

# RAF Upper Heyford Conservation Area Appraisal



April 2006



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# RAF Upper Heyford Conservation Area Appraisal

## 1. Introduction

Like many airbases throughout Britain, RAF Upper Heyford began life as a First World War flying field. Construction began in 1916 but ceased at the end of the war in 1919. The abandonment of the site by the RAF was short-lived. In 1925 the air field was redesigned and Upper Heyford became the model on which airfields of its type were based during the interwar period.

Upper Heyford saw active service during the Second World War and was one of a limited number of bases selected at the end of this period of conflict to be transformed into a purpose-built airbase to house aircraft of the United States Air Force (USAF) Strategic Air Command (SAC).

The work, to transform the pre-existing airfield into a purpose-built airbase, began in 1950. However, as the political willpower moved away from a strategy of 'Mutually Assured Destruction' (the prevailing viewpoint at the beginning of the Cold War), to 'Sustained Deterrence', a strategy of retaliation, the requirements of the frontline forces changed. One element of this change was the deployment of F-111E bombers at the airbase at RAF Upper Heyford. These aircraft had the ability to respond at any time and under any conditions. It was the primary role of these bombers to carry intermediate-range nuclear weapons. Such was their capability that during their period of deployment the F-111 bombers were seen by NATO as one of their key assets (Cocroft & Thomas, 1993).

However, a strategy of retaliation requires the ability to withstand attack and so with the deployment of the swept-wing bombers came the perception that frontline squadrons and their essential facilities required protected bases from which to operate. It was at this point in the Cold War that the concept of 'Hardened Airfields' came to prominence and with this the construction of the Hardened Aircraft Shelters (HAS), structures that we now think of as quintessentially 'Cold War'.

The importance of the site at RAF Upper Heyford is therefore primarily as a Cold War airbase. Its uniqueness is the result of decommissioning in 1993, terminating active military use. The airbase therefore never underwent the evolution into Twenty First century warfare seen at other airfields occupied by the USAF.

In 2001 English Heritage (EH) carried out an assessment of cold war monuments (Cocroft, 2001) and this identified a number of structures from both the 1950-1970 and the 1970-1993 ('F111') period which were considered to be of national importance and worthy of protection through the mechanisms of listing and scheduling.

In 2005 a Conservation Plan was produced by ACTA (ACTA, 2005), on behalf of the site's owners, English Heritage and this Council, whose primary purpose was to identify what was necessary to retain the significance of the flying field section of the site as a monument and a landscape. The technical and residential sections of the site were not included within the Conservation Plan. Following the production of the Conservation Plan, a number of structures to have been approved for statutory protection.

Thus the primary architectural and social historic interest of the airbase at RAF Upper Heyford is its role during the Cold War. Designation of the airbase as a Conservation Area acknowledges the site as an important Cold War landscape type. The holistic nature of the site is defined by the historic landscape character of the distinct zones within the base. It also acknowledges the special architectural interest of the area, the character of which it is desirable to preserve or enhance and provides the framework to ensure the setting and appearance of sections of the Cold War landscape are preserved in a way which provides a context for these unique structures.

# RAF Upper Heyford Conservation Area Appraisal

## 2. Planning Policy Context

### 2.1 National, Regional and Local Context

#### 2.1.1 National Context

The Planning and Compulsory Purchase Act 2004 introduced Regional Spatial Strategies (RSS) and Local Development Frameworks (LDF) into the English planning system. On adoption, these will together form the statutory development plan for local planning authorities and will replace the existing system of Structure Plans and Local Plans.

#### 2.1.2 Regional Planning Policy

The RSS for the South East England Region entitled the 'South East Plan' is currently being prepared by the South East England Regional Assembly (SEERA) and has been submitted to the Government in draft. At present it is unlikely to reach adoption until 2007. In the meantime, under the Transitional Arrangements, Regional Planning Guidance Note 9 is the RSS for the South East until the 'South East Plan' is approved.

#### 2.1.3 Local Context

On adoption the emerging South East Plan will also eventually replace the existing Oxfordshire County Structure Plan; however, until this point the policies contained within the existing Oxfordshire County Structure Plan 2016 are saved for a period of three years from the Structure Plan's adoption on 21st October 2005. In this context, the existing Structure Plan 2016 currently comprises part of the development plan for Cherwell until adoption of the 'South East Plan'.

Within the Oxfordshire County Structure Plan 2016 (October 2005) the Policy H2 which pertains to RAF Upper Heyford reads:

- *Land at Upper Heyford will provide for a new settlement of about 1000 dwellings and necessary supporting infrastructure, including a primary school and appropriate community, recreational and employment opportunities, as a means of enabling environmental improvements and the heritage interest of the site as a military base with Cold War associations to be conserved, compatible with achieving a satisfactory living environment.*

- *Proposals for development must reflect a revised comprehensive planning brief adopted by the District Council and demonstrate that the conservation of heritage resources, landscape, restoration, enhancement of biodiversity and other environmental improvements will be achieved across the whole of the former air base in association with the provision of the new settlement.*
- *The new settlement should be designed to encourage walking, cycling and use of public transport rather than travel by private car. Improvements to bus and rail facilities and measures to minimise the impact of traffic generation by the development on the surrounding road network will be required.*

# RAF Upper Heyford Conservation Area Appraisal

## 2. Planning Policy Context

In the context of Cherwell District Council, the statutory development plan is the Cherwell Local Plan adopted in 1996. The policies of the existing adopted Cherwell Local Plan have been saved under the Town and Country Planning Act until September 2007, unless identified as deleted in the Council's Local Development Scheme submitted to the Government Office for the South East in December 2005. The Council's emerging Local Development Framework will replace the policies contained within the adopted Cherwell Local Plan in due course. At present the LDF has not reached the stage where any of the Council's saved policies have been replaced.

The Council was in the process of producing a revised local plan to replace the adopted Cherwell Local Plan. However, following the consideration of pre inquiry changes the plan was withdrawn to enable resources to be used to produce the LDF. In December 2004 the local plan was adopted by the Council for development control purposes and is now known as the Non Statutory Cherwell Local Plan 2011. In the Non-Statutory Cherwell Local Plan 2011. The position on the former airbase is set out in Chapter 2 (Cherwell District Council website). The site is covered by Policies UH1, UH2, UH3 and UH4.

### Conservation Area Designation

The Planning (Listed Buildings and Conservation Areas) Act 1990 provides legislation for the protection of the nation's heritage of buildings and places of architectural and historic interest, the character or appearance of which it is desirable to preserve or enhance.

Conservation areas were introduced in the Civic Amenities Act of 1967. However, it is the Planning (Listed Buildings and Conservation Areas) Act 1990 (Section 69) which requires local planning authorities to identify areas, as opposed to individual buildings, of special architectural or historic interest and to designate them as conservation areas. Since 1967 some 8,000 conservation areas have been designated in England, including 52 in Cherwell District.

Conservation Area designation is not part of the plan making process. However in the light of the planning issues raised by the future use of the airbase, and in particular the incorporation of any new settlement on it, it is appropriate to give consideration to the impact such a development will have on the special character of the airbase.

This document is an appraisal of the character and appearance of the former RAF Upper Heyford airbase. The document is based on a standard recording format derived from advice contained in documents published by English Heritage (2005a). By designating the airbase as a conservation area, the international and national importance of areas within the site can be recognised and the setting protected to ensure that development will preserve or enhance those areas considered to be of architectural or historic importance.

This document has been adopted by the Council and therefore the contents will be a material consideration in the determination of planning applications within the conservation area and its setting.

# RAF Upper Heyford Conservation Area Appraisal

## 2. Planning Policy Context

### 2.1.2 Justification for Conservation Area Designation

The airbase at former RAF Upper Heyford is a site of both special architectural and historic interest.

Conservation area designation is based on the importance of the site as an important landscape type. Landscape is key to the historic character of the site and the landscape of RAF Upper Heyford illustrates the shift in strategic defence policy to one of Flexible Response. The scale of the landscape reflects the size of the perceived threat and the magnitude of the investment that was made to counter it. Each area within the airbase has a distinct and identifiable landscape character which contributes to the sum character of the military site. In the case of RAF Upper Heyford the sum historic character is greater than a collection of parts as each area within the airbase is crucial to the functioning of the site.

The site contains both important as well as representative buildings from a number of different phases of airbase expansion throughout the twentieth century. So whilst a good number of the buildings on site are of interest, a small number have been identified by English Heritage as being of such significance that they have been considered worthy of being either listed or scheduled.

It is now widely accepted that statutory protection should take into account the type of management that will best ensure the site or the structure's long-term future. The setting of a listed building or scheduled monument is integral to the importance of the structure, it is therefore important that certain aspects of the appearance and character of RAF Upper Heyford base are controlled, preserved or enhanced in an appropriate way.

Conservation Area designation is based on 'interest' and not reserved for the picturesque. The airbase has special character in its own right as an historic landscape as well as forming the backdrop to significant elements within the site. It is for this reason that the airbase has been designated a Conservation Area, which will provide a statutory framework to ensure the appropriate levels of protection and development within the site.



# RAF Upper Heyford Conservation Area Appraisal

## 3. Location and setting

### 3.1 Location

The site of the former Upper Heyford Airbase and its associated houses and service buildings occupies approximately 505 ha. The airbase is located 6 km northwest of Bicester, 11 km southeast of Banbury and 3 km to the southwest of Junction 10 of the M40. The airbase lies within the administrative district of Cherwell District Council and within the civil parishes of Upper Heyford, Somerton and Ardley. The base is surrounded by a network of villages and hamlets: Upper Heyford is close to the west boundary; Lower Heyford is 3 km to the southeast, Caulcott 2 km to the south, Ardley and Fewcott 3 km to the northeast on the opposite side of the London to Birmingham railway, Fritwell is 3 km to the north and Somerton is 3 km to the northwest (Figure 1).

The airfield lies on the edge of a plateau from which the land falls into the Cherwell Valley. The settlements of Rousham, Steeple Aston, Middle Aston and North Aston are on the opposite side of the valley at distances of 2.5-3.5 km. The surrounding landscape is predominantly rural, but the airfield is within sight of the prominent structures of RAF Croughton.

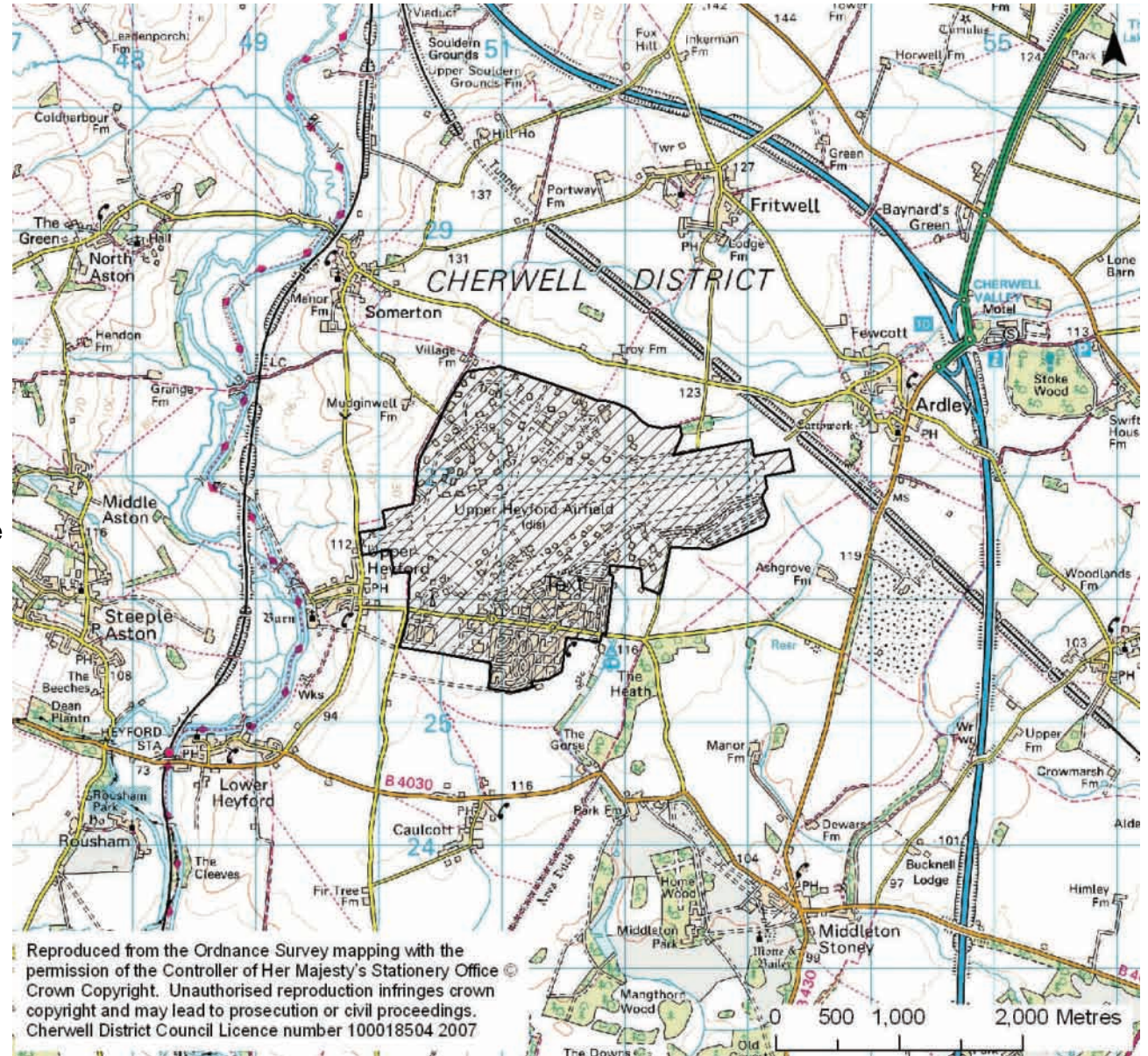


Figure 1: Location of the RAF Upper Heyford airbase

# RAF Upper Heyford Conservation Area Appraisal

## 3.2 Landscape setting

The landscape of the area surrounding the airbase can be divided into four main landscape character areas: the Ironstone Hills and Valleys; the Cherwell Valley; the Upper Heyford Plateau; and the Oxfordshire Estate Farmlands (Cobham Resource Consultants, 1995). The airbase is located on the Upper Heyford Plateau, a belt of upland Oolitic limestone, characterised by extensive areas of rolling arable land, rendered open and denuded by the modern practice of grubbing-up traditional hedgerow. On the western edge of the plateau the land falls precipitously into the Cherwell Valley, providing panoramic views across the valley. To the east the landscape evolves into the Oxfordshire Estate Farmlands. Lands that are also situated on a rolling limestone landscape, the difference here being the pattern of mixed farmlands and woodlands linked to the extensive areas of remaining eighteenth century parkland (Landscape Design Associates, 1997). Landscape assessments of the area have also been undertaken as part of the Oxfordshire Wildlife and Landscape (OWL) project (Oxfordshire County Council website).

## 3.3 Geology of the area

The geological formations in the locality are aligned southwest-northeast and are arranged like 'tiles on a roof'. They consist of alternating clays and limestones with subordinate layers of sand. To the northeast of the site, the marlstones and heavy clays of the Lias are present, with exposures extending southwest into the heart of the Cotswolds and to the northwest. They are overlain locally by the Middle Lias, giving rise to the ironstone which is a characteristic feature of many of the buildings in the north of the Cherwell Valley. The River Cherwell cuts through the east edge of these exposures and its tributaries form intricate valleys. Within the valley there is alluvium/colluvium on the valley floor and Lias clays on the valley side. From the east edge of the valley, where the airbase is located, the land falls gently to the southeast: there are successive exposures of White Limestone, Cornbrash and Oxford Clays.

# 3. Location and setting

## 3.4 Landscape of the airbase site

The site of the airbase is surrounded by farmland interspersed with small villages. There are a small number of outlying farms and associated farm buildings but generally the countryside is devoid of farm outbuildings or structures. Boundaries where they exist are traditional hedgerow.

The character of the adjacent farmland with the regular pattern of boundaries is at odds with the openness of the flying field. The density and arrangement of buildings within the flying field are indicative of modern human activity and do not replicate any of the more traditional patterns found within the villages or countryside. The boundary treatment is modern and defined by the needs of the site. Within the Technical Site and the Residential Areas the density and style of buildings are more urban than rural.

The creation of the rural landscape and that of the military base could not be more dissimilar. So whilst there has been an acceleration of change within the countryside in recent times, it is the case that the landscape of the countryside has evolved over time. It is multi-layered, with different building types and materials that relate to the underlying geology. The site of the airbase is a landscape that has come into being for one major function, the result of change over a relatively short period of time and constructed from imported materials that have been chosen for their function and bear no relationship to the locality.

# RAF Upper Heyford Conservation Area Appraisal

## 3. Location and setting

### 3.5 Landmarks and panoramas

The topography of the Upper Heyford plateau means that there are significant panoramas looking out of the airbase from the west end of the runway across the Cherwell valley. It is also the case that the airbase can be seen from a number of vantage points along the plateau as well as from along, and across the Cherwell valley, in particular the base impinges on the vista from Rousham Gardens (designed by William Kent (1685-1748) and registered Grade I). The presence of the water towers draws the eye due to the visibility of these structures above the skyline. The

Hardened Aircraft Shelters (HASs), can also be seen and although very prominent from close quarters, from a distance are less obtrusive unless they break the skyline.

There has been an extensive analysis of the landscape undertaken by Landscape Design Associates (LDA) (Landscape Design Associates, 1997) as well as an analysis for the Conservation Plan (ACTA, 2005) a summary of the airbase visibility is given in Figure 2.



View from west end of Runway: South to West



View from west end of Runway: West to North

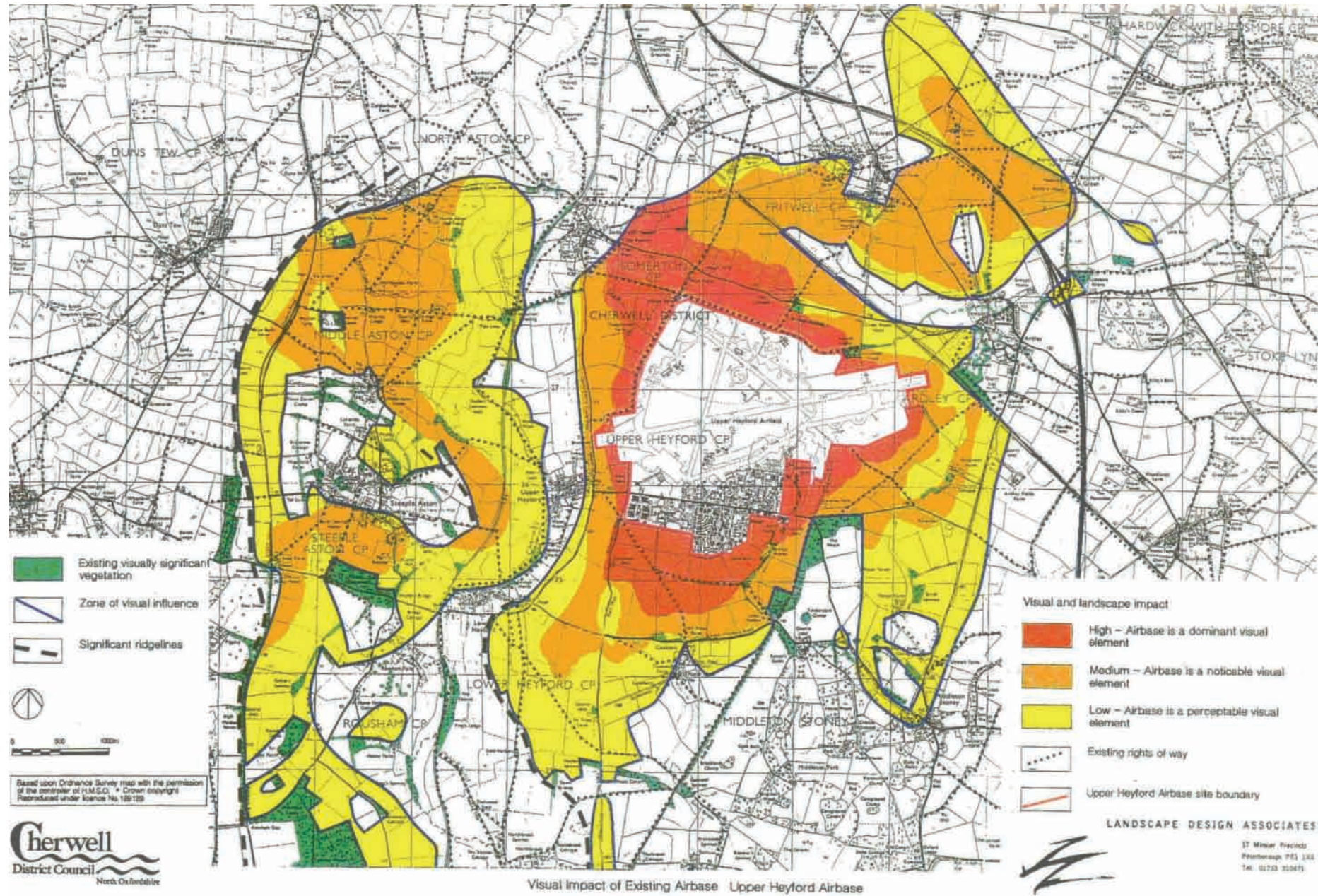


Figure 2: Visual impact of the airbase

# RAF Upper Heyford Conservation Area Appraisal

# 4. Historic development and Archaeology

## 4.1 Archaeology

There is a patchy record of archaeological evidence within the Upper Heyford airbase area. Evidence of early human activity is provided by the considerable number of undated cropmarks on the edge of the airfield and nearby. Cropmarks of this kind and linear ditches, such as Aves Ditch (SMR ref: 8925) located across the eastern end of the runway, have, from archaeological investigation, been dated to the Iron Age. Portway (SMR ref: 8926) which tracks across the western end of the airbase, is a Roman road with possible prehistoric origins.

