

Land at Holman Clavel (RAF Culmhead), Otterford, Somerset

Archaeological Desk-Based Assessment



on behalf of

Mr M. Ward

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Avon Archaeological Unit Limited

Bristol: October 2011

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ABSTRACT

An Archaeological desk-based assessment of a parcel land and adjoining trackway at Holman Clavel, Otterford, Somerset (centred NGR ST 21920 16050), produced the following results.

The study area comprises:

- A sub-rectangular parcel of land, now mostly overgrown;
- A gravel surfaced track connecting this with the minor road that serves Holman Clavel, passing through the Holly Bush Park, a touring caravan site;
- One former dual-purpose bath/shower house that could also act as a gas decontamination centre, built in 1941 for members of the Women's Auxiliary Air Force, who were stationed at nearby RAF Culmhead during the Second World War;
- A parallel women's ablutions block, built at the same time, which functioned as a washroom, laundry, drying room and WC;
- Two well-preserved WW2 air raid shelters;
- Several rectangular concrete plinths, thought to be the surviving floors of demolished WW2 Nissen Huts.

There are no listed buildings or scheduled ancient monuments within the study area, which does however lie within the Blackdown Hills Area of Outstanding National Beauty. The former RAF Culmhead is mentioned in the current AONB special qualities document as a site of important Second World War evidence of recognised historic significance.

The study area is located towards the northern end of the medieval parish of Otterford, mentioned in the lay subsidy returns for 1327. The manor of Otterford was part of the large manor of Taunton Deane, held by the Bishops of Winchester since before the Norman Conquest of AD 1066. After the Tithe survey of 1844, and probably after the enclosure survey of 1851, the manor appears to have been sold to one William Beadon. The earliest map of the study area, the Tithe map of 1844, shows the study area was part of common land. This was enclosed in 1851 or sometime thereafter. By the first detailed OS map of 1888 the study area formed part of a triangular shaped field located between Holman Clavel and the settlement of Widcombe, to the west, with a footpath that linked to two settlements passing through the study area. Between 1888 and 1940 very little appears to have changed in or around the study area.

In 1940 the Air Ministry requisitioned Trickey Warren Farm, in neighbouring Churchstanton parish, together with some surrounding land in Otterford parish, which included the study area, for the construction of a new RAF fighter base. Named RAF Churchstanton, it was later renamed RAF Culmhead. The base became operational in 1941 and regularly flew combat missions until well into 1944. In that year the base made history as the first Allied operational jet fighter base. RAF Culmhead was also used for various aircraft experiments during its lifetime. As the fighting moved east the base was downgraded to flight training. From August 1945 until it closed in August 1946 RAF Culmhead was used solely as a surplus equipment store. Subsequently much of the base has been returned to farmland, although it has been estimated that up to 50% of the original buildings survive. Some structures, located outside the study area, in particular the fighter pens, have scheduled ancient monument status.

Between 1941 and 1946 the study area was used as dispersed settlement for the Women's Auxiliary Air Force (WAAF). It formed part of the WAAF Communal Site and Site No. 1. At least nine Nissen hut sleeping accommodation units were built, together with the decontamination and ablution blocks, and the two air raid shelters. They were linked to the road and the remainder of the camp by the present trackway.

over

A 500 m radius trawl of the Somerset Historic Environment Record has identified that both the decontamination block and the ablutions block are noted on the record, together with one of the air raid shelters. Most of the other records relate to the site of other structures from RAF Culmhead. One record relates to the nearby road, which appears to have been an 18th century turnpike road that links to an earlier road thought to represent the route of an ancient ridgeway. Further afield there is a Bronze Age barrow cemetery in the parish, but no evidence of prehistoric activity has been found within 500 m of the study area.

While RAF Culmhead has been previously studied, no detailed recording of the study area or its structures has been undertaken. Research for this project has indicated that surviving WWII decontamination blocks for all services and civilians are rare, and that surviving WAAF decontamination blocks are now very rare. Only four other surviving examples could be traced from documentary sources, all outside Somerset.

Based on the documentary sources consulted, it is concluded the study area has moderate to high potential for the preservation of buried and extant services and structures associated with its use as a WWII RAF base. Otherwise the general archaeological potential of the study area is considered low, though the possibility of significant buried archaeological remains from earlier periods cannot be ascertained from the documentary sources alone.

ACKNOWLEDGEMENTS

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NOTES

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1 INTRODUCTION (see Figures 1 and 2)

Somerset County Council has requested a Desk-Based Archaeological Assessment of a parcel of land near Holman Clavel, Otterford, Somerset (centred NGR ST 21920 16050). This work was requested prior to the submission of any planning application on the study area, in order to assess the archaeological potential and heritage assets of the study area and the likely impact of any proposed development on identified heritage assets. The project was commissioned by Tony Doyle of LPC (Trull) Limited, on behalf of Mr M. Ward.

2 METHODOLOGY

Searches were made of all indices of information held on the Somerset County Council Historic Environment Record Database. Indices and collections were also consulted in the Somerset Heritage Centre. All information was collated, summarized and presented in the report below. All photocopies, manuscript copies and notes, including still photographs, are preserved in the project archive to be stored at the premises of Avon Archaeological Unit Limited.

The author carried out the survey in October 2011. The study area was visited on the 4th October 2011, during which digital still photographs were taken.

3 GEOLOGY, TOPOGRAPHY AND CURRENT LAND USE

(see Figures 1, 2, Plates and Cover)

The underlying geology derives from sandstone of the Upper Greensand Formation ([BGS Geology of Britain viewer](#)). Overlying (superficial) deposits are derived from head, consisting of clay, sand and gravel (ibid.). The study area lies within the northern half of the parish of Otterford, on the southwest extremity of the small hamlet of Holman Clavel. The settlement lies on the short but fairly steep northwest facing slope of North Down, part of the Blackdown Hills, an area of undulating terrain south of the Vale of Taunton. The study area lies just beyond the foot of this slope. The river Culm rises from a spring in Holman Clavel and flows through an artificial drainage ditch close to the southern edge of the study area. The River Otter rises 1 km to the south at Yalham Farm.

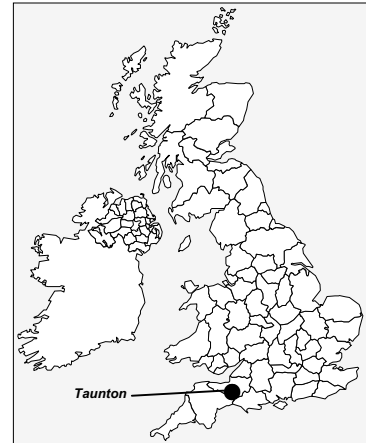
The Blackdown Hills is an Area of Outstanding National Beauty (AONB). The former WWII airbase, RAF Culmhead, is mentioned on page 8, the 'Historic Landscape' of [Section 2 'Special Qualities'](#) of the [AONB management plan](#) (accessed 7/10/2011), where it is listed as a site of important evidence from the Second World War, of recognised historic significance.

Currently the study area is abandoned and overgrown. There are two derelict brick built structures, two brick and concrete air-raid shelters, and a number of concrete platforms. Traces of a tarmac surface were also observed.

