Archaeological Desk-based Assessment land at

OAK TREE AVENUE, PUCKLECHURCH, SOUTH GLOUCESTERSHIRE.

for Leadbitter Group



Report No. 2404/2010 SGHER No. 19314

By Simon Roper







Archaeological Desk-based Assessment land at

OAK TREE AVENUE, PUCKLECHURCH, SOUTH GLOUCESTERSHIRE.

Centred on N.G.R. ST 70090 75810

Client: Leadbitter Group Agent: Kendall Kingscott Ltd.

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Date Issued:	19 November 2010

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Abbreviations

AD	Anno Domini	Km	Kilometre
aOD	Above Ordnance Datum	m	Metre
BaRAS	Bristol & Region Archaeological Services	NGR	National Grid Reference
BC	Before Christ	NMR	National Monuments Record
BCC	Bristol City Council	OS	Ordnance Survey
BCL	Bristol Central Library	SGHER	S. Glos Historic Environment
BRO	Bristol Record Office		Record
0	Circo		

NOTE

Notwithstanding that Bristol and Region Archaeological Services have taken reasonable care to produce a comprehensive summary of the known and recorded archaeological evidence, no responsibility can be accepted for any omissions of fact or opinion, however caused.

November, 2010.

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SUMMARY

Bristol and Region Archaeological Services were commissioned by Kendall Kingscott Ltd. on behalf of Leadbitter Group to undertake an archaeological desk-based assessment for land at Oak Tree Avenue, Pucklechurch, South Gloucestershire (NGR ST 70090, 75810). The study area is situated within Pucklechurch, on the edge of the parish boundary, to the south of the village centre.

There is no specific evidence to indicate prehistoric or Roman period activity within the study area, although Mesolithic stone tools and substantial Roman remains have been found elsewhere in the village. The study area is located within the medieval settlement of Pucklechurch, at this time a very significant village at the centre of Pucklechurch hundred, an importance emphasised both by the large number of hides (20 recorded in Domesday) and the presence of a royal residence in the village. The historic core of the village is however located to the north of the study area. The cartographic evidence shows the study area was in use as fields for pasture throughout the 19th and early 20th centuries, with the only feature other than field boundaries depicted being a circular pond. During the middle of the 20th century the study area formed part of the Barrage Balloon Centre, and a number of features survive from this period, such as the listed balloon anchor point. Archaeological deposits within the study area are likely to have suffered very little disturbance, the site having remained as fields up until the mid 20th century.

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1. INTRODUCTION & CURRENT USE

- 1.1 Bristol and Region Archaeological Services were commissioned by Kendall Kingscott Ltd. on behalf of Leadbitter Group to undertake an archaeological desk-based assessment for land at Oak Tree Avenue, Pucklechurch, South Gloucestershire (NGR ST 70090 75810) (Fig. 1).
- 1.2 The study area is situated within Pucklechurch, on the edge of the parish boundary, to the south of the village centre.
- 1.3 On plan, the study area comprises two blocks of irregularly shaped open ground, accessed from Oak Tree Avenue to the north and bordered by Back Lane to the south (**Fig. 1**). The east flank of the study area is bounded by Dyrham Close, and the west flank by Pucklechurch Trading Estate. Two blocks of housing are located in the middle of the study area.
- 1.4 The study area consists of an area of grassed open ground immediately to the south of a modern housing estate, the last remnant of a RAF Balloon Centre mooring area. Features identified on site relating to the former Balloon Centre include road surfaces, concrete blocks, drainage, a balloon mooring point and the foundations of temporary buildings (Plates 1-6). The main road surface runs in a curve from west to east across the site with a number of smaller off-shoots from it (Cover). A line of concrete blocks (Plate 2), probably the remnant of some form of ducting, is located on the west side of the site running south from the edge of the road surface. Located in the east section of the study area is the balloon mooring point made up of a series of concrete tethering blocks with iron rings set in them (Plates 3-6). In addition to these 20th-century features two others are also present on the site. A linear raised earthwork feature runs approximately north-south and is located to the east of the balloon mooring point. A sunken circular feature, the remains of a former pond dating to at least the 19th century, is located on the west side of the study area (Plate 7).
- 1.5 The proposed development entails the construction of 55 new dwellings and a GP surgery on the site. It is intended to retain the balloon mooring point as a feature within the open space of the development.
- 1.6 The geology in the immediate environs of the study area comprises White and Blue Lias limestone of the Jurassic period (Geological Survey Map of England and Wales 1956). The study area lies at c 108m aOD.

