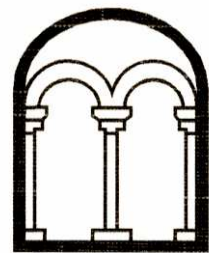


**SATELLITE INSTALLATIONS
BEDFORD TELEPORT
THURLEIGH AIRFIELD
BEDFORDSHIRE**

**SUMMARY OF ARCHAEOLOGICAL OBSERVATION,
INVESTIGATION AND RECORDING**

Albion
archaeology



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BEDFORD TELEPORT
THURLEIGH AIRFIELD
BEDFORDSHIRE**

**ARCHAEOLOGICAL OBSERVATION,
INVESTIGATION, RECORDING, ANALYSIS AND
PUBLICATION**

Project: BT1830

Document: 2011/119
Version 1.0

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23rd September 2011

Prepared for:

Telent (acting for Arqiva)



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Preface

Every effort has been made in the preparation of this document to provide as complete a summary as possible within the terms of the method statement. All statements and opinions in this document are offered in good faith. Albion Archaeology cannot accept responsibility for errors of fact or opinion resulting from data supplied by a third party, or for any loss or other consequence arising from decisions or actions made upon the basis of facts or opinions expressed in this document.

Acknowledgements

Albion Archaeology was commissioned to carry out the archaeological works by Mike Tucker of Telent (acting for Arqiva). The project was monitored on behalf of the Local Planning Authority by Vanessa Clarke, Bedford Borough Council Senior Archaeological and Historic Environment Team Officer (HET).

Fieldwork was undertaken by Marcin Koziminski (Archaeological Supervisor) who also prepared this report with figures by Joan Lightning (CAD Technician). Mike Luke managed the project. All Albion projects are under the overall management of Drew Shotliff (Operations Manager).

Version History

<i>Version</i>	<i>Issue date</i>	<i>Reason for re-issue</i>
<i>1.0</i>	<i>23/09/2011</i>	<i>n/a</i>

Key Terms

Throughout this document the following terms or abbreviations are used:

BBC	Bedford Borough Council
HER	Historic Environment Record
HET	Historic Environment Team
IfA	Institute for Archaeologists
<i>Procedures Manual</i>	<i>Procedures Manual Volume 1 Fieldwork, 2nd edn, 2001 Albion Archaeology</i>
WSI	Written Scheme of Investigation



Non-technical Summary

Archaeological observation, investigation and recording were undertaken during the construction of a new satellite dish at Bedford Teleport. This is located in the north-west corner of Thurleigh Airfield in north-west Bedfordshire (TL3719/6107). Work was undertaken as a requirement of planning permission.

The site lies within an area of archaeological potential — it is close to a probable late Iron Age settlement (outside the airfield perimeter); it contains wartime and post-war remains; and the nature of the airfield means little archaeological investigation has been permitted.

The only previous investigations within the airfield were undertaken in 1997 in advance of the construction of other satellite dishes. These discovered finds of the late Iron Age, medieval and post-medieval periods, along with evidence for the wartime use of this part of the airfield.

Both the previous investigations and those reported on here located evidence for the use of this area for bomb storage during WWII. Evidence for the location, design and construction of storage buildings and access roads has been recorded. The accuracy of a 1944 plan of the airfield was confirmed, although some additional structures were located. The work has also indicated that ground disturbance resulting from activity associated with the WWII airfield is quite minimal.



1 INTRODUCTION

1.1 *Introduction*

Planning permission was granted by Bedford Borough Council for the construction of satellite dishes at Bedford Teleport (on part of Thurleigh Airfield), Bedfordshire.

Because the site lies within an area of archaeological potential, Bedford Borough Council's Historic Environment Team (HET) required the implementation of a programme of archaeological works on groundworks associated with the development.

Albion Archaeology was commissioned to carry out the programme of archaeological works in accordance with the methodologies described in a Written Scheme of Investigation (Albion Archaeology 2011), produced in response to the brief prepared by the former Bedfordshire County Council (BCC 1997).

1.2 *Site Location and Description*

Bedford Teleport is located in the north-west corner of Thurleigh Airfield (Fig. 1), in north-west Bedfordshire between the villages of Thurleigh (to the south) and Riseley (to the north). It is situated to the north of an area of woodland known as Galsey Wood at OS grid reference TL3719/6107.

