PN1440

birmingham archaeology

Air Raid Shelters at the Low Level Station, Wolverhampton, Black Country

(BCSMR 13590)

UNIVERSITY OF BIRMINGHAM

Project No. 1440

By

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For

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Recording of Two Air Raid Shelters at the Low Level Station, Wolverhampton, Black Country (BCSMR 13590)

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SUMMARY

A programme of building recording was undertaken on two surface type air raid shelters (BCSMR 13590) situated within the bounds of the Low Level Station, Wolverhampton City Centre (centred on SO 9206 9885). They occupied a position by the southeastern entrance to the Low Level Station, at the foot of the retaining wall of the earlier Queen Street or High Level Station of the Shrewsbury-Birmingham Railway. Inspection of the shelters revealed that they had been constructed, perhaps not entirely surprisingly given their location, by railway workers. One of the most obvious features of this was the brickwork at either end of the shelters and the anti-blast walls. The bricks themselves were good quality and hard fired, as used in railway infrastructure, and an unusual degree of craftsmanship was shown in the build. The back walls of the shelters, for example, were decoratively laid with red and black bricks arranged in a symmetrical pattern, a common feature in railway architecture. The quality of the bricklaying, and finishing, using good quality mortar is perhaps exemplified in the strong clean lines of the curving anti-blast wall at the entrance of Structure 2. Here bricks were purposefully cut to fit the curve, and the whole structure has a good overall finish with an angled capping course adding to the overall effect. The difference between the utilitarian breeze block anti-blast wall of Shelter 1, and the brick one of Shelter 2 was also very clear, and may have been due to the location of Shelter 2 directly outside the main entrance to the station buildings.

It was also unusual, given the level of finish and workmanship that had gone into the shelter construction, and their location in close proximity to an electrical supply that they were never supplied with electricity. It may be suggested that this was because railway workers carried torches as part of their own personal equipment, and it was therefore deemed unnecessary to provide them with further lighting in the shelter. The use of redundant sleepers for the supports for the benches was a particularly nice touch, and is typical of the wartime mentality of recycling. If pots and pans could be turned into planes then old railway sleepers could certainly be used to give some degree of comfort in an otherwise basic and potentially rather uncomfortable and frightening environment.

Recording of Two Air Raid Shelters at the Low Level Station, Wolverhampton, Black Country (BCSMR 13590)

1 INTRODUCTION

This report describes the results of building recording carried out on two air raid shelters situated at the Low Level Station, Wolverhampton, Black Country (Fig. 1, hereafter referred to as the site). Birmingham Archaeology undertook the work reported on here in May 2006, on behalf of Vining Management Ltd.

In accordance with guidelines laid down in Planning Policy Guidance Note 15 (DoE 1990) a recommendation for a programme of archaeological work was made by the Black Country Archaeological Officer, prior to demolition of the structures ahead of mixed use redevelopment of the site. The archaeological work was undertaken following consultation with the Black Country Archaeologist for the City Council.

1.1 The site and its setting

The shelters (BCSMR 13590) were situated within the bounds of the Low Level Station, Wolverhampton City Centre (centred on SO 9206 9885). They occupied a position by the southeastern entrance to the Low Level Station, at the foot of the retaining wall of the earlier Queen Street or High Level Station of the Shrewsbury-Birmingham Railway (BCSMR 5884). The Low Level Station (BCSMR 2582) was built for the Oxford, Worcester and Wolverhampton Railway with Great Western Railway backing and opened in 1854 (Fig. 2).

1.2 Aims

The aim of the survey was to make a full descriptive, drawn, analytical and photographic record of the structures (to RCHME Level 4) prior to their demolition.

1.3 Methodology

The structure was recorded by means of plans and details of elevations. Drawings were supplemented by written notes and monochrome and colour print, and colour slide and digital photography. Slides were also taken for presentation purposes.

The work followed requirements set down in the Institute of Field Archaeologists' Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures (IFA 1999) and, more specifically, the relevant parts of the definition of Level 4 recording in Recording Historic Buildings (RCHME 1996). The work also adhered to guidance notes issued by the Association of Local Government Archaeological Officers (ALGAO 1997).

Records held by Wolverhampton Archives and Local Studies were also consulted.

2 HISTORICAL BACKGROUND

Following air raids made during the First World War, and the development of better aircraft and bombs, the Air Raid Precautions (ARP) committee was created in 1924 to safeguard civil defence (Brown 1999, 1). In 1937 the Air Raid Precautions Act was passed which compelled local authorities to provide protection from air raids and gas attack for the local civilian population (Burridge 1997, 61). The most common type of shelter was the ubiquitous *Anderson shelter*, the first of which was produced by the end of February 1939 (Dobinson 2000a, 61), and records held by the Wolverhampton Archives attest that over 1500 of these private shelters were constructed around the Tettenhall area of Wolverhampton alone.

Public shelter construction was at its peak in Britain during the immediate pre-war period, with more appearing in response to heavy bombing by the *Luftwaffe* during the Blitz in the autumn and winter of 1940-41. Across the country many factories and foundries were given over to the production of munitions and war material. The industrial nature of the Midlands meant that there was a concentration of these so-called arms towns, which made the region a major target for bombing raids (Fig. 3; WRO Map 595d).

