APPENDIX B

OXFORD ARCHAEOLOGY GAZETTEER DATED SEPTEMBER 2005

FORMER RAF UPPER HEYFORD

Gazetteer

September 2005

Oxford Archaeology

CONTENTS

INTRODUCTION

Individual buildings have been grouped together for the purpose of the Gazetteer, so that buildings of similar age and function can be discussed together. A plan of the airbase including building numbers can be found at the end of this gazetteer. All buildings have been individually assessed according to significance (Appendix 9) and mapped (Figs. 15 and 16).

Further figures which add to the understanding of the airbase and compliment the written descriptions are Fig. 7: Cold War History: Phases, Fig.8: Cold War History: The Landscape of Flexible Response, Fig. 9: Cold War Functions: Buildings and Structures, Fig. 10: Cold War Functions: Squadrons and Aircraft Movement, Fig. 15: Building and Landscape Significances and Fig. 17: Functional Significances.

Assessment of the interior of all structures was not required in the brief. Nevertheless where access was possible, in particular to the more significant buildings, these were inspected.

Acknowledgements
Oxford Archaeology would like to thank Don Todd of North Oxfordshire Consortium for sharing his indispensable and extensive knowledge of Upper Heyford airbase.

Gazetteer: OA1
Former RAF Upper Heyford

Setting and Context

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

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

Detailed description
Upper Heyford airbase and its associated houses and service buildings occupy an area of 540.5 ha. It lies within the Cherwell District and the civil parishes of Upper Heyford, Somerton and Ardley. It is 6 km from Bicester, 11 km southeast of Banbury and 3 km to the southwest of junction 10 of the M40. The surrounding landscape is predominantly rural, but the airfield is within sight of RAF Croughton and the exposed transport corridors of the M40 and A43.

The plan of Upper Heyford from 1950 onwards was ordered by the operational and tactical needs of the USAF making extensive use of the earlier layout and facilities. From 1970 the plan was dictated by the needs of the F111E, and the functional architecture of the buildings is a result of the threat of biological, chemical and nuclear attack. The airbase landscape was transformed by the NATO-wide policy of 'hardening'[1] and dulling down[2].

The setting and context of the buildings within the airbase have the power to communicate the atmosphere of the Cold War, and there is a very functional character. This is particularly true of the landscape to the north of the runway, which has greater coherence and contains clearly defined groups functionally and spatially.

Significant elements
None.

Status
No current designation.

Significance (including functional significance)
The context and setting of the airbase is defined by a number of elements, as described in the Section 3 of Volume 1. Furthermore, some areas within the airbase are more coherent and have a greater capacity to communicate the atmosphere of the Cold War than others (see 3.6.1, Fig.15, 16 and 17). As a result it is not possible to allocate one overall significance to the setting and the context of the study area.

Issues
These are as detailed in Section 4 of Volume 1, points 4.5, 4.11, 4.12 and 4.13 are of particular importance.

Objectives
These are as detailed in Section 5 of the Volume 1, and sections 5.3 and 5.4 are of particular relevance.

Gazetteer: OA2

Former RAF Upper Heyford

Quick Reaction Alert Area

3001-3009, 2010, 3104, 3105

Summary

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

Development

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

Detailed description

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

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

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

Other significant structures *within the QRA include:*
2010: a hardened crew quarters. This is a single storey concrete structure with a flat roof, including two taller sections which are blast proof roof vents for the plant rooms. This building contains bunkroom for pilots, as well as a burger bar.
3105: a steel Brunswick watch tower
3104: hardened, flat-roofed concrete structure with blast wall and gun turrets, used as 'Reserved Fire Truck Facility' (RFTF). This housed the armed vehicles used to patrol the area 24 hours a day, and in addition to the garage contains a recreation room. No contemporary fixtures and fittings are extant, although this once contained a pool table and kitchen.
3100: a single-storey concrete structure, rectangular in plan with a flat roof housing a monitoring area, equipped with firing embrasures.

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

Status
No current designation, but recommended for scheduling by English Heritage, following MPP2001.[3]

Significance (including functional significance)
The QRA is of **international** significance, and this group retains the functional relationship between structures and their period setting. Its association with the F-111E is of particular relevance, since this provided NATO with immediate response to a pre-emptive nuclear strike by the Warsaw Pact. The architecture reflects contemporary NATO policy to hardened and dull-down key airfields.[4]

Issues
These are as detailed in Section 4 of Volume 1, sections 4.11, 4.12 and 4.13 and 4.17 are of particular importance. Within the QRA, specific issues include:
- *Preservation of extant fixtures and fittings:* building 2010 in particular retains features that require protection/ recording. These add significantly to our understanding of the functional use of the structure.[5]

Objectives
These are as detailed in Section 5 of Volume 1, and sections 5.3, 5.4 and 5.6 are of particular relevance. Extant fixtures and fittings should be recorded in alignment with archaeological best practice and considered in a future management plan.

Gazetteer OA3

Former RAF Upper Heyford

Avionics Maintenance Facility

299

Summary

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

Development

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

Detailed description

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

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

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

Significant elements

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

Status

No current designation but recommended for scheduling by English Heritage, following MPP2001.[6]

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

Issues
These are as detailed in Section 4 of Volume 1, sections 4.11, 4.12, 4.13 and 4.17 are of particular importance. Within the Avionics building, specific issues include:

- *Wall art*: environmental factors will result in deterioration of the internal wall art.
- *Water penetration*: this has been identified within building 299 and it is understood this is regularly pumped out.

Objectives
These are as detailed in Section 5 of Volume 1 and sections 5.3, 5.4 and 5.6 are of particular relevance. The wall art should be recorded according to English Heritage guidelines.[7] It is also important to ensure that the water is continued to be pumped out from the Avionics, or the problem rectified to prevent further deterioration. This issue should be considered in a future management plan.

Gazetteer OA4

Former RAF Upper Heyford

Nose Docking Sheds

325, 327, 328 & 335

Summary

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

Development

Built in the 1950s, with later adaptations.

Detailed Description

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

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

Significant elements

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

Significance (including functional significance)

A well-preserved group of Nose Docking Sheds; these are considered to be of **international** significance. They are an innovative and unusual hangar design and

reflect the deployment of USAF SAC aircraft to provide the 'nuclear umbrella' for Western Europe during the 1950s.