The period following Roman withdrawal from Britain is represented by a paucity of entries in the archaeological record. Evidence for this period is dominated by burial sites. An Anglo-Saxon cemetery (SMR ref: 5915) was identified on the east edge of the air base in the nineteenth century. Its exact location is uncertain, but appears to have been very close to the present parish boundary, which follows Aves Ditch.

The location of burials on or close to parish boundaries is quite common. Even so, the presence of a cemetery in this location may indicate that there was Anglo-Saxon settlement nearby and perhaps closer than the earliest known focus of settlement at Lower Heyford on the riverside near the parish church. The possible presence of Anglo-Saxon remains, including burials, within the airfield cannot be discounted.

## 4.2 History

This section on the history of the airbase has been taken directly from Conservation Plan: Former RAF Upper Heyford (ACTA, 2005). The work of ACTA is gratefully acknowledged by CDC.

### 4.2.1 The Pre-Cold War Period: 1914-1945

#### *World War I (1914-1918)*

The airfield was built in response to a requirement for adequately trained aircrews for the Royal Flying Corps during World War I. Work commenced in 1916, when Canadian engineers laid out a landing field



Aerial photograph (looking north across the domestic site) taken in 1928

# RAF Upper Heyford Conservation Area Appraisal

# 4. Historic development and Archaeology

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 was opened in late 1918 as Number Three Mobilisation Station with 122, 157 and 158 Squadrons. By this time the Royal Flying Corps had become the Royal Air Force. SE5A Sopwith Dolphins and Salamanders aircraft were flown from the station. In addition, from August 1918 the first two squadrons of the infant Canadian Royal Air Force were established at Upper Heyford, flying Sopwith Dolphins and DH9. The war ended before these squadrons became active. The airfield was not kept on the permanent list of RAF stations and in 1919 the land reverted to New College Oxford, which had been the principal landowner in 1916.

### Inter-War (1919-1939)

The abandonment of the Upper Heyford airfield by the RAF was short-lived. In 1923 the 52-Squadron scheme for the site was the first within the Gloucestershire/Oxfordshire group of airfields to get Treasury approval. The land was re-purchased by the President of the Air Council in 1924 and funds were allocated to build an airfield with scope for expansion to accommodate at least three squadrons with a further reserve of aircraft. The work entailed hangars, dispersals and related stores and accommodation for all three squadrons and at least 54 aircraft. Upper Heyford was the model on which airfields

of its type were based in the period 1925-1934. The first unit to fly from the new Station in 1927 was the Oxford University Air Training Squadron flying Avro 504 and Bristol F4B 'Bristol Fighters'.

Following German re-armament, the RAF was further expanded and reorganised. Upper Heyford was attached to the RAF's Central Area, which became No 1 Bomber Group of the new Bomber Command in 1936. Upper Heyford played an important role in preparing Britain's air force for World War II. During 1938 Vickers Wellesleys of the Long Range

Development flight were based at the airbase. This formation was to make crucial progress in developing the navigational and endurance skills necessary to make the operation of a Heavy Long Range Bomber force possible. Perhaps the airfield's most important 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 for detecting enemy aircraft. The plane was thus the first to have been tracked by the new radar technology, so crucial during the Battle of Britain in 1940.



Figure 3a - Site Plan 1939

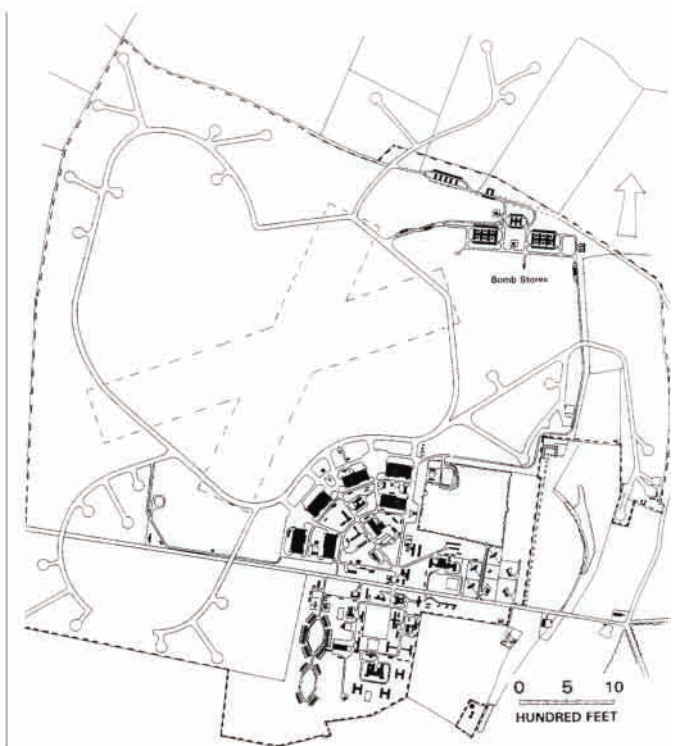


Figure 3b - Site Plan 1942

## *World War II (1939-1945)*

At the outbreak of war in 1939 the airfield consisted of a core of hangars and maintenance buildings and residential accommodation with a grass airfield to the north

(Figure 3a). The war meant that the airfield's role changed when its operational squadrons were put on a war footing. The airfield returned to being predominantly a training base. It was modified in 1942 (Figure 3b) but remained a grass strip until 1944 although it was furnished with hardstanding on the perimeter and with dispersals.

Concrete runways were finally built during the winter of 1943/44 by John Laing. At this point the station's bomb stores were removed and spectacle-type dispersals provided. Upper Heyford was twinned with a satellite field at RAF Croughton and was provided with its own decoy "Q" field at Otmoor. In addition to its training function, the base continued to be involved in the development of military radio and radar technology. Nationalities from all Commonwealth and allied nations passed through the training courses there. Some senior crews performed leaflet drops over occupied Europe from 1940. During 1942 the airfield was briefly used as a base for 1,000 bomber raids on the Ruhr and Main Force raids on other targets.

## 4.2.2 The Cold War: 1945-1989

The start of the Cold War was effectively a continuation of the tensions between the World War II Allies: the USA and Great Britain on the one hand and the USSR on the other. By the time of the Yalta conference in 1945 these were already prominent and in March 1946 Churchill made his famous Iron Curtain speech. The Cold War can be divided into two phases: The First Cold War 1945-1980; and the Second Cold War 1980-1989. The first phase of the Cold War can be further divided into three distinct periods: USAF Strategic Air Command (1951 – 1965); Sustained Deterrence USAF: 66th Tactical Reconnaissance Wing (1966 – 1970); and Sustained Deterrence: 1970-1993.

## *First Cold War: 1945 – 1950*

This was the period of the Marshall Plan and the hardening of attitudes between the Eastern and Western Blocks, culminating in the Berlin Airlift and the Korean War. It also saw the emergence of China as a significant communist power.

The USAF Strategic Air Command (SAC) was formed in March 1946 (the same year as NATO) and during that year there were discussions with the British government about stationing American bombers in Britain. However during the period up to 1950 Upper Heyford was relatively quiet and remained a training unit for RAF Mosquitos until 1946, and for the 1st Glider and Paratroop Training School, which was moved from Manchester Ringway. The paratroop school flew DC4 Dakotas, Handley Page Halifaxes and Horsa Gliders. A number of the unit's aircraft were involved in the Berlin Airlift.

### *First Cold War: USAF Strategic Air Command (1951 – 1965)*

This was the period of Mutually Assured Destruction (MAD). The international crises during this time culminated in the building of the Berlin Wall and the Cuban Missile Crisis.

The British government approved the formation of permanent United States Air Force (USAF) bases in Britain on June 26th 1950. In the period 1950-1960s there were thirty-two 'Principal United States Airfields' in England and of this number fourteen were used by SAC (Strategic Air Command). In June 1950 work began at Upper Heyford to remodel the airfield extensively in readiness for the SAC bombers and refuelling aircraft (Figure 4), and during this decade it became "one of SAC's principal bases in Britain'. As the tension between East and West escalated, the United States realised that purpose-built airfields would be required. SAC was concerned about the vulnerability of airbases at the east of England, and established four bases to the west: Brize Norton and Upper Heyford in Oxfordshire were pre-war permanent airfields; Fairford (Gloucestershire) and Greenham Common (West Berkshire) were temporary World War II constructions. At this time USAF aircraft were deployed overseas on 90-day rotations, and this is reflected in the layout and infrastructure of the airbases.

Construction at Upper Heyford was undertaken under the aegis of the Special Construction Programme (by which the UK and USA shared the construction costs) between 1951 and 1953. This entailed the improvement of runways, aprons, hardstandings, and dispersals and the provision of new nose dock sheds for the new generation of US bombers and further accommodation for base staff (Figure 5). In all, approximately 170 new buildings were erected. The airfield remained RAF property and continued to be referred to as RAF Upper Heyford, technically commanded by an RAF base commander.

Throughout the 1950's and into the early 1960's international tensions remained at a high level. Between 1957 and 1959 Upper Heyford was again refitted with runway improvements and a new Air Traffic Control Centre for the 1268th Airways Communication Service. The improvements included provision for Reflex Alert: up to 20 aircraft at each of the main bases - Upper Heyford, Greenham, Brize Norton and Fairford - had to be airborne 15 minutes after an alert was given. In addition to the strategic forces present at Upper Heyford, the base was also used by reconnaissance aircraft on occasional deployments to gather Electronic Intelligence (ELINT) about Soviet radar and communication technology and to monitor Soviet nuclear tests.





Figure 4: Phases of development on the flying field

### **Sustained Deterrence USAFE: 66th Tactical Reconnaissance Wing (1966 – 1970)**

The late 1960s was the beginning of détente culminating in President Nixon's visits to Beijing and Moscow. The period also saw the transfer of Great Britain's nuclear deterrent from aircraft to Royal Navy submarines.

In March 1965 the USAF stopped regular SAC rotations in England and on 31 March 1965 Upper Heyford was transferred to United States Airforce Europe (USAFE) as a dispersed operating base of the 7514th Combat Support Group. The base continued to be used as a forward area for Strategic Air Command deployments and was also used by an alert flight of RAF KC135 tankers for support of the UK's English Electric 'Lightning' interceptors. With the withdrawal of France from NATO in 1966, US aircraft on French bases had to be redeployed. Thus, on September 1st 1966 the 66th Tactical Reconnaissance Wing of the 4th Allied Tactical Force (3rd Air Force) was moved to Upper Heyford. This formation comprised 17th and 18th Tactical Reconnaissance Squadrons with McDonnell Douglas RC101 "Voodoo" aircraft. A new construction of Hangarettes was commissioned in 1968 to house the Voodoos at a cost of £138,000. In this phase the airbase continued to be used as a forward base by SAC. The aircraft included B52 bombers for which the runway had to be widened.

### **Sustained Deterrence: 1970s**

In the 1970s détente continued, but in terms of military architecture it saw the hardening of NATO and Warsaw Pact frontline bases after the First Arab-Israeli War had demonstrated the vulnerability of aircraft on the ground.

For its next phase of operation Upper Heyford underwent a further round of building in order to house the three fighter squadrons of 20th Tactical Fighter Wing. Each Squadron had an establishment of 24 aircraft and required \$20,000,000 worth of construction. These changes and the subsequent hardening of buildings created the 'Landscape of Flexible Response' shown on Figure 6. New facilities included new engine workshops, fuel and bomb stores, and extended aprons and dispersals. The base became operational in March 1970 with the arrival of 20th Tactical Fighter Wing's (TFW) three squadrons (79th Tigers, 77th Gamblers and 55th Fighting Fifty Fifth). Originally these were equipped with F100D Super Sabres but were shortly reequipped with F111 'Aardvark'. By July 1971 Upper Heyford could claim to be the largest fighter base in Europe. In 1972 a helipad was added and another round of runway improvement was conducted in 1976 at a cost of £250,000.

The F111s' primary role was to target key Warsaw Pact military installations in Eastern Europe: nuclear weapons sites and command, control, communications and intelligence centres. But they were vulnerable on their fixed airfields. In response to this perceived threat, hardened shelters (TAV-V) were provided between 1977 and 1980 (Figure 6). These were often decorated inside by ground crews on the same theme as the attended aircraft. New dispersals including the dedicated Special Alert Area for the Victor Response Nuclear ready flight were also provided. This phase of the airbase is the one that still dominates its character today.



Figure 5: The functions of the buildings and structures on the flying field during the Cold War

### The Second Cold War 1980-1993

At the beginning of this period international friction increased with the Soviet invasion of Afghanistan. Tension increased further with the election of President Reagan. He took a strong anti-communist stance, which culminated in the Star Wars initiative in 1983. But by the mid-1980s the signs of the collapse of the USSR were already beginning to appear.

The 20th Tactical Fighter Wing's (TFW) role changed in 1984. Improved Warsaw Pact defences meant that the former role of the F111s was replaced in the UK by the introduction of mobile GLCM Cruise Missiles. The purpose of manned bombers, including the F111s, became the hunting-down of the mobile SS20 missiles. These changes may have forced a willingness to commit to the 1987 Treaty on Intermediate Range Nuclear Forces to dismantle all medium and short-range nuclear missiles (including Cruise). By this date, the 42nd Electronic Warfare Squadron had joined the 20th TFW at Upper Heyford. This formation was equipped with EF111 'Raven' aircraft. Several of these took part in the suppression of Libyan air defences during the Tripoli and Benghazi raid of 1986.

The steady decline of the Soviet Union as a threat that began from the mid 1980's culminated in the planned withdrawal of the 20th TFW from Upper Heyford. In 1991, however, F111s from Heyford were involved in the First Gulf War (Desert Storm) and the

Kurdish relief of 1992 (Provide Comfort) as well as operations over Bosnia during the Bosnian Conflict. During this period strides were made in the limiting and reduction of nuclear arsenals with the Strategic Arms Reduction Treaties (START I and II) of 1991 and 1993. With the end of the Cold War, the USAF began to pull its European Units off its UK bases. On 7th December 1993 at a little after 11 am the last flight of three F111s lifted off the tarmac at Upper Heyford into a windy but clear blue sky. The flight line closed on December 15th 1993 and the base was handed back to the MOD in 1994. The link between the village of Upper Heyford and the airfield over the preceding 60 years, and the people who died serving at the base, are remembered by a memorial erected in 1992/3.



Figure 6: Landscape of flexible response

## 4.2.3 Recent History: 1994-2005

The announcement that RAF Upper Heyford was to be decommissioned was made in May 1993 and its intended disposal confirmed in September 1994. After the USAF left, the airbase was declared surplus to requirements by the Ministry of Defence (MOD). From the outset the District Council and County Council held discussions with MOD to address the issues presented by a redundant airbase. It was recognised the need to manage it in such a way as to generate sufficient revenue income to achieve the shared objectives of keeping the former airbase secure and maintained whilst its future was established through the development plan process. The opportunity to replace civilian jobs lost due to the closure of the airbase was also recognised.

Early in 1995 the District Council prepared supplementary planning guidance (SPG) for the temporary use of land and buildings on the former airbase to achieve the shared objectives. This was adopted following public consultation. The SPG has enabled many buildings on the airbase to be brought back into use and has been revised on a number of occasions to try to ensure that temporary uses continued to fulfil the original objectives. Present uses include; Heyford House for offices, the formation of an innovation centre, use of bomb stores for firework storage, the use of runways and hard surface areas for car storage, the use of hardened aircraft shelters for data storage, the use of buildings and land for

police training and the reoccupation of housing, Most of the uses are on short term temporary planning permissions.

The MOD formed a joint venture partnership with North Oxfordshire Consortium (NOC) (Wimpey Homes, Taywood Homes and Persimmon Homes) in October 1996. NOC currently manage the site whilst pursuing the long term redevelopment.

The strategic planning issues raised by the future use of the airbase, and in particular the size of any new settlement on it, were discussed in the review of the Oxfordshire Structure Plan in 1995-7. The EIP panel supported the Oxfordshire County Council's draft policy H2, which proposed a settlement of about 1000 houses. The plan was adopted in August 1998.

CDC published a Comprehensive Planning Brief in August 1999. The brief required a scheme for the airbase to achieve the following:

- to ensure that all risks to public health and safety are removed;
- to remove all military infrastructure which has an adverse impact on the character of the countryside;
- to enable the retention of existing buildings and structures as an element of the structure of the new village where this would be beneficial;

- to minimise the need for off-site disposal of materials arising as a consequence of the demolition and infrastructure removal process.

The following mission statement was agreed and formed part of the brief; : *To aim to transform the legacy of military use through selective demolition, re-use, agreed development and through the creation of a clean, attractive environment without prejudicing the existing quality of life of surrounding communities and, where possible, improving it* (Cherwell District Council, 1999)

In 2000 NOC made a planning application for the development of part of the site for a settlement of about 1000 dwellings, shops, business premises, social and leisure facilities. A public inquiry was held, following the failure of the Council to determine the application, in June and July 2002. The First Secretary of State dismissed the appeal in June 2003 and concluded that the site had '*locational short comings against Government policy and that the provisions of the OSP Policy H2 should be regarded as an exception to normal sustainability objectives as a means of facilitating remediation of the former airbase to enable the site to present a more environmentally acceptable face than it does now*'. Too many intrusive structures remained and the scheme did not resolve the intended future of the whole site. Other matters found to be unsatisfactory included

## RAF Upper Heyford Conservation Area Appraisal

## 4. Historic development and Archaeology

the relationship of industrial buildings to residential buildings, the boundary of the settlement, the absence of a Conservation Management Plan, the need for further archaeological investigation and the reopening of rights of way.

In May 2002 the Council received notification from English Heritage that it was to recommend a number of buildings at the base for scheduling and listing. This included the QRA complex, Avionics building, northern bomb stores, battle command centre, hardened telephone exchange and nose docking sheds.

The Council during the period between 1997 and 2004 was also in the process of producing a revised local plan. Consultation papers were published between 1997 and 1999 followed by a Deposit Draft Local Plan in 2001. A revised plan was produced and placed on deposit in September 2002 and finally pre inquiry changes were made and the plan again placed on deposit. The draft local plans all contained policies relating to the former airbase and sought to provide guidance on the implementation of Structure Plan 2011 Policy H2. Given changes to the planning system the Council decided in 2004 to withdraw the plan from the local plan process to concentrate on producing a Local Development Framework. However the plan was adopted by the Council for development control purposes in December 2004.

In 2002 the County Council consulted the public on issues facing the County and in 2003 published the Deposit Draft Structure Plan 1016. This plan was considered at an examination in public in October 2004. The Deposit Draft Structure Plan continued to include a policy to allow for the redevelopment of the former RAF Upper Heyford for a settlement of about 1000 dwellings, Policy H2. Changes to the policy were recommended by the Panel and further modifications made prior to the adoption of the Structure Plan in 2005. The Policy H2 now puts greater emphasis on the conservation of the historic interest in the site.

The revised wording of the Policy H2 in the Structure Plan and a change to English Heritage's position resulted in them seeking consideration for the retention of additional buildings and structures led the Council, NOC and English Heritage to jointly fund the production of a Conservation Plan for the majority of the site. This plan was produced by ACTA and completed in September 2005 and will inform future decision making on the site (ACTA, 2005).

In December 2006 the Council were informed that the QRA complex, Avionics building, northern bomb stores, battle command centre and hardened telephone exchange had been designated as scheduled ancient monuments. Following this, in April 2008, the council received confirmation that the control tower, nose docking sheds and squadron headquarters

had been designated for statutory protection as listed buildings (Figure 7).



Mural in Heyford House (52) to commemorate the USAF at RAF Upper Heyford.



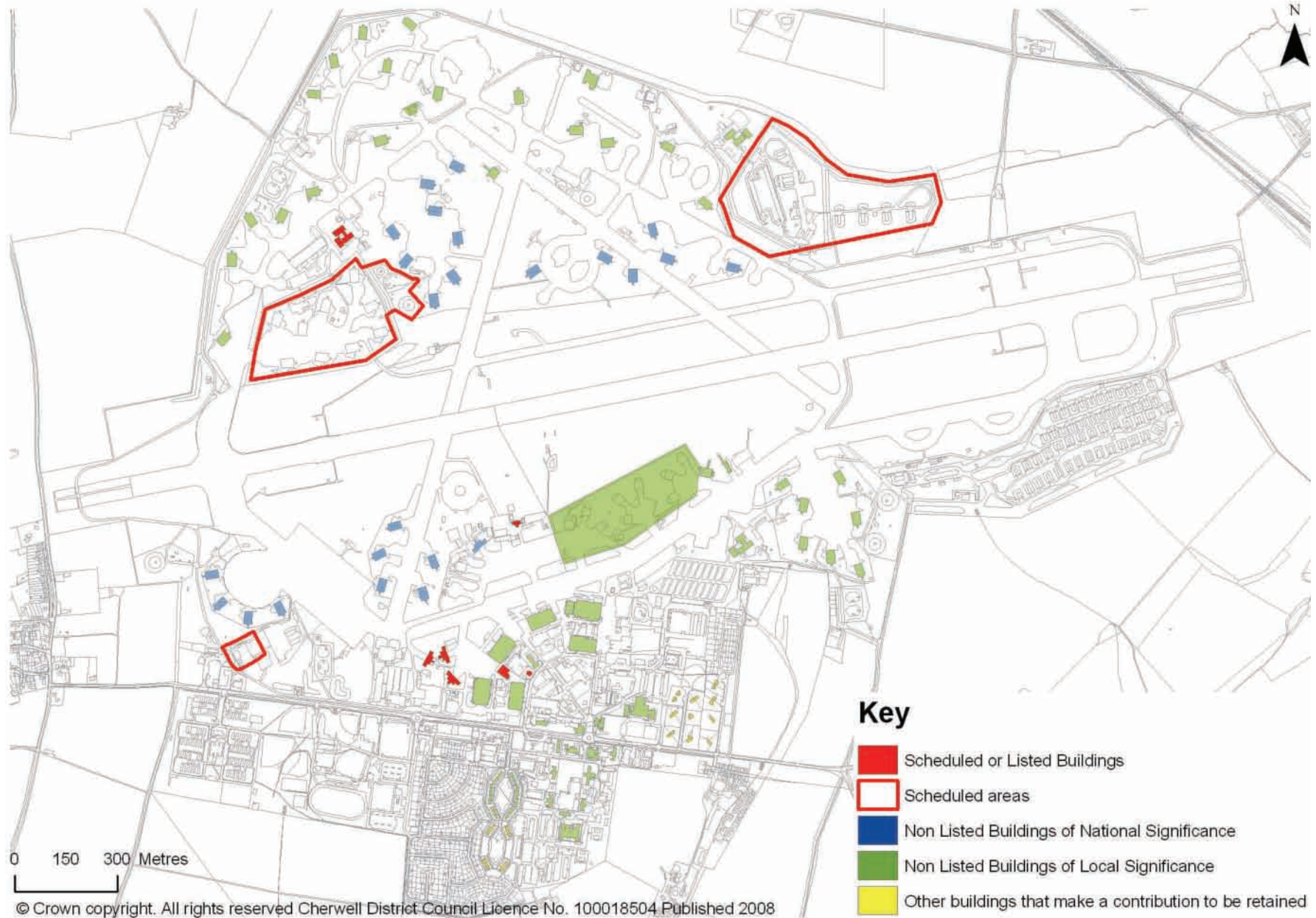


Figure 7: Location of significant buildings and structures

# RAF Upper Heyford Conservation Area Appraisal

5.1 In 1925 under the strategy known as the Air Defence of Great Britain, a new permanent three bomber airfield was planned for Upper Heyford. The importance of this station (it being close to both London and Oxford) was reflected in the style and size of the Officers' Mess, being on a grander scale than that built at other contemporary stations. It was also for the first time on an operational RAF station that domestic buildings, such as the two-storey (Type 'C') barrack blocks and Married Quarters, not seen elsewhere, were introduced. Upper Heyford was (and still is) unique in having six Type 'A' hangers (two for each squadron), the largest collection in the country. Thus from the outset RAF Upper Heyford was perceived of as a model aerodrome.

