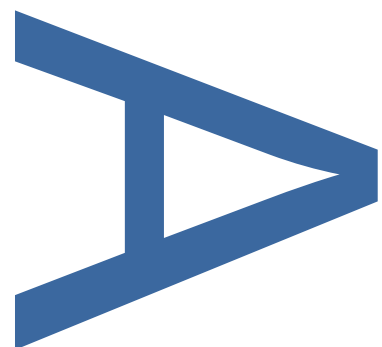
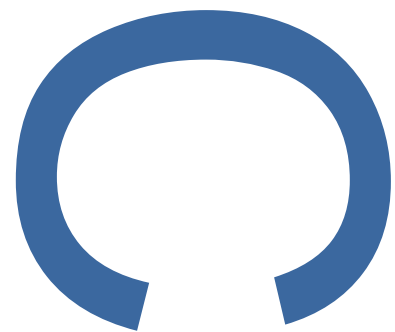


**BUILT HERITAGE RECORDING
OF AN UNDERGROUND CISTERN
AND A PUBLIC SURFACE AIR RAID
SHELTER
ON LAND AT STATION STREET
AND VICTORIA STREET,
SPALDING,
LINCOLNSHIRE,
PE11 1EB**

PCA REPORT NO: R15568

**AUGUST 2023, UPDATED OCTOBER
2023**



PRE-CONSTRUCT ARCHAEOLOGY

**Built Heritage Recording of an Underground Cistern and a Public Surface Air
Raid Shelter on Land at Station Street and Victoria Street, Spalding,
Lincolnshire PE11 1EB**

Ordnance Survey National Grid Reference: TF 24555 22674

Researched and written by Guy Thompson and Charlotte Matthews

Project Manager: Charlotte Matthews

Commissioning Client: Birdwood Construction Limited

Site Code: LASS23

Lincoln Museum Accession Number: LCNCC : 2023.159

Contractor: Pre-Construct Archaeology Limited

Office 8, Roewood Courtyard

Winkburn,

Newark

Nottinghamshire NG22 8PG

Tel: 01636 370 410

E-mail: cmatthews@pre-construct.com

Web: <http://www.pre-construct.com>

© Pre-Construct Archaeology Limited

August 2023

The material contained herein is and remains the sole property of Pre-Construct Archaeology Ltd and is not for publication to third parties without prior consent. Whilst every effort has been made to provide detailed and accurate information, Pre-Construct Archaeology Ltd cannot be held responsible for errors or inaccuracies herein contained.

PCA Report no. R15568

DOCUMENT VERIFICATION

Site Name

An Underground Cistern
and a
Public Surface Air Raid Shelter
Land at Station Street and Victoria Street,
Spalding,
Lincolnshire
PE11 1EB

Type of project

Built Heritage Recording

Quality Control

Pre-Construct Archaeology Limited Project Code			K8530
Pre-Construct Archaeology Limited Report Number			R15568
	Name & Title	Signature	Date
Text Prepared by:	Guy Thompson and Charlotte Matthews		26/08/2023
Graphics Prepared by:	Hayley Baxter		26/08/2023
Graphics Checked by:	Mark Roughley	Mark Roughley	26/08/2023
Project Manager Sign-off:	Charlotte Matthews	Charlotte Matthews	26/08/2023

Revision No.	Date	Checked	Approved
1 Jim Bonner, Historic Environment Officer, Lincs CC comments	03/10/23	03/10/23	03/10/23

Pre-Construct Archaeology Ltd
Office 8, Roewood Courtyard
Winkburn,
Newark
Nottinghamshire
NG22 8PG

CONTENTS

1	NON-TECHNICAL SUMMARY	4
2	INTRODUCTION	5
3	PLANNING BACKGROUND	6
4	METHODOLOGY	10
5	HISTORICAL BACKGROUND	11
6	BUILDING DESCRIPTIONS	25
7	DISCUSSION AND CONCLUSIONS	29
8	BIBLIOGRAPHY	32
9	ACKNOWLEDGEMENTS	34
10	APPENDIX 1: OASIS FORM	35

