No. 480

BIRMINGHAM UNIVERSITY
FIELD ARCHAEOLOGY UNIT

An Archaeological Survey of a World War II Defensive Site at Brockhill, Redditch, Hereford and Worcester 1997

B.U.F.A.U.

Birmingham University Field Archaeology Unit
Project No. 480
July 1997

An Archaeological Survey of a World War II Defensive Site at Brockhill, Redditch, Hereford and Worcester 1997

by
Kirsty Nichol

For further information please contact:
Simon Buteux, Iain Ferris or Peter Leach (Directors)
Birmingham University Field Archaeology Unit
The University of Birmingham
Edgbaston
Birmingham B15 2TT
Tel: 0121 414 5513
Fax: 0121 414 5516
E-Mail: BUFAU@bham.ac.uk
Web Address: http://www.bham.ac.uk/BUFAU/

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Contents

Figures

Plates

1 Brockhill. North-eastern view.

2 Brockhill. North-western view.

3 Brockhill. Eastern view.

4 Brockhill. The Gun Plate.

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1.0 Summary

An archaeological survey of a World War II defensive site was carried out by Birmingham University Field Archaeology Unit at Brockhill, Redditch, Hereford and Worcester, during June 1997. Topsoil and modern backfill were removed to expose the whole complex in order to conduct a photographic and drawn survey of each element of the site.

2.0 Introduction

The site lies on a hillside overlooking the Enfield area of Redditch (see figure 1). It comprises three discernible structures (Hereford and Worcester Sites and Monuments Record number 21318) identified as twentieth century World War II defensive pillboxes. Less than a metre of two of the structures was visible above ground level, and only part of the concrete roof of the third. A fourth element, the gun mount, was partly visible in the centre of the complex. Although substantial backfilling had taken place on the site the structures appeared to be very well preserved.

Birmingham University Field Archaeology Unit (BUFAU) was commissioned to undertake the survey by Barratt West Midlands prior to the construction of an access road to a new housing development, for which permission had already been granted. The methodology of the survey conforms to an Archaeological Brief prepared by the County Archaeological Officer (Hereford and Worcester County Council 1997), and an Archaeological Specification prepared by BUFAU (June 1997).

The survey archive will be deposited with the appropriate holding body in the County.

3.0 Archaeological Background

The site had been the subject of previous wider survey in 1994 (Fagan 1994, and Fagan and Jackson 1994), when the pillboxes, and a second defensive position, (HWCM 21323) were recorded (see figure 2). Their potential significance within the research framework of the *'Defence of Britain'* project was noted at the time. It was suggested that the site represents part of a ring of defences surrounding Birmingham. Recent work by volunteers associated with the *'Defence of Britain'* project has clarified this; it is now believed that this site was chosen to protect a nearby factory, HDA Forgings Ltd, which was producing parts for aircraft in wartime Britain. Further investigation, by the *'Defence of Britain'* team, has shown that there was also a barrack block associated with the site, the original building of the barracks being incorporated into a bungalow on the opposite side of Brockhill Lane.

4.0 Aims

The objectives of the survey were:
(a) to preserve by record the complex of World War II defensive features.
(b) to identify and assess any features associated with earlier occupation/land use on the site.

5.0 Methodology

All topsoil and modern backfill was removed by a combination of machine,working under archaeological supervision, and hand excavation. Two trenches were machine excavated (see figure 3) to establish the depth of foundations and concrete footings of Structures 2 and 3.

6.0 The Archaeological Results

A total of three structures was uncovered (see figure 3 and plate 1), each with its own particular design and layout. A large circular gun mount with a square plate was also unearthed. The site is situated on a concrete platform and is enclosed by a system of walls (see plates 2 and 3).

6.1 Structure 1

A square, double-chambered defensive pillbox, orientated north-south, occupies the western extreme of the site (see figure 3), measuring 4.20 m by 2.60 m, with a flat, 0.15 m thick, concrete roof. The walls are two bricks deep (see figure 4), a *single brick* wall in military terms, with three courses of stretchers and then a single bonding course of headers repeated throughout the elevations. All four walls have been bonded together at the corners. The walls stand to a height of 1.80 m, and must originally have been partially sunken within the landscape. The upper courses of the walls have all been pointed externally and internally, further down the cement bonding is very rough and has not been shaved away. This would suggest that the whole complex was cut out of the hillside, a hole was dug, just large enough to build the structure to whatever measurements had been specified, and a 0.10 m thick layer of cement was poured in for the floor, the walls were then constructed on this cement footing.

The entrance is through a doorway in the east wall, and down four concrete steps. The remains of a single, *half brick* (one brick wide) ricochet wall is the only internal feature. It has four recessed chamfered loopholes, one covering the approach from the north, a second the south, and two watching the west. The remains of two sets of parallel walls lead off at slight angles from the north-eastern and the south-eastern

corners (see section 6.5 below). These appear to have been bonded into the structure of the pillbox itself.

6.2 Structure 2

A sub-rectangular structure, orientated north-east by south-west, marks the southern limit of the site (see figure 3). This structure has been identified as the gun store (pers. comm. Hellis), and may have been used as the operations room. It measures 4.50 m down the long side, 3.40 m down the short side, is 1.40 m wide, and stands 2 m high. Like Structure 1 the brick walls stand on a concrete plinth, c.0.10 m in thickness, and are topped by a flat roof, 0.15 m thick, of concrete. Similarly the walls are two bricks thick (a *single brick* structure in military terms), with three courses of stretchers to one course of headers (see figure 5). Access was gained via a passage between it and Structure 3, down four concrete steps; thus this second structure was partially subterranean also. The doorway has a wooden lintel that has been dowelled at each end.

6.3 Structure 3

Only part of the roof and a possible window were visible prior to excavation. This structure turned out to be almost completely subterranean, with just 0.80 m visible above ground. Its unusual hexagonal shape (see figure 3) is very similar to the design of pillbox type 22 (Handbook of the *Defence of Britain* Project, pp82), but there are no internal features such as ricochet walls. That it is a pillbox is very unlikely, its position within the complex means that had there been any loopholes to shoot from, and there is no evidence to support this due to part of the wall having been demolished, the area covered by the rifles would be the firing area around the gun, surrounded by walls. Two plausible interpretations have been put forward; the first is that it was an ammunition bunker/store (pers. comm. Wilkes), and the second is that it was actually an air-raid shelter for the gun crew (pers. comm. Hellis).