2. METHODOLOGY

- 2.1 The study was undertaken in accordance with criteria set out in the Institute of Field Archaeologists' *Standard and Guidance for Archaeological Desk-Based Assessment* (revised 2008).
- 2.2 Selected material from the holdings of the Bristol Record Office, Somerset Heritage Centre and the National Monuments Record were consulted. All information considered appropriate to the study was collated, summarised and presented in the following report. All photocopies, Mss copies and notes, including photographs, are preserved in the Project Archive to be retained at BaRAS's premises at St Nicholas Church, Bristol. A copy of the report is to be lodged at the National Monuments Record (NMR), Swindon.
- 2.3 A visit to the study area was made by Simon Roper of Bristol and Region Archaeological Services on 10 November 2010. Photographs (see **Plates 1-8 & Cover**) and rough notes were taken during the visit.
- 2.4 A search of the Local Authority's HER was carried out on-line, with the results incorporated into this report. The project has been referenced under the South Gloucestershire Historic Environment Record as: SGHER 19314 and Oasis no. bristolal-87031.

3. HISTORICAL CONTEXT

General

3.1 The study area lies within the historic hundred, manor and parish of Pucklechurch.

Historical Background

- 3.2 The earliest indications of human activity within Pucklechurch parish are of prehistoric date, comprising a number of flint stones found during excavation for a gas pipeline, which date to the mesolithic, and a tumulus of probable Bronze Age date located to the west of the village on the road to Shortwood (http://hosted.southglos.gov.uk/Puckleweb/page_1.htm). No evidence has been recovered to date indicating Iron Age activity within the parish.
- 3.3 A significant number of Roman remains have been found with Pucklechurch village itself, with archaeological evaluations and excavations finding evidence for structures, boundary ditches and industrial residues on the sites. These ranged in date from the 1st to the 5th century, and may be indicative of significant settlement sites within the locality such as villas. The close proximity of the Bitton to Berkeley Roman road may partly account for their presence (South Gloucestershire 2010, 5).
- 3.4 During the early medieval period Pucklechurch was a royal manor held by the Saxon kings and was clearly a site of some importance being at the centre of the Hundred of Pucklechurch, which may indicate the presence of a fortified burh within the village locality. Rudder (1779) refers to Pucklechurch being the residence of the Saxon kings and King Edmund was murdered while at his Palace in Pucklechurch. Following his death the manor passed to Glastonbury Abbey, who are recorded as still holding it in Domesday (1086) when it consisted of 20 hides a very significant territory (Abrams 1996, 213).
- The plan of the village probably developed during the period of ecclesiastical ownership with three small hamlets growing up abutting a central open space (South Gloucestershire 2010, 5). In 1205 the manor passed to the Bishop of Bath and Wells who held it until 1547-8 when it passed to Sir Nicholas Pointz (BaRAS 2000, 2). The manor subsequently passed to the Dennis (Denys or Dennys) family who had a significant impact on the village and the surrounding parishes (http://hosted.southglos.gov.uk/Puckleweb/page_3.htm) and then to the Earl of Radnor after the last resident Lord of the Manor, William Dennis Esq died in 1701.
- 3.6 During the 19th century a number of collieries opened up within the environs of Pucklechurch, the most significant of which was the Parkfield colliery, leading to new houses chapels and schools being opened in the village (South Gloucestershire 2010, 5).
- 3.7 In the 20th century the village expanded southwards and in August 1939 No.11 Balloon Centre opened at Pucklechurch (Penny 2002, 35). Balloon Centres acted as headquarters for the balloon units and as storage/maintenance depots. As such in addition to the mooring area for the balloons these sites also comprised balloon hangers in which they could be test inflated and timber balloon storage sheds with gantries over each of their four doors (Lowry 1996, 63). The balloons at Pucklechurch were field sited, moored equidistantly over a circular area, and acted to force enemy aircraft to fly high reducing the accuracy of their bombing and making them easier targets for the other defences. If an aircraft struck the cable of a balloon, two cutting links at the top and bottom broke and as the cable was carried away a parachute would open at each end causing sufficient drag that the aircraft would drop out of the sky (http://fishponds.org.uk/puckle.html).
- 3.8 After the war the Balloon Centre performed various functions from housing maintenance units and ground radio servicing squadrons, to a language school. The name of the centre was