Status

No current designation; recommended for scheduling by English Heritage, following MPP2001.[8] Structures 325, 327 and 328 were identified for listing or scheduling, however this report did not identify Nose Dock 335, which is of equal significance.

Issues

These are as detailed in Section 4 of Volume 1, points 4.10, 4.11, 4.12 and 4.16 are of particular importance. Specific issues include:

- *Paint work*: building 335 is now painted a light blue.

Objectives

These are as detailed in Section 5 of Volume 1, and sections 4.11, 4.12, 4.13 and 4.17 are of particular relevance. The future colour of the hangars should be considered in a management plan, which should determine which period is to be reflected by the paint scheme. Paint scrapes may be required to determine earlier paint schemes. This is particularly relevant for Nose Dock 335 which is now painted a light blue colour.

Gazetteer OA5
Former RAF Upper Heyford

The Northern Bomb Store and Special Weapons Area

1001-1004, 1005, 1006, 1007, 1008, 1011, 1032 – 1048, 1050, 1060, 1870

Summary
Built in the 1950s, the Northern Bomb Store and Special Weapons Area was used for munitions storage, for 'special' (nuclear) and 'conventional' bombs. It is of **national** significance and is a good example of an early 1950's USAF nuclear bomb storage area and is one of 14 built in England at this time[9]. It reflects the importance of the Upper Heyford as one of the four main UK operating bases for USAF's Strategic Air Command (SAC) during the 1950s.

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

Detailed description
The Northern Bomb Store is a self-contained unit, surrounded by a double perimeter fence and located at the northeast of the airbase. The area to the east is the 'Weapons Storage Area' (WSA) **(1032 - 1048)**, which housed 'special' weapons and to the west is the 'Conventional Arms Storage' (CAS) **(1001 - 1004)**. The store is high security with distinctive octagonal guard towers, and 1980s pillboxes. Access is via a single gateway with Entry Control Point (ECP) (**1060**). The double fence would signal an alarm if and tall wood and steel posts are extant. These prevented the landing of helicopters.

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

Other Significant structures within the Northern Bomb Store include:
1005: a lone weapons store dating from the 1950s. It is thought this was used to house bombs before being taken to 1006. It is a concrete, grassed-over structure with a blast wall.
1006: maintenance and administration building dating from the 1950s, which was

the nerve centre of the Northern Bomb Store. A concrete structure, grassed over with thick sliding doors and a blast wall. It was a self-contained unit, housing its own generator and switches used to operate the igloos.

1007: 'Trigger Store', reinforced concrete, two storey structure with blind metal-framed windows. These are blocked windows, to give the impression of an administration building.

1008: 'Ammo Store', single-storey concrete structure with *'Ammo store'* painted on the front in white. It is understood that this structure was in fact used as an administration building

1011: large metal clad, single storey storage unit, painted green.

1050: hardened, flat roofed concrete structure with blast wall and gun turrets, used as 'Reserved Fire Truck Facility' (RFTF). This housed the armed vehicles used to patrol the area 24 hours a day, and in addition to the garage contains a recreation room. No contemporary fixtures and fittings are extant, although this once contained a pool table and kitchen.

1870: a steel Brunswick watch tower

Significant elements

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

Status

No current designation; recommended for scheduling by English Heritage, following MPP2001.[10]

Significance (including functional significance)

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

Issues

These are as detailed in Section 4 of Volume 1, points 4.11, 4.12, 4.13, 4.17 are of particular importance. Within the Northern Bomb Store and Special Weapons area, specific issues include:

- *Wall art*: environmental factors will result in deterioration of the external art.

- *Contamination*: an investigation was undertaken by Aspinwall & Company in 1997 on behalf of the North Oxfordshire Consortium. This found isolated occurrences of hydrocarbons within the bomb stores.

Objectives

These are as detailed in Section 5 of Volume 1 and within this sections 5.4 and 5.6 are of particular relevance. The wall art should be conserved and recorded according to English Heritage guidelines[12]. Contamination issues must be considered in the management plan.

Gazetteer OA6

Former RAF Upper Heyford

Squadron Headquarters

209, 234, 370 and 383

Summary

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

Development

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

Detailed description

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

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

Other Significant structures associated with the Squadron Headquarters include:

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

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

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

- **233**: flat-roofed breeze block structure, surrounded by concrete blast wall and housing four aerials. This is thought to have been used for reconnaissance.
- **237**: rectangular metal-clad building with apex roof. Some later modifications; front entrance infilled with brick and a smaller door.
- **238**: brick and concrete rectangular in plan and painted white (badly peeling), with three light crittal windows and asbestos roof.
- **239**: '*55th Amu Equipment Storage*' building. Structurally sound, metal clad with double sliding doors and apex roof.

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

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

Significant elements

- *Wall art*: building 370 houses internal wall art belonging to the Tiger Squadron, with a black and yellow painted door, interlinking the 'soft' and 'hard' area of the Squadron building.
- *Fixtures and fittings*: building 234 retains extant features including those in the plant room, planning room and decontamination units.

Status

No current designation, but buildings 209, 234, 383 have been identified by MPP2001 as candidates for scheduling.[13] Building 370 appears to not have been included on this list although it is of equal significance.

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

It is suggested that English Heritage will identify one HQ as an exemplar for statutory protection, while the remainder would be regarded as being of national significance. Building 234 retains significant contemporary fixtures and fittings and is considered to be the best example of a Squadron Headquarters building within Upper Heyford. Building 209 is located close to the Northern Bomb Store, and therefore may also be considered as an exemplar for statutory protection because of this association.

Issues
These are as detailed in Section 4 of Volume 1, and sections 4.11, 4.12, 4.13 and 4.17 are of particular importance. Specific issues include:

- *Wall art*: the art work within the Squadron building 370 is subject to deterioration
- *Preservation of extant fixtures and fittings:* building 234 in particular retains features that require protection/ recording. These add significantly to our understanding of the functional use of the structures.[14]

Objectives
These are as detailed in Section 5 of Volume 1, and sections 5.4 and 5.6 are of particular relevance. The recording of the wall art should be to English Heritage guidelines[15] and fixtures and fittings should be recorded in accordance with best archaeological practice and considered in a future management plan.