The roof is flat with 0.25 m of heavily reinforced concrete. The *single brick* walls stand 1.62 m high (see figure 6) and the floor is of concrete. The walls have not been bonded together at the corners, their stability being ensured by the fact that they are sunken in construction. The entrance is down the same passage as Structure 2, further along down two more steps. An extra *single brick* wall connecting Structures 2 and 3 (see figure 3) protected the entrance, very like a *blast wall* which is often found at the entrance to pillboxes. This is the only structure that has been externally rendered in the complex. Building structures that were semi-sunken improved their ability to withstand blasts, their inherent weakness being a predisposition to flood, thus a drain in the passage outside the door at the bottom of the steps must have proved useful at Brockhill.

The concrete roof had been quite effectively caved in, a small section remains of the eastern side of the roof - this is what had been visible before excavation - and the whole structure had been comprehensively backfilled. Two substantial concrete steps leading on to the roof suggest that there was something actually on the roof, but due

to the care and fervour with which the roof was demolished this can only be guessed at today, though it may have been an observatory position. What had previously been identified in earlier surveys as a possible loophole now seems more likely to have been either for ventilation, or for passing ammunition through.

6.4 The Gun Mount

The gun was set on a large two-tier concrete drum, measuring 2.40 m in diameter at the base (see figure 3). A square gun plate remains *in situ*, the bolt configuration (see figure 7, and plate 4) together with the fact that the plate is square, indicates that the artillery used on the site was a 40 mm Bofors gun, a light anti-aircraft (LAA) weapon widely used during World War II. Part of the cable duct protrudes from the drum on the eastern side of the mounting. The sights on the gun would have been lit up, and there may have been a mechanical computer to work out the trajectory of the shells. Both of these would have been powered from a battery, possibly in Structure 3, up through a hole in the centre of the drum.

6.5 Artillery Storage

Bofors guns were rapid fire weapons and they only held five shells to a clip, so that as many as three people may have been involved in their loading at any one time. Thus a considerable quantity of ammunition was required and it had to be easily accessible and close at hand. Parallel walls, one brick thick, delineating the outer edge of the site, and revetting the surrounding ground level, arranged around the gun mount (see figure 3), have been interpreted as storage racks for the boxes of ammunition. A drainage channel follows the same line between these 'racks' and the gun mount. This may indicate a problem with surface water which would also help explain two square holes visible between the two walls, which may be evidence of a wooden shelf which would have kept the ammunition off the floor, dry, and at the right level for easy access.

6.6 The Concrete Platform

The whole of the site is set on a concrete platform. At the south end a slight difference in level (see figure 3) may be evidence for a rather more ephemeral structure. A brick wall runs down the western side of the concrete platform, and may have supported some kind of lean-to, but there is nothing else to suggest a structure here apart from the difference in levels of the concrete. The wall may have just been to 'finish' the site, so that it was almost totally enclosed and, therefore, more defensible.

7.0 Discussion

The majority of defensive works dating to World War II were constructed 1940-41. They were built to withstand an invading army equipped with armour and artillery. Pillboxes are perhaps the most common of these features, they were sited to defend coastal batteries, beach defences, airfields, radar stations and factories etc. In excess of 18,000 were built during 1940 alone. In June 1940, branch FW3 of the War Office Directorate of Fortifications and Works issued 'Standard Design Drawings' for around a dozen pillboxes. In practice, however, there were many variants due to personal preferences, local needs, materials, and non-standard features were included on many sites (Handbook of *The Defence of Britain* Project pp78).

That the layout of the Brockhill complex is not standard is hardly surprising. That the architect/bricklayer involved in the project had an eye for detail is undeniable, they were using known forms and layouts of structures but in a new way, constructing a very individual, well planned and executed complex.

The materials used in the construction of these structures were, on the whole, standard. Improvements in concrete, and mechanical mixing in the late-nineteenth century allowed mass production to take place and more complex shapes to be constructed. The early-twentieth century saw the development of reinforced concrete, which increased blast resistance (Handbook of *The Defence of Britain* Project p18). Bricks were the most common material used in both civil and military architecture and construction (Handbook of *The Defence of Britain* Project pp19). The use of cement and brick at Brockhill is not unusual.

Light Anti-Aircraft (LAA) sites were often relatively insubstantial, frequently no more than earthworks, or sandbags. Bofors permanent emplacements were only located where there was a persistent threat. These usually comprised square, earth-protected brick or blockwork walls with integral ammunition lockers and a shelter for gun maintenance. They were often sunken to protect the gunner, sometimes with a brick revetment. Brockhill has the usual components of a permanent site and more - the possible air raid shelter, and the defensive pill box as well (Handbook of *The Defence of Britain* Project, pp59)

8.0 The Life Span of the Site

The gun mount can be fairly closely dated. The War Office produced a manual for the 40 mm Bofors gun in 1941, this included the blueprints for static emplacements - a steel holdfast set into a concrete drum. It must be assumed, however, that this design would have been current before this date, but does not appear to have been used before the mid-to-late-1940s (Dobinson, Twentieth Century Fortifications in England, Vol. I, Anti-aircraft Artillery 1914-46, CBA 1996. Section 8.1.2.3 pp163). This date is also confirmed by the presence of the pillbox; they were not built much after September 1940 (pers. comm. Hellis). Some sites were abandoned and allowed to fall into disrepair before the end of the war, others were systematically destroyed by the army. Brockhill was comprehensively backfilled, and a likely date would be

after 1945 when the Government had begun to pay local farmers and landowners to backfill this type of defence for them. The establishment of this gun emplacement seems likely, then, to have occurred fairly early on in the war, in the middle of 1940, and it probably did not survive as a controlled site much after 1945.

9.0 Acknowledgements

The survey was carried out by K. Nichol and J. Sterenberg. The illustrations were by Nigel Dodds and the report was edited by I. Ferris who also directed and monitored the project. Thanks are also due to M. Atkin of Hereford and Worcester County Council, and to C. Jones, J. Hellis, B. Lowry and M. Wilkes for their input into the project on behalf of the *Defence of Britain* Project, and B. Duffy for his precise and and careful machining.