The English Heritage assessment of the site has defined the 'special interest' of RAF Upper Heyford as the structures and layout that contributed to its role as a Cold War airbase during the period of hostilities known as 'Flexible Response'. This analysis has been backed up by the Conservation Plan (ACTA, 2005).

RAF Upper Heyford retains many of the features of its operational heyday. The base, though the site is now shabby and the spaces divided up by modern fencing, still exudes 'Cold War character' and engenders a sense of awe and foreboding in the visitor. The prominent hardened aircraft buildings, the enclosure fences around operational areas, the planned layout of the functionally related groups of buildings and the spaces in between, together with 'campus' nature of the site all contribute significantly to the 'Cold War' character of the site.

However, there are a number of structures whose significance goes beyond being simply military structures, the bi-product of a tense period in the mid to late twentieth century. These structures and groups of structures, identified as part of the Thematic Listing and Monuments Protection Programme (English Heritage, 2000) exemplify particular aspects of the military and political history of the Cold War and are therefore considered to be worthy of statutory protection. This list includes:

## 5. Summary of special interest

Listed:

- The Nose Docking sheds (Buildings **325, 327 & 328**)
- Control Tower (Building **340**)
- Squadron Building (Building **234**)

Scheduled:

- The group of nine HASs in the Quick Reaction Alert (QRA) area, together with associated components (Buildings **3001-3100**)
- Northern Bomb Stores and Special Weapons Area (Buildings **1001-1008, 1011, 1032-1048, 1050, 1060 & 1870**)
- The Avionics Maintenance Facility buildings (Building **299**)
- The Battle Command Centre (Building **126**)
- The Hardened Telephone Exchange (Building **129**)

The locations of these buildings and structures are indicated in red on Figure 7.

English Heritage has expressed the view that these structures should be retained as monuments in as close as possible a condition to that when they were in use. HASs were considered as a class nationally, and they were deemed to be nationally important '*if they survive intact with all internal and external fittings as part of their original cluster with other hardened infrastructure.*' (Cocroft, 2001).

In addition to these structures RAF Upper Heyford has other military and aviation structures and buildings, which are iconic and of significance. Redirection of Cold War policies and the deployment of F111s saw the development of the flying field, the 'sharp end' of the action. Other areas within the airbase appear less affected by the 'hardening and dulling down' policies of the 1970s. The technical core and residential areas retain buildings of the interwar period, iconic in their own time, that illustrate the history of the development at the base from its origins in the 1920s. The style, size and number of these buildings and structures indicate the importance of RAF Upper Heyford as an exemplar of airfield design during the interwar period.

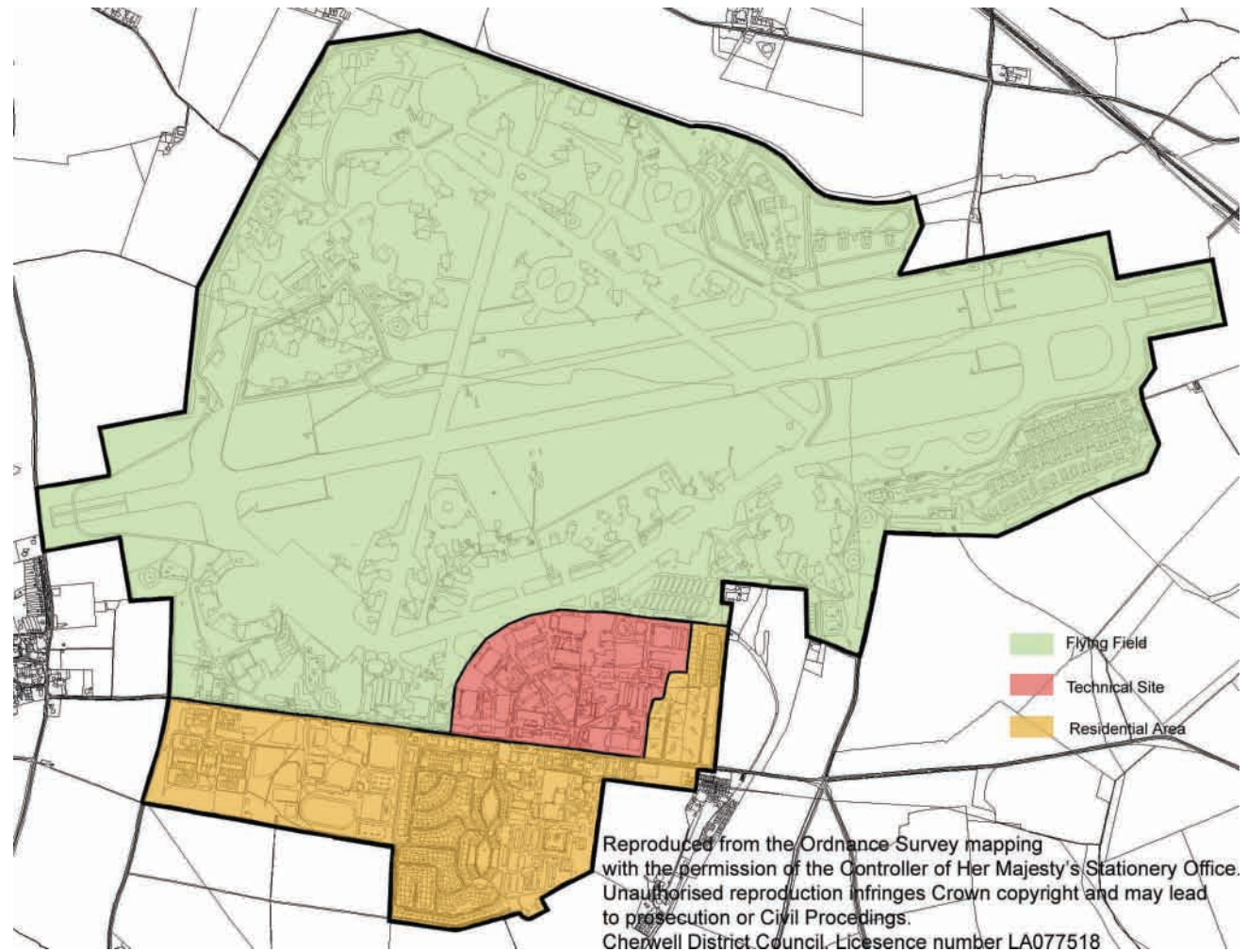


Aerial view of the technical site and southern section of the flying field.

# RAF Upper Heyford Conservation Area Appraisal

## 6. Spatial Analysis

It was Sir Hugh Trenchard, the founding father of the RAF, who championed the concept of 'Offence Deterrence', a principle that guided the siting and layout of air stations until the Second World War. All air stations were planned in accordance with Trenchard's requirements that the fabric must be dispersed against attack. In all cases the technical site, comprising hangars and workshops, with the guard room and station headquarters were placed at the site entrance, separated from the domestic site with its barracks, institute and mess. This generated a particular layout common to the airfields of the time. The Upper Heyford airbase is therefore ordered into three areas: the flying field, the technical site and a residential zone (Figure 8).



**Figure 8:** The functional character areas within the airbase

# RAF Upper Heyford Conservation Area Appraisal

## 6. Spatial Analysis

### 6.1 Flying Field

The 3.4km-long runway is set within an extensive area of meadow grassland. To the north of the runway groups of HASs, located in what seems to be random locations but in fact carefully sited so that no more than two could be hit on any single bombing run, are located within grassland and hardstanding. Interspersed with the HASs are maintenance buildings and squadron headquarters. The Northern Bomb Store and Special Weapons Area is located in the north-eastern corner of the site. The Quick Reaction Alert (QRA) Area is located within the north-western section of the site.

To the south of the runway is a wide area of hard surface for taxiing as well as further areas of hardstanding. Strategically located adjacent to these areas are two further groups of HASs, a number of other aircraft shelters and ancillary buildings. The Avionics Maintenance Facility, a large area for engine testing, and Nose Docking Sheds, sheds that cover the front part of the aeroplane, being located in the south-western corner of the site. The Southern Conventional Arms Store is located on the southern side of the east end of the flying field.

The overall impression of the flying field is one of openness, the location of the HASs being such that there is no impression of a visual barrier created by these buildings. The spatial organisation of the QRA and the Northern Bomb Store and Special Weapons Area appears distinct from the wider area.

This sense of exclusion is a function primarily of the double fence surrounding these sites marking them as functionally and physically separated from adjacent areas. The topography, the sites are located in natural hollows, also emphasises the separation of these sites from the rest of the base.

The southern part of the Flying Field has yet another visual character. The area being dominated by large buildings, which include HASs and other ancillary structures (Figure 9).



Figure 9: Visual analysis of the flying field

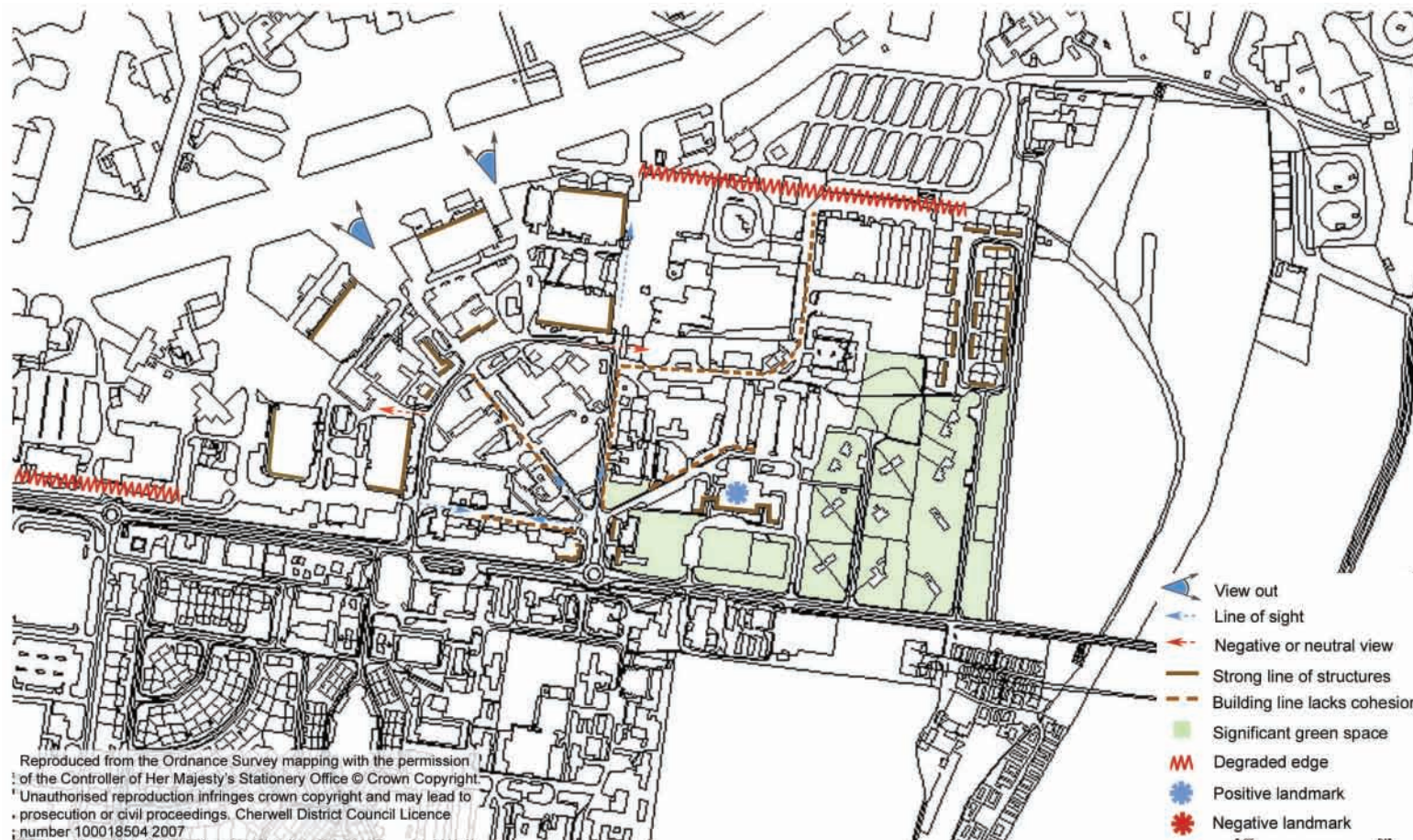
## 6.2 Technical Site

The Technical Site is located south of the flying field sandwiched between Camp Road, which defines the southern boundary of the technical area, and the southern taxiway of the flying field itself. Access to the Technical Site is via the guarded main entrance off Camp Road. From the Guard Block at the entrance there is a trident of three roads that give access into the site.

The northern boundary of the technical area is defined by an arc of four Type 'A' hangers that essentially act as a visual stop.

Within the south eastern corner of the Site stands the 1920s Officers' Mess located in its own generous setting. Elsewhere buildings within the Technical Site vary in proximity. There is a spectrum of building

styles, the result of infill building, and the structures appear cramped one upon another. The presence of trees and the use of spaces between buildings for parking (rather than building) in the vicinity of the Type 'A' hangers gives this part of the Technical Site a more planned appearance (Figure 10).



**Figure 10:** Visual analysis of the technical site and officers' housing

# RAF Upper Heyford Conservation Area Appraisal

## 6. Spatial Analysis

### 6.3 Residential Zone

The Residential Zone is mostly located to the south of Camp Road, although there is a limited area of 1920s officers' housing and a cul de sac of 'tobacco housing' sited at the eastern edge of the Technical Area (so called because they were built by the British but paid for in tobacco by the United States). The Residential Zone can be divided into different areas defined by use, i.e. domicile areas, recreational areas, service provisional areas.

These areas vary significantly in character and in the distribution of structures within each area.

The visual impression is of a residential quarter.

The mess and accommodation for other ranks together with sick quarters and associated ancillary buildings are located on the southern side of the road around the parade ground.

The buildings are well set apart and their orientation on a grid serves to emphasise the strength of building line along the roadways within the area.



Figure 11: Visual analysis of the residential area

# RAF Upper Heyford Conservation Area Appraisal

## 6. Spatial Analysis

The original officers' housing from the 1920s and 1940s is generously set in uncluttered, well tended, domestic plots, which creates very pleasant 'suburb'. Since the remainder of the airbase cannot be seen from this enclave it appears as distinct area with the site.

The dwellings in Carswell Circle, provided as married airmen's quarters, were also constructed in the 1920s and 1940s but on a more modest scale. Formed into terraces and facing in towards the circle, they do not relate to the adjacent more formally organised buildings and present a very urban appearance.

The later prefabricated bungalows by their proximity and unrelenting design appear as a remorseless sea of facades and roofs. The layout of the buildings does not provide for vistas or views and therefore the area appears cluttered, in contrast to the more relaxed British Military style of the parade ground buildings.

To the west of the bungalows are two further groups of buildings separated by car parking areas of hardstanding and recreational grounds.

The central group of these further buildings comprises a supermarket, a (now demolished) bowling alley, a gym and the hospital. These are rather large, monolithic, unrelenting buildings that are well separated but relate poorly to each other and therefore do not form a coherent group.

In the south west corner of the site stands the former school. A clutter of single storey, now derelict, prefabricated buildings. This group of buildings is isolated from its neighbours by either the road or a succession of baseball pitches. The proximity of the buildings within the school complex appears disproportionately close compared to the separation of the school site from its neighbours and therefore the site appears claustrophobic as well as isolated.

### 6.4 Key views and vistas

The topography of the airbase and the surrounding land is such that the base can be seen from a number of locations. There are no views from public places into the site that give the observer an understanding of the layout, beyond the fact that there is a high concentration of HASs at the north end. Views are of individual buildings and structures and the observer cannot 'read' the landscape from outside.



View of the airbase from across the Cherwell valley.



From within the base there are high quality views to be had from the western end of the runway out across the Cherwell valley. There are also views from the flying field north towards RAF Croughton as well as the surrounding countryside to the south and east. One of the most atmospheric views within the site is along the main runway where something of the scale and character of the airbase can be appreciated. Elsewhere within the Technical site and on the parade ground the alignment of buildings creates strong lines of sight which terminate in visual blocks. The residual of the Residential Area south of Camp Road is without significant internal views although there are views to be had from the southern boundary out over the Caulcott plateau.

The main views into the airbase can be had from the road between North Aston and Middle Aston; the Upper Heyford to Somerton road which runs along the western boundary and is dominated by the boundary fence in this location; the Somerton to Ardley road and associated footpaths which give a view into the northern section of the Flying Field; and the Caulcott plateau (the B4030 and associated lesser roads) which gives a panoramic view of the southern boundary of the airbase, an apparently random assortment of buildings surmounted by two water towers. Extensive assessments of the landscape and the views have been undertaken previously (ACTA, 2005; Landscape Design Associates, 1997).



View of the airbase from close to Middle Aston

# RAF Upper Heyford Conservation Area Appraisal

## 7. Character Analysis

### 7.1 Characterisation

The landscape of an airbase can be characterised in a way similar to other historic landscapes and the general principles of historic landscape characterisation can be applied (English Heritage, 2004 and references therein; see also English Heritage, 2003 and references therein; English Heritage website and references therein). Such a process was previously undertaken at the airbase at RAF Scampton (W S Atkins 'RAF Scampton: Historic Characterisation', 2004).

There are three main subdivisions of character that largely reflect the divisions of function between the technical and domestic operations. These are the flying field, the technical site and the domestic zone. The domestic operations are further divided by the seniority between officers and men in the provision of accommodation.

#### 7.1.1 Flying Field Landscape

An analysis of the airfield section of the airbase has been undertaken by ACTA to inform the writing of the Conservation Plan (ACTA, 2005). The flying field can be divided up into a number of areas and sub-areas, the defining characters of these areas being determined by a combination of topology, the presence of buildings and/or hard standing and their function (Figure 12 and Table 1).

The general character of the Flying Field is one of open grassland bisected by runways, taxiways and hardstanding.

Around the periphery of this open area are strategically located HASs and areas with specific function, some self-contained within their own security fencing; these areas are:

- The Quick Reaction Alert Area (Area 1C)
- Northern Bomb Stores and Special Weapons Area (Area 5A)
- The Avionics Maintenance Facility Area (Area 8)
- Southern Bomb Store (Area 4)

The character of some of these areas is described in Section 9

#### 7.1.2 Technical Site

The Technical Site is the first area of the base accessed off Camp Road after passing through the main gate. This area is fronted on the west of the entrance, by the 1920s Guardroom (100) and to the east Heyford House (52) (originally the Station Operations Room and Headquarters), These buildings together with the Officers' Mess (74) and the buildings immediately to the south on the southern side of Camp Road are part of the initial development phase of the airfield and constructed in 'British Military' style that was the dominant influence in architectural style at the time of construction. The style, in fact, is well suited to the organised 'campus' layout of the site with deliberately sited, low-density, buildings, grassland and organised tree planting.

The Technical Site is accessed by a fan of

three, partially tree-lined, straight avenues, fronted on either side by a mixture of functional building types. Red brick buildings from the original site layout predominate along the roads. The spaces in between have been filled with newer buildings, constructed in a range of building styles and materials, this has tended to complicate the appearance of the area and make it less easy to appreciate its original form. Most buildings are now in active office, commercial or storage use. Two important Cold War buildings lie in the west part of this area: the Battle Command Centre and the Hardened Telephone Exchange.

The Technical Site is bounded by an arc of four, large 1930s aeroplane sheds that form a backdrop to the area and close off the view into the flying field. These buildings sit well at the back of the site as their layout, on an arc between radial roads, compliments the organisation of the minor buildings within the site. The Technical Area, now devoid of aviation-based activity, still retains the attribute of being at the hub of the airbase. Despite the infill buildings something of the organised campus origin of the area remains, overlaid by the successive accretions such as the addition of the standard USA-style fire hydrants. Tall buildings whilst evident do not over-dominate the site; an effect achieved by the spacing of buildings, the tree planting, and the distribution and variety of building heights.



# RAF Upper Heyford Conservation Area Appraisal

## 7. Character Analysis

### 7.1.3 Residential Zone

The Residential Zone easily divides into a number of distinct areas which form an array of very different characters.