3 SHELTER DESCRIPTION

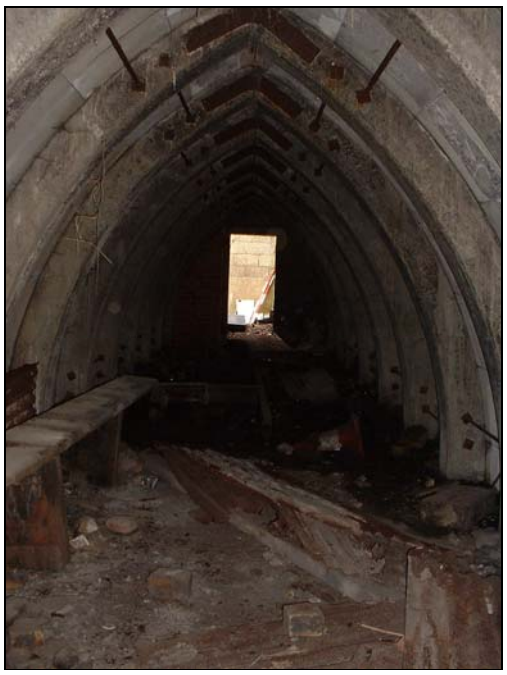
3.1 Location and plan of the shelter (Fig. 4)

The air raid shelters were situated adjacent to the ramped colonnade built in 1884 that linked the Low Level and High Level Stations. They were constructed abutting the retaining wall for the High Level Station (Plate 1) which would have afforded further protection from blast, and away from the station buildings and railway itself, which would have been recognised as a possible target.

Plate 1 Retaining Wall for the High Level Station with the shelters at its base

3.2 Construction and design of the shelters

The structures themselves were surface shelters, constructed from good quality prefabricated concrete panels and trusses with brick supporting walls at either end. They were eleven bays long (13.2m), using ten concrete trusses bolted together at the top with angled fish plates, to support prefabricated panels which slotted together to make the sides of the structure. The trusses were tied together laterally at the top and bottom with iron ties. The trusses carried concrete panels, with the apex of the shelter being poured in-situ, this was done using wooden shuttering and low quality economy concrete.



Plates 2 and 3 Internal shot of shelter with detail of concrete construction

Shelter 1 (Plates 2 and 3 above) was located just off Sun Street close to the Great Western Public House. The entrance had been constructed from blue engineering brick, 1 brick thick, in English bond. It had a prefabricated concrete lintel that had been cast in sections and slotted together on site. These were only 1" thick, and were therefore unlikely to have been purpose made. The concrete superstructure of Shelter 1 had been covered with sandbags filled with a very weak concrete and sand-gravel mix, which would have gone off fairly quickly. The sandbags had all been keyed together and overlay a thick layer of sharp sand (Plates 4, 5 and 6), this meant that the covering of the shelter was up to 1m thick (Fig. 4). Shelter 2 had earth and what appeared to be demolition material banked over the top of it.

Plate 4 Detail of sand and sandbag covering

Plate 5 (left) Detail of sandbag covering
Plate 6 (above) Detail of sandbags

Blast Walls

The main entrance for Shelter 1 was at the eastern end of the shelter, closest to Sun Street, and had a 2-brick thick cinder or breeze block anti-blast wall (Plate 7 below).

Plate 7 Anti-blast wall at entrance to Shelter 1

Shelter 2 had a curving brick blast wall protecting the entrance (Plate 8 below) which was a mixture of extruded, shallow frog, red brick and blue engineering brick, and was 1 brick thick.

Plate 8 Anti-blast wall at entrance to Shelter 2

Emergency Exit

The emergency exits for both shelters comprised three sections of concrete sewer pipe running horizontally out from the opposite end of the shelter from the entrance. There was evidence for there having been a hatch fitted over them, which was hinged (Plates 9 and 10 below). The emergency exits were protected by a 1½ brick thick blue engineering brick wall facing the Low Level Station.

Plates 9 and 10 Rear wall of the shelter with emergency exit

3.3 Internal details

Unfortunately the floors in both shelters, at the time of recording, were too dirty to be able to discern drainage features and it was not possible to clean them for health and safety reasons.

Heaters

In both shelters, flues in the base of the wall adjacent to the entrance (Plate 11 below), and associated above-ground chimney mark the position of the original cast-iron wood burning stove. A second flue at the opposite end of the shelter, above the emergency exit, would have helped to vent the shelter.

Plate 11 Detail of the flue for the stove

Toilets

To one side of the door a small section of the shelter has been bricked off (Plates 12 and 13 below) and a wooden doorframe added to make room for a chemical toilet.

Plates 12 and 13 Brick dividing walls to provide WC cubicles

Benches

Some of the original benches survived in Shelter 1. These had been constructed using re-used railway sleepers (Plates 14 and 15 below).