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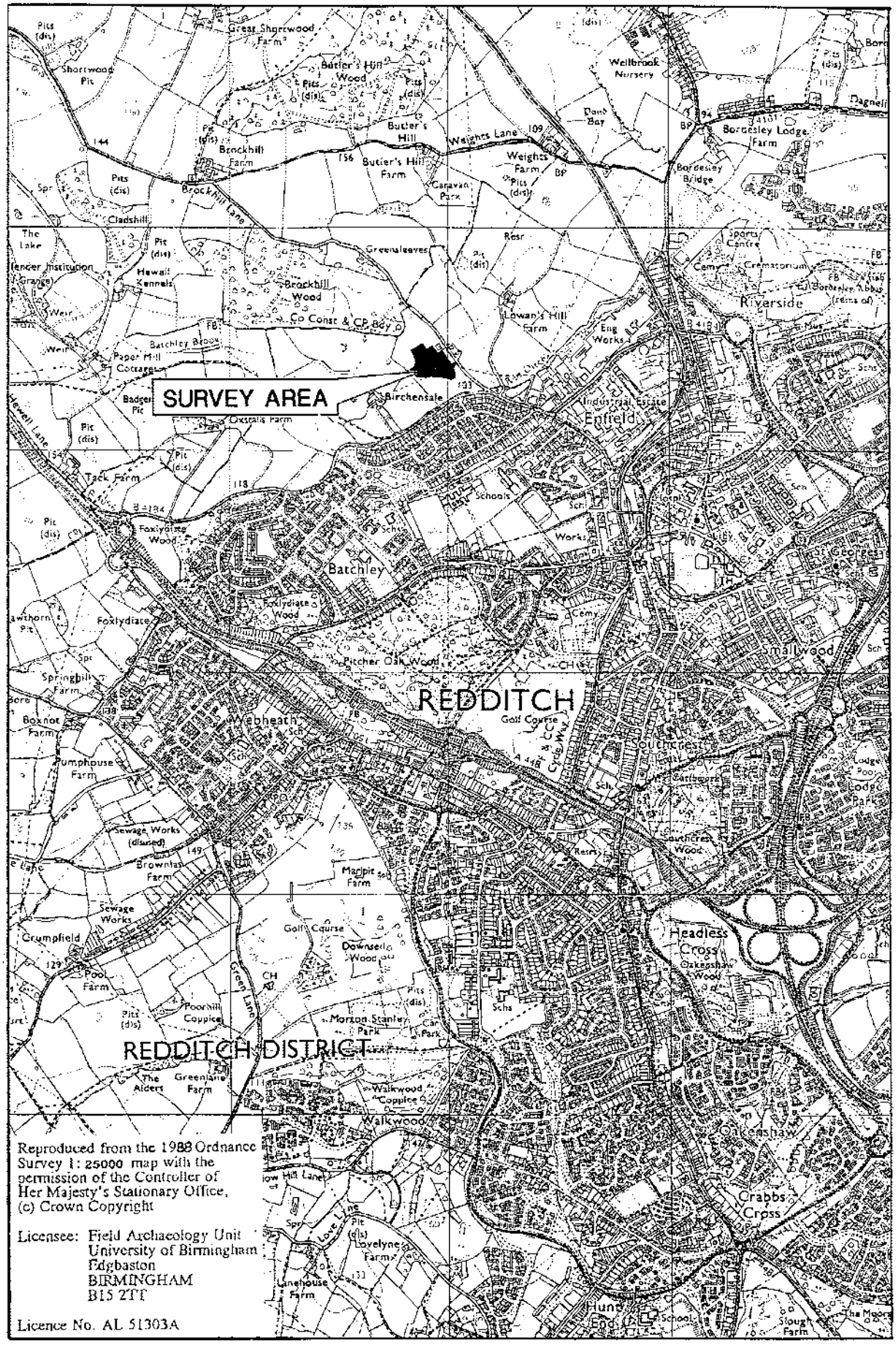
SURVEY AREA
REDDITCH
REDDITCH DISTRICT
Batchley
Enfield
Riverside
Smallwood
Oakenshaw
Crabbs Cross
Headless Cross
Webheath
Foxlydiate
Birchensale
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Fig.1