Topographically the site lies 2km north-east of the River Great Ouse, on the northern end of a substantial N-S ridge, at 85m OD. The land to the south and east, along the top of the ridge, is flat with gentle downward slopes to the north and west.

Geologically the airfield sits on Boulder Clay which overlies Oxford Clay.

The airfield was constructed in 1941 and until the 1990s was owned by the Ministry of Defence. Part of the investigation area is known to contain former buildings and infrastructure associated with both the WWII and post-WWII airfield use.

1.3 *Historical Background to Thurleigh Airfield*

Thurleigh was one of many airfields constructed in the early war years. Prior to the war, airfields e.g. Cranfield, were characterised by their distinctive and comfortable neo-Georgian buildings usually with grass landing strips (these are known as "expansion-period airfields"). Early during the war it became apparent that the recently introduced heavy bombers required paved runways to allow unhindered all-weather operational capacity. Already existing airfields were then up graded to include three concrete runways, perimeter tracks and concrete dispersals. From 1940 all new bomber airfields were constructed with one main runway of 1,400yards and two of 1,100 yards. By 1942 the standard was increased to 2,000 yards with subsidiaries of 1,400 yards. Rapid construction of airfields led to the development of many prefabricated buildings such as Nissen huts and the "T" type hanger.



Possible airfield sites were first selected from maps and then reconnaissance engineers examined sites in the field. Particular attention was paid to soil types, drainage and obstructions to flying. If suitable, the land was requisitioned under the Emergency Powers (Defence) Act of 1939 and civilian building contractors were invited to tender for the construction contract (Falconer 1992).

Construction commenced at Thurleigh in July 1941, opening as an RAF Bomber Command airfield on October 9th 1941. Like many RAF airfields it was switched to the USAAF (opening on September 7th 1942). Improvements were immediately instigated including the lengthening and completion of all 3 runways (Bowyer 1983).

The airfield was occupied by the 306th Bomb Group which only finally withdrew in December 1945. This was the longest tenure by any American combat unit of any UK base during WWII (Freeman 1992). The airfield also saw the longest continuous combat usage of all the wartime bases. The base comprised the standard 3 runways, with a technical site on the east (unusual in having 4 hangars) and bomb storage area (partly within the present investigation area), originally situated in woods to the north of the flying zone. Sixteen living and communal sites were dispersed in the countryside to the east of the airfield, north of Thurleigh village.

Thurleigh was one of the most famous American bomber stations in Britain. It was visited by many prominent persons including Glenn Miller, King George VI, the then Queen Elizabeth and Princess Elizabeth (who named a B17 the "Rose of York"). At the end of the war the 306th Bomb Group had despatched 9,614 sorties and lost 171 aircraft in action.

During 1944, plans were initiated by the Minister of Supply, Sir Stafford Cripps, to create a new research and development airfield to be known as the National Aeronautical Establishment (Bowyer 1983). Farnborough was first considered but very long runways were envisaged which could never be built there. When Bedford (Thurleigh) was chosen the scheme was startling as it required the amalgamation of three WWII airfields. A five mile long concrete runway was to be built extending from Thurleigh to Little Staughton. This was to be linked by a giant taxi track to Twinwoods Farm where vast hangar maintenance facilities were erected.

The grand scheme was never completed and only commenced on a small scale. The minor road separating Thurleigh from Twinwoods was rebuilt as a "dual carriageway" within a cutting over which the taxi way would have passed. The giant runway was never built. Instead a 3,200m long and 91m wide main runway was constructed with three smaller runways. Its location on high ground gives unobstructed horizon for over 5 miles, making it ideal for radar research and development. On the south-west of the airfield hangars, workshops, offices, stores, laboratories etc. were constructed. To the north was the Naval Air Section with similar facilities, catapults and arrester gear. Wind tunnel facilities were constructed just north of Twinwoods from 1946



onwards and connected by a 2 mile concrete road not to Thurleigh but to the A6 at Clapham. Other major infrastructure including water and electricity supplies were also established. The wind tunnels were used during the testing of Concorde and the development of STOL and VTOL features.

