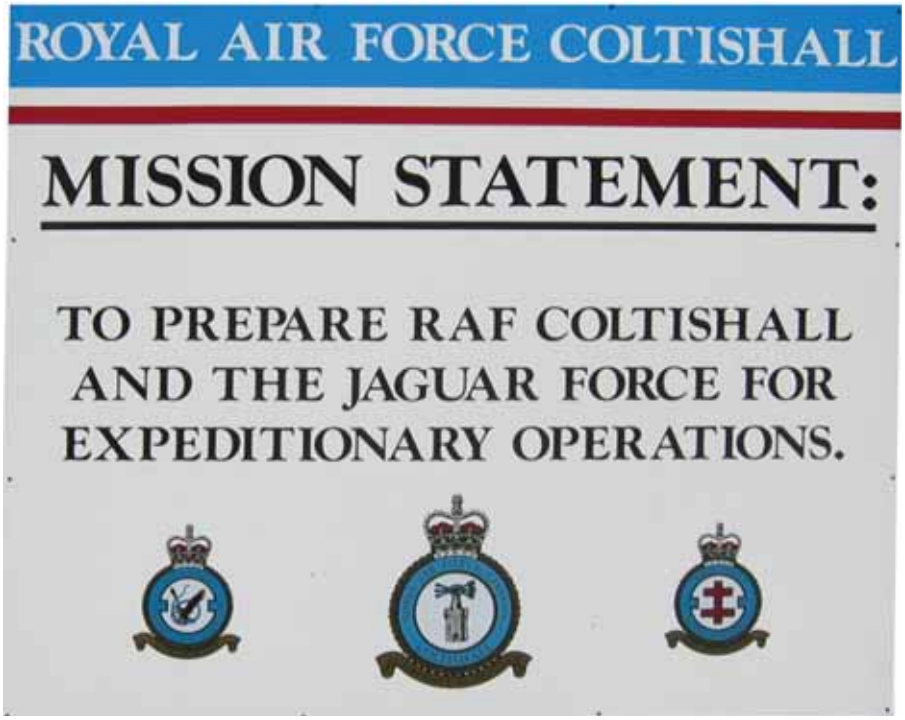
RAF COLTISHALL

A HISTORICAL APPRAISAL

PART 9

TECHNICAL BUILDINGS



PAUL FRANCIS

SEPTEMBER 2013

Front: Sign close to main gate

Document Version: V1, 15 Sept 2013

ABBREVIATIONS

AMWD	Air Ministry Works Department
ASP	Aircraft Servicing Platform
BFI	Bulk Fuel Installation
DoE	Department of the Environment
EWS	Emergency Water Supply
FFMT	Field Force Mechanical Transport
GRP	Glass Reinforced Plastic (fibreglass)
GSES	Ground Support Equipment Section
M&E	Mechanical & Electrical
MOD	Ministry of Defence
MPBW	Ministry of Public Buildings and Works
PRE	Product Receipt Enclosure
PSA	Property Services Agency
POL	Petrol, Oil and lubricants
RC	Reinforced Concrete
RSJ	Reinforced Steel Joist

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PREFACE

This is one section of a twelve part report that examines the infrastructure and airfield at the former RAF Coltishall, now owned by Norfolk County Council.

Part 9 is a stand-alone report examining the structures that make up some of the technical buildings that are in the ownership of Norfolk County Council. The report is based mainly on primary sources such as original drawings preserved at Coltishall as well as fieldwork. The fieldwork was mainly carried out during a two week period in May and one week in June 2013. All National Grid References shown in this report originate from Where's the Path: http://wtp2.appspot.com/wheresthepathv080.htm

Part 9: Technical Site

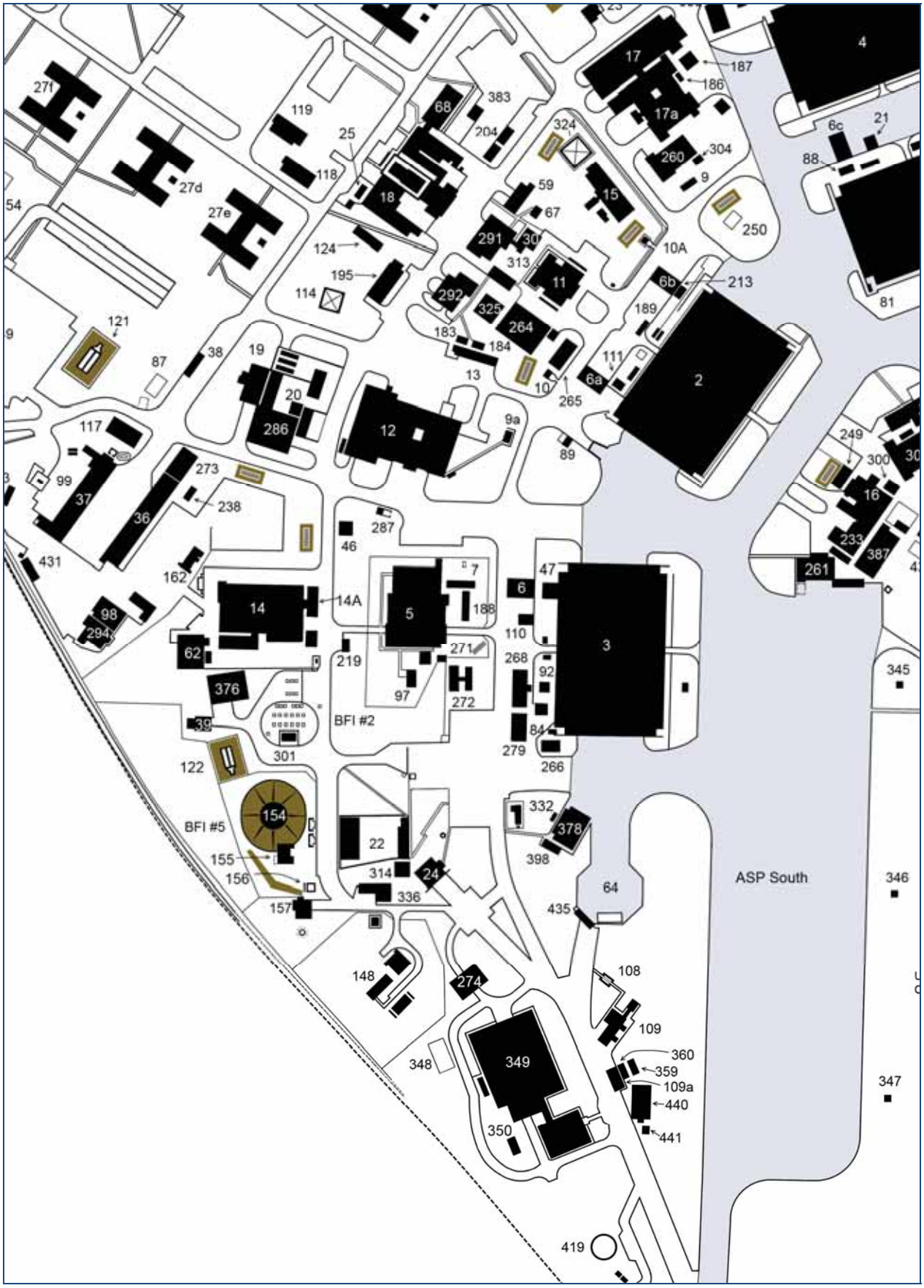
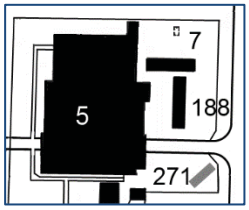


Fig 1: Technical Site (includes current MOJ area)

9.1 Central Armoury (5)



9.1a Introduction

The central armoury is an AMWD type design, the example built at Coltishall being the Fighter Command version; the cost was £36,000 and this compares to similar buildings at other stations but in all cases the cost of the actual building itself was the same at £23,000:

Wattisham £35,000	Waterbeach £38,000	West Malling £35,000	Stradishall £38,000
Tangmere £37,000	Duxford £38,000	Linton-on-Ouse £39,000	

9.1b Site

The central armoury has been built on the site for hangar (5); although trial holes revealed that the site consisted of 1 ft 6 in of top soil and below this is sandy silt, there was no concrete slab present. The setting-out plan (7137/54) is dated October 1954, the architect is A Beasley and it is countersigned by Archibald G Gullan. The sections and elevations drawing is 2042A/54 – which is the generic design and a mirror image to what was actually built at Coltishall. It was completed by May 1956.

