

ARCHAEOLOGICAL
SERVICES
DURHAM UNIVERSITY

on behalf of
Story Homes Ltd

Berrymead Farm air raid shelter
Harrowgate Hill
Darlington

archaeological building recording

report 6003
October 2023

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1. Summary

The project

- 1.1 This report presents the results of an archaeological recording conducted in advance of proposed demolition work at Berrymead Farm, Harrowgate Hill, Darlington.
- 1.2 The works were commissioned by Story Homes Ltd and conducted by Archaeological Services Durham University.

The structure

- 1.3 The air raid shelter is a rectangular concrete structure measuring 3.3m east-west and 2.7m north-south, and partly sunk into the ground. It stands behind a pair of semi-detached houses, built after the First World War as part of a scheme to encourage returning soldiers and others to take up smallholding. There are two more pairs of similar houses close by, on Burtree Lane.
- 1.4 The shelter has a single door in its east end and a ventilator in the middle of the west face. The walls and roof are made of mass concrete without any reinforcement, set directly on the natural clay subsoil. The marks of the shuttering that was used to form the walls before the concrete was poured can be seen on all sides. The slightly curved roof was cast onto a timber roof taken from a railway brake or guard's van.
- 1.5 The air raid shelter was not made to a standard pattern. It was probably built by the occupants of the adjacent smallholding houses, some of whom doubtless had had some experience of this kind of work in the First World War. The builders used materials that would have been fairly readily available. Corrugated iron sheets and old railway wagons were often used to make sheds or agricultural buildings, especially in a town with a big railway industry. Its form is very basic. It has only one entrance, without steps from ground level or a blast wall, and with no alternative exit. Fortunately, Darlington was not a frequent target for enemy bombers and the site was never hit, though high explosives were dropped on Whessoe in January 1941 (Lloyd 2015, 1941). While the shelter may have been used after 1945, its sunken construction and earth floor would have made it prone to damp or flooding. These problems were encountered with all structures of this sort. It is likely that the shelter was of limited use once the threat of bombing had passed.
- 1.6 The shelter is part-filled with clay and building debris derived from smallholding sheds that stood nearby. This material has not been removed because it includes some asbestos-containing material, in the form of pieces of profiled cement roofing sheets. However, enough of the interior has been exposed by the removal of the roof to clearly show the nature of the shelter's construction. From the evidence seen from limited excavation in the entrance, it appears likely that it had a clay floor.

2. Project background

Location (Figures 1 and 2)

- 2.1 The air raid shelter is behind a pair of semi-detached houses on the side of the A167, formerly part of the Great North Road, at Berrymead Farm, Harrowgate Hill, Darlington. The Ordnance Survey grid reference is NZ 29246 18045. Harrowgate, a suburb of Darlington, lies a short way to the south.

Development

- 2.2 The development is residential.

Objective

- 2.3 The objective of the project was to investigate the structure and to provide a record of its present state. The updated regional research framework *North-East Regional Research Framework for the Historic Environment* contains an agenda for archaeological research in the region. The scheme of works was designed to address agenda item MO9: How can we better explore the material dimensions of warfare, military life and defence in the region?

Specification summary

- 2.4 The works have been undertaken in accordance with a written scheme of investigation, reference 23139, prepared by Archaeological Services Durham University and agreed by Durham County Council's Archaeology Section.

Dates

- 2.5 The air raid shelter was first examined on 18th July 2023. A second visit to the site was made on 27th October, when the roof was removed. This report was prepared for October 2023.

Personnel

- 2.6 Investigation and survey work was carried out by Richard Annis, Matt Claydon and Henry Morris. This report was written by Richard Annis and the illustrations were prepared by David Graham and Linda Bosveld.

Archive/OASIS

- 2.7 The archive has been submitted to the Archaeology Data Service, in accordance with the guidance set out in *Standards for all Building Recording work in County Durham and Darlington*. Archaeological Services Durham University is registered with the Online Access to the Index of archaeological investigationS project (OASIS). The OASIS ID number for this project is **archaeol3-517760**.

3. Landuse, topography and geology

Landuse

- 3.1 At the time of this recording work, development work was under way on a site that had been used as a pasture for many years.