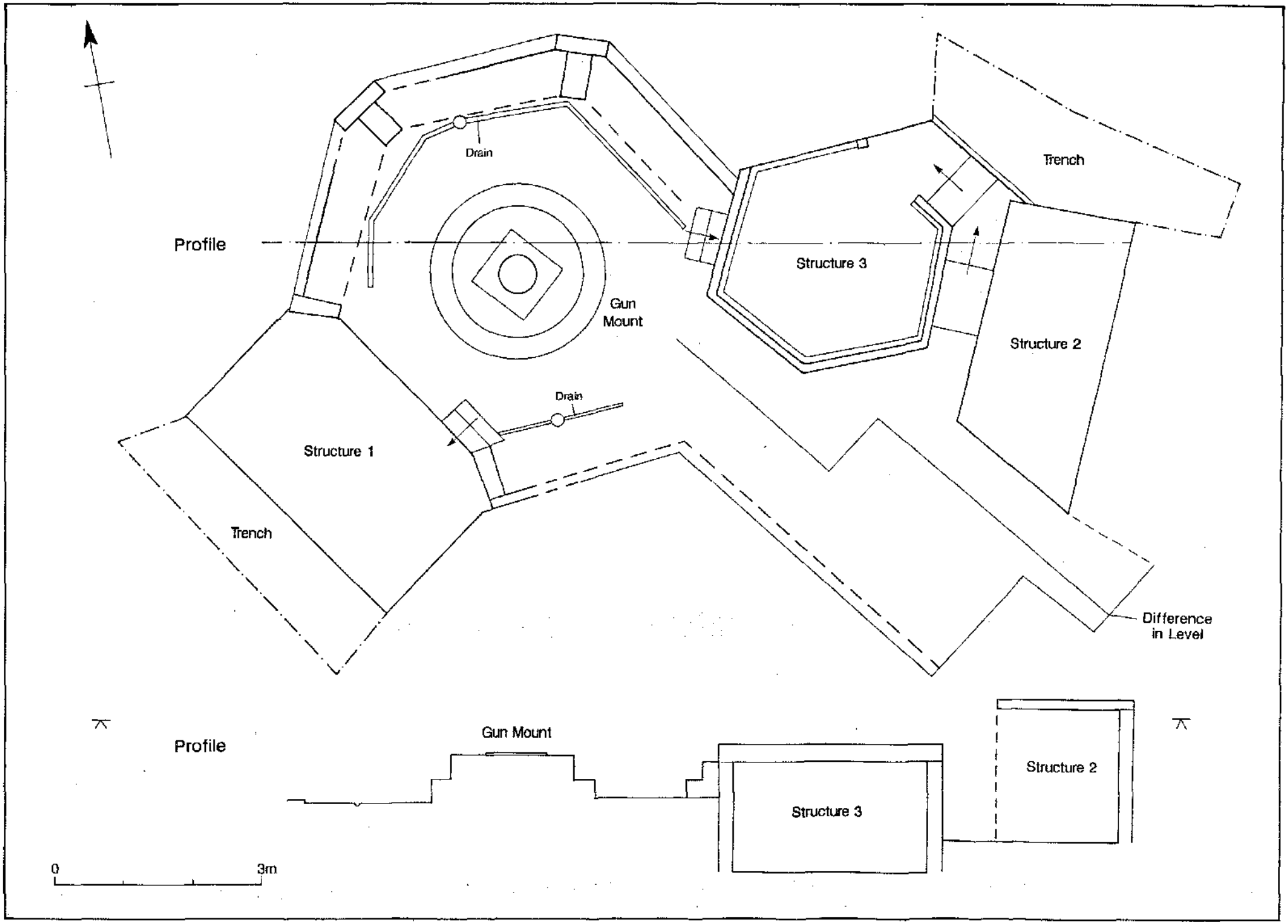
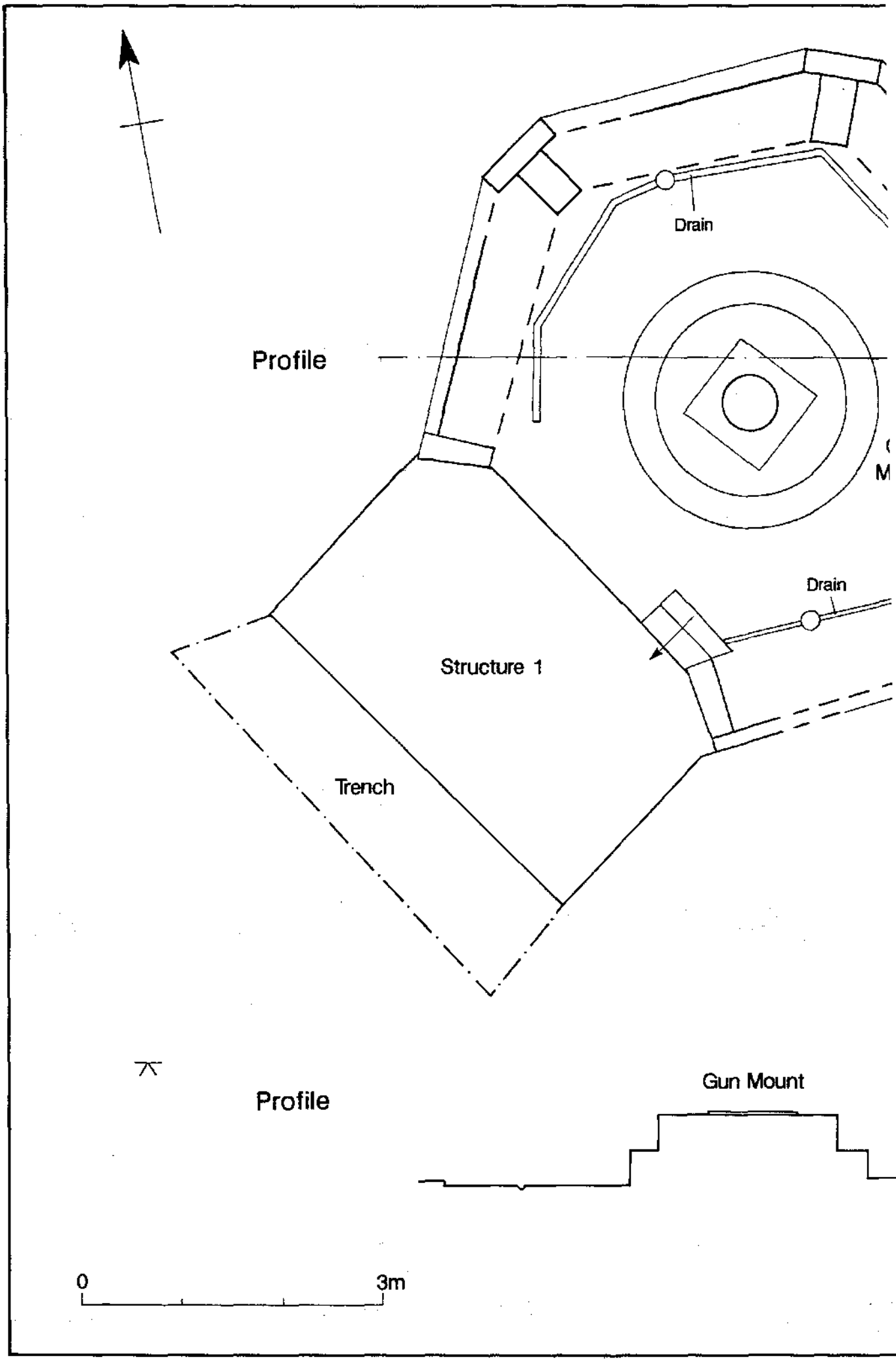

Drain
Trench
Profile
Structure 3
Gun
Mount
Structure 2
Drain
Structure 1
Trench
Difference
in Level
Profile
Gun Mount
Structure 2
Structure 3
0
3m