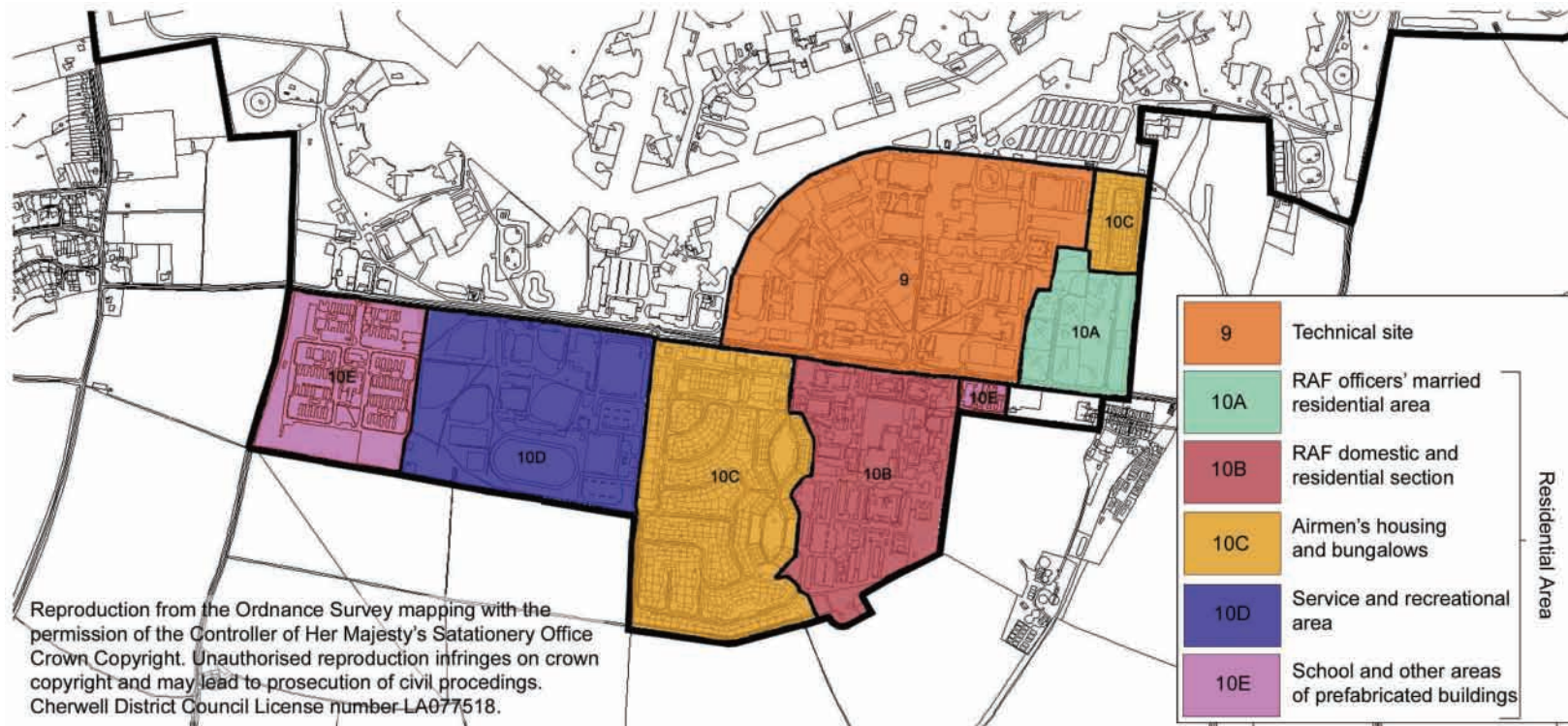
North of Camp Road and east of the main entrance there is the former officer housing (Soden Road and Larsen Road). The housing, constructed in the 1920s and 1950s, forms a small leafy suburb.

Appended to the north of this area is an enclave of prefabricated bungalows, built to American specification. The officers' housing area is bounded on the western edge by the substantial 1920s RAF Officers' Mess, still largely in its original setting.

To the south of Camp Road, south of Heyford House, are the domestic buildings for other ranks also built during the 1920s, but currently standing empty. These buildings (450, 455, 457, 459, 464, 471, 474, 480, 483 and 485) in 'British Military' style are constructed in red brick under hipped slate roofs. They are located around and orientated towards the parade ground and form a contained and self-referencing group of buildings. The arrangement of these buildings on a grid enhances the strong building lines that can be perceived along the rows of buildings and imbues the

parade ground area with a campus quality. The area immediately south of the parade ground was developed during the period of RAF expansion in the 1930s. The area is dominated by the Institute (488) and H-blocks (489, 498 and 500) set around it. This area has a coherent character distinct from the 1920s buildings.

The general 'military architect' character of the general area has been diluted by post-war alterations and additional buildings.



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**Figure 13:** Technical site and residential zone character areas

# RAF Upper Heyford Conservation Area Appraisal

# 7. Character Analysis

On the south side of Camp Road and to the west of the main airfield entrance is the access into the main Residential Zone. At the east edge of the residential area are the rendered terraced houses (datestone 1925) built around Carswell Circle, with 1940s housing, built in red brick, around a similar close to the south. In the north west corner of the residential area are two-storey, red brick, semi-detached or short terraces of 1950s houses. West and south of Carswell Circle is an extensive area of prefabricated suburban bungalows, built to American specification. These buildings have now been brought back into residential use.

South of Camp Road on the western corner of the site, the former school, comprising a complex of single-storey buildings painted in the distinctive USAF paint scheme of brown bars on cream, is now derelict. A water tower in the northeast corner and one 150 m further east along Camp Road are conspicuous landmarks. To the east of the former school there are sports fields around a gymnasium and beyond this a disused superstore and hospital. The openness of the area contrasts markedly with the school and residential areas on either side. On the eastern side of the residential area there is a food supermarket that has been brought partially back into use, and a disused petrol station adjacent. All these community and commercial buildings are without architectural merit, constructed in the utilitarian municipal style of the 1960s and 1970s (Table 2 & Figure 13).

RAF Officer housing



Carswell Circle



Airmen's bungalows



Sub-area identification	Sub category	Character Area	Description
Flying Field 1		Central Airbase	This area is characterised by the open, plateau-top landscape dominated by meadow grassland and hard surfaces and punctuated by the airfield buildings. The 'raison d'etre' of the airbase defined by the runways constructed in the 1940s. The 'top-of-the-world' openness of this section of the flying field imbues the observer with a sense of isolation.
	1A	Central Runway	Open landscape dominated by the uniform planes of meadow grassland and hard surfaces and by the wide horizons. The area is surrounded by HASs (Hardened Aircraft Shelters) and includes the control tower. The CWS (County Wildlife Site) is located towards the eastern end of the area.
	1B	Central Plateau	The dominant characteristics of 1A continue in this area but the landscape is punctuated by the groups of HASs.
	1C	The Quick Reaction Alert (QRA) Area	This is an enclosed landscape dominated by the HASs and fences. The area has a distinctive 'Cold War' atmosphere which is emphasised by the many fences which isolates the area from the rest of the flying field and the fact that the QRA sits in a slight depression.
	1D	South Aircraft Shelters	The open aircraft shelters located in this area lack the dominant presence of the HASs. Current usage has robbed the landscape of any defining characteristics.
	1E	Southwest HASs	This area has a distinctive, sharply-defined group of HASs with good visual links to the open areas to the north.
Flying Field 2		Runway West Terminal	This has some of the characteristics of 1A, but there are long views across the Cherwell Valley and more immediate views of the edge of Upper Heyford. These are in sharp contrast with the isolated character of Area 1.
Flying Field 3		Runway East Terminal	This area has some of the characteristics of 1A but the land dips slightly to the east and there are wide views across the more-or-less level surrounding farmland of the Fritwell and Caulcott Plateaux. The overall character is therefore very different from 1A and the area lies outside the 1940s core, having been constructed in the 1950s.
Flying Field 4		Southern Conventional Arms Store	This area is dominated by the igloos of the bomb stores and is visually isolated from the rest of the site, with the exception of Area 3. There are some views in and out of the area across the farmland to the south and east.
Flying Field 5		North Edge	This area has many of the features of Area 1 and is part of the Landscape of Flexible Response but the trees at the edge and the intermittent views across the landscape outside the base become more significant towards the north.
	5A	Northern Bomb Stores	This area, which lies on land falling away slightly to the northeast has a very enclosed Cold War character as a result of the proximity of the buildings and of the surrounding fences. Like the QRA it sits in a slight hollow and this emphasises its separation from the rest of the airbase.
	5B	Plateau Edge	This area shows similar characteristics to Area 1B but is outside the historic core. The land levels are beginning to drop as the airfield dips off the plateau top and so this area is increasingly influenced by the landscape outside the site.

Sub-area identification	Sub category	Character Area	Description
	5C	North Fringe	Within this area, the land drops away northwards from the plateau edge. There is a mixture of enclosure from the boundary planting and the openness of views across the plateau and towards RAF Croughton to the north, although the characteristics of the Landscape of Flexible Response remain.
	5D	Northwest Fringe	This area is similar to 5C but is narrower and more sharply-defined. It is more closely linked with the landscape beyond the site than the landscape within it. At the south end, the boundary between this area and 5B runs between the buildings of the 55th Squadron, illustrating the difference between functional and visual groupings.
Flying Field 6		Southeast HASs	This area has a distinctive character because the HASs and ancillary structures are relatively close together. But the visual link with the major part of the Landscape of Flexible response is poor and it lacks the simplicity and openness of Area 1.
Flying Field 7		The Tanker Area	This is an indeterminate area dominated by the grassland of the tanker standings. It is largely without a character of its own and is influenced by the mass of buildings beyond the boundary to the south.
Flying Field 8	8A	Southwest Edge:	This is another indeterminate area, dominated in the west by very large buildings – the Nose Docking Sheds and the flight simulators – but without any distinct imprint of period of function.
	8B	Southwest Edge: Avionics and HASs	The close group of hangars and the imposing presence and distinct form of the Avionics Maintenance Facility characterise this area which is well linked to Area 1 by its open character.

**Table 1:** Flying field character areas and description. This information for the Flying Field (zones 1-8) is summarized from the Conservation Plan (ACTA, 2005) and illustrated graphically in Figure 12.

Sub-area identification	Sub category	Character Area	Description
Technical Site 9		Technical Site	This area is characterised by the 'campus' layout of deliberately sited, mix function buildings, in an open setting with organised tree planting. The variation in building type is both a function of their differing use and the fact that there has been continual construction within the site as part of the different phases of development within the airbase. The setting of the 1930s aircraft hangers in an arc on the northern edge of the site provides a visual and physical edge to the site. The access to the Technical Site is dominated by Guardroom (100) and Station Office (52). To the east of these is the impressive 1920s Officers' Mess (74) set within its own lawns. The style of these 1920s, red brick, RAF buildings is British Military.
Residential Zone 10	10A	Original RAF Officers' Residential Section	The area is characterised by the 1920s red brick buildings, in a 'leafy suburb' setting of grass and organised tree planting. The low-density setting of the original buildings is perpetuated in the buildings built adjacent in the 1950s.
	10B	RAF Domestic and Residential Section	The 1920s, red brick, RAF buildings to the south of Camp Road are laid out around and orientated towards the parade ground. The style of the buildings within the area is again British Military and because of their grid-like orientation the area has a strong 'campus' character distinct from the Technical Site to the north on the other side of the road. The area immediately south of the parade ground was developed during the period of RAF expansion in the 1930s. The area is dominated by the Institute (488) and H-blocks (489, 498 and 500) set around it. This area has a coherent character distinct from the 1920s buildings. The general 'military architect' character of the area has been diluted by post-war alterations
	10C	Airmen's Housing and Bungalows	To the east of the Parade Ground is Carswell Circle (datestone 1925) short terraces of garden city style rendered buildings located originally in an open setting. The later southern second circle is a marriage of an open setting with the prevailing house design styles of the 1940s-50s. Red brick, estate house, smaller cousins to the officers' housing built on Larsen Road. There are a number of areas covered in the prefabricated bungalows; south of Camp Road and north of Larsen Road. There is a perfunctory attempt at landscaping, but the monotony of repeated structures is unrelenting. The bungalows themselves are functional but have no architectural merit.
	10D	Service & Recreational area	This area, located south of Camp Road west of the housing area, is very open in contrast to the areas either side. There is a limited number of service buildings spread across this area. The buildings are modern prefabricated structures in the rather dull utilitarian municipal style of the 1970s, now much re-veiled. Whilst the buildings maybe considered functional, they lack architectural merit. These buildings are interspersed with recreational sporting facilities and areas of parking. The layout of this area has no coherence.
	10E	School and other areas of prefabricated buildings.	The school is located in the south west corner of the site. A clutter of single storey prefabricated buildings. This group of buildings is isolated from its neighbours by either the road or a succession of baseball pitches. The proximity of the buildings within the school complex gives the site a claustrophobic air. There is also a limited group of prefabricated buildings to the east of the 1920s parade ground group of

**Table 2:** Technical and residential character areas and description. This information is illustrated graphically in Fig 13.



## 7.2 Characterisation by function

The creation of zones within the airbase and the differing function of each zone can be attributed to the historic layout of the original airfield as prescribed by Trenchard. Function continued to reside within the given section and so it can be seen that functional groupings cut across the landscape characterisation to some extent. Thus the functional zones within the airbase are the:

- Flying Field
- Technical Site
- Residential areas

### 7.2.1 Flying Field

#### *The Landscape of Flexible Response*

The development of the flying field was based around the pre-existing framework of runways, taxiways and hardstanding which (with a few exceptions) date from the 1950s. Figure 6 shows that the layout of the airbase was not defined by the needs of the F111s, and was not radically changed by the 1970s rebuilding. However, in the 1970s there was a substantial programme of building, notably the hardening of existing shelters and the construction of new HASs. In addition maintenance, reconnaissance, storage, aircraft washing, POL, fire-fighting, test cells and squadron headquarters were built. Some buildings dating from the 1950s continued in use. The development of the QRA and the structures to the north built to serve the 42nd Squadron were further major changes. The hardened utilitarian style of the buildings is particularly distinctive. The present-day character of the flying field has thus been largely determined by the requirements of the strategy of Flexible Response and the F111s' ability to threaten the Warsaw Pact's key military installations.

#### *Squadron Groups and Aircraft Movement Prior to Takeoff*

Four F111 squadrons were housed at RAF Upper Heyford. Each was assigned a headquarters, a small administration building (a bungalow added in 1985) and a number of HASs. Although most buildings were shared by all squadrons, the integrity of squadron groups demonstrates how an operational Cold War airfield functioned. Figure 14 illustrates the grouping of the squadrons as well as the movement of aircraft along the taxiways prior to take off, which adds to our understanding of the operation of the airbase.

#### *Technical Site*

The 1925 design and layout of the aerodrome were grounded on the Trenchard requirements that the fabric must be dispersed against attack. The technical site, bounded by the arc of 'A' Type hangers, is therefore a self-contained area in the south-eastern corner of the flying field. This basic layout has been retained throughout subsequent development phases and the role of this section of the base has therefore remained technical support for flying activities.



**Figure 14:** Grouping of the squadrons including the movement of aircraft along the taxiways prior to take off.

## Residential Zone

The Residential Zone has areas to the north and south of Camp Road. Segregation of accommodation was from the outset based on rank; the officers' facilities and single officers' accommodation being provided within the prestigious Officers' Mess building located within the Technical Area and abutted on the eastern side by a residential area of detached and semi-detached accommodation for married officers.

Provisions for other ranks and airmen as well as general facilities were located on the south side. Initially this physical separation of domestic buildings separated from the technical area by a public highway was considered unsatisfactory by the RAF Building Committee but accepted on the grounds of limited funds (Francis, 1996). However the physical division of the site by Camp Road clearly provided no impediment to the development of the site and therefore this pattern physical segregation persisted with domestic, recreational and health provision continuing to evolve within the southern sector of the site.

## 7.3 Architectural and historic qualities of buildings

Buildings on the airbase are representative of a limited range of architectural styles. Construction continued throughout the active life of the base so that buildings from all periods from the 1920s to 1993 are represented to a greater or lesser degree. Domestic, public, commercial and military buildings from each phase of development within the airbase can be found.

### 7.3.1 Buildings and Structures

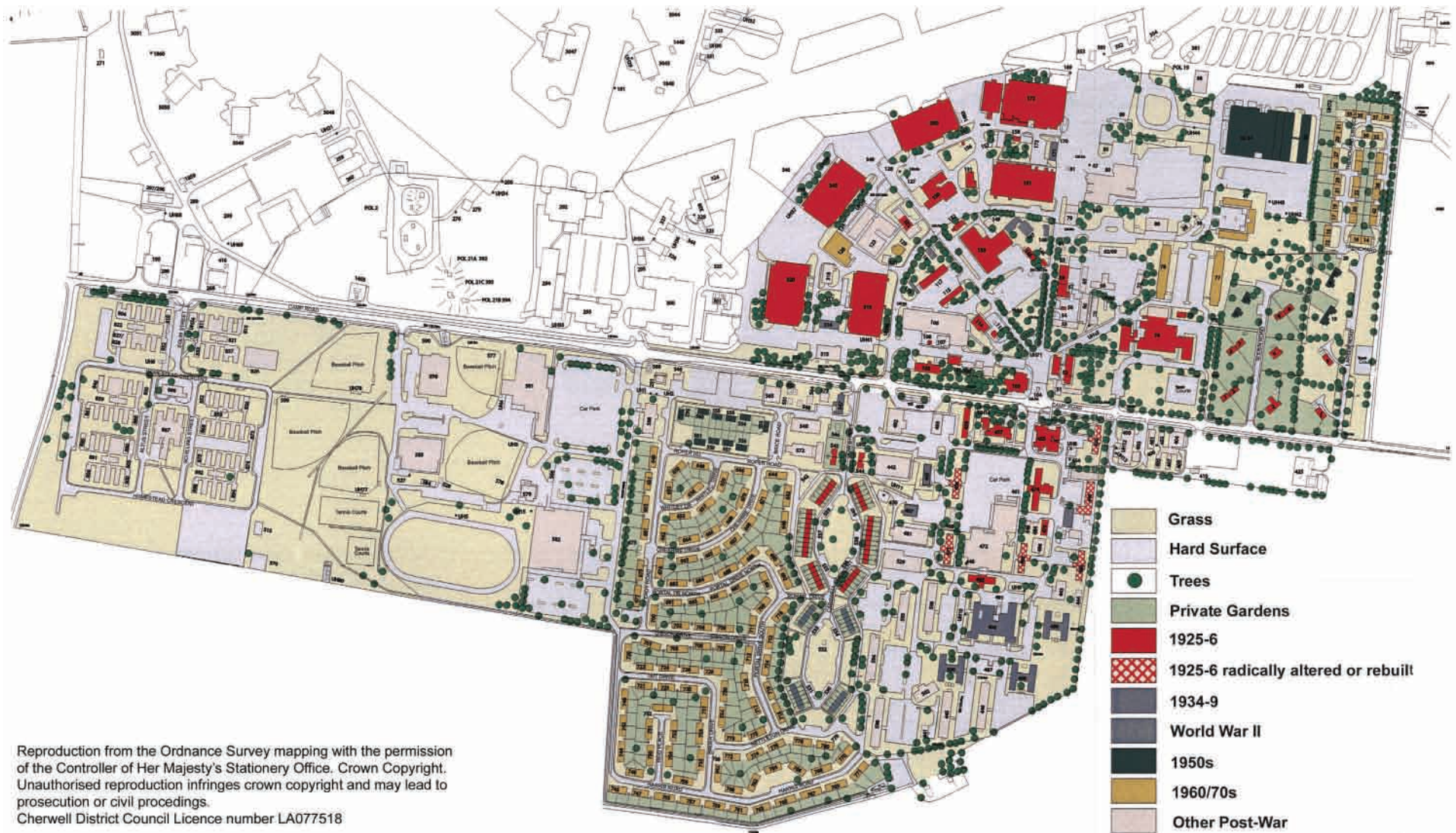
Figure 5 shows the functional and operational relationships between buildings and structures, depicting how each component operated within the airfield. It shows that the buildings were laid out around the requirements of the aircraft, and not grouped according to individual function. For example, there are hush houses to the north and south of the runway, to test aircraft within each of these areas. In addition the HASs were situated so that no more than two could be hit by a single bombing run.

### 7.3.2 Building type and architectural style

The airbase was developed over a period of time and in a number of discrete building phases. Figure 4 shows the distinct phases of development within the flying field, with phases of building from the 1920s to the 1970s and later. Figure 15 shows the comparable phases of development within the technical and residential areas.

The domestic architecture of the 1920s, constructed in red brick with symmetrical facades and detailing, is neo-Georgian in essence and is little changed from nineteenth century military style. Avionic structures however show the beginning of the evolution towards buildings designed around functional needs, such as the erection of the first the Type 'A' Aeroplane sheds and the development of ancillary buildings with specific function, such as the Engine Test House.

The RAF expansion period (1936-9), the lead-in period to the Second World War, saw no fundamental change in building design or functional requirements and the structures from this period are very similar to those of the initial construction phase. Further functional buildings, such as the Control Tower, constructed after the War show a continuation of evolution of design.



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**Figure 15:** Phases of development within the technical site and residential areas.

## RAF Upper Heyford Conservation Area Appraisal

It is with the coming of the Cold War and the change in the political mind-set underlying defence policies that we see a fundamental change in the use of materials and basic design of military structures. The 1950s saw the building of the nose docking sheds and the creation of the Northern bomb store and special weapons area. 'Hardening' and 'dulling down' and the extensive use of concrete are the essence of 1970s Cold War architecture, so much so that from the vantage point of the beginning of the twenty first century such structures are viewed as iconic and representative of the period.

### 7.3.3 Scale, Construction and Materials

The bulk of the non-residential buildings are on an industrial scale appropriate to their function. The design, scale and the materials used are to a certain extent determined by the date of the building's construction. Thus a number of the earlier buildings are constructed from red brick in the neo-Georgian style considered appropriate for public and institutional buildings constructed during the wars. Other interwar buildings, such as the four hangers that guard the periphery of the Technical Site, are metal-clad structures.