Topography

- 3.2 The land around the air raid shelter is roughly level. The A167 road to the east is slightly lower, and the ground rises to the west and north.

Geology and soils

- 3.3 The bedrock is Permian dolostone of the Ford Formation, and this is overlain by glacial till.

4. Historical and archaeological development

- 4.1 The history of the site is set out in a desk-based assessment report (Archaeological Services 2015, 4-8).
- 4.2 There is no direct evidence of prehistoric or Romano-British activity around the site of the air raid shelter. In the medieval and post-medieval periods the site was farmland; the Whessoe tithe map of 1838 records that the site was part of an arable field called North Chapman Close. This belonged to Robert Sheraton and was let to Thomas Downes. The early Ordnance Survey maps show no significant changes until the present houses on Beaumont Hill were built, between the two World Wars. This was a time of large-scale development in Darlington, a good deal of it in the Harrowgate Hill area (Cookson 2003, 140); an unpublished thesis on local authority house building notes “the acquisition of some 207 acres of 36 outlying farmland by the County Borough of Darlington” in the early 1920s (Ryder 1979, 203). Most of this development was to the south of the present study area, which remained agricultural land. Until development began, ridge and furrow could be seen throughout the field where the air raid shelter stands.
- 4.3 The 1921 Ordnance Survey map shows no development on either side of the Great North Road, and the shape of the field that includes the site of the air raid shelter is the same as that shown on the 1838 tithe map. By the time of the 1939 map (Figure 3), a long row of houses had been built on the east side of the road. On the west, only a few buildings had been added. The two semi-detached houses that stand immediately east of the air raid shelter, 21 and 23 Beaumont Hill, are shown on this plan. The map also shows that the old field called North Chapman Close had been divided into more than a dozen plots of differing sizes. It is known that the two houses were built to house veterans of the First World War, and it appears that they were part of a national movement to encourage people to take up work as smallholders. The government had begun this process with the Smallholdings and Allotments Acts of 1907 and 1908, with the intention of addressing the problem of rural depopulation. This process was considered a valuable means of providing homes and livelihoods for men returning from the war. The Smallholdings Acts of 1916 and 1918 and the Land Settlement (Facilities) Act 1919 were passed to encourage local authorities to build houses and establish sites for small-scale agriculture. A recent study of smallholdings at Hart, Hartlepool, notes that the 1919 Act “encouraged Councils to expand their estates to accommodate, in particular, the settlement on the land of the returning ex-servicemen who had to be given preference over all other applicants” (Daniels 2010, 7). Sites were established in many places during the 1920s and 1930s. At Hart, three blocks of houses were built in 1938. Each had between six and nine acres (2.4-3.6ha) of land with a piggery, a hen house, an unheated glass house, as well as pigs and chickens (Hart History Group 2010).
- 4.4 The two houses on the Berrymead Farm site appear to have been part of the same movement. The 1939 Ordnance Survey map (Figure 3) shows that each house had a matching set of outbuildings at the rear, in a symmetrical arrangement. A resident of

one house recalls that one of these was a piggery and another a henhouse; these buildings have been removed but they can all be seen on a 1945 vertical air photograph available on Google Earth. This picture and the 1939 map show the same arrangement of a pair of semi-detached houses with outbuildings at sites a short distance west and south-west of the study site, at nos. 16-18 and 22-24 Burtree Lane. Like the houses beside the air raid shelter, these buildings have been altered and extended but their similarities are very apparent; both are shown on land that was formerly part of North Chapman Close.

5. The structure

Investigation work

- 5.1 A quantity of brick rubble and rubbish was removed to give a view of the interior, and a trench was cut across the east face to expose the full height of the wall and the door. A fill of loose rubble, dry-laid brick and clay was excavated from the door opening. The presence of numerous pieces of broken asbestos cement roofing sheets in the rubble meant that it was not considered safe to empty the shelter completely. In October 2023 the roof was removed, revealing more detail of the building's construction.