Figure 1

Location of the Study Area ←

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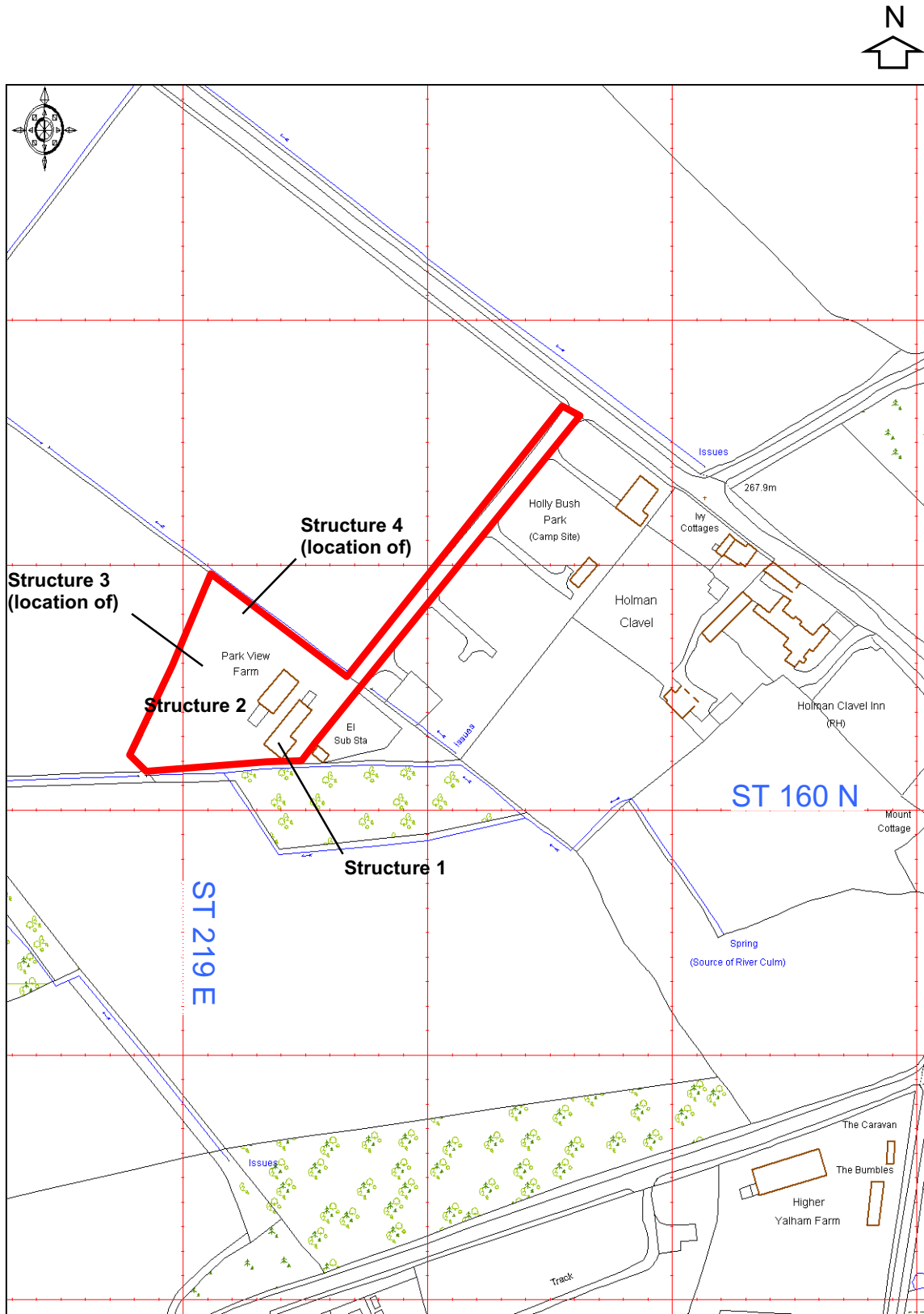
Scale 1:25,000

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Figure 2

Boundary of the Study Area (outlined in red)
Showing positions of recorded structures



Scale 1:2,500

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SITE VISIT

The author visited the study area on the 4th October 2011. Access was gained via a galvanized tubular steel stock gate in the northeast corner of the study area. This is located at the end of a gravel-surfaced track that runs in a straight line from the entrance to the Holly Bush Park campsite. At the time of the visit the weather was overcast, with occasional showers of light drizzle.



Plate a. The north end of Structure 1 with the tower attached, looking northwest.

The study area slopes gently down towards the west, although a little further to the east the land begins to rise rapidly. A spot height on the nearby road junction gives the altitude as 267.9m aOD, with the study area located between the 260 and 265 m aOD contours.

The large part of the site is overgrown with tall grass and nettles, while immature trees and shrubs make access to some areas difficult or impossible. The study area is sub-rectangular in plan, measuring 74.8 m northwest to southeast by 81.2 m northeast to southwest, with an area of 4,255 m². It is bounded to the north by an earthen bank with a mature hedgerow, to the west by a barbed wire fence, to the south a further barbed wire

fence could be glimpsed through the undergrowth, while to the east the study area is adjoined by an electricity substation surrounded by a high, galvanized steel paling fence. A single electrical cable crosses the study area from east to west, carried on wooden telegraph poles.

Beyond the entrance to the site is an area of overgrown and heavily decayed tarmac, which appears to have no obvious edges, but gradually disappears under the grass and other growths. The most distinctive features are however the two parallel standing structures, both shown on the on the detailed OS map of the study area (see **Figure 2** and **Front Cover**). Both structures are abandoned and partially derelict, although *Structure 2* shows signs of recent use, possibly as a stable for ponies. *Structure 1*, to the east, is the longer of the two, with a gable ended brick-built single-storey core structure, which has been externally rendered and partially painted internally. The roof is of corrugated concrete, which probably contains asbestos.



Plate b. The west face of Structure 1, looking north-eastward.

The floors of both Structures 1 and 2 are of concrete throughout.

Standing just to the north of *Structure 1*, and still connected to it, is a rectangular brick-built tower, about two storeys high, with no obvious roof, which appears to be a water tower (see **Plate a**). A short steel ladder leads down from the upper part of the tower for a short distance. The tower is still partially rendered. Entrance to the ground floor interior of the tower was via a doorway in the southern wall, with a concrete lintel over. The ground floor interior of the tower, and the space between the tower and the remains of *Structure 1*, are chocked with brick rubble. There is a low rectangular window in the north wall of the tower at ground floor level.



Plate c. The southern face of Structure 1, looking north-eastward.

The west face of *Structure 1* is divided into bays by a series of brick built buttresses, with one simple rectangular window in each bay (see **Plate b**). Each window has sloping sills in ceramic tiles. Where the frames survive these are steel, and appear to be Crittall. The surviving east face is divided into four bays, two with two windows each and two bays with one each. The southern end of the east face is adjoined by a single-storey extension in rendered brick. The broad external entrance in the north face of the extension has been stopped with breezeblock walling. The mono-pitch corrugated concrete roof slopes down to eastward.

There is a broad entrance in the southern wall of *Structure 1*, leading into a series of relatively large rooms, partially open to the elements as the roof has in places decayed and collapsed (see **Plate c**). The remains of this have been stacked inside against the southern wall. One of these rooms is the interior of the extension, described above. Some vandalism was observed on the walls of this structure. The main part of the block is divided into cubicles by brick partitions (see **Plate d**). While some pipework is extant there are no other fixtures and fittings that remain to indicate use.



Plate d. Interior of Structure 1, looking north, showing central corridor with cubicles on either side.

Structure 2 is of similar design and materials to Structure 1. As preserved it forms a simple rectangular block with a narrower rectangular block adjoining the southern side. There is no tower and the north-facing gable is in rendered brick. In the north-facing gable there is a broad entranceway with a steel joist over. Along the both east and west



Plate e. North and east faces of Structure 2, looking southwest.

faces there are five evenly spaced bays defined by brick buttresses, with a single rectangular window in each bay (as described above). It was noted that the northernmost two bays of the west face had lost part of their roofing and that at this location the external wall rendering has largely fallen off. The sixth bay from the north is considerably shorter. On the west face this has a regular rectangular window similar to the other bays. The east face has a side entrance at this location.