changed to RAF Pucklechurch in 1952, the site was reduced to inactivity basis in 1959, and the western part of the site was transferred to HM Prison Service in 1962.

Nomenclature

3.9 Pucklechurch is named as Pucelancyrcan in King Eadred's Charter of AD950 and as Pulcrecerce in domesday. Smith (1964, 65) suggests the name may derive from Pūcel a term for goblin.

4. CARTOGRAPHIC EVIDENCE

General

4.1 Historic and Ordnance Survey maps held by the Bristol Record Office and the British Library Online Gallery were examined.

Cartographic Observations

4.2 The observations made on the maps examined are summarised in **Table 1** below.

Мар	General Observations	Fig. No
E. Crocker, 1816	1) The buildings and roads of Pucklechurch depicted, including Back Lane, however no other details are shown.	-
Pucklechurch Tithe Map, 1843	 Field boundaries depicted, study area located within apportionments 345, 347 and 348. Apportionment 345 lists William Earl of Radnor as the owner, Sarah Evans as the occupier, names the field as Lower Barns and is described as pasture. Apportionments 347 and 348 list William Earl of Radnor as the owner, John Edwards as the lessee, George Evans as the occupier, names the fields as The Tanzy Ground and Inner Tanzy Ground and both are described as pasture. 	2
First Edition OS map (1: 2500) published 1883	Western field remains the same, the two eastern fields have become one field. Trees depicted in the hedgerows. Circular pond depicted within the study area. Two footpaths cross the fields.	3
OS map (1: 2500) 1921	1) Study area as above.	4

Table 1: Summary of Cartographic Observations

Discussion

- 4.3 The earliest map examined depicting Pucklechurch is the 1816 Ordnance Survey drawing of Chipping Sodbury surveyed by E. Crocker. This shows the houses of the village, the believed location of the Saxon royal palace and the roads of the village including Back Lane that forms the southern boundary of the study area. Field boundaries and features with fields are not shown and no details are depicted within or around the study area other than the road.
- 4.4 The first map examined to depict any detail within the study area is the 1843 Tithe map, which shows the field boundaries. The accompanying apportionment identifies the landowner as the Earl of Radnor, the occupiers of the three fields as Sarah or George Evans and the land use as pasture.
- 4.5 By 1881 the middle and east field have been amalgamated into one field, while the boundaries of the west field remain largely unchanged. Two footpaths are depicted crossing the study area and a circular pond is shown in the western half, the remains of which are visible on site (**Plate 7**). The 1921 Ordnance Survey map shows the study area unchanged.

5. AIR-PHOTOGRAPH EVIDENCE

General

- 5.1 A search of the air-photograph collection held at the National Monuments Record (NMR), Swindon was requested (Enquiry No. AP 55284), the results of which are presented in **Appendix 2**. The available photographs were examined in accordance with standard procedures for air-photograph analysis (Wilson 2000).
- 5.2 Three of the vertical air-photographs examined have been selected for inclusion in this report (see **Figs. 5-7**) with the observations made summarised in **Table 2** below.