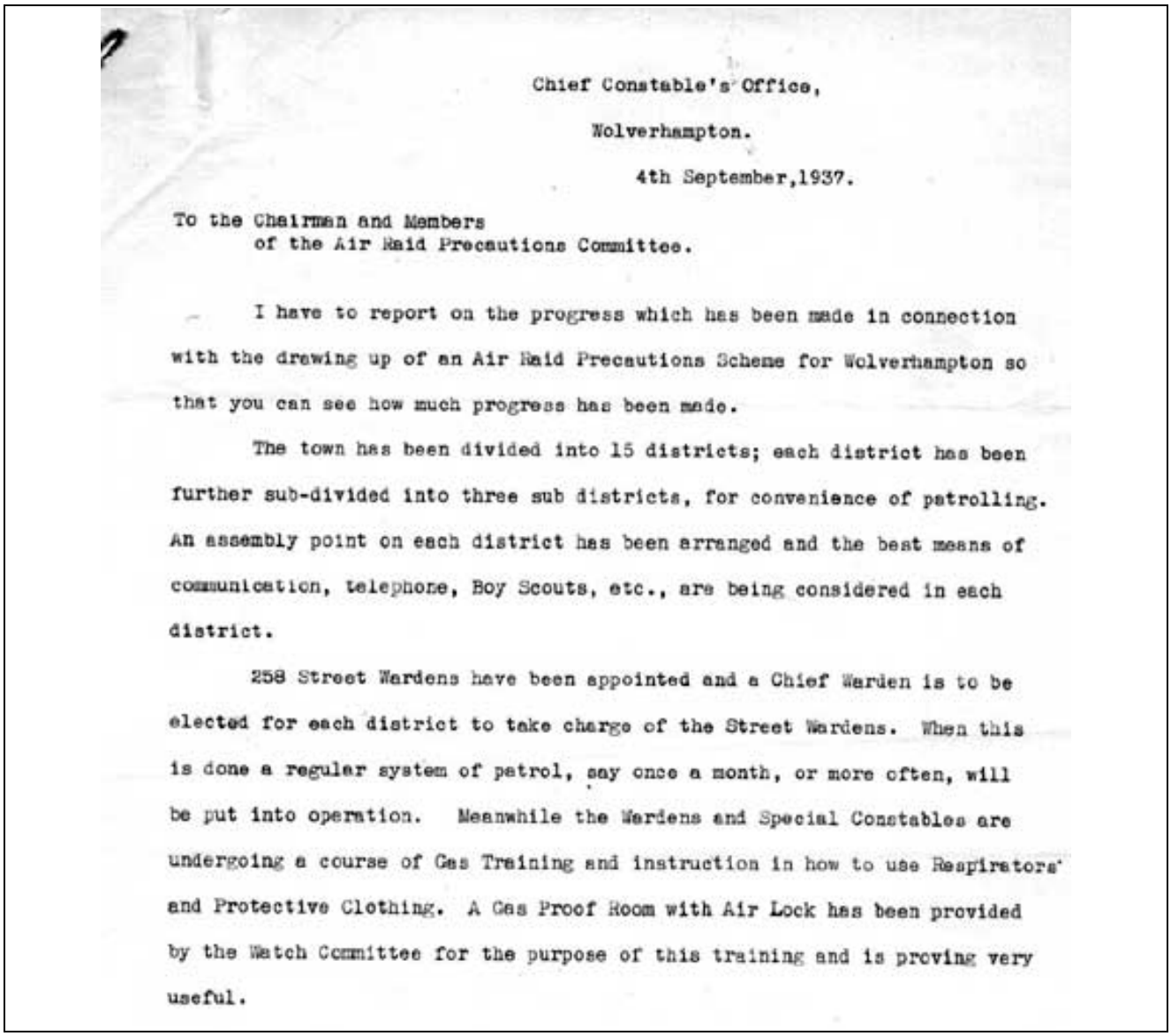
Plates 14 and 15 Original wartime benches constructed from re-used railway sleepers

4 DISCUSSION

By the end of 1937 Wolverhampton had its own centralised ARP Committee which was set up to assess local needs on the ground. In his report, dated to 4th September 1937, the Chief Constable of the Committee reported that outline preparations for air raids had to date involved the division of the city into fifteen sectors, each with its own Chief Warden to oversee preparations (WRO CMB-WOL-C-ARPC/1, see plate 16 below). In subsequent years nearly 200 public shelters were built across the town, mainly in the strengthened basements of public buildings, but also in schools, near bus stops, and railway stations (WRO Map 402a). These shelters could accommodate between 50 and 1000 people, but were never as fully trusted as private shelters because of the large numbers of casualties that would inevitably be the result of a direct hit or a near miss.

In June 1939 the *Luftwaffe* began a systematic aerial reconnaissance of the country, marking targets such as marshalling yards and factories on copies of pre-war Ordnance Survey mapping (for example WRO Map 595d, Fig 3). However, ironically, it was the Irish Republican Army that struck first. For, in July 1939 the parcels office of the Low Level Station was wrecked by an explosive device (www.subbrit.org.uk/sb-sites/stations/w/wolverhampton_low_level; accessed May 29th 2006). During Wartime itself, Wolverhampton escaped relatively lightly during the Blitz, although it was targeted in October or November 1940 after a shift in German tactics to night bombing of Midlands industrial targets guided by radio navigation devices like the *Knieckebein* or *X-Gerat*. One such planned raid on the town, code-named *Einheitpreis*, or 'all at one price' (a reference to Woolworths), was believed to have been postponed in the run up to Operation *Moonlight Sonata* that devastated a third of Coventry (Douglas 1984, 60).

Wolverhampton targets (WRO Map 595d, Fig 3) included Guy Motors (*Last Kraftwagen*), the *Elekr. Apparate* Ever Ready Limited and the Electrical Construction Company (ECC Limited), chemical works (*Chemikalien*) gas works (*Gaswerk),* sewage works (*Pumpenwerk*), ironworks (*Eisenwerk*), railway repair works (*Eisenbahnreparatur*), a goods yard (*Grossraumbehalter*), and wheel works (*Fahrradar*). The Boulton Paul Aircraft Works at Pendeford was probably the most important target in the area and had a dummy factory constructed two miles to the north at Coven (www.wolverhamptonarchives.dial.pipex.com/local_ww2_athome.htm; accessed on May 28th 2006). Designed by Col. John Turner ('Dictator of Dummies', Dobinson 2000b, 18) and constructed by Norman Loundon's team from Sound City, based at the Shepperton film Studios, the Boulton and Paul decoy factory (which was a full scale replica of the plant) was one of only four such decoy factories constructed in the early years of the war, and which was the first to be targeted by the Luftwaffe on 14th August 1940 (ibid., 66).