RAF Thurleigh was closed in 1994 and sold to St Modwen Properties in 1997. A small museum for the 306th Bomb Group was opened in 2001 within the former airfield (for details see <http://www.306bg.co.uk>).

Much of the WWII airfield remains have been removed by the post-war development. The wartime technical site was demolished to make way for the new runway. Two of the wartime runways were retained, but seldom used; the other was abandoned. Much of the wartime taxi ways were retained including numerous saucepan dispersals. Several isolated buildings remain, mainly on the periphery of the flying zone. Only part of the bomb store was retained; the rest was cleared of trees and some buildings. Many of the barrack and communal sites were situated outside the post-war establishment. Remains of these survive to a varying degree in farmers' fields on the road to the north of Thurleigh village.

A limited number of plans and photographs are available that were either created or taken during the war. The most useful of these is a 1944 Air Ministry plan detailing the layout and building types in use at that date.

1.4 Archaeological Background

1.4.1 Prior to the 1990s satellite installations)

The continued use of this site by the Ministry of Defence over the past 50 years has allowed few opportunities for archaeological fieldwork within its perimeter. However, in farmland to the immediate north of the development site aerial photography survey has identified a complex series of enclosures (shown on Fig. 1). These (HER 11765) appear to extend into the development site and, on the basis of their form, are thought to be late prehistoric or Roman in origin. Little is currently known about prehistoric or Roman occupation of the north Bedfordshire claylands, although aerial photography is recording an increasing number of sites on this geology. At least five cropmark sites (as yet undated) are known within a 5-mile radius of the development site.

On the clay ridge around the airfield there is some evidence of Iron Age and Roman activity (HER 313, 2637, 2752).

In contrast, the valley of the Great Ouse is known to have been extensively occupied. Approximately 3km south of the site are areas of known later prehistoric and Roman occupation, characterised by ring ditches and settlement evidence (HER 576, 1786, 1797), and a villa and late Roman cemetery (Dawson 1994) at Bletsoe Grange (HER 307).

In the area surrounding the airfield there is considerable evidence for medieval settlement. The villages of Thurleigh, Bletsoe and Riseley have medieval origins and two of the former settlements have castles (HER 308 and 313).



There are several shrunken or deserted settlements in the surrounding area and two settlements within the airfield itself (HER 3646 and 5207). A moated site exists nearby at Blackburn Hall (HER 309).

1.4.2 *The 1990s satellite installations*

Twelve satellite installations along with associated service runs were observed, investigated and recorded by Albion (then known as BCAS) during 1997 (Fig. 2). The machine-dug pits for the foundations of the satellites varied from 1–5sqm. In addition to short service runs associated with individual satellites a long trench was dug from Building 195 following the access road through Gate 4 to the Riseley Road. A summary report was produced (BCAS 1997) which should be consulted for more detailed information.

In summary, the 1997 investigations indicated that ground disturbance in this area resulting from activity associated with the World War Two airfield is quite minimal. Evidence for late Iron Age activity was located adjacent to a known HER cropmark site. The presence of medieval/post-medieval artefacts could suggest the presence in the vicinity of a previously unrecorded occupation site of this date. The next identifiable phase of activity was associated with the use of this area for the bomb store during most of 1941 (the later bomb store of a different design was located to the east, beyond the study area). Evidence for the location, design and construction of storage buildings and access roads was recorded. The accuracy of the 1944 plan of the airfield was generally confirmed, although some additional structures were identified.



2 RECENT INVESTIGATIONS

2.1 *Project Methodology and Objectives*

A detailed methodology is provided in the Written Scheme of Investigation (Albion Archaeology 2011). Methods employed during the project complied with the Institute for Archaeologists' *Code of Conduct and Standard and Guidance for an Archaeological Watching Brief* (2009), English Heritage's *Management of Research Projects in the Historic Environment (MoRPHE)* (2009), and Albion Archaeology's *Procedures Manual* (2001).

The project objectives were to monitor/supervise all groundworks that had the potential to reveal archaeological remains and to investigate, characterise and record any archaeological deposits encountered within them.

The broader objectives of the project were to add to the knowledge and understanding of the archaeology of Bedfordshire (more specifically the north Bedfordshire clays) and produce an archive report that fully described the archaeological works.