FIGURES

HISTORICAL PLATES

PLATES

FIGURES

Figure 1: Site location

Figure 2: Detailed site plan showing locations of recorded structures

Figure 3: John Grundy's map of Spalding, 1732

Figure 4: Spalding Enclosure map, 1819

Figure 5: First Edition Ordnance Survey map, 1887

Figure 6: Ordnance Survey map, 1888

Figure 7: Ordnance Survey map, 1889

Figure 8: Ordnance Survey map, 1904

Figure 9: Ordnance Survey map, 1932

Figure 10: Ordnance Survey map, 1968

Figure 11: Street plan showing the site, c.1970

Figure 12: Ordnance Survey map, 1974-80

Figure 13: Rectangular (9.0 ft by 5.0 ft) Type 1 communal domestic surface shelter with traversed entries, January 1940

Figure 14: Square (6 ft 8½ in square) Type 2 communal domestic surface shelter with traversed entries, January 1940

Figure 15: Rectangular (6 ft 9 in by 6 ft 9 in) Type 3 communal domestic surface shelter with traversed entries, January 1940

Figure 16: Rectangular (10.0 ft by 4 ft 6 in) Type 4 communal domestic surface shelter with traversed entries, January 1940

Figure 17: Drawing showing method of reinforcing brick walls for surface shelters built in accordance with Home Security Circular 290/40, December 1940

Figure 18: Drawing showing alternative method of reinforcing brick walls for surface shelters built in accordance with MoHS Technical Note on Shelter Improvement 1st March 1941

Figure 19: Drawing showing modifications to 290/1940 surface shelter issued with MoHS Technical Note on Shelter Improvement, March 1941

Figure 20: Drawing showing modified surface shelter 290/1940 built in accordance with Home Security Circular No. 75/1942, 30 March 1942

Figure 21: Plan of Laser scan, showing cisterns and air raid shelter

Figure 22: Laser scan of cistern, showing east blocking wall and north wall

Figure 23: Plan of cisterns and north-south brick wall showing external plate locations

Figure 24: Cistern Plan showing internal plate locations and Sections

Figure 25: Plan of air raid shelter showing external plate locations

Figure 26: Plan of air raid shelter showing internal plate locations

1 NON-TECHNICAL SUMMARY

- 1.1.1 Pre-Construct Archaeology Limited (PCA) was commissioned by Birdwood Construction Limited to undertake built heritage recording on land at Station Street and Victoria Street, Spalding, Lincolnshire PE11 1EB. The recording of an existing public surface air raid shelter and several structures including a below-ground chamber thought to be a water cistern was undertaken in advance of demolition or in the case of the water cistern infilling with concrete and the proposed redevelopment of the Site. The recording was carried out as a condition of planning permission.
- 1.1.2 Spalding prison at the south-west end of the Sheep Market was completed in 1826 and subsequently enlarged in 1848 and again in 1851-52. It closed in 1884. The remains of a north-south red brick wall visible at ground surface level on the Victoria Street site aligns with the prison wall shown on the 1889 map. If this is the prison wall, its west side would have been the external side facing onto an airing court and its east side would have been internal. The remains of a vaulted structure, potentially a water cistern, and a more complete water cistern recorded on the Victoria Street site are thought to have been constructed for use by Spalding Prison and would have lain within one of the prison airing courts.
- 1.2 The air raid shelter is a rectangular structure, 13.30 m (42.65 ft) in length by 5.77 m (18.93 ft) in width, which stands next to the east elevation of no. 19 Station Street, from which it is separated by a narrow passage. The shelter is constructed of Fletton bricks and concrete. It has a concrete slab base and a concrete slab roof. The east wall is the principal elevation of the shelter and contained two bricked-in original openings prior to the time of recording. One at the north- and one at the south end of the elevation. These originally provided access to the internal compartments of the shelter. The roof of the shelter comprises a thick concrete slab. Testing with a magnet suggested that it contained ferrous reinforcing bars.
- 1.3 The interior space of the shelter was divided into six interlinked compartments. The northern and southern halves of the shelter mirrored one another, each containing an entrance lobby adjacent to the east elevation of the structure, with outer and inner entrances, leading into two parallel narrow corridor-like compartments, subdivided by a longitudinal north-south aligned partition wall. Adjacent to each entrance lobby was a small cubicle, accessible from both compartments in each half of the shelter. Two substantial brick piers attached to the east and west walls provided lateral strengthening and support for the roof at the centre of the structure. This layout was slightly more elaborate than the simple planform shown in early ARP/Home Security Circulars, although it (just about) maintained the principle of providing separate compartments for shelterers.