Beyond the sixth bay, *Structure 2* narrows considerably into a narrower rectangular block with three evenly spaced bays on both east and west faces. There are two evenly spaced windows in each bay. The windows are short, narrow and set high up. In the

southern gable end there is a centrally placed doorway.



Plate f. Structure 2, northeast room, looking south.

Internally the northernmost three bays have been divided by a longitudinal brick wall, offset about 1 m west of the central axis. The western room is partially derelict as the roof is missing in places. A rendered breezeblock animal pen with tubular steel bars and a steel gate has been constructed in this room, but is no longer in use. The larger eastern room is vacant,

There is a single doorway between the eastern and western rooms. There are three doorways in the southern dividing wall: a single doorway from the western room; a high double doorway, centrally placed, with a steel joist over; and a single doorway on the eastern side now obstructed with

breezeblock walling.

The next room spans the length of two bays and the width of the block. It has been internally altered by the addition of several animal pens similar to that described above.

The narrower block adjoining to the south is accessed through a single doorway opening onto a central corridor running the length of the block and leading to a doorway in the southern face of the building. The block is divided by partition walls into three separate rooms.

It is worth noting that little or no wood, e.g. doors, frames etc., was observed in either Structure 1 or 2. Doors were entirely missing.

Structure 3 is a roughly north to south aligned semi-subterranean building located some distance to the west of Structure 2. Its presence is not immediately apparent due to a heavy overgrowth of shrubs and immature trees. Externally it appears as a long, low mound, with rectangular brick superstructure at either end. At the southern end, on the western side, a short flight of brick steps led down eastwards to a south facing doorway into the structure (see **Frontispiece**). The flanking walls on either side of the passage are



Plate g. Structure 3, looking northeast.

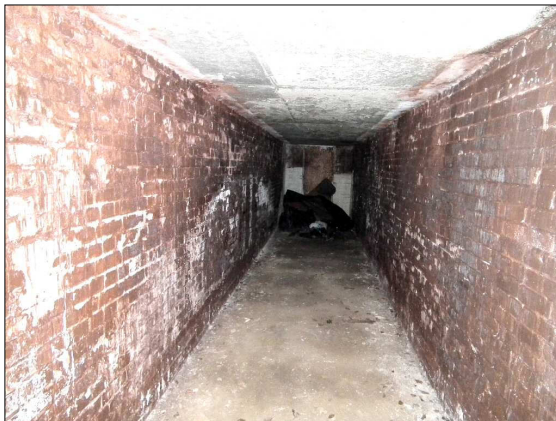


Plate h. Interior view of Structure 4, looking east.

in brick, with a concrete slab roof. From the construction of this structure it was immediately apparent this was a former air raid shelter. The primary function of the southern wall was therefore to act as a blast wall.

On reaching the floor level, about a metre below present ground level, the structure was found to be flooded to a depth of about 50 mm, presumably with percolated ground water. The south facing steel blast door, which gives access to the central chamber, is intact, though surface rusting is evident. The central chamber was formed of two parallel-sided brick walls, with a concrete floor and a

concrete slab roof. The far end of the chamber could not be accessed at that time. It is postulated there was an opposed entrance at the northern end on the eastern face of the structure, but dense overgrowth made it impossible to confirm this externally, and nothing could be observed internally from the southern end, despite the use of a torch and flash photography.



Plate i. A concrete plinth located towards the western edge of the study area, looking approximately southwards.

storage at some time in the recent past, with a few articles and a tarpaulin heaped against the northern door.

Dotted around the site, to the west of Structure 2, were various rectangular concrete plinths, taken to be the floor levels of other buildings formerly occupying the site. There was some evidence of buried underground services, a manhole cover was observed to the west of Structure 2, while a toilet was also located within Structure 2.

The exact interpretation of all these structures will be discussed below.

4 HISTORICAL BACKGROUND

4.1 A HISTORY OF OTTERFORD

The study area lies in the rural parish of Otterford, which was extant in the middle ages. It was mentioned (as *Otreforde*) in the Lay Subsidy Returns for 1327 and again in the Protestation Returns and Lay Subsidy Rolls for 1641-42 (SHC Parish Folders, Otterford). The parish church of St Leonard, on the edge of the small village of Otterford (NGR ST 22239 14328) is a Grade II* listed building with origins in the 14th century ([National Heritage List for England](#), [UID 1344635](#), accessed 7/10/2011).

The south-western boundary of the parish was formerly part of the county boundary, the neighbouring parish, Churchstanton, lay within the county of Devon. The manor of Churchstanton was mentioned in the Domesday Survey (AD 1086) under Devon (Morris 1980, 412). The parish of Churchstanton remained in Devon until 1896, during which time it was transferred to Somerset (Devon County Council, [Churchstanton Community page](#), accessed 7/10/2011). Subsequently the southern boundary of Churchstanton parish has formed part of the county boundary.

During the middle ages the manor of Otterford was part of the large manorial holdings of Taunton Deane, which belonged to the Bishop of Winchester. At the time of Collinson's writing the manor was still held by the Bishopric (1791, III, 283). At the Tithe survey of 1844, the bishop held 239 acres and was the largest landowner in the parish (SHC, D\D/Rt/A/440). Collinson offers little history of the parish and mentions no antiquities (1791, III, 283). By 1841 William Beadon had built himself a large house (no longer

extant) at Otterhead (NGR ST 22380 13850, [SHER 11680](#) and [Blackdown Hills AONB, Otterhead Estate](#)). He subsequently designed and built a pleasure ground to go with the house and acquired the manor and a large amount of land in the parish (ibid.).

In 1941, during World War II, a fighter airfield, RAF Churchstanton (later RAF Culmhead) was built on Tricky Warren Farm, Churchstanton, after the land had been requisitioned from the Philips family of Burnworthy Manor (Francis 2001, 7). Some operations and accommodation were dispersed into Otterford parish.

As a fighter base many combat sorties were regularly undertaken during its operational lifetime. These were typically: intercept, convoy escort, and bomber escort, together with various strike operations over mainland Europe (Francis 2001, 12-17). The base was also used for experimental operations, notably proofing aircraft against barrage balloon cables. In July 1944 the base made history as the first Allied base to fly operational jet fighters, the Gloster Meteors of 616 Squadron (Francis 2001, 16). As the war in Europe progressed eastward from June 1944 onwards, the base gradually fell out of range of the main theatre of operations. It was relegated to a glider training school with the prospect of continued fighting in the Far East. From August 1945 until August 1946 the base was used as a storage site for redundant equipment. RAF Culmhead was officially closed in August 1946. Much of the airfield was abandoned, although a Government GCHQ outstation continued on the site until 1999 (Francis 2001, 17).

In 1997 Paul Francis of Airfield Research Publishing undertook a condition survey of RAF Culmhead. This survey was revised in 2001 but has not been updated since. At the time it was considered that up to 50% of the original airfield buildings survived, which was considered high compared to other airfield sites, though the domestic sites fared worse than the technical areas (Francis, 2001, 63). The surviving domestic and airfield features of RAF Culmhead were described as “*an important part of our national heritage*” (Francis 2001, 5). Parts of the main airfield site are now a scheduled ancient monument, in particular the surviving fighter pens.

