

# RAF COLTISHALL

## A HISTORICAL APPRAISAL

PARTS 1 TO 7



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Cover photo: Aldon Ferguson

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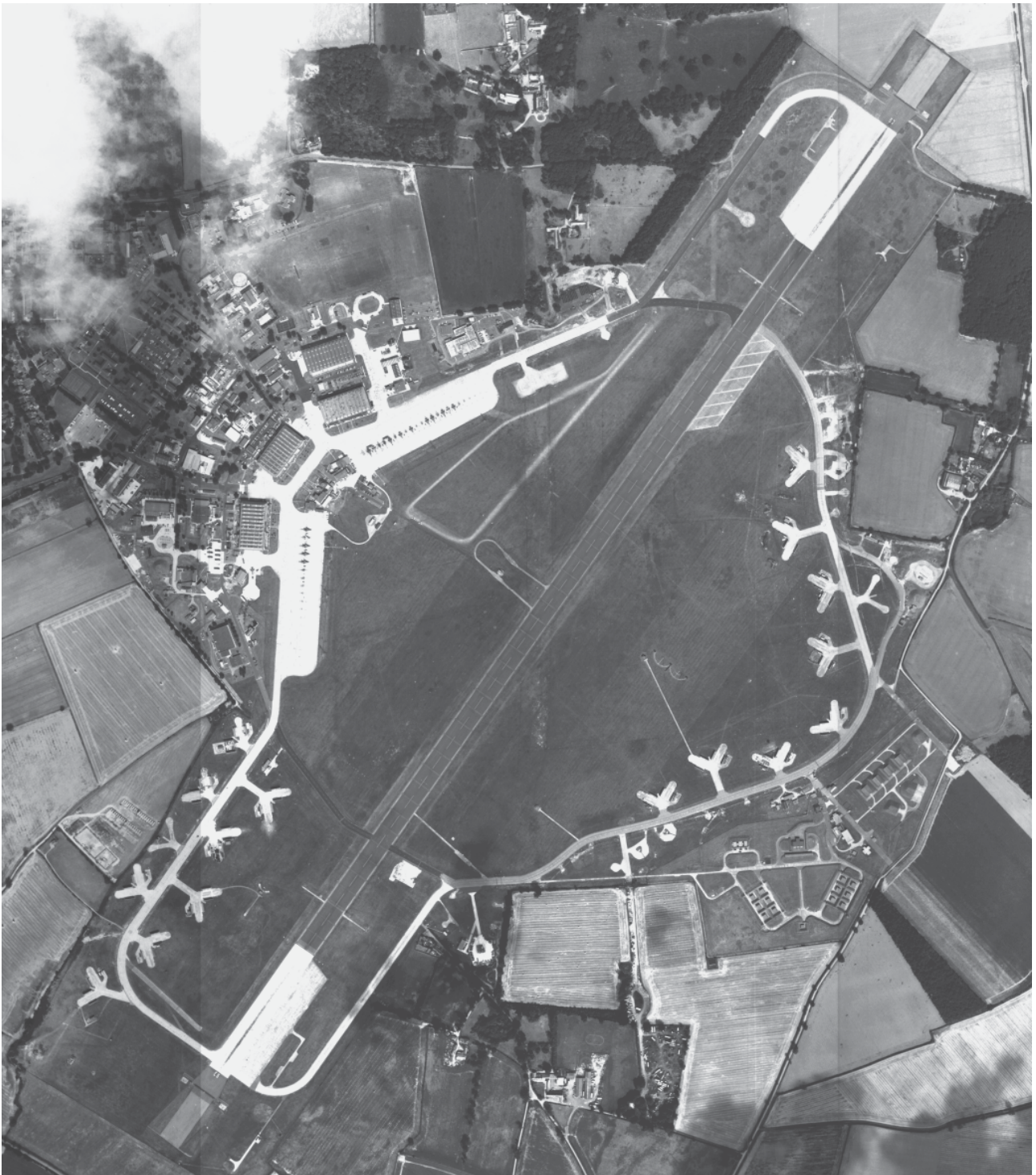