It was only from the 1970s onwards, with a change in mind-set and a change in defensive requirements to match, that the aircraft storage and maintenance buildings became structures constructed from hardened concrete. The HASs are the most distinctive airbase structures at Upper

Heyford, due to their number, their monolithic design and their layout. There are 56 such structures located around the flying field. The majority of these shelters are 8.3m high, 36.5m in length and 21.5m wide (internally).

The buildings to be found south of Camp Road are mostly domestic in function and domestic in scale. The materials used in their construction are determined by the period in which they were constructed. Therefore while the buildings of the 1920s through to the Second World War are of red brick and some render; with the influx of the American air force came concrete and

## 7. Character Analysis

prefabricated structures as set out in site specifications for American military bases. The commercial and later service buildings are mostly industrial in scale and of prefabricated construction having been erected in the 1970s.



# RAF Upper Heyford Conservation Area Appraisal

## 8.1 Designated Buildings and Structures

Under the auspices of the Thematic Listing and Monuments Protection Programme, English Heritage (during the period 1994-2004) has undertaken a review of recent military heritage. This has provided a fuller understanding of twentieth century defence heritage including the legacies of the Cold War. Thus while the airbase contains building and structures from each expansion phase of the site's history, it was felt that those structures pertinent to the 'Flexible Response' period of the Cold War were of national and in some cases international importance and therefore worthy of preservation.

Buildings are numbered for clarity; this number is given in bold type and the location shown in the gazetteer in ACTA (2005) and ACTA (2006).

The following structures have therefore been listed or scheduled by English Heritage. These buildings and structures are identified in red on Figure 16-17.

- Quick Reaction Alert Area (Buildings **3001-3009, 2010, 3104 & 3105**) (scheduled). Identified as of international significance with the Conservation Plan (ACTA, 2005).
- Avionics Maintenance Facility (Building **299**) (scheduled). Identified as of international significance with the Conservation Plan (ACTA, 2005).

- Battle Command Centre (Building **126**) (scheduled). Identified as of international significance with the Conservation Plan (ACTA, 2005).
- Northern Bomb Store and Special Weapons Area (Buildings **1001-1008, 1011, 1032-1048, 1050, 1060 & 1870**) (scheduled). Identified as of national significance with the Conservation Plan (ACTA, 2005).
- Hardened Telephone Exchange (Building **129**) (scheduled). Identified as of national significance with the Conservation Plan (ACTA, 2005).
- Nose Docking Sheds (Buildings **325, 327 & 328**) (listed). Identified as of international significance with the Conservation Plan (ACTA, 2005).
- Control Tower (Building **340**) (listed). Identified as of national significance within the Conservation Plan (ACTA, 2005).
- Squadron Headquarters (Buildings **234**) (listed). Identified as of national significance within the Conservation Plan (ACTA, 2005).

## 8. Audit of Heritage Assets

### 8.2 Structures making a positive contribution to special character

The airbase is rich in buildings and structures associated with aviation, the maintenance and fine tuning of the aircraft and their engines, the functional operation of the base and the housing and recreation of the personnel and their families. Although only a very limited number of buildings and structures have been given statutory protection, this does not mean that the remainder of the buildings are all without merit. There are a number of buildings that contribute significantly to the Cold War character of the base and others, equally significant that shed light onto the historic development of the site as well as the social context of class division within the RAF. The Conservation Plan (ACTA 2005) identifies a number of buildings and structures as being of 'nationally significance', these are identified in Blue in Figure 16 -17. The Conservation Plan (ACTA 2005) and Landscape Assessment of the Airbase South of the Cold War Zone (ACTA 2006) further identify other structures, of more regional and local significance; these together with a number of associated structures can also be considered important to the historic context of the site, are termed 'locally significant', and are shown in Green in Figure 16 - 17.

# RAF Upper Heyford Conservation Area Appraisal

## 8.2.1 Flying Field

- Squadron Headquarters (Buildings **209, 370 & 383**). Identified as of national significance within the Conservation Plan (ACTA, 2005).
- Hardened Aircraft Shelters (HAS) (Buildings **3001-3056**) (with the exception of the shelters within the QRA (**3001-3009**) which are of international significance). Identified as of national significance within the Conservation Plan (ACTA, 2005).
- Nose Docking Shed (Building **335**). Identified as of international significance within the Conservation Plan (ACTA, 2005).
- Victoria Alert Complex (Buildings **2001-2009, 359, 360, 357 & 5022**) constructed in the 1970s, provided an initial quick response prior to the advent of the QRA. Identified as of regional significance within the Conservation Plan (ACTA, 2005).
- Engine Test Cells (Buildings **1319 & 1443**) **1319** dates from the 1950s, **1443** dates from the 1980s and was built specifically for the F111E. Identified as of regional significance within the Conservation Plan (ACTA, 2005).

- Hush Houses (Buildings **1368 & 1372**) constructed in the early 1980s. Identified as of regional significance within the Conservation Plan (ACTA, 2005).
- Cold War pillboxes (Buildings **1802 - 1808, 1813, 1827, 1832, 1841, 1848, 1850, 1859, 1860, 1865, 1866 & Buildings 1867 -1871** located within the QRA).

## 8.2.2 Technical Area

- Officers' Mess and single officers' quarters (Building **74**) possibly one of the most prestigious Officers' Mess built on an operational RAF station during the 1920s
- Guardhouse (Building **100**) date stone 1925 and extended. The presence of the Guardhouse at the main gate reinforces the 'military' character of the site. Together with Heyford House and the Officers' Mess it forms an important group of buildings at the front of the site on the main entrance.
- Heyford House (Building **52**) formerly the Station Offices and Operations Block constructed in the 1920s. The Station Offices were designed to impress and dominate the entrance to the station. This is a fine example

# 8. Audit of Heritage Assets

- of the first design for a permanent Station Office (the design was changed after 1927). The Station Offices, the Operations Block and the Guardhouse make an interesting building group and although altered, are good examples of RAF station architecture of the mid 1920s.
- Station Armoury (Building **125**) originally constructed as a three squadron Station Armoury in 1925. Extended in 1937/38 to provide a lecture room and photographic section. Forms part of setting of Hardened Telephone Exchange (Building **129**).
- Aircraft hangers (Shed Type 'A') (Buildings **172, 320, 345, 350, 151 & 315**) date stones '1926' on annexes facing the technical site. These were the first permanent end-opening aeroplane sheds for RAF stations in the interwar period. A total of 34 were built at 17 sites between 1925 and 1940. Upper Heyford is unique in having six, the largest collection of Type 'A' hangers in the country.
- Fire hydrants and other aspects of 'Little America' are as much part of the historic development of the site as the more dominant structures.

## 8.2.3 Residential Zone

- Institute (Building **455**) originally constructed in the 1920s. It was policy during the mid 1920s to have a separate Airmen's Institute and Dining Rooms, during the RAF Expansion Period the building became the new Sergeants' Mess with airmen and Corporals relocated to a new combined Dining Room and Institute.
- Sergeants' Mess (Building **475**) 1925 date stone occupies a prominent position overlooking the parade ground. The building, constructed in red brick, is in good condition. This is one of the few buildings that retains the original 1925 plan-form.
- Dining Room and Cook House (Building **474**) constructed 1920s. This was the original Airmen's dining room and cookhouse extended during the RAF Expansion Period to become a barrack block.
- Dining Room and Institute (Building **488**) constructed in red brick with flat reinforced concrete roof. Of interest is the Art Deco style influence on the design of the building with circular fan lights on the first floor and multi-rail staircase railings.
- Single Sergeants' Quarters (Building **459**) occupy the north-western corner of the parade ground. Inclusion for group value of 1920s domestic buildings surrounding the parade ground.
- Barrack Type 'B' (Building **485**) constructed 1920s. Inclusion for group value of 1920s domestic buildings surrounding the parade ground.
- Carswell Circle (Buildings **535 – 540, 544, 545 & 546**) rendered Arts and Crafts influenced terraced housing, datestone 1925.
- Officers' housing on Larsen and Soden Roads (Buildings **1- 11 & 19**) detached and semi-detached housing constructed in the 1920s and 1940s. The later buildings are included for group value.



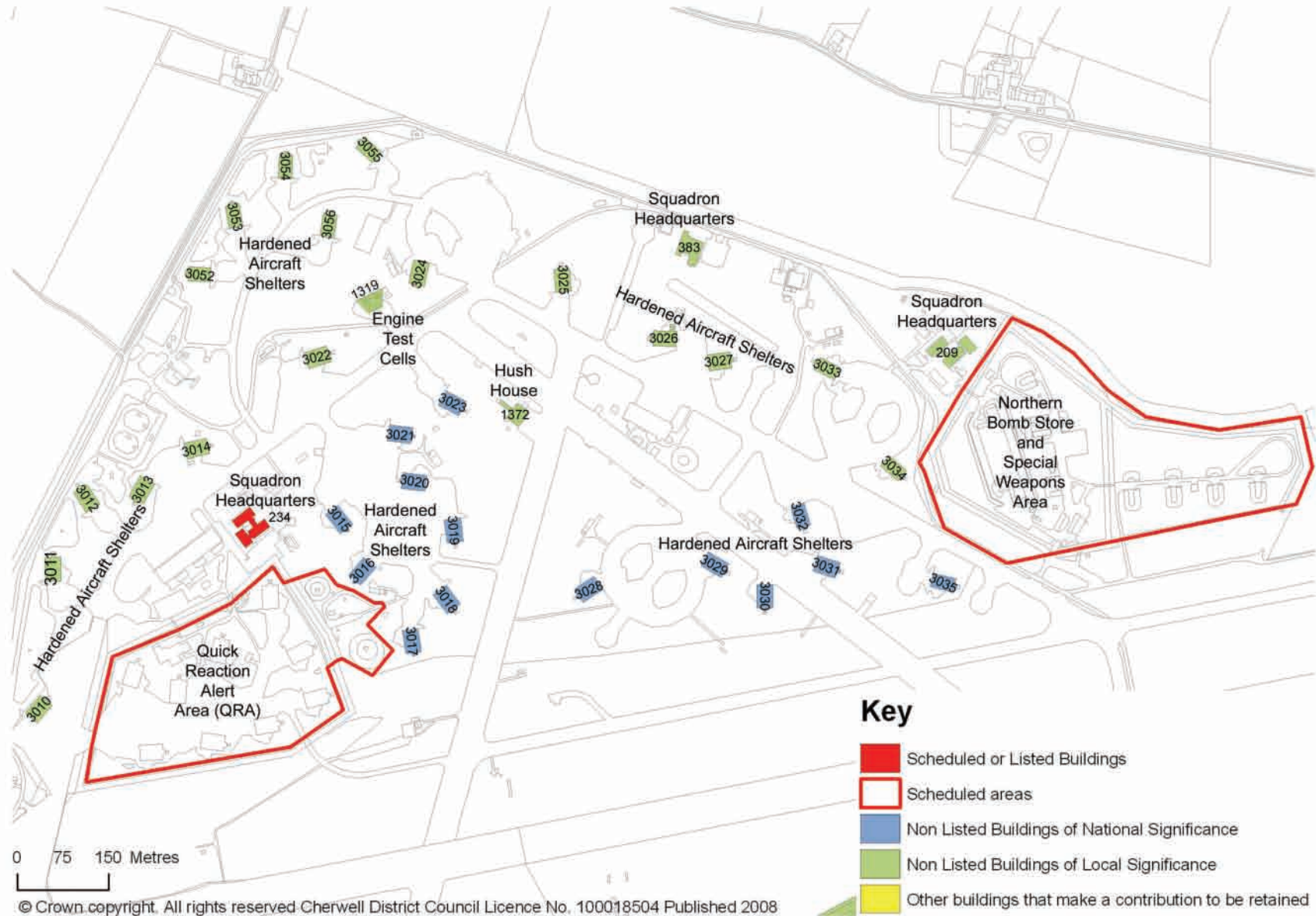


Figure 16: Heritage Assets - North

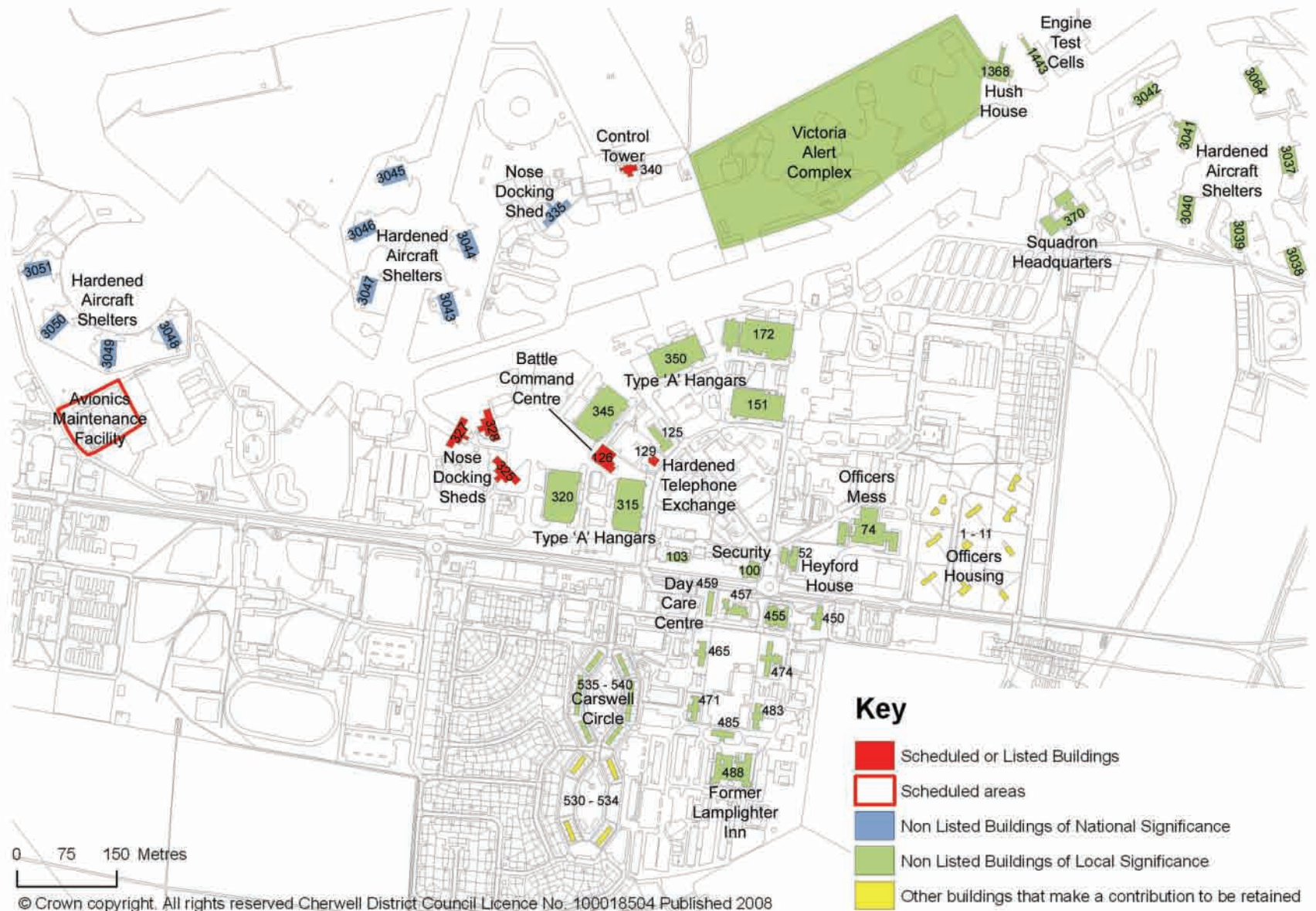


Figure 17: Heritage Assets - South

# RAF Upper Heyford Conservation Area Appraisal

Aside from the site as an iconic Cold War airbase and therefore of interest in its own right, RAF Upper Heyford contains a number of individual buildings and complexes which are of particular historic and political interest.



## 9. Assessment of special interest

### 9.1 Cold War Airfield

#### 9.1.1 Summary

The landscape setting and hardened concrete structures of former RAF Upper Heyford have the power to communicate the atmosphere of the Cold War. There is a very functional character to the airbase and this is particularly true of the airbase to the north of the runway which has greater coherence and contains clearly defined groups functionally and spatially.

#### 9.1.2 Development

The airbase dates from World War I with significant developments in the 1940s, 1950s and 1970s.

#### 9.1.3 Detailed description

Upper Heyford airbase and its associated houses and service buildings occupy an area of approximately 505 ha. It lies within the Cherwell District and the civil parishes of Upper Heyford, Somerton and Ardley. It is 6 km from Bicester, 11 km southeast of Banbury and 3 km to the southwest of junction 10 of the M40. The surrounding landscape is predominantly rural, but the airfield is within sight of RAF Croughton and the exposed transport corridors of the M40 and A43.

The plan of Upper Heyford from 1950 onwards was ordered by the operational and tactical needs of the USAF making extensive use of the earlier layout and facilities. From 1970 the plan was dictated

# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.2 Quick Reaction Alert Area

#### 9.2.1 Summary

The Quick Reaction Alert Area (QRA) is a group of nine Hardened Aircraft Shelters (HASs) and crew quarters contained within secure fencing. The area is of international significance, providing NATO with the first level response to a pre-emptive nuclear attack.

#### 9.1.7 Issues

- The retention, conservation and potential for re-use of buildings.
- The retention, conservation and maintenance of the Cold War character of the area.
- Impact on the surrounding countryside.
- Access for the public.
- A record of the area is made before it undergoes change.

by the needs of the F111E, and the functional architecture of the buildings is a result of the threat of biological, chemical and nuclear attack. The airbase landscape was transformed by the NATO-wide policy of 'hardening' and dulling down.

#### 9.1.4 Significant elements

The flying field has significant elements within it, however in itself it has no particular significance, but has a distinct landscape character which is different from the surrounding areas.

#### 9.1.5 Status

No current architectural designation, although areas of the grassland adjacent to the main runway have been designated a County Wildlife Site (CWS).

#### 9.1.6 Significance (including functional significance)

The context and setting of the airbase is defined by a number of elements, furthermore, some areas within the airbase are more coherent and have a greater capacity to communicate the atmosphere of the Cold War than others. As a result it is not possible to allocate one overall significance to the setting within the context of the Conservation Plan.



Quick Reaction Alert Area

# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.2.2 Development

The QRA was constructed in 1979, and was on high alert between 1981 and 1986.

### 9.2.3 Detailed description

The QRA area consists of nine HAS(s) used to house the F111E aircraft (**3001 - 3009**). The area is surrounded by a double fence with a running track around the perimeter. Entrance for personnel, vehicles, arms etc. was through the large turnstile gates outside the entry control point (ECP) **3100**. Aircraft would enter via the gates to the west.

The shelters were constructed by Laing, and have a simple concrete deflector to the rear. Each shelter was designed to house a single aircraft. The shelters are c.8.3m high, c.36.5m in length and c.24m wide (internal). Engines could be started inside the shelter to provide an instant response, and to the rear of the HAS is an efflux and generator room. The efflux door to the rear allows for exit of gases, and there are low-level vents and ten high level U-shaped vents to allow for movement of gases. Each HAS is constructed from corrugated galvanised steel anti-spall plates assembled in deep vertical corrugated arches for additional strength. The building was then covered with reinforced concrete. To the rear of the building is a concrete efflux tunnel and deflector. A bi-parting door leads to this tunnel.

Internally there is a reinforced concrete floor, overhead lights and two sliding efflux doors. Aircraft would enter the HAS(s) by a winch system. The sliding doors are constructed from reinforced concrete panels that are supported by steel girders. Each door weighs approximately 85 tons. Weights were used to stabilise the structure as aircraft entered. The front entrance was operated by a 7.5 kilowatt motor from a control panel which has a joy stick for operating the door. The personnel entrance was through a blast-proof side door, just off the hardstanding area used for parking aircraft equipment.

### 9.2.4 Other significant structures within the QRA include:

- **2010**: a hardened crew quarters. This is a single storey concrete structure with a flat roof, including two taller sections which are blast proof roof vents for the plant rooms. This building contains bunkroom for pilots, as well as a burger bar.
- **3105**: a steel Brunswick watch tower
- **3104**: hardened, flat-roofed concrete structure with blast wall and gun turrets, used as 'Reserved Fire Truck Facility' (RFTF). This housed the armed vehicles used to patrol the area 24 hours a day, and in addition the garage contains a recreation room. No contemporary fixtures and

fittings are extant, although this once contained a pool table and kitchen.

- **3100**: a single-storey concrete structure, rectangular in plan with a flat roof housing a monitoring area, equipped with firing embrasures.

### 9.2.5 Significant elements

- Contemporary fixtures and fittings: internally building **2010** retains contemporary features including the burger bar, plant room, planning room and decontamination unit. Building **3100** also has a contemporary sign stating 'Surrender All Flame Producing Devices' which is attached below the security window.
- Layout: the Quick Reaction Alert Area and the Northern Bomb Store follow the same perimeter layout. Both areas contain the same distinctive features, such as the double fence, RFFTF (**3104 & 1050**), Brunswick Tower (**1870 & 3105**) and ECP (**3100 & 1060**).

### 9.2.6 Status

Scheduled as an ancient monument.

# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.2.7 Significance (including functional significance)

The QRA is of international significance, and this group retains the functional relationship between structures and their period setting. Its association with the F-111E is of particular relevance, since this area provided NATO with immediate response to a pre-emptive nuclear strike by the Warsaw Pact. The architecture reflects contemporary NATO policy to hardened and dull-down key airfields.

### 9.2.8 Issues

The recording of the buildings in their current form, the retention, conservation and potential use of the buildings are all of particular importance.

### 9.2.9 Preservation of the setting of the complex.

Preservation of extant fixtures and fittings: building **2010** in particular retains features that require protection/ recording. These add significantly to our understanding of the functional use of the structure.