2 INTRODUCTION

2.1 Project background

- 2.1.1 Pre-Construct Archaeology Limited (PCA) was commissioned by Birdwood Construction Limited to undertake a programme of built heritage recording on land at Station Street and Victoria Street, Spalding, Lincolnshire PE11 1EB (**Figures 1 and 2**).
- 2.1.2 The historic building recording of the existing public surface air raid shelter was undertaken in advance of its demolition and the proposed redevelopment of the Site (Land adjacent to 19 Station Street the Library, Victoria Street) to provide a terrace of 3 two bed dwellings' (South Holland District Council Planning Ref. H16-0707-22). Two planning conditions stipulated that a programme of historic building recording of the Second World War air raid shelter be undertaken before demolition. The conditions were requested by Matthew Adams, Historic Environment Officer at Lincolnshire County Council (hereafter the Curator). The historic building recording of the air raid shelter was undertaken in accordance with a Written Scheme of Investigation (Matthews 2023) agreed with the Curator.
- 2.1.3 In addition, the built heritage recording of an underground vaulted structure or cistern was undertaken in advance of its infilling with concrete and the proposed redevelopment of the Site (Land adjacent to the Library, Victoria Street) to provide a terrace of 2 two bed detached dwellings (South Holland District Council Planning Ref. H16-1349-21). The built heritage recording of the cistern was requested by the Curator in an email exchange with PCA on 01 August 2023. He stated 'please include the cistern as part of the recording project. A 3D scan, photography and an accurate location will be fine rather than risking staff in the water, but the cistern should have the usual technical description and assessment and be tied into any other information on the prison building as part of the final report. This can be combined with the air raid shelter as a wider site HBR with phased elements rather than separate reports'.
- 2.1.4 The recording was carried out in accordance with a Level 2 record, as defined by Historic England (2016) *Understanding Historic Buildings: a guide to good recording practice*. The survey was also undertaken in accordance with national planning policy guidance, specifically the National Planning Policy Framework (NPPF 2021), and South Holland District Council's policies towards archaeology and heritage.

2.2 Site location and description

- 2.2.1 The Site occupies an irregular portion of land, comprising two linked triangular plots in the island formed by Station and Victoria Streets (**Figure 2**). The southwest portion of the Site contains the former water cistern(s) and the northeast portion contains the surface air raid shelter.
- 2.2.2 The southwest portion of the site (Victoria Street Site) is bounded by Victoria Street to the west, the rear of nos. 19-23 Station Street to the north and the rear wall of Spalding Library to the south.
- 2.2.3 The northeast portion of the site (Station Street Site) is bounded by Station Street to the north, no. 19 Station Street to the west and a former bank, now a shop, to the southeast (**Figure 2**). The air raid shelter lies in the northwest corner of the site (**Figure 2**).
- 2.2.4 The Site lies in the Spalding Conservation Area, which covers the commercial heart of the town centre and most of the historic settlement which straddles both sides of the River Welland. The Site does not contain any statutorily or locally listed structures. Although the underground cistern or air raid shelter are not listed, they are considered to be non-designated heritage assets.

3 PLANNING BACKGROUND

3.1 National planning legislation and policy

- 3.1.1 Primary legislation relating to the protection of historic buildings and structures includes the Town and Country Planning Act 1990 and the Planning (Listed Buildings and Conservation Areas) Act 1990. National planning policy regarding the approach of the planning authorities to the impact of development upon heritage assets, whether statutorily designated (e.g. listed buildings, conservation areas, registered parks and gardens) or non-designated is defined by the National Planning Policy Framework (NPPF), which was revised in 2021.

