of archaeological building recording, determined by CDC, will be completed to mitigate the impact of demolition.

Table 13.8: Mitigation

| Ref | Measure to avoid, reduce or manage any adverse effects and/or to deliver beneficial effects | How measure would be secured | | |
|-------------------------------------|--|------------------------------|----------|--------------|
| | | By Design | By S.106 | By Condition |
| OA 1047 | Removing possible impacts to Port Way Roman Road by avoiding it along its length | X | | |
| Historic hedgerow OA 1116 | Retained as part of the development | x | | |
| Unknown archaeology | Evaluate and/or excavate and record any archaeological features discovered in Application Site | | | X |
| Setting of Conservation Areas | Restriction of street lighting along western edge of the development. Sensitive design. | X | | |
| Loss of Conservation Area Buildings | Completion of historic building recording and report on history and buildings of the school site | | | X |

Enhancements

13.4.28 No further enhancements apart from reinforcing hedgerow boundaries of the site, previously mentioned.

13.5 CUMULATIVE AND IN-COMBINATION EFFECTS

Developments as considered

13.5.1 This section addresses the potential cumulative effects associated with the proposed development and with nine other developments, as listed Chapter 2 (**Table 2.5 and Figure 2.1**). These are as follows:

- Village Centre North, Heyford Park;
- Pye Homes, Upper Heyford;
- Heyford Park Masterplan;
- Parcel 15 Heyford Park Masterplan;
- Land South of Building 296/7, Heyford Park;
- North West Bicester;
- Land at Whitelands Farm, Kingsmere;
- Network Bicester; and
- Bicester Gateway.

13.5.2 Five of the nine separate developments will have a potential cumulative effect on the historic buildings and landscape of former RAF Upper Heyford to be found within the Application Site boundary. The other four (the last four as listed above) are too far away from the Proposed Development to have a cumulative impact on the historic landscape of the area or on any specific heritage feature within the local area.

13.5.3 **Village Centre North:** Within the 'Village Centre North' (17/00895/F), two buildings will be demolished and one building will be partially demolished and three additional four-storey buildings will be added to the north and south of Camp Road. This will change the character of this military area (OA12A), although the area to the north of the village centre north application (OA14B) is currently being developed, as is the area to the south of Camp Road (OA11). Consequently, the context of the military buildings within area OA12A will be eroded and the buildings isolated from their earlier surrounds. The older element of building 100, which provides an entrance to this former technical area will be retained, which will provide a military context at the entrance to the site. Given the above context and the small area of the development, the effect of the development is considered to be a **Neutral/Slight Adverse effect**.

13.5.4 **Pye Home and Parcel 15:** The 'Pye Homes' development (15/01357/F) which will entail (A) the creation of 79 dwellings outside the Upper Heyford Conservation Area but within a greenfield area, and (B) to the north of this 'Parcel 15' has the potential to provide 49 new dwellings. These two cumulative developments will lead to a minor change on the setting of Character Area 15, which was formerly a military residential area and retains the spaciouly set housing. The proposed residential development within the two parcels of land will therefore be in alignment within the function of the immediate military surrounds. Between the Pye Homes area and Character Area 15, it is proposed within this planning application to build five new dwellings within a linear area of land (parcel 13), which will act as a buffer between the two areas. Given the above context and the recent residential development of the landscape to the south of the Flying Field, the effect of the Pye Homes application is considered to be a **Neutral/Slight Adverse effect**.