4.2 A HISTORY OF THE STUDY AREA

There appear to be no detailed surveys of the study area before the production of the 1844 Tithe map of Otterford (SHC, D\D/Rt/M/440). This shows that at that date the study area lay within a large area of common land. A subsequent map of 1851, associated with the enclosures of Taunton Deane, confirms the study area lay in common land. It is not clear from the map that the common was parcelled up at that date. Nor is it clear to whom the study area was awarded when it was parcelled up. By the OS map of 1888 (see **Figure 4**) the commons had been enclosed. The area of the present Holly Bush Park was wooded, while the study area was part of a larger, triangular shaped field that stretched from Holman Clavel to Widcombe. A footpath cut across the wood, from Holman Clavell, entering the main part of the study area at the location of the present gate, then it cut across the study area towards Widcombe Farm. By the OS map of 1904 little at this location had changed. The wood had been felled, while the footpath was no longer shown, but no further changes were evident. On the 1930 OS map the present Holly Bush Park was shown as rough grassland.

There appears to have been no further change to the study area until the construction of RAF Churchstanton (later RAF Culmhead) commenced in 1940. Land for this project, probably including the study area, was bought by compulsory purchase.

The study area was not directly attached to the airbase, but formed part of a dispersed ring of settlements for staff and aircrews (see **Figure 5**). This tactic was deliberately employed to minimize losses in the event of an enemy air strike. The study area formed part of the WAAF Communal Site and WAAF Site No. 1 (Francis 2001, Figure 7). In total up to 300 ‘WAAFs’ could be accommodated on this site, including officers, sergeants and airwomen.

Site No. 1 appears to have consisted of several Nissen huts forming the principal means of accommodation, with an officer's mess and quarters, communal dining room, sergeant's mess, and sick quarters. There were also three air raid shelters, a shower and bath block, which doubled as a first aid post and gas decontamination unit in the event of a gas attack, and an 'ablutions' block, which appears to have been used for personal washing, clothes washing, drying and ironing, with an attached toilet block. Plans for the latter two blocks survive and have been published (Francis 1996, 190-192, Francis 2001, Figures 7 and 53, pages 58-60 and 71).

From the substantial surviving remains and the preserved ground plans (Air Ministry plans 16339/41 reproduced in Francis 1996, 191 and Francis 2001, Figure 53) Structure 1 can be identified as a Type 8a WAAF Decontamination, Bath and First Aid block. The bathroom and shower block doubling as a gas decontamination unit, to which a water tower was attached via a boiler room. Structure 2 was the ablutions block, with ablutions for 30, a drying room, an ironing room, and WCs for 24. The plans confirm the roofing of both was constructed of corrugated asbestos concrete. Preliminary inspection suggests that while the plans were broadly followed, there are individual details that differ on the actual buildings. In particular the broad doorways at either end of the northern rooms of Structure 2 are not shown on this plan. They do not appear to be later insertions. Other features of both structures may differ from the original plan, but this could only be ascertained by a detailed survey.

Francis (2001, 63) notes that the general survival of domestic structures at RAF Culmhead is poor. In this context the survival of *Structures 1 and 2* is therefore unusual and makes them a rare feature of the airfield site. WAAF decontamination units differed from those provided for RAF service personnel. Only one other WAAF decontamination unit was provided, located at WAAF Site No. 2. Those buildings have been demolished (Francis 2001, 71).

A trawl of Heritage Gateway, Canmore, Coflein and other national and local sources revealed at least 37 decontamination units (service and civilian) were extant at the date of last checking. Of these at least five are WAAF decontamination units, but an online trawl of local and national historic environment records and other online sources could find no further examples of extant buildings conforming to plan 16339/41. Francis (1996, 193) lists three examples, at RAF Bruntingthorpe, Drem and Eshott. It has not been possible to ascertain whether these are still extant. The type appears to have been preceded by a 1937 specification for a fairly large airtight building with chimneys in brick (6224/37, see Francis 1996, 186-187 & 192), with Grade II listed examples from [RAF Duxford](#) and [RAF Bicester](#) (these appear to have been for men). It was also preceded by a slightly earlier version for women, 16333/41, for which a well-preserved example from the site of [RAF Bottisham](#), Cambridge, has been reported. An example of the water tower for 16333/41 has been recorded at the site of [RAF Sleaford](#), Shropshire. The latter is very similar to the water tower (part of Structure 1) preserved in the study area. Another type, 16340/41, stood at [RAF Davidstow Moor](#), Cornwall, but is no longer extant. This quick succession of types suggests the design of gas decontamination centres was rapidly evolving during a period when new airfields were being built. Presumably all 1941 types were superseded by design 9278/42, for which a very well preserved example has been recorded at the site of [RAF Long Newnton](#), on the Gloucestershire/Wiltshire border. It is worth noting the 1941 and 1942 types were multi-function, do not appear to have been airtight, and were far less substantial than the original 1937 design (Francis 1996, 192).

As far as could be ascertained Structures 1 and 2 are therefore unique, being possibly the only survivors of their type in a rapidly evolving wartime scenario.

Two of the three air raid shelters located on the WAAF Communal Site and Site No. 1 lay within the study area. These are identified with *Structures 3 and 4* described above. No plans are known to exist for any air raid shelters built for airfields during the Second World War (Francis 2001, 63). Francis indicates the survival of this type of air raid shelter

outside RAF Culmhead is rare and advises that all the former air raid shelters pertaining to the base should be subject to measured survey (*ibid.*).

The study area, along with almost the rest of the airfield, appears to have been abandoned in 1946. The structures, including the Nissen huts, were extant on aerial photographs taken in 1943 (see **Figure 5**) and were still extant on aerial photographs taken in 1948 (SHC RAF/CPE/UK/2491, Frame RP 3206), but most of them have since been removed. The several concrete platforms within the study area appear to correspond with the former locations of the Nissen huts. There is no documentary or map evidence to suggest the study area has been put to any significant use after the WAAF abandoned it. Comparison with images of other decontamination units (see above) does suggest there has been much 'soft strip' of the site, with timber, wiring, plumbing all removed, effectively leaving the buildings as just a shell.

5 ARCHAEOLOGICAL BACKGROUND

5.1 ARCHAEOLOGY OF THE STUDY AREA

A 500 m radius trawl of the Somerset Historic Environment Record database yielded the following results.

Eleven records were revealed from the area of the trawl. There are no listed structures or scheduled ancient monuments within a 500 m radius of the study area.

One record, SHER [16682](#), relates to a Victorian park at Widcombe House.

SHER [24596](#) indicates the present minor road that passes through Holman Clavel was made a Turnpike Road in 1778. Record [26698](#) indicates the minor road that leads west from Prior Park follows the course of an ancient ridgeway.

Record [44515](#) relates to the use of the study area and adjoining land as a Second World War airfield domestic site, with records [44845](#) and [44847](#) relating to the decontamination and ablution blocks (Structures 1 and 2) respectively. Record [44846](#) appears to relate to the three air raid shelters provided for WAAF Communal and Site No. 1, of which two lie within the study area (Structures 3 and 4). Other records relate to RAF and WAAF structures outside the study area.

Outside the 500 m trawl area it was noted that a group of round barrows, known as Robin Hoods Butts ([43470](#)), stands in the parish. The 1844 Tithe map records these and shows several more that are no longer extant. The main group of five barrows in a straight line ([43476](#)) is a scheduled ancient monument. The nearest barrow stood about 930 m to the southeast ([43462](#)). Extant at the time of the Tithe survey, it may have been destroyed when the present B3170 road was built.

5.2 A REVIEW OF THE AERIAL PHOTOGRAPHIC EVIDENCE

Aerial photographs of the study area were viewed in the Somerset Heritage Centre on the 4th October and at the National Monument Record Centre, Swindon, on the 14th October.