Gazetteer OA7

Former RAF Upper Heyford

Battle Command Centre

126

Summary

The Battle Command Centre is of **international** significance. All activities on the airfield were overseen from this building and it was designed to be self sufficient It is a single-storey hardened structure enhanced by its contemporary fixtures and fittings. The architecture reflects NATO's policy towards hardened facilities against pre-emptive conventional attack, chemical and biological attack, and to be able to operated in a hostile environment to launch a retaliatory attack. [16]

Development

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

Detailed Description

The Battle Command Centre is a single-storey structure with a flat roof and blast walls. [17] The building was designed to be self-sufficient and contained a generating plant and air filters. There are two taller sections which are blast proof roof vents for the plant rooms. Entry to the buildings was via a double door with coding entry. A series of decontamination suites remain extant also at entry point. The building retains its contemporary dull brown 'Novolant' finish

Internally, raised floors and suspended ceilings were used nearly throughout to accommodate cabling and air conditioning ducts, illustrating architecture designed to house late twentieth-century information technology. At the centre lies the main operations room, from which the air campaign was directed, while other groups co-ordinated airfield defence. At Upper Heyford a room was allocated to the command of the local RAF Rapier missile units.[18]

A spine corridor runs through the length of the building. Much of the left-hand side is taken up with the ventilation and filtration plant, which is all in good order, while on the right-hand side are two telephone exchanges. The first is the BT exchange which still contains most of its equipment including several large floor standing cabinets. Beyond this is the American Autovon exchange which has been partially stripped, although some cabinets and switching frames are still in place[19].

The primary purpose of the Command Centre was for wartime activity, although the structure also functioned in peacetime as a practice area in the event of war. It

recorded the status of each squadron and their aircraft.

Significant elements

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

Status

No current designation; recommended for scheduling by English Heritage, following MPP2001.[20]

Significance (including functional significance)

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

Issues

These are as detailed in Section 4 of Volume 1, points 4.11, 4.12, 4.13 and 4.17 are of particular importance. Within the Battle Command Centre, specific issues include:

- *Preservation of extant fixtures and fittings:* those retained are in good condition, and greatly enhance our understanding of the function of this structure and the airbase.

Objectives

These are as detailed in Section 5 of Volume 1, and sections 5.4 and 5.6 are of particular relevance. The fixtures and fittings should be recorded in alignment with archaeological best practice and considered in a future management plan.

Gazetteer OA8

Former RAF Upper Heyford

Hardened Telephone Exchange

129

Summary

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

Development

Constructed in the late 1970s.

Detailed Description

The Telephone Exchange is a hardened structure typical of this period.[21] It reflects NATO's policy to harden its main facilities against pre-emptive conventional, chemical and biological attack, and to be able to operate in a hostile environment to launch a retaliatory strike.[22] The structure retains its contemporary dull brown 'Novolant' finish, and is single storey with a taller section which house blast proof roof vents.

Significant elements

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

Significance (including functional significance)

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

Status

No current designation, but recommended for scheduling by English Heritage, following MPP2001

Issues

These are as detailed in Section 4 of Volume 1 and within this volume sections 4.11, 4.12, 4.13 and 4.17 are of particular importance. Specific issues include:

- *Contemporary fixtures and fittings: there* has been some minor stripping of contemporary fixtures and fittings.

Objectives

These are as detailed in Section 5 of Volume 1 and within this sections 5.4 and 5.6 are of particular relevance. Contemporary fixtures and fittings should be recorded *in situ* in accordance with archaeological best practice and considered in a future management plan.

Gazetteer OA9

Former RAF Upper Heyford

Hardened Aircraft Shelters (HAS)

Summary

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

Development

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

Detailed Description

Each shelter was designed to house a single aircraft. The HASs' architecture reflects NATO's policy towards hardened facilities against pre-emptive conventional attack, chemical and biological attack. They have a dull appearance which is typical of this period which reflects contemporary policy to harden and dull-down the key airfields. Amongst the groups of HASs of particular importance is that in the Quick Reaction Alert Area, in which aircraft were armed with nuclear weapons and were able to take off within three minutes (see OA2, above) .

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

There are two types of efflux deflectors at Upper Heyford; a simple concrete deflector constructed by Laing and a more elaborate 'wing-like' deflector

constructed by Costain. This later form is seen on shelters **3015 – 3021, 3052 – 3056** and **3023**. Internally there is a reinforced concrete floor, overhead lights and two sliding efflux doors. Aircraft would enter the HASs by a winch system. The sliding doors are constructed from reinforced concrete panels that are supported by steel girders. Each door weighs approximately 85 tons. Weights were used to stabilise the structure as planes entered. The front entrance would be operated by a 7.5 kilowatt motor from a control panel which has a joy stick for operating the door. The personnel entrance was through a blast-proof side door just off the hardstanding area used for parking aircraft equipment.

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

John Laing & Son Ltd.

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

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

Richard Costain Ltd.

North group: **3032 3033 3034 3035**

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

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

Amy Roadstone Company Ltd.

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

Significant elements

- *Wall art*: shelter 3038 has a tiger painted on the efflux door, and side entrance door has additional tiger and stripe painting. Shelter 3034 has a red dragon holding the world, painted on the efflux door.
- *Fixtures and fittings*: the mechanical operations for the main doors are extant in each HAS, with the exception of fifteen shelters, these are 3001-3008, 3017-3021 and 3025-3026. The lower and upper vents are also extant. There are extractor fans to the rear, winch system, winch pulley, complex floor markings and an external 'officer commanding' board extant within many of the HASs.
- *Spatial layout*: the locations the HASs appear to be random locations, however they are in general carefully set-out so that no more than two could be hit on a single bombing run there are exceptions to this rule as seen in shelters 3029,

3031 and 3035.
- *Drilled hole*: these are evident through elevations next to the side entrance door, and were in preparation for an added security enhancement to allow for an alarm to be installed within each HAS. Although this feature can be seen in each HAS, it was never implemented.
- *Titanium strip*: a strip was added to lock on side door which made it impossible to saw through. This was added in 1986 and is indicative in the intensity in security enhancement at this time.
- *Personnel shelters*: shelters 3014, 3026, 3041 and 3042 were adapted to function as Personnel Shelters, offering protection from chemical and biological attack.
- *Decontamination units*: shelters 3043, 3014, 3041 and 3026 have decontamination units on the side of the buildings.