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

13.5.5 **Masterplan Development.** Specified structures would be demolished to the north of Camp Road, south of the runway. Other buildings within the Flying Field will continue to be used for employment uses, whilst others will be changed to employment, tourism or education uses including the Control Tower and a number of Hardened Aircraft Shelters (HAS). The existing car processing area would be moved further to the west along the southern taxiway. The Quick Response Alert area, Northern Bomb Stores, Southern Bomb Stores and the eastern portion of the Flying Field are to be used temporarily for filming. Provision is made for up to 1,175 new dwellings and 60 close care dwellings to the north of Camp Road within the Flying Field, and on allocated greenfield land south of Camp Road. New retail and medical facilities would be located within Village Centre North, and a community use building and a Sports Park are proposed in the south-western corner of the Application Site. Additional education facilities associated with the existing school sites a separate primary school will also be provided. Employment and mixed uses including business, general industrial/storage or distribution, and an energy facility would be located to the north of Camp Road, off Chilgrove Drive. A Core Visitor Destination Area would be created adjacent to two large new public parks, Flying Field Park and Control Tower Park, south of the runway. A 30m high viewing tower would be located on the edge of Flying Field Park, next to the runway. Chilgrove Drive and its junction with Camp Road will be improved with traffic lights to form the main HGV access to the Flying Field; the junction will include a dedicated equestrian crossing. A comprehensive network of green spaces and landscape planting (known as Green Infrastructure or GI) would include the two large public parks, local parks and play spaces, cultural heritage features, and tree planting and ecological habitats across the Application Site as a whole. New links to public rights of way and the wider area would include reinstatement of Aves Ditch. A comprehensive surface water Sustainable Drainage System would also be created and foul water would be discharged to the refurbished waste water treatment plant via a new sewer drainage system.

13.5.6 The overall effect of the masterplan development, taking into account mitigation measures and likely heritage benefits (both of which are discussed fully in the Masterplan ES) has been assessed as a **Neutral or Slight Adverse effect** upon Character Areas, Listed buildings and Scheduled Monuments and a **Slight to Moderate Adverse effect** upon the RAF Upper Heyford Conservation Area. In addition, there is the potential for a **Moderate Adverse effect** (more likely **slight**) upon the Rousham Conservation Area and landscape as a result of the potential increase in light pollution resulting from the Masterplan Development.

13.5.7 **Land South of Building 296/297 Heyford Park.** This development, for which planning permission was granted in August 2017 comprises temporary (up to ten years) early years days care nursery and new footpath access with associated works. Comments upon the Planning Application provided by the statutory consultees (Historic England, Oxfordshire County Council Archaeological Officers, Cherwell DC Conservation Officer) suggested that the former two raised no objection to the scheme whilst the Conservation Officer suggested that the scheme might have a temporary (during its lifetime) effect upon the setting of the nearby Scheduled Avionics Building and the RAF Heyford Conservation Area. It was suggested that this effect could be mitigated by the application of a sensitive design code and the development was granted permission on this basis. Consequently, the scheme is not considered to have a permanent significant adverse effect upon the heritage resource of the site and the overall effect is considered to be **Slight Adverse**.

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

Cumulative effects

Scheduled Monuments and Listed buildings

The developments described above will have a very limited effect for Scheduled Monuments or Listed buildings within the former RAF Upper Heyford Conservation Area. The 'Village Centre North' is in close proximity to the two Cold War Scheduled Monuments of the Battle Command Centre and The Hardened Telephone Exchange, however the current and proposed construction between the 'Village Centre North' development and the Scheduled Monuments means that historic context between the two areas has already been greatly reduced. The masterplan development will have a **Neutral to Slight Adverse effect** upon Listed buildings and Scheduled Monuments. The Land South of Camp Road' development will have (after mitigation) a **Slight Adverse effect**. The proposed Masterplan development will also screen the Avionics Maintenance Facility from Camp Road by the creation of a green buffer. The cumulative effect to the setting of Scheduled Monuments and Listed buildings resulting from the cumulative developments is generally considered to be a **Neutral/Slight Adverse effect**.

RAF Upper Heyford Conservation Area

13.5.8 For the RAF Conservation Area overall, the cumulative effect of the Proposed Development in combination with the additional four developments detailed above represents a change to the heritage character of the High Sensitivity RAF Upper Heyford Conservation Area, resulting in a potential adverse effect that is greater than that of the individual developments. The cumulative effect of these developments on the high sensitivity Conservation Area has been assessed as **Moderate Adverse**.