Plate 1: Aerial view of RAF Coltishall  
original source and date unknown

## ABBREVIATIONS

AAGW	Anti-Aircraft Guided Weapon
ADGB	Air Defence of Great Britain
AMWD	Air Ministry Works Department
ARS	Air-raid Shelter
ASP	Aircraft Servicing Platform
ATC	Air Traffic Control
AVTUR	Aviation turbine (jet) fuel
BFI	Bulk Fuel Installation
CADF	Commutated Antenna Direction Finding
CFE	Central Flying Establishment
DHE	Defence Housing Executive
ESA	Explosive Storage Area
ESS	Electronic Servicing Squadron
EWS	Emergency Water Supply
FFMT	Field Force Mechanical Transport
GSES	Ground Support Equipment Section
H&V	Heating and Ventilation
IFF	Identification, Friend or Foe – a device which gives a signal on ground radar identifying the aircraft as friendly
ILS	Instrument Landing System
IETF	Installed Engine Test Facility
LCN	Load Classification Number – a ‘thickness / strength’ rating for runways and pavements
LOX	Liquid Oxygen
M&E	Mechanical & Electrical
M/G	Machine gun
ORP	Operational Readiness Platform
PAPI	Precision Approach Path Indicator
PAR	Precision Approach Radar
PBX	Private Branch Exchange (telephone)
PRE	Product Receipt Enclosure
PSA	Property Services Agency
PSI	Public Support Initiative
PSP	Pierced Steel Planking
POL	Petrol, Oil and lubricants
RHAG	Rotary Hydraulic Arrestor Gear
Sandra	Typically three searchlights sited in a triangle around the aerodrome perimeter which could produce a cone of light to assist lost aircraft.
TACAN	Tactical Air Navigation System
TIF	Technical Information Flight
UETF	Uninstalled Engine Test Facility
WAAF	Women’s Auxiliary Air Force
WRAF	Women’s Royal Air Force
WSM	Work Services Manager

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## Part 1: Document Scope

### 1.1 Preface

This is the main report (parts 1 to 7) which examines the infrastructure and airfield at the former RAF Coltishall. It is accompanied by a further five stand-alone reports which are building gazetteers of surviving structures within the part of the former RAF Coltishall owned by Norfolk County Council. None of the reports cover the history of the station; there are already two really good published books on this subject.

Parts 1 to 7 describes in some detail, the reasons of how and why the station was built and the political events at the time of its earliest planning, the layout, why it changed from being a bomber station to that of a fighter, as well as the cost of buildings, layout of services and construction. It also examines WWII airfield structures including runway lighting, defence and air-raid shelters. It covers the complete station, including that part in the ownership of the Ministry of Justice.

Parts 8 to 12 discuss each post-war building in more detail – as these are picture heavy it has been necessary to divide buildings into five parts, these are:

- Part 8                      Control Tower and Hangar
- Parts 9                    Technical Buildings
- Part 10 / 11            Domestic Buildings, SHQ and Officers' Mess Complex
- Part 12                    Bomb Stores

The above are restricted to the part of the station that is in the ownership of Norfolk County Council. It has not been possible to include too much information on the buildings in the ownership of the Ministry of Justice as the records for these buildings were not available.

### 1.2 Sources and Limitations

The main source for this report are certain AIR 2, AIR 20, AIR 28 Air Historical Branch and WO 166 files preserved at The National Archives, Kew, London. The Operations Record Books for the war period describing operations conducted from Coltishall and its satellites are first class but lack the accompanying volume containing the appendices. These therefore, of the crucial period 1939 to May 1943 inclusive, are missing with the result that there is little primary source information for airfield defence. From June 1943 onwards appendices are included as brief notes after every monthly entry and this makes interesting reading.

Another major source of information was the contemporary site and building drawings and files which were available on site at Coltishall. I have also made use of a photographic survey carried out by Aldon Ferguson in 2006. Another useful source has been fieldwork, much of it being carried out by members of the Airfield Research Group, particularly out on the airfield which has led to the discovery of WWII runway flare path lighting, metal tracked runways and the important find of two out of three Pickett-Hamilton forts.

