



RAF BICESTER BICESTER HERITAGE

HERITAGE IMPACT REPORT
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He has experience of working on a wide variety of casework, in historic towns, large urban areas, rural settlements and country estates. He has project managed the repair of historic buildings, including a 13th century lepers' hospital in Blandford, an 18th century thatched stone cottage in Shaftesbury, an 18th century clay pipeworks in Broseley, the Franciscan Friary in Bridgnorth and the Martyrs Memorial, Oxford. He has been involved in significant commercial, residential and University building projects in Oxford – Westgate, Oxford Castle, the Ashmolean Museum, University Science Area, Radcliffe Observatory Quarter, Weston Library, colleges and the award winning Oxford Brookes campus building as well as providing specialist advice on a number of Country Houses and estates – Crichel House, Dorset, Tottenham House, Wiltshire, Nevill Holt Hall, Leicestershire, Aynhoe Park, Oxfordshire, Hunsdon House, Hertfordshire, Ombersley Court, Worcestershire, Great Tew Estate, Oxfordshire and Bathurst Estate, Gloucestershire. He is currently a panel member on the BOBMK Design Panel, which provides design, heritage and planning advice on emerging planning proposals.

His role with the local authorities involved him in detailed discussion on specific schemes with leading local, national and international architects and advising on strategic projects including Masterplans, Area Action Plans, Public Realm Strategies and Townscape Character Studies. His work, developing methodologies for assessing the character of and managing historic areas has attracted funding from Historic England and has been recognised with two RTPI Awards (in 2011 and 2013) for improvements in the planning process.



Fig 1: View over site for proposed hotel and conference centre

INTRODUCTION

The intelligent management of change is a key principle necessary to sustain the historic environment for present and future generations to enjoy. English Heritage and successive governments have published policy and advice that extend our understanding of the historic environment and develop our competency in making decisions about how to manage it.

Paragraphs 4-10 of Historic England's Good Practice Advice Note 2 (Managing Significance in Decision-Taking in the Historic Environment) explains that applications (for planning permission and listed building consent) have a greater likelihood of success and better decisions will be made when applicants and local planning authorities assess and understand the particular nature of the significance of an asset, the extent of the asset's fabric to which the significance relates and the level of importance of that significance.

The National Planning Policy Framework provides a very similar message in paragraphs 128 and 129 expecting both applicant and local planning authority to take responsibility for understanding the significance of a heritage asset and the impact of a development proposal, seeking to avoid unacceptable conflict between the asset's conservation and any aspect of the proposal.

It has never been the intention of government to prevent change or freeze frame local communities and current policy and good practice suggests that change, if managed intelligently, would not be harmful.



Fig 2: Type A Hangar

SPACE, ARCHITECTURE AND 20TH CENTURY AIRFIELD PLANNING

As the archaeologist Bob Clarke (2016)¹, speaking in reference to his study of historic photographs of the Boscombe Down Airfield (Wiltshire) observed, one cannot help but be struck by the distinctive layout that emerges of military airfields. There seemed, he noted of the site, to have been an underlying thesis behind its specialisation - a conscious and deliberate attempt to situate the structures within it in a particular way. How did buildings appear on the site? Why did they look as they did? and more importantly, why were military airfields as a whole located where they were? The answers, Clarke argued, lay in a twin analysis the impact the technological advancements that followed the First World War and an appreciation of the philosophical and political landscape of the time.

The first 10 years of the twentieth century were characterised by a previously unprecedented rate of technological expansion, particularly in military machinery - a factor that would ultimately have a significant bearing on the development of military architecture. Of these new technologies, arguably none would have a greater impact on military thought and planning than the aircraft.

Across Europe, the close of the First World War had served as a watershed, alerting military officers and theorists alike to the new dangers posed by aviation. The aeroplane, officers such as Lieutenant-Colonel Vauthier (1930) observed, had little concerns for lines on the ground. "All territory within range of the enemy's aircraft" could "suddenly find the enemy in the sky above."² In this transformation of civilian populations into targets, the aircraft changed the nature of war. With this came a call not only for a new kind military philosophy but for a different type of architecture and urban plan.

The states' response to the growing aerial threat saw an increased collaboration between architects, structural engineers, military officers and political leaders. Architects had to become completely up-to date with the many technical problems posed by the 'aerial menace.' They not only took part in the technical and psychological preparation of populations but also began to develop technical solutions for the protection of existing buildings and to establish structural and spatial principals for the construction of new 'anti-aircraft' architecture. It was through these collaborative and interdisciplinary efforts - initially devoted to the question of the protection of cities and civil architecture - that the roots of new thinking around airfield design and military architecture more broadly was to be found.

Military thought on the layout airfields and other sensitive sites would be learned from the theories of architects such as Le Corbusier, whose unrealised proposals for the Ville Raidieuse (the radiant city) would find a new (albeit modified) lease of life in the philosophies of officers such as General Trenchard (founder of the RAF). The premise of Le Corbusier's city with its reduced built area characterised by separate buildings with large expanses of green areas between, was to be adopted for the proposed plans for a new military architecture.

Against the prospect of aerial bombardment, the argument for reducing the built area proved a particularly apt solution in the defence of military structures. In the same way that there was reason to isolate functions from each other (dwellings, factories, circulation) in the defence of war time cities to protect citizens and prevent the paralysis of industry, so too was it particularly apt to stagger military architecture as a defence against single projectiles having multiple effects and thus destabilising the war machine.



Fig 3: Watch Tower

TRENCHARD AND AIRFIELD DEVELOPMENT IN BRITAIN

The character and development of military airfield sites in Britain to a great extent, owes much to the philosophies and policies of General Sir Hugh Trenchard who founded the RAF in 1918. Trenchard's influence on the service was significant. He remained in office through a period of fluctuating theory, ultimately laying down the core institutions and doctrines of the force.

Anticipating that future warfare would be fought in the skies, Trenchard was a key figure in the drive to expand and modernise of the air force. As he would remind the government in 1924, 240 tons of bombs had been dropped in Britain during the entire period of the First World War and yet continued innovations across Europe would ultimately mean that the same could now be delivered on a daily basis.

His warnings regarding the threat posed by aerial bombardment would initiate plans for the development of the 'aircraft estate.' Informed by Trenchard's emphasis on the primacy of the bomber as the principal weapon of the air force, the first expansion period of the RAF involved the building or extension of bomber bases. This would result in a fundamental shift in the conduct and logistics of warfare.

Whereas the demands of artillery spotting during the Boer and later First World War had seen the siting of the first airfields (such as Lark Hill 1911; Upper Haven 1912 and Nether Haven) concentrated on the area around the Salisbury Plain, the greater reliance now placed on air attacks and defence called for airfields to be situated within defensible distances of major cities. Strategic bombing- targeting enemy infrastructure and the threat of retaliation – was seen as a crucial tactic in military engagement and air bases such as RAF Bicester were thus tactically chosen to circle the capital in order to deter aggression from Germany and France.

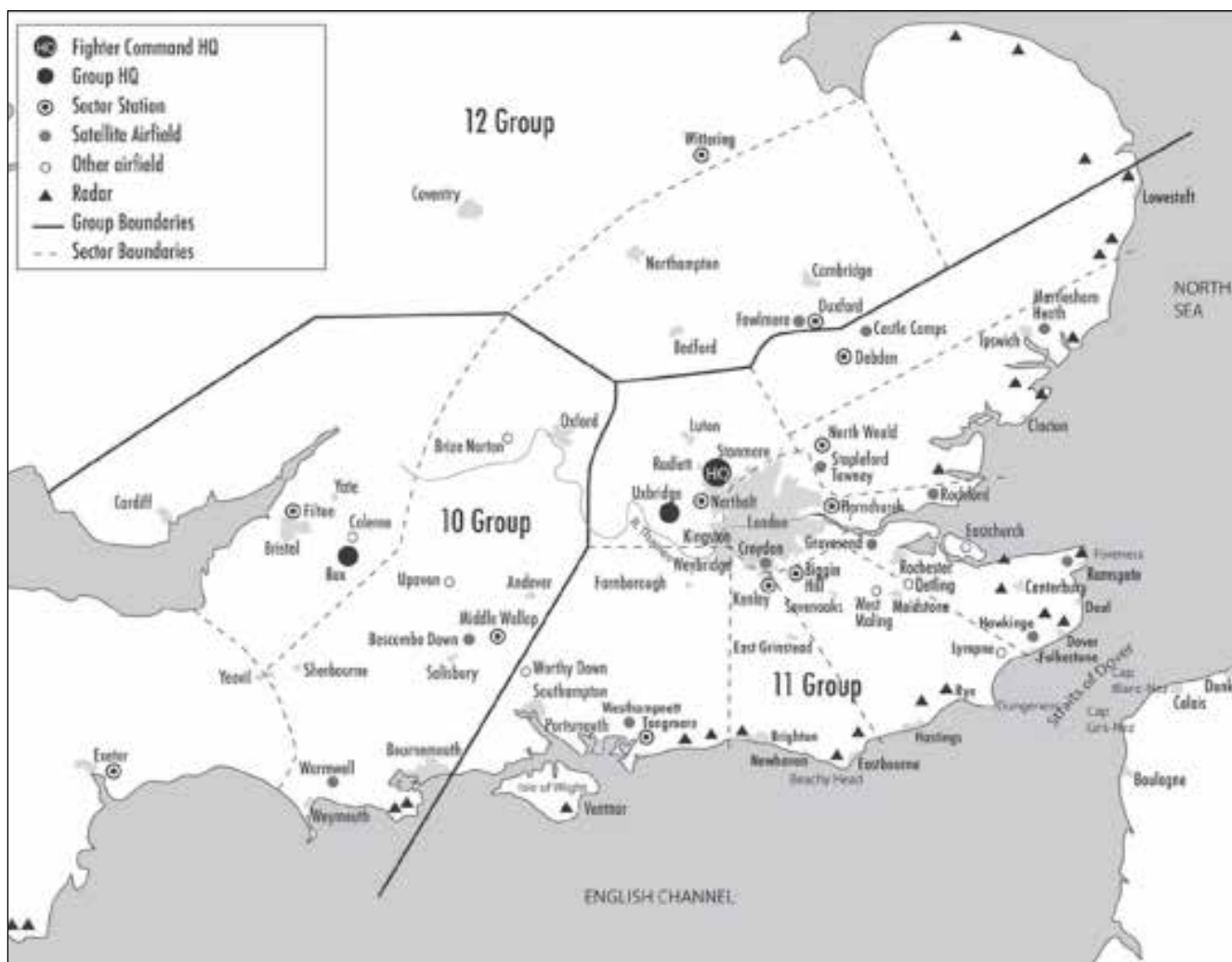


Fig 4: Strategic Air Defence Map 1940 (source: <http://militaryandwar.com/ww-two/dogfight/>)

This siting of airfield sites was particularly guided by Trenchard's principal of *Offensive Deterrence*. The latter principal saw fleets of self-defending bomber formations as the instrument of war most likely to ensure swift victory. The geographical position of these bomber stations was a response to the considered need to deter aggression from France, in line with the then national defence policy aimed at providing an air force capable of meeting the strongest opponent within striking distance of Britain (CAP: 7). RAF Bicester among other sites within Oxfordshire and East Anglia, were chosen by Air Commodore Edgar Ludlow-Hewitt to form a defensive arc around London.