Rousham Conservation Area

13.5.9 The proposed development may contain visible street lighting that could impact upon the high sensitivity Rousham Conservation Area (which includes the very high sensitivity Grade I registered park and garden) and the effect has been assessed as being potentially **Moderate Adverse**. Neither the Village Centre North nor the Pye Homes Development(s) will affect these areas. The effect of the masterplan Development (including possible sports pitch lighting), following mitigation has been assessed as **Moderate** or more likely **Slight Adverse**. When taken together these two developments could result in an adverse effect that is greater than that of the individual developments. The cumulative effect of the potential light pollution resulting from these two developments could potentially be **Moderate Adverse**, but is more likely **Slight Adverse**.

Archaeology and Historic Landscape

13.5.10 All of the proposed developments have the potential to affect hitherto unidentified archaeological deposits and the proposed development and the masterplan development both have the potential to affect known archaeological deposits including the Roman Port Way and the Iron Age Aves Ditch. Potential adverse effects upon the known and potential archaeology with the development area could be reduced to **Neutral** through an agreed plan of evaluation and mitigation to be undertaken prior to development. Any archaeological strategy for the Application Site would be discussed and agreed with the Planning Archaeologist, Historic and Natural Environment Team and Oxfordshire County Council, prior to any development commencing.

**ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION**

Archaeology and Cultural Heritage

Summary of Cumulative Effects

13.5.11 Generally, the cumulative effect of these five developments is at most minor, and the more significant cumulative effect is the construction of the four storey buildings in the Village Centre North. However, in the case of the Conservation Areas, the cumulative effect on the erosion of character in the RAF Upper Heyford Conservation Area would be **Moderate Adverse**, while the impact of street lighting on Rousham Park could potentially be **Moderate Adverse**, but is more likely **Slight Adverse**.

Table 13.9: Cumulative and In-Combination Effects Assessment

| Site | Nature of Cumulative Effect | Significance |
|--|--|-----------------------------------|
| Archaeological remains | n/a | Neutral/Slight Adverse |
| Historic buildings and landscape of former RAF Upper Heyford Conservation Area | Effect of four cumulative developments to the landscape and buildings are former RAF Upper Heyford, including the setting of Listed buildings and Scheduled Monuments. | Moderate adverse effect |
| Historic landscape of buildings and landscape of Rousham Conservation Area | Potential light pollution on skyline of Rousham landscape from Camp Road housing | Moderate or slight adverse effect |

13.6 SUMMARY

Introduction

13.6.1 The archaeological and cultural heritage assessment comprises three ‘strands’ of potential receptors:

- historic buildings and structures (some of which may be scheduled, listed or locally designated);
- the historic landscape (elements of which may be protected by legislation or by designation); and
- archaeological deposits (elements of which may also be protected by legislation or by designation, and which are generally below-ground).

13.6.2 The report looks at the significance of the effects of the Proposed Development upon this resource and includes an outline mitigation strategy to reduce any significant effects identified

Baseline Conditions

13.6.3 The potential for the Application Site to contain primary archaeological deposits from the Palaeolithic period is very low. On the Limestone upland, on which former RAF Upper Heyford stands, any deposits which may have contained *in situ* Palaeolithic

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

material will have long since been eroded away. The potential of the Application Site to contain dislocated artefacts of the Palaeolithic period is uncertain, but probably very low. Any artefacts which do survive will most likely have undergone a high degree of transportation.

13.6.4 Similarly, the potential for the Application Site to contain significant archaeological deposits of the Mesolithic period is very low, although there is a higher potential for artefacts of this period to remain in the plough/top soils. Although these artefacts may also have been affected by transportation, concentrations of discoveries may prove to be informative.

13.6.5 Despite the presence of Neolithic features at Steeple Aston, there are no archaeological features and artefacts within the Application Site and Study Area. In addition, the overall lack of Neolithic evidence to the east of the River Cherwell suggests a low potential for archaeology of this period to be discovered within the Application Site.