Materials and form

- 5.2 The air raid shelter is a rectangular concrete structure measuring 3.3m east-west, 2.7m north-south and up to 1.6m high, and with a slightly curved roof (Figure 4: Photographs 1-4). It is partly sunk into the ground and has a single door off-centre in its east side. The only other opening is a ventilator made from a piece of four-inch ceramic drainpipe, set high up in the middle of the west face.
- 5.3 The walls and roof are made of mass concrete without any sign of reinforcement. The material contains a good deal of large aggregate, and the marks of the shuttering that was used to form the walls when the concrete was poured in can be seen on all sides (Photograph 5). In places this was timber, but on the west and south sides, and inside the door, it was corrugated iron sheets (Photograph 6). These materials were often used for this sort of wartime structure: very similar marks can be seen on the wall around a Home Guard spigot mortar post recorded recently at Wolsingham, Co Durham (Photograph 7: Archaeological Services 2021).
- 5.4 The shelter's door is 1.22m (four feet) high and 0.58m wide; the walls are 0.42m thick. The roof, which is slightly curved, is 0.25m thick. It is in this shape because the concrete was poured onto a timber roof taken from a railway wagon (Photograph 8). This wooden structure has transverse ribs, two of them sandwiching vertical boards from a partition. Three holes in the plank roof would have accommodated vents or flues (Photograph 9); these, together with the evidence of an internal wall, show that the roof was originally part of a brake or guard's van. The roof was cut down to fit the shelter and the ribs all stop short of the walls. The inner faces on all sides show the marks of shuttering; when the roof was removed, no trace of reinforcement was seen in the concrete (Photographs 10, 11). The timber of the roof was surrounded by a course of unfrogged bricks. The vents in the guard's van roof had been covered with wood and sealed with putty before the whole roof was covered with roofing felt or some other waterproof membrane (Photographs 12, 13). In the shelter's entrance, traces of a wooden door frame were seen when the door was unblocked (Photographs 14-16). There was no sign of fixings in the

concrete. The frame appears to have been set on a thin layer of grey gravel and simply wedged into place.

- 5.5 Inside, the shelter measures 2.19m east-west by 1.88m north-south, a floor area of 4.12 square metres. This is more than half as big again as the standard Anderson shelter (paragraph 6.2, below), which was intended to provide enough space for four adults and two children. The concrete structure at Berrymead Farm would probably have offered sufficient room for all of the occupants of the two houses beside the shelter, though it did not have the Anderson's emergency escape hatch in the wall opposite the door.

Later uses

- 5.6 It is not known when the smallholdings went out of use. The pair of houses at the front of the site, like the others on Burtree lane, have been altered but are still recognisably of the same design (Photographs 17, 18). After the war, the old shelter seems to have been incorporated into the structures at the rear of the houses. The 1945 air photograph mentioned above appears to show it as part of a larger shed, the concrete floor of which can be seen on the north side. Later, it seems to have been deliberately part-filled with soil; a layer of clay up to 0.43m deep was recorded when the blocking of the door was removed. In more recent times, bricks and asbestos cement roofing sheets from an adjoining hen house were thrown into the shelter. A resident of one of the old smallholding houses says that her father did this to prevent children from playing in the structure.

6. Conclusions

- 6.1 The air raid shelter was not made to a standard pattern. It was probably built by the occupants of the adjacent smallholding houses, some of whom doubtless had had some experience of this kind of work in the First World War. The builders used materials that would have been fairly readily available. Corrugated iron sheets and old railway wagons were often used to make sheds or agricultural buildings, especially in a town with a big railway industry. Its form is very basic. It has only one entrance, without steps from ground level or a blast wall, and with no alternative exit. Fortunately, Darlington was not a frequent target for enemy bombers and the site was never hit, though high explosives were dropped on Whessoe in January 1941 (Lloyd 2015, 1941). While the shelter may have been used after 1945, its sunken construction and earth floor would have made it prone to damp or flooding. These problems were encountered with all structures of this sort. It is likely that the shelter was of limited use once the threat of bombing had passed.
- 6.2 Non-standard air raid shelters were not nearly as common as Anderson shelters or larger surface shelters. Andersons were made of thick corrugated steel sheets and, like the Berrymead Farm structure, were partly sunk into the ground. They were made and issued in large numbers, free of charge to less well-off households; by September 1939 over 1.5m had been provided to the civilian population (Brown *et al.* 1996, 66). Non-standard or 'home-made' shelters can take a variety of forms. A few years ago, an example was found on an estate that was built between the two World Wars, so roughly contemporary with the smallholding houses at Berrymead Farm. It was a small semi-sunken room built of brick and concrete with a stepped entrance, in the back garden of a house at Courtland Road; this is about 2.8km south-west of the Berrymead Farm site (N. Echo 2015).