Chief Constable's Office,

Wolverhampton.

4th September,1937.

To the Chairman and Members
of the Air Raid Precautions Committee.

I have to report on the progress which has been made in connection with the drawing up of an Air Raid Precautions Scheme for Wolverhampton so that you can see how much progress has been made.

The town has been divided into 15 districts; each district has been further sub-divided into three sub districts, for convenience of patrolling. An assembly point on each district has been arranged and the best means of communication, telephone, Boy Scouts, etc., are being considered in each district.

258 Street Wardens have been appointed and a Chief Warden is to be elected for each district to take charge of the Street Wardens. When this is done a regular system of patrol, say once a month, or more often, will be put into operation. Meanwhile the Wardens and Special Constables are undergoing a course of Gas Training and instruction in how to use Respirators and Protective Clothing. A Gas Proof Room with Air Lock has been provided by the Watch Committee for the purpose of this training and is proving very useful.

Plate 16 Report dated 4th September 1937 by the Chief Constable of the ARP Committee (WRO CMB-WOL-C-ARPC/1)

During the war the 'Big Four' railway companies (the Great Western, London Midland and Scottish, London North Western and Southern Railways) were united in order to maximise and co-ordinate Britain's transport resources. Large numbers of rail workers were also mobilised and 114,000 women employed nationally. As fuel shortages and rationing bit into motor car use, public transport became even more central to people's perceptions of everyday life, and it is no coincidence that railway stations figured large in key scenes from classic contemporary films such as 'Mrs Miniver' (1942), 'A Canterbury Tale' (1944), or 'Brief Encounter' (1945).

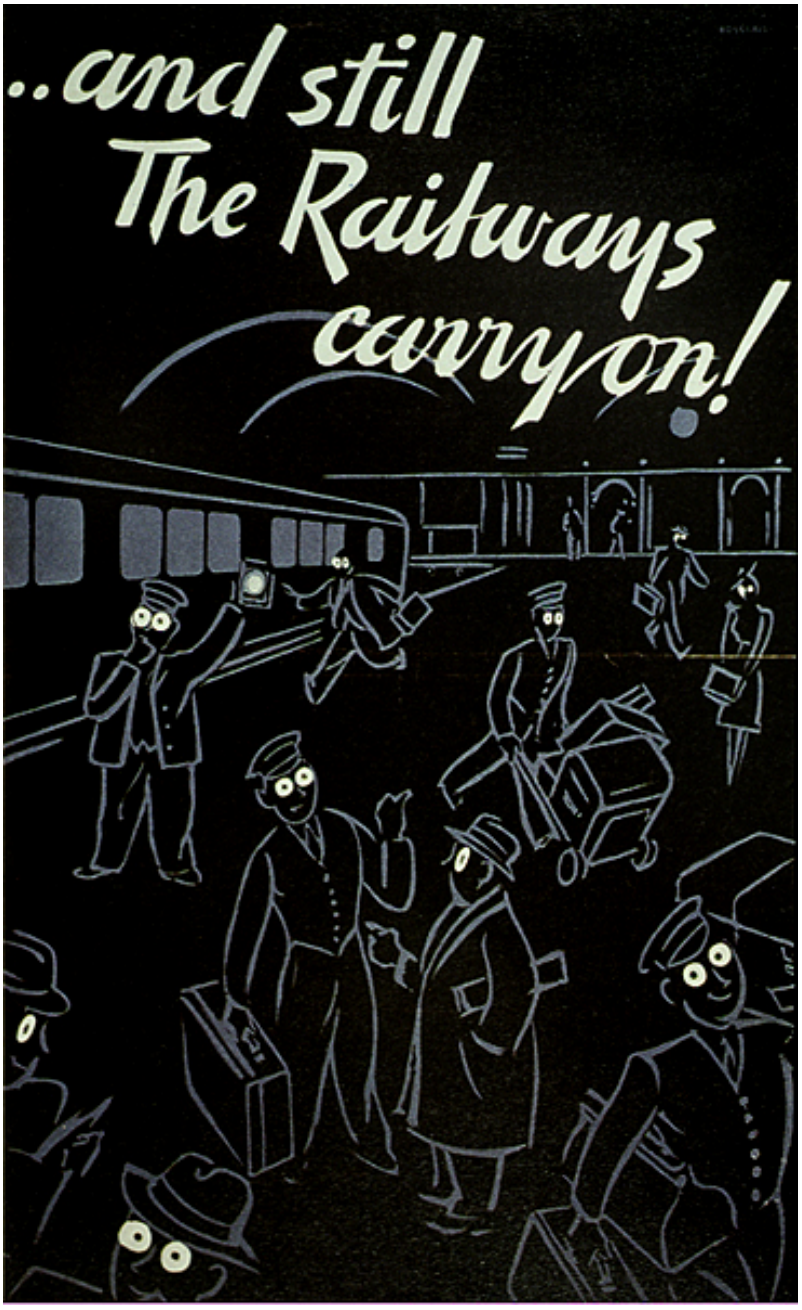


Plate 17 A.R. Harrison, Railway Executive Committee 1939 (IWM Cat no: 3039)

The Low Level Station lies on the north side of the Canal side Quarter of Wolverhampton. Here, it forms a transport corridor of converging railway lines and canals situated about half a mile east of the historic centre. Railway lines were relatively easy landscape features for pilots to follow at night and were often used by less experienced crews to navigate, and so the station was a readily identifiable target. Judging from their dimensions the shelters would have housed around 50 people each and were probably for the use of railway workers and the general public alike. There is a sign 'to the public shelters' on the side of the bar of the Great Western that points towards the former location of the shelters. However, the interior of the pub is full of railway memorabilia so its provenance cannot be relied upon.