9.1c Description

The building has a nominal square-shaped planform, it is single storey, with two E/W open areas which function as light wells that flood the main working areas with natural light; these also conveniently divide the building up into three large open-plan workshop bays. The northern and central workshops are static servicing bays for guns and packages, and on the east and west sides of these, two are open storage areas for guns and packages plus an oil store on the west side.

The southern-most workshop is also the main access route to and from the building with double doors and ramps at the side walls (east and west) of the building. This workshop here is slightly narrower that the other two and this functioned as a snag line servicing bay.

The southern part of the building is subdivided into offices and small workshops consisting of the following: NCO and technical control office, officer I/C, workshop, technical store, and then the following rooms that could only be accessed from the outside: compressed air store and two ready-use stores. At the extreme eastern end is a toilet annexe. There is also a plant room which is located on the eastern elevation – to the north of the open plan storage area.

External walls are 15 in cavity brick with Crittall style multi-pane metal windows with central opening lights to the workshops and standard metal casements for the office and small workshop annexe – these are mainly all extant. Internal walls are principally 9 in thick. The roof is a felted concrete slab of Bison planks.

In 1978 in order to utilize the space occupied by the light wells, they were roofed over with softwood joists and decked out with roofing grade chipboard and GRP roof lights, the floor was also re-laid.

9.1d Extension

In 1993, Noreast Building Management designed an extension which Mowlem then built.† This was a single-storey extension against the north elevation, carried out to the same width and in a similar style as the existing building. Its function was to provide an ejector seat servicing area. It has brick and concrete block external cavity walls, concrete block internal walls, windows are double glazed units. The concrete slab roof that partly rests on the existing building and has a 1:40 slope down to the new external wall.

- Footprint: 108 ft by 114 ft 4 in (32.92 by 34.85 m)
- NGR (5) TG 25972 22908

† The old PSA offices at Cambridge were taken over firstly by Noreast, then by Mowlem Facilities Management)

Plate 1: Armoury (5), south elevation with entrance

Plate 2: Armoury (5), northern extension

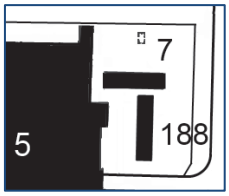
Plate 3: Armoury (5), interior view

Plate 4: Armoury (5), interior view

Plate 5: Armoury (5), the ejector seat bay extension

Plate 6: Armoury (5), the former light well

9.2 Armoury Training Cell (7) and Ejector Seat Classroom (188)



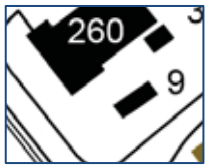
These are prefabricated cabins used as open-plan classrooms, and are both Thurston Surespan cabins of similar length (6-bays), but the training cell (7) was erected first. That has two rooms and there are three in the classroom (188), there are double doors in the southern end of the latter, with concrete ramp access, while the training cell has single width door access. Both buildings are made up of a pair of cabins bolted together and placed onto concrete pad foundations. They are constructed of pre-finished galvanised and painted steel cavity wall units with aluminium windows and the roof is flat and covered in galvanised steel sheeting.

- NGR: (7) TG 25998 22921, (188) TG 26000 22909

Plate 7: Ejector seat classroom (188)

Plate 8: Ejector seat classroom (188)

9.3 Latrine Block (9 and 9A)



These are brick built single storey toilet blocks of two similar widths, but of different lengths for male and females. Block 9 is the longest, as the male section has been extended to give an extra two WCs. Both are divided into two unequal halves, the longer section being for men.

Construction is of 11 in cavity brick external walls, 4.5 in dividing wall and a concrete slab roof with concrete ring beam.

- Footprint (9) 27 ft by 10 ft (8.23 by 3.05 m), (9A) 19 ft 2 in by 10 ft (5.84 by 3.05 m)
- NGR: (9) TG 26121 23144, (9A) TG 26024 23007

Plate 9: Toilet block (9)

Plate 10: Toilet block (9A)

9.4 Pyrotechnic Store (10 and 10A)

There are two small single-storey detached twin-compartment monolithic concrete ready-use pyrotechnic store buildings – they were built on the scale of one each for one squadron, and one double compartment store was for two flights. The architect is JW Binge and is counter signed by A Gilpin on drawing is 5609/37.

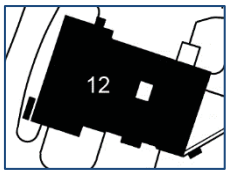
Each 4 ft 6 in by 6 ft 6 in compartment has its own fire-proof steel access door at the front and plate glass window at the rear. At the front is a 3 ft wide concrete apron painted black, and to one side was a boot scraper.

- Footprint: 8 ft 9 in by 11 ft 7 in (2.67 by 3.53 m)
- NGR: (10) TG 26045 23038, (10A) TG 26098 23112

Plate 11: Pyrotechnic Store (10)

Plate 12: Pyrotechnic Store (10A)

9.5 Main Stores (12)



9.5a Original Building

The main stores is constructed of monolithic concrete; it was designed by the architect PM Stratton to drawing 42867/35 of July 1936. Unlike the main workshops, both wings are exactly the same size.

External walls are 12 in thick reinforced concrete with a concrete slab roof supported by RC beams. Windows are Crittall style multi-pane casements set into continuous lintel and sills.

Up to 1955 it retained its nominally square-shaped planform; it is single storey with a central fabric store on the southern side (front elevation) that rises above the main building. The building is aligned roughly N/S and is based on two wings separated from each other by the central section.

As originally planned it was subdivided into three main parts consisting of the west and east wings and a central section:

- West wing: open plan technical store for general technical stores including aero engine and MT spares; it is separated from the central section by a corridor
- East wing: fitting space, clothing store, barrack furniture store, and produce store; it is separated from the central section by a corridor
- Central area: fabric store which originally would have had steel sliding doors that opened along rails set into the concrete and an overhead rail that projected away from the store on both sides – these were supported by 'A' frames. Timber doors would have been behind. There were with small rooms on either side: rubber store, footwear and laundry, bedding store, and a barrack warden's office. Behind the fabric store was a large light well, with a small store on one side plus a general office and another office for the equipment officer on the other side. Behind the light well at the northern end (rear) is the receipts, packing and unpacking area. The northern part of this area is 3 ft above the normal floor area, to enable lorries to back up to three large doors so that they can be unloaded. The working area is caged in and is accessed from steel gates and either one of two ramps.