Fig.3


Drain
Profile
Drain
Structure 1
Trench
Profile
Gun Mount
0
3m

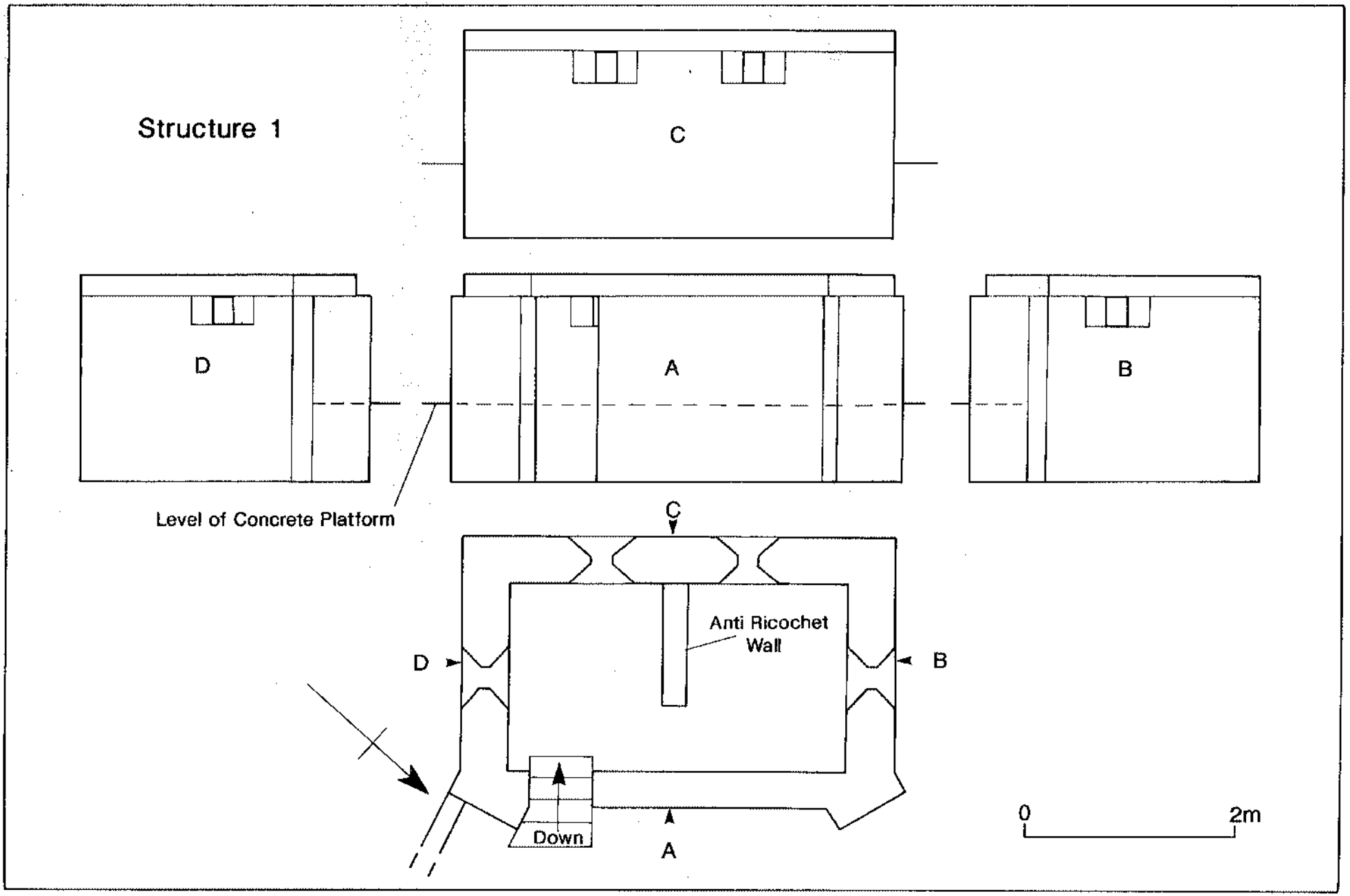

Structure 1
C
D
A
B
Level of Concrete Platform
C