13.6.6 In a similar pattern to the Neolithic period, there are less recorded Bronze Age sites to the east of the River Cherwell than to the west. However, the presence of a barrow at Ardley (OA 1071), the pit alignment near Ashgrove Farm and the Ploughley Barrow, on similar high ground as the Application Site, do suggest a higher potential for Bronze Age archaeology. In addition, the presence of the circular triple ditched enclosure (OA 1034) on the edge of the plateau overlooking Lower Heyford to the south of the Application Site, may have been a focal point of Bronze Age activity and as such it is likely that activity associated with this feature occurred within the Study Area. Therefore, there is an uncertain but moderate potential for Bronze Age archaeology within the Application Site.

13.6.7 There is a very high potential for evidence of Iron Age settlement to be present within the Application Site. Iron Age ring ditches have been found in the Flying Field and evidence for settlement has been found throughout the Study Area, especially in the form of 'banjo' enclosures which are common in the area.

13.6.8 Many of the enclosures identified as being potentially Iron Age in date within the Study Area may well have continued in existence into the early Roman period. The Roman Road, Port Way, which forms the western boundary of the Application Site, is well known and is likely to have attracted settlement and burial in places along its length and there may be evidence for the road itself below ground within the Application Site in the form of an agger and/or ditches.

13.6.9 It is known from Domesday that the majority of the surrounding villages to the Application Site existed by the 11th century. It is therefore likely that these were the main settlement sites throughout the medieval period, and as such it is unlikely that there were additional settlements within the Site. During the later medieval and post-medieval periods, the Site probably lay within one of the communal open fields of Upper Heyford, used for arable purposes. It is unlikely that there would be settlements dating to these periods on the Application Site, although the early medieval inhumations to the south east of the Flying Field, may suggest an unknown early settlement nearby. The 19th century maps show the Application Site as a field with no development upon it until the RAF airfield was laid out before the Second World War, when concrete tracks and aprons were laid out.

13.6.10 The historic villages of Upper and Lower Heyford date from the medieval period, and contain a significant number of historic buildings dating from the medieval centuries to the 19th century. These comprise churches, farmhouses, cottages and other dwellings, many of them Listed buildings, and occur both in compact village streets and linear

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

extensions of the villages. The villages are in conjoined Conservation Areas that also include Rousham.

13.6.11 Rousham is one of the most renowned English designed landscapes, and of outstanding importance. On the north side of the house overlooking the Cherwell valley a more formal garden by Charles Bridgeman of the 1720s was transformed by William Kent for General Dormer in the 1730s with the creation of a series of rustic walks along sinuous paths past groves, grottoes, and falling waters, in a landscape populated by statues and temples. It has come to be seen as the quintessential English garden that combines interior charm with extensive views over the surrounding landscape, and is a Grade I registered park and garden.

13.6.12 The history of RAF Upper Heyford is a complex story of development from an early RAF (RFC) airfield of 1916, through expansion as a bomber base in the 1920s and developed and extended in the 1930s period of re-armament, and fully used during World War II for training and bombing operations.

13.6.13 The use of the site during the various episodes of the Cold War (1945-1993), and its use predominantly as an American Airbase from 1965, resulted in some of its most remarkable and enduring features of 'hardened' buildings to survive aerial bombardment, and the special requirements of intelligence gathering and storage of nuclear weapons.

13.6.14 The Application Site was originally the site of a late or post-war barracks, which was used for Prisoners of War before becoming the Upper Heyford High School from 1966 to 1975).

Likely Significant Effects

Development Impacts on archaeology

13.6.15 The impacts from the Proposed Development likely to affect the archaeological heritage resource are:

- Removal of buildings and existing foundations/hardstanding on the Application Site; and
- Construction of housing, insertion of services and any landscaping

13.6.16 Housing will be 2-3 storeys high, will not be basemented and will have strip foundations. Drainage trenches and an attenuation basin will be excavated and it is likely that topsoil will be stripped across the Application Site prior to construction. No significant earth moving or landscaping is proposed. The topsoil stripping, and the excavation of the footprints of the houses and the drainage trenches will all impact upon any archaeological remains present.