9.5b First Extension

In September 1955, the wartime AMWD architects A Beasley and EC Godwin designed a large 'U'-shaped extension to be built against the west elevation as the new west wing, to drawing 7042A/55 and 7043/55. This would function as a bulk store, barrack store, laundry and footwear store, linen store and an office. The open area of the 'U' acted as a light well, not only for the new extension but also for the old west wing (technical store). Construction is of cased steel stanchions at 10 ft centres with exposed RSJs carrying the roof, the roof being constructed from precast concrete units. Wall infilling is cement rendered (pebble dashed finish) brick which is in keeping with the original right down to the continuous lintel and sills plus high-level windows of a similar pattern to the originals in every bay.

Inside the original building, the rubber store was made bigger by removing a partition between it and the old laundry and footwear store (this section moving to the new extension).

9.5c Second Extension

In 1965 the MPWB designed and had built a small link detached female / male toilet block extension against the south-east elevation. It is constructed with external walls of cement rendered hollow concrete block. The roof is a concrete slab.

In November 1988, plans were prepared for the fitting of a pitched roof, but this project came to nothing.

- NGR : (12) TG 25974 23005

Plate 13: Main stores (12), front

Plate 14: Main stores (12), side elevation

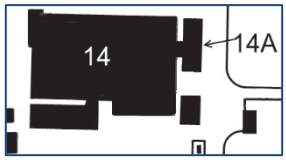
Plate 15: Main stores (12), interior view of original wing

Plate 16: Main stores (12), interior view of extension

Plate 17: Main stores (12), interior view

Plate 18: Main stores (12), interior view between old and new wings

9.6 Field Force MT Shed / Ground Equipment Store / Cinema (14) and Battery Charging Facility (14A)



9.6a Field Force MT Shed

The Munich Crises of September 1938, led to a major reconsideration for preparing the mobility capability of the RAF squadrons that in the event of war were destined to become part of the British Expeditionary Force. The squadrons to be transferred to France consisted of two distinct entities:

- The Advanced Air Striking Force consisted of bomber squadrons from No.1 Group that were to be based in France because of the comparatively short range of their aircraft.
- The Air Component was a mixed formation designed to supply air reconnaissance and protection as an integral part of the Army Expeditionary Force – the Field Force. It involved squadrons for strategic and tactical reconnaissance as well as fighter protection.

The Field Force MT (FFMT) shed at Coltishall was designed by JH Binge and would have originally been built to store the resident mobile squadron's MT vehicles and all of its portable equipment should the unit be transferred to France.

It is a concrete design (2803/38) shed having seven down-stand RC beams supporting the concrete slab roof and a central row of three concrete columns. It was originally arranged as four equal bays. There were originally continuous rows of main doors (each 14 ft wide and 15 ft high) in eleven leaves along both north and south side elevations, giving an opening of 46 ft 6 in but these have been removed and brick walls inserted in their place. The doors were supported by door guides fixed beneath a projecting canopy (2511/38), along both sides of the shed and this canopy feature is replicated in the extensions.

9.6b Station Cinema / Astra Cinema

The cinema in 1966 had six performances per week and attracted more than 19,490 patrons in that year. It occupies the northern longitudinal half of the building with a fire wall separating the two halves – this has been built along the row of concrete columns. It is unknown when half of the FFMT shed was converted into a cinema, although it is thought to have been c.1957. In 1971 drawings were prepared to make it more suitable as an instructional cinema which meant the loss of 77 seats, reducing the seating capacity from 338 to 261 seats. The reason for this was partly that the building was too long for its width, causing projection problems. Another reason was that the old FFMT shed doors were still in place and the acoustics were not very good – these were then removed and the gaps filled in concrete block and brick.The costs involved were £4,000 which included a contribution of £500 from the RAF Cinema Corporation.

Access to the seating, which is fixed to a raked floor, is by a rear passage and steps down. At the rear is a stage, a prop room, 'the green room' which is decorated with painted film posters that has been carried out to a high standard and a workshop. The front of house part includes a foyer, ticket office, power room plus male and female toilets.

At first floor height is the projection room, office and a rewinding room which is accessed from external steps leading up to a balcony.

9.6c First Extension

In October 1978, the PSA designed a workshop extension (NAO/95/77/2 - 5) to accommodate the Ground Support Equipment Section (GSES) to be built on part of the south elevation. This was constructed with reinforced concrete columns and Metsec trusses carrying ‘spacelight’ GRP roof lights and Woodcemax or similar units with a covering of asphalt. There is also an RC ring-beam with parapet wall and overhang similar to the original building. Wall in filling is cavity brick / concrete block with aluminium glazing units plus high-level aluminium glazing units.

9.6d Second Extension (14A)

The next extension was in response to an October 1987 PSA design for a battery charging facility which was erected as a link-detached unit on the east end elevation of the original building. It is in two halves, one for charging alkaline batteries and the other for acid batteries. An emergency shower facility separates these.

It is steel framed, single storey with 11 in brick / concrete in-filling and partly over-clad with Robertson's metal sheeting for wall and roof. The roof has a 15 degree single pitch.

9.6e Third Extension

The final extension to drawing 830040/4/2 of c.1988 was for a link-detached offices and crew room, built adjacent to the 1978 extension. There is an external entrance and a corridor linking it with the 1978 extension. There are four offices, a control room, crew room, SNCO's crew room and a locker room with 43 lockers.

It is constructed of glass reinforced concrete panels with exposed aggregate finish. The roof is a timber 10 degree pitch system, clad with metal roofing sheets.

- Footprint (original building only): 153 ft 6 in by 58 ft (46.78 by 17.68 m)
- NGR: (14) TG 25887 22909

Plate 19: FFMT shed (14) and first extension

Plate 20: FFMT shed (14) and first extension

Plate 21: FFMT shed / cinema (14), interior view looking towards stage

Plate 22: FFMT shed / cinema (14), interior view towards projection room

Plate 23: FFMT shed (14), extension interior

Plate 24: Battery charging room extension (14a)

9.7 Parachute Store / Safety Equipment Section (15)

9.7a Background

From 1927, parachutes became standard RAF equipment; all aircrew had to be measured for and issued with their own. These had to be periodically inspected to ensure that they were fit for service. This was achieved under the supervision of a senior NCO and carried out on a monthly basis by safety-equipment workers. Each parachute pack was issued with a small card on which was noted the date of the last inspection. Details such as to whom it was issued, and RAF Form 1125 was signed to confirm that the parachute was fit for use.

One of the main problems with parachutes was that of condensation, and to prevent shrinkage they had to be dried out. The object was to evaporate 6 lb of moisture per parachute every 24 hours. A dry atmosphere with constant ventilation and a temperature of between 55 and 65 °F was required. The building had to be free of dust and built with a lobby so that the outer door could be closed before the inner was opened. The main room had to have sufficient height to permit parachutes to be suspended by their apices for airing and drying without any part of the silk canopy touching the floor. In this position, rigging lines were placed on smooth-top tables. The natural lighting of packing tables allowed each parachute to be thoroughly inspected while the storage of the packed parachutes required a blind wall away from harmful sunlight.

9.7b Original Building Description

The parachute store at Coltishall was design by PM Stratton to drawing number 175/36; it is constructed of monolithic concrete with 10in walls and featuring a two-stage roof, the central part being raised above the main roof. As-built the SW elevation was blind while the NE elevation has a row of three 15-pane steel casement windows with clerestory lighting above on both sides which is in the form of 6-pane open-light horizontal steel casements. The building was accessed through an external blackout porch. There was only one room, containing a 40 ft long table close to the side wall having windows; in the centre was a large tray which was directly below the pulley system in the upper roof space, enabling parachutes to be winched up and down in the tallest part of the building. Against the blind elevation wall was a set of shelving for storing the packed parachutes awaiting re-issue.