Anti Ricochet
Wall
D
B
Down
A
0
2m

Fig.4

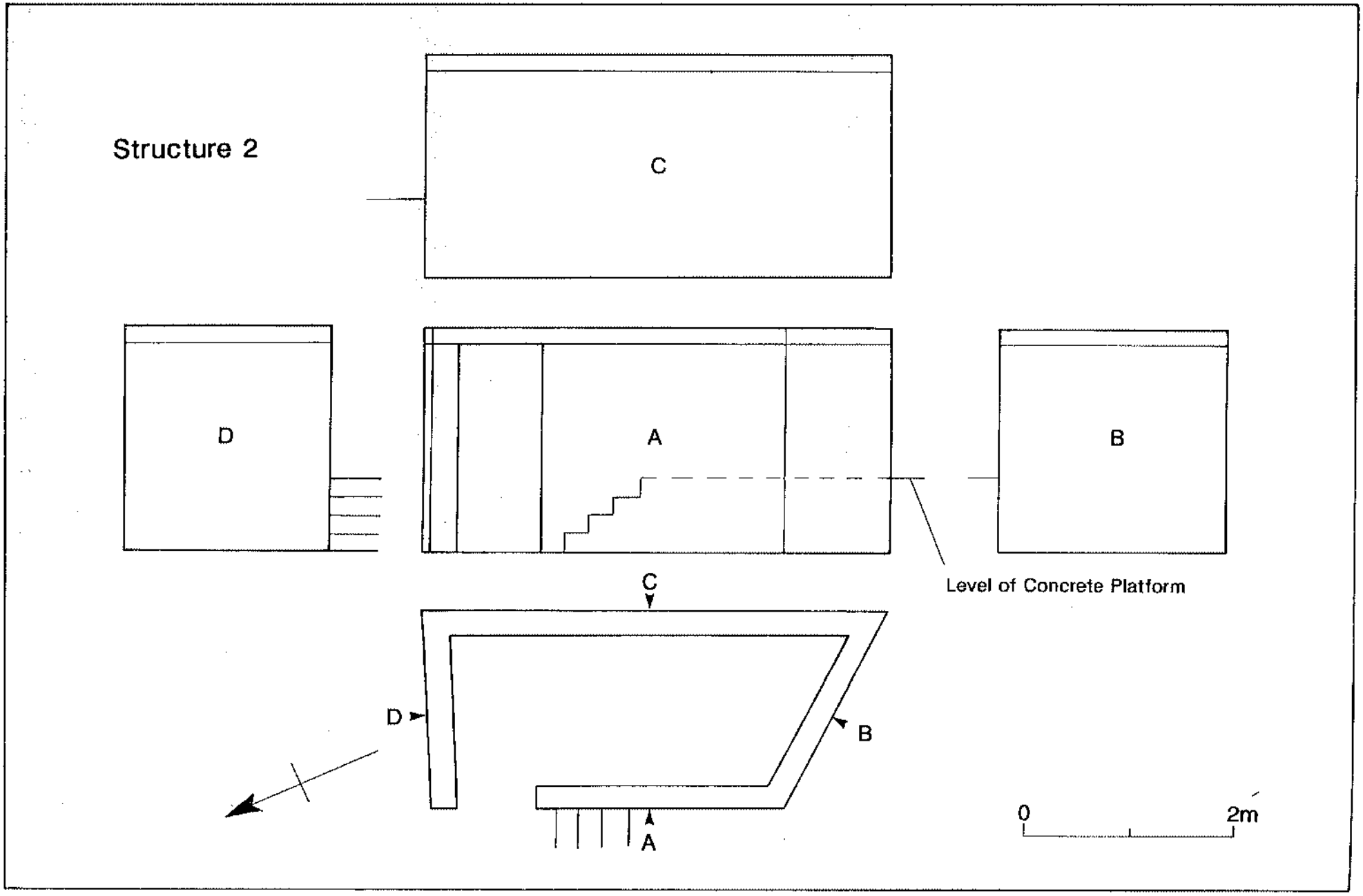
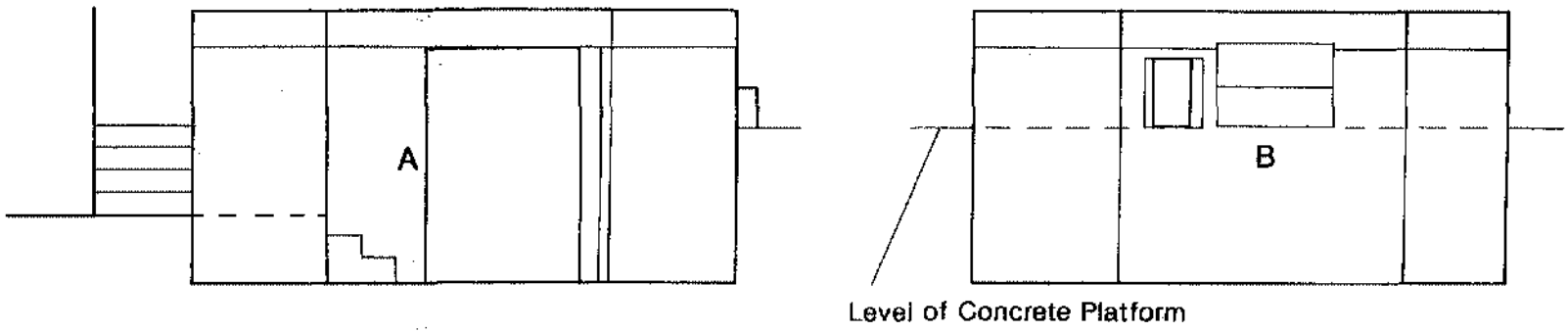
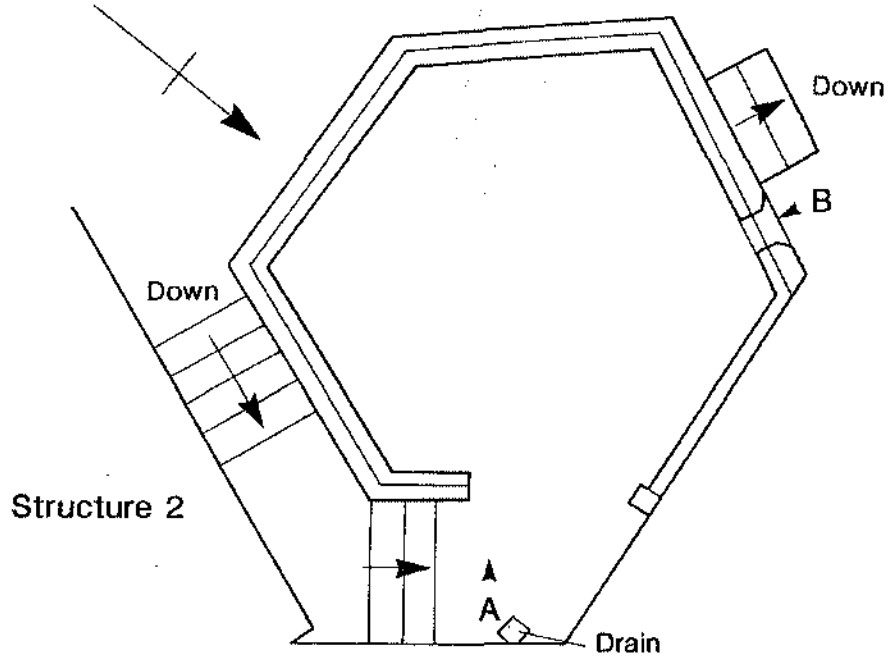