Photo. No.	Date	Observations
RAF/106G/UK/1415, frame 3231, (see Fig. 5)	14th April 1946	1) Entire study area comprises part of the mooring area for RAF Balloon Centre; 2) Still existing roadway visible curving round the southern part of the site; 3) Two of the balloon mooring points lie within the study area; 4) Line of concrete blocks observed during the site visit visible running from the roadway to either a building or tank; 5) Fields visible to the south and east of the study area, the workshops and hangers of the balloon centre visible to the west.
RAF/540/1576, frame F22 130, (see Fig. 6)	31st March 1955	1) Two blocks of housing constructed on the southern part of the balloon mooring area, another larger block in the north-east corner of the mooring area; 2) The two mooring points within the study area clearly now disused; 3) Balloon Centre to the west remains largely unchanged.
OS/74115, Pos V, frame 34, (see Fig. 7)	11th June 1974	1) Area to the north of the study area (formerly fields and the rest of the mooring area) now completely covered by modern housing estate, including Oak Tree Avenue; 2) One balloon mooring point within the study area completely removed by construction of Oak Tree Avenue, the other still partially surviving to the east of the early blocks of housing; 3) Darker patch to the south-west of early housing blocks indicates location of former pond.

Table 2: Air-Photograph Observations

Discussion

- 5.3 The earliest of the photographs gives a very clear view of how the study area must have looked during the war years, the infrastructure of the Balloon Centre remaining largely intact at this point. The southern portion of the road, which serviced the balloon mooring area, is the most visible of the still extant features on site. No features of earlier land use in the study area are visible. The two blocks of existing housing that break up the study area, have been constructed by 1955, and the area to the north of the study area has been completely covered by a housing estate by 1974. Only Dyrham Close to the east of the study area is yet to be built. A recent aerial photograph (**Fig. 8**) confirms those features identified on the site visit.
- 5.4 The aerial photographs confirm that the majority of features identified on site date to the wartime period and the sites use as a Barrage Balloon Centre. Other than the location of the pond no evidence of earlier land use is visible.

6. ARCHAEOLOGICAL EVIDENCE

Introduction

- 6.1 The documentary evidence and known archaeology indicate that the study area lies within an area of archaeological potential. The Pucklechurch conservation area comprises the historic core of the village and is located 500m to the north of the study area. The balloon mooring point observed during the site visit (**Plates 3-6**) is listed at grade II, for full listing see Appendix 2.
- 6.2 A trawl of the Bristol Historic Environment Record was carried out on-line (http://www.heritagegateway.org.uk/gateway), with a radius of 500m around the study area for archaeological events and monuments, the results of which are summarised in **Table 3** below.

No.	Site	Description	Year/ Period
17271	Barn (1) Abson Road Wick	A small building, in a close, probably a barn was depicted at this location on the 1st edition OS map. {1}	Post - Medieval
16490	Two Barrage Balloon Workshops Pucklechurch Trading Estate Pucklechurch	Two Second World War barrage balloon workshops. Circa 1938. Steel frame, clad in asbestos cladding (has been replaced) and timber boarding. Mansard shaped clad roof, balloon sheds and lower corrugated asbestos roof with gabled ends to workshop. 1938, Balloon Centre No. 11, when eighteen barrage balloon depots were established, Pucklechurch covered the defence of Bristol, Filton and Avonmouth. These workshops are the remaining two of originally four balloon workshops at Pucklechurch, balloons were brought here for repairing when damaged, either in combat or if damaged when moored. This pair of barrage balloon workshops is a rare surviving example of a type that played an important role in the defence of Britain during the Second World War. SOURCE: Airfield Architecture; 1996. {1} Listed Building (II) 1096/0/10005: Title not entered	Modern - 1935 AD to 1945 AD
6267	Smithy Shortwood Road Pucklechurch	The apportionments show a single cottage divided into a blacksmith's and a cooper's shop. {1} The same buildings are noted as a smithy on the 1st edition OS Map. {2}	Post - Medieval
10507	Balloon Establishment Shortwood Road Pucklechurch	Three balloon hangers from the World War II Balloon Centre survive here in comparatively good condition, believed to be the most intact remains of their type in the country. The site is partly occupied by an industrial estate and a Detention Centre. The hangers were built pre 1939 as part of the defences of a "shadow factory" and were built to RAF standards.	Unclassifie d Modern - 1935 AD to 1945 AD
6192	Lime Kiln Abson Road Pucklechurch	A lime kiln marked on the tithe map, in this area bur not marked on the 1st edition OS map and is now covered by trading estate. {1}	Post- Medieval - 1800 AD to 1899 AD

Table 3: Summary of Historic Environment Record Trawl (SGHER)

Discussion

- 6.3 No previous archaeological work has been undertaken on the study area, or within the immediate surroundings. None of the HER entries listed in **Table 2** fall within the study area, although the study area did form part of the Balloon Centre described in entries 10507 and 16490.
- 6.5 Within the immediate environs of the study area the archaeological record that has been investigated to date is dominated by the post-medieval period and modern period. The study area however is located within a kilometre of the medieval settlement of Pucklechurch.