Status

No current designation. The shelters within the Quick Reaction Alert Area (**3001 - 3009)** have been recommended for scheduling by English Heritage, following the MPP2001.[23]

Significance (including functional significance)

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

Issues

These are as detailed in Section 4 of Volume 1, and points 4.11, 4.12, 4.13 and 4.17 are of particular importance. Specific issues include:
- *Wall art*: the artwork within the HASs is subject to deterioration.
- *Preservation of extant fixtures and fittings:* if possible the mechanical fixtures relating to the operation of the doors and vents should be retained, as these enhance our understanding of the structures.
- *Preservation of groups:* where possible, groups of HASs should be retained, as the repetitive pattern of the structures forms a distinctive characteristic of the Cold War landscape.

Objectives

These are as detailed in Section 5 of Volume 1, and within these sections 5.4 and 5.6 are of particular relevance. The recording of the wall art should be according to English Heritage guidelines.[24] The internal fixtures and fittings should be recorded in alignment with archaeological best practice and considered in a future management plan.

Gazetteer OA10
Former RAF Upper Heyford

Control Tower

340

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

Development
The Control Tower dates from the 1950s.

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

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

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

Status
No current designation.

***Significance* (including functional significance)**
The Control Tower is considered to be of **national** significance, and is a rare

structure as illustrated in MPP2001.[25] This building was the main control tower for the airfield during the 1950s, and was the nerve centre of the airbase. Architecturally the building is an iconic airfield structure, and is structurally well preserved. The Control Tower is considered to be worthy of designation, and the magnetometer could be included within this

Issues

These are as detailed in Section 4 of Volume 1 and sections 4.11, 4.12, 4.13 and 4.17 are of particular importance. Specific issues include:

- *External artwork*: this is subject to deterioration

Objectives

These are as detailed in Section 5 of Volume 1 and within these sections 5.4 and 5.6 are of particular relevance. The artwork should be recorded according to English Heritage guidelines.[26]

Gazetteer OA11
Former RAF Upper Heyford

Victoria Alert Complex

2001 - 2009, 359, 360, 357, 5022

Summary

The Victoria Alert Complex was constructed in the early 1970s and provided an initial quick response area prior to the construction of the Quick Reaction Alert area (QRA). The area is considered to be of **regional** significance. It consists of a group of nine open aircraft weather shelters, a watch tower and crew quarters.

Development

The Victoria Alert Complex was constructed in the early 1970s.

Detailed Description

This complex provided an initial quick response area with the introduction of the F111, prior to the construction of the Quick Reaction Alert Area (QRA). It consists of a group of nine open aircraft weather shelters, a watch tower and crew quarters, and in keeping with an area where special weapons might be stored was surrounded by double fence (only partially surviving). Entry to the facility was through an Entry Control Point (ECP).

The shelters (**2001 - 2009)** have galvanised steel frames and the roof is of corrugated white asbestos sheeting. The structures are open at both ends with corrugated steel elevations. There are jet efflux deflectors to the rear. The majority of Hardened Aircraft Shelters (HASs) at Upper Heyford were of this form prior to their hardening in the late 1970s as a defence against biological, chemical and nuclear attack.

Other Significant structures within the Victoria Alert Complex
359: the ECP for the Victoria Alert Complex. It is a flat concrete roofed, red brick structure built between two gates. It has a security window to the front of the building. To the rear of the building is a substation.
360: Brunswick steel watch tower.
357: this functioned as the operation building for the alert area. Offices and sleeping quarters were housed within the building. It is a two-storey red brick building with a tiled roof and wooden framed windows.
5022: single-storey prefabricated rectangular portable building used by the Aeroclub. It has wood framed windows and an asphalt roof.

Significant elements

- *The character of the complex:* extant features such as the ECP, sections of fence, buildings 360 and 357 enhance the character of the Victoria Alert complex. This was once a secure area and these features reflect the significance of the complex and provide enhancement to the aircraft shelters.

Status

No current designation

Significance (including functional significance)

The Victoria Alert Complex is a secure area, used to house the F111 when they first arrived at Upper Heyford. It is considered to be of **regional** significance. The structural form of the shelters is also significant in reflecting the primary form of the majority of the F111 aircraft shelters prior to the construction of the HASs.

Issues

These are as detailed in Section 4 of Volume 1, and sections and 4.11, 4.12, 4.13 and 4.17 are of particular importance. Specific issues include:

- *Loss of features*: the removal of the front gates and some of the fencing has resulted in a reduction of the significance of this complex.
- *Health and safety*: it is thought that the shelters contain some asbestos sheeting, and this should form a health and safety consideration.
- *Long-term stability:* due to their prefabricated form and the presence of asbestos sheeting there are questions about the long-term sustainability of these structures.

Objectives

These are as detailed in Section 5 of Volume 1 and within these sections 5.4 and 5.6 are of particular relevance. The long-term stability and heath and safety issues should be considered in the management plan.

Gazetteer OA12

Former RAF Upper Heyford

Engine Test Cells

1319, 1443

Summary

There are two Engine Test Cells at Upper Heyford, which were used to carry out tests on engines prior to flight or as part of routine maintenance. Building 1319 dates from the 1950s and was superseded by building 1443 in the 1980s, which was a USAF design and imported specifically for the F111E. They are considered to be of **regional** and **local** significance.

Development

Building 1319 was constructed in 1959, and building 1443 dates from the late 1980s.

Detailed Description

1319: a complex of three buildings

The first structure in the complex is constructed from breeze blocks with a flat roof and a single, open front entrance. It is single-storey with a window to the rear. There is ladder access to the roof from the side of the building. The building was originally coated with brown paint (now badly peeling) with white striping to the front and the words “20 CRS”, are also painted in white.

The second building is rectangular in plan, single-storey, red brick with a flat roof and tall crittall window. The front door has a sign stating ‘*Test Cell Break Area’*. Internally, a concrete floor and walls are painted white with some wall art although no fixtures remain. The front elevation is a corrugated iron extension, with sections missing in the south east elevation.