Trenchard's philosophy would also guide the planned layout of these newly chosen individual sites. Key to his thesis was the notion - borrowed from wider architectural thought of the time - that the fabric be dispersed to better protect against aerial attack.

Domestic and technical areas were kept separate for three key reasons:

1. The planning of these self-contained communities was approached in a manner akin to town planning, with a similar distribution of residential, administrative, and technical buildings;
2. The layout allowed for the separation of gender and rank;
3. and most significantly, the siting of buildings in accordance with Trenchard's plan would minimise fatalities and damage in the event of an attack.

RAF Bicester typifies this layout and is noted as being the most structurally representative of the bomber station built along Trenchard's principals.⁴



Fig 5: Bomb Stores

RAF BICESTER: HISTORY OF DEVELOPMENT

The history of RAF Bicester's development is largely associated with its function as a training and maintenance base. The training of officers and technicians had always been one of Trenchard's key priorities for the RAF and a number of factors, such as its lack of concrete runways, would see Bicester almost wholly relegated to this role. The site was the training centre for various skills sets ranging from glider pilots to the tug crews who towed them. It was here that pilots were trained before setting off for D-Day, Arnhem and the Rhine Crossing.

Bicester also provided a base for the Maintenance Unit (MU) for planes motor transport and was a significant hub for aeronautical innovation. The maiden trial of the Halifax prototype L7 244 took off from Bicester on 25 October 1939. The site would later house Hawker Hart, Mosquito and Blenheim Bomber planes as well as witness the first flight of the Handley Page Halifax four-engine bomber - the RAF's first heavy bomber to enter production.

It has been these continued administrative, maintenance and otherwise utilitarian uses, that have helped to preserve Bicester's inter-war character in the face of the demolition and considerable alteration that has occurred on similar sites across the country during the post war period,

1918-1919

The site was first used to train the Royal Flying Corps although its first flying unit was disbanded after only a month. It reopened as a Training Depot Station for 120 Officers and 60 NCOs preparing for deployment to the front line in France. With only 6 weeks to the close of the war it wasn't long before cutbacks began. The two squadrons were disbanded shortly after their return in February of 1919 and the 44 Trading Depot followed suit in January of 1920 resulting in the bases' closure a short while later in March of the same year.

1924-1934

Coinciding with the changes in the country's defensive structure aforementioned, the interwar period saw much development at the Bicester site. The expansion efforts of Sir Hugh Trenchard, culminated in the construction of two A Type hangars as well as the acquisition of Hungerhill Farm which extended the airborne boundary to give a maximum take-off of 1390 yards. Land was also acquired north of Skimmingdish Lane and west of Buckingham Road for the construction of married quarters (detached and semi-detached for officers and terraced houses for airmen) plus recreation facilities.

Two storey barrack blocks containing sanitation units were built on the domestic site for the first time. Other additions (such as dining room cloakroom, institute station, sick quarters and sergeant's mess) took on the radial pattern characteristic of Trenchard's station template. On the technical site – also laid out according to Trenchard's template – a range of single and two storey buildings were also erected. Some of these, such as the Operations' Block, Parachute Store and Watch Tower were the first of their type.

1934-1939

A further expansion period would be carried out following the collapse of the Geneva disarmament talks (1933). With the threat of war looming the Bicester site was transformed into a bomber station resulting in the alteration and erection of a significant number of buildings on the site.

There were several phases of contractual works carried out. The first contract in 1934 saw the construction and alteration of the Barrack Blocks and living quarters as well as that of a range of technical buildings. The second contract in 1936 resulted in the construction of two of what were the latest C type hangars thus doubling the hangar space on the site. Further contracts were

awarded in 1938 as part of the bid to bring Bicester fully in line with changes occurring on sites elsewhere in the Force. This included the construction of further technical accommodation. Type H Barrack Blocks; a new institute; dining rooms; a decontamination centre and central heating station were built. Bransfield House was also requisitioned and accommodation further expanded with the addition of Officer's Quarters.

1940-1945

By the outbreak of the Second World War, Bicester's focus once again came to centre on training both British and Commonwealth crew. The change is one that reflected the siting of new airfields which, from the mid 1930s onwards, had been laid out in anticipation of the logistical challenges of another war with training and operational bases set behind the eastern front facing Germany. A battle school was set up in 1940.

The war period did propel some built development. A large number of pillboxes and trenches were built for the close defence of the airfield. The Battle Headquarters in particular – an important structure for the co-ordination of air defence – was surrounded by a ring of pillboxes. By this time all buildings on the site had also been camouflaged and blackouts enforced.

Although the flying field would also be further enlarged to the north and south with tracks and 41 panhandle standings to enable the dispersed parking of aircraft, the increased emphasis on night flying would ultimately make Bicester unsuitable for much other than training purposes. The lack of concrete runways here would also pose further limitation on its use. With its grass runway often leading to spells of unserviceability, most tactical flying units would eventually transfer to more suitable bases.

By the autumn of 1943, Bicester would become a Forward Equipment Unit with its airfield used to store equipment vital to



Fig 6: Map regression (1918-1945) illustrating the development of the airfield, domestic and technical site . Particularly noteworthy are the 1918 and 1926 OS Maps whose comparison highlights the marked and dramatic impact of Trenchard's philosophies (enacted from 1925 onwards) on the physical layout of both the domestic and technical site. The site's WWI incarnation with linear siting of its buildings is replaced by a trident layout characterised by a dispersal of structures. The later (1939 and 1945) maps evidence how the site becomes further populated with structures as its functional requirements evolved - with the need for instance for the introduction of defensive structures during the war period.⁵

the invasion of north-west Europe. This latter function would see its personnel grow to over 1000 people most of whom were involved in the storage and maintenance of equipment.

1945-1994

After 1945 the site continued to function as a parachute packing and servicing base and was the headquarters of the 40 Group Maintenance Command. The 71 Maintenance Unit would later be formed in 1953 with the responsibility of crash investigation. A bomb disposal unit was also transferred here.

While an RAF Gliding and Soaring Association would be formed in 1963, the role of the RAF had significantly waned by the mid 1970s, reducing the site to a maintenance function only.

The late 70s saw a brief revival of its tactical role. After a short period in the control of the army Bicester was made available to the United States Airforce in Europe and some of its technical buildings were converted into offices and a medical storage facility. Part of the domestic site was also converted into a USAF military hospital.

During the Cold War, the south-eastern 'C' Type hangar was converted into a USAF hospital store. In 1990, 20 USAF personnel were stationed on the site during the first Gulf War, which later grew to 1200 medical staff. The base was deactivated in 1991 after Operation Desert Shield, as it was no longer needed and in 1997 the Ministry of Defence disposed of the domestic site for redevelopment as private housing. The technical site and airfield was eventually sold to Bicester Heritage in 2013.

On the whole, it has been this continued use of the RAF Bicester site, decades beyond the Second World War, that has ensured the preservation of its interwar character.

SITE LAYOUT

RAF Bicester's design and layout reflects a broader national type and is recognised (Historic England) as a good example that typifies the philosophies of Sir Hugh Trenchard.

Initially the site, as with most First World War airfields, followed a linear pattern with hangars laid out in a straight line and service buildings set behind them. However, as Trenchard's thesis would later demonstrate, it made little tactical sense to put everything you owned in one point. Led by his new thinking we could begin, by the late 1920s, to see the alignment of the British airfield as it exists today. A particular layout emerged, characterised everywhere by a separation of the domestic and technical area and by the dispersal of the built elements within them.

The impact of Trenchard's theories could be seen in the siting of new structures at Bicester from the 1930s onwards. Comprised of three distinct areas - the airfield, domestic and technical site - the later incarnation of the site would faithfully adhere to Trenchard's key stipulation that separation be maintained between these areas and that individual built elements be further delineated from each other through the use of generous planting gaps. The significance of these 'spaces between', as has been discussed elsewhere in this report, was strategic. The gaps were believed, when viewed from above, to make it more difficult for enemy aircraft to discern such a scattering of small structures from what would have been the relative ease of spotting a concentrated mass of development.