There are several features of the shelters at the Low Level Station that suggest that they were constructed, perhaps not entirely surprisingly given their location, by railway workers. One of the most obvious features of this is the brickwork at either end of the shelters and the anti-blast walls. The bricks themselves are good quality and hard fired, as used in railway infrastructure, and an unusual degree of craftsmanship is shown in the build. The back walls of the shelters, for example, were decoratively laid with red and black bricks arranged in a symmetrical pattern, a common feature in railway architecture. The quality of the bricklaying, and finishing, using good quality mortar is perhaps exemplified in the strong clean lines of the curving anti-blast wall at the entrance of Structure 2. Here bricks were purposefully cut to fit the curve, and the whole structure has a good overall finish with the angled capping course adding to the overall effect. The difference between the utilitarian breeze block anti-blast wall of Shelter 1, and the brick one of Shelter 2 is very clear, and may have been due to the location of Shelter 2 directly outside the main entrance to the station buildings.

It is also slightly unusual, given the level of finish and workmanship that had gone into the shelter construction, and their location in close proximity to an electrical supply that they were never supplied with electricity. It may be suggested that this was because railway workers carried torches as part of their own personal equipment, and it was therefore deemed unnecessary to provide them with further lighting in the shelter. The use of redundant sleepers for the supports for the benches is a particularly nice touch, and is typical of the wartime mentality of recycling. If pots and pans could be turned into planes then old railway sleepers could certainly be used to give some degree of comfort in an otherwise basic and potentially rather uncomfortable and frightening environment.

5 ACKNOWLEDGEMENTS

The project was commissioned by Mike Vining, on behalf of Vining Management Ltd, and thanks are due to him for his co-operation and assistance throughout the project. Thanks also go to Mike Shaw, who monitored the project on behalf of Wolverhampton MBC. Work on site was undertaken by Steve Litherland and Kirsty Nichol who also produced the written report which was illustrated by Nigel Dodds, and edited by Kirsty Nichol who also managed the project for Birmingham Archaeology.

6 REFERENCES

Brown, M. 1999 *Put That Light Out! Britain's Civil Defence Services At War 1939-1945.*

Burridge, D 1997. *20th Century Defences in Britain – Kent.*

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APPENDIX I

Written Scheme of Investigation

Archaeological Recording of WWII Air Raid Shelters, Low Level Station, Wolverhampton, Black Country (BCSMR 13590)

Written Scheme of Investigation

Introduction

This written scheme of investigation outlines a programme of building recording to be carried out on two air raid shelters at the Low Level Station, Wolverhampton. It forms a written scheme of investigation required as a result of a condition for recording placed by Wolverhampton City Council, as recommended by Mike Shaw, Black Country Archaeologist. The work is necessary because the structures will be demolished ahead of the proposed mixed leisure and residential development of the site.

Site Location and Description

The shelters (BCSMR 13590) are situated within the bounds of the Low Level Station, Wolverhampton City Centre (centred on SO 9206 9885). They occupy a position on the southwestern side of the Low Level Station, at the base of the terrace and viaduct constructed for the High Level Station for the Shrewsbury-Birmingham Railway (BCSMR 5884). The Low Level Station (BCSMR 2582) was built for the Oxford, Worcester and Wolverhampton Railway and opened in 1854.

Requirements

A full descriptive, drawn, analytical and photographic survey of the building will be undertaken to RCHME Level 4, prior to demolition.

Methods

Drawings will be produced at an appropriate scale by measured. The drawings will be supplemented by written notes, analysis, and by colour negative and digital photography. Colour slides will also be taken for presentation purposes.

The survey work will follow the requirements set down in the Institute of Filed Archaeologists' Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures (IFA 1999B) and more specifically the relevant parts of the definition of Level 4 recording in Recording Historic Buildings (RCHME 1996). The work will also adhere to the guidance issued by the Association of Local Government Archaeological Officers (ALGAO 1997).

Reporting

The results of the archaeological work will be described in a combined illustrated report which will include the following information:

- Summary of the findings
- Introduction
- Location
- Objectives

- Methods
- Historical background
- Description of the results
- Interpretation of the results
- Acknowledgements
- Sources consulted
- Appropriate illustrations
- A copy of the WSI

The written report will be made publicly accessible, as part of the Black Country Sites and Monuments Record within six months of completion. The report will also be made available through the OASIS on-line database, maintained by the Archaeology Data Service (ADS), and a summary will be offered to West Midlands Archaeology.

General

All aspects of the work will be undertaken by suitably qualified and experienced archaeological staff in accordance with relevant Health and Safety regulations. Site procedures will be in accordance with the guidance set out in the Health and Safety Manual of the Standing Conference of Archaeological Unit Managers.

References

ALGAO. 1997 Analysis and Recording for the Conservation and Control of Works to Historic Buildings.

IFA. 1999A Standard and Guidance for Archaeological Desk-Based Assessments

IFA. 1999B Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures

RCHME. 1996 Recording Historic Buildings: A Descriptive Specification. 3rd edn.