The third building is the test cell, which is rectangular in plan, single-storey, metal-clad with main entrance via double doors at the front elevation. This once contained a water tank that generated an internal waterfall. The flame from the engine hit the cold water which caused steam and sound to be taken up an extractor. Elevations are painted brown with white ‘jazzy’ stripes to the front and partially to the side with “T/C” painted centrally above the double doorway. Internally walls are perforated mesh, painted white. There are two observation bays, one internal and one external with double glass for viewing. An exhaust detuner extends to the rear.

1443: USAF design imported from USA. Single-storey, rectangular in plan, metal-clad elevations, concrete floor and simple galvanised steel trusses. Overhanging box at front with mesh base, allowing for the movement of air. Two observation posts with double glass windows, one external and one in a separate internal division. To rear of cell extends a large stainless steel 'exhaust pipe' tube. Internally, extant twin doors to front made from mesh, with concrete baffles and manoeuvred on wheels. The front door would be open, and the twin doors closed to allow for the flow of air through the building. This would also act as a form of sound-proofing. The metal is stainless steel (not galvanised).

Significant elements

- *Wall Art*: within the 'Test Cell Break' (1319) there is extant wall art on an internal wall consisting of a flying eagle encircled with words '*Pratt & Whitney Dependable Engines*'. Also further emblem stating '*20 CRS Test Cell The Elite Against All Odds*'.
- *External Wall Art*: externally, there is a sign attached to this structure 1319 stating: '*Caution. Hazardous Noise Area. May cause Hearing Loss. Hearing Protection Required*'. Building 1443 has an external sign stating *'20 CRS T-9 Test Cell*'
- *Fixtures and fittings:* building 1443 is internally impressive with extant contemporary features, including a galvanised steel frame with a bracket for holding the engine during testing.

Status

No current designation.

Significance (including functional significance)

The Engine Test Cells played a significant role at Upper Heyford ensuring that the aircraft engines were functional prior to flight. Building 1443 is of **regional** significance and building 1319 is of **local** significance. Functioning aircraft were important to the overall working of the airbase, without which the operation of the base would be compromised. Building 1443 in particular is well preserved, with extant fixtures and fittings.

Issues

These are as detailed in Section 4 of Volume 1, and sections 4.11, 4.12, 4.13 and 4.17 are of particular importance. Specific issues include

- *Long term stability:* building 1319 although structurally sound, and in reasonable condition appears to have been derelict for some time and the external paintwork is peeling.
- *Wall art*: this is subject to deterioration.
- *Fixtures and fittings*: these are important features subject to deterioration

Objectives

These are as detailed in Section 5 of Volume 1, and within these sections 5.4 and 5.6 are of particular relevance. The artwork should be recorded according

to English Heritage guidelines.[27]The fixtures and fittings should be recorded in alignment with archaeological best practice, and the long term stability of the building should be considered in a management plan.

Gazetteer OA13
Former RAF Upper Heyford

Hush House
1368, 1372

Summary
Two Hush Houses are extant at Upper Heyford, lying to the north and south of the runway. These date from the early 1980s and were used to carry out final checks on aircraft engine performance prior to flight. They are considered to be of **regional** significance.

Development
Building 1368 was constructed in 1982, and building 1372 in 1983.

Detailed Description
There are two Hush Houses at Upper Heyford, **1368** lying to the south of the runway, and **1372** situated to the north. These structures functioned as aircraft engine testing structures, to enable final checks on engine performance prior to flight. Both Hush Houses were built by ARC (Construction) Ltd. and are an American design.

These buildings are a small hangar type building, similar in form to a 'K' type hangar. They are made from stainless steel and have sound–absorbent, lined walls. There is a huge silencer for the jet efflux, which allowed planes to be run up to full power inside whilst defusing noise.

Both structures are the same form, with front sliding doors and semi-segmented arch roof. Exhaust detuner extends to the rear and while the structures are sound-proofed, they do not have the double twin door as seen in later structures (such as 1443).

Significant elements
- *External paintwork*: buildings 1368 and 1372 are both painted cream and brown, and inscribed:*'20 CRS, 1368/ 1372 Hush House*'

Status
No current designation.

Significance (including functional significance)
The Hush Houses played a significant role at Upper Heyford ensuring that the

aircraft engines were tested prior to flight. Both structures are considered to be of **regional** significance. Functioning aircraft was important to the working mechanics of the airbase, without which the overall operation of the base would be compromised.

Issues

These are as detailed in Section 4 of Volume 1 and sections 4.11, 4.12, 4.13 and 4.17 are of particular importance.

Objectives

These are as detailed in Section 5 of Volume 1, and within sections 5.4 and 5.6 are of particular relevance.

Gazetteer OA14

Former RAF Upper Heyford

Runway, Taxiway and Hardstanding

Summary

The runway at Upper Heyford is of **regional** significance. The basic layout of the airbase has been sustained from the 1940s, with a major extension to the runway in the 1950s.

Development

The runway and hardstanding dates from the mid 1940s to the 1980s.

Detailed Description

The aerodrome at Upper Heyford dates from between 1917-1919, although the present plan of the airbase was formed in the mid-1940s. Work began from 1939 when tracks, loops and circular hardstanding were built. It the winter of 1943/44 John Laing and Son Ltd. commenced work on the construction of three concrete runways, which were connected together by the perimeter track. Two sets of a new type, known as 'spectacle' aircraft hardstanding were constructed along the east and west sections of the perimeter track. [28]

The main runway was extended in the 1950s, and was constructed by the 817th Engineering Aviation Battalion and the British contractor Higgs and Hill Ltd. Runway 09-27 was widened by 26ft either side, and lengthened by 8,300ft. The runway now measures 3.4km in length. A new 'Southern Taxiway' was also constructed and was extended eastwards to link up with the new Runway 27 threshold.[29]. Further areas of hardstanding were added at this time, and this layout was utilised in the 1970s programme of Cold War hardening. The basic layout has been sustained and the aircraft shelters added to the extant layout. A new taxiway was added in the late 1970s to accommodate the Quick Reaction Alert Area (QRA).[30]

Significant elements

- *Continuation of layout:* aerial photographs have shown that the present layout of the runways, and taxiways has continued from the mid-1940s. Significantly, 1950s photographs show that areas of hardstanding have been retained and utilised in the 1970s, and this form continues to the contemporary layout.

Status

No current designation.