- 6.3 The shelter is part-filled with clay and building debris derived from smallholding sheds that stood nearby. This material has not been removed because it includes some asbestos-containing material, in the form of pieces of profiled cement roofing sheets. However, enough of the interior has been exposed by the removal of the roof to clearly show the nature of the shelter's construction. From the evidence seen from limited excavation in the entrance, it appears likely that it had a clay floor.

7. Sources and references

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Appendix: Catalogue of photographs

Photographs 2-18 were taken by Richard Annis on 18th July and 27th October 2023, with a Nikon D3300 digital SLR camera.

Digital filenames are 01-18_Darlington_Berrymead_ARS_6003.

No	Subject	Direction
1	The air raid shelter before the start of development work, with one of the two smallholding houses in the background. Photo taken by Catrin Jenkins in 2015	NE
2	The shelter and the houses, seen from the west. Note the ventilation pipe and the marks of corrugated iron shuttering in the concrete. The scale is 0.5m long	E
3	A view looking west across the roof of the shelter. The white building in the distance is another pair of semi-detached smallholding houses	W
4	The north and east faces of the structure, with the door at the left. The concrete in the foreground is the floor of a demolished shed	SW
5	Detail of the south-west corner, showing irregular shuttering marks and the coarse, poorly-sorted aggregate in the concrete	N
6	The marks of corrugated iron sheet shuttering just inside the door of the shelter	NE
7	Similar construction evidence can be seen in this contemporary structure, a Home Guard spigot mortar emplacement at Wolsingham, Co Durham	N
8	A view looking into the shelter after the upper part of the door was cleared. The wooden railway van roof that supports the concrete is set slightly askew	W
9	Detail of the ribs and planking of the roof. Note the vertical boards sandwiched between two ribs, and two of the three flue holes in the timber further back	W
10	The interior of the shelter, with the roof lying on the ground beyond it. Timber shuttering marks and coarse, unsorted aggregate can be seen on the inside faces of the walls	SW
11	The east end and the door after removal of the roof. The absence of any reinforcement is obvious here and in the previous picture	E
12	The upturned roof of the shelter. A row of bricks runs around the inside of the concrete slab, which has broken away from the curved timber base along the left-hand side	E
13	Detail of the ribs and chimney or vent holes in the former guard's van roof. The thick rib at the centre incorporates the thick boards of the former partition	N
14	Clay and bricks have been used to close up the lower half of the door. The walls rest directly on the natural yellow clay subsoil	SW
15	An oblique view of the door during excavation. Scraps of decayed wood from a door frame are just visible beside the scale. Note the rough construction of the walls and the absence of fixings for the door or its frame	NW
16	Detail of the wooden door sill, which lies on a scatter of grey unconsolidated mortar. The scale is 100mm long	NW

No	Subject	Direction
17	The two former smallholding houses at the front of the air raid shelter site. The porches and the bay beyond the left-hand chimney are later additions	S
18	Another pair of smallholding houses, on Burtree Lane. Despite modern alterations, the similarity between these and the houses in Photo 17 is obvious	N



Photograph 1: The air raid shelter before the start of development work, with one of the two smallholding houses in the background. Photo taken by Catrin Jenkins in 2015



Photograph 2: The shelter and the houses, seen from the west. Note the ventilation pipe and the marks of corrugated iron shuttering in the concrete. The scale is 0.5m long



Photograph 3: A view looking west across the roof of the shelter. The white building in the distance is another pair of semi-detached smallholding houses



Photograph 4: The north and east faces of the structure, with the door at the left. The concrete in the foreground is the floor of a demolished shed



Photograph 5: Detail of the south-west corner, showing irregular shuttering marks and the coarse, poorly-sorted aggregate in the concrete



Photograph 6: The marks of corrugated iron sheet shuttering just inside the door of the shelter



Photograph 7: Similar construction evidence can be seen in this contemporary structure, a Home Guard spigot mortar emplacement at Wolsingham, Co Durham