3.2 Local planning policy: the South East Lincolnshire Local Plan 2011-36

- 3.2.1 Local planning policy is set out in the South East Lincolnshire Local Plan, 2011-36, which was produced by South Holland District Council in conjunction with Boston Borough Council and Lincolnshire County Council. The plan was adopted on 8th March 2019.
- 3.2.2 Policies relating to the historic built environment in the South Holland District recognize that “the area has a diverse historic environment with a rich variety of heritage assets: Archaeology, Scheduled Monuments, Listed Buildings and Conservation Areas which contribute to local identity and character. In addition there are non designated heritage assets and potential for new archaeological remains to be found during development, that add to the local context.”
- 3.2.3 Consequently, the plan recognizes that “it is important that these heritage assets are protected from inappropriate development and development proposals serve to sustain and enhance them, in order to reduce the number considered to be at risk.”
- 3.2.4 The following policy is relevant to the present development:

Policy 29: The Historic Environment

Distinctive elements of the South East Lincolnshire historic environment will be conserved and, where appropriate, enhanced. Opportunities to identify a heritage asset’s contribution to the economy, tourism, education and the local community will be utilised including:

The historic archaeological and drainage landscape of the Fens;

The distinctive character of South East Lincolnshire market towns and villages;

The dominance within the landscape of church towers, spires and historic windmills;

To respect the historical legacy, varied character and appearance of South East Lincolnshire’s historic environment, development proposals will conserve and enhance the character and appearance of designated and non-designated heritage assets, such as important known archaeology or that found during development, historic buildings, conservation areas, scheduled monuments, street patterns, streetscapes, landscapes, parks (including Registered Parks and Gardens), river frontages, structures and their settings through high-quality sensitive design.

A. Listed Buildings

1. Proposals to change the use of a Listed Building or to alter or extend such a building will be granted where the Local Planning Authority is satisfied that the proposal is in the interest of the building’s preservation and does not involve activities or alterations prejudicial to the special architectural or historic interest of the Listed Building or its setting.
2. Proposals involving the demolition of Listed Buildings will not be permitted, unless in an exceptional case, or wholly exceptional case (depending on their grade) where a clear and convincing justification is made in line with national policy.
3. Proposals that affect the setting of a Listed Building will be supported where they preserve or better reveal the significance of the Listed Building.

B. Conservation Areas

Proposals within, affecting the setting of, or affecting views into or out of, a Conservation Area should preserve (and enhance or reinforce, as appropriate) features that contribute positively to the area's character, appearance and setting. Proposals should:

1. Retain buildings/groups of buildings, existing street patterns, historic building lines and ground surfaces;
2. Retain architectural details that contribute to the character and appearance of the area;
3. Where relevant and practical, remove features which are incompatible with the Conservation Area;
4. Retain and reinforce local distinctiveness with reference to height, massing, scale, form, materials and plot widths of the existing built environment;
5. Assess, and mitigate against, any negative impact the proposal might have on the townscape, roofscape, skyline and landscape;
6. Aim to protect trees, or where losses are proposed, demonstrate how such losses are appropriately mitigated against.

C. Archaeology and Scheduled Monuments

1. Proposals that affect archaeological remains, whether known or potential, designated or non-designated, should take every reasonable step to protect and, where possible, enhance their significance.
2. Planning applications for such development should be accompanied by an appropriate and proportionate assessment to understand the potential for and significance of remains, and the impact of development upon them.
3. If initial assessment does not provide sufficient information, developers will be required to undertake field evaluation in advance of determination of the application. This may include a range of techniques for both intrusive and non-intrusive evaluation, as appropriate to the site.
4. Wherever possible and appropriate, mitigation strategies should ensure the preservation of archaeological remains in-situ. Where this is either not possible or not desirable, provision must be made for preservation by record according to an agreed written scheme of investigation submitted by the developer, undertaken by a suitably qualified person, and approved by the Local Planning Authority.
5. Any work undertaken as part of the planning process must be appropriately archived in a way agreed with the Local Planning Authority.