The discovery of the WWII flare path lighting as well as taxi track lighting and the forts is considered to be of historical importance and significance. One of the forts for example, has in situ gun mounts which I have not seen before.

There are a number of WWII buildings and pillboxes located around the airfield boundary, beyond the Heras fencing and although most of these are extremely difficult to get at and record, some are included within this report.

### 1.3 Acknowledgements

I would like to thank Mervin Cousins, Jonathan Looker and the security staff at the former RAF Coltishall site, without whom, my task would have been extremely difficult. I would also like to thank David Gurney of Norfolk County Council and members of the Airfield Research Group who gave up their time during weekdays and at weekends to assist me. Without their enthusiasm and knowledge, it would be likely that

much of the wartime archaeology would have remained undiscovered. I would also like to thank the Air Historical Branch (AHB) and The National Archives.

## **1.4 Observations of the Buildings at the Former RAF Coltishall**

Having studied the station's planning, design and construction I feel that I am now in a position to comment on the station as it survives in 2013 and its importance.

Although outside the scope of this study in any great detail, I think it is only right that I include the MOJ Site (HMP Bure) and both sets of married quarters with regards to the context of the complete station.

### **1.4.1 Ministry of Justice Site**

There are a few key pre-war buildings within the MOJ site, particularly within the buffer zone that are of particular importance to the history of the station. These structures as far as is known have not been recorded to a recognised standard and as such are vulnerable. If any of these structures were demolished, this act would seriously undermine the group value of the former RAF site as a whole. It is not only the buildings that are important, but also the street arrangement that might be spoilt by redevelopment. The 'Y'-shaped planning of the whole station is a key characteristic of the original planning scheme and should be preserved though it is acknowledged that some of the original roads may have already been lost. The following pre-war designed buffer zone buildings are of interest:

- Armoury (11)
- Lubricant and inflammable store (13)
- Clerk of Works Offices, workshops and water tower etc (18)
- Central heating station (19 / 20)
- MT vehicle sheds (36 / 37 / 116)
- Articulated trailer shed (38)
- Link trainer (59).

There are two post-war buffer zone buildings that are considered to be of importance to Coltishall:

- Lightning simulators (291 and 292)

Within the prison secure site there has recently been some notable demolition without proper recording of buildings within a Conservation Area, in the form of the pre-war ration stores (42) and both post-war WRAF accommodation blocks (202A / 202B).

The important pre-war buildings within the prison secure area are:

- Barrack blocks type 8/84 ( 27 A to E)
- Barrack block type 8/56 (28)
- Dining room and institute (44)

### **1.4.2 Buildings retained by MOJ which are outside the wire**

- Standby Set House (55 / 112)
- WAAF / WRAF Decontamination Centre (29)

These two buildings are considered to be very important to the history of RAF Coltishall. In particular, the standby set house which is superb and unique outside the RAF. I cannot stress enough the importance of this building, the presence of such a fine English Electric diesel engine and all of its supporting plant still in place is second to none on ex-military airfields in the UK. Over the years I have seen so many of these dismantled and sold abroad, the last four removed for example, consisted of two at St Mawgan and two at Uxbridge, the latter only last year. Granted the engine at Coltishall is not original and dates to the early 1960s but it is a fantastic working example of British engineering.

The WAAF decontamination centre is also of immense interest and is a temporary version of Coltishall's building 32 – it is often the case that buildings such as these are in a poor state, located on temporary airfields, whereas this example appears to be in good condition.



### **1.4.3 Officers' Married Quarters**

The officers' MQ site is a prime example of garden city style planning, whereby a natural triangular-shaped site, bordered originally on two sides by public roads, has been used to great effect by the pre-war planners. This idea is not only a brilliant use of space, it also has made best use of the pre-war road network with its existing trees and bushes that provided a natural part of the sites passive defence.

There is a central spine access road that used to terminate in a cul-de-sac just north of the officers' mess, but now has been extended southwards to form a triangle at the rear of the mess. The original houses and those constructed post-war are southerly and easterly aspect homes that have been placed with large open spaces between them as part of the passive defence scheme – it is important therefore that this open space is retained.