### 9.2.10 Access for the public.

Secure the long term maintenance of the complex.

## 9.3 The Avionics Maintenance Facility

### 9.3.1 Summary

The Avionics (**299**) is considered to be of international significance, and was used for the downloading and processing of reconnaissance data. It is one of the most visually impressive buildings within the airbase and one of only two in the United Kingdom.

### 9.3.2 Development

Building **299** was constructed in 1980, with a later extension in 1982/3 to provide an area for photographic and reconnaissance data analysis.

### 9.3.3 Detailed description

**299**: a hardened concrete semi-sunken structure. Entry is via a blast door protected by a sunken, open walkway. There are two such blast doors. The building was designed to withstand conventional, chemical and biological attack, to maintain the F111E electronics and download and process reconnaissance data. The bunker houses a number of vast rooms mostly rectangular but one 'L' shaped.



The Avionics Maintenance Facility

# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.4 The Battle Command Centre

#### 9.4.1 Summary

The Battle Command Centre (**126**) is of international significance. All activities on the airfield were overseen from this building and it was designed to be self sufficient. It is a single-storey hardened structure enhanced by its contemporary fixtures and fittings. The architecture reflects NATO's policy towards hardened facilities against pre-emptive conventional attack, chemical and biological attack, and to be able to operated in a hostile environment to launch a retaliatory attack.

#### 9.4.2 Development

Built in the late 1970s, in accordance with the NATO policy of hardening structures.

#### 9.4.3 Detailed Description

The Battle Command Centre is a single-storey structure with a flat roof and blast walls. The building was designed to be self-sufficient and contained a generating plant and air filters. There are two taller sections which are blast proof roof vents for the plant rooms. Entry to the buildings was via a double door with coding entry. A series of decontamination suites remain extant also at entry point. The building retains its contemporary dull brown 'Novolant' finish.

Internally, raised floors and suspended ceilings were used nearly throughout to accommodate cabling and air conditioning ducts, illustrating architecture designed to

#### 9.3.7 Issues

- The recording of the building in its current form, the retention, conservation and potential use of the building is of particular importance.
- Preservation of the setting of the complex.
- Wall art: environmental factors will result in deterioration of the internal wall art.
- Water penetration: this has been identified within building **299** and it is understood this is regularly pumped out.
- Access for the public.
- Secure the long term maintenance of the complex.

The building once housed life-support systems, decontamination rooms, electronics workshops, photographic darkrooms and had equipment storage and handling areas. Although much of the contemporary fixtures and fittings have now been removed.

An extension was added later and this was used by MEAS (Mission Essential Avionics Storage) for the storage of equipment.

#### 9.3.4 Significant elements

Internal wall art: there are five areas of wall art that include: black and white images in a store room, an image of F111s, a raven on door, a raven which is sending out lighting and one of an F111.

#### 9.3.5 Status

Scheduled as an ancient monument.

#### 9.3.6 Significance (including functional significance)

The Avionics is considered to be of international significance. It is visually impressive and one of two structures of this type within the United Kingdom. It was directly connected with the deployment of the F-111E from Upper Heyford, and played an important role in the gathering of reconnaissance data during the Cold War.

# RAF Upper Heyford Conservation Area Appraisal

house late twentieth-century information technology. At the centre lies the main operations room, from which the air campaign was directed, while other groups coordinated airfield defence. At Upper Heyford a room was allocated to the command of the local RAF Rapier missile units.

A spine corridor runs through the length of the building. Much of the left-hand side is taken up with the ventilation and filtration plant, which is all in good order, while on the right-hand side are two telephone

exchanges. The first is the BT exchange which still contains most of its equipment including several large floor standing cabinets. Beyond this is the American Autovon exchange which has been partially stripped, although some cabinets and switching frames are still in place.

The primary purpose of the Command Centre was for wartime activity, although the structure also functioned in peacetime as a practice area in the event of war. It recorded the status of each squadron and their aircraft.



The Battle Command Centre

## 9. Assessment of special interest

### 9.4.4 Significant elements

- Contemporary fixtures and fittings: this structure contains many artefacts in good condition including internal security doors, generators, air filtration plant, decontamination suite, communications equipment, command cabin, operations support staff room with map boards and a Rapier surface to air missile control room. Despite some stripping following closure, it is thought to contain the best surviving example of a 1980s USAF Command Centre's fixtures and fittings in England.
- Historical associations: the Command Centre is linked to operation 'Eldorado Canyon', the American attack on Libya in 1986.

### 9.4.5 Status

Scheduled as an ancient monument.

### 9.4.6 Significance (including functional significance)

The Battle Command Centre is central to the functional operation of the airbase from the late 1970s onwards, and considered to be of international importance. It illustrates the importance of complex communications in modern war and depicts the position of Upper Heyford within other centres in the UK, NATO and back to the US.



# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.4.7 Issues

- The recording of the building in its current form, the retention, conservation and potential use of the building are all of particular importance.
- Preservation of the setting of the complex.
- Proposals for redevelopment for adjacent sites.
- Preservation of extant fixtures and fittings: those retained are in good condition, and greatly enhance our understanding of the function of this structure and the airbase.
- Access for the public.
- Secure the long term maintenance of the building.

### 9.5 The Nose Docking sheds

#### 9.5.1 Summary

There are four Nose Docking Sheds or 'Wing Hangars' at Upper Heyford (**325, 327, 328 & 335**), which were built in the 1950s to allow for maintenance work on engines. They are considered to be of international significance, and are architecturally of an innovative design.

#### 9.5.2 Development

Built in the 1950s, with later adaptations.

#### 9.5.3 Detailed Description

There is a group of three well-preserved Nose Docking Sheds lying to the south of the site (**325, 327, 328**), and one further structure lying just to the north of this group (**335**). As the name suggests the structures were built to allow shelter for the front section of the aircraft and to make it possible to work on its nose and engines under cover.

The Nose Docking Sheds are constructed on ten aluminium girder wall frames supporting a cantilever roof framework,



The Nose Docking Sheds

# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.6 The Hardened Telephone Exchange

#### 9.6.1 Summary

The Hardened Telephone Exchange (**129**) was constructed in the late 1970s, and typifies contemporary NATO policy to harden its key operational facilities. This structure was central to the operation of Upper Heyford, and connected the airbase with NATO, its European counterparts and to the United States.

#### 9.6.2 Development

Constructed in the late 1970s.

#### 9.6.3 Detailed Description

The Telephone Exchange is a hardened structure typical of this period. It reflects NATO's policy to harden its main facilities against pre-emptive conventional, chemical and biological attack, and to be able to operate in a hostile environment to launch a retaliatory strike. The structure retains its contemporary dull brown 'Novolant' finish, and is single storey with a taller section which house blast proof roof vents.

#### 9.6.4 Significant elements

Contemporary fixtures and fittings: it is understood that this structure retains some of its contemporary fixtures and fittings, including frames and back up batteries. These remain in use by British Telecom.

#### 9.5.6 Status

Structures **325**, **327** and **328** are included in the statutory list of buildings of architectural importance, however Nose Dock **335** is not included in the listing.

#### 9.5.7 Issues

- The management, retention, conservation and potential use of these buildings are of particular importance.
- Preservation of the setting of the complex.
- Paint work: building **335** is now painted a light blue.
- Other paintwork is in poor condition.
- Access for the public.
- Secure the long term maintenance of these buildings.

which support the main hanger doors (which are in 14 divisions). The innovative design with the long cantilever form was to create the opening needed to accommodate the aircraft deployed by SAC at this time. There is a close correspondence between the architectural form and the types of aircraft deployed at Upper Heyford during the 1950s, especially the B-50Ds, KB-29Ps, and later the B-47 Stratojet. Internally, the Nose Docks have a concrete floor.

#### 9.5.4 Significant elements

Secondary use: **328** and **325** have been adapted for later use potentially as an aircraft painting facility. There is a later extractor fan, which served to diffuse paint fumes from the building. No such fans exist in **327** and **335**, and it is thought that the later use of this structure was as storage. Hot air heaters are contained in a red brick boiler room to the rear.

#### 9.5.5 Significance (including functional significance)

A well-preserved group of Nose Docking Sheds; these are considered to be of international significance. They are an innovative and unusual hangar design and reflect the deployment of USAF SAC aircraft to provide the 'nuclear umbrella' for Western Europe during the 1950s.

# RAF Upper Heyford Conservation Area Appraisal

## 9.6.5 Significance (including functional significance)

The Hardened Telephone Exchange was central to the operation of Upper Heyford, and connected it to its international counterparts. It is considered to be of national importance. It reflects the importance of communications in modern war and illustrates the position of Upper Heyford within a command structure linked to other centres in the UK, NATO and back to the US. The hardening of this structure illustrates the importance of the preservation of communications during a hostile attack.

## 9.6.6 Status

Scheduled as an ancient monument.

## 9.6.7 Issues

- The recording of the building in its current form, the retention, conservation and potential use of the building are all of particular importance.
- Preservation of the setting of the building.
- Contemporary fixtures and fittings: there has been some minor stripping of contemporary fixtures and fittings.
- Access for the public.
- Secure the long term maintenance of the building.

# 9. Assessment of special interest



The Hardened Telephone Exchange

# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.7 Northern Bomb Stores and Special Weapons Area

#### 9.7.1 Summary

Built in the 1950s, the Northern Bomb Store and Special Weapons Area (**1001-1008**, **1011**, **1032-1048**, **1050**, **1060** & **1870**) was used for munitions storage, for 'special' (nuclear) and 'conventional' bombs. It is of national significance and is a good example of an early 1950's USAF nuclear bomb storage area and is one of 14 built in England at this time. It reflects the importance of the Upper Heyford as one of the four main UK operating bases for USAF's Strategic Air Command (SAC) during the 1950s.



Northern Bomb Stores and Special Weapons Area

#### 9.7.2 Development

The Weapons Storage Area (WSA) was constructed in the 1950s, and the twenty one igloos in the Conventional Arms Storage (CAS) were constructed in the 1970s.

#### 9.7.3 Detailed description

The Northern Bomb Store is a self-contained unit, surrounded by a double perimeter fence and located at the northeast of the airbase. The area to the east is the 'Weapons Storage Area' (WSA)

(**1032 - 1048**), which housed 'special' weapons and to the west is the 'Conventional Arms Storage' (CAS) (**1001 - 1004**). The store is high security with distinctive octagonal guard towers, and 1980s pillboxes. Access is via a single gateway with Entry Control Point (ECP) (**1060**). The double fence would signal an alarm if breached. The tall wood and steel posts are extant. These prevented the landing of helicopters.

The magazines within the complex are of a form known as an 'igloo', comprising a rectangular reinforced-concrete box (24.4m by 6.7m), and covered in soil. The igloos lying to the west are a result of a second phase of activity, when two units were built, one with eight cells and the other with thirteen. Entry to the igloos is via steel blast-proof doors shielded by a detached concrete and earth revetment. Internally, the igloos are featureless except for a lifting hook set into the ceiling, safety lighting and heating.

#### 9.7.4 Other significant structures within the Northern Bomb Store

- **1005**: a lone weapons store dating from the 1950s. It is thought this was used to house bombs before being taken to **1006**. It is a concrete, grassed-over structure with a blast wall.

# RAF Upper Heyford Conservation Area Appraisal

## 9.7.5 Significant elements

- **1006:** maintenance and administration building dating from the 1950s, which was the nerve centre of the Northern Bomb Store. A concrete structure, grassed over with thick sliding doors and a blast wall. It was a self-contained unit, housing its own generator and switches used to operate the igloos.
- **1007:** 'Trigger Store', reinforced concrete, two storey structure with blind metal-framed windows. These are blocked windows, to give the impression of an administration building.
- **1008:** 'Ammo Store', single-storey concrete structure with 'Ammo store' painted on the front in white. It is understood that this structure was in fact used as an administration building.
- **1011:** large metal clad, single storey storage unit, painted green.
- **1050:** hardened, flat roofed concrete structure with blast wall and gun turrets, used as 'Reserved Fire Truck Facility' (RFTF). This housed the armed vehicles used to patrol the area 24 hours a day, and in addition to the garage contains a recreation room. No contemporary fixtures and fittings are extant, although this once contained a pool table and kitchen.
- **1870:** a steel Brunswick watch tower.

- Wall art: a nuclear fission symbol topped with a mushroom cloud is extant on a blast wall adjacent to building **1006**.
- Distinctive architecture: **1007:** the form of the trigger store is thought to be unique within England
- Pillbox: 1980s pillboxes in the area provide good examples of the continuation of this Cold War feature
- Layout: the Northern Bomb Store follows the same layout as the Quick Reaction Alert Area. Both areas contain the same distinctive features, such as the double fence, RFTF (**3104** and **1050**), Brunswick Tower (**1870** and **3105**) and ECP (**3100** and **1060**).

## 9.7.6 Status

Scheduled as an ancient monument.

# 9. Assessment of special interest

## 9.7.7 Significance (including functional significance)

The Northern Bomb Store and Special Weapons Area is significant in its function as munitions storage, particularly in relation to the 'special' bombs. The area is of national significance and is a good example of an early 1950's USAF nuclear bomb storage area, being one of 14 built in England.<sup>11</sup> It reflects the importance of Upper Heyford as one of the four main UK operating bases for USAF's SAC during the 1950s.

## 9.7.8 Issues

- The recording of the area and buildings in their current form, the retention, conservation and potential use of the buildings are all of particular importance. Within the Northern Bomb Store and Special Weapons area, specific issues include:
- Wall art: environmental factors will result in deterioration of the external art.
- Contamination: an investigation was undertaken by Aspinwall & Company in 1997 on behalf of the North Oxfordshire Consortium. This found isolated occurrences of hydrocarbons within the bomb stores.
- Access for the public.
- Secure the long term maintenance of the complex.

# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.8 Squadron Headquarters

#### 9.8.1 Summary

Three Squadron Headquarter buildings at Upper Heyford date from the 1950s and follow the same format with a later 1970s hardened area. A fourth structure dates from 1984, and all communicate NATO's policy of hardening and 'dulling down' against conventional, chemical and biological attack. They are considered to be of national significance.

#### 9.8.2 Development

Buildings **209**, **234** and **370** follow the same structural format, with the 1950s 'soft' section to the front and the late 1970s 'hardened' section to the rear. Building **383** was constructed in 1984. Buildings associated with the main Squadron Headquarters predominantly date from the 1950s.

#### 9.8.3 Detailed description

There are four Squadron Headquarter buildings at Upper Heyford, three of which follow the same format and layout. These are building **370** (79th Squadron), building **209** (77th Squadron) and building **234** (55th Squadron). They were designed to be self-sufficient and contained generating plant and air filters. The 'soft' area of the main structure is single storey, with foam-backed pebbledash which overlies red brick beneath. This was added to the external elevations in the 1970s, to insulate the building. The 'hard' area is located to the rear, as is constructed from the hardened concrete typical of this period. This is single storey with a heightened area to the rear which was a blast-proof inlet for fans. Each hardened section housed its own generator, and contained decontamination suites.

An additional building **383** (42nd Squadron) was built in 1984 and varies in layout. This is a fully-hardened concrete structure painted dull yellow-brown with a flat roof. This 'Novolant' wash was designed to camouflage the building from the air, giving it a short wave infra-red response that is similar to vegetation. Entrance to the building is via two heavy steel reinforced doors along the northeast and south elevations, sheltered by an outer blast wall. To the rear is a concrete block extension forming a 'soft' area and this is linked by a covered walkway.



Squadron Headquarters

# RAF Upper Heyford Conservation Area Appraisal

# 9. Assessment of special interest

## 9.8.4 Other structures associated with the Squadron Headquarters

Squadron Headquarters **209**: structures predominantly date from the 1950s and were used for storage or administration unless otherwise stated.

- **207**: single-storey red brick boiler house
- **208**: water tank
- **210**: metal-clad, rectangular in plan, with apex roof and single-light windows.
- **211**: metal-clad, rectangular in plan, with apex roof, roller doors and single light windows.
- **212**: metal-clad rectangular shed with side roller doors
- **1813**: concrete pillbox.

Squadron Headquarters **234**: structures predominantly date from the 1950s and were used for storage or administration unless otherwise stated.

- **233**: flat-roofed concrete block structure, surrounded by concrete blast wall and housing four aerials. This is thought to have been used for reconnaissance.
- **237**: rectangular metal-clad building with apex roof. Some later modifications; front entrance infilled with brick and a smaller door.

- **238**: brick and concrete rectangular in plan and painted white (badly peeling), with three light crittal windows and asbestos roof.
- **239**: '55th Amu Equipment Storage' building. Seemingly structurally sound, metal clad with double sliding doors and apex roof.

Squadron Headquarters **370**: structures predominantly date from the 1950s and were used for storage or administration unless otherwise stated.

- **364**: red-brick boiler house.
- **368**: single-storey, concrete and metal clad with crittal windows.
- **369**: metal-clad, double skin.
- **399**: square, single-storey concrete block structure with fl at roof.
- **3365**: emergency water supply.

## 9.8.5 Significant elements

Wall art: building **370** houses internal wall art belonging to the Tiger Squadron, with a black and yellow painted door, interlinking the 'soft' and 'hard' area of the Squadron building.

Fixtures and fittings: building **234** retains extant features including those in the plant room, planning room and decontamination units.

## 9.8.6 Status

Building **234** has been included in the statutory list of buildings of architectural importance, however buildings 209 and 370 have been classified as nationally significant without designation.

## 9.8.7 Significance (including functional significance)

The Squadron Headquarters are of national significance, acting as the nucleus for each of the Squadrons and were important to the functional operation of the airbase. The hardened sections also reflect NATO's policy of hardening and 'dulling down' against conventional, chemical and biological attack, and the need to adapt structures to the changing threat of the Warsaw Pact.

Building **234** retains significant contemporary fixtures and fittings and is considered to be the best example of a Squadron Headquarters building within Upper Heyford.

# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.8.8 Issues

- The recording of the buildings in their current form, the retention, conservation and potential use of the buildings are all of particular importance.
- Preservation of the setting of these buildings.
- Wall art: the art work within the Squadron building **370** is subject to deterioration
- Preservation of extant fixtures and fittings: building **234** in particular retains features that require protection/ recording. These add significantly to our understanding of the functional use of the structures.
- Access for the public.
- Secure the long term maintenance of these buildings.

### 9.9 Hardened Aircraft Shelters (HASs)

#### 9.9.1 Summary

The 56 Hardened Aircraft Shelters (HAS) were each designed to house a single jet aircraft, in a secure blast proof environment. They are of national importance. Many replaced flimsy open weather shelters. The HAS(s) were built in accordance with NATO's policy in the late 1970 and typify contemporary NATO policy to harden its main facilities. They are organised roughly into groups between the four squadrons.

#### 9.9.2 Development

Twenty new shelters were built in 1979, and five in 1984. The remaining HASs, built in 1979/80, replaced earlier open weather shelters which were initially constructed in the early 1970s.

#### 9.9.3 Detailed Description

Each shelter was designed to house a single aircraft. The HASs' architecture reflects NATO's policy towards hardened facilities



Hardened Aircraft Shelters (HASs)



## RAF Upper Heyford Conservation Area Appraisal

against pre-emptive conventional attack, chemical and biological attack. They have a dull appearance which is typical of this period which reflects contemporary policy to harden and dull-down the key airfields. Amongst the groups of HASs of particular importance is that in the Quick Reaction Alert Area, in which aircraft were armed with nuclear weapons and were able to take off within three minutes (see Section 9.2 above) .

The majority of the shelters are 8.3m high, 36.5m in length and 21.5m wide (internal). Engines could be started inside the shelter to provide an instant response. To the rear of the HAS is an efflux and generator room. The efflux door to the rear allows for exit of gases. There are low level vents to allow for movement of gases. There are also 10 high-level u-shaped vents. HAS are constructed from corrugated galvanised steel anti-spall plates assembled in deep vertical corrugated arches for additional strength. The building is then covered with reinforced concrete. To the rear of the building is a concrete efflux tunnel and deflector. Internally, a sliding door (sometimes decorated with the painted emblem of the squadron) leads to this tunnel.

There are two types of efflux deflectors at Upper Heyford; a simple concrete deflector constructed by Laing and a more elaborate 'wing-like' deflector constructed by Costain. This later form is seen on shelters **3015 – 3021, 3052 – 3056** and **3023**. Internally

there is a reinforced concrete floor, overhead lights and two sliding efflux doors. Aircraft would enter the HASs by a winch system. The sliding doors are constructed from reinforced concrete panels that are supported by steel girders. Each door weighs approximately 85 tons. Weights were used to stabilise the structure as planes entered. The front entrance would be operated by a 7.5 kilowatt motor from a control panel which has a joy stick for operating the door. The personnel entrance was through a blast-proof side door just off the hardstanding area used for parking aircraft equipment.

Fifty-six shelters were built across the base in the late 1970s and early 1980s by three separate companies. In 1979 John Laing & Son Ltd. converted 31 shelters from earlier open hangars that had been constructed in 1972. Richard Costain Ltd. also built 20 new shelters in 1979 (**3032 - 3051**). Amy Roadstone Company Ltd. constructed the final five shelters in 1984. The converted hangers are slightly wider than the newly-constructed HASs. The HAS building numbers are as follows:

John Laing & Son Ltd.

QRA group: **3001 3002 3003 3004 3005 3006 3007 3008 3009**

North group: **3010 3011 3012 3013 3014 3015 3016 3017 3018 3019 3020 3021 3022 3023 3024 3025 3026 3027 3028 3029 3030 3031**

## 9. Assessment of special interest

Richard Costain Ltd.

North group: **3032 3033 3034 3035**

South group: **3036 3037 3038 3039 3040 3041 3042 3043 3044 3045 3046 3047**

South group SAC Bubble: **3048 3049 3050 3051**

Amy Roadstone Company Ltd.