2.2 *Works Description*

Archaeological observation of the groundworks took place on 12th and 13th July 2011. The works comprised stripping of topsoil/turf followed by the machine excavation of a satellite dish foundation pit (Fig. 3). It was carried out using a flat-edged bucket, except where a toothed bucket was required to remove substantial slabs of concrete. All the groundworks were closely monitored/supervised by an archaeologist.

Whenever archaeological remains were encountered, machining was suspended to allow investigation and recording, using Albion Archaeology's pro forma sheets. The base and sides in the trench were cleaned by hand and spoil heaps were checked on a regular basis for archaeological artefacts.

2.3 *Results*

The excavated trench covered an area of c. 5.2m x 5.2m and was 1.2m deep (excluding previously stripped turf). Detailed context descriptions are presented at the back of this report.

Overburden consisted of up to 0.15m of topsoil/turf (1) and a dark clay sand dump deposit (2) that was generally 0.2–0.4m thick. In the north-east part of the trench was a mid brown-grey, silty clay buried subsoil (4), which was 0.3m thick.

Undisturbed geological strata were represented by light blue-grey Boulder Clay with some chalk and flint inclusions (9) which was visible over part of the trench.

In the south-west part of the trench the subsoil deposit (4) had been removed down to undisturbed geology (9) and a gravely sand (8), 0.15m thick, dumped down. This was a makeup/levelling deposit for concrete surface (3). The



north-eastern limit of this surface was revealed indicating that it was on a NW-SE alignment. It was at least 4.35m wide, over 6.15m long and 0.2m deep.

The only other archaeological feature [5] was interpreted as a service trench because it contained a water pipe. This predated the concrete (3) and was sealed by buried soil (4). The trench was c. 0.8m wide with a U-shaped profile. It was at least 0.5m deep at formation level and was aligned NE-SW.



3 DISCUSSION

The concrete surface located in the satellite trench is one of the access roads associated with the bomb store that once occupied this area. This is confirmed by overlaying the position of the trench onto a 1944 plan (Fig. 4). Previous investigations had revealed that access roads generally comprised a single layer of concrete, except within the bomb store buildings where it was considerably thicker. The identification of this access road confirms the accuracy of the 1944 plan.

Bomb stores like that at Thurleigh, constructed in the first two years of the war, utilised a simple design (Wickham 1988). This comprised individual 30ft square open compartments/buildings protected by earth transverse, each capable of storing up to 24 tons of High Explosives. This is the type of bomb store building that was located during the previous investigations.

From late 1941 bomb store areas on airfields were completely redesigned to increase handling (known as design 3164/42). At Thurleigh the new bomb store was constructed to the east of the original storage area and outside the present study area.



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5 DETAILED CONTEXT DESCRIPTIONS



Area: 1

Extent (ha):

OS Co-ordinates: TL3719061077

Description: Foundation trench/pit for satellite base. 5.2m x 5.2m

Context:	Type:	Description:	Excavated:	Finds Present:
1	Topsoil	Friable dark grey brown silty sand occasional small-large CBM, occasional small-large concrete, moderate small-medium stones, occasional large stones. 0.15m thick.	<input type="checkbox"/>	<input type="checkbox"/>
2	Make up layer	Friable dark grey brown clay sand moderate small-large CBM, moderate small-large concrete, frequent small-medium stones, occasional large stones. 0.4m thick extenal dump deposit.	<input type="checkbox"/>	<input type="checkbox"/>
4	Buried subsoil	Compact mid grey brown silty clay occasional small-medium CBM, occasional small-large concrete, occasional small-medium stones. 0.3m thick deposit. Cut by [7] - cut for the road surface MS (3).	<input type="checkbox"/>	<input type="checkbox"/>
5	Modern intrusion	Linear NE-SW sides: U-shaped dimensions: max breadth 0.8m, min depth 0.5m, min length 6.25m. Water pipe trench - pre-dates concrete road	<input type="checkbox"/>	<input type="checkbox"/>
6	Backfill	Friable light yellow sand frequent small-medium stones	<input type="checkbox"/>	<input type="checkbox"/>
7	Foundation trench	Linear NW-SE sides: vertical base: flat dimensions: min breadth 4.35m, max depth 0.35m, min length 6.15m. Cut for concrete road MS (3)	<input type="checkbox"/>	<input type="checkbox"/>
3	Concrete	Cemented mid grey frequent small-medium stones. Concrete road surface. At least 6.15m long, minimum width is 4.35m and 0.2m thick.	<input type="checkbox"/>	<input type="checkbox"/>
8	Levelling layer	Friable mid grey yellow sand occasional small-medium CBM, occasional small-medium concrete, moderate small-medium stones. 0.15m thick deposit prior to construction of concrete road (3).	<input type="checkbox"/>	<input type="checkbox"/>
9	Natural	Firm light blue grey clay moderate flecks chalk, moderate small-medium stones. Cut by water pipe trench [5].	<input type="checkbox"/>	<input type="checkbox"/>