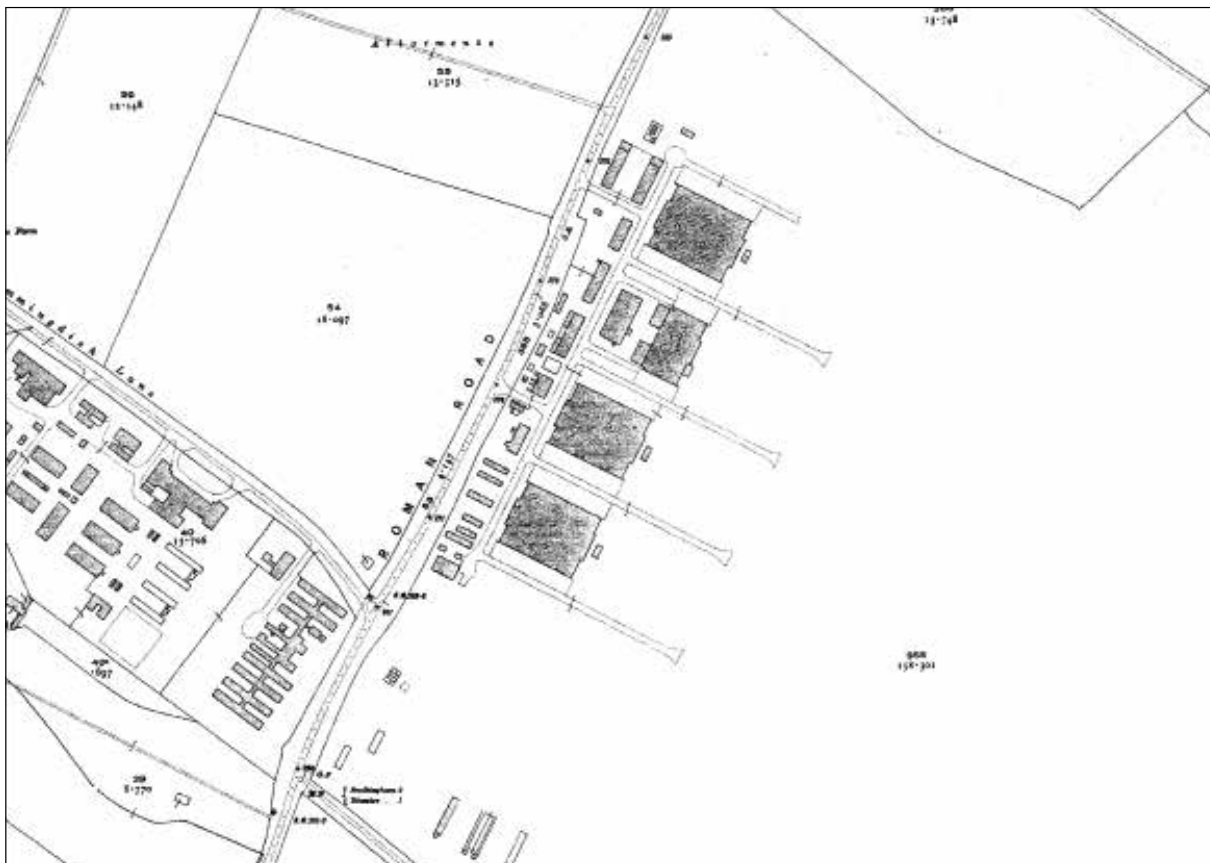


Fig 7: OS 1:2500 (1922). Bicester airfield before the Trenchard layout was introduced. The buildings on the technical site during this period were temporary and set out in the regular linear formation that can be readily discern in the aerial map above.

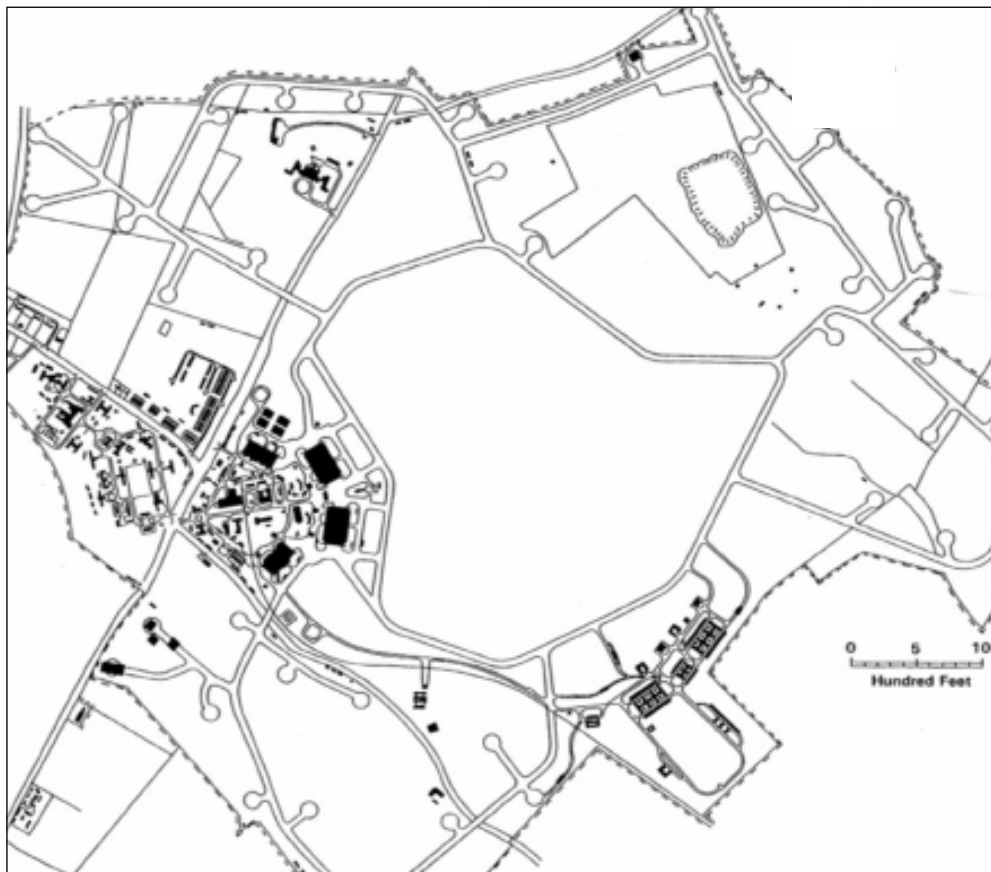


Fig 8: Site Plan 1945. Bicester Airfield layout following the application of Trenchar's principles. sam see page 13 of Conservation area appraisal

This principal of dispersal underpins the layout of both the domestic and technical sites whose characters display a particular formality in the siting of their roads and buildings. The latter site, which, is the primary focus of the report, is planned along a trident of three Air Ministry roads which, during the war period, would have provided a form of passive defence by fanning out the layout to avoid a clustering of buildings. The roads branch out from the Gatehouse and Station offices that face each other at the entrance of the site at the junction of Buckingham Road and Skimmingdish Road, and go on to give access to buildings of specific functions. The central Main Drive

was lined by aeroplane and motor transport vehicle buildings; the left branch, Western Avenue, was designated for buildings concerned with the day to day running of the station; while the right branch, Southern Avenue, was for non-essential buildings designated for maintenance and the organisation of the base. The avenues themselves are further defined by the use of trees which, in this context add to the formality and symmetry of the the road layout. Trees are also located along the perimeter of the base to screen views in and out of the site.

Upon entering the site through the main entrance, the eye is



Fig 9: View up the Main Drive from the site entrance highlighting the beginning of trident layout of the roads

drawn up the Main Drive, the straight central avenue, through to two small garages at the end of the drive, the Watch Tower and airfield beyond. The three roads are connected at the airfield end by a cross road running alongside the C type hangars. The taxi track encircles the edge of the airfield whose perimeter is bounded off by hedgerows and trees.

A sense of arrival is created by the gated entrance, former Guardroom and Station Commander's Office, whose roles are emphasised by their prominent location within the site, and their formal design overlooking the entrance.

SITE ARCHITECTURE

While the general layout and siting of the buildings at Bicester epitomize the principals that underpinned the planning of military airfields as a whole during the second half of the 20th century, an assessment of the individual buildings on the site reveals a representative picture of the era in which they were constructed.

Although it was largely the case that building methods and materials took primacy over aesthetic considerations in the development of airfield structures, with both aspects being particularly studied for their predictable behaviours, aesthetic concerns did not disappear altogether.

A sense that form needed to align with the function of a building prevailed with prominent structures such as the Guard House and Station headquarters being built in neo-Georgian styles that were thought commensurate with the functional activities of the buildings and more importantly, with the status of their high-ranking inhabitants. An overly austere architectural style, it was believed, would not have had a reassuring effect on the public.

This neo-Georgian style- especially favoured during the first expansion period of the RAF - would ultimately come under heavy criticism for not only making the buildings 'too obvious' on the ground but, more importantly it appears, for their 'untutored and unconvincing' execution (Holder, 2016). The buildings, it was argued, were an architectural embarrassment on the international stage, particularly in comparison with the imposing classical military architecture of Italy. A solution had to be found and in November of 1931, Ramsay MacDonald, the then Prime Minister, would instruct the Royal Fine Arts Commission, in consultation with the Society for the Preservation of Rural England, to become involved in airfield design.

Leading architects of the time, including Sir Edwin Lutyens, Sir Reginald Blomfield, and Giles Gilbert Scott, were engaged as consultants. Blomfield was a particularly outspoken opponent of modern architecture, preferring a more traditional late Victorian vernacular, and Lutyens and Scott were strong advocates of the

rationality, symmetry and order inherent in Neo-Georgian and Classical styles.

The impact of these endeavors could be observed by the end of the 1930s. Airfield architecture became more adventurous. Styles began to particularly change with the appointment of P.M.Stratton to the Office of Works. Technical buildings such as hangars had always been more modern in design with smaller building displaying classical elements. Stratton now encouraged Art Deco characteristics, in the use of flat roofs, glazing details in windows and increased usage of horizontal shapes. A development best exemplified at Bicester by the Watch Tower. Sited beyond the central tip of the trident, its construction in reinforced concrete and use of metal Critall style windows epitomizes some of the key defining features of Modernism.

Although no particular architect can be attributed to the design of the various buildings at the RAF Bicester site, the assemblage of buildings stands at the forefront of innovation and design and serves as a significant record of a tumultuous period in British history.⁶

THE GUARDHOUSE GV II

Dated 1926, the guardhouse is constructed of dark brick in Flemish bond (with some stretcher bond) and is characterised by a slate gambrel roof which sweeps down over a non-enclosed verandah to the front. The latter is supported by four chamfered concrete posts with broad impost blocks set to a shallow concrete platform. There are two doorways (one of which is blocked) leading from this central area with a further two located in the flat (concrete) roofed bays found on either end of the building. Centred over the verandah is a bell tower which would have housed the air raid siren.

Contained within the guardhouse's long rectangular plan were the guardroom and office along with some cells - the latter of which would have housed the individual(s) up on charge. Typically, Guard House cells had no door on the WC or shower,

and were equipped with only a plank bed with a pillow board.

The building follows a neo-Georgian style, typical of British military and civic architecture of the time, that distinguishes it from the more utilitarian workshops and stores. As the first point of contact for the base, the structure needed to convey a sense of gravitas which was believed to be communicated by the Classical architectural style. The application of classic geometric principles, with their emphasis on order and rationalism, was seen as particularly appropriate to the activities of the Guardroom, which would have been used for the delegation of guard duties, control of road transport in and out of the station, checking in of visitors, among other tasks.

The style mirrors that of the Station Offices, emphasising the relationship between the two buildings and the parity of their status.

STATION OFFICES AND HEADQUARTERS GV II

Also dating to 1926 the Station Offices building, as with the Guardhouse situated directly opposite, is one of the first examples of permanent designs for the RAF. The building is constructed of dark red brick in English bond with hipped asbestos-cement slate roofs.

It consists of a symmetrical, Classical floorplan, opening out from a central entrance. This symmetry is can also be observed in its elevations. Recession of the central section throws the sides forward to create wings. The rational order of the classical style – an architectural treatment only also afforded to the Guardhouse – was in keeping with the building's key operational and administrative functions.

The Headquarters provided offices for the Commanding Officer (CO), engineer, clerks, accounts, administration, as well as lecture rooms and a library. It might possibly have also housed a meteorological office, wireless and telephone rooms. It later housed a camera obscura used in training to check that a



Fig 10: The Guard house, prominently sited at the entrance of the site and built in a neo-Georgian style thought commensurate with the activities carried out with it and with the status of its occupants.