9.7c Extensions

The first of four extensions was built against the SE end elevation to include a life raft bay

The second extension was built along most of the SW blind elevation and included an immersion suit bay with a wet drill washing bay containing a huge sink. Other rooms were a CO_2 charging bay and an office. This was built after September 1973.

The next was a small link-detached extension at right angles to the building, built onto the 1973 build which functioned as an open-plan immersion suit bay. It is constructed of glass fibre reinforced concrete panels.

The final extension was added to the extended SE end elevation and the SE end of the 1973 build, to create a large open-plan room, a new entrance and two smaller offices.

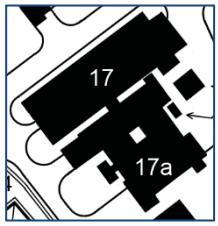
- Footprint (original building): 50 ft by 23 ft (not including the porch) (15.24 by 7.01 m)
- NGR: (15) 26075 23143

Plate 25: Parachute store (15)

Plate 26: Parachute store (15), view looking west with extensions

9.8 Main Workshops / Mechanical Engineering Bay (17 and 17A)

9.8a Original Building (17A)



The main workshops is a monolithic concrete design by the Air Ministry architect PM Stratton to drawing number 4924/35. It is arranged as two wings aligned roughly north and south which rise above a central section. The southern wing, which is smaller slightly in length, was an airframe workshop and the northern one was for engines. The main entrance in the central part faces nominally west.

Both wings were arranged open plan, the central section had a store and offices with main entrance, behind this to the east was a fabric worker's shop and machine shop and further east of this was a full width light well. At the eastern end is a welders and blacksmith's shop.

Note that originally, the earlier building was Bdlg.17 but when the extension was built this became 17 and the original became 17a, as shown in the drawing above.

Construction is of reinforced concrete 12 inches thick with internal piers at 12 ft centres; the engine shop is 9-bays long while the airframe on is 7-bays. The wings had 20-ft-wide main doors in either end and were lit by high-level Crittall style multi-pane casements, a pair in each bay.

9.8b Extension (17)

In October 1973 the DoE designed and then had constructed a large extension to be built on the north side of the original building. The project manager is WJ Keast and the architect is ME Woodford. It is steel framed with stanchions spaced at 48 m centres longitudinally forming 11-bays and 37 m centres laterally. These are joined together by two rows of cased steel beams. The stanchions support 18.5 m span lattice girder roof trusses. Wall in filling is concrete block in two leaves. The roof consists of wood wall slabs.

It is mainly arranged open plan but having a wheel and tyre bay, a cleaning bay and a stores area partitioned of at the western end.

At this time the north wing was in use as a fuel tank ventilating bay, a fuel tank repair bay, toilets, locker and crew rooms, a hydraulic bay and a test rig room. A first floor was added (date unknown), to include a records and publications office and two other offices.

- NGR: (17) TG 26106 23189

Plate 27: Main workshops (17)

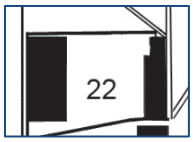
Plate 28: Mechanical engineering bay (17), extension view looking south-east

Plate 29: Mechanical engineering bay (17), extension view looking east

Plate 30: Mechanical engineering bay (17), interior

Plate 31: Mechanical engineering bay (17A), part of the original building

9.9 25-m Machine-Gun Range (22)



This facility consists of the original 1939 25-yard range which has been modified to conform to MOD requirements, therefore around 60% of the original is extant.

There is a modern butt wall which was rebuilt in 1999 and extended in height; it includes external brick buttresses of solid brick construction. In front of this is a modern brick-built bullet catcher which has a reinforced concrete roof (the underside faced in steel plate) supported by concrete columns with timber over a sand filled open covered area (the sand has since been removed). Between the bullet catcher and the firing point shelter is a landscaped earth ricochet pit.

In front of this at a distance of 25 metres, is the original single-storey 9 in brick-built firing point shelter above which a reinforced concrete roof with a cantilevered canopy is supported by concrete columns. This is now subdivided into the main open firing point, a partially open pistol firing point and a brick faced crew room.

The range has an original 9 in brick perimeter wall and in one corner there are also two single-storey flat roofed buildings with concrete roof and floors, these functioned as target stores and a shelter.

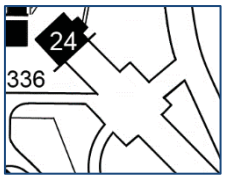
- NGR: (22) TG 25950 22781

Plate 32: 25-m machine-gun range (22), butt wall
with BFI #5 offloading compound (154) and pump house (155) in the foreground

Plate 33: 25-m machine-gun range (22), shelter

Plate 34: 25-m machine-gun range (22), shooting-in butt

9.10 40-ft Aircraft Machine-gun Test Butt / Cannon Test Butt / Packing Case Store (24)



Designed by M Binge, ARIBA, the 40-ft machine-gun range was built originally for testing fighter aircraft machine-guns against an angled bank of dry sand and a one-inch-thick steel plate, but at the beginning of 1942, it was altered for testing cannon. The steel plate butt was removed as was the sand and shingle. In their place were seven brick walls built as brick bunkers, in front of which was an earth bank – but all of this has since been removed though the brick scars can still be seen on the rear wall.

It is in two parts consisting of a concrete aircraft tethering apron and the test butt itself; the recommended distance between the two was a minimum of 50 ft. The apron in front of the test butt (40 ft by 50 ft), had three parallel rows of tethering rings for wings and fuselage. The butt is constructed of an open structure with buttressed 22 in brick walls that used to support a range of 40-ft-span steel lattice roof girders and roof covering of asbestos sheeting, but these have since been replaced with modern materials. There is an external store with steel doors against the eastern elevation which is protected by a projecting wall at the front.

In more recent times building 24 has been used to store the Sicard snow blowers used to clear the runway.

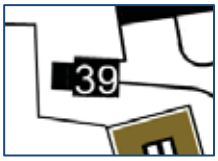
- Footprint: Test butt (internal) 40ft by 37ft 6in (12.19 by 11.43 m)
  Store room (internal) 7ft 9in by 12ft (2.36 by 3.65 m)
- NGR: (24) TG 25979 22763

Plate 35: 40-ft aircraft machine-gun test butt (24)

Plate 36: Aircraft machine-gun test butt and store (24), rear view

Plate 37: 40-ft aircraft machine-gun test butt (24), interior
Note the brick scars of the cannon bunkers

9.11 Practice Bomb Store and Gas Chamber (39)



9.11a Introduction

This is a 'T' shaped single-storey building consisting of a gas chamber in the tail of the 'T' and a practice bomb store in the arms. It is accessed from a path from the No.2 aviation fuel installation. It was later used as a GSE store.

9.11b Gas Chamber

This is a 12 ft 6 in by 16 ft open-plan room, the floor being set to fall in four directions to a central drainage system. There are two doors and three 6-pane steel casement windows. The roof over this half projects outwards to form a cantilever weather canopy on three sides and this is aligned with that over the practice bomb store (which is wider than the gas chamber). Directly below the canopy, the concrete path mimics the roof – both are tapered but in opposite directions.