7. CONCLUSION

- 7.1 There is no specific evidence to indicate prehistoric or Roman period activity within the study area, although mesolithic stone tools and a Bronze Age site have been found within the local area. Substantial Roman remains have been found elsewhere in the village, possibly the remains of a villa. Therefore archaeological material or remains, particularly from the Roman period, may exist on the site.
- 7.2 The study area is located within the medieval settlement of Pucklechurch, believed to have been in existence from the 9th century. At this time Pucklechurch was probably a very significant village at the centre of Pucklechurch hundred, an importance emphasised both by the large number of hides (20 recorded in Domesday) and the presence of a royal residence in the village. The historic core of the village is however located to the north of the study area, and again there is no specific evidence to indicate any activity other than agriculture taking place within the study area during the medieval period.
- 7.3 The cartographic evidence shows the study area was in use as fields for pasture throughout the 19th and early 20th centuries, with the only feature other than field boundaries depicted being a circular pond. A slight depression observed on the site indicates the location of the former pond, which if it predates the 19th century may contain waterlogged deposits with environmental evidence of earlier periods.
- 7.4 During the middle of the 20th century the study area formed part of the Barrage Balloon Centre, and a number of features survive from this period, such as the listed balloon anchor point. Most of the mooring area has since been built upon leaving those features within the study area as the only remaining physical evidence of this part of the centre. These may require recording prior to their destruction and if so should be interpreted with reference to the holdings of the Royal Air Force Museum London, which include a plan of No. 11 Balloon Centre.
- 7.5 Archaeological deposits within the study area are likely to have suffered very little disturbance, the site having remained as fields up until the mid 20th century and the Balloon Centre infrastructure likely to be of very shallow depth. In these areas sealed medieval, Roman and possibly prehistoric deposits may still be found which could provide an insight into the use of the study area during these periods, and thus the development of the settlement of Pucklechurch. If undisturbed archaeological deposits are present on the site of the proposed new buildings the project is likely to have an impact upon them.

8. REFERENCES & WORKS CONSULTED

Texts

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Maps

- 1816 *Chipping Sodbury*, Ordnance Survey Drawing, surveyed by E. Crocker.
- 1843 *Plan of the Parish of Pucklechurch in the county of Gloucestershire*. Tithe map and apportionment (BRO P.Puc/SD/1).
- 1882 First Edition (1:2500) Ordnance Survey.
- 1921 Ordnance Survey plan (1: 2500).

Websites

British Library Online Gallery

http://www.bl.uk/onlinegallery/onlineex/ordsurvdraw/c/002osd00000009u00125000.html accessed on 16/11/10

The Heritage Gateway

http://www.heritagegateway.org.uk/gateway/ accessed on 04/11/10

Puckleweb

http://hosted.southglos.gov.uk/Puckleweb/ accessed on 16/11/10

A short history of No.11 Balloon Centre at Pucklechurch, 1939 to 1945, and RAF Station Pucklechurch, 1945 to 1959, John Penny

http://fishponds.org.uk/puckle.html accessed on 16/11/10

9. ACKNOWLEDGEMENTS

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The above report was compiled by Simon Roper and produced by Ann Linge of Bristol and Region Archaeological Services. The project was managed by John Bryant.

APPENDIX 1: Policy Statement

This report is the result of work carried out in the light of national and local authority policies.

NATIONAL POLICIES

Statutory protection for archaeology is enshrined in the Ancient Monuments and Archaeological Areas Act (1979), amended by the National Heritage Act, 1983. Nationally important sites are listed in the Schedule of Ancient Monuments (SAM). Scheduled Monument consent is required for any work that would affect a SAM.