Fig 12: The Station Offices and Headquarters. Situated directly opposite the Guardhouse, the application of the neo-Georgian treatment to its design is also meant to symbolically emphasise the status of its occupants and serves as a strong visual marker of the relationship between the two buildings.



Fig 11: The Parachute Stores. The design of the building - featuring a high central area- is particularly informed by its function. The Stores at Bicester were a prototype, first seen here before being adopted in airfield sites elsewhere across the country.

pilot was able to maintain a straight course, ascertain wind speed and direction, and to simulate bombing.

PARACHUTE STORE GV II

Dating to 1926, this is a rectangular gabled structure of red, stretcher bond brickwork construction. As with the aforementioned buildings, its design too was closely allied with its intended function. From 1927, parachutes had become standard equipment for all aircrew, who had to be measured for their own personal chute.

The storage of this new equipment necessitated a particular type of structure. It needed to be one with a high enough central area to enable parachutes to be hung. It also called for a building of certain depth since the chutes needed to be laid out on long table during their monthly inspections. The designs also had to take into account issues of ventilation. Condensation caused major issues and stoves were needed to keep the space warm and dry.

The need to maintain minimum temperature of between 55-65 degree Fahrenheit meant that the design featured a lobby with an outer door that was to be closed before the inner door was opened in order to maintain constant conditions inside. The parachutes would be winched up to the ceiling on pulleys to dry without touching the floor, then lowered into trays to prevent them getting dirty. They would then be transferred to the tables for laying out, inspecting, and packing before the parachutes were finally stored on racks.



Fig 13: The Armoury and Lecture Room

POWER HOUSE

The Power House is situated on the Western Avenue, opposite the former Parachute Store. The building once housed the power generator and pump house. It was used as the filming location for Alan Turing's code breaking machine in *The Imitation Game* (2014).

LUBRICANT STORE GV II

The store is a simple rectangular gabled structure comprised of two sections; a higher unit with a raised floor and external loading platform and a lower one with its floor at normal level. It was built for the storage of oil and other liquids. It is one of the original buildings, set close to an A Type hangar of the same period (Historic England: List Entry)

ARMOURY AND LECTURE ROOMS GV II

The armoury and lecture rooms building was erected in 1926, with a cross-wing added in 1934. The long T-plan two-storey range, with tall casement windows, containing laboratory lecture rooms, offices, workshop and a library, continues as a one-storey flat-roofed unit with the armoury, ammunition testing bays and machine-gun stores.

MAIN STORES GV II

Also built in 1926, this one-storey building was used for general storage of items such as clothing and furniture. Raised loading bays eased loading onto railway carts for transport around the base.



Fig 14: The Main Stores



Fig 15: Southern most Type A Hangars



Fig 16: Western most Type A Hangar



Fig 18: Northern most C Type Hangar



Fig 17: Southern most C Type Hangar

2 X 'A' TYPE HANGARS GV II

Designed in 1924, these four-storey structures were built to accommodate the De Havilland DH9A, the largest projected twin-engined bomber. 12 craft could be stored in each of the two hangars. Six 'A' Type hangars had been planned for the site, but only two were built, as a governmental review of Trenchard's proposals resulted in a cut in funding and the number of aircraft in a squadron being reduced from 18 to 12, necessitating less hangar space.

SECOND EXPANSION PERIOD, 1934 - 1939

RAF Bicester was further extended as part of Trenchard's 1934 Second Expansion Period in preparation for WWII. Building during this phase was largely carried out in red brick, to provide continuity with the existing structures, but also incorporated a more Modernist approach.

With the acquisition of land from Hungerhill Farm, the runway was extended to the south to give a longer take-off run, and the aerodrome was enlarged (see 1938 site map).

2 X 'C' TYPE HANGARS GV II

In 1936-37, two more four-storey hangars, this time in the 'C' Type design, were erected in order to provide more aircraft storage space. The steel structures were built with brick side walls, roof timber purlins, timber boarding, and asbestos slates. In 1938, new hangar aprons were added.



Fig 19: Fire Party House

LINK TRAINER BUILDING GV II

The Link Trainer, invented by Edwin Link in 1929, was a flight simulator that provided an inexpensive alternative to pilot training in a real aircraft.

FIRE PARTY HOUSE GV II

Built in 1938 to house the duty fire crew (who had previously been stationed in the Guardroom), the Fire Party House is constructed of dark brick in a Flemish bond pattern, with a garage front and a rest room to the rear. It follows the style set during the 1920s expansion, with timber sash windows and a hipped slate roof. This currently houses Historic Promotions events management.

WATCH OFFICE WITH TOWER GV II

Also built 1938, this structure (which today would be more commonly known as a Control Tower) is positioned on the edge of the airfield to provide it with the best views of the flying field, and is of a 'Fort' design. It's relatively late introduction to the station reflects the lack of importance the Air Ministry gave to the ability to control traffic within the flying zone. An office on the ground floor faces the aerodrome, with a rest area and toilet to the rear. A spiral staircase leads to the Watch Tower, and a ladder leads up to the roof where meteorological instruments would have been set up. Red brick walls provide consistency with the other buildings on the base, while the roof areas are constructed in concrete to provide greater protection against incendiary bombs and bomb fragmentation. This element is more in keeping



Fig 20: Watch Tower

with a utilitarian Modernist style, as are the typically Modernist metal Crittall style windows.

At the beginning of World War II, only the duty pilot would be stationed in the Tower, logging the planes as they took off and landed. As the sky grew busier, it became necessary to increase the number air traffic or operations ('Ops') personnel in the building. They were equipped with radios, and red and green Aldis lamps or flares. The duty pilot remained on the staff to offer technical advice.

In 1939, in preparation for the impending war, bomb stores, pillboxes, and a connecting road were built to the east of the technical site.

BOMB STORES AND RELATED STORE BUILDINGS

In line with Trenchard's principles of airbase layout, the Bomb Stores were situated far away from the rest of the technical site. They comprise two rows of back to back concrete buildings with earth banks to camouflage and insulate in case of an explosion. Next to the bomb stores are the component stores (for detonators and fuses, exploders and delay pistols), small arms ammunition stores and the ultra heavy fusing point building, where fuses were added to the bombs before being loaded onto the aircraft. The UHFP consists of curved RSJs clad with ribbed steel sheeting, which was completely covered in earth and turf for camouflage. The component stores are brick-built with a heavy concrete roof to withstand bomb blasts and are camouflaged by an earth bank. Bombs would be moved between buildings on a cart, winched carefully using a gantry and transported between the Stores and the aircraft by means of a railway track.

DEFENSIVE STRUCTURES

Evidence of Linear Defended Air Raid Shelters can also be found within this cluster, but only one of the original four survives. These shelters served the technical site, protecting personnel against bombing and strafing (low flying attack) from enemy aircraft.

MUSHROOM PILLBOXES

As part of the national defence strategy, hardened field defences such as pillboxes and section posts were introduced in defensive positions on air bases across the country. Constructed of thick concrete, it was hoped that they would withstand attack from bullets and incendiary bombs. The two that can be found at the Bicester site are of a particular style mostly found in eastern countries.

They consist of a concrete parasol roof on a cruciform wall, standing in a circular pit; the structure is discreet but provides an excellent vantage point onto the aerodrome, in case of attack. According to the Pillbox Study Group website, the choice of domed or flat roof on Mushroom Pillboxes was not a military

consideration, but left to the individual contractor. These are the only two surviving mushroom pillboxes of the number of pillboxes once located around the airfield.

SEAGULL TRENCHES

A type of section post, known as a seagull trench, due to its resemblance to the form of a gull's wing when viewed from above, also forms part of the defensive structure group. Its long slit-like openings provided a wide angle of fire across the airfield. There are two seagull trenches set back to back, forming a rectangle with the pillboxes, with an anti-aircraft gun site in the centre.

In late 2016, a further pillbox was discovered in undergrowth adjacent to the Buckingham Road. The irregularly-shaped brick structure does not feature on wartime maps, but is believed to date from late 1930s to the end of World War II. It was possibly partially buried originally, and used as an equipment store

WORLD WAR II

The second phase construction was still being carried out in 1939, when war broke out. During the War, the perimeter track was expanded for greater dispersal of 41 panhandle standings for aircraft parking; as with the building during the First and Second Expansion Phases, it was important to create as much separation between aircraft as possible, in order to minimise damage, should the base be attacked.

During this period Bicester was important in the development of aerodrome camouflage as steps were taken to reduce the visual impact of the structures particularly when viewed from above. This was part of the General Camouflage Policy - enforced between 1938 - 1944 with the primary aim of breaking up the regularity and conspicuousness of buildings.

Camouflage strategies included the use of red bricks - often in a variety of hues. Government approved camouflage colours were introduced in 1942 with green often being the preferred colour

used on hangars matt paint was used in order to reduce light reflections on the roofs, and was often mixed with brick dust for texture; open grass areas were also sometimes painted to blend in with the hedge lines and black, brown and yellow powders were scattered to imitate crops.

At Bicester, the application of camouflage paint to the hangar roofs along with the use of natural features such as trees and hedges, blends the site into the surrounding countryside. Although this was born of necessity, it also creates a special relationship between the site and the landscape.

Post-war residential development and quarrying has encroached onto the site, effectively removing the Second World War extensions to the flying field.



Fig 21: Aerial view of RAF Bicester evidencing the camouflaged airfield (February 1941)

HERITAGE SIGNIFICANCE

Heritage significance is defined in the National Planning Policy Framework (NPPF) Annex as comprising:

“The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting.”

The significance of military sites – particularly of those dating to the twentieth century – is determined according to a set of non-statutory criteria for determining sites of national importance and heritage interest outlined in Historic England’s Listing Selection Guidelines (‘Military Structures’ 2017).

Prominent among these criteria are:

“the site’s survival or completeness and the legibility of what remains; group value - which recognises the importance of networks of defences and those with surviving spatial relationships; the rarity or representivity of examples of distinctive site or building types (taking into account unfamiliar as well as commonplace types); and historic importance.”⁷

The guidance also draws attention to the design of military buildings (for instance in the preferred use of neo-Georgian style for the barracks, houses, messes and associated buildings and application of the Moderne style for technical and other ancillary buildings) and further observes that significance is particularly enhanced by the survival of the original configuration of these designed elements and their grouping in strategic locations.

For military airfields in particular, the question of significance is often centred on their historic associations. Military structures - from Hadrian’s Wall to Cold War bunkers - bear witness to the way in which national and world conflicts that have shaped our landscapes and architecture. For airfields, as Historic England

advice especially notes, powered flight not only impacted on the landscape but also profoundly influenced the human experience.