D. Registered Parks and Gardens

Proposals that cause substantial harm to a Registered Park or Garden, or its setting will not be permitted, unless in an exceptional case, where a clear and convincing justification is made in line with national policy.

E. Enabling Development

Proposals for enabling development adjacent to, or within the setting of, a heritage asset and used to secure the future of a heritage asset through repair, conservation, restoration or enhancement will only be permitted where:-

1. it will not materially harm the heritage values of a heritage asset or its setting;
2. it avoids detrimental fragmentation of management of the heritage asset;
3. it will secure the long-term future of the place and, where applicable, its continued use for a sympathetic purpose;
4. it is necessary to resolve problems arising from the inherent needs of the heritage asset rather than the circumstances of the present owner or the purchase price paid

5. sufficient subsidy is not available from any other source;
6. it is demonstrated that the amount of enabling development is the minimum necessary to secure the future of the heritage asset and that its form minimises harm to other public interests; and
7. the public benefit of securing the future of the heritage asset through such enabling development decisively outweighs the dis-benefits of breaching other policies within the Local Plan and national policy

F. Development Proposals

Where a development proposal would affect the significance of a heritage asset (whether designated or non-designated), including any contribution made to its setting, it should be informed by proportionate historic environment assessments and evaluations (such as heritage impact assessments, desk-based appraisals, field evaluation and historic building reports) that:

1. identify all heritage assets likely to be affected by the proposal;
2. explain the nature and degree of any effect on elements that contribute to their significance and demonstrating how, in order of preference, any harm will be avoided, minimised or mitigated;
3. provide a clear explanation and justification for the proposal in order for the harm to be weighed against public benefits; and
4. demonstrate that all reasonable efforts have been made to sustain the existing use, find new uses, or mitigate the extent of the harm to the significance of the asset; and whether the works proposed are the minimum required to secure the long term use of the asset.

3.3 Planning decisions

- 3.3.1 Planning permission has been granted by South Holland District Council for 'Demolition of existing air raid shelter and construction of terrace of 3 two bed dwellings' (South Holland District Council Planning Ref. H16-0707-22).
- 3.3.2 Two conditions (nos. 3 and 4) attached to the permission issued on 7th September 2022 relate to the existing air raid shelter:
- 3.3.3 **Condition 3** reads as follows:

No demolition shall take place until a written scheme of archaeological investigation has been submitted to and approved in writing by the Local Planning Authority. This scheme shall consist of a document of historic building recording of the Second World War air raid shelter and should be in accordance with the archaeological brief supplied by the Lincolnshire County Council Historic Environment advisor on behalf of the Local Planning Authority:

1. An assessment of significance
2. A methodology and timetable of site investigation and recording
3. Provision for site analysis
4. Provision for publication and dissemination of analysis and records
5. Provision for archive deposition
6. Nomination of a competent person/organisation to undertake the work
7. The scheme to be in accordance with the Lincolnshire Archaeological Handbook.

The archaeological site work shall only be undertaken in accordance with the approved written scheme.

Reason: To ensure the preparation and implementation of an appropriate scheme of archaeological mitigation in accordance with national guidance contained in Section 16 of

the National Planning Policy Framework, 2021. Such shelters are rare survivals and are important reminders of this recent period in the community's history and it is therefore of benefit to ensure a record is made of their fabric prior to demolition. This issue is integral to the development and therefore full details need to be finalised prior to the commencement of works.

This Condition is imposed in accordance with Policy 29 of the South East Lincolnshire Local Plan, 2019.

3.3.4 Condition 4 reads as follows:

The applicant shall notify the Lincolnshire County Council Historic Environment Department in writing of the intention to commence at least fourteen days before the start of archaeological work required in connection with Condition 3 above in order to facilitate adequate monitoring arrangements.

Reason: To ensure satisfactory archaeological investigation and retrieval of archaeological finds in accordance with national guidance contained in Section 16 of the National Planning Policy Framework, 2021.