Significance (including functional significance)
The runway, hardstanding and taxiways at Upper Heyford are important to the function of the airbase, without which it would be unable to operate. At Upper Heyford the plan of these areas is particularly significant as it has been sustained from the primary 1940s layout. The runway is considered to be of **regional** significance.

Issues
These are as detailed in Section 4 of Volume 1, and sections 4.5, 4.11, 4.12, 4.13 and 4.17 are of some relevance. The general principles within these sections are applicable, although they principally apply to standing buildings. Of importance is the issue of retaining the layout of areas of hardstanding, taxiways and runway within areas considered to be of national and regional significance.

Objectives
These are as detailed in Section 5 of Volume 1, and within these objectives sections 5.3, 5.4 and 5.6 are of particular relevance.

Gazetteer OA15

Former RAF Upper Heyford

Administrative, Storage and Miscellaneous

216, 221, 249, 268, 293, 294, 311, 342, 353, 416, 1840, 3140, 3135, 3204-3210

Summary

The administration, storage and miscellaneous buildings consist of a composite of structures dating from the 1950s to 1980s. The structures are not central to the functioning of Upper Heyford, yet allowed the airbase to operate efficiently. They are considered to be of **regional** to **no** significance.

Development

The administration, storage and miscellaneous buildings date from the 1950s to 1980s.

Detailed Description

216: single-storey, red brick building with a flat asphalt roof dating from 1964. Windows have grill bars at the front. It was constructed in 1964 as an administration building for the 77th Squadron.

221: two bay, metal clad munitions storage building, dating from 1973. It is similar in design to building 249.

249: three-bay, metal clad munitions storage building, with eight sliding doors in each bay dating from 1973. Each bay has three rolling doors to the rear and is adjoined by a single-storey flat roofed structure with two windows and double wooden doors. Located to the rear is a red brick boiler room (253) with two storage tanks to the west. Building 249 is similar in design to building 221.

268: DEB building, which was connected with world-wide communications. It is a single-storey rectangular structure with a gabled tile roof dating from 1988.

293: Flight Simulator building, dating form 1971. This is a large two-storey, red brick building which is rectangular in plan. It has crittall windows, a part metal-clad roof and projecting front entrance.

294: A red brick, maintenance office which is linear in plan, dating from 1971. It has a metal-clad roof and projecting front entrance. It was in use by the *'20th Fighter Wing Operations Group'*.

296: a brick, single-storey building with an asphalt roof. This was used as a dog training compound, and there is an enclosed area to the rear for training. The structure dates from the 1950s.

311: a single-storey flat-roofed structure, constructed of breeze blocks, painted cream with crittal windows. This was used in reconnaissance radar and 'Air Traffic Control Operation'.

416: aerial

342: A single-storey, red brick building, painted white with crittal windows. Rendered at end elevations. This was used as the 'Operations Building' and all visitors to the airbase would check in at this entry point. The structure dates from the 1950s.
353: An office administration building which is concrete with a flat roof. This was used for the training and testing of personnel and dates form 1935.
1840: An administration building which is a single-storey structure, clad in wood with crittal windows. Structurally sound, windows missing and open to elements. Internally a board is attached to the wall with a plan of the week annotated.
3140: Large single-storey brick warehouse with a smaller rectangular single-storey brick building to the rear, both with apex asphalt roofs. This has blue iron-framed windows and blue-painted doors. Dating from 1984, it was used to store aircraft parts.
3135: large rectangular warehouse constructed from breeze blocks, with brown metal-clad upper and apex roof. The windows are protected by bars to the front, and there are large storage tanks with pipes leading into the building to the east. The structure dates from 1984 and was used to store aircraft parts.
3204-3210: single-storey, red brick bungalows used for administration by the Squadrons. These structures date from 1985.

Significant elements
- *External wall art:* building 216 has two aircraft painted on the outside. Building 311 has a painted ensign on the front elevation.

Status
No current designation.

Significance (including functional significance)
The administration and storage structures were not central to the functioning of Upper Heyford, yet allowed the airbase to operate efficiently. Buildings 216, 221, 249 are of **regional** significance, buildings 268, 293, 294, 296, 311, 342, 353, 416 are of **local** significance and buildings 3140, 3135 and 3204-3210 are of **no** significance.

Issues
These are as detailed in Section 4 of Volume 1, and sections 4.11, 4.12, 4.13 and 4.17 are of particular importance. Specific issues include:
- *External artwork*: this is subject to deterioration.

Objectives
These are as detailed in Section 5 of Volume 1, and sections 5.4 and 5.6 are of particular relevance. The external artwork should be recorded according to English Heritage guidelines.[31]

Gazetteer OA16

Former RAF Upper Heyford

Aircraft Maintenance Buildings

259, 260, 292, 300, 331, 333, 336, 366, 3109(a), 3109(b), 3127(a), 3127(b)

Summary

The aircraft maintenance building served a variety of purposes from aircraft washing to jet engine repairs. The structures are predominantly large metal-clad buildings with few extant fixtures and fittings. They are considered to be of **regional** to **no** significance.

Development

The aircraft maintenance buildings include a number of structures throughout the airbase dating from the 1950s to the 1970s.

Detailed Description

259 and 260: these buildings are single-storey, metal-clad with double doors and large two-light windows along side elevations. They were used for the storage and maintenance of equipment by the 79th Combat Airflight Ground Equipment team. Both structures date from the 1950s.

292: a brick-based structure with metal cladding built in 1971. It is painted blue, with two roller doors to the front. Internally there is a concrete floor and there was a hoist to lift up engines. The building was used to repair jet engines.

300: a series of inter-linked buildings that were used for collaboration by the Component Repair Squadron (CRS) and administration. In particular, the ECM (Electronic Counter Measure) was maintained from a secure unit within the building. The structure includes a single-storey red brick structure, with metal-clad roof and a two-bay metal-clad building. A further two-bay red brick structure with metal roller doors is attached and a metal-clad plant room extends to the west. There is a sand-filled blast wall surrounding one area of the building. This group of building dates from 1953 with later additions.

331, 333 and 336: associated with aircraft washing. Buildings 331 and 333 are red brick single-storey, flat-roofed structures with crittal windows. Building 336 is a 1973 blue metal-clad aircraft hangar, with a brick base and concrete floor. To each side of the building is attached a rectangular building with a brick base and metal-clad (painted brown and white). Aircraft were cleaned down in building 336 and remnant water was collected and purified in buildings 331 and 333 (via underground drains). The water was decontaminated in salt beds prior to release.