North group: **3052 3053 3054 3055 3056**

### 9.9.4 Significant elements

- Wall art: shelter **3038** has a tiger painted on the efflux door, and side entrance door has additional tiger and stripe painting. Shelter **3034** has a red dragon holding the world, painted on the efflux door.
- Fixtures and fittings: the mechanical operations for the main doors are extant in each HAS, with the exception of fifteen shelters, these are **3001-3008, 3017-3021** and **3025-3026**. The lower and upper vents are also extant. There are extractor fans to the rear, winch system, winch pulley, complex floor markings and an external 'officer commanding' board extant within many of the HASs.

# RAF Upper Heyford Conservation Area Appraisal

# 9. Assessment of special interest

## 9.9.5 Status

- Spatial layout: the locations the HASs appear to be random locations, however they are in general carefully set-out so that no more than two could be hit on a single bombing run there are exceptions to this rule as seen in shelters **3029, 3031** and **3035**.
- Drilled hole: these are evident through elevations next to the side entrance door, and were in preparation for an added security enhancement to allow for an alarm to be installed within each HAS. Although this feature can be seen in each HAS, it was never implemented.
- Titanium strip: a strip was added to lock on side door which made it impossible to saw through. This was added in 1986 and is indicative in the intensity in security enhancement at this time.
- Personnel shelters: shelters **3014, 3026, 3041** and **3042** were adapted to function as Personnel Shelters, offering protection from chemical and biological attack.
- Decontamination units: shelters **3043, 3014, 3041** and **3026** have decontamination units on the side of the buildings.

No current designation. The shelters within the Quick Reaction Alert Area (**3001- 3009**) have been designated as a scheduled ancient monument.

## 9.9.6 Significance (including functional significance)

The HASs are the most distinctive airbase structures at Upper Heyford, due to the repetitive design and layout of the structures. They are considered to be of national significance. The HASs changed the landscape of the airbase, as new taxiways and areas of hard standing were needed to service the structures. The HAS's architecture reflects NATO's policy towards hardened facilities against pre-emptive conventional attack, chemical and biological attack.

## 9.9.7 Issues

- The recording of the buildings in their current form, the retention, conservation and potential use of the buildings are all of particular importance.
- Wall art: the artwork within the HASs is subject to deterioration.
- Preservation of extant fixtures and fittings: if possible the mechanical fixtures relating to the operation of the doors and vents should be retained, as these enhance our understanding of the structures.
- Preservation of groups: where possible, groups of HASs should be retained, as the repetitive pattern of the structures forms a distinctive characteristic of the Cold War landscape.
- Access for the public.
- Secure the long term maintenance of these structures.

# RAF Upper Heyford Conservation Area Appraisal

## 9. Assessment of special interest

### 9.10 Control Tower

#### 9.10.1 Summary

The Control Tower (**340**) operated as the base weather and radio receiver for the airbase and was central to its operation. This red brick building with central observation bay was constructed in the 1950s and is considered to be of national significance.

#### 9.10.2 Development

The Control Tower dates from the 1950s.

#### 9.10.3 Detailed Description

Building **340** is a red brick, two-storey structure with crisscross windows and a central bay. The structure served as the control tower and base weather and radio receiver site. It was the nerve-centre for all aircraft movement at the base, and runway strobes were controlled from here. The Control Tower was linked into the Command Centre (**126**).

The Control Tower is in 1950s Art Deco style and has a viewing platform/ watch tower with tinted pink glass constructed on the flat roof. A rectangular prefabricated building with corrugated iron roof is located at ground floor level adjacent to the tower. Two aerials are in situ and to the rear is a sand-filled blast wall. Internally, the Control Tower once housed a frame for the operation of telephones, although this has now been disconnected. There are few extant contemporary fixtures and fittings.

#### 9.10.4 Significant elements

Magnetometer: externally there is a pebbled gravel area with a central square concrete base and a trapezoid shaped box with an upper lid covering a magnetometer. This instrument scoped the stratosphere and was able to detect radar signals coming from the east. It was one of only three in the world. The other two are located in New Zealand and Goose Bay, Canada.

#### 9.10.5 Status

Included in the statutory list of buildings of architectural importance.

#### 9.10.6 Significance (including functional significance)

The Control Tower is considered to be of national significance, and is a rare structure as illustrated in Cocroft (2001). This building was the main control tower for the airfield during the 1950s, and was the



Control Tower

## RAF Upper Heyford Conservation Area Appraisal

nerve centre of the airbase. Architecturally the building is an iconic airfield structure, and is well preserved.

## 9. Assessment of special interest

### 9.10.7 Issues

- The recording of the building in its current form, the retention, conservation and potential use of the building is of particular importance.
- Preservation of the setting of the building.
- Protection of the magnetometer.
- External artwork as this is subject to deterioration.
- Access for the public.
- Secure the long term maintenance of the building.

# RAF Upper Heyford Conservation Area Appraisal

# 10. Green spaces and biodiversity

The largest green space and most significant on the airbase is the Flying Field.

However, it is also worth noting that around the former technical base and residential area there are a large number of mature and semi mature trees. Although most of the species are non-native they will have some ecological value and are of high local amenity value.

## 10.1 Flying field

This section on the history of the airbase has been taken directly from Conservation Plan: Former RAF Upper Heyford (ACTA, 2005).

Almost all of the land within the flying field not occupied by buildings or hardstanding is grassland. Fifty-six hectares of this is designated a County Wildlife Site (CWS) (Figure 18). Of this approximately 20% was calcareous grassland in 2002, characterised by species such as Bee Orchid (*Ophrys apifera*), Dwarf Thistle (*Cirsium acaule*), Tall Brome (*Bromus erectus*), Salad Burnet (*Sanguisorba minor*) and Glaucous Sedge (*Carex flacca*). These areas are shown on Figure 18.

In 2002 EPR classified the whole of the site as the NVC community MG7 Rye-grass (*Lolium perenne*) grassland but much of it now appears to be the NVC False Oatgrass (*Arrhenatherum elatius*) community (MG1). They point out that most of the rest of the grassland within the CWS and across the rest of the study area is quite poor in broad

leaved species and is dominated by common, robust grasses: principally Red Fescue (*Festuca rubra*), Timothy (*Phleum pratense*), Cock's-foot (*Dactylis glomerata*) and Tall Fescue (*Festuca arundinacea*). The grass species found on the areas outside the CWS are typical of wild flower meadows and with appropriate management the greater part of the site could be botanically enriched.

In addition to the grassland, there are areas of ruderal vegetation formed on areas of loose hard material, between cracks in concrete etc. The most substantial of these is at the east end of the runway where plants such as Biting Stonecrop (*Sedum acre*), Weld (*Reseda luteola*), Field Madder (*Sherardia arvensis*), Parsley Piert (*Aphanes arvensis*) and Stork's-bill (*Erodium cicutarium*) are present. The last is very uncommon in Oxfordshire. There is a similar area in the southeast corner of the site.

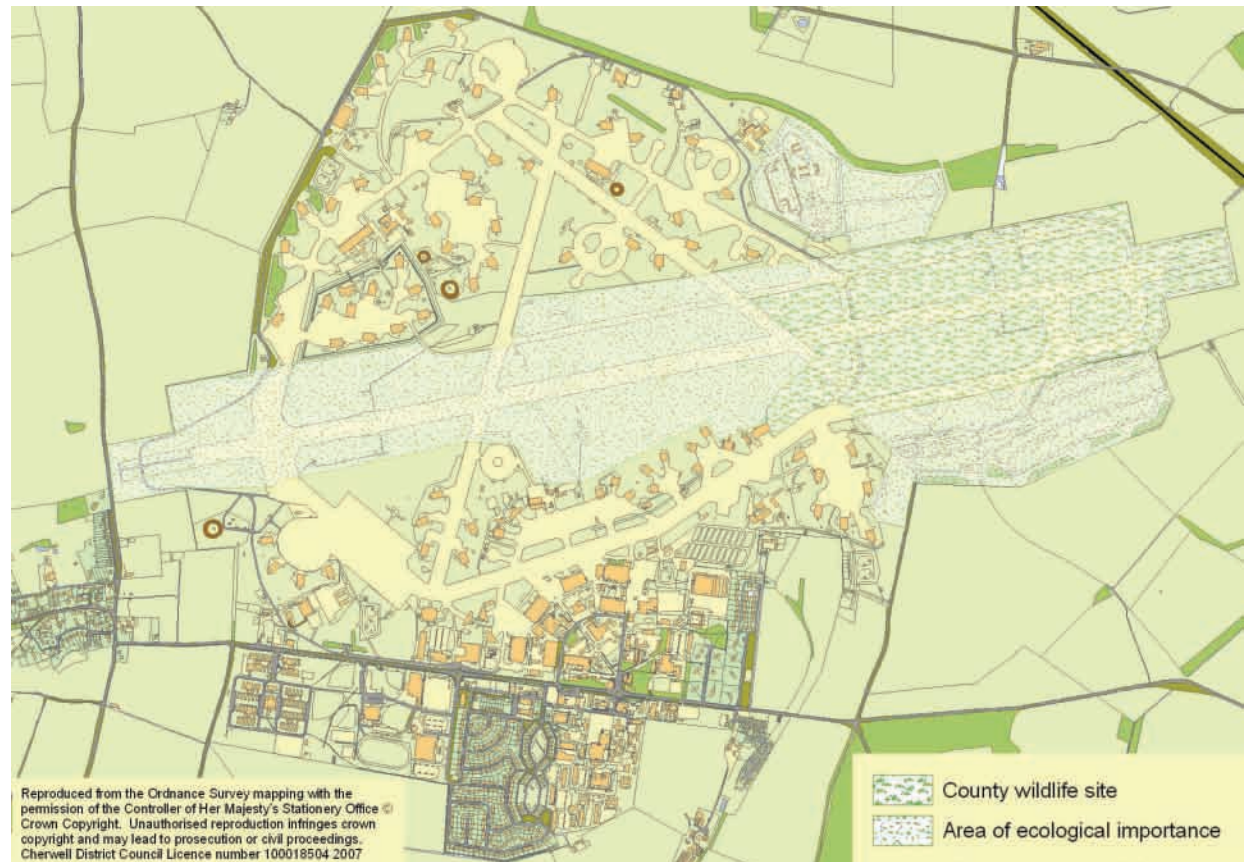


Figure 18: Map of the airbase showing the ecological designations

# RAF Upper Heyford Conservation Area Appraisal

## 10.1.1 Mammals

Bats are believed to be present on the site in the area of the officer housing. The open roof structures of many of the buildings provide potential roost sites. There may be a low level of badger activity at the north end of the airbase.

## 10.1.2 Birds

The site supports considerable populations of birds of conservation significance. In 2001/2 there were at least the following breeding bird territories:

- 130 Skylarks (*Alauda arvensis*). CDC BAP priority species and RSPB Red List.
- 40 Meadow Pipit (*Anthus pratensis*). BAP priority RSPB Amber List
- Grey Partridge (*Perdix perdix*). BAP priority RSPB Red List.
- 20+ Tree Sparrow (*Passer montanus*). RSPB Red List.
- 1 Reed Bunting (*Emberiza schoeniculus*) BAP priority.
- 6+ Corn Bunting (*Emberiza calandra*). RSPB Red list.
- 30 Wheatear (*Oenanthe oenanthe*).
- Curlew (*Numenius arquata*). BAP priority, RSPB Amber list.
- Yellowhammer (*Emberiza citrinella*).

- Song Thrush (*Turdus philomelos*). BAP priority, RSPB Red List.
- Spotted Flycatcher (*Muscapia striata*) BAP priority, RSPB Red List.
- Red-legged Partridge (*Alectoris rufa*).
- House Martin (*Delichon urbica*) RSPB Amber List.
- Swift (*Apus apus*).

The site also has significant use in autumn passage with species like Yellow Wagtail (*Motacilla flava*), Whimbrel (*Numenius phaeopus*) and Grasshopper Warbler (*Locustella naevia*) being recorded in considerable numbers. Red Kite (*Milvus milvus*) which is on Schedule 1 of the Wildlife Countryside Act and Annex 1 of the EU Birds Directive is known to have used the site.

The qualities of the site that make it of value for birds are the very substantial area of grassland in a stable management regime and the lack of disturbance from human activity, excessive vehicle movements etc. The perimeter fence appears to be significant as a site for singing perches.

# 10. Green spaces and biodiversity

## 10.1.3 Amphibians and reptiles

There is a substantial population of Great Crested Newts (*Triturus cristatus*) using the emergency water containers (Figure 23). Common Frogs (*Rana temporaria*), Common Toads (*Bufo bufo*), Smooth Newts (*Triturus vulgaris*) and Palmate Newts (*Triturus helveticus*) are also present. Philip Colebourn's proof submitted to the enquiry of 2002 states that Slow Worms (*Anguis fragilis*) may occur. However, it would be surprising if other reptiles, particularly Common Lizard (*Lacerta vivipera*), were not present.

## 10.1.4 Invertebrates

There appears to be no information on invertebrates other than Banbury Ornithological Society's note of fifteen species of butterfly (including Small Heath, *Coenonympha pamphilus*) on the site. In the areas that have tall, species-poor grassland there is likely to be a high biomass of a limited number of species. The calcareous grassland has potential to be quite rich in invertebrates while the ruderal areas are likely to support a fairly limited range of species but some of these could be of significant nature conservation interest.



Figure 19: Principal nature conservation features.

# RAF Upper Heyford Conservation Area Appraisal

## 11. Negative factors

The airbase has a number of negative factors:

- The base is perceived by some as having an intrusive and menacing appearance in the rural landscape.
- The boundary fence, especially where it bounds public rights of way and the highway, appears menacing and intrusive.
- The water towers are structures that dominate all views into the site, and from distant viewpoints draw the eye thus emphasizing the presence of the base.
- Much of the later domestic architecture is without charm or merit. For example, the residential zone contains areas of prefabricated bungalows and other prefabricated structures, such as the school. These buildings are neither aesthetically pleasing nor add to our understanding of the functioning of the base.
- Current use of the base; particularly the car storage which draws attention to the site from afar (the illumination of car windscreens by the sun); whilst other outdoor storage gives the appearance of clutter and dilapidation close to.
- Restoration and modernisation works, for example the use of uPVC windows and doors that have not been in keeping with the original building design and have degraded the appearance of the buildings.
- Individualisation of a limited number of buildings that has begun the process of degrading the coherent character of the whole.
- Division of areas for security reasons.
- Painting of buildings resulting in the loss of continuity of the paint schemes.





## RAF Upper Heyford Conservation Area Appraisal

## 12. General condition including buildings at risk

The airbase was decommissioned at the end of 1993 and since this time has ceased to function as a unified military site.

Temporary planning permissions for parts of the base have brought these areas back into a range of uses initially justified in that they generated revenue for essential maintenance of buildings and infrastructure.

Parts of the site generally have a rather down-at-heel appearance; an impression not assisted by the plethora of recently erected fencing which appears at odds with the original layout of the buildings and roads and which appears to be there to zone the airfield and technical site for current uses.

Most buildings simply appear neglected, although given their robust construction they are not yet at risk.

A number of buildings, Heyford House and the Guardhouse for example, have been renovated; unfortunately the original site colour scheme has not been replicated and uPVC window casements have been inserted.

There has also been some alteration to the original interiors of buildings which has affected their historic interest.

# RAF Upper Heyford Conservation Area Appraisal

## 13. Problems, pressures and capacity for change

### 13.1 Problems/pressures

- There is significant pressure for housing development within Oxfordshire and 1000 dwellings were allocated to this site originally to enable the environmental improvements to be secured across the site and more retention of structures to preserve the heritage interest also. The purpose of the allocated development remains to secure the environmental improvements and preservation of the heritage interest of the site.
- The challenge of devising a management plan and organisation that will deliver the heritage conservation of the airbase whilst overseeing benefits to both the retained and new settlement sectors of the site.
- There is potential tension between preserving the essential military character of the site (highly functional, stark and ordered) and its decommissioning and conversion to a civilian site where diversity, domesticity and decoration are often desired.
- The redevelopment of the site may impact on the surrounding villages. Their structure and services reflect the fact that this site has been a (largely independent) military base for nearly a century. Development should carefully consider the impact on the transport network, retail and social facilities in surrounding villages.
- Some of the buildings on the site now proposed for retention are regarded as eye-sores by some of the local community.
- The comparatively recent decommissioning of the site means that its historic importance may not be widely valued or understood.
- There may be residual antipathy among the local residents to the preservation and celebration a military site, especially one where nuclear weapons were held and which was controlled by a foreign country.
- Parts of the site may possibly be contaminated.

### 13.2 Capacity for Change

- The site is one of the largest contiguous areas of unimproved grassland, outside formal protected areas, in the south of England and contains a number of species of high conservation value. There is an opportunity to develop both natural and historic conservation by minimal intervention, with mutual benefits.
- In some views the site is conspicuous due to the topology of the plateau. The capacity of the site to absorb development without significant visual impact on the surrounding landscape is limited and will require careful design.
- The Cold War is a subject that arouses public interest. However, the location and nature of the site means that there is limited potential to develop this historic site as either a tourist and education resource.
- Many of the important buildings from a historic conservation perspective are extremely robust, low maintenance and not fragile and some maybe suitable for sensitive re-use.
- There might be potential for creating a new boundary landscape to integrate the conserved airbase features and character with the surrounding landscape.

- The area covered by the airbase is archaeologically sensitive. An assessment of the potential impact upon archaeological remains will be required to accompany proposals for development.
- Conservation area designation is about identifying an area, the character or appearance of which it is desirable to preserve or enhance. The holistic character of the airbase is contributed to by the historic character of different areas within the site. The character of these areas is composed of the contributions made by the buildings and structures (such as those identified within Section 8 of the Appraisal and detailed further within ACTA 2005 and ACTA 2006), their disposition and the spaces between buildings. There should be a general presumption in favour of retaining buildings which make a positive contribution to the character or appearance of a conservation area unless it can be demonstrated that the removal of a particular building will facilitate enhancement. Opportunities for enhancement should be identified across the airbase and there should be acceptance of change within sections of the site outside the area of national importance.



View of Upper Heyford village from west end of the runway.

The 'fate' of RAF Upper Heyford has been a topic which has exercised the minds of many in the communities local to the airbase. The concerns of the local communities are considered important by this Council and so parish representation has been welcomed from the outset.

The Planning Forum which is attended by representatives of all the communities local to airbase, as well as other interested parties, was set up at the time the airbase was decommissioned. This has provided a platform for the discussion of issues. In addition regular consultation of the parish councils, the general public as well as specialist interest groups has been undertaken by CDC.

Open days have been arranged in the past; the last one, in July 2005, being part of the consultation process for the Conservation Plan. On this occasion so much interested was expressed at the opportunity to visit the airbase that the event was extended to 2 days.

Further consultation with the local community was undertaken when the proposal to designate the airbase as a conservation area was initiated. This took the form of an exhibition and invitations to comment on the draft appraisal. The responses received were all taken into consideration in the designation of the Conservation Area.



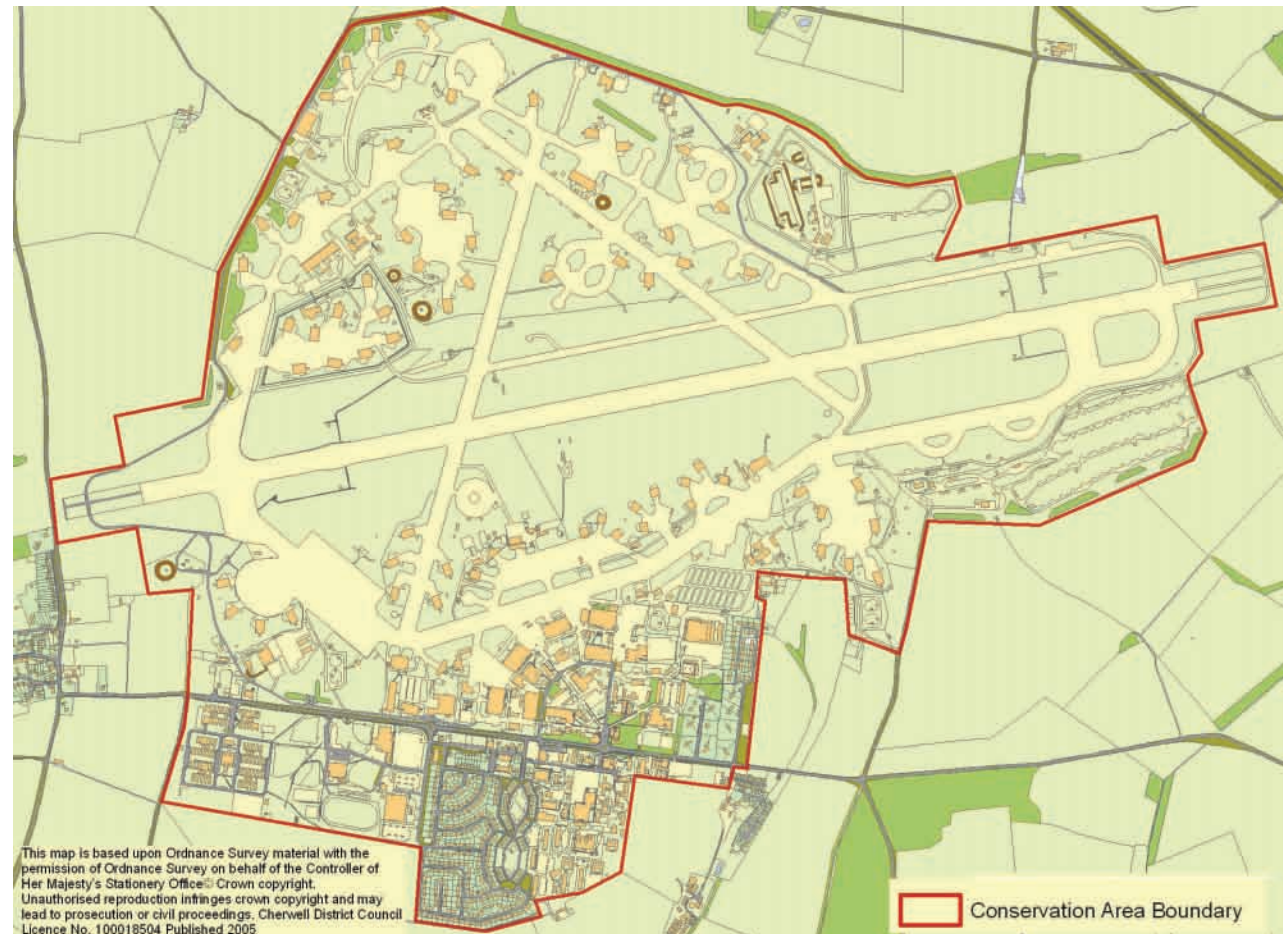
The airbase at former RAF Upper Heyford is a site of both special architectural and historic interest.