Fig.5





Structure 3

0 2m

Fig.6

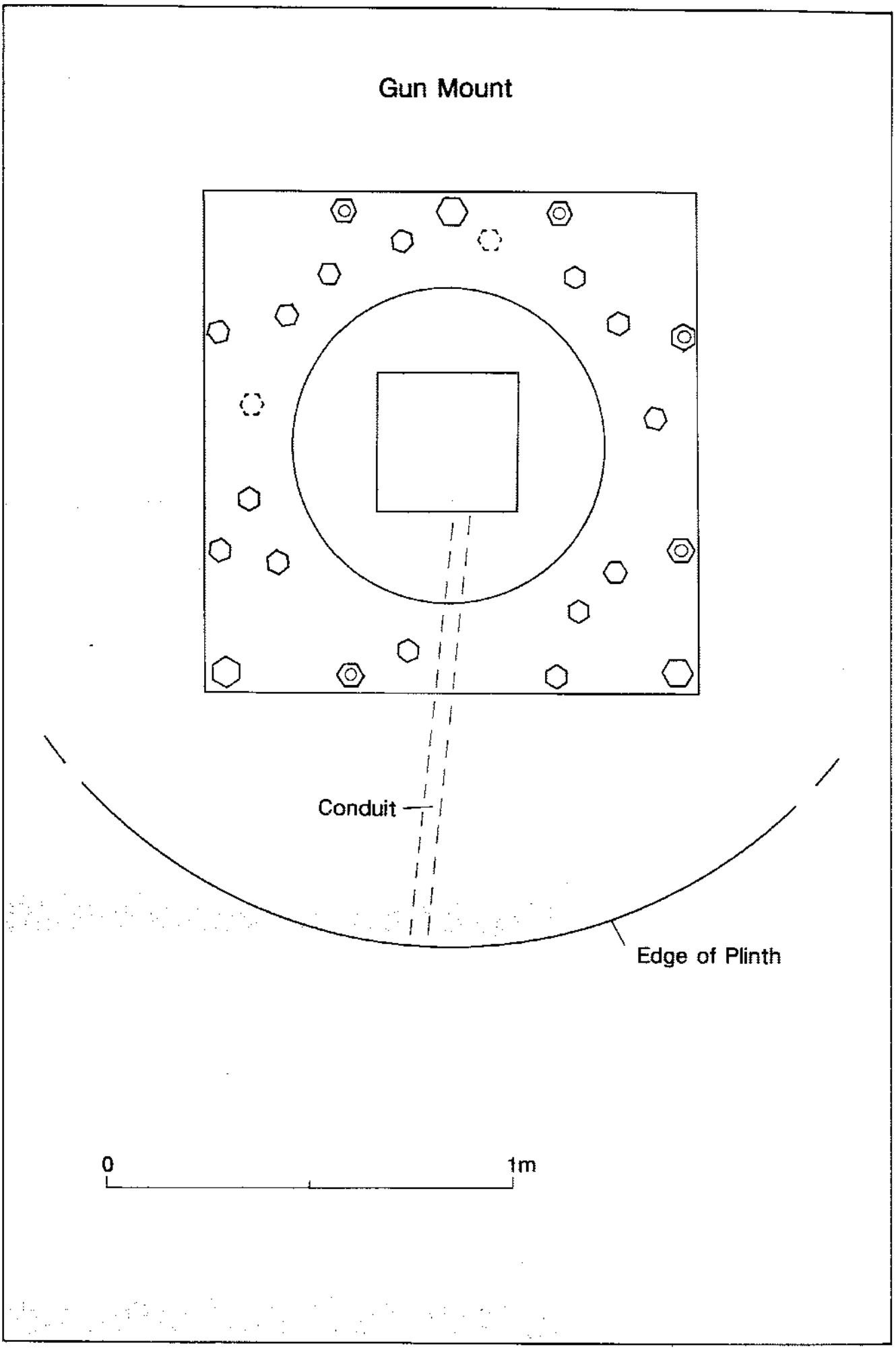


Fig.7

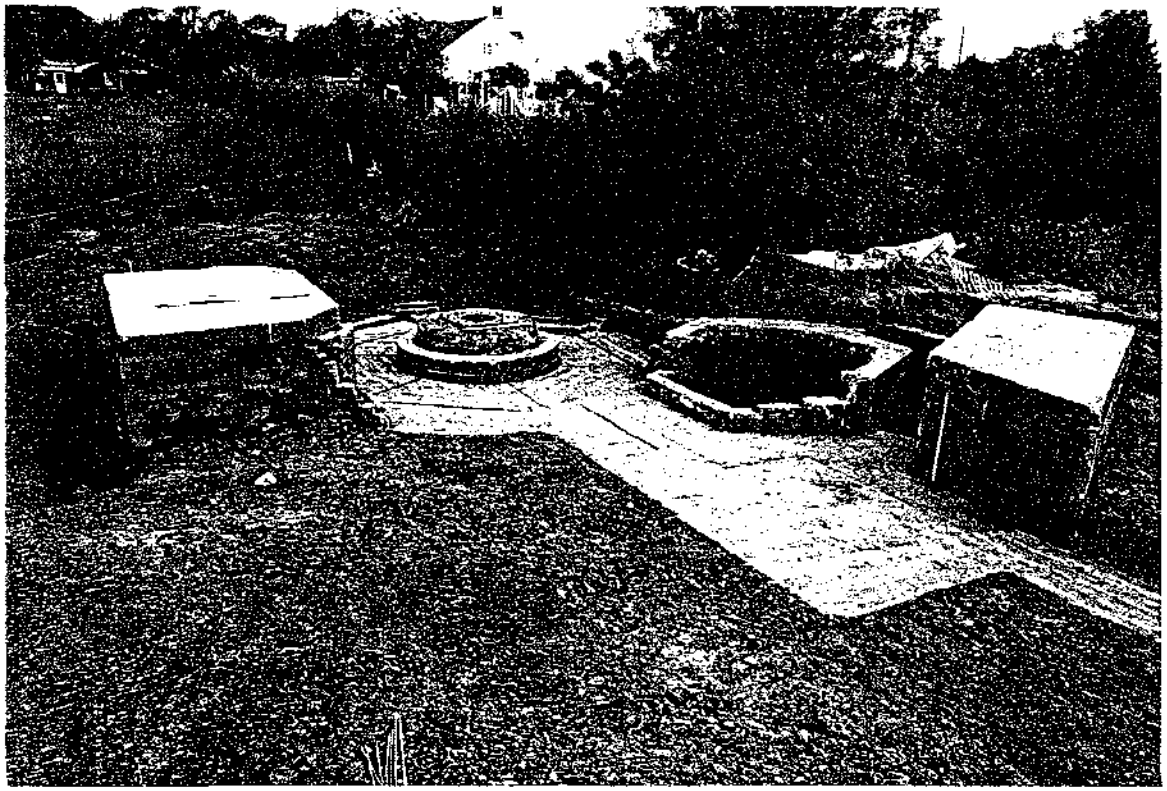
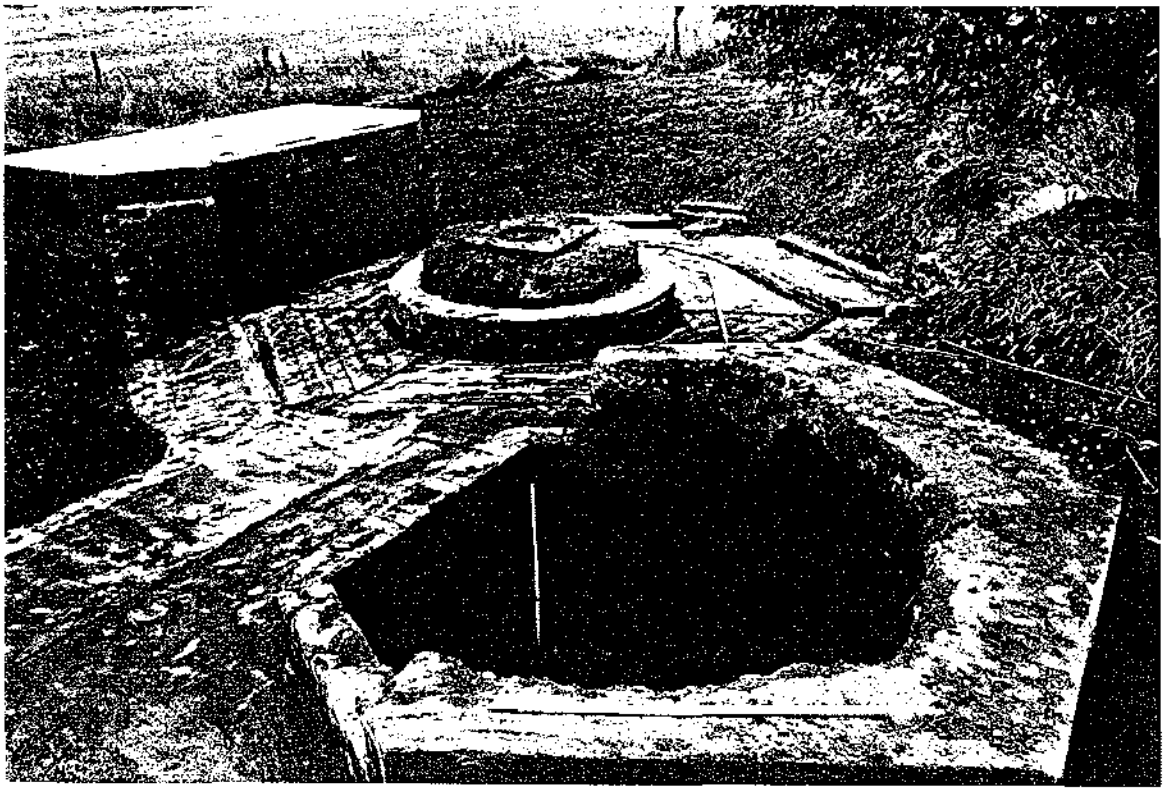