As a material legacy of Second World War, these sites have become part of our cultural heritage, telling the story of the changes in warfare and its impact on social life in the 20th century.⁸ Often associated with specific aspects of the war (such the embarkation of D-Day) airfield sites have come to serve as ‘living memorial’ to these specific episodes, helping to illustrate key historical events (Schofield 2002).

Placing the area in its historical context and describing its characteristics and appearance is an important component of the evidence gathering exercise to inform understanding of a place’s significance and contribution of its setting. As Historic England explains in ‘Conservation Principles’ (2008) understanding how a place has evolved and how different phases add to or detract from its significance is a part of that exercise. From the foregoing the heritage significance the site holds can be defined as follows:

EVIDENTIAL

The survival of many of the site’s buildings and other monuments contributes to its evidential value to the extent that these provide a strong record of the development and evolution of military airfields as a phenomenon of the twentieth century.

This evidential significance is further underpinned by the fact that a number of these surviving structure are not only the best preserved examples of their type but, in some cases, the only such remaining ones, set within a layout that still retains its trident form.

Marking various stages of building development, these survivals as a whole offer a unique record of British military architecture and help illustrate the evolving development of the British wartime aircraft estate.



Fig 22: Type A Hangar



Fig 23: Building 144, currently in poor condition



Fig 24: The airfield



Fig 25: View across 'campus' from Building 105



Fig 26: Type A Hangar

Of those structures that were demolished (such as the WW I hangars- demolished to make way for buildings built along Trenchard's new theories), the site may still hold evidential value of the development of First World War airfield design.

AESTHETIC

To a great extent, the aesthetic significance of the site arguably lies in the sum of its parts as opposed to the singular qualities of its individual architectural elements. Despite the toll brought about by the long period of disuse during the latter decades of the twentieth and early part of twenty first centuries, an identifiable 1920s character – followed through in the later 1930s expansion – can be observed in collection of the site's architecture adding to the general aesthetic appeal of the whole.

Though it is this assemblage that matters, there are some buildings on the site that can be said to make a more singular and "distinctive visual contribution" than others.⁹ The special stylistic treatment of certain key buildings such as the Guardhouse, Station Headquarters and Watch Tower, through the application of such techniques as the use of the astylar neo-Georgian style in the case of the first two examples, or metal Crittall style windows in the case of the latter, reveals the growing emphasis placed on the aesthetics aspects of airfield designs during the Trenchard phase of RAF expansion.

For some buildings, their special interest strongly relates to their military function. The Parachute Stores are a particularly exemplary type whose external appearance and internal layout is dictated by the building's intended use.

As well as holding historical and evidential value the trident layout to the technical service zone also possesses aesthetic value in its Arcadian qualities - tree lined avenues with grassed areas and shrubbery in between that provide a leafy setting to many of the buildings. This contrasts with and is given emphasis by the scale of the hangars that line the edge of the airfield (almost like a waterfront) with an expanse of nothingness beyond.

On the whole, these aesthetic singularities help to convey the 'uniform' intellectual principles that underpinned the development of what came to be known as the 'British Military style.'¹⁰

HISTORIC

Lacking an identifiable architectural quality, most technical buildings, such as the stores and workshops among others, are of interest for their group or historical value.¹¹ This 'group value' is strongly expressed through the survival of the airfield's assemblage of structures.

In the face of the significant alteration or destruction that has occurred on similar sites elsewhere in the country, the Bicester site is noted as the most complete airbase from the 1930s (Historic England). Certain buildings in particular, such as the Guardhouse and Watch Tower are the seen as the best surviving examples of their type in the country and in, in the case of the former, as the only kind of its size.¹²

The physical survival of this built fabric along with the site's layout, is key to our understanding of the more ephemeral and intangible aspects of history. The survival of these aspects helps to relate both the First World War history of aviation as well as the way in which the Trenchard phase of expansion reflected the political concerns of the time.

COMMUNAL

As part of the materiality of the Second World War, RAF Bicester has educational and emotive values that add particular resonance to the communal significance of the site.

Airfields, as with other military monuments, are 'sites of memory' (Rigby 2009), embodying particular collective representations of the past. Their built form points to a particular relationship between architecture and identity and to the special role played by the latter in the formation of social, cultural and political community.

The design of airfield architecture extends beyond its original

and short-lived purpose as part of the WWII defence strategy to evoke particular emotive and sentimental meanings related to the collective/ national remembrance of the war period. To this extent, Airfield buildings have come to serve as spatial coordinates of identity, helping people to recall, recognise and localise their memories of war time Britain.

Maurice Halbwachs (1976), has noted the significance of places as a major condition to how we recall historical events. The built environment, with its various features, forms one of the most important social frames of the group's memory - fixing the latter to its spatial and temporal frame. Over time a 'place memory' is formed recording the accumulated activities and events that took place within it.

These collective memories play a key role in community life. In sharing them, communities become more united and close. As a result, cohesion and solidarity occur contributing over time to the formation of what we may refer to as a national identity - which emphasises and strengthens the concept of national belonging and patriotism.

This symbolic 'place memory' has been retained at RAF Bicester through the continued use of the site well beyond the war period. Bicester is associated with certain key historical events and is thus of immense communal value not only to those involved in the events being recalled but also to this and future generations. Its function as a Forward Equipment Unit – charged with the repair and replacement of equipment – was vital for *Operation Overlord* (the Normandy Landings) in 1944. It was also significantly the Bicester crews who won the first Victoria Cross medals for the RAF.

Certain purpose-built structures within the site may also potentially provide a focus of commemoration and remembrance. "Control towers which often survive as ruins on desolate airfields, stand as powerful iconic structures of the air war, and provide a focus for the memories of veterans who continue to return to airfields on which they served."¹³

HERITAGE MANAGEMENT POLICY

Conservation principles, policy and practice seek to preserve and enhance the value of heritage assets. With the issuing of the National Planning Policy Framework (NPPF) in March 2012 the Government has re-affirmed its aim that the historic environment and its heritage assets should be conserved and enjoyed for the quality of life they bring to this and future generations. This chapter examines national policy and advice on heritage management. For details of the Local Plan policies please refer to the Planning Statement.

The Ministerial Foreword sets out government's vision, explaining that intelligently managed change (sustainable development) should be embraced as a positive measure to protect and enhance our historic environment. The foreword states:

Sustainable development is about change for the better, and not only in our built environment....Our historic environment – buildings, landscapes, towns and villages – can better be cherished if their spirit of place thrives, rather than withers.

In relation to development affecting a designated heritage asset (including listed building and conservation area) the National Planning Policy Framework (NPPF) states in paragraph 17 that one of the 12 core planning principles should... *conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations.*

The NPPF in section 12 – Conserving and enhancing the historic environment states in paragraph 132 that:

When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets

are irreplaceable, any harm, or loss should require clear and convincing justification.

The NPPF goes on to explain in paragraphs 133 and 134 the differences between 'substantial' harm and 'less than substantial' harm, advising that any harm should be justified by the public benefit of a proposal.

Specifically, paragraph 134 provides a framework for planning permission to be granted notwithstanding that a particular

proposal might cause harm to an asset, provided that there are compensatory public benefits.

The historic environment policies of the NPPF are supported by Historic England's Good Practice Advice Notes, which give more detailed advice about gathering the information on significance, assessing the impact and assessing harm with an emphasis on a proportionate approach and proactive and effective management of heritage assets.



Fig 27: Ancillary buildings adjacent Type C hangar

The Planning Practice Guidance (March 2014) seeks to provide further advice on assessing the impact of proposals explaining that what matters in assessing the level of harm (if any) is the degree of impact on the significance of the asset, rather than, as explained elsewhere, the scale of development. It states in paragraph 17:

In general terms, substantial harm is a high test, so it may not arise in many cases. For example, in determining whether works to a listed building constitute substantial harm, an important consideration would be whether the adverse impact seriously affects a key element of its special architectural or historic interest. It is the degree of harm to the asset's significance rather than the scale of the development that is to be assessed.....works that are moderate or minor in scale are likely to cause less than substantial harm or no harm at all.

Works of alteration or extension or demolition need not involve any harmful impact and may be necessary to ensure a building has a viable future. Historic England in its Conservation Principles explains its approach to managing the historic environment and how we experience changing places stating in paragraph 85:

Very few significant places can be maintained at either public or private expense unless they are capable of some beneficial use; nor would it be desirable, even if it were practical, for most places that people value to become solely memorials of the past.

It also comments in paragraph 86:

Keeping a significant place in use is likely to require continual adaptation and change; but, provided such interventions respect the values of the place, they will tend to benefit public (heritage) as well as private interests in it. Many places now valued as part of the historic environment exist because of past patronage and private investment, and the work of successive generations often contributes to their significance. Owners and managers of significant places should not be discouraged from adding further layers of potential future interest and value, provided that



Fig 28: Looking down Main Drive towards main entrance

recognised heritage values are not eroded or compromised in the process.

In relation to new works and alterations paragraph 138 states:

New work or alteration to a significant place should normally be acceptable if:

a. there is sufficient information comprehensively to understand the impacts of the proposal on the significance of the place;

b. the proposal would not materially harm the values of the place, which, where appropriate, would be reinforced or further revealed;

c. the proposals aspire to a quality of design and execution which may be valued now and in the future.

In relation to quality of design, paragraph 143 and 144 explain:

There are no simple rules for achieving quality of design in new work, although a clear and coherent relationship of all the parts to the whole, as well as to the setting into which the new work is introduced, is essential. This neither implies nor precludes working in traditional or new ways, but will normally involve respecting the values established through an assessment of the significance of the place.

Quality is enduring, even though taste and fashion may change. The eye appreciates the aesthetic qualities of a place such as its scale, composition, silhouette, and proportions, and tells us whether the intervention fits comfortably in its context. Achieving quality always depends on the skill of the designer. The choice of appropriate materials, and the craftsmanship applied to their use, is particularly crucial to both durability and to maintaining the specific character of places.

These conservation principles reflect the advice in the NPPF on good design. Paragraph 56 states:

The Government attaches great importance to the design of the built environment. Good design is a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making places better for people.

While paragraph 60 advises that:

Planning policies and decisions should not attempt to impose architectural styles or particular tastes and they should not stifle innovation, originality or initiative through unsubstantiated requirements to conform to certain development forms or styles. It is, however, proper to seek to promote or reinforce local distinctiveness.

The Planning Practice Guidance seeks to provide a clearer understanding of what constitutes 'public benefit'; as it is the public benefit that flows from a development that can justify harm, always ensuring also that considerable weight and importance is given to the desirability to preserve the setting of listed buildings in weighing the public benefits against the harm.