The boundary includes all areas within the base. This can be justified on the grounds that the holistic character of the airbase is composed of the contributions made by all areas to the whole. Special character of an area is about more than the density and number of statutorily protected buildings. Therefore although the flying field contains the majority of the buildings and structures proposed for statutory protection and so it may be argued is the most interesting part of the airbase, alone does not constitute the military site. Without the auxiliary areas, the technical and domestic sites, the flying field could not exist in its present form. The auxiliary areas provide the context to the flying field; all contribute to the functioning of the airbase and to its uniqueness. Therefore for this reason the entire base has been included within the conservation area boundary (Figure 20).

A revised Comprehensive Planning Brief is to be produced by this Council to inform and guide development proposals. Management of the development within the airbase is fundamental to promoting beneficial change. A Management Plan for the airbase will be produced as set out in recent English Heritage guidance (English Heritage, 2005b). This document will aim to provide guidelines on the long term management

and maintenance of the area whilst ensuring the conservation of the more historically and ecologically sensitive areas within the site.

Inclusion of the entire airbase within the Conservation Area enables the development of the site to be appropriately and holistically managed.



**Figure 20:** The Conservation Area boundary.

# RAF Upper Heyford Conservation Area Appraisal

## 1. Protection of the Historic Buildings and Landscape:

- Establish an appreciation of the historic importance relative to other pressures or priorities.
- Recording buildings and identifying their setting.
- Identifying areas for monumentalisation, protection, limited change, demolition and redevelopment.

## 2. Vulnerability of the site to fragmentation:

- Establishment of an appropriate management regime.
- Ensure the management approach is comprehensive.
- The funding of maintenance.
- The production of guidance on appropriate management techniques.
- Potential subdivision of ownership of land.
- The management of areas of ecological interest.
- Balance public access with security and management of ecological interest.

- The management of existing trees and appropriate new planting.
- The monitoring of change.
- Interpretation.

## 3. Reuse of retained buildings:

- External appearance.
- Structural integrity including provision of services where none exists.
- Preservation.
- Control of individualisation.
- Preservation of internal features of value.
- Control outdoor storage, car parking, street clutter etc.
- Traffic generation.

# 16. Summary of Issues

## 4. Incorporation of a new settlement:

- Location and extent.
- Retained buildings within the new settlement: monumentalisation, protection, limited change, demolition and redevelopment.
- Design concept for new settlement to include a master plan and character areas
- Design and appearance of new buildings.
- Materials and colour palette.
- Movement patterns and street design.
- Landscape structure.
- Relationship with wider historic landscape.
- Sustainability.

# RAF Upper Heyford Conservation Area Appraisal

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# RAF Upper Heyford Conservation Area Appraisal

# 18. Gazetteer and Appendices

## 18.1 Gazetteer

Gazetteers showing the locations of the complete list of numbered buildings and structures, are to be found in ACTA 2005 (which covers the flying field) and ACTA 2006 (which cover the technical and residential sites).

SP5043926019

SP5126125960

SP5119025964

### *Description of the Monument*

The group of Cold War structures at the former Upper Heyford Airbase falls within five separate areas. These are: the Avionics Maintenance Facility; the Battle Command Centre; the Hardened Telephone Exchange; the QRA (quick reaction alert) or Victoria Alert Hardened Aircraft Shelter complex, including aircraft shelters, security fence, watch tower, fuel supply point and hardened crew building; and to the north-east, the Northern Bomb Stores and Special Weapons Area contained within a security fence.

the protection against ground attack of nuclear facilities in the period. At each corner of this complex stood an octagonal guard tower on a concrete base. All but one of these towers has since been removed but the bases remain. As more specialised nuclear weapons and delivery systems were developed, the storage needs changed and a further double fenced Special Weapons Storage Area was built immediately to the west. This included a guardhouse and pillbox controlled entrance and a set of two rows of a total of twenty one Igloo cells for storing weapons. In addition, a further large Igloo store was also built along with a trigger store, built in concrete with no windows but disguised externally to look like a double storey office block.

## 18.2 Appendices

A number of buildings and areas within the conservation area (identified within Section 5) have been designated for statutory protection either as Scheduled Monuments or Listed Buildings. Attached are the

During the 1970s the change in aircraft design and capability led to a new policy of all weather and around-the-clock quick reaction. It was at this time that the key hardened buildings began to be constructed with a view to coordinating a NATO counter-attack to any pre-emptive strike by the Warsaw Pact. This included a hardened Battle Command Centre from which aircraft could be controlled and the airfield defence organised, a hardened telephone exchange to provide secure landline links around the field and to other NATO sites, and the Avionics Maintenance Facility. These structures all had decontamination facilities and generators to allow them to function

### 18.2.1 National Monuments Inspector's Report

**FILE REFERENCE:** AA 64460/1

#### **INSPECTOR'S REPORT**

**MONUMENT:** Cold War structures at the former Upper Heyford Airbase

**PARISH:** UPPER HEYFORD

**DISTRICT:** CHERWELL

**COUNTY:** OXFORDSHIRE

**NATIONAL MONUMENT NO:** 30906

**NATIONAL GRID REFERENCE(S):**  
SP5068826980

SP5213827310

Upper Heyford Airfield has a long history of military aviation activity which spans the 20th Century. It retains a number of buildings and elements of its earlier World War II phases but its most important and unusual structures relate to its Cold War phase.

The United States Air Force began to operate nuclear bombers at Upper Heyford in the 1950s and it is during this phase that the Northern Bomb Stores were built. These consisted of four individual concrete mounded 'Igloo' stores built within a double fenced enclosure, a feature which typifies



# RAF Upper Heyford Conservation Area Appraisal

# 18. Gazetteer and Appendices

## 18.2.2 DCMS - 7 April 08 - Declaration of listing.

after an attack.. The Avionics facility was designed to continue to maintain aircraft, primarily F111, for as long as possible after an attack, even when the aircraft were contaminated. Its size and construction reflect this. The aircraft themselves were housed, when on alert, in the Victoria Alert Hardened Aircraft Shelter complex, a complex of nine massive hardened aircraft shelters within a double fenced compound. The shelters each measured 21.5 metres wide by 36.6 metres long and stood up to 10 metres above ground level. Each housed a single 'ready to roll' aircraft and the complex also included hardened crew facilities, access to fuel and a steel Brunswick watch tower.

### *Assessment of Importance*

Upper Heyford retains some of the key buildings related to the Cold War policy of deterrents. The Quick Reaction or Victoria Alert Hardened Aircraft Shelter complex, the Battle Command Centre, The Hardened Telephone Exchange, the Avionics Maintenance Facility, the Northern Bomb Stores and Special Weapons Area all contribute to the infrastructure require to protect and maintain aircraft capable of rapid launch in the event of a conflict with the Soviet Union. Within the context of Upper Heyford as a whole, they form an iconic group of related and nationally important structures.

### ***Listing: UPPER HEYFORD 490616 Nose dock hangar at former RAF Upper Heyford (Building 325) - Listing Grade 2.***

Nose dock hangar. 1951 to designs made c.1950-1, almost certainly by the British Ministry of Works as it followed the form of a wartime hangar used to service the Sunderland flying boats, but for the United States Air Force Strategic Air Command. Aluminium cladding on aluminium frame, with corrugated steel roof. Stepped 'T'-shape, with a long cantilevered front to create the long opening needed to accommodate the American B50Ds, KB29Ps, and later the B47 Stratojet that were based here. Folding doors on this long elevation of aluminium. Internal bracing also of aluminium.

### *History*

RAF Upper Heyford was established as a bomber station as part of the Home Defence Expansion Scheme of 1923. Following the breakdown of East-West relations with the Berlin Crisis of 1948, it was identified for use by the USAF Strategic Air Command in 1950 as a permanent site for its aircraft. The existing hangars were too small for the massive new bombers, so a specific hangar type was developed, known as a 'nose dock'. As the name suggests, the nose dock hangars

sheltered only the front section of the aircraft, so that it was possible to work on its nose and engines under cover. Cover for the rest of the aircraft was not regarded as important. Upper Heyford was served by squadrons of KB-29P refuelling aircraft from the end of 1951 and from June 1953 by the B47 Stratojet. The aircraft were deployed in Britain on 90-day rotations, so that only routine maintenance and emergency repairs had to be undertaken here. By the late 1950s a policy of 'reflex alert' was established, which meant that Upper Heyford was used intensively while other bases saw little action. The base became the centre for the F111-E in 1970, and was the only European airfield for these planes until 1977 when Lakenheath was similarly upgraded. The Upper Heyford trio are not only the most complete survivals of this type of hangar, but are of interest in being built of aluminium, then in its infancy as a building material. In 1956 the American journalist John Peter wrote that 'aluminium has been more widely used for large structural applications in Great Britain than in any other country. British engineers have produced brilliant designs whose ingenuity and precision have brought structural use of this easy-to-erect material to a cost roughly equivalent to that of steel.' The hangars have historic interest as rare built survivals of this era, demonstrating graphically the special relationship between Britain and the

# RAF Upper Heyford Conservation Area Appraisal

United States, and they have technical interest in their early use of aluminium as a building material. The three hangars form a group with other Cold War survivals of similar interest, and together demonstrate the phases of the American nuclear deterrent in Britain as is found at no other base.

**Listing: UPPER HEYFORD 490929:  
Nose dock hangar at former RAF  
Upper Heyford (Building 327) - Listing  
Grade 2.**

Nose dock hangar. 1951 to designs made c.1950-1, almost certainly by the British Ministry of Works as it followed the form of a wartime hangar used to service the Sunderland flying boats, but for the United States Air Force Strategic Air Command, Aluminium cladding on aluminium frame, with corrugated steel roof. Stepped 'r-shape', with a long cantilevered front to create the long opening needed to accommodate the American B50Ds, KB29Ps, and later the B47 Stratojets that were based here. Folding doors on this long elevation of aluminium. Internal bracing also of aluminium.

*History:*

see Nose dock hangar at former RAF Upper Heyford (Building 325),

**Listing: UPPER HEYFORD 490931:  
Nose dock hangar at former RAF  
Upper Heyford (Building 328) - Listing  
Grade 2**

Nose dock hangar. 1951 to designs made c.1950-1, almost certainly by the British Ministry of Works as it followed the form of a wartime hangar used to service the Sunderland flying boats, but for the United States Air Force Strategic Air Command. Aluminium cladding on aluminium frame, with corrugated steel roof. Stepped T-shape, with a long cantilevered front to create the long opening needed to accommodate the American B50Ds, KB29Ps, and later the B47 Stratojet that were based here. Folding doors on this long elevation of aluminium. Internal bracing also of aluminium.

*History:*

see Nose dock hangar at former RAF Upper Heyford (Building 325)

**Listing: UPPER HEYFORD 495960:  
Control Tower (Building 340), Upper  
Heyford Airbase - Listing Grade 2**

Military airfield control tower of 1950-2 with associated blast wall and magnetometer base. Currently identified as Upper Heyford Building 340.

# 18. Gazetteer and Appendices

*Exterior:*

Built around a steel frame, it comprises a central, red brick, two-storey tower (33ft 6ins by 32 ft 6ins) surmounted with an octagonal steel-framed glazed visual control room which gives a 360 degree view of the complete aerodrome with the main runway to the north. Mounted alongside on the flat roof (which has metal railings around its edge) are two aerials and, at the north-west corner, a small observation penthouse, possibly for signalling. Flanking the tower to east, west and south are single storey flat-roofed wings housing electrical gear and offices. The east and west flanking wings (each 25ft by 23ft) also have railings around their edges. The tower has small, square-paned Crittall-type metal windows, with a projecting (probably added) oriel-like booth to the central first-floor window on the north side.

*Interior:*

The main entrance is at the rear of the right-hand wing. This gives on to a corridor which runs the width of the building. The right-hand wing contains two front rooms, one which housed GPO equipment and one the monitor room. At the rear of the wing was a rest room and female lavatory. The front half of the main tower was the radio equipment room, with officers' lavatory, signals

# RAF Upper Heyford Conservation Area Appraisal

workshop and staircase to the rear. The left wing contained ancillary rooms, including the main medium voltage switchgear room, accessed from external doors. The small wing to the south housed a ventilating plant room and pyro store. In the tower concrete stairs with a metal handrail lead to the first floor, largely occupied by the radar control room. Double doors give access on to the flat roofs of the east and west wings. The other first floor rooms comprised a rest room and the SATCO's Office. A stairwell at the rear contains a steep steel ladder leading up to the rear of the visual control room. This has pull-down, purple-tinted sun screens to the windows and sound-proof tiles to the walls and ceiling. One ground-floor door has a hand-painted shield recording its occupancy (probably near the end of the station's life) by the Air Weather Service. The greater part of the control tower's telephone and other equipment has been stripped although some switchgear and housings do survive.

### *Associated Features:*

Immediately to the front (north) and west of the building are prefabricated 2m tall sand-filled blast walls. Similarly protected is a fuel tank (itself not of historic interest) between the tower and the gravelled square. Ten metres north of the blast wall is a gravelled square, c.20m

across, defined by concrete-kerbs and concrete posts which formerly supported a wire fence. In the centre of the square is the 105m high bollard-like metal housing of a magnetometer, an instrument (removed) which detected radar signals coming from the east,

### *History:*

A Royal Flying Corps station was established at Upper Heyford in 1915. In the 1920s it became one of the RAF's bomber stations under the Home Defence Expansion Scheme promoted by Lord Trenchard. During WWII it was used as a training station by Bomber Command. In the early 1950s the base was among those which passed to the USAF's Strategic Air Command, one of four which lay well inland from the vulnerable east of England. It then was extensively remodelled: structures erected at this time including new runways and bomb stores, the control tower and four Nose Docking Sheds for aircraft maintenance (q.v.). Between 1953 and 1965 B-47 SAC Stratojets operated out of here. The base then passed to USAF Europe and for the remainder of the 1960s it was mainly used by reconnaissance aircraft including U2s, RF101 Voodoos, and later Phantoms. Then in 1970 a new generation of advanced bomber, the F-111, was deployed here. Its all-weather

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capability and technical sophistication made the aircraft one of the key components of NATO's nuclear deterrent in the 1970s, it being the sole carrier of the USA's intermediate range nuclear deterrent in Europe. Upper Heyford was the only F-111 Wing in Europe until the allocation of F-111s to RAF Lakenheath in 1977. After 1984 and the introduction of Cruise Missiles the F-111s' purpose became the hunting down of the Warsaw Pact's mobile SS20 missiles. In 1986 F-111s from Upper Heyford and Lakenheath attracted worldwide attention for a retaliatory strike on Libya, while in 1990 Upper Heyford's F-111s participated in operation Desert Shield after Iraq's invasion of Kuwait, and Desert Storm to liberate Kuwait. In 1993 in the defence draw-down after the end of the Cold War, and in part due to the obsolescence of the F-111, the aircraft was withdrawn from the base. Shortly afterwards Upper Heyford was returned to the RAF which declared it surplus to military needs. The control tower was one of seven produced c.1950-3 to drawing 5223a/51. Four were at the Very Heavy Bomber bases of Upper Heyford, Brize Norton, Fairford, and Greenham Common; one at Mildenhall tanker aircraft base; and two at the upgraded Biggin Hill and North Weald fighter stations. Upper Heyford's stands centrally within the south half of the flying

# RAF Upper Heyford Conservation Area Appraisal

field, south of and overlooking the main runway. It operated as the weather and radio receiver for the airbase and was central to its operation.

## *Summary of importance:*

Listed primarily for historic reasons, Upper Heyford's control tower dates from 1950-2 when the former RAF base was remodelled for USAF's Strategic Air Command. Structures erected during the Cold War (1946-89) are among the most potent physical manifestations of the global division between capitalism and communism that shaped the history of the second half of the C20. Upper Heyford was among the key Cold War defence sites in England in the 1970s and 1980s when USAF F-111s based here provided part of NATO's European intermediate range nuclear deterrent. The control tower was central, as its name suggests, to the base's operation and is an integral part of the complex. Also included in the listing are its blast walls and the magnetometer and its surrounding square immediately to the north.

**Listing: SOMERTON 495959 Former Squadron HQ (Building 234), Upper Heyford Airbase - Listing Grade 2**

## *Exterior:*

The building is of two distinct parts: a

1950s 'soft' section to the front, and a late 1970s 'hard' section to the rear. The 'soft' part of the building, which has an offset H-plan, comprises linked single-storey brick buildings of the 1950s with low pitched roofs and clad with foam-backed pebbledash insulation added in the 1970s. Connected to the rear of the left-hand range is the rectangular, bunker-like, 'hard' section of the building, constructed of hardened concrete. This is of a single storey apart from a raised section to its rear which is a blast-proof inlet for fans.

## *Interior:*

The soft part of the building is entered by doors into a lobby, off which the main corridor leads left to the 'hard' section. Plans indicate the rooms in the left-hand section of the building were being used in the mid 1980s for intelligence, weapons and radar analysis and briefings, and there was also a photolab with dark room. The internal fixtures and fittings of the 'soft' section are not reckoned to be of special historic significance. A lobby with blast door gives access to the 'hard' structure to the rear. Inside is a decontamination suite with showers, plant rooms, a foyer area with blue Perspex operations display board and fixed wooden desk/console and map rooms with sliding wooden display boards. The largest room is the

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operations/briefing room. On the right side wall (facing the front) is a wooden board on which daily flight details were recorded, while the front wall is fully covered by a sliding wooden board on which maps were stuck. This board conceals a square escape hatch, again with blast-proof door. The greater part of the 'hard' section's fixtures and fittings including electrical and telephone equipment, map, display and notice boards, showers and drinking fountain, remain in situ and are regarded as of special interest.

## *History:*

A Royal Flying Corps station was established at Upper Heyford in 1915. In the 1920s it became one of the RAF's bomber stations under the Home Defence Expansion Scheme promoted by Lord Trenchard. In the early 1950s the base was among those which passed to the USAF's Strategic Air Command, one of four which lay well inland from the vulnerable east of England. It was extensively remodelled, structures erected at this time including new runways and bomb stores, the control tower and four Nose Docking Sheds for aircraft maintenance. Between 1953 and 1965 B-47 SAC Stratojets operated out of here. The base then passed to USAF Europe and for the remainder of the 1960s it was mainly used by

## RAF Upper Heyford Conservation Area Appraisal

reconnaissance aircraft including U2s, RF101 Voodoos, and later Phantoms. Then in 1970 a new generation of advanced bomber, the F-111, was deployed here. Their all-weather capability and technical sophistication made the aircraft one of the key components of NATO's nuclear deterrent in the 1970s, it being the sole carrier of the USA's intermediate range nuclear deterrent in Europe. Upper Heyford was the only F-111 Wing in Europe until the allocation of F-111s to RAF Lakenheath in 1977. In the 1970s the appearance of the airfield was transformed by NATO's policy of hardening and 'dulling down' its main operating bases against conventional, chemical and biological attack. Fifty-six hardened aircraft shelters were built including a new Victor Alert area, four hardened Squadron Headquarters (including this example), a hardened Avionics Centre and a hardened Battle Command Bunker and Telephone Exchange. After 1984 and the introduction of Cruise Missiles the F-111s' purpose became the hunting down of the Warsaw Pact's mobile SS20 missiles. In 1986 F-111s from Upper Heyford and Lakenheath attracted worldwide attention for a retaliatory strike on Libya, while in 1990 Upper Heyford's F-111s participated in operation Desert Shield after Iraq's invasion of Kuwait, and Desert Storm to liberate Kuwait. In 1993

in the defence draw-down after the end of the Cold War, and in part due to the obsolescence of the F-111, the USAF withdrew from the base. Shortly afterwards Upper Heyford was returned to the RAF which declared it surplus to military needs. The Squadron HQ (Building **234** as currently numbered) is one of four at Upper Heyford. Three, this example (55th Squadron), and Buildings **370** (79th Squadron) and **209** (77th Squadron) have the same plan, with a 1950s 'soft' section to the front and a late 1970s 'hard' section to the rear to which personnel would withdraw at times of Maximum Alert. The fourth Squadron HQ (Building **383**, for 42nd Squadron) was added in 1984 and is a fully-hardened concrete structure with a different layout.

### *Summary of importance:*

Listed primarily for historic reasons, Building **234** is one of four Squadron HQs at Upper Heyford remodelled or newly-built in the 1970s under NATO's policy of hardening and 'dulling down' its main operating bases against conventional, chemical and biological attack. Structures erected during the Cold War (1946-89) are among the most potent physical manifestations of the global division between capitalism and communism that shaped the history of the second half of the C20. Upper Heyford was among the key Cold War

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defence sites in England in the 1970s and 1980s when USAF F-111s based here provided part of NATO's European intermediate range nuclear deterrent. The Squadron HQs were key elements of the base's operational infrastructure. It was in these that pilots were briefed and debriefed, and from these that they departed on missions. Of the four Squadron HQs operational from the 1970s **234** is notable for the completeness and good condition of its surviving fixtures and fittings and this is why it has been selected from them for listing.

## Acknowledgements

The assistance of ACTA and Oxford Archaeology is gratefully acknowledged in the production of this document.

The assistance of Keith Watson and NOC is gratefully acknowledged in providing access to aerial photographs of the site.

Sections 4.2.1, 4.2.2, 9 and 10.1.1 have been taken directly from the Conservation Plan (ACTA, 2005)

Figure 2 was taken from LDA (1997)

Figure 3 was taken from Francis (1996)

Figures 4, 5, 6, 12, 14 & 23 are taken from ACTA (2005)

Figure 15 was taken from ACTA (2006)

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