A trawl of the NMR revealed 13 images, of which eight were available for viewing. Of these, five were particularly significant because they were taken by the United States Army Air Force (USAAF) between 1943 and 1944, when RAF Culmhead was an operational fighter base.

As expected these prints showed the study area in use as an airfield settlement. One print in particular, Sortie US/7PH/GP/LOC14, Frame V 5033 (see **Figure 5**) showed exceptional detail. As well as the decontamination and ablutions blocks (Structures 1 and 2), there were nine 16 foot Nissen huts (Francis 2001, 58) and one unidentified structure, possibly a shorter Nissen hut, located just to the west of Structure 2 and on a parallel alignment with it. The two air raid shelters (Structures 3 and 4) within the study area were

visible. At least one pole and one mast were visible from their long shadows. The purpose of these structures is not clear, though a flagpole may be surmised.

On a further print from the same sortie, Frame RV 6038, a series of dark lush marks were observed about 600 m southwest of the study area. At least 15 sub-circular marks were observed in a field south of Whitewall Corner, centred on NGR ST 215 156. Several of these marks appeared to have lush marks in their centre. Nothing relating to these crop marks is indicated on the Somerset HER at this location. Given the presence of Bronze Age round barrows in the parish and the general area, it is postulated these marks represent the buried remains of a ploughed out barrow cemetery. Some of these marks could also be distinguished on prints from other sorties, most notably US/7PH/GP/LOC 314, Frame V 5017.

A few faint linear marks were also observed on this print in fields to the south of the study area, possibly representing lynchets along the scarp on which Holman Clavel lies, but this could not be determined with any clarity.

Prints of aerial photographs taken of the study area after 1948 were not available for viewing.

6 PPS5: SIGNIFICANCE AND IMPACT ASSESSMENTS

In line with Planning Policy Statement 5 Policy HE6.1 a chapter detailing the significance of the heritage assets and the impact of the proposals on them is now a standard requirement of archaeological desk-based assessments submitted to Somerset County Council. As no detailed advice on this process and the criteria to be used is currently available, the standard procedures in the production of a cultural resource chapter for an Environmental Impact Statement have been followed, where relevant.

Significance Criteria

Planning Policy Statement 5 stresses the importance of retaining the heritage asset, rather than retaining a documentary record of it (PPS 5, para. HE12.1). In this scheme therefore, preservation by record of any part of the resource is viewed as an adverse impact where preservation *in situ* cannot be achieved.

Significance Criteria	Description of Criteria
Substantial beneficial	The archaeological and cultural heritage resource is retained as per PPS 5, with: a) enhanced protection and monitoring, b) the removal of identified threats, c) the non-intrusive recording of the resource against unspecified future threat, d) improved accessibility of sites and information to the general public
Moderate beneficial	The archaeological and cultural heritage resource is retained as per PPS 5, with 2-3 of the following: a) enhanced protection and monitoring, b) the removal of identified threats, c) the non-intrusive recording of the resource against unspecified future threat, d) improved accessibility of sites and information to the general public
Minor beneficial	The archaeological and cultural heritage resource is retained as per PPS 5, with 1 of the following: a) enhanced protection and monitoring, b) the removal of identified threats, c) the non-intrusive recording of the resource against unspecified future threat, d) improved accessibility of sites and information to the general public

Significance Criteria	Description of Criteria
Negligible	The archaeological and cultural heritage resource is retained as per PPS 5
Minor adverse	The majority of the archaeological and cultural heritage resource is retained, only peripheral elements cannot be preserved.
Moderate adverse	Some core elements of the archaeological and cultural heritage resource cannot be retained, but a substantial proportion remain.
Substantial adverse	All or a significant majority of the core archaeological and cultural heritage resource cannot be retained.

6.1 PREDICTED SIGNIFICANT EFFECTS (THE ASSESSMENT)

It should be noted that no prior archaeological survey, has been undertaken over any part of the study area, and therefore the full potential for the preservation of significant buried archaeological deposits and above ground built heritage has yet to be defined. Intrusive archaeological survey is of itself a destructive process and must therefore be included in this assessment.

Impact During Construction Phase: short to medium term

The construction phase of any project represents the greatest threat to the archaeological and cultural resource where present. Typical threats might include: demolition or alteration to historic standing buildings, and/or the destruction of buried archaeological deposits by earthmoving operations. Other threats that might be considered are the visual impact on the landscape of construction activities.

For the purpose of this chapter the construction phase is taken to also include all intrusive pre-construction activities, e.g. geotechnical test pits, boreholes, archaeological trial trenching.

Zone	Predicted Impact
Areas within the application site where no construction is proposed	Negligible
Areas where demolition of historic fabric is proposed	Substantial adverse
Areas where the modification of historic fabric is proposed	Minor to moderate adverse
Areas where building construction is proposed	Moderate adverse to substantial adverse, where buried archaeological remains are present
Construction zone operating areas	Moderate adverse to substantial adverse, where buried archaeological remains or standing structures are present
Other ground surface and below ground surface modifying operations e.g. landscaping, drainage, roads	Moderate adverse to substantial adverse, where buried archaeological remains and/or standing structures are present
Broader study area	Negligible to moderate adverse impact on views from, to and across the study area

Impact During Operational Phase: long-term

The long-term impact on the archaeological and cultural resource is partly defined by the short-term impact. If a resource has been destroyed or modified during the construction phase then it is no longer available in its original form at a later date, i.e. the resource is finite.

Other issues that might arise include:

- Impact on long-term curation of the buried archaeological resource. E.g. from a change in drainage causing the buried resource to dry out or become inundated, resulting in irreparable damage to the resource;

- Visual impact of new buildings and structures on the surrounding landscape;
- Impact of anthropogenic erosion and other human activities e.g. vandalism.

Zone	Predicted Impact
Areas within the application site where no construction or modification is proposed	Negligible
Areas where storm water is retained on-site through soak-aways etc.	Negligible to substantial adverse on the buried archaeological resource, dependant on the present ground water conditions and the predicted impact of any proposed alterations to storm water drainage. Negligible to substantial adverse on the built heritage dependent as above. Risk of movement/subsidence of ground, potential issues of damp, or drying out leading to cracks in the fabric.
Built heritage	Negligible to moderate adverse depending on the nature and accessibility of the resource retained (except as above)
Broader study area	Negligible to moderate adverse impact on views from, to and across the study area

6.2 SCOPE OF MITIGATION

The choice of mitigation strategies outlined below will be determined by the nature and extent of the archaeological and cultural resource within the study area. The advice of the Somerset County Council Archaeologist should be sought at the earliest possible stage to inform the choice of mitigation strategy, which may subsequently be resolved by mutual agreement and/or the application of appropriate conditions to planning consent.

In order for mitigation to be effective the decision making process has to be informed. There are two elements, Assessment and Evaluation, which inform the planning process as related to archaeology and cultural heritage.

Assessment, in the form of a standard desk-based assessment has already been undertaken over the application site (this document). Further assessment, in the form of geophysical or other intrusive surveys may be required.

Pending the results of the assessment stage, a further stage of Field Evaluation may be required by the City Archaeologist to inform the decision making process. Field evaluation may require ground survey, building recording and/or intrusive trial trenching.

Designed Mitigation

Designed mitigation is always the preferred option as per PPS 5 (para. 7) “wherever possible, heritage assets are put to an appropriate and viable use that is consistent with their conservation”.

Built Heritage

Designed mitigation should attempt to preserve the built heritage within its context, and where applicable find appropriate uses that are compatible with the continuing upkeep and maintenance of the structures concerned.

Archaeology

In archaeologically sensitive areas designed mitigation should aim to minimise the disturbance to buried archaeological deposits by using approved construction methods and techniques known to be effective.