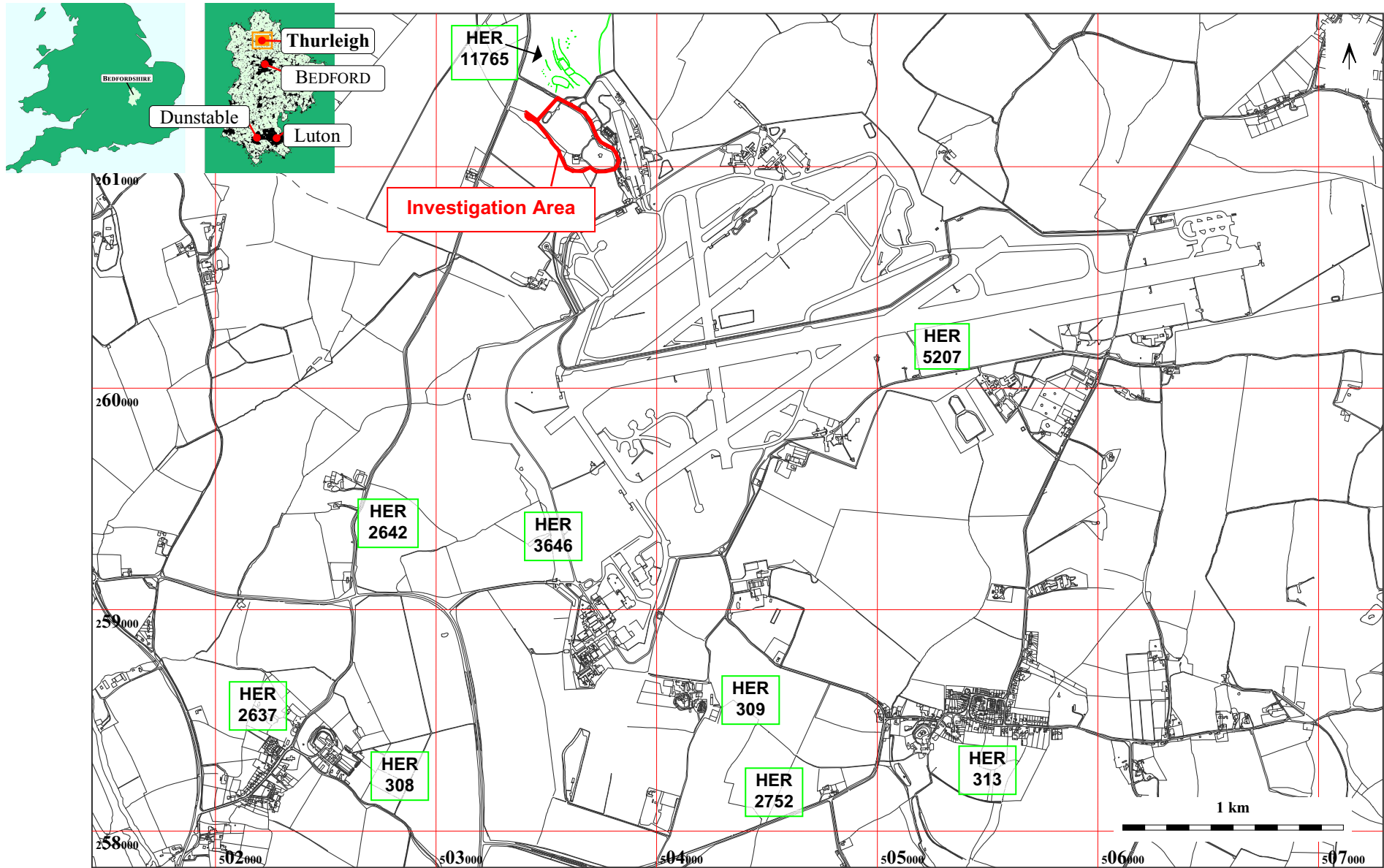
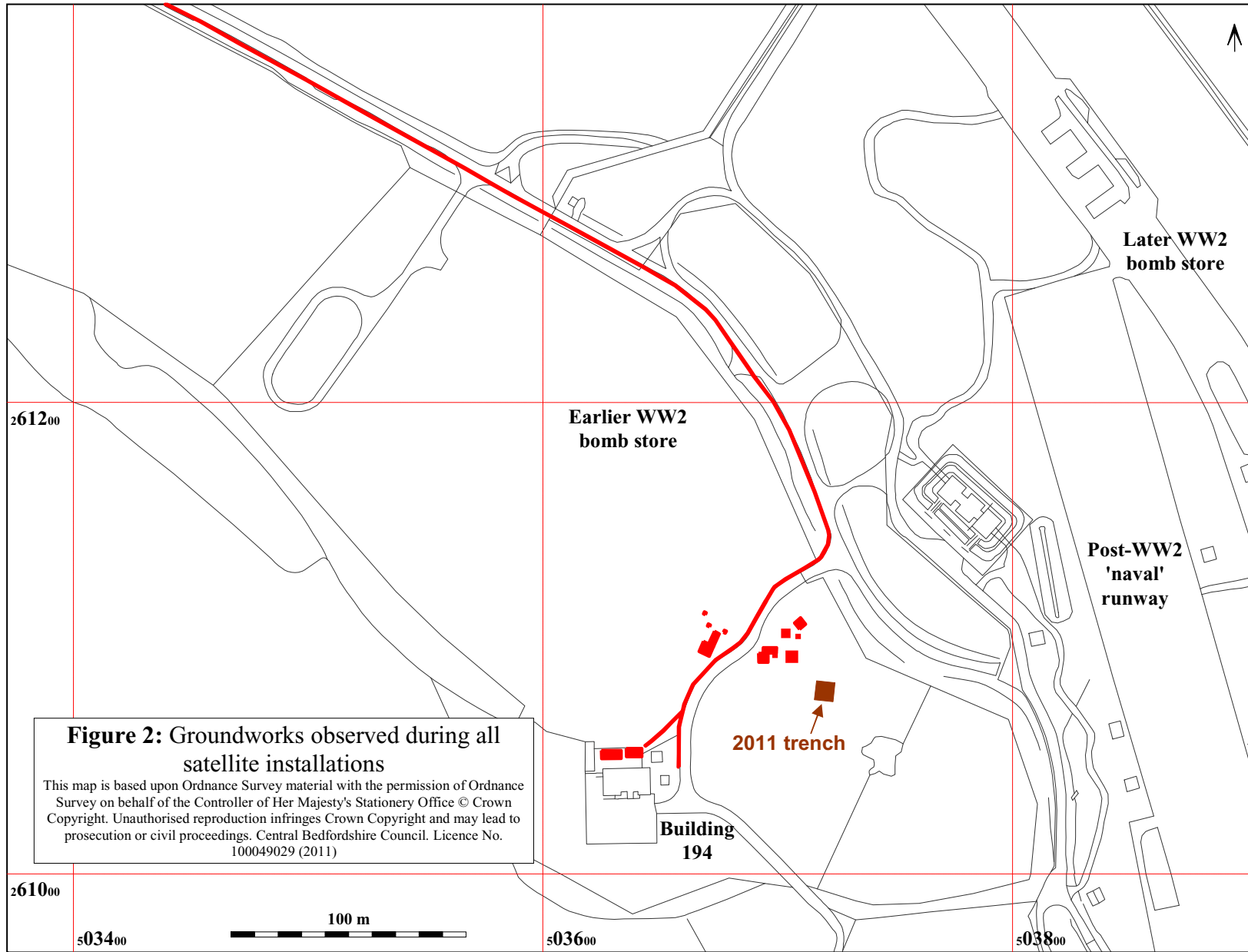