Impacts on known archaeology

13.6.17 There are no known sites of significant archaeological interest within the Application Site, although remains of the Port Way Roman Road (OA 1047) may extend into the western strip of the Site in the form of an agger surface and/or flanking ditches. Remains of the Roman Road would be of Medium Sensitivity depending on its survival and extent. If affected by the Proposed Development, below ground impacts on the any remains may be large and may result in its total destruction in this area. However, given

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

that only one small section of a much longer road will be affected, the impact is considered overall to be **Moderate** leading to a **Moderate Adverse effect**.

13.6.18 Remains associated with the tarmacked areas of the 1920s airfield were present on the Application Site (OA 1154), but it is likely these were removed prior to the 1980s development on the Application Site. If any remains did survive they would be of Negligible Sensitivity and the effect upon them would be None.

Impacts on unknown archaeology

13.6.19 It is possible that along the whole route of Port Way as yet unknown sites and finds may be present dating from the Roman period, as cemeteries/burials and buildings were often located along these roads.

13.6.20 The whole Application Site has a high potential to contain deposits relating to settlement dating to the Iron Age and Romano-British periods. The evidence for this relates to the large amount of such sites seen in the Study Area.

13.6.21 There may be evidence in the Application Site from the medieval and post-medieval periods but this is likely to relate to the agricultural use of the land and whilst their sensitivity is unknown, any such remains found are unlikely to be important.

13.6.22 In areas which have been identified as relatively undisturbed, e.g. the majority of the Application Site below the concrete hut bases and the grassed and tarmacked areas, survival of any archaeological features is likely to be good, particularly within the grassed areas. Given the unknown sensitivity of the potential archaeological remains, it is not possible to provide an assessment of the actual impact or significance of effect at this stage, and further work would be needed to define the presence and sensitivity of this resource.

Impacts on the Historic Hedgerow

13.6.23 The hedgerow running along the western side of the Application Site is 'important' using the criteria of the 1999 Hedgerow Regulations. However, this will be retained during development as the western boundary of the Application Site, leading to a **Negligible effect**.

Impacts and effects on the Built Heritage, Registered Parks and Gardens and Conservation Areas

13.6.24 There are no significant impacts on Listed buildings and Conservation Areas in Upper and Lower Heyford villages. Outside of the villages the potential visibility of the site from parts of the Conservation Area between Upper and Lower Heyford would be a minor or Negligible impact of **Slight Adverse effect**.

13.6.25 The minor impact of change in setting to the scheduled Avionics Building in Former RAF Upper Heyford would be a **Slight/Moderate Adverse effect**, while the loss of the unlisted Conservation Area buildings of the former Upper Heyford High School would be no more than a **Slight Adverse effect**.

13.6.26 The Proposed Development has the potential to impact upon the setting of the Rousham registered park and garden (and Conservation Area). The Landscape and Visual Impact Assessment in Chapter 11 has identified two views from Rousham in which the Proposed Development would be visible. The Proposed Development would comprise

ENVIRONMENTAL STATEMENT SUPPLEMENTARY ENVIRONMENTAL INFORMATION

Archaeology and Cultural Heritage

a very small portion of these views, and would not change their overall character. As a result, the magnitude of impact of the Proposed Development upon these Very High value viewpoints is considered to be Negligible resulting in an overall **Slight Adverse effect**.

13.6.27 It is not known whether the street lighting associated with the Proposed Development would be visible above the screening provided by the hedgerow running along the western edge of the application area. Were the street lighting to be visible, this would cause a minor impact upon the setting of the Very High Value registered park and garden, resulting in a **Moderate Adverse effect**. This would be mitigated in the design phase by the application of a sensitive design code, reducing the overall effect to **Slight Adverse** or more likely **Slight Adverse**.