This Condition is imposed in accordance with Policy 29 of the South East Lincolnshire Local Plan, 2019.

4 METHODOLOGY

4.1 Aims and objectives

- 4.1.1 The aim of the historic building recording as set out in the Written Scheme of Investigation (Matthews, 2023) was to provide a record of the air raid shelter, which will be removed as part of the redevelopment of the Site. This record was to be made in accordance with an Historic England (2016) Level 2 survey. The aim was to provide a better understanding of the air raid shelter, to compile a lasting record, to analyse the results and to disseminate these results.
- 4.1.2 The aim of the built heritage recording of the cistern was to record it with a photographic survey, locate it and survey a plan and section. The cistern was to have the usual technical description and assessment and be tied into any other information on the prison building as part of the final report.
- 4.1.3 The results of the recording of the air raid shelter and the cistern were to be combined as a wider site report with phased elements.

4.2 Documentary research

- 4.2.1 A programme of targeted primary documentary research was undertaken at The National Archives (TNA), Kew and at the Lincolnshire Archives. Secondary and published material of relevance were consulted at the Spalding Gentlemen's Society Library, Spalding Library and online.

4.3 Building recording survey

- 4.3.1 The recording of the air raid shelter and the cistern were carried out on 4th and 11th August 2023. The methodology for the recording of the air raid shelter was detailed in the Written Scheme of Investigation (Matthews 2023). This comprised Historic England Level 2 record of the air raid shelter.
- 4.3.2 A laser scan survey of the air raid shelter and the cistern was completed on site to provide a 3D model of each structure (**Figure 22**). Scaled AutoCAD plans and sections of both structures and the front elevation of the air raid shelter were produced from the resulting point cloud (**Figures 24 to 27**). The drawings have been used in this report to show the location and direction of the photographic plates (**Figures 23 to 26**).
- 4.3.3 A GPS survey was carried out on the Victoria Street site to locate the remains of walls visible at ground level; these have been digitised on **Figure 21 (Plates 3, 4, 10 to 13)**.
- 4.3.4 High quality digital colour photographs were taken of all the recorded structures.

4.4 Project

- 4.4.1 The project archive is currently held at the offices of Pre-Construct Archaeology Limited in Newark, Nottinghamshire, under the site code LASS23. It is anticipated that the archive (copies of the report, drawings and photographs) will be lodged in due course with Lincoln Museum (The Collection Art and Archaeology in Lincolnshire) under the Museum Accession Number: LCNCC : 2023.159. The report will be submitted to the Client, the Curator, the LHER (Lincolnshire Historic Environment Record) and South Holland Council.

4.5 Guidance

- 4.5.1 All works were undertaken in accordance with standards set out in:
Chartered Institute for Archaeologists (2020) Standard and Guidance for Recording of Standing Buildings or Structures.
Historic England (2016) Understanding Historic Buildings: A guide to good recording practice