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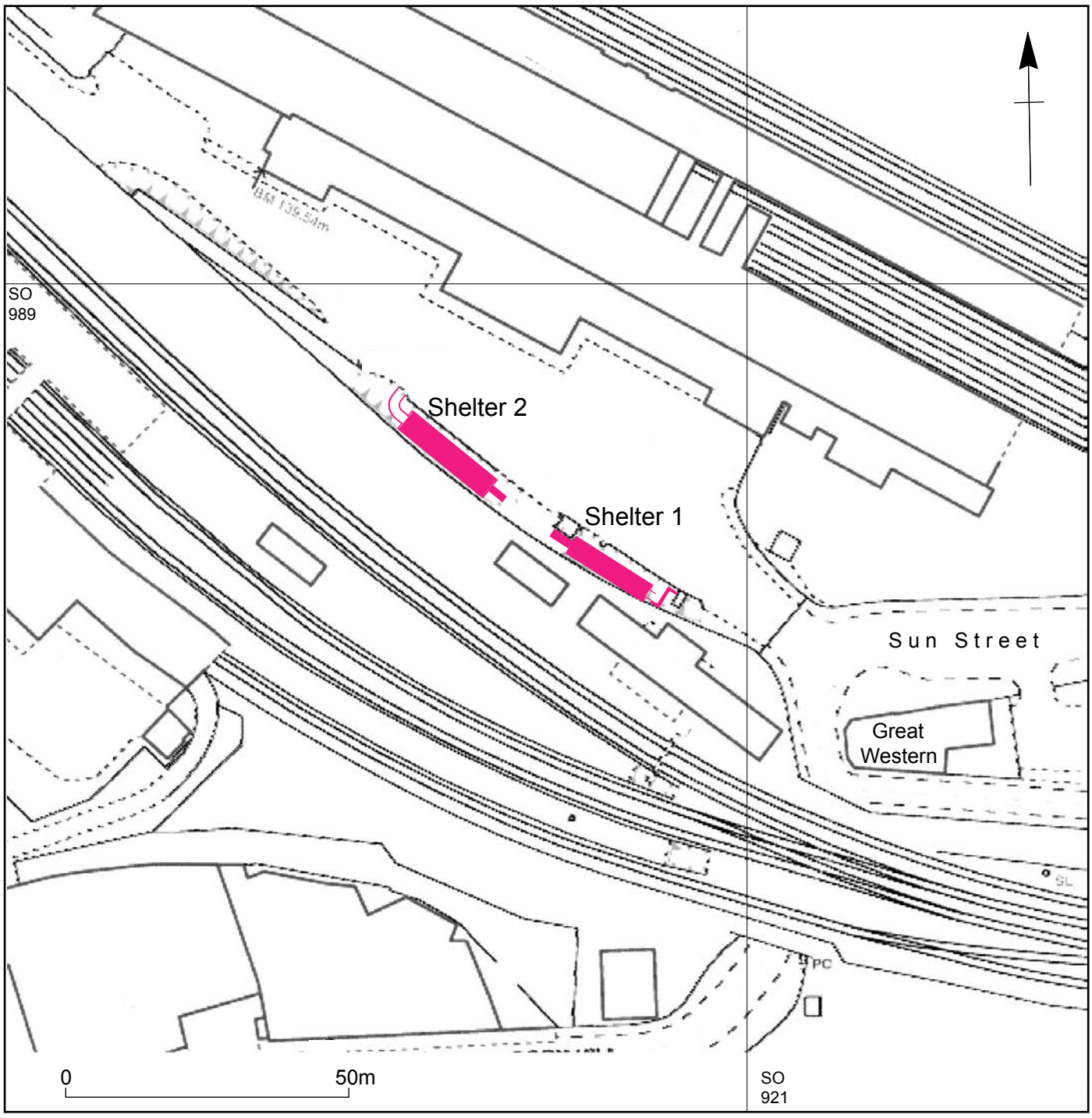