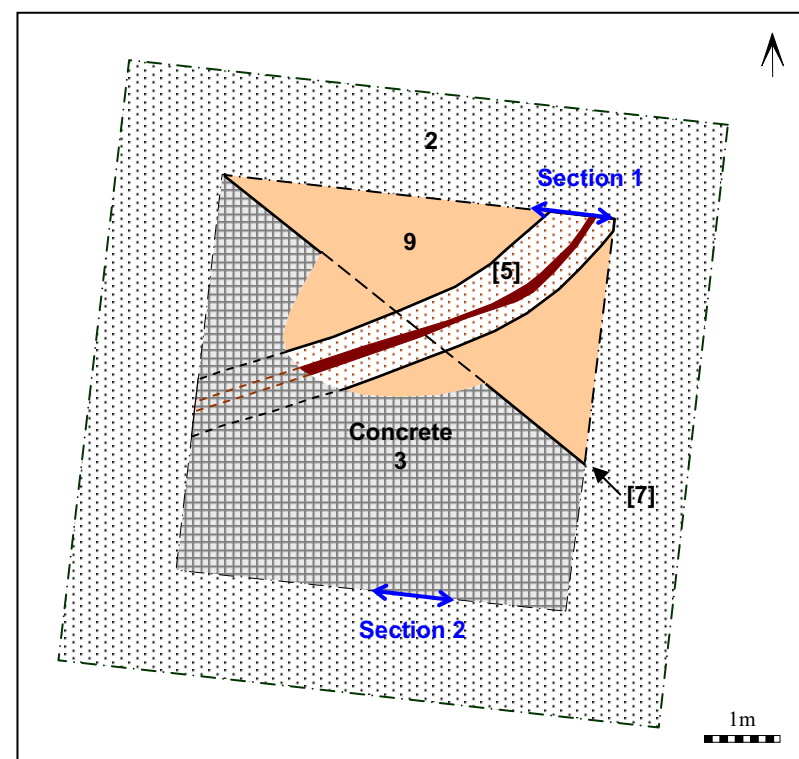
Figure 1: Location of investigation area with Thurleigh Airfield and HER sites