For specific advice the applicant or their appointed agents should contact the office of the Somerset County Council Archaeologist.

Management Control Mitigation

Built Heritage

The built heritage is a finite resource. Following the initial assessment stage the presence or absence of the built heritage is usually not in doubt, however certain elements of it may be hidden from view by later developments and additions.

A programme of monitoring can be applied either by voluntary agreement or by planning condition that would allow for mitigation by design or physical mitigation, should elements of historic interest emerge during the proposed development.

Management of the built heritage may also include regular inspection and upkeep by appropriate contractors, particularly where a programme of mitigation by design is to be implemented, but also to ensure that if preservation by record is the preferred option then the recording process can be undertaken in a safe and effective manner.

Archaeology

The archaeological resource is essentially finite. Therefore effective management of the archaeological resource will lead to either preservation in situ, preservation by record, or a designed combination of the two.

In specific cases where the evaluation and/or assessment stages have indicated a low potential for buried archaeological remains, it may be possible for the County Archaeologist to specify a programme of archaeological monitoring (watching brief) be implemented as a condition of planning consent. Typically such a programme would involve the monitoring of all below ground works for the presence of archaeological remains. If such remains are discovered during the monitoring programme then provision would exist within the planning brief to mitigate by design or to implement a targeted programme of physical mitigation.

An archaeological monitoring programme may also be implemented by voluntary agreement. This would typically be done at an early stage in the development proposals, for the purpose of monitoring below ground testing and other enabling works.

Physical Mitigation

Built Heritage

Physical mitigation of the built heritage should ensure that those structures affected are adequately recorded prior to modification or demolition. The standard guidance on the methods used to undertake such a recording exercise is outlined in English Heritage 2006. These specify four levels of recording, of which Level 4 is the most intensive.

Where physical mitigation of the built heritage is required, a brief should be obtained from the office of the County Archaeologist, outlining in detail the scope of the recording exercise and the level of recording.

Archaeology

Physical mitigation of the archaeological resource is comparable with *preservation by record*, as prescribed in PPS 5 policy HE12.3. Physical mitigation would usually take the form of full or partial archaeological excavation of the affected areas within the application site. The scope of such mitigation would be defined by a detailed brief supplied by the County Archaeologist. Physical mitigation can be undertaken by voluntary agreement between the developer and the local planning authority, or by planning condition (DCLG et al 2010, para. 131).

6.3 MONITORING

Monitoring of the mitigation strategies applied to the archaeological and cultural heritage resource is in the first instance the domain of the County Archaeological Officer.

In practice, day to day monitoring is normally delegated to a specialist archaeological contractor, working to a brief supplied by, and a written method statement approved by the City Archaeologist.

6.4 ASSUMPTIONS

The presence or absence of significant buried archaeological remains has yet to be determined across the bulk of the application site. For the purposes of this chapter it has therefore been assumed that significant archaeological remains may be present in those areas of the application site affected by the proposed development.

6.5 SPECIFIC ASPECTS OF THE STUDY AREA

Outlined below are the potential impacts for individual areas and buildings, based on the level of information available and the current development proposal. See Chapter 4 above for a fuller description of the buildings and areas involved.

Area or Building	Proposed Development	Significance Assessment	Overall Impact Assessment
Structure 1 , former WAAF bath house and decontamination unit.	Demolish.	Built heritage One of only two remaining structures of RAF Culmhead WAAF site, 1941-46. Original plans survive for this structure but are not accurate in all details.	Substantial adverse to built heritage. Negligible to landscape.
		Archaeology No known archaeological remains present, although buried services relating to Structure 1 are very likely.	Negligible to substantial adverse depending on the precise nature of development ground works required in this area.
Structure 2 , former WAAF ablutions house and WC block	Demolish.	Built heritage One of only two remaining structures of RAF Culmhead WAAF site, 1941-46. Original plans survive for this structure but are not accurate in all details.	Substantial adverse to built heritage. Negligible to landscape.
		Archaeology No known archaeological remains present, although buried services relating to Structure 2 are very likely.	Negligible to substantial adverse depending on the precise nature of development ground works required in this area.
Structure 3 , former air raid shelter	Demolish.	Built heritage. A well-preserved semi subterranean air raid shelter, one of only two known to have survived on the RAF Culmhead WAAF site. There are no known plans of this structure.	Substantial adverse to built heritage. Negligible to landscape.

Area or Building	Proposed Development	Significance Assessment	Overall Impact Assessment
		Archaeology No known archaeological remains present.	Negligible to substantial adverse dependent on whether significant archaeological remains are subsequently identified.
Structure 4, former air raid shelter	Demolish.	Built heritage. A well-preserved semi subterranean air raid shelter, one of only two known to have survived on the RAF Culmhead WAAF site. There are no known plans of this structure.	Substantial adverse to built heritage. Negligible to landscape.
		Archaeology No known archaeological remains present.	Negligible to substantial adverse dependent on whether significant archaeological remains are subsequently identified.
Driveway	Retain.	Built heritage While on the course of the WAAF site driveway this feature has little value as a heritage asset, since most of the surrounding site has already been demolished.	Negligible to minor beneficial.
		Archaeology No known archaeological remains present.	Negligible.
Nissen Hut plinths	Demolish.	Built heritage The only remaining evidence for the servicewomen's quarters on WAAF Site 1.	Substantial adverse to built heritage, negligible to landscape.
		Archaeology No known archaeological remains present.	Negligible to substantial adverse dependent on whether significant archaeological remains are subsequently identified.

It is therefore recommended that should development require all or partial demolition of the standing structures, then there should be adequate provision to allow for these structures, and any related features, to be preserved by record, as per PPS 5 policy HE12.3.

7 SUMMARY AND CONCLUSIONS

The study area is a small, sub-rectangular parcel of land with an adjoining track way, located just to the southeast of the small settlement of Holman Clavel, a hamlet and inn located in the rural parish of Otterford, county of Somerset, situated in the Blackdown Hills, a designated Area of Outstanding Natural Beauty. The track way leads from a minor road that serves the hamlet, through the Holly Bush Park touring caravan site, to a gated entrance into the main part of the study area.

The medieval parish of Otterford was mentioned in lay subsidy returns for 1327. The historic manor was part of the large manor of Taunton Deane, which had been in the possession of the Bishops of Winchester since before the Domesday survey of 1086. In 1844 the Bishops of Winchester were still the largest landowner in the parish. Subsequently the manor appears to have been acquired by William Beadon, who built a house and pleasure grounds for himself and his family in the parish. The parish was enclosed in 1851.

The study area first appears in the documentary and cartographic evidence in the 1844 Tithe map and apportionment for the parish. From this map it is clear the study area lay in common land. On the 1851 enclosure map the study area is still shown as part of a larger common, but by the 1888 OS 1:2,500 map the commons had been enclosed and the study area was part of a larger field that stretched between Holman Clavel and Widcombe. A single footpath cut through the study area between the two settlements.

Very little appears to have changed within the study area until the Second World War. After the major aerial battles of 1940 the Air Ministry realised a need for new airfields. Subsequently Tricky Warren Farm in neighbouring Churchstanton Parish was chosen as the site for a new fighter base. Lands in Churchstanton and Otterford parishes were compulsorily purchased. The base was opened as RAF Churchstanton in 1941 and from then until late 1944 regular combat missions were flown. Typically these were squadrons of Hurricanes, later mostly Spitfires were flown. The name was later changed to RAF Culmhead. In 1944 RAF Culmhead made history as the first Allied operational jet fighter base, armed with Gloster Meteors. The base was also used for experimental purposes, in particular attempts to proof aircraft against barrage balloon cables. As the fighting moved further east various flying training schools used the base. From August 1945 until August 1946, when it was finally closed, it was used primarily for the storage of surplus equipment.