Photograph 8: A view looking into the shelter after the upper part of the door was cleared. The wooden railway van roof that supports the concrete is set slightly askew



Photograph 9: Detail of the ribs and planking of the roof. Note the vertical boards sandwiched between two ribs, and two of the three flue holes in the timber further back



Photograph 10: The interior of the shelter, with the roof lying on the ground beyond it. Timber shuttering marks and coarse, unsorted aggregate can be seen on the inside faces of the walls



Photograph 11: The east end and the door after removal of the roof. The absence of any reinforcement is obvious here and in the previous picture



Photograph 12: The upturned roof of the shelter. A row of bricks runs around the inside of the concrete slab, which has broken away from the curved timber base along the left-hand side



Photograph 13: Detail of the ribs and chimney or vent holes in the former guard's van roof. The thick rib at the centre incorporates the thick boards of the former partition



Photograph 14: Clay and bricks have been used to close up the lower half of the door. The walls rest directly on the natural yellow clay subsoil



Photograph 15 (left): An oblique view of the door during excavation. Scraps of decayed wood from a door frame are just visible beside the scale. Note the rough construction of the walls and the absence of fixings for the door or its frame

Photograph 16 (below): Detail of the wooden door sill, which lies on a scatter of grey unconsolidated mortar. The scale is 100mm long





Photograph 17: The two former smallholding houses at the front of the air raid shelter site. The porches and the bay beyond the left-hand chimney are later additions




Photograph 18: Another pair of smallholding houses, on Burtree Lane. Despite modern alterations, the similarity between these and the houses in Photo 17 is obvious

Figure 1: Site location

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 site location

0  1km
scale 1:20 000 for A4 plot

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Figure 2: Location of air raid shelter

0 50m
scale 1:1000 for A4 plot

 site location





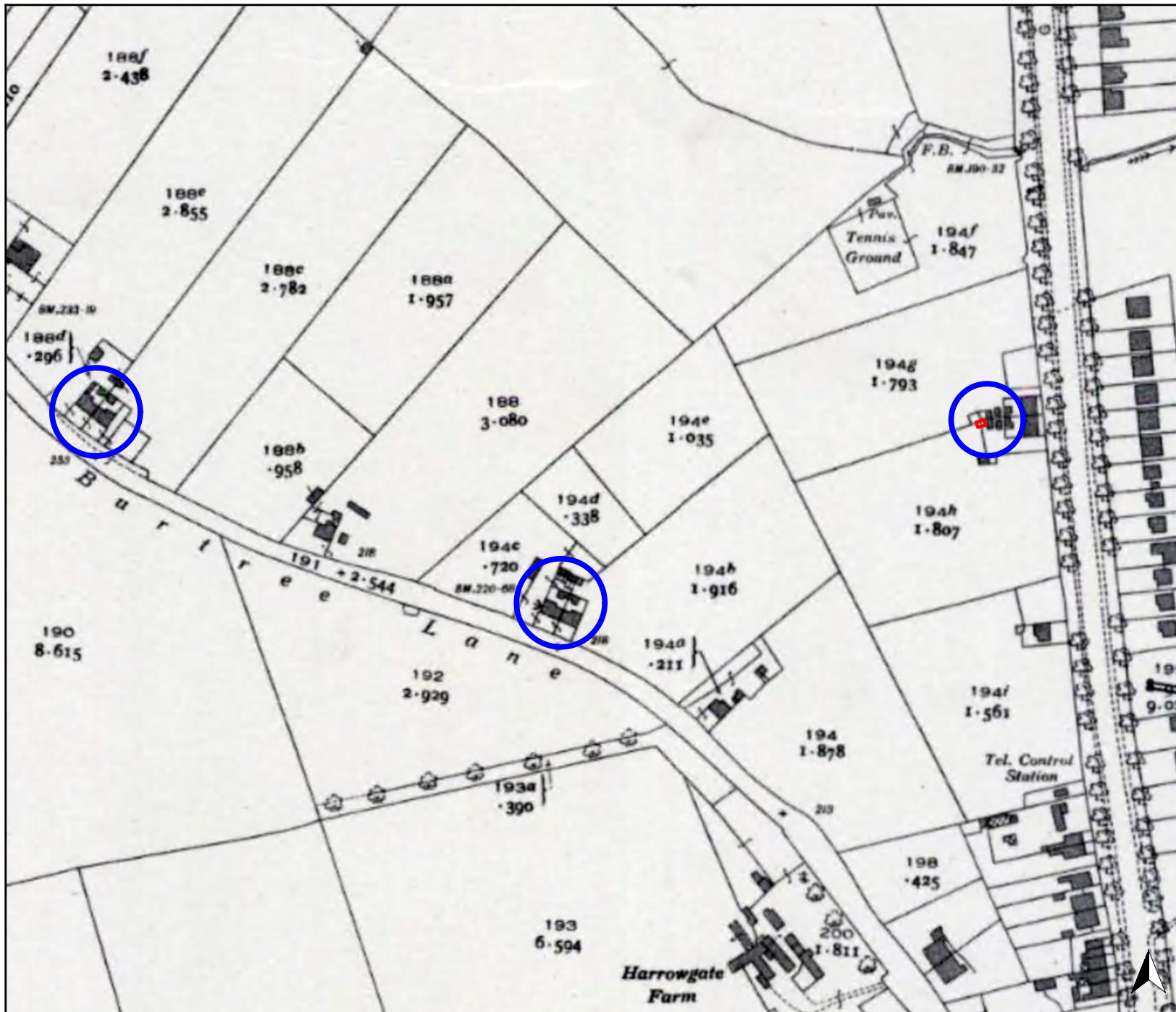
Berrymead Farm air raid shelter
Darlington