Cumulative and in-combination effects

13.6.28 Generally, the cumulative effect of the five developments examined as part of the cumulative effects assessment is at most minor/ However, in the case of the Conservation Areas, the cumulative effect on the erosion of character in the RAF Upper Heyford Conservation Area would be **Moderate Adverse**, while the impact of street lighting on Rousham Park could potentially be **Moderate Adverse**.

Conclusions

13.6.29 Whilst the Application Site has a high potential for unknown archaeology to be present, it is considered that evaluation and any mitigation arising from it would reduce the significance of effects on this resource to an acceptable level through a suitable and agreed programme of archaeological works. Mitigation by design to both avoid adversely affecting the Historic Hedgerow and any potential remains associated with Port Way has helped to reduce the overall effect.

13.6.30 There is some potential for impacts to the designated sites and Conservation Areas around the site in Upper and Lower Heyford, and Rousham, as well as to the historic features within the Site and its own Conservation Area. The effects of the Proposed Development would have no more than **Slight or Slight Moderate Adverse effects**, and concerns can mostly be met by proposed mitigation by design and recording of lost historic structures. Generally, the cumulative effect of the five developments examined as part of the cumulative effects assessment is at most **Slight Adverse**. However, in the case of the Conservation Areas, the cumulative effect on the erosion of character in the RAF Upper Heyford Conservation Area would be **Moderate Adverse**, while the impact of street lighting on Rousham Park could potentially be **Moderate Adverse** or more likely **Slight Adverse**.

**ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION**

Archaeology and Cultural Heritage

Table 13.8: Summary of Effects, Mitigation and Residual Effects

| Likely Significant Effect | Nature of Effect | Receptor/ Sensitivity Value | Magnitude of Impacts | Mitigation / Enhancement Measures | Geographical Importance | Significance of Effects | Residual Effects |
|--|------------------|-----------------------------|----------------------|--|-------------------------|-------------------------|------------------------|
| Construction | | | | | | | |
| OA 1047 Port Way | Permanent | Medium | Moderate | Preservation in Situ through design | Regional | Moderate | Neutral |
| Unknown Archaeology | Permanent | Unknown | Uncertain | Evaluate and/or Preservation by Record | | Unknown | Unknown |
| Historic 'important' hedgerow (OA 1116) | Permanent | Medium | No change | Preservation is situ through design | Regional | Neutral | Neutral |
| Setting of Scheduled 'Avionics Building' | Permanent | High | Minor | Site screening/ adherence to CEMP | National | Slight/Moderate | Slight Adverse |
| Loss of School (Conservation Area) buildings | Permanent | Low | Major | Preservation by record | Local | Slight | Slight Adverse |
| Setting of Upper and Lower Heyford Conservation Area | Temporary | Medium | Minor/ Negligible | Site screening/ adherence to CEMP | Local | Slight | Slight/Neutral Adverse |
| Setting of RAF Upper Heyford Conservation Area | Temporary | High | Minor | Adherence to CEMP | National | Slight | Slight Adverse |
| RPG Rousham | Temporary | Very High | Negligible | Adherence to CEMP | National | Slight | Slight Adverse |

**ENVIRONMENTAL STATEMENT
SUPPLEMENTARY ENVIRONMENTAL INFORMATION**

Archaeology and Cultural Heritage

| Operation | | | | | | | |
|--------------------------------------|-----------|-----------|------------|--|----------|----------|-----------------------|
| RPG Rousham | Permanent | Very High | Minor | Sensitive development design and lighting design | National | Moderate | Slight Adverse Effect |
| Cumulative and In-combination | | | | | | | |
| Archaeological Resource | Permanent | Unknown | Negligible | N/A | Unknown | Neutral | Neutral |
| On-site buildings | Permanent | Low | Negligible | N/A | Local | Neutral | Neutral |
| Setting of Listed buildings | Permanent | High | Negligible | N/A | National | Neutral | Neutral |
| Setting of Conservation Areas | Permanent | High | Moderate | Sensitive development design and lighting design | National | Moderate | Moderate Adverse |