It has been calculated that up to 50% of the original structures of RAF Culmhead still remain in the landscape. The former fighter base is an important national heritage asset. This has been recognised through selective scheduling of some parts of the site, most notably the 1941 fighter pens.

The study area was incorporated into the base in 1941. It formed part of the accommodation facilities for the Women's Auxiliary Air Force (WAAF), and was known as WAAF Communal Site and WAAF Site No. 1. Surviving plans confirm there were nine Nissen huts for accommodation located within the study area. There were also two air raid shelters, for which detailed plans do not survive, and two communal blocks, one a bath/shower block which doubled as a first aid post and decontamination block in the event of a gas attack, the other was a wash/laundry room, with WC provision, known as an ablutions block.

A visit to the study area confirmed that the concrete bases of several Nissen huts are still extant. The two semi-subterranean air raid shelters, built of brick and concrete, are also still extant and in excellent condition. Though there has been some dereliction and in places the roofs are damaged or missing, the former decontamination block and ablutions block also still survive largely intact. These were built of brick, with corrugated asbestos concrete roof cladding, and concrete floors. The interior of both has been largely stripped, while the former ablutions block was re-used as an animal pen. All structures are now disused and the study area is partially overgrown.

over

The principal interest in the study area relates to the WWII domestic occupation structures and air raid shelters. Structures 1 and 2 have been identified as a WAAF decontamination block. They were one of two blocks at RAF Culmhead, the other has since been demolished, making the present structures locally unique. Online trawls and other sources for this study could confirm that at least 37 decontamination units of all types are still extant throughout the UK. Of these only five were confirmed as built specifically for the WAAF, though many more are believed to have been built. These structures are therefore confirmed as at least a local heritage asset.

The air raid shelters, Structures 3 and 4, are not locally unique, as other examples apparently survive on the domestic sites associated with RAF Culmhead. However their survival at other sites in the United Kingdom is considered poor. The group value of the air raid shelters of RAF Culmhead is potentially greater than that of the individual structures alone.

On this basis of the documentary evidence gathered for this study, the potential for buried archaeological remains within the study area is considered to be low, excepting buried services and structures related to the WWII occupation of the site, where the potential for preservation is moderate to high. While there is strong evidence in the parish for activity during the Bronze Age, there is nothing to suggest this activity was on or in the immediate vicinity of the study area. However, the potential for buried archaeological remains within the study area cannot be tested by recourse to the documentary evidence alone.

8 BIBLIOGRAPHY AND REFERENCES

Abbreviations

aOD	Above Ordnance Datum
OS	Ordnance Survey
SHC	Somerset Heritage Centre
SHER	Somerset Historic Environment Record
USAAF	United States Army Air Force
WAAF	Women's Auxiliary Air Force

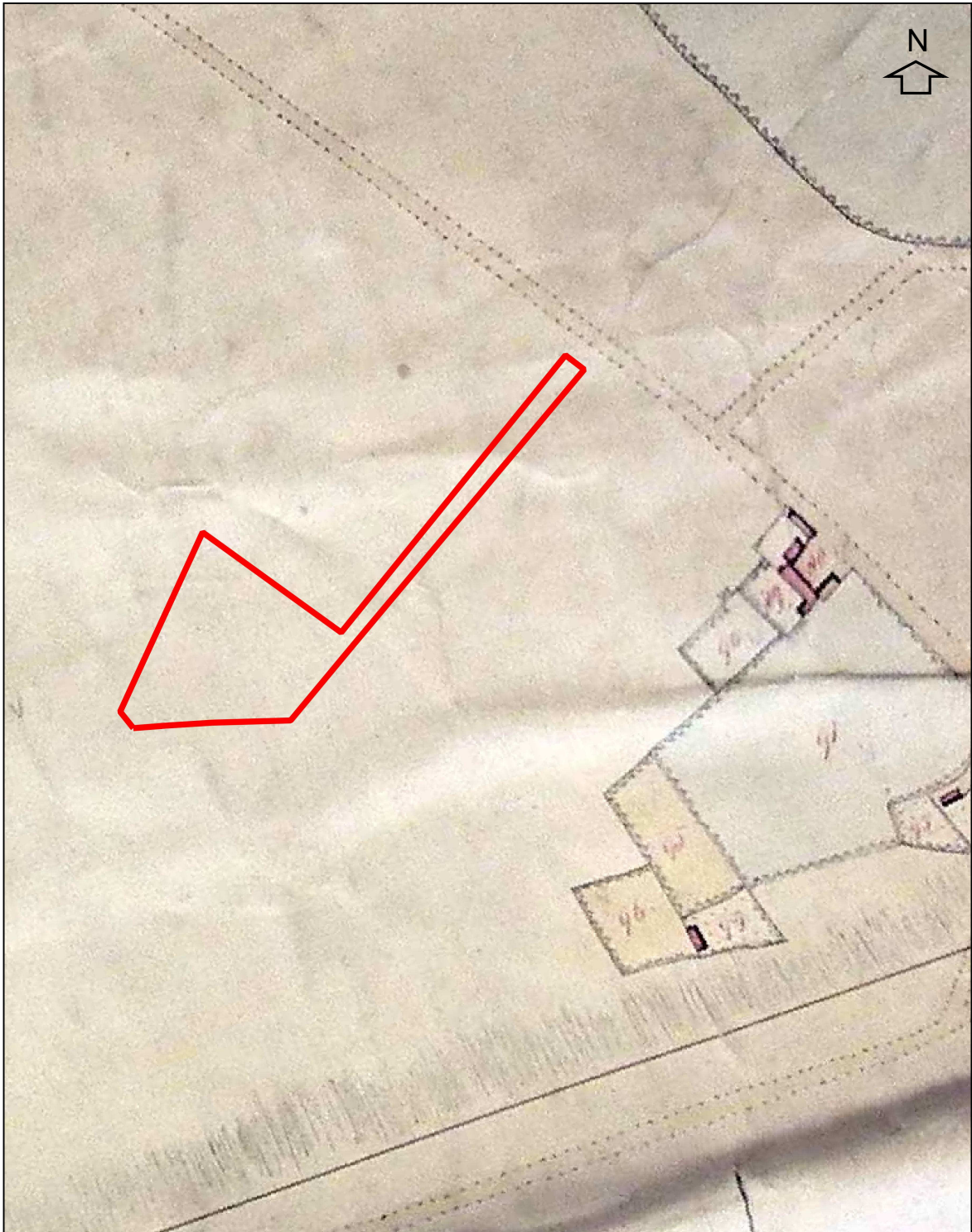
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OS	1904	<i>Somerset, sheet 79.15.</i> County Series 1:2,500 scale map. Southampton.
OS	1930	<i>Somerset</i> , sheet 79.15. County Series 1:2,500 scale map. Southampton.

Figure 3

An extract from the 1844 Tithe map of Otterford Parish
SHC D/D/Rt/M/440.

Approximate boundary of the study area outlined in red.