### **1.4.4 Airmen's Married Quarters**

The most important part of the airmen's married quarters' site is that formed by Hoveton Place and Cromes Place which forms the bulk of the original pre-war site. Many of the houses here still display their camouflage scheme which today is a graphic reminder of the history of the base and forms an excellent backdrop to the approach onto the airfield.

### **1.4.5 Domestic and Technical Buildings**

The technical and domestic area on the downside is a little fragmented by divided ownership, a sizable portion of it forming the buffer zone and another section is the secure prison site. However, there are some good examples of pre-war buildings within the ownership of Norfolk County Council and while there are many other examples of these buildings elsewhere, their original function and subsequent modifications reflect the change of use and development of the station over a 70 year period. These are:

- Hangars (1 to 4)
- Petrol tanker sheds (6, 6A to 6C)
- Aviation fuel installations (8 / 301)
- Pyro stores (10 / 10A)
- Main workshops (12)
- FFMT shed (14)
- Parachute store (15)
- Watch office with met section (16)
- Main stores (17A)
- M/G range (22)
- 40 ft M/G range (24)
- Station headquarters and operations block with speech broadcasting building (31 / 35)
- Decontamination centre (32)
- Station sick quarters and annexe (33)
- Guard and fire party house (40)
- Sergeants' mess (41)
- Officers' mess (50)
- Air-raid shelters (various)

Most of these have been extended post-war, almost all are devoid of their original windows, but the best examples are as follows:

- Hangars
- Main stores which although have been extended with a new wing, has been carried out by the original architects, to a very high standard.
- Annexe to the sick quarters which is excellent, having its original plant equipment in situ

- The watch office with met section could potentially prove to be a prime example of its type but it is surrounded by extensions that maybe were practical in terms of their use for military ATC, but architecturally and historically, they have no real significance.
- The station headquarters and operations room have great potential as does the decontamination centre – both are excellent examples of their type.
- The officers' mess complex is a superb example – probably nationally important as it is vastly superior to the example at Duxford which is a grade II listed building.

#### **1.4.6 Technical and Domestic Post-War Buildings**

The most important post-war buildings, based on function and how these buildings relate to the development of the airfield with regard to the Cold War, are as follows:

- Armoury (15) – I rate this building highly, it is one of the best examples and is superior to the one at Duxford which is listed. It was one of the first post-war technical buildings built at Coltishall, it also has a direct relationship with the AAGW Site
- Ejector seat stores (21, 97 and 110) – of interest because they were part of the armaments upgrade of the early 1970s in support of the Jaguar
- Gymnasium (100) – although this building has been extended, it is a good example of its type – one of these was demolished two years ago at Oakington
- Uninstalled engine test facility (109)
- Product Receipt Enclosure (PRE) Site (148) – a cluster of concrete revetments, pipes and valves related to fuel entering the site and its distribution
- Bulk fuel installation (BFI) (154, 155, 156 and 157)
- Line huts (261, 262 and 270) without their extensions, these are interesting buildings from the early 1970s and were part of the general upgrading of facilities prior to the introduction of the Jaguar
- Electronics Centre (295) – historically interesting but it is the weakest building in this list given its very poor condition
- Fire section (305) – a heavily modified building but an essential part of the control tower complex
- Jaguar simulator (349).

#### **1.4.7 Airfield**

The most important aspect of the airfield is, without doubt, the runway, its associated pavements and grass surface with its hidden pre-WWII and WWII archaeology as well as Cold War revetments. I think it would be a mistake to remove any part of the runway and the taxiway pavements, I believe it should remain intact and that businesses requiring such an asset should be encouraged to relocate to Coltishall.

#### **1.4.8 Bomb Stores / Anti-Aircraft Guided Weapons Site**

The bomb stores and AAGW Site are historically important, particularly the latter, since a quick look on Google Earth at the other sites with similar facilities will reveal that the Coltishall example is by far the best in the UK. Together with the pre-WWII designed bomb stores this has elevated the historical importance of the site over and above others where pre-war and WWII bomb stores survive in near complete forms.

Parts 2 to 12 of this and accompanying documents constitute the supporting evidence for the above claims.