366: two-bay late 1960s metal clad white structure (titled 1 and 2) similar in form to 'A' type hangers. Front sliding doors with eight doors to each bay. Steel truss with central post and overhead lights. This building was used for fuel storage and

maintenance.
3109 (a) & (b) and 3127 (a) & (b): emergency barriers, small 1970s huts used in emergency landing in case of brake failure.

Significant elements
- *External painting*: building 292 retains its external cream, green and brown paint and *'20 CRS'* is written on one side. Building 366 also has '*Fuel Systems*' painted externally, with flash markings down each side.
- *External artwork*: building 300 latter has and emblem on the front stating: '20th *Equipment Maintenance Squadron*'.
- *Wall art*: an impressive mural was housed in building 300, illustrating the story of the ECM This has now been removed and is kept in the Upper Heyford Museum at Heyford Park House.

Status
No current designation.

Significance (including functional significance)
Building 292 is of **regional** significance, buildings 331, 333, 336, 366, 3109 (a)& (b), 3127 (a) & (b) are of **local** significance and buildings 259 & 260 are of **no** significance. The structures were important to the function of the airbase, without which the aircraft would have been unable to be operationally effective. However, a number are not considered to reflect the primary Cold War mission of the base and are not of particular architectural merit.

Issues
These are as detailed in Section 4 of Volume 1, and sections 4.11, 4.12, 4.13 and 4.17 are of particular importance. Specific issues include:
- *External paintwork*: the paint colour (and any additional markings) should be considered in sustaining the character of the airbase.
- *External artwork*: the artwork is subject to deterioration.

Objectives
These are as detailed in Section 5 of Volume 1, and within these sections 5.4 and 5.6 are of particular relevance. The artwork should be recorded according to English Heritage guidelines,[32] and the external paint colour considered in a future management plan.

Gazetteer OA17
Former RAF Upper Heyford

The Southern Bomb Store

(1102, 1103, 1105, 1106, 1108, 1113, 1601 – 1625, 1158-1186, 1122, 1144)

Summary
The Southern Bomb Store or Southern Conventional Arms Store (SCAS) was used as munitions storage for conventional bombs. It consists of four rows of 'igloo' stores, and some auxiliary structures. The area illustrates the massive rearmament and defence building programme at this time, and is considered to be of **local** significance within the airbase.

Development
The northerly two rows of stores date from the late 1980s or early 1990s, and the remainder date from the 1950s. Additional structures date from the 1950s and 1970s.

Detailed description
The SCAS is located to the southeast of the airbase. The stores are organised into four rows aligned roughly southwest to northeast, and surrounded by a wire fence, with a front main entrance gate. They are evenly spaced to eliminate damage in case of explosion, and are of the 'igloo' form and covered in soil. There are two Entry Control Points (ECPs) at the main gate, one dating to the 1950s and one dating from the 1970s hardening programme.

There are two types of stores dating from the 1950s and 1990s, which are differentiated in style by the main steel door. Those dating from the 1990s (**1601 – 1625**) open on a chain-operated sliding mechanism, and those dating from the 1950s (**1158-1186)** open on hinges. The later 1980s stores were built to eliminate the transportation of arms, which previously had been stored at Welford. Electrical fuse boxes and vents are extant to the side of the doors, as are signs stating '*The electrical installation in this building is category C (Totally Enclosed)'*.

Other Significant structures within the SCAS include:
1102, 1103, 1105, 1106, 1113: simple 1950s concrete stores which are rectangular in plan, and all generally of the same form. Flat roofs with supporting buttresses and used for storing smaller, less explosive ammunition.
1122: a 1950s Nissen hut which is rendered on concrete platform, with flame-proof fittings internally. This was used for munitions storage.
1108: large, metal-clad 1970s structure, rectangular in plan with apex roof and

bars on windows. There is a blast wall and banks surrounding the perimeter. This was used as a maintenance building to repair munitions.
1144: 1970s concrete structure, rectangular in plan with seven steel doors and a flat roof. This was used for ammunition storage, in particular primers.
These buildings are located at the west end of the area, and are thought to be for inspecting and arming conventional bombs, thus forming a functional flowline.

Significant elements

- *Wall art*: small bombs have been spray painted on the steel doors of each bomb store. This has the Staff Sergeants name, who was in charge of that particular store printed on the front ('SSGT SCHOENE' and 'SSGT FRANCIS'). Wall art is also extant externally on building 1144, and this is of a similar form to the bomb stores detailing the sergeant's name and small bombs.
- *External fixtures and fittings:* building 1108 has a gantry on four supports, and this was used to move the munitions into the building for maintenance.

Status

No current designation.

Significance (including functional significance)

The Southern Bomb Store is a good example of a mid-to-late 20th-century bomb store and is considered to be of **local** significance. The area illustrates the massive rearmament and defence building programme at this time, although it is of less significance as a Cold War feature as conventional bombs were available prior to the Cold War.

Issues

These are as detailed in Section 4 of Volume 1, points 4.11, 4.12, 4.13 and 4.17 are of particular importance. Within the SCAS, specific issues include:

- *Wall art*: the artwork on the door of the bomb stores requires some attention, as this is fading in the course of time.
- *Contamination*: an investigation was undertaken by Aspinwall & Company in 1997 on behalf of the North Oxfordshire Consortium. This found isolated occurrences of hydrocarbons within the bomb stores.

Objectives

These are as detailed in Section 5 of Volume 1, and within this sections 5.4 and 5.6 are of particular relevance. Wall art should be recorded in accordance with English Heritage guidelines, and contamination issues should be considered in a future management plan.

Gazetteer OA18
Former RAF Upper Heyford

Petrol Oil and Lubricant (POL)

POL1- POL25, 228, 352, 354, 1841, 3136, 3201, 3202, 3200, 3138

Summary
There are 28 petrol, oil and lubricant (POL) sites located at Upper Heyford airbase, and these are considered to be of **local** significance. The system enabled the airbase to maintain its offensive capability, and the underground network of pipes throughout England connects Upper Heyford to airbases throughout the country.