9.11c Practice Bomb Store

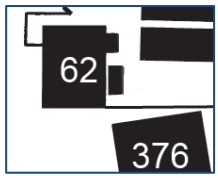
The practice bomb store is also arranged open plan (15 ft by 20 ft), except for a small cupboard in one corner for smoke generators. It has a main double-width full-height steel door with a cast iron grating set into the concrete access path. The floor inside is set to fall towards the door.

- NGR: (39) TG 25854 22847

Plate 38: Practise bomb store end of building 39

Plate 39: Gas chamber end of building 39

9.12 Motor Club (62)



The motor club is a single-storey windowless 3-bay portal frame building with a rectangular-shaped planform. It is externally clad with brick work at low level and above this is 'BigSix' corrugated asbestos sheeting bolted to purlins. There is a vehicle entrance at the front of the building with sliding door. The roof is also unlined corrugated asbestos sheeting but also has a series of transparent rooflights. The building is mainly open plan but also has a brick-built office.

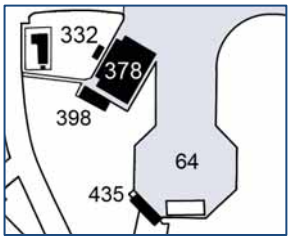
- NGR: (62) 25850 22886

Plate 40: Motor club (62), front view

Plate 41: Motor club (62), rear view

9.13 Aircraft Washing Facilities (64, 332 and 435)

These facilities include the Aircraft Washing Platform (64), the Wash Waste Treatment Plant (332) and Aircraft Wash Cabin (435).



9.13a Washing Platform (64)

Constructed c.1964, the washing platform is located opposite the southern end of hangar 3 and is to the west of the southern ASP. It is an eight-sided area of concrete with maximum dimensions of 112 ft by 112 ft, suitable for one aircraft. It is accessed from a 125 ft access track and has a drainage channel around the western edge which drains to an underground pipe which takes the liquid to the diversion chamber, before making its way to the separation tank, then pump well, before entering a new pumping main.

9.13b Wash Waste Treatment Plant (332)

Also constructed c.1964, the wash waste treatment site is a fenced and gated compound consisting of an oil trap type facility for use with light duty foam cleaners such as Stripolene 260 and Ardox 6025. It is located with a fenced and gated compound and worked on the pumped effluent principal. It is in two parts, consisting of an underground concrete lined oil trap like series of tanks, a detached diversion chamber and a combined separation tank and pump well with an above-ground pump house. The pump house is a small square-shaped building constructed of windowless but vented cement rendered brick and a concrete slab roof. It houses a single pump.

9.13c Aircraft Wash Cabin (435)

The aircraft wash cabin (435) sits on its jacks at the south-western edge of the aircraft washing platform (64), it consists of an Elliot Presco cabin which presumably garaged the portable washing plant which is accessed via a concrete ramp and roller shutter doors at the northern end.

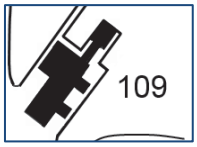
- Footprint: (435) 10 ft 3 in by 39 ft 10 in (3.12 by 12.14 m)
- NGR: (64) TG 26077 22753, (332) TG 26026 22792, (435) TG 26062 22739

Plate 42: Aircraft wash cabin (435)

Plate 43: Aircraft wash platform (64)

Plate 44: Wash waste treatment facility (332)

9.14 Engine Test House (109 and 108)



During November 1974, the PSA designed an engine test house including the control cabin, exhaust silencer system, engine test stand, and fuel and fire suppression systems. All structural components are constructed of steel frames clad with insulated sheet steel. The control cabin is timber-framed covered with insulated Flexo metal panels externally, and internally of plywood, except for an observation window which is double glazed armoured plated glass. The cabin is mounted on feet above a concrete sub-floor. There is also a tall compressor house annexe on the south elevation. To the north, a 9 in concrete bund remains which originally protected the fuel storage tanks (108).

- NGR: (109) TG 26077 22673, (108) 26077 22704

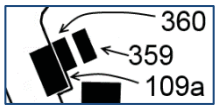
Plate 45: Engine test house (109) with compressor house annexe

Plate 46: Engine test house and control cabin (109)

Plate 47: Engine test house (109), general view of interior

Plate 48: Engine test house (109), close-up of test stand

9.15 Engine Test Facilities Crew Room (109A)



Located immediately south of the engine test house (109) is an engine test crew room, designed by the PSA in March 1974. It is single storey with a rectangular-shaped planform. It is subdivided into a crew room with single access, toilet and a separate open-plan store which has single access double doors on the north and a sloping access path.

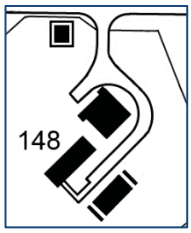
External walls are mainly 15 in cavity brick / concrete block except for the end wall of the crew room which is reduced to 11 cavity brick / concrete block. The roof is a concrete slab. The windows are standard narrow steel module casements

- Footprint: 39 ft by 18 ft 4 in (11.90 by 5.60 m) NGR: (109A) TG 26081 22648

Plate 49: Engine test facilities crew room (109A)

Plate 50: Engine test facilities crew room (109A), view looking south

9.16 Product Receipt Enclosure (PRE) Site (148)



The PRE Site consists of a fenced compound with grassed and concrete pavement areas having concrete revetment areas built around pipelines, valves and fuel tanks. There is also a single-storey flat-roofed building and the site is accessed through a controlled gate entry – the main enclosures are accessed from a purpose-built road.

Fuel arrived via a pipeline belonging to the Government Pipelines and Storage System (GPSS) from Hethersett MoD Petroleum Storage Depot (13 miles to the south-west) to the PRE Site at Coltishall and pumped to BFI #5 from where it could be distributed to BFI #6. The pipework protective buildings are single-storey, reinforced concrete revetment areas, one of which has a flat steel sheet roof. The site was built in 1980 to the designs of the British Pipeline Agency Ltd.

The main structures are:

- The PRE structure is an above-ground open walled enclosure; it is constructed of 400-mm-thick external reinforced concrete walls 2.7 m high, 10.3 m long and 5.3 m wide. There are two entrances, one at either end and these have blast wall protection.
- The slopes / relief tank enclosure is a below-ground reinforced concrete tank bund with walls 150 mm thick, 14.0 m long, 4.3 m wide.
- The control building has a nominal square-shaped planform, flat roof with timber joists over brick built cavity walls, windows are steel-framed and the floor areas are concrete slab. It contains a toilet, day room and electrical centre. The footprint is 4.0 m by 4.6 m.
- Pre-coat Filter enclosure and back-flush filter enclosure – this has a nominal square-shaped planform, and is constructed of 400-mm-thick reinforced concrete walls with two entrances having blast wall returns. It is divided into two equal enclosures with one half at a lower level and this is accessed via a steel ladder. This houses a tank mounted on concrete stools and two sumps. The other half has a pair of pipe ducts, a small tank and a plant plinth. The footprint is 9.0 m by 9.3 m.

▫ NGR: (148) TG 25961 22701 (centre of site)

Plate 51: PRE pre-coat filter enclosure (148), view showing the concrete walls and blast wall entrance

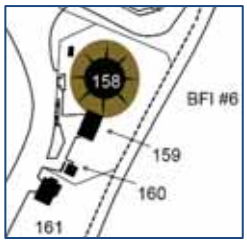
Plate 52: PRE pre-coat filter enclosure (148), slop tank

Plate 53: PRE pre-coat filter enclosure (148), relief tank

Plate 54: PRE structure (148)

Plate 55: PRE control room (148)

9.17 Bulk Fuel Installations #5 and #6 (154–161)



9.17a Introduction

Initially designed by the PSA and detail designed and constructed by the company McTay Building & Civil Engineering Ltd, the drawings are dated October 1978. The two sites (BFIs #5 and #6) are similar in layout and are located within a fenced compound with controlled gated entry.