Plate 1



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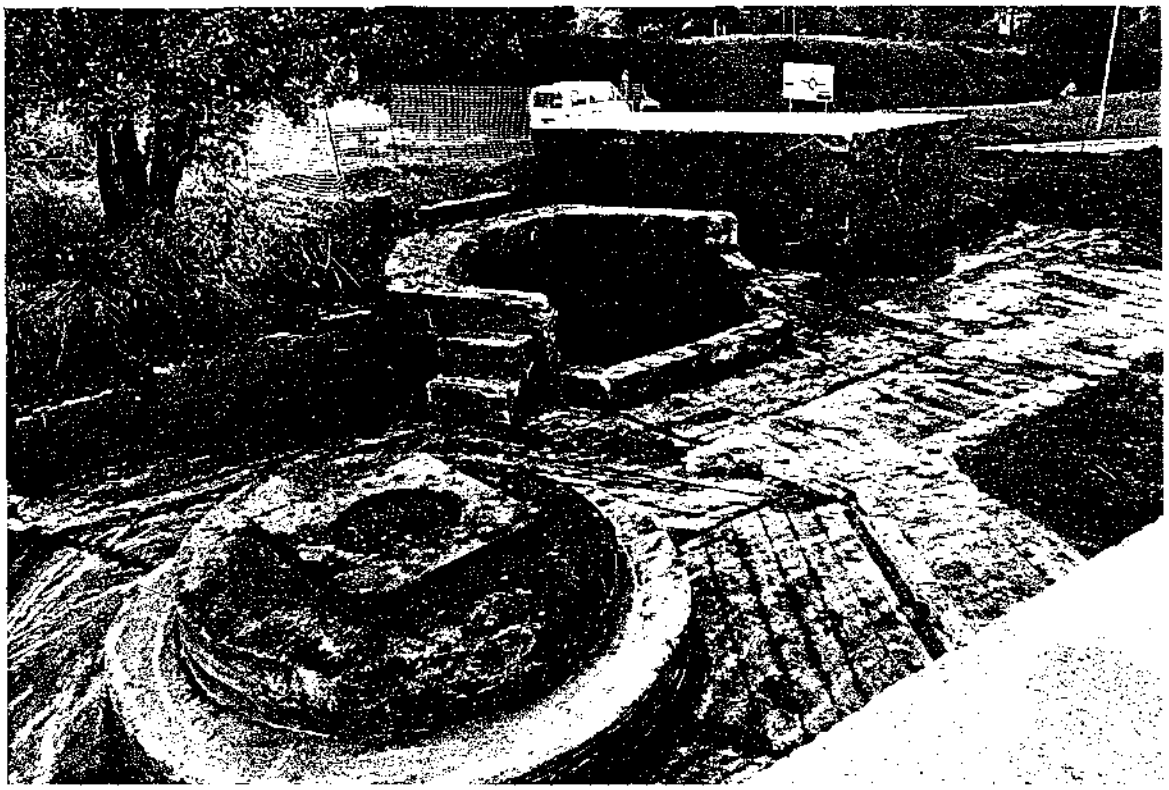

Plate 3

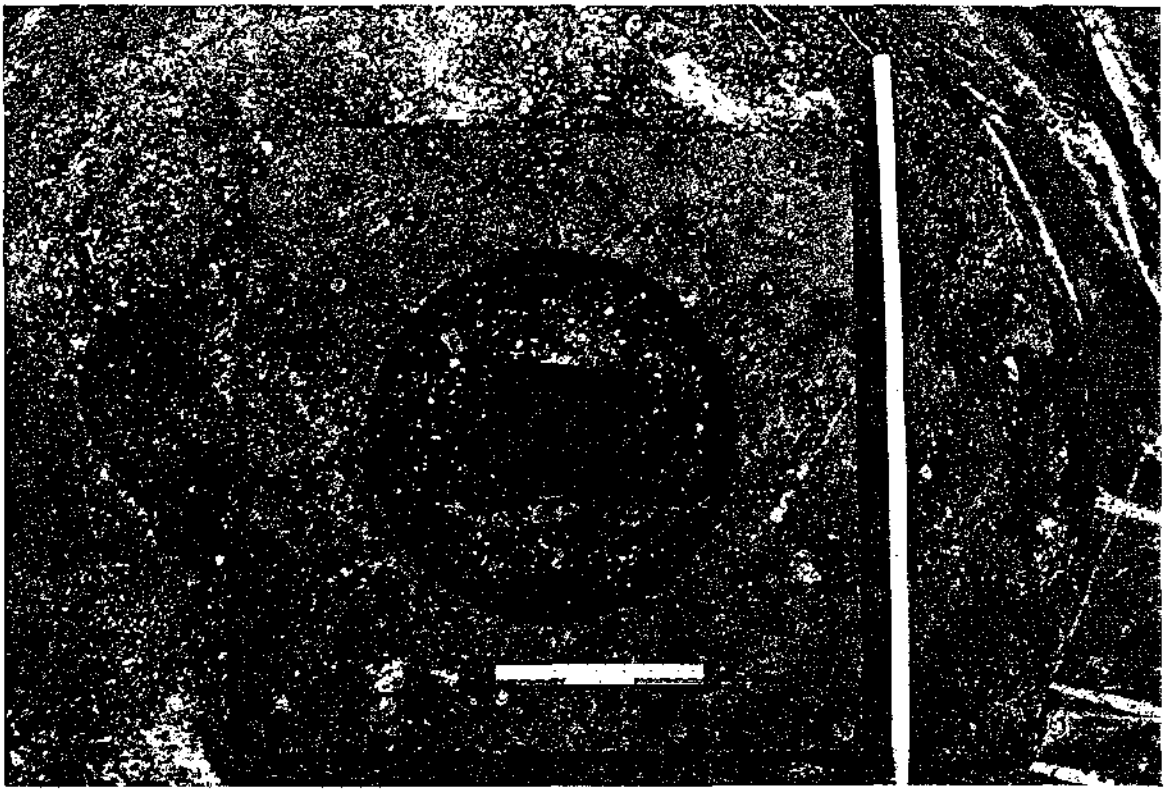

Plate 4