GOVERNMENT POLICY GUIDANCE

Planning Policy Guidance Note 15: Planning and the Historic Environment (1994) and Planning Policy Guidance Note 16: Archaeology and Planning (1990) have been replaced (23 March 2010) by Planning Policy Statement 5: Planning for the Historic Environment (2010) which sets out the Government's national policies on conservation of the historic environment. Those parts of the historic environment that have significance because of their historic, archaeological, architectural or artistic interest are called heritage assets.

Of particular relevance within the Planning Policy Statement are:

Policy HE6: Information Requirements for Applications for Consent Affecting Heritage Assets

HE6.1 Local planning authorities should require an applicant to provide a description of the significance of the heritage assets affected and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage asset and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. As a minimum the relevant historic environment record should have been consulted and the heritage assets themselves should have been assessed using appropriate expertise where necessary given the application's impact. Where an application site includes, or is considered to have the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where desk-based research is insufficient to properly assess the interest, a field evaluation.

Policy HE9: Additional Policy Principles Guiding the Consideration of Applications for Consent Relating to Designated Heritage Assets

HE9.1 There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. Once lost, heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled monuments, protected wreck sites, battlefields, grade I or II* listed buildings and grade I and II* registered parks and gardens, World Heritage Sites, should be wholly exceptional.

Policy HE12: Policy Principles Guiding the Recording of Information Related to Heritage Assets

HE12.3 Where the loss of the whole or a material part of a heritage asset's significance is justified, local planning authorities should require the developer to record and advance understanding of the significance of the heritage asset before it is lost, using planning conditions or obligations as appropriate. The extent of the requirement should be proportionate to the nature and level of the asset's significance. Developers should publish this evidence and deposit copies of the reports with the relevant historic environment record. Local planning authorities should require any archive generated to be deposited with a local museum or other public depository willing to receive it. Local planning authorities should impose planning conditions or obligations to ensure such work is carried out in a timely manner and that the completion of the exercise is properly secured.

DISTRICT POLICY

South Gloucestershire's Local Plan (adopted January 2006) states:

Archaeology L11

Development which would not physically preserve sites of national archaeological importance, whether scheduled or not, or would have a significant impact on the setting of visible remains, will not be permitted.

Planning permission will not be granted for development on sites or landscapes of archaeological interest or of high archaeological potential without an archaeological assessment and if necessary a field evaluation.

Where the assessment indicates that the proposed development would harm a site, structure or landscape of archaeological or historic importance or its setting, development will not be permitted unless applicants can demonstrate a satisfactory scheme indicating how the impact of the proposal on the archaeological resource can be mitigated. The council will negotiate agreements to preserve and manage archaeological remains.

APPENDIX 2: Listing for Barrage Balloon Mooring Site

509055
ST7018375799
OAK TREE AVENUE
Barrage Balloon
Mooring Site east of No. 57 Oak Tree Avenue II
A \ A//2 barrage balloon mooring site, dating from c.1938-40.