They both consist of an external tanker access road with two brick-built dispensing points and an off-load point which are all behind the wire, but the pipes can be accessed from the roadside which are located within brick loggias. Inside the compound is a single, circular (16.0 m inside diameter and 6.3 m high) fuel tank (supplied by Whessoe Ltd) which is buried beneath an earth mound. There are also various support buildings which are: a pump house, control room and standby set house. All of these structures are single storey with rectangular-shaped planforms. There is a steel access staircase to the top of the BFI where there is an access hatch to the tank and vents.

- NGR: (154) TG 25896 22795, (158) TG 27399 22793

9.17b Pump House (155 and 159)

This building has brick and concrete block cavity external walls with blast walls adjacent to the openings. There are no doors or windows just full-height openings and these act as the main form of ventilation – it is partly under the bank around the BFI tank. The roof is a reinforced concrete slab that projects out to cover the blast walls. It houses the station fuel system with pipework pumps and valves. Outside at the rear is an underground concrete-lined bund with a slop tank. Footprint is 11.6 m by 6.0 m.

- NGR: (155) TG 25901 22774, (159) TG 27392 22772

9.17c POL Control Room (156 and 160)

The control room is a small single-storey structure, brick built with a single room with one entrance, protected by a blast wall. There is a drench shower located close by. The external walls are windowless, constructed of brick and concrete block and is vented by air bricks. The roof is a reinforced concrete slab.

- NGR: (156) TG 25915 22755, (160) TG 27381 22752

9.17d Standby Set House (157 and 161)

The standby set house is in two parts, consisting of the engine room and a diesel tank walled compound which has a lower floor level than the engine room.

The engine room is a composite arrangement of brick and concrete cavity external walls with single access to the engine room. The roof is a reinforced concrete slab edged in aluminium strip. Doors are steel fireproof set in steel frames.

The fuel tank compound has full-height solid brick walls and single access to the fuel tank compound; it has a separate access door. External walls are brick and concrete and internal are concrete block.

- NGR: (157) TG 25909 22746, (161) TG 27371 22745

Plate 56: BFI #6 and pump house (158)

Plate 57: BFI #6 control room (159)

Plate 58: BFI #6 standby set house (161)

Plate 59: BFI #6 pump house (159), interior
showing two sets of Hamworthy pumps and filters plus two sets of pipework.

Plate 60: BFI 6 offloading compound

Plate 61: BFI 6 earth mound and oil trap

Plate 62: BFI #5 pump house (155)

Plate 63: BFI #5 Smith fuel meter register

9.18 Early Failure Detection Cell (187)

Early failure detection involved condition monitoring and trending to ensure optimum system performance of all engines, gearboxes, hydraulic pumps and associated systems for a particular aircraft.

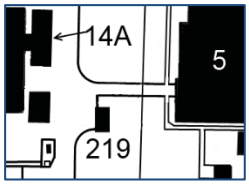
This is two Thurston Surespan single-room cabins joined together and mounted onto concrete blocks. It is single storey constructed of a prefabricated steel frame with pre-finished steel lined insulated wall sections having aluminium windows which are integral to the wall system. The floor is suspended steel panelled covered in vinyl and the roof is flat and steel covered, the joint between the two cabins being a rain water valley. There is a steel lifting eye at each corner.

- NGR: (187) TG 26121 23210

Plate 64: Early failure detection cell (187)

Plate 65: Early failure detection cell (187)

9.19 Compressor House (219)



The compressor house supports buildings 5 and 14 via underground galvanised pipework. Located midway between these buildings it is a single-storey structure with a rectangular-shaped planform and is in two parts consisting of the machine or plant room which houses a compressor and horizontal air receiver, the other part appears to be a store room. It is quite likely that the plant equipment is modern – maybe the store room was originally a receiver room? The building is presumed to date from the mid-1950s. Access was not possible.

Construction is of 11 in cavity brick with a concrete slab roof clad with asphalt. There is one steel-framed window, doors are hardwood in hardwood frames with heavy concrete lintels, and the floor is a concrete slab.

- NGR: TG 25934 22890

Plate 66: Compressor house (219), front elevation

9.20 Brake Parachute Servicing Building (260)

9.20a Introduction

This building is a single-storey flat-roofed structure with various heights of composite construction; it consists of a tall brick-built parachute hanging store, a plant room and a prefabricated timber-framed and clad packing room and within this is an internally built office area and a display area. It is a standard design, but this version is without a boiler house to various drawings including 122651A/59D to 12653A/59D and 4682A/59D.

It was built c.1960.

9.20b Packing Room

The packing room is an 8-bay patent 'Derwent' prefabricated building manufactured by the company Vic Hallam Ltd; it is timber framed clad with vertical cedar boarding and window units and the roof is a series of timber trusses clad with 'Derwent' roofing panels and lantern lights.

9.20c Drying Room

The drying room is constructed of 9 in brick exterior walls with a pre-stressed suspended reinforced concrete plank roof, and the drying tower has exterior walls of 13.5 in solid brick with a reinforced concrete slab roof that has cast in situ extract fan apertures.

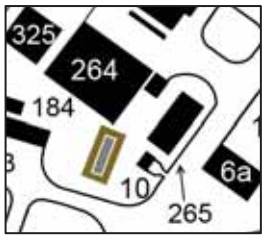
- NGR (260) TG 26115 23157

Plate 67: Brake parachute servicing building (260) showing the drying tower

Plate 68: Brake parachute servicing building (260), plant room

Plate 69: Brake parachute servicing building (260), a view of the Vic Hallam hut and rest room (304)

9.21 Air Publications Store (265)



The PSA designed the air publications office to drawing NAO-7/78/1 in August 1978. It is single storey with a rectangular-shaped planform. The main entrance is on the south elevation which leads into a reception centre with counter, in front of the publications office (which has an access point on the north elevation). On the west side is an open-plan stationary store and a small rest room, while on the east side is an open planform store. These two main rooms also have their own double doors at the front and rear.

Construction is of 11 in external brick / concrete walls, internal are concrete block with Crittall modular windows, and the roof is made up of Bison precast concrete planks.

- Footprint: 57 ft 1 in by 28 ft 6 in (17.40 by 8.70 m)
- NGR: (265) TG 26054 23049

Plate 70: Air publications store (265), front elevation

Plate 71: Air publications store (265), rear and side view

9.22 MT Refueller Office and Crew Room (272) and Toilet (271)

9.22a Introduction

This facility consists of three parts, two of which form a composite arrangement of two single-storey structures, with a main brick-built building and a prefabricated Thurston Surespan building mounted onto concrete blocks. The brick structure contains an ablution, kitchen and office / control room; it is joined by a flat-roofed canopy to the cabin. The final part is a temporary brick toilet block that forms part of the armoury's perimeter fence.

9.22b MT Refueller Office and Crew Room (272)

The main building is constructed of 11 in brick / concrete block cavity external walls and concrete block internal walls. Windows are double-glazed units; the roof is a reinforced concrete slab. The cabin has an insulated steel sheet skin for roof and walls with aluminium framed openings. The roof of the connecting canopy is timber and felt covered.

9.22c MT Refueller Toilet Block (271)

This is constructed of cement rendered brick with timber glazed windows. There is single entry to toilets and an emergency drench shower. The roof is a concrete slab and the floor is concrete covered with ceramic tiles.

- NGR: (272) TG 25998 22868

Plate 72: MT refueller office and crew room (272)

9.23 30-mm Ammunition Storehouse (274)

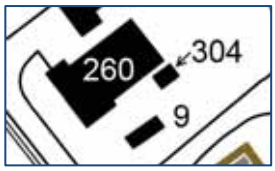
The 30-mm ammunition store was designed by the AMWD in May 1961 to drawing WA7/85/61. It is single storey and windowless (but vented) with a rectangular-shaped planform; it is arranged as an open-plan storage facility with two main 12-ft-wide access points on the NW and SE elevations. It is constructed of 11 in cavity brick walls with external piers. The roof is carried on the gable walls and there are two exposed standard 38-ft-span steel trusses. Roof cladding is BigSix corrugated asbestos sheeting and the ceiling is lined with asbestos insulation board. The floor is a 6 inch slab on 8 in of hardcore.

- Footprint: 50 ft 7 in by 40 ft 1 in (15.42 by 12.21 m)
- NGR: TG 26000 22704

Plate 73: 30-mm ammunition storehouse (274), view looking north-west

Plate 74: 30-mm ammunition storehouse (274), view looking south

9.24 Brake Parachute Rest Room (304)



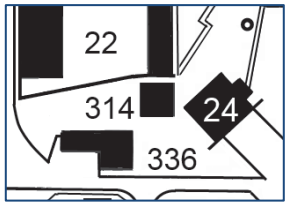
The brake parachute rest room is a small link-detached single-storey brick-built building having a single room, with pitched roof clad with corrugated asbestos sheeting. It may originally been detached but is now connected to the brake parachute packing room by a brick-lined corridor which has a flat roof. Windows are steel casements and the floor is a concrete slab with step and brake parachute building (260) behind.

- NGR: (304) TG 26126 23154

Plate 75: Brake parachute rest room (304)

Plate 76: Brake parachute rest room (304) and brake parachute building (260) behind

9.25 25-m Range Shelter (314)



This is a single-storey prefabricated Swiftplan building designed and manufactured by the Wernick Group (the company acquired Swiftplan in 1988, from Taylor Woodrow). Generally Swiftplan buildings are for the overseas market so it may have been a flat-packed building or may have arrived as a built cabin.

The floor is a plywood decking, walls are panels of sandwich construction with an outer facing of plastic coated steel and an inner lining of vinyl-faced plasterboard. The roof is a 5 degree pitch of Marleydek roof covering. The building was handed over by the contractor in November 1996.

- Footprint: 43 ft 10 in by 20 ft 2 in (13.36 m by 6.16 m)
- NGR: (314) TG 25964 22766

Plate 77: 25-m range shelter (314)

9.26 Emergency Water Supply (323–325, 114 and 419)

EWS tanks 323, 324 and 325 are emergency water supply square-shaped, sub surface, but open tanks of unknown capacity. They are constructed of concrete and are within fenced compounds. (EWS 114, 323 and 325 are located within the MOJ buffer zone). They do not show up on site plans before 1952. Other details are unknown.

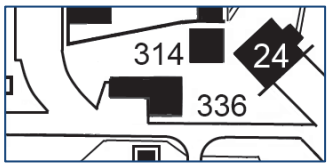
Tank 326 is also similar and is covered in Part 12.7

EWS 419 is a modern above ground circular galvanised steel tank with a capacity of 40,000 litres of water.

- NGR: (324) TG 26060 23161, (419) 26071 22557

Plate 78: EWS (324)

9.27 Petrol, Oil and Lubricants (POL) Control Building (336)



The POL control building was originally a small single-storey rectangular-shaped structure located immediately south of the M/G range (22). Its date of construction is unknown. It contained a crew room, toilet, dirty changing room and entrance lobby. In 1990 it was extended by the company Walter Lawrence Ltd (who built the station in 1939/40) at both ends to create a building having an 'L'-shaped planform. In this form it included a test and store room at the western end plus a clean changing room and toilet on the eastern end; the extension then continues beyond the width of the original building in a southwards direction to include a new POL control room plus an office.

Construction is of cavity brick / concrete block external walls with a timber trussed rafters roof clad with concrete interlocking slates.

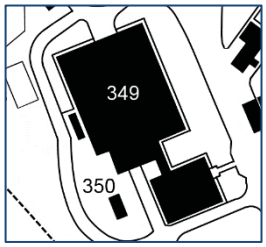
- NGR: (336) TG 25949 22756

Plate 79: POL control building (336), view looking north

Plate 80: POL control building (336), view looking north-west

9.28 Jaguar Flight Simulator (349)

9.28a Introduction



The Jaguar simulator building was a DoE design under project manager WJ Keast and the architect was H Hesketh and is dated June 1972. Its plan is based on two rectangular-shaped planforms that are connected together by a narrow corridor. One of these is a single-storey office block and the other is the simulator building itself.

9.28b Office Block

This has a main entrance and hall on the east elevation which gives access to a corridor that is square-shaped in plan, with offices arranged on four sides as well as in the central space within the square. At the western end, the corridor also runs in a southerly direction to exit the building, and in a northerly direction to connect with the simulator building. Rooms are arranged as follows:

- East side: airmen's crew room, aircrew crew room and instructor's room
- South side: office , briefing rooms (1–3), south entrance and a bin room
- West side: technical training, store, technical reports office, switchgear cupboard and dirty workshop
- North side: NCO's office, technical record, shift NCO's office and corridor connecting with the simulator building
- Central section: Cleaners' room, airmen's locker room, airmen's toilet, officers' toilet, officers' locker room and a calorifier room.

It is constructed of 11 in cavity brick walls; the roof appears to be a concrete slab supported by the external and internal walls plus a central north/south beam with lantern lights flooding the central section with natural light.

9.28c Simulator Building

The simulator building is single storey but rises above the office block. It is steel framed, with cased RSJ stanchions two at 14.2 m and one at 8.0 m forming parallel longitudinal bays aligned north/south and the internal room arrangement is based around this subdivision. As-built, the east bay has model room 1 and a clean workshop, the central bay has model room 2, a computer room, and instructor's room plus a cockpit room. The narrow bay houses the plant and power services.

The roof is constructed of Robertson's steel decking with sprayed asbestos insulation; wall classing is cavity brick, concrete block and profiled metal sheeting.

- NGR: (349) Simulator Building TG 26026 22660, Offices (349) TG 26053 22615

Plate 81: Administration building (349)

Plate 82: Simulator building (349), view looking north
the only uncluttered views are of the rear

Plate 83: Simulator building (349), rear view looking south

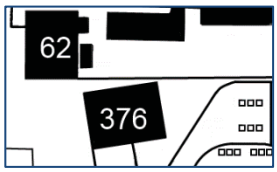
9.29 Jaguar Flight Simulator Boiler House (350)

Constructed c.1985, the boiler house is single storey with a rectangular-shaped planform. The building is in two halves consisting of the boiler room with single access and a pair of 176 kW boilers. The other part is the oil tank room containing a 22,700 litre oil tank, also with single access. The structure is constructed of windowless brick with a concrete slab roof.

- Footprint: 30 ft 8 in by 14 ft 10 in (9.34 by 4.52 m)
- NGR: (350) TG 26025 22608

Plate 84: Jaguar simulator boiler house (350)

9.30 Paint Spray Facility (376)



The paint spray facility (376) is mainly a single-storey pitched roof building with a rectangular-shaped planform which houses spray booths, but it also has an admin area at ground floor level that includes including toilets and ablutions, and above this is a store area.
This part has internal walls of concrete block and the stores above are accessed from an internal steel stair.

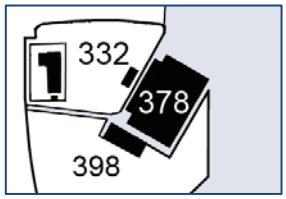
It is constructed of a steel portal frame clad at lower level with reinforced concrete insulated panels bolted to the steel frame and above this is prefinished profile steel sheeting. Windows are uPVC double glazed units and the doors are steel with main roller shutter doors on the south elevation. The roof is clad with insulated profile prefinished sheeting with air vents. Access was not possible.

- NGR: TG (376) 25868 22867

Plate 85: Paint spray facility (376)

Plate 86: Paint spray facility (376), front elevation

9.31 Spraybake Aircraft Paint Facility (378)



This is a commercially designed building for spray painting a Jaguar aircraft, designed by Spraybake Ltd and built after December 1994. It has full sliding and folding doors at the northern end to allow the aircraft to enter, while the southern end has an annexe suite of offices, a spraygun wash facility and an area used for stripping plastic. On the NW elevation is the inlet and exhaust plant with two exhaust chimneys that rise 3 m above the building. The ceiling has an array of 25 Halide lamps flush mounted, arranged in five rows of five.

The building is steel framed clad (walls and roof) with exposed columns on the outside (walls only) with an inner skin of 40-mm-thick insulated panels on the inside face and on the outside with galvanised sheeting. The roof is similar but is fitted to the exterior face of the stanchions and roof beams.

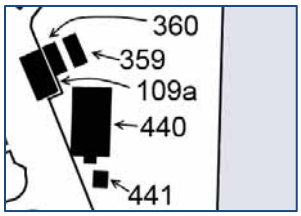
- Footprint: 73 ft 9 in by 39 ft 4 in (22.50 by 12.00 m)
- NGR: (378) TG 26057 22787

Plate 87: Spraybake aircraft paint facility (378), view looking north-east

Plate 88: Spraybake aircraft paint facility (378), view looking south-west

Plate 89: Spraybake aircraft paint facility (378), interior

9.32 16 Squadron Line Hut (440)



Constructed in 2000, the 16 Squadron line hut was one of the last permanent buildings to be built at RAF Coltishall. It is single storey with a rectangular-shaped planform and an external main entrance porch. It has a central corridor which gives access to all rooms that includes offices, ablutions, a control room and rest room with kitchenette.

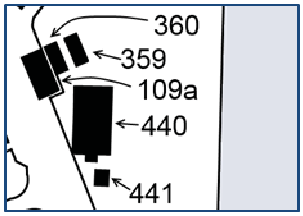
The building is steel framed with exterior wall cladding of brick and concrete block cavity walls. Windows are double glazed aluminium module types. The roof is steel framed clad with prefinished profiled insulated metal sheeting.

- Footprint: 33 ft 6 in by 62 ft 9 in (10.21 by 19.12 m)
- NGR: (440) TG 26095 22634

Plate 90: 16 Squadron line hut (440), view looking north-east

Plate 91: 16 Squadron line hut (440), view looking north-west

9.33 16 Squadron POL Store (441)



The 16 Squadron POL store is a small single-storey building with a rectangular-shaped planform. Its concrete floor is at a lower level than the surrounding area because it acts as a bund. The pathway to the main doors rises upwards towards the opening to create a step and the brick exterior walls are built onto an upstand concrete dwarf wall that is cast as part of the floor slab.

Exterior walls are windowless vented brick with a single entry having a steel door set into a steel frame. The roof is a concrete slab roof constructed of planks.

- Footprint: 11 ft 10 in by 15 ft 5 in (3.60 by 4.70 m)
- NGR: (441) TG 26097 22616

Plate 92: 16 Squadron POL store (441)

9.34 Miscellaneous Structures

Plate 93: Yarnold Sangar pillbox

This is one of quite a few of these structures dotted around the station, most being half dismantled
NGR: TG 25908 23483

Plate 94: Electric sub-station 'S' (89)

This is one of several ('A' to 'X') on the main camp area and distributed around the airfield perimeter – each known by a letter code.

Plate 95: BFI #5 dispersed switch cupboard
This is the only one with its fire sign unbroken. NGR: TG 25919 22881

Plate 96: Diesel oil dispensers

It is unclear whether these use the tanks beneath BFI #2 or not.
NGR: TG 25908 22867

SOURCES (IN-HOUSE DRAWINGS)

503/14/56	Central Armoury Plan (5)
7137/54	Central Armoury Setting Out plan (5)
8256/54	Central Armoury Foul and Stormwater Drainage (5)
6959/54	Central Armoury Record of Survey (5)
EC/67/86 M&E	Toilet Block (9A)
EC/6186M&E	Toilet Block (9)
4287/35	Main Stores (12)
4322/55	Main Stores as Existing April 1955 (12)
7042A/55	Main Stores Alterations & Additions (12)
7043A/55	Main Stores Improved Equipment Accommodation (12)
AB2/1	Engine Test Facilities Crew Room Plans etc
NAO/95/77/2	GSES Extension to Workshops (14)
NAO/95/77/5	Ground Support Equipment Section Plan & Elevations (14)
NAO/95/77/8	Ground Support Equipment Section (14)
ABG/1	Conversion into Instructional Cinema (14)
ABG/2	Conversion into Instructional Cinema Sections (14)
ASG/1	Conversion into Instructional Cinema Sections (14)
830040/4/2	New Offices and Crew Room for GSES (14)
870031/DBG1/3	Proposed Battery Charging Room Extension (14A)
870031/ALG/5	Proposed Battery Charging Room Extension (14A)
870031/ADG/6	Proposed Battery Charging Room Extension (14A)
WA7/56/56	Parachute Store to Provide Dinghy Store (15)
175/36	Parachute Store GA (15)
AB1/1A	Floor & Roof Plans Mechanical Engineering Bay (17)
XB1/1A	Extension to Mechanical Engineering Bay (17)
EB1/1	Engine Repair Bay (17)
189/7/2	PRE Site Layout (148)
189/8/1	PRE Installation (148)
189/9/2	PRE Installation Slopes Relief Tank Enclosure (148)
189/8/4	Electrical Centre and Day Room (148)
189/8/5	Pre-Coat Filter & Back Flush Enclosure (148)
XD14/1	Aviation Fuel Tank (154-158)
XDG/12	Fuel Pump Houses for Tanks #1 and #2 (154-158)
XDG/14	Building Elevations (154-158)
AD1/1 & AD1/2	GA of Acoustic Enclosure (190)
AD2/1	General Assembly of Control Cabin (190)
AD2/2	GA of Control Cabin Instrumentation Layout (190)
NAO/7/78/1	Provision of New SPFS Building (265)
NAO/2/80/2	POL Control Room Plans (336)
NAO/2/80/3	POL Control Room Sections (336)
AB1/2	Flight Simulator for Jaguar Elevations (349)

AB1/1	Flight Simulator for Jaguar Plan (349)
850021	Alterations to Heating Services of the Jaguar Simulator Building (350)