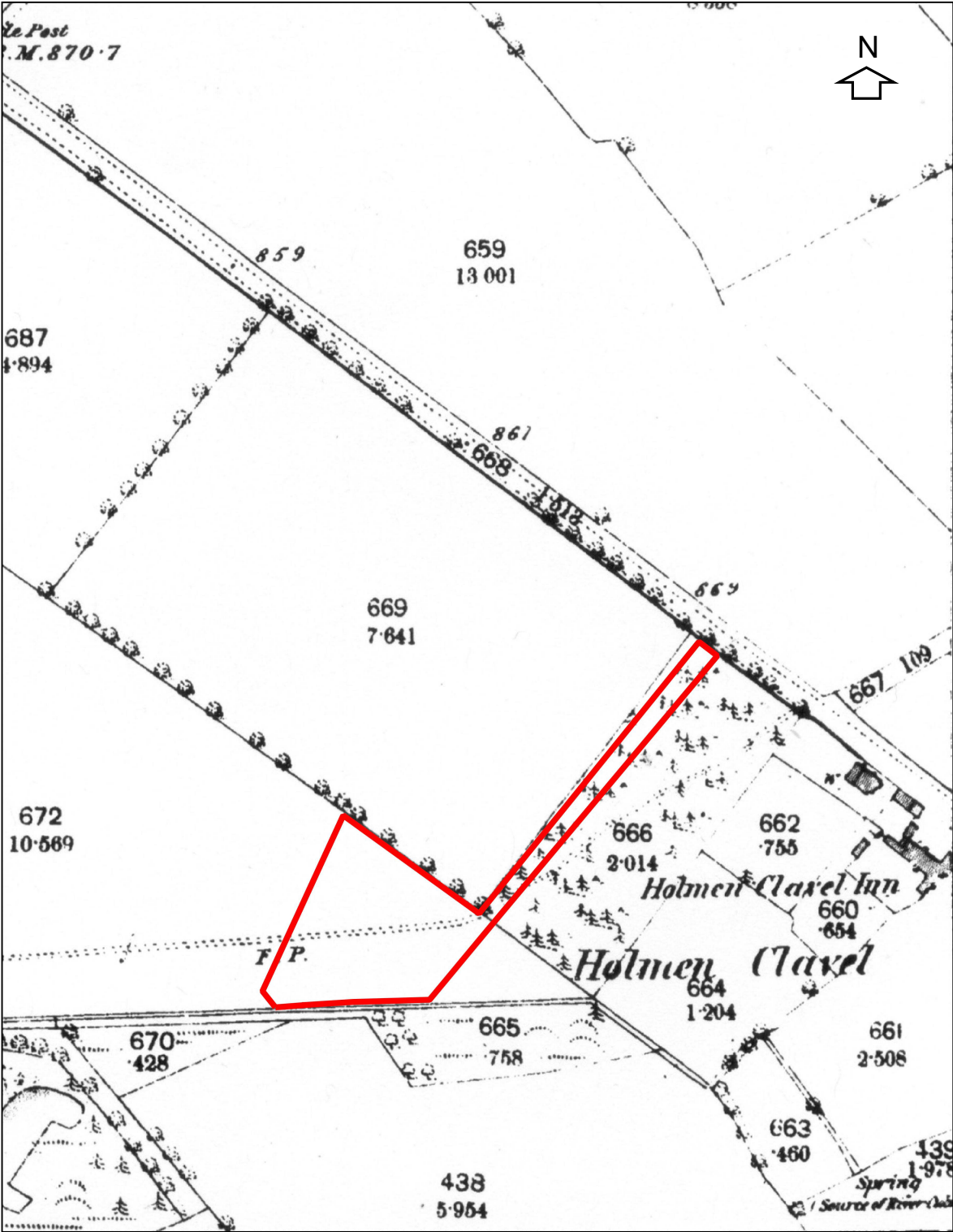
Approximate scale 1:2,500

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Figure 4

An extract from the OS 1888 1:2,500 map of Somerset
Sheet 79.15.

Approximate boundary of the study area outlined in red.



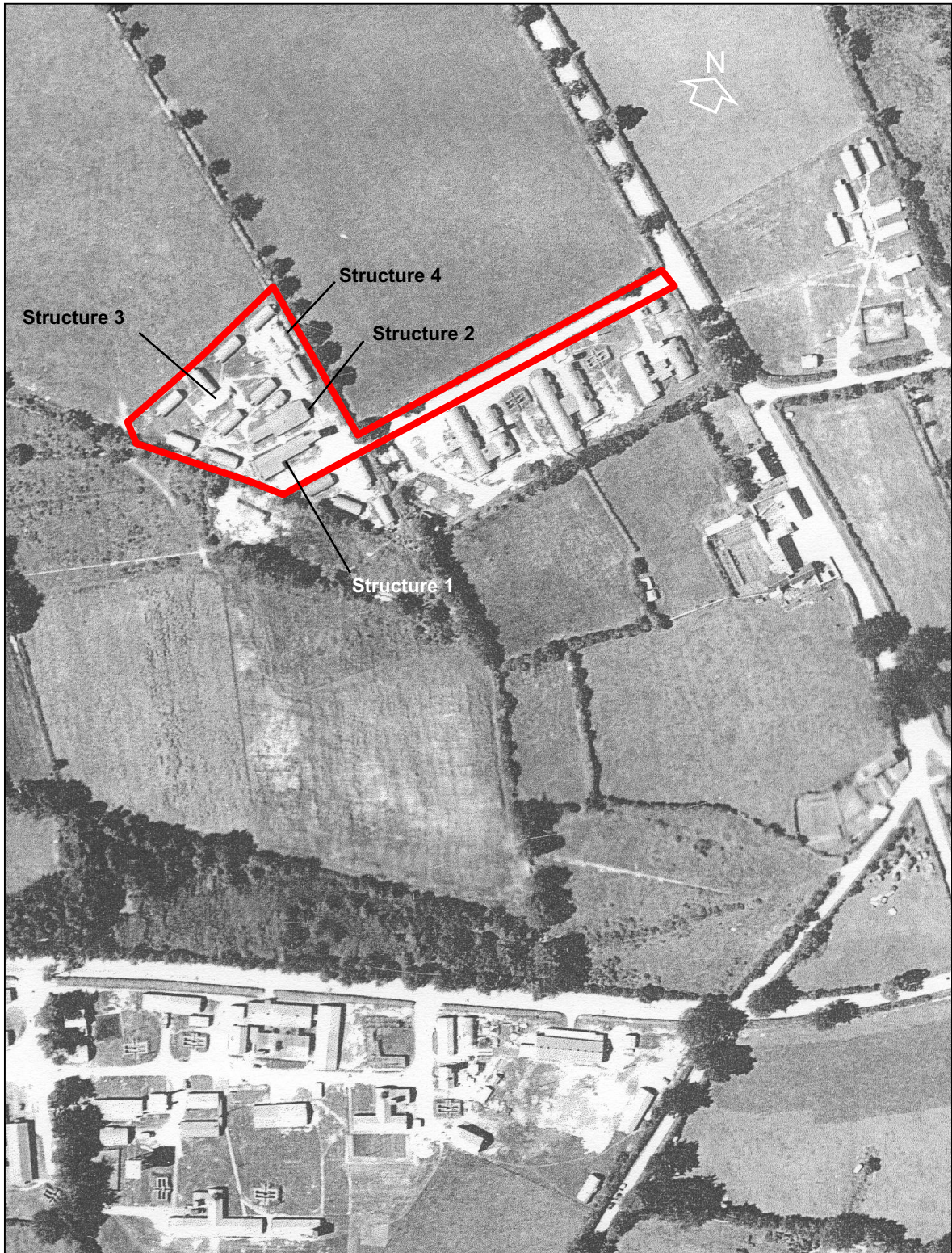
Approximate scale 1:2,500

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Figure 5

An extract from an August 1943 USAAF aerial photograph
Sortie US/7PH/GP/LOC14, Frame V 5033.

Approximate boundary of the study area outlined in red.



Approximate scale 1:2,500

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Avon Archaeological Unit Limited
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