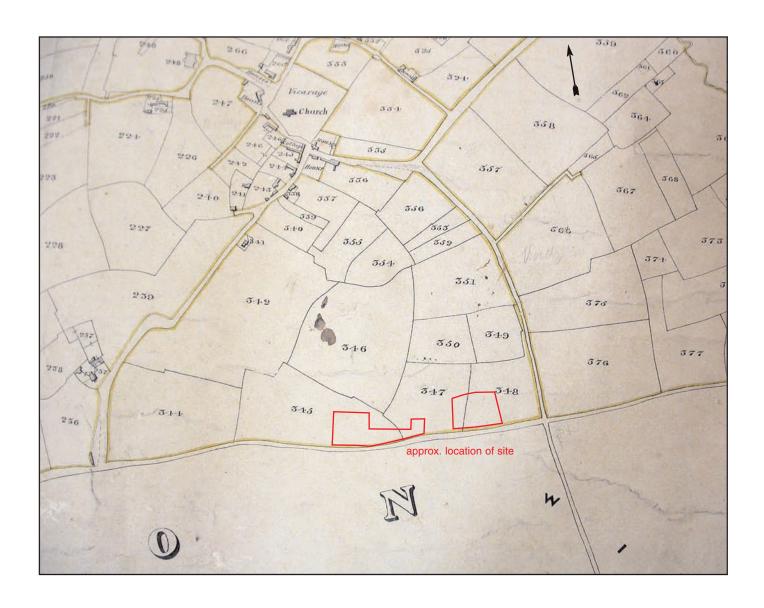
DESCRIPTION: The site is formed from pre-cast concrete blocks, each with a cast-iron ring set into its upper surface, set in a circular pattern flush with the ground surface. Outside the central anchorage, a second circle of mooring blocks circa 11m in diameter describes the circle to which guy ropes would be fixed when the balloon was fully bedded-down. Beyond the site is a shallow circular ditch circa 27m in diameter outside the central anchorage, around which the trailer winch, which wound the tethering ropes up and down, would have run. HISTORY: The use of hydrogen-filled barrage balloons as anti-aircraft devices had been developed towards the end of World War I, in order to provide some protection for London from low-level air attack. After some unsuccessful experiments, barrages of groups of three balloons were suspended above London; the first was operational by October 1917, and a second was in place by the end of hostilities. A request was made to retain the balloon barrage during peacetime, but this was turned down, and the scheme was abandoned. However, in 1926-8, further experiments in the design of barrage balloons were made, at the Royal Airships Works at Cardington in Bedfordshire. The developments were so successful that the Commander-in-Chief of the Air Defence of Great Britain, Air Vice-Marshall Sir Edward Ellington, made the recommendation that part of the air defence of London should be made in the form of a balloon barrage, and that it should be in an advanced state of readiness in order to provide protection rapidly if needed. The Air Ministry agreed, and approval was given in 1932 for the establishment of a low-altitude barrage balloon section; it was formed in 1935, at RAF Cardington, Beds., under the control of RAF Fighter Command. By the end of 1938, it was evident that barrage balloons would form an important part of any future defence of Britain, and thus a separate Balloon command was formed on 1 November 1938. Training was carried out at Balloon Training Units (BTU) at Cardington and Larkhill; by the time of their closure in November 1943, the BTUs had trained around 5,000 RAF balloon operators, the same number of WAAFs, and around 12,000 operators and drivers. 18 balloon depots were established around the country, between 1938 and 1940. Each serviced between one and four balloon squadrons, which were based in areas which would be vulnerable to attack from the air, such as naval bases, large cities, ports and industrial plants. As the depots were established, experiments were carried out to devise the most efficient and destructive methods of using the balloon barrages. By 1939, a new type of cable-cutting device had been put into production. Balloons were tethered by a single cable containing cutting links to either a winch or an anchorage point. Parachute packs were attached to either end of the cable, below the balloon and above the winch or tethering point; when an aircraft flew into the cable, it would be severed, leaving the aeroplane trailing two empty parachutes, which would greatly increase drag and cause the plane to crash. A ripcord would at the same time pull open a patch on the side of the balloon, ensuring that it would float to earth, and allow its recovery. Built around 1938 as No.11 Balloon Centre, Pucklechurch covered the defence of the city of Bristol, aeronautical manufacturing at Filton, and the important docks at Avonmouth. Barrage balloons were brought to the site for repair when they were damaged, either in combat or if they had been damaged after breaking loose of their moorings. The Pucklechurch site consisted of four balloon workshops, of which two survive largely unaltered and were listed at Grade II in 2003. The balloon mooring site is situated approximately 390m south-east of the listed balloon repair workshops. The Pucklechurch Balloon Centre continued to function until RAF Balloon Command was disbanded in January 1945, by which time the balloon barrages had served their purpose. The site, which was to become RAF Pucklechurch, became the responsibility of its parent unit at RAF Filton, and its administration was passed to the Maintenance Unit at Quedgeley near Gloucester. The station was set aside for use in demobilization of troops, and later as a post-war balloon storage site. RAF Pucklechurch was used for a variety of functions through the rest of the 1940s and the 1950s, and was closed at the end of 1959; despite a brief halt when Cold War tensions began to rise, the disposal of the site was begun in 1962, when the western part of the site was transferred to HM Prison Service, which built Pucklechurch Remand Centre, now HMP and YOI Ashfield. The rest of the site became a trading estate, including the wartime balloon repair workshops, which remain in light industrial use. The balloon mooring site is now situated in a green space within an area of post-war housing development.