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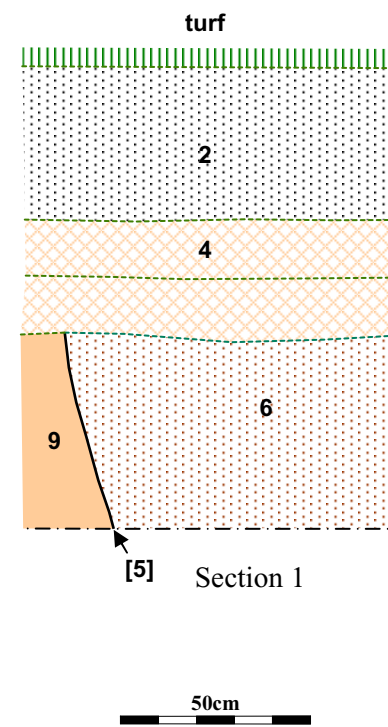




Photograph of trench immediately after turf removal.
Scale 1m. Looking north-east.



All features plan



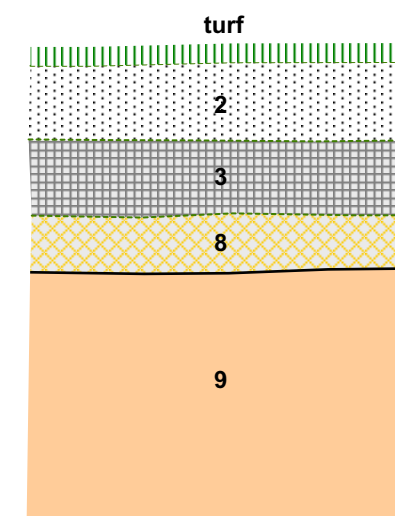
Photograph of section 1 and ditch [5].
Scale 2m. Looking north.