It states in paragraph 20:

Public benefits may follow from many developments and could be anything that delivers economic, social or environmental progress as described in the National Planning Policy Framework (Paragraph 7). Public benefits should flow from the proposed development. They should be of a nature or scale to be of benefit to the public at large and should not just be a private benefit. However, benefits do not always have to be visible or accessible to the public in order to be genuine public benefits.

It explains that public benefits can include heritage benefits including:

- sustaining or enhancing the significance of a heritage asset and the contribution of its setting;
- reducing or removing risks to a heritage asset;

- securing the optimum viable use for a heritage asset

From this summary of the heritage management policy framework it is clear that there is a complex assessment decision making process to navigate when considering change within the historic environment. Central to any decision is the recognition that history is not a static thing and that the significance of our historic environment derives from a history of change. To understand the significance of a place, the dynamics that help to create what we have inherited from previous generations and the challenges that we face to sustain and manage the places we value (and for future generations to enjoy) is a significant responsibility.

The policies and advice described above provide an essential framework to guide designers and decision makers. In this respect it is worth noting recent case law and the advice it offers on the application of policy and legislation as set out below: *Barnwell Manor Wind Energy Ltd v East Northants District Council*, English Heritage and National Trust, 18th February 2014, and *Sevenoaks District Council v The Forge Field Society*, March 2014, have brought into sharp relief the weight and importance that decision makers should give to the duty under Sections 16, 66 and 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990 (the relevant section in relation to this appeal), which requires that special attention shall be paid to the desirability of preserving a listed building or its setting or any features of special architectural or historic interest which it possesses.

In *Jones v Mordue & Anor* [2015] EWHC 539 the Court of Appeal explains how decision makers can ensure this duty can be fulfilled: that by working through paragraphs 131 -134 of the NPPF, in accordance with their terms a decision maker will have complied with the duty under sections 16, 66(1) and 72. This report follows this advice to ensure consistency with the duty to preserve or enhance.

HERITAGE BENEFITS

The Government's approach to managing the historic environment seeks to embrace change, recognising that it can add to the qualities of our lives. National policy and advice as explained above sets out how this can be achieved, whilst seeking to minimise any harm to the historic environment. Historic England has explored this theme and considers the ways in which change can be a heritage benefit.

In its Heritage Protection Guide, Historic England defines Heritage Conservation as:

Conservation is the process of maintaining and managing change to a heritage asset in a way that sustains and where appropriate enhances its significance... The vast majority of our heritage assets are capable of being adapted or worked around to some extent without a loss of their significance. Indeed, change is often vital to facilitate the optimum viable use of an asset so that it continues to receive investment... It is the Government's overarching aim that the historic environment and its heritage assets should be conserved for the quality of life they bring to this and future generations.

Historic England in its publication *Conservation Principles Policies and Guidance for the Sustainable Management of the Historic Environment*, comments that:

The historic environment is central to England's cultural heritage and sense of identity, and hence a resource that should be sustained for the benefit of present and future generations (para. 18)

The document sets out a number of Conservation Principles:

- *Significant places should be managed to sustain their values*
- *Change in the historic environment is inevitable, caused by natural processes, the wear and tear of use, and people's responses to social, economic and technological change.*
- *Conservation is the process of managing change to a significant place in its setting in ways that will best sustain its heritage values, while recognising opportunities to reveal or reinforce those values for present and future generations.*
- *Intervention may be justified if it increases understanding of the past, reveals or reinforces particular heritage values of a place, or is necessary to sustain those values for present and future generations, so long as any resulting harm is decisively outweighed by the benefits.*

In applying the Principles the document concludes:

The historic environment is constantly changing, but each significant part of it represents a finite resource. If it is not sustained, not only are its heritage values eroded or lost, but so is its potential to give distinctiveness, meaning and quality to the places in which people live, and provide people with a sense of continuity and a source of identity. The historic environment is a social and economic asset and a cultural resource for learning and enjoyment. (Para 163)

Government recognises in Planning Practice Guidance (March 2014), that private patronage has contributed to the historic environment, and that owners and managers of significant places should not be discouraged from adding further layers of potential future interest and value, provided that recognised heritage values are not eroded or compromised in the process. (Para 86)



Fig 29: Type A Hangar

PROPOSALS

The proposed hotel and conference centre is part of the delivery of new development designed to complement and reinforce the site's role as a centre of excellence associated with the automobile industry, past present and future. A Masterplan for the site sums up the vision for the airfield and technical centre:

Essentially the challenge is to enhance and develop the character of the site by identifying opportunities to create sustainable and successful development, without harming what makes the site special. It is only through the commercial and sustainable success of interventions and development that the unique character and assets that comprise the site can be preserved, enhanced and enjoyed by many for a long time to come.

The vision is to create a worldwide centre of excellence for automobiles of the past and future. Bicester Heritage will become a destination for leisure and skills, automotive innovation and technology, exhibitions, cultural events, and brand experience centres.

The proposals have been subject to earlier discussion with the local planning authority as part of a collaborative process to secure a sustainable future for the site and to ensure that the proposed hotel can make a positive contribution to delivery of the vision.

Officers formal written response (24th May 2017) on the earlier proposals raised a number of matters. The matters raised have been discussed further at a number of subsequent meetings with Council officers and Historic England.

KEY CONCLUSIONS OF OFFICERS ON HERITAGE IMPACTS

DESIGN TEAM RESPONSE (DISCUSSED OVERLEAF)

POSITIVES

The principle of new buildings is acceptable

Acknowledged

Taking inspiration from the form of the large hangars would provide the most natural fit for a new building

The design of the proposed development has been amended to reflect the scale and form of the existing hangars

The architectural style is appropriate

Acknowledged

CHALLENGES

Overall size and massing of buildings is the greatest challenge

The new building needs to have a visible presence to sit alongside the existing hangar buildings. Its size and massing have been reviewed to ensure this is achieved

It is important to break up the perception of scale and massing

The design has been reviewed to create a more compact form, resonant of the simple rectilinear form of the hangar

CONCERNS

The proposed form of the final building is at odds with the simple rectilinear form of the existing building

The proposed building has been amended to reflect the form of the hangar, without slavishly copying.

The scale of the wings at four storeys is unacceptable and undermines the hierarchy of the main building core

The proposal no longer includes accommodation wings

The orientation of the building is at variance with the existing

The alignment of the building has been adjusted to relate to the orientation of the A Type Hangar

OPPORTUNITIES

We would encourage consideration of a simpler rectilinear form and clearer spatial configuration which respects the massing and pattern of development at the Technical Site.

Understanding of this pattern of development and the massing of the hangar buildings and domestic scale service buildings behind has informed the design process and is reflected in the proposed development which adopts a more rectilinear form and simpler configuration.

ASSESSMENT OF IMPACT

Following the Council's feedback on the earlier pre-application submission the proposals have been amended. The revised scheme seeks to capture the opportunities the officers identified, address their concerns and follow the advice provided. The revised details are illustrated in the Design and Access Statement (Dexter Moren Associates, 2018) and form the basis of this assessment of impact on the heritage significance of the site.

The existing 'waterfront' is defined by the large hangars facing onto the airfield with the supporting service buildings tucked in behind the big buildings and 'scattered' across the underlying trident layout that characterises the Technical Site.

To maintain this characteristic it is important that the proposed development has a physical presence, not to compete with the scale of the existing hangars, but to complement the visual role they play in marking the edge of the airfield. To deliberately suppress the size of the building, or the perceptions of its size risks undermining the visual role that a new building must perform. A building that appears too small will have the effect of undermining the setting of the existing hangars (the settings of which is characterised by big buildings set in an extensive space).

It is unrealistic to seek to provide a building that does not have any meaningful presence. Apart from limiting the ability to meet the requirements of the brief, it would in effect be a denial of the site's current use, which, as set out in the Masterplan and Vision Statement, is a new use that celebrates the past, using that to inspire and endorse the latest chapter in the site's history. As explained in the Design and Access statement (Dexter Moren Associates) and Masterplan (Ridge and Partners) the proposed hotel is central to the future success of the enterprise. It needs to have a visible presence and provide a point of interest – including a 'sense of arrival'.

The architectural language of the proposed hotel helps to define its use and clearly sets it apart from the aesthetic of the WWII hangars and service buildings. These differences will help to distinguish the proposed building from earlier building phases on the site and register its new, non-military, use. The Technical Site is the product of a number of phases, distinguishable by the presence of new buildings and their architectural form. This

history can be interpreted and understood. However, almost unique to RAF Bicester this history did not cease at the end of World War II. The site continued in use and that is what has contributed to the site's remarkable survival. Bicester Heritage is seeking to add to its history, secure the site's relevance (i.e. remain in use) and interest for present and future generations.



Fig 30: Type A and Type C hangar seen from the airfield

The Council officers in their 2017 pre-application response have expressed support for the principle of what is proposed, recognising the positive contribution the hotel and conference centre can make to sustaining the heritage significance of the site. In subsequent discussions with officers during the first part of this year detailed concerns raised have been discussed and resolved:

PRINCIPLE OF NEW DEVELOPMENT

Officers have pointed out that local plan policy supports the provision of a hotel and conference centre through the conversion of existing buildings, though they accept that new development would be appropriate. Indeed, it is arguable that there would be a greater risk to the significance of individual heritage assets through conversion (and possibly extension) as well as a risk to the integrity of the whole (including the layout) than through the provision of a new building on a vacant site.

FORM

Addressing the comments raised in the pre-application advice the proposals have been revised to reflect the rectilinear form of the existing hangars. As discussed earlier in this report it is important that the scale of the proposed development should be consistent with the scale of the hangars so that the hotel and conference centre can perform an effective visual role on the 'waterfront'. Subsistence is the role of the service buildings behind, not the principal buildings lining the airfield. The location for the proposed development, which officers have accepted, means that the new building should not be designed to appear 'subservient', but instead perform a primary visual role as a part of the group of large scale buildings that line the airfield.

OVERALL SIZE AND MASSING OF BUILDINGS

The Planning Practice Guidance states:

It is the degree of harm to the asset's significance rather than the scale of the development that is to be assessed. (Paragraph: 016 Reference ID: 18a-016-20140306).

This is an important point because national policy and advice clearly anticipates the potential for new buildings of significant scale proposed within the setting of heritage assets to be able to make a positive contribution. To argue otherwise would mean that many a new development within a historic town, city and suburb, or within a designed landscape would as a matter of principle be unacceptable.

The advice is given to point out that sometimes a development that is too small can have a harmful effect - the size and massing of the proposed new development needs to be of a certain magnitude in order to preserve the visual role and setting of the existing hangars. Promoting a building that would be out of scale with the existing hangars (i.e. too small) would risk undermining the existing setting.