SO
989
Shelter 2
Shelter 1
Sun Street
Great
Western
PC
0
50m
SO
921

Fig.1

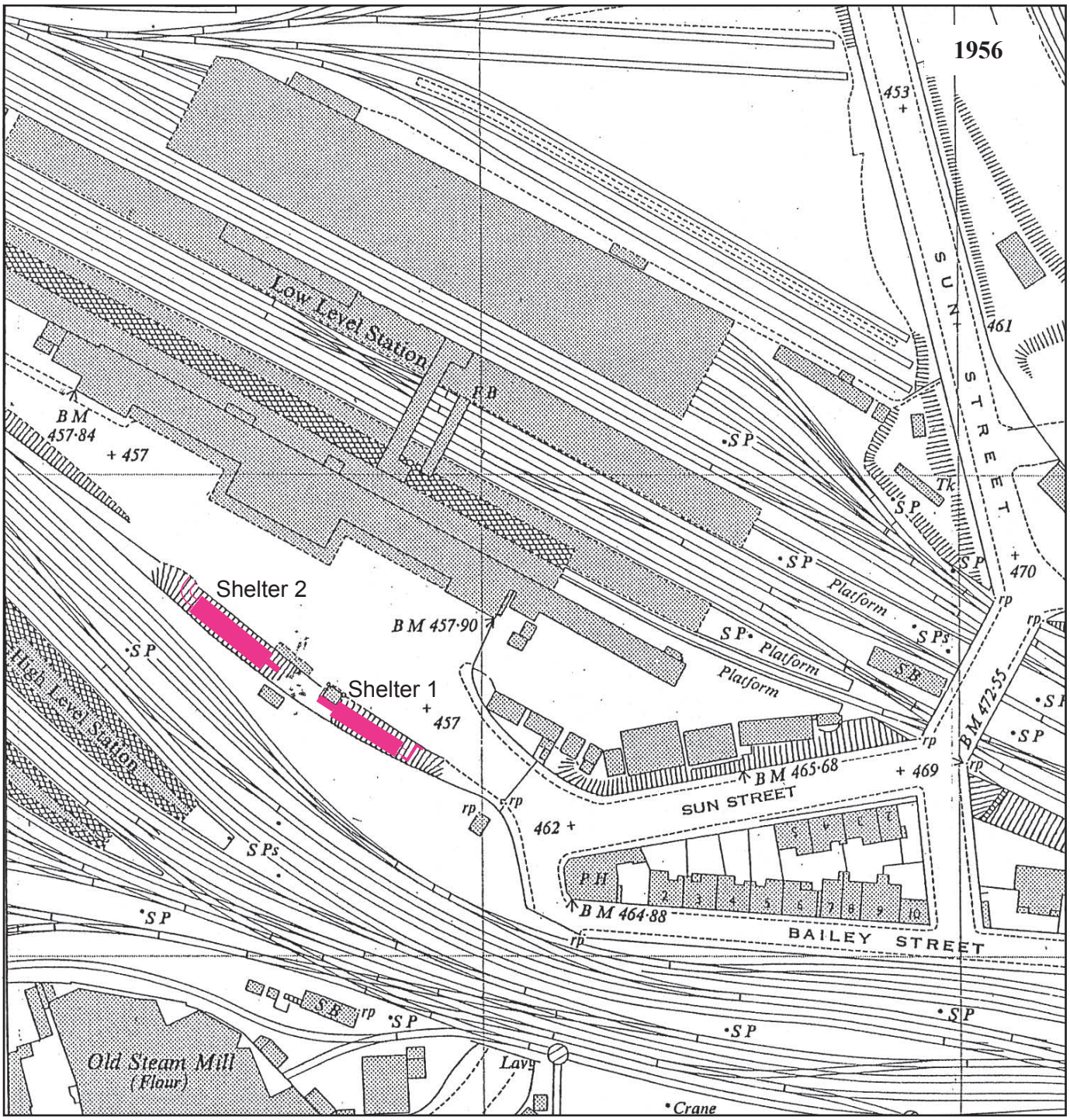
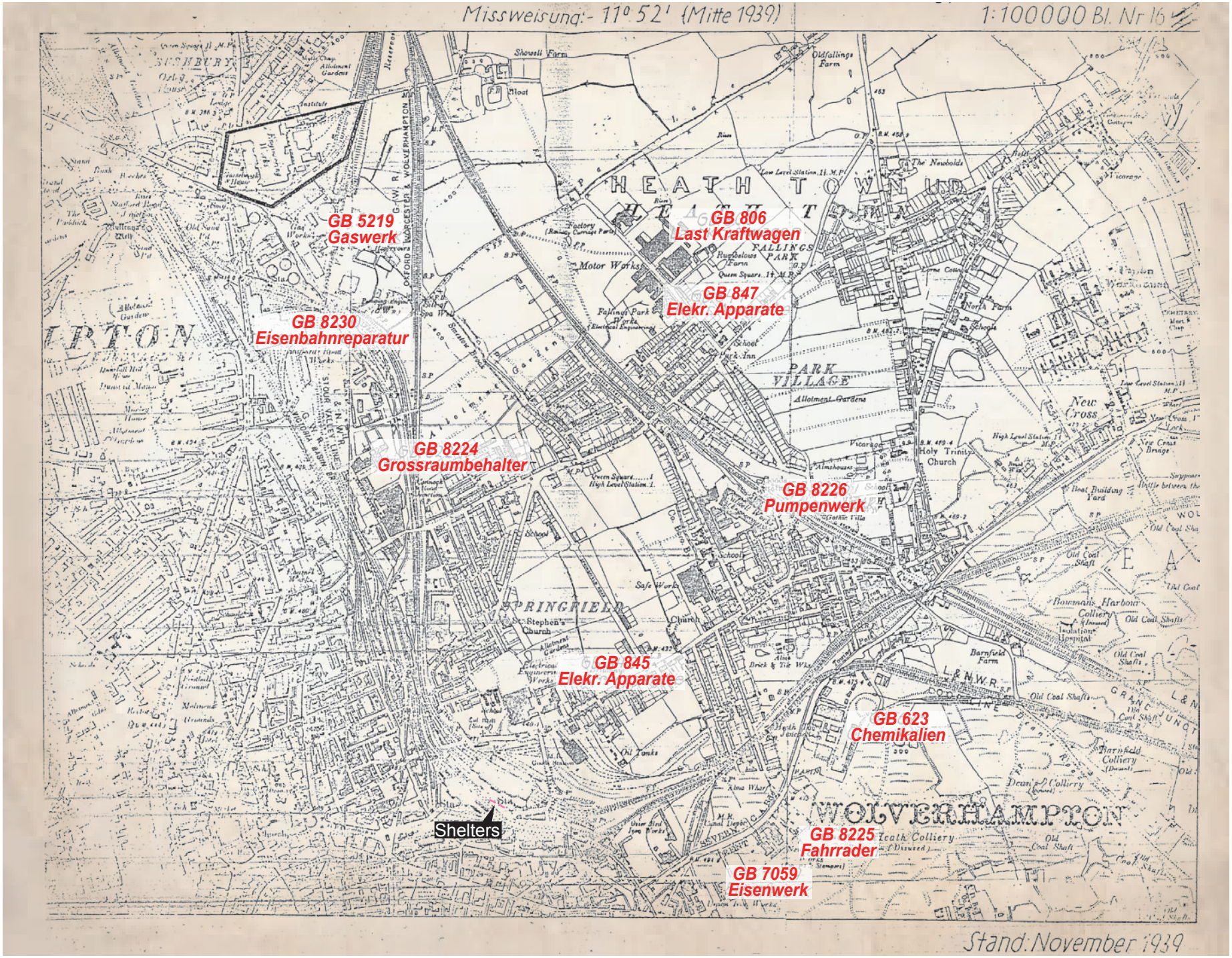