5 HISTORICAL BACKGROUND

5.1 Spalding during the Medieval and Post Medieval periods

- 5.1.1 The historic market town of Spalding emerged during the early medieval period, its name meaning 'The people of Spalde', a district name derived from the Old English *spald*, 'ditch' (<http://kepn.nottingham.ac.uk/map/place/Lincolnshire/Spalding>). The Spalde are also mentioned in the late 7th/8th century Tribal Hidage.
- 5.1.2 In 1051, Thorold of Buckenhale, sheriff of Lincoln, granted the manor of Spalding to the Abbey of St Guthlac of Crowland (Crowland Abbey) for the relief of its necessities (Page 1906: 118-124). The Abbey established a monastic cell at Spalding for a prior and six monks. In 1059, Ælfgar, Earl of Mercia, bestowed certain lands and rents on the monks of Spalding for their support, as well as encouraging the abbot to give them the wooden chapel of St. Mary.
- 5.1.3 Following the Norman Conquest, the manor of Spalding was granted to Ivo Taillebois (Talbois), Earl of Angers, who established a castle in the township (Lewis 1848: 156-159). According to the monastic chroniclers, Ivo launched a campaign of harassment against the monks, forcing them to abandon their church and return to Crowland, taking with them all their movable property. Having driven the monks away, in 1074 Ivo gave the convent, the church of St. Mary and the manor to the abbey of St. Nicholas, at Angers. Subsequently, the priory was a Benedictine house, which was led by priors sent over from Angers until the 1390s, when it obtained its independence (Page 1906: *ibid.*). Although the priory was reportedly in considerable debt during the mid-15th century, its fortunes recovered thereafter and by the 1530s it was one of the wealthiest monasteries in Lincolnshire. When the priory was dissolved in 1540, its worth was estimated at £878. 18. 3. Remnants of the abbey buildings were still standing in the mid-19th century, both as ruins and as tenements, then still inhabited. Historical maps indicate that the boundary of the priory precinct ran along the north side of the later Station Street (**Figure 5**).
- 5.1.4 The Domesday Book of 1086 records that three manors held property in Spalding. The principal manor was in the occupation of Ivo, who also held extensive estates elsewhere in Lincolnshire (Williams & Martin 2002: 914). Two smaller properties in the township were held by Crowland Abbey and Guy de Craon (*ibid.*: 902, 951). In addition to extensive arable land, Ivo's manor contained a market rendering 40s. per annum, six fisheries, salt pans and alder woodland.
- 5.1.5 The parish church of St. Mary and St. Nicholas was erected on the east bank of the River Welland around 1284, when the old conventual church was taken down. The church was enlarged in 1466, when the north porch was added.
- 5.1.6 The river and surrounding farmland were central to the fortunes of the growing town. By the late Middle Ages, much of the surrounding land was used for grazing and Spalding had become prosperous from the sale of wool. The town's long-established weekly market became one of the largest in the country for fat-cattle. The town also hosted bi-annual fairs on 27th April and 30th June by the 18th century, with additional livestock fairs in August, September and December. The river Welland was made navigable inland to Stamford during the post-medieval period, enabling sloops of 50-70 tons to travel from the sea to the centre of the town, which maintained a regular coasting trade with ports including London, Hull, and King's Lynn. The town had a quay for landing goods and storehouses for their reception; by the 1840s, it was considered "one of the most thriving towns on the eastern coast" (Lewis 1848: 156-159).
- 5.1.7 The 16th and 17th centuries saw the flourishing of the town's cultural and educational sectors. The free grammar school was endowed by John Blanche and John Gamlyn during the reign of Elizabeth I. Following a period of decline, it was subsequently restored by Charles II. The Petty/Petit school was founded by Thomas Wellesley in 1682 and was rebuilt in 1826. The Blue Coat school in Church Street was founded by one of the Gamlyn family and re-established by the parishioners in 1710. A year earlier, Maurice Johnson founded an antiquarian, literary and scientific society known as the Gentlemen's Society,

members of which included Sir Isaac Newton, Sir Hans Sloane and William Stukeley (ibid.; Pigot's Directory 1828-9: 552).

- 5.1.8 Spalding was one of the main administrative and judicial centres of the Holland district throughout the medieval and post-medieval periods. The earls of Mercia held courts in the town during the Late Saxon period, while the priors of Spalding had extensive judicial powers. During the post-medieval period, the town jointly hosted the Holland quarter-sessions with Boston, while petty-sessions for the wapentake took place every week. Courts leet and baron were also held in the town into the 19th century.
- 5.1.9 The town hall was erected at the expense of John Hobson in 1620. It stood at the northwest end of the marketplace (known variously as Hemp Market, Market Stead and later Hall Street) and can be seen on John Grundy's map of Spalding of 1732 (**Figure 3**). The upper floor of the building was used for the quarter sessions and other courts, while the ground floor was let for shops, the rents of which were given to the poor, in accordance with Hobson's will.
- 5.1.10 In July 1619, a property at the north end of Crackpool Lane was purchased and turned into the town's first gaol (LA HQS/B/5/13). Formally known as the House of Correction, it is identified as 'The Jayle' on Grundy's map of 1732 (**Figure 3**). The House of Correction was subsequently rebuilt in 1765 and was illustrated on the Spalding Enclosure Map of 1819 (**Figure 4**; Gooch 1940: 518).