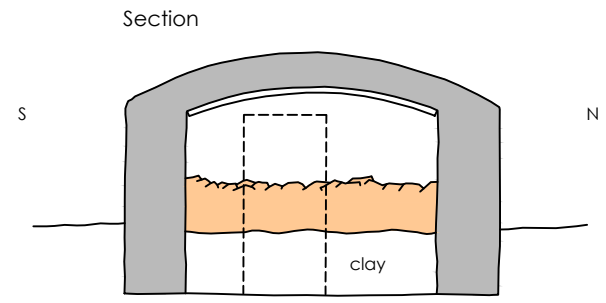
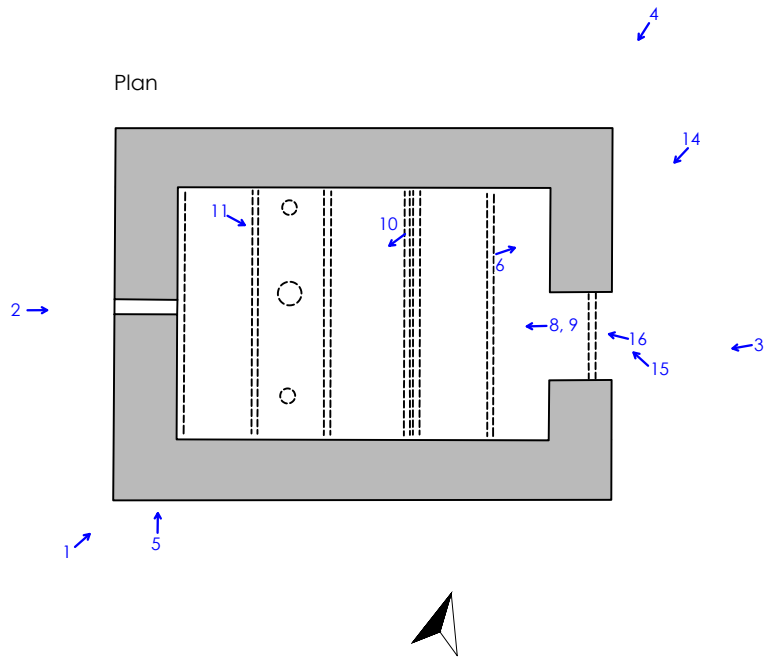
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Figure 3: Extract from the 1939
Ordnance Survey map, showing the
smallholding houses and the site of
the air raid shelter

0 100m
scale 1:2500 for A4 plot

-  smallholding
-  air raid shelter












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Figure 4: Plan and section

	site boundary		brick rubble
	photograph		wooden roof features
	concrete		door frame

0  2m
scale 1:50 for A4 plot