SOURCES:

Francis, Paul: British Military Airfield Architecture (1996), 75-80.

Penny, John: a short history of No. 11 Balloon Centre at Pucklechurch (1939-1945) and RAF Pucklechurch 1945-1959 (undated), available on the website of the Fishponds Local History Society, at www.fish ponds. org. uk/puckl echu rch. pdf (accessed 03. 08. 1 0).







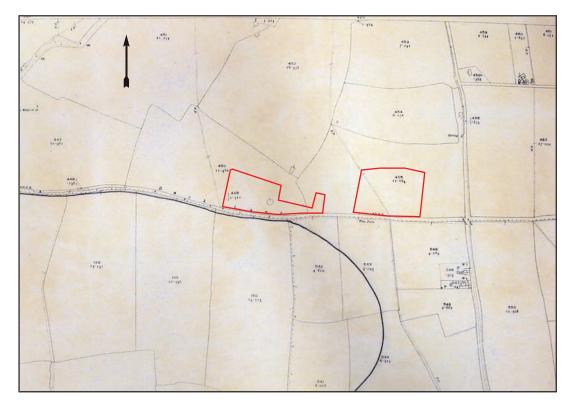


Fig.4 Extract from Ordnance Survey plan (1:2500) published 1921 (BRO)



Fig.5 Air photograph showing the study area shortly after it stopped being a Balloon Centre (NMR RAF/106G/UK/1415, frame 3231, 14th April 1946).

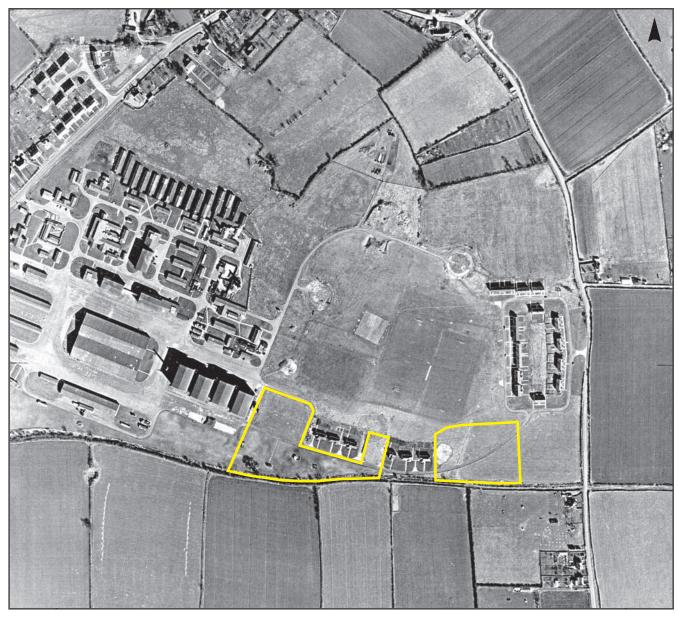


Fig.6 Air photograph showing the study area once the first houses were built upon it (NMR RAF/540/1576, frame F22 130, 31st March 1955).







Plate 1 Section of the original road and kerbs of the Balloon Centre, looking west



Plate 2 Concrete blocks running north-south on the west section of the site, looking south



Plate 3 Location of former balloon mooring site, three concrete blocks visible around the edge, looking north-east



Plate 4 Concrete balloon tethering blocks, looking east



Plate 5 Centre of surviving balloon mooring site, looking east



Plate 6 Central concrete balloon tethering block, looking east



Plate 7 Western section of the site with the depression of the former pond in front of the 1950s houses, looking north-east



Plate 8 Back Lane, which borders the site to the south and forms the parish boundary, looking west