HIERARCHY

There is a hierarchy to the layout of the site, which is related to the designed function of the buildings and their siting. The Council has advised that the new building should take on the form of the existing hangars. These buildings by function were located around the edge of the airfield – what has been described as the waterfront. They have a scale that is considerably greater than the smaller, and in many cases, domestic scaled buildings behind, that sit in a 'campus style' setting. If the building is to be of a hangar form, which the Council has advised, and if such buildings are located on the edge of the airfield, as the council has accepted then there can be no issue that the hierarchy of the Technical site would be undermined. Importantly the new building will have its own distinctive architectural identity that will ensure the historical and architectural integrity of the military buildings are preserved. As Historic England has advised in its pre-application advice respecting the scale and form of the existing hangars needs to be balanced with an appearance that is distinctive and thereby maintaining the operational and visual hierarchy of the existing hangars and supporting service buildings.

As illustrated in the Design and Access Statement the setting

of the existing adjacent hangars will change with the hotel and conference centre building appearing in the view. However, although the viewing experience is changed it would not be harmful. It should also be noted that the views of the buildings and the group of buildings are not static, but dynamic and people's understanding of the site as a military airfield and understanding of its designed layout as they move through the area would not be undermined. There are views that are designed into the layout of the area, ones that are fundamentally linked to the site's operation – the openness of the airfield, the views up the avenues from the gated entrance, but probably most importantly the views from the air. The significance of these views would be preserved.

ORIENTATION

In relation to the siting of the hangars there is a mirror symmetry on the axis of the main avenue. What is noticeable though is that no adjoining buildings 'line up'. This is a fundamental aspect of the Trenchard planning for the site as a device to minimise any damage from a bomb attack. Following lengthy and detailed discussions with officers it has been agreed that the new building should maintain the orientation of the existing hangars lining the airfield. The siting and orientation of the historic hangars were critical components of the design principles that govern the layout of the Technical site. This topic is discussed in further detail in Appendix 1 to this report. This relationship of buildings to each other and to the airfield is an essential component of the heritage significance that the site holds. It has been pointed out by Historic England that RAF Bicester best exemplifies the design principles advocated by Trenchard. There is an understandable logic, to the layout and the proposed development seeks to respect that logic with a new building that is orientated to read as a logical extension of the 'waterfront' buildings with its long side facing over the airfield.

MATERIALITY

Selecting materials that respond to the history of the site, the physical context and the use of the building has been subject of considerable discussion. The proposed development by

virtue of its use with walls punctured with windows will have a different aesthetic to the hangars (which are very large sheds) and Historic England suggests that the use of brickwork would help link the proposed hotel building to the remainder of the site. The Local Planning Authority too has suggested using colour to help link the new with the old. The Design and Access Statement (Dexter Moren Associates) discusses the development of the materials palette in more detail. In relation to the character and appearance of the conservation area it is worth noting that there is a variety of materials employed within the site that are linked to the function of the buildings and the visual role those buildings play as a part of any viewing experience (including the deceit of camouflage). The hotel needs to express its presence as a new building with a materiality that places it as a part of the Technical Site, but also with an identity that is sufficiently distinct to give it its own character and in order not dilute the historic and architectural integrity of the existing hangars.

SUMMARY OF HERITAGE IMPACTS ON SIGNIFICANCE

- The evidential value the site holds will not be undermined;
- The proposals will help to facilitate the preservation and rediscovery of such evidence, which will represent an enhancement;
- Because the development is proposed to be sited on the edge of the airfield – the ‘waterfront’ the aesthetic value of the group of service and technical buildings within the site and their interrelationship will be preserved;
- The setting of the hangars adjacent to the proposed development will change but the contribution they make and their relationship to the airfield will be preserved. Thus the contribution the existing hangars make to the appearance of the Technical Site, understanding of its layout and functional relationship to the airfield would be preserved;
- The Arcadian and campus like qualities of the Technical site would be preserved. With the access proposed direct off the public highway the need for any highway improvements or



Fig 31: Present eastern boundary of the airfield

- other changes to the existing avenues will be avoided;
- The historic interest lies in the survival of the existing military buildings, other structures and the trident layout. The proposed development will not have any direct impact on existing buildings or structures. Indeed, an accepted benefit of the proposed development is that it will facilitate the ongoing regeneration and repair of existing buildings;
- The existing trident layout holds significance and this layout will not be affected. The new buildings will add to the existing buildings lining the airfield (or ‘waterfront’) without detracting from the understanding and experience of the functional and visual role the hangars play;
- The communal value of the site lies in its ‘place memory’ preserved through the survival and continued use of the military buildings on the site. The proposed development will help to ensure that the site and its constituent buildings have a sustainable future, thus preserving those collective memories. The proposals do not involve the demolition of any of the existing buildings;
- The proposed hotel and conference centre will make the heritage assets more publicly available. The new uses associated with Bicester Heritage will help to create new memories that will add to the site’s communal value.

CONCLUSION

For historic places to survive change is nearly always necessary. The NPPF makes this clear in the ministerial foreword where it is explained that it is not the government's intention to stop change and stagnate history. If communities are to thrive then change is necessary.

Indeed the Planning Practice Guide comments:

The vast majority of heritage assets are in private hands. Thus, sustaining heritage assets in the long term often requires an incentive for their active conservation. Putting heritage assets to a viable use is likely to lead to the investment in their maintenance necessary for their long-term conservation.

Paragraph: 014 Reference ID: 18a-014-20140306

The proposals have been developed from an informed understanding of the heritage significance the site holds, using that to lead the design and development of the proposed hotel and conference centre. The proposals are part of a long term investment and commitment to secure the future of the airfield and to generate new economic benefits that will help to sustain the existing buildings and the local community.

This report has assessed the impact of the proposal on the significance the site holds and concludes that it would not result in harm. The proposed development evidences the new use for the ex military airfield and introduces change that will help to shape the future of the site, but not undermine its history or character.

Should it be considered that the proposals would result in harm then it is considered that the level of harm would be at the bottom of the 'less than substantial' scale. As explained in the Planning Statement (JPPC) there are public benefits that would outweigh any harm.



Fig 32: Building 99 in the engineering quarter

APPENDIX - UNDERSTANDING MILITARY AIRFIELD DESIGN

RAF BICESTER AIRFIELD

UNDERSTANDING MILITARY AIRFIELD DESIGN

The construction of airfields for the Royal Air Force, particularly during the expansion years (1934 to 1945), was the largest civil engineering project in the United Kingdom since the construction of the railways in the 19th century. Both took place in the midst of technological revolutions. Airfields were at the centre of various technological advancements that characterised the mid 20th century – from the innovation of aircraft design, to the development of the jet engine, electronic communication and the advent of new military weapons such as ballistic missiles.

Their development was guided by several military defence principles that determined their layout, siting and material construction. There was, however, no singular doctrine outlining what constituted an airfield site until the mid 1930s (c1935), making their individual development – particularly in the pre-expansion period. During the Second World War period, government had largely underestimated the scale of the infrastructure that would be required and so most new airfield building tended to be ad hoc. Starting with only 52 sites in 1934, RAF aerodromes (as these landing sites were referred to before 1934) had expanded to 700 sites by 1942. During the expansion period those built were mostly designed by the Air Ministry Designs Branch and serve to illustrate the extensive machinations of wartime production.

“The department became a design factory under a strict routine throughout all its phases. Each new station was scheduled in respect of the types and numbers of buildings and the drawings circulated for comment” (3)

THE SIGNIFICANCE OF BICESTER AIRFIELD.

RAF Bicester is significant when considered within the context of the changed geography of warfare and because it exemplifies the new ways of thinking, highlighting the relationship between war and space following the modernisation of the Air Force. Ideas,

borrowed from wider architectural thinking of the time, stipulated the dispersal of buildings as a passive defence against aerial attack. Their forms, shapes, layout and spatial relationships help narrate and illustrate military history, the airfield site as a whole provides us with a key to understanding British military history.

The significance of the airfield not only lies in its physicality but also in the ephemeral, social and political landscape that inspired their construction and the meanings they continue to produce. The Bicester site illustrates the pervasiveness of war that reaches beyond the physical contexts to inform methods, memories, processes, systems, and human experiences. As Historic England (Military Structures 2017) has observed the question of significance as relates to military airfields is often centred on their historic associations – a factor that reflects their profound influence not just on the landscape but on human experience.

The character and development of RAF Bicester was largely defined by the philosophies and policies of General Sir Hugh Montague Trenchard – founder of the RAF. Whose emphasis on the primacy of the bomber as the principle weapon of war, led to a fundamental shift in the logistics and conduct of warfare. The geographic siting and layout of the airfield is underpinned by Trenchard’s principle of *Offensive Deterrence*, which argued that fleets of self-defending bomber stations were the most effective way to win the War. His ideas saw the re-alignment of World War 1 airfields from their previous positions along the Salisbury Plains to their new defensive locations around major cities – tactically placed to deter French and later German aggression during the 2nd World War.

RAF Bicester was chosen by Air Commodore Edgar Ludlow-Hewitt to form part of a defensive arc around London with other sites in Oxfordshire and East Anglia. Layout considerations by the military were about control and management of military weapons (the aeroplane) and their relationship with visibility, territory, infrastructure and populations and the efficiency of movement between buildings for personnel.

SITING: THE PRE-EMINENCE OF THE VERTICAL PERSPECTIVE. THE AEROPLANE’S EYE.