1956
Low Level Station
High Level Station
Shelter 2
Shelter 1
BM 457·84
+ 457
BM 457·90
BM 465·68
+ 469
BM 472·55
BM 464·88
462 +
453 +
461
+ 470
SUN STREET
BAILEY STREET
Platform
Old Steam Mill
(Flour)
Crane
Lave
PH
SP
SPs
SB
rp
Tk

Fig.2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GB 5219
Gaswerk
GB 806
Last Kraftwagen
GB 847
Elekr. Apparate
GB 8230
Eisenbahnreparatur
GB 8224
Grossraumbehalter
GB 8226
Pumpenwerk
GB 845
Elekr. Apparate
GB 623
Chemikalien
GB 8225
Fahrrader
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Eisenwerk
Shelters
HEATH TOWN
PARK VILLAGE
SPRINGFIELD
WOLVERHAMPTON
Stand: November 1939

Fig.3

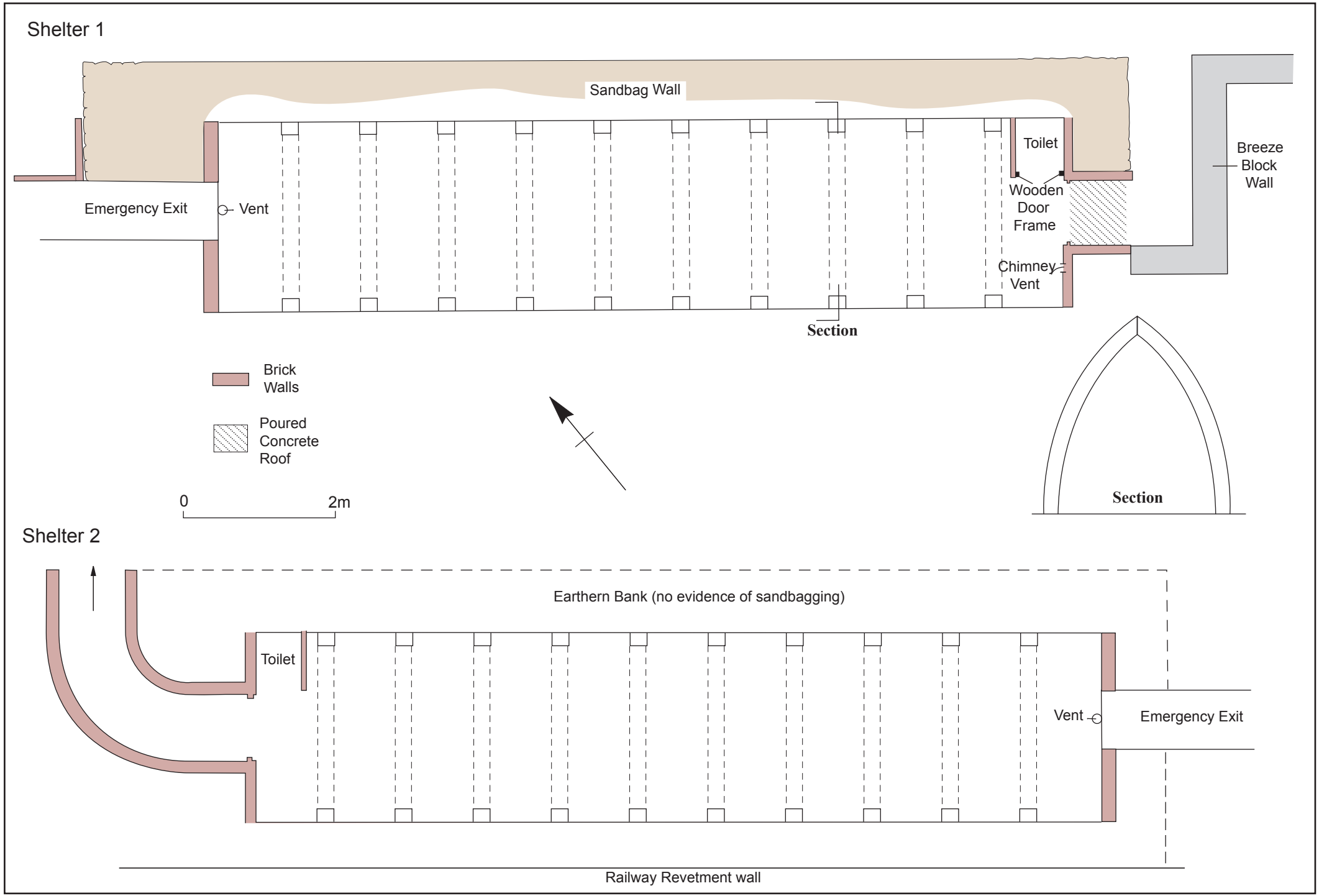
Shelter 1
Sandbag Wall
Toilet
Breeze Block Wall
Emergency Exit
Vent
Wooden Door Frame
Chimney Vent
Section
Brick Walls
Poured Concrete Roof
0
2m
Section
Shelter 2
Earthern Bank (no evidence of sandbagging)
Toilet
Vent
Emergency Exit
Railway Revetment wall

Fig. 4