Development
The POL sites were constructed during the 1950's, 1960's and 1970's

Detailed Description
There is a total of 28 petrol, oil and lubricant sites (POL) located at Upper Heyford. These sites contained aviation fuel with the exception of six areas which were used to store diesel and petrol. At Upper Heyford there are petrol mounds, which are large tanks grassed over which appear as mounds in the Cold War landscape.

Twelve tanks were constructed in the 1950's and 1960's. These are single or twin steel tanks enclosed in a concrete pit and covered with concrete. These tanks contained 50,000 and 100,000 US gallons respectively.

A second period of development in the 1970s saw the construction of larger capacity storage facilities. These are petrol mounds, which appear as small grassed over hills in the Cold War landscape. These are circular in plan and held between 200,000 - 1,250,000 US gallons. They are partially-buried steel-lined tanks encased in reinforced concrete and mounded earth.

Associated with these sites are the tanker bays (**228, 381, 3200, 3201, 3202, 3136, 3138**), used to house the petrol vehicles. These are single-storey, two-bay concrete blocks with two sets of double iron doors (shut by six bolts on each door)

Within the Cold War landscape there is one petrol bay dating from the 1940s. This is building **354**, which is a single-storey, steel framed, metal clad building.

Significant elements
None

Significance (including functional significance)
The POL sites held the fuel for the airbase, both aviation and motor, and thus were integral to the operation of Upper Heyford airbase. They are of **local** significant in linking the entire Cold War landscape. POL23a and 23b are within the area of the Quick Reaction Alert Area (QRA) identified for scheduling. Furthermore, the underground system connected Upper Heyford to the rest of England thus integrating Upper Heyford with other active bases nationally.

Status
No current designation.

Issues
These are as detailed in Section 4 of Volume 1, and points 4.11, 4.12, 4.13 and 4.17 are of particular importance. Specific issues include:

- *Contamination*: there is likely to be a minimum of residual contamination of water contained within the pipes and storage tanks. A survey carried out by Aspinwall & Company showed that hydrocarbon contamination was identified in POL20 and POL21. Health and safety requirements will need to be met

Objectives
These are as detailed in Section 5 of Volume 1, and policies sections 5.4 and 5.6 are of particular relevance. Health and safety issues should be considered a future management plan.

Gazetteer OA19

Former RAF Upper Heyford

Firefighting & Security

181, 182, 184, 185, 186, 189, 195, 337, UH28

Summary

The firefighting and security structures date from the 1970s and are considered to be of **local** significance.

Development

The firefighting and security buildings were constructed in the 1970s -1980s.

Description

UH28: a two-storey concrete structure with a top platform and pond to the rear of the building. It was used for firefighting practice. To the north is a water facility (**330**).

181, 182, 184, 185, 186, 189 – hardened Entry Control Points (ECPs), positioned at the entry to each area within the airbase.

195: ECP at entrance to the airbase. A red brick, single-storey structure dating from 1986.

337: is a two-bay single-storey structure clad in cream painted steel with a rectangular footprint. This was a crash station. Entrance is via four brown painted roller doors, two in each bay with three small sub-rectangular windows. To the right is an attached building constructed from brown-painted breeze block with a steel-clad gabled roof. This was used right as an office with a dormitory and cafeteria to the rear. To the rear is a blue-painted breeze block structure with the upper division clad in steel. It is a boiler house that housed the station's bowsers. There are roller doors at either end.

Significant elements

None.

Status

No current designation.

Significance (including functional significance)

The firefighting and security structures were of importance to the function of the airbase, without which the operation of Upper Heyford would have been compromised. The structures are considered to be of **local** significance

Issues
These are as detailed in Section 4 of Volume 1, and points 4.11, 4.12, 4.13 and 4.17 are of particular importance.

Objectives
These are as detailed in Section 5 of the Volume 1, and sections 5.4 and 5.6 are of particular relevance.

(Footnotes)

[1] Hardening of structures at Upper Heyford took place in the late 1970s, when structures were hardened with concrete as a result of the threat of nuclear, conventional and chemical attack.

[2] Dulling down of structures took place in the late 1970s when buildings were covered with a 'Novolant' wash. This was designed to camouflage the building from the air giving it a short-wave infrared response that is similar to vegetation.

[3] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[4] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[5] Not all building were inspected internally as part of this conservation plan, although it is understood that 234 is internally the best example.

[6] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[7] English Heritage *Military Wall Art: Guidelines on its significance, conservation and management* 2004, English Heritage, London

[8] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[9] Cocroft, W D & Thomas, R J C *Cold War: building for nuclear confrontation 1946-1989*, English Heritage 2003

[10] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[11] Cocroft, W D & Thomas, R J C *Cold War: building for nuclear confrontation 1946-1989*, English Heritage 2003

[12] English Heritage *Military Wall Art: Guidelines on its significance, conservation and management* 2004, English Heritage, London

[13] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[14] Not all building were inspected internally as part of this conservation plan, although it is understood that 234 is internally the best example.

[15] English Heritage *Military Wall Art: Guidelines on its significance, conservation and management* 2004, English Heritage, London

[16] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[17] The Command Centre is situated to the south of the study area, within a separate 'command area'.

[18] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001, pg. 68

[19] Extract taken from Subterranea Britannica website/ Nick Catford.

[20] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[21] The hardened telephone exchange is situated to the south of the study area, adjacent to the Battle Command Centre.

[22] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[23] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[24] English Heritage *Military Wall Art: Guidelines on its significance, conservation and management* 2004, English Heritage, London

[25] Cocroft, W D Cold War Monuments: an assessment by the Monuments Protection Programme, London, English Heritage, 2001

[26] English Heritage *Military Wall Art: Guidelines on its significance, conservation and management* 2004, English Heritage, London

[27] English Heritage *Military Wall Art: Guidelines on its significance, conservation and management* 2004, English Heritage, London

[28] As detailed in Airfield Research Publishing *RAF Upper Heyford,* 1996 and evident on aerial photographs (please see bibliography).

[29] Airfield Research Publishing *RAF Upper Heyford,* 1996, pg. 7

[30] Evident in aerial photography, in particular F62.82/RAF/1006.31AUG'54.

[31] English Heritage *Military Wall Art: Guidelines on its significance, conservation and management* 2004, English Heritage, London

[32] English Heritage *Military Wall Art: Guidelines on its significance, conservation and management* 2004, English Heritage, London

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