Wartime developments in aerial photography enabled new ways to interrogate and understand landscapes and architectural practises; the aeroplane had the ability to open up the landscape to a clearer, fuller and more critical interrogation, *“Aviation and aerial photography were considered to provide fresh opportunity to look at the built environment” (1935:11)*

As a technology of war, utilised for the purpose of aerial reconnaissance as well as bombing, the vertical, downward looking perspective of the aeroplane eye also presented new opportunities for the military. It revealed features in the landscape, which were otherwise visually concealed to the ground observer. The aeroplane became the ultimate way of seeing and from this birds eye view one could locate and easily map the enemy’s trenches, networks, artillery positions, troop movements etc. The expanded utilisation of the vertical perspectives to comprehend the battlefield triggered a response in military architecture and planning. The extension of the military gaze from grounded, horizontal viewpoints, to downward-looking, aerial perspectives culminated in the spaces of conflict becoming transformed and redefined by what the philosopher Paul Viro has called the ‘aesthetics of disappearance’ (Virilo 1989:2)

THE AESTHETICS OF DISAPPEARANCE

The fear of prying eyes culminated in institutions developing new deceptive technologies to conceal assets. It was decided that camouflage was the best strategy of aerial protection, *“aiding in the misguiding and baffling of bomber pilot and/or aerial observer as they sought their target.”* This deception was twofold. The first type began to appear during the RAF expansion years in line with camouflage policy (1938-44) and took the form of planting trees and creeper vines as well as the use of camouflage colours on buildings – with green being the preferred colour for hangars. The second and subtle approach, related to the shape and disposition of buildings – with the general aim being

the siting of structures in such a way as to ‘disappear’ or blend them into the landscape. One of the key themes running through ‘Concealment of new Buildings’ - a camouflage committee memorandum – was the issue of siting of structures in context to the aerial perspective. The ‘British Civic Camouflage Practitioners’ invited architects to reflect upon and consider 3 components in their designs for new buildings; siting, layout, and construction form. In the first section of the booklet titled ‘Siting,’ the design emphasis was placed on the architect’s aerial awareness and understanding of vertical interpretation. The booklet encouraged architects to make examinations from the air themselves and to identify the spaces best suited for locating new buildings. It was argued that only through their personal experiencing of vertical visualities and aerial sensations that full appreciation of the problem could be apprehended and ideal sites for new construction ascertained. The chapter observed, *“The navigation of the attacking bomber is checked and assisted through its journey by the recognition of well-defined landmarks and the final recognition of targets is greatly helped if it lies close to some feature, which is easy to recognise from the air.”* Ideal sites were those on the edges of town, free from landmarks and not served by major transport links that could potentially make them a target.

Industrial plants and airfields were the most vulnerable and conspicuous targets. The architect Konrad Whitman remarked that, *‘[u]ntil now we designed a factory with the ground plan and elevation... it is no longer unimportant how it looks from the sky.’* Industrial plants and airfields were now to become ‘part of the landscape’ when viewed from above – resembling any other suburban agricultural plan. The need to mask the airfield was logical and helped form Trenchard’s principles for the layout of RAF Bicester and other such sites. The planning of the technical and domestic sites was approached in a manner akin to town planning – with a similar distribution of residential, administrative and technical buildings. In order to be successful, and evasive tactics effective, camouflage often took the form of regional planning as more than one target needed to be considered and disguised.

“The aeroplane had not only introduced a new perspective from which, the enemy could be observed and attacked, It took only minutes to fly over large stretches of land and so it changed the dimensions of time and space. If enemy bombers were to be disorientated and deceived to prevent aerial attack, camouflage projects for entire regions had to be developed.”

SITE LAYOUT: THE SPATIAL SIGNATURE OF WAR

The British Civic Camouflage Practitioners booklet emphasised fitness for purpose, functionality and order. For the purpose of camouflage, the goal was to select an architectural layout that would facilitate the easier merging of superstructure into the landscape.

“It is something in wartime to have the machines of civil defence neatly designed. This neatness is a sign of order and of something clean and good, which survives the inevitable disorder and mess of war” E.J. Carter, Brotain in War 1941 (21)

It is within this context that the conspicuous geometry of the airfield site can be understood. Viewed from above, the trident layout – with its formal layout of roads - was meant to mimic that of a generic townscape where domestic and other buildings were often distributed along formal pathways. This planning had a twofold camouflaging effect; the first of assimilating or normalising the site into the wider landscape; the second of minimising damage in the event that the site was unmasked for what it really was. The latter was achieved through the staggering of buildings in order to prevent the potential manifold effect of a single projectile.

Economy and function guided the strategic positioning of the buildings. The ‘occidental geometry’ as Paul Virilio calls it, was tied to the function of the site and related to the movement of equipment and people. A sense of order was achieved through the formal layout and placing of buildings and promoted the efficiency of human and machine-driven processes. This was the ‘spatial signature of war’ whose central consideration was the reduction of obstacles and distances. The RAF carried out 59 different functions on stations and these had to be incorporated

in standard designs on 575 new stations and in addition, 210 of these and older stations had to be altered because of change of function.

The efficiency of hangars was constantly improved in the expansion period by updating the hanger annexes to compliment the functions of the buildings themselves with squadron offices, restrooms for air and ground crews, changing and locker rooms, flight storage, armouries, instrument work shops and aircraft equipment stores etc. Other technical buildings on airfields were redesigned, modernised and the future technical needs of the RAF anticipated as much as possible. The standard hanger up until the Expansion Scheme was 120 x 200ft (36.5 x 61m) with 120ft wide x 25ft high (36.5 x 7.6 m) doors at each end. The first new design – Type C, was 150ft x 300ft (45.5 x 91.5 m) with doors filled with gravel up to 20ft (6 m) high as protection against bombs. Doorways were later increased to 35ft (10.7 m) high then lowered again to 30ft (9.1 m) “to recognise the functions of airfields might change at any time.”

The legibility of the historic layout of RAF Bicester airfield is significant as a physical survival and imprint of the Second World War. The integrity of its layout enables us to extrapolate and better understand the philosophical military ideas that determined the airfields construction and the design of new structures. It is therefore important that any new structures read as distinctive elements within the historic landscape and the layout of them should not diminish the historical significance of the airfield.

The site’s significance and that of other 20th century military sites is rooted in military centred logic. To this extent the grouping of buildings are understood from a strategic military perspective. The survival of original configurations – as Historic England have recognised (Military Structures 2017) is key to the airfield’s significance. Placing new buildings to mimic that military logic would be an erroneous approach that would dilute the historic integrity of the site.

KEY POINTS

- Prominent among historic England’s guidelines for the conservation of military sites is the survival/completeness/legibility of what remains. It is therefore important **not to blur** this legibility through the introduction of new ‘faux’ element to the original layout of the site. To preserve the latter, it is important that the new structure reads as a distinctive element within the historic landscape.
- While the meaning of the site has changed over time, the privileged perspective behind the development of its layout was a vertical one. It was the impact of the aerial view that guided the original siting of the buildings on the site and it is this that must be considered when assessing the impact of the new building on the existing historic fabric.
- Following from this last point, the historic setting of buildings was fundamentally guided by their function and relation to the whole. The new building is underpinned by a different logic – one that is associated with cars rather than aeroplanes and calls for a different logic in the orientation of the new buildings.
- The visualisation of space on the site was tied to control and efficiency of movement of personnel and equipment through the site. Airfield and other architecture was generally concerned with provisioning, producing and distributing the means of warfare,
- While aesthetic considerations were of some importance, it is generally the case that form followed function. Where aesthetic sensibilities reared their head, such as the case of the guardroom, they often revealed the pervasiveness of social constructs such as class and hierarchy. Special treatment applied to particular buildings was related to the social status of officers.
- The legibility of the historic layout is significant not only as a physical survival and imprint of the 2nd World War but as an embodiment of ephemeral aspects of history. The integrity of the layout enables us to extrapolate the less tangible, philosophical and military ideas that dictated the airfield’s construction.

BIBLIOGRAPHY

Bicester Heritage website <http://bicesterheritage.co.uk/>

Bicester Heritage hotel proposal pre-planning document February (2017 draft).

Buchan Innes, G (1995). *British Airfield Buildings of the Second World War*. Leicester: Midland.

Buchan Innes, G (2005). *British Airfield Buildings vol. II: The Expansion and Inter-War Periods*. Leicester: Midland

British Air Defence Map 1940. <http://militaryandwar.com/ww-two/dogfight/>

Cherwell District Council (October 2008), *RAF Bicester Conservation Area Appraisal* <https://www.cherwell.gov.uk/info/9/planning-and-building>

Clarke Bob 2016. *Airfields: a phenomenon of the twentieth century*. Public lecture podcast. University of Bath.

Cohn, Jean Louis 2011. *Architecture in Uniform: Designing and Building for the Second World War*. Montreal; Canadian Centre for Architecture

Crone, D; Tosland, B (April 2016). *Heritage Significance Statement and Impact Assessment Report*

Falconer, J (1992). *RAF Bomber Airfields of World War II*. Shepperton: Ian Allen.

Francis, P (1996). *British Military Airfield Architecture: from Airships to the Jet Age*. Sparkford: Patrick Stephens.

Halbwachs M (1976). *On Collective Memory*. Chicago, London; University of Chicago Press

Historic England. *Defence and ancillary structures at RAF Bicester, Launton*.

Holder, J. (2016). "A state of approval: Neo-Georgian architecture and His Majesty's Office of Works, 1914 – 1939." In: *Neo-Georgian Architecture 1880 - 1970: A Reappraisal*. Swindon: Historic England.

Miller, R (2016). *Boom: The Life of Viscount Trenchard - Father of the Royal Air Force*. London: Weidenfeld & Nicolson.

National Museum of Flight website (National Museums of Scotland) <https://www.nms.ac.uk/national-museum-of-flight/>

Pillbox Study Group website: <http://www.pillbox-study-group.org.uk/>

Schofield, J (2002). "Monument and memories of war: motivations for preserving military sites in England." In Beck C.M & Johnson W. G (eds). *Matériel Culture: The Archaeology of Twentieth-Century Conflict*. London; New York: Routledge.

REFERENCES

1. Clarke Bob 2016. Airfields: a phenomenon of the twentieth century. Public lecture podcast. University of Bath.
2. Lieutenant-Colonel Vauthier 1930. "Le Danger Aerien" cited in Cohn, Jean Louis 2011. Architecture in Uniform: Designing and Building for the Second World War. Canadian Centre for Architecture, Montreal.
3. British Air Defence Map 1940. <http://militaryandwar.com/ww-two/dogfight/>
4. Cherwell District Council 2008. RAF Bicester Conservation Area Appraisal. District Council, North Oxfordshire.
5. Cherwell District Council 2008. (Map Regression 1918-1945.) RAF Bicester Conservation Area Appraisal. District Council, North Oxfordshire. P 10 & 13
6. Crone D & Tosland B 2016. (Bicester Heritage). Heritage Significance Statement and Impact Assessment Report. Heritage Information
7. Historic England 2003. Twentieth –Century Military Sites: Current approaches to their recording and conservation
8. Rigby, A 2009. "Memorialising War: the narratives of two European cities, Coventry and Dresden. In Forbes et al (eds.) 2009. Europe's Deadly Century: Perspectives on 20th century conflict heritage. Swindon; English Heritage.
9. Cherwell District Council 2008. RAF Bicester Conservation Area Appraisal. District Council, North Oxfordshire. P 30
10. Ibid
11. Ibid
12. Francis, P (1996). British Military Airfield Architecture: from Airships to the Jet Age. Sparkford: Patrick Stephens. P. 23
13. Schofield, J (2002). "Monument and memories of war: motivations for preserving military sites in England." In Beck C.M & Johnson W. G (eds). Matériel Culture: The Archaeology of Twentieth-Century Conflict. London; New York: Routledge. p. 145