5.2 Spalding in the 19th century

- 5.2.1 The first half of the 19th century was a period of considerable change in Spalding. The population of the town more than doubled between 1811 and 1851 and many of its ancient houses and public buildings were rebuilt between the late 1820s and mid-1850s (History, Gazetteer & Directory of Lincs 1856: 842).
- 5.2.2 The partial rebuilding of the town was accompanied by significant improvements to the town's services and infrastructure during the period. A gasworks was built in 1832, and the town was largely lit by gas by the late 1840s (Lewis 1848: 156-159). In 1853, the town obtained an Improvement Act in 1853 (History, Gazetteer & Directory of Lincs 1856: 845). The latter Act provided for the construction of the Corn Exchange (1855-6) and other enhancements.
- 5.2.3 Spalding's transport infrastructure was also significantly improved during the middle decades of the 19th century. Following the construction of turnpike roads the previous century, the high bridge over the River Welland was rebuilt in 1838 (Post Office Directory of Lincolnshire, 1861: 240). The railway reached the town at the end of the 1840s, following the construction of the Spalding loop line of the London and York Railway (renamed Great Northern Railway when it opened in October 1848). A branch line connecting to King's Lynn, Norfolk (The Bourn & Lynn Joint Railway) was scheduled to open in 1857 (History, Gazetteer and directory of Lincolnshire, 1856: 841).

CISTERNS

5.3 Spalding Prison, 1826-1884

- 5.3.1 The second quarter of the 19th century saw significant changes in the administration of justice in the town. In the early 1840s, the old Town Hall in the marketplace was replaced by a new purpose-built structure that was erected at the western end of the Sheep Market. The Sessions House was designed to accommodate the monthly Quarter Sessions for the Southern Division of the Parts of Holland, the Courts of Sewers for the Elloe Wapentake and the weekly Petty Sessions. Designed by Charles Kirk of Sleaford, the Sessions House was built by Booth & Walker of Bramley, near Leeds, for a reported £6,000 (Taylor 2016: 1; Kelly's Directory 1919: 515). Currently Grade II listed, the Sessions House is a massive

castellated stone structure that jointly dominated the Sheep Market with the nearby House of Correction, which was built between 1823 and 1826 (**Historical Plate 2**).

- 5.3.2 To replace the old town gaol in Crackpool Lane, it was decided to build a new House of Correction on a hitherto undeveloped site at the southwest end of The Gore/Sheep Market (**Figures 4 and 5; Historical Plates 1 to 3**). The new establishment, known as "Her Majesty's Prison for the parts of Holland and Kesteven" was built under the Gaols Act 1823 (4 George IV cap. 65). The old House of Correction in Crackpool Lane was demolished in 1825, following which the road was widened along its full length and renamed Broad Street; a Wesleyan Methodist Chapel was subsequently built at the southern end of the site (The Spalding Monthly Magazine, 1867: 218).
- 5.3.3 The commission to design the new prison was awarded to Henry Edward Kendall (1776-1875), a former pupil of Thomas Leverton and perhaps also of John Nash (https://www.scottisharchitects.org.uk/architect_full.php?id=203609). The contract for the erection of the prison was dated 10th June 1823.
- 5.3.4 The contract and specification for the construction of the House of Correction instructed the contractors to level the site by excavating it to a depth of 18 inches below ground level (LA HQS/B/5/13). Trenches for wall footings and drain runs were to be dug below this foundation level, as was the basement and a separate (?) cellar for the prison's larder.
- 5.3.5 The specification called for the provision of numerous below ground structures, including several cesspools. The prison's principal cesspool was to be a structure of at least 20 ft diameter, which was to be excavated outside the boundary wall to a depth of 5 ft below that of the drains. Seven smaller circular domed cesspits, each with a diameter of 2 ft 3 in and lined in bricks in mortar were to be provided to drain the prisoners' privies. A further cesspool, 5 ft deep, was to be provided under the privy in the Keeper's Court and three cesspools, each lined in brick and 