Photograph of trench showing concrete floor (3)
Scale 1m. Looking north-west.



Photograph of trench showing full excavated depth.
Looking north-east.



Section 2



Photograph of section 2 (concrete patchy at this point)

Figure 3: All features plan of recent satellite trench

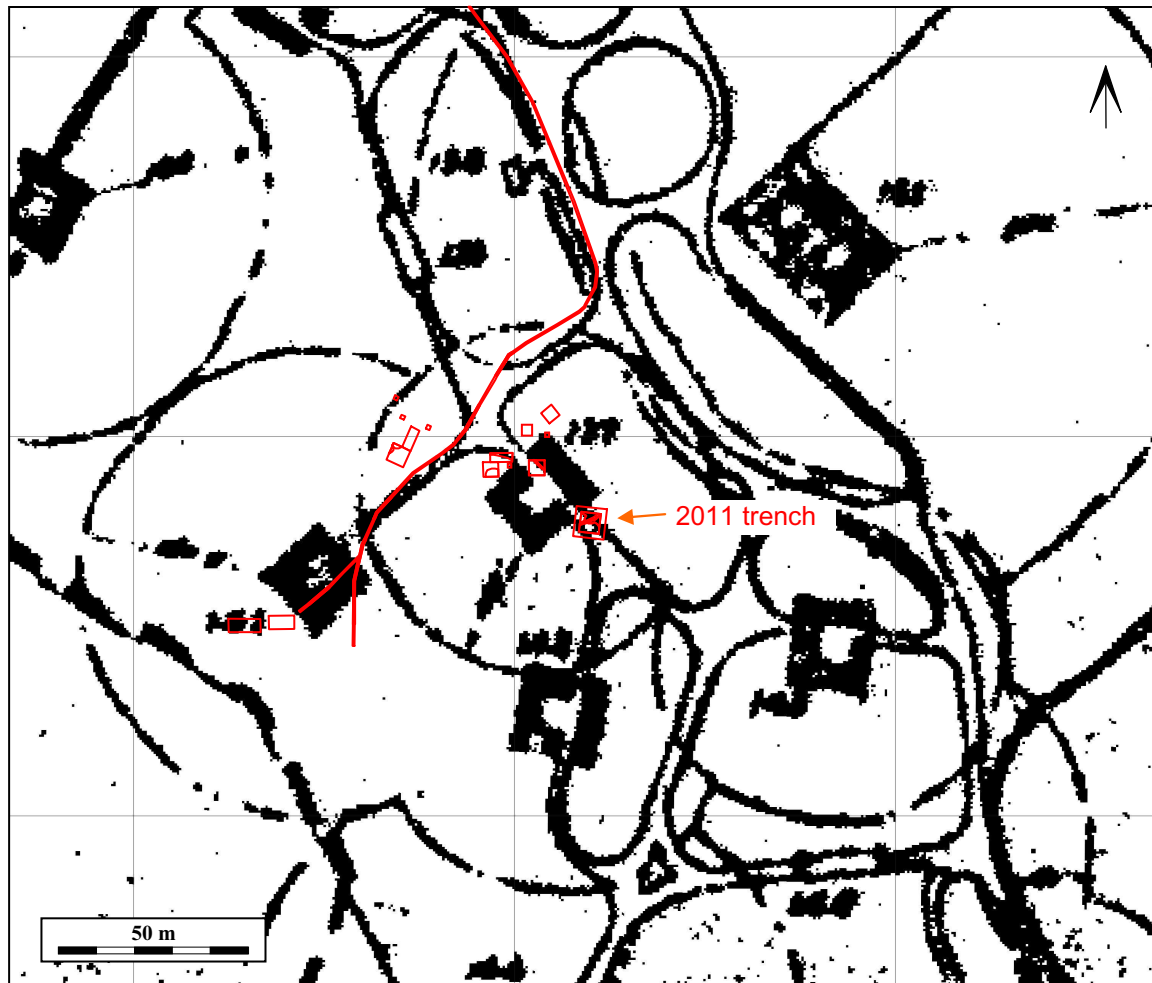


Figure 4: Overlay of satellite trenches/pits with 1944 wartime plan.
(Note. Scale of map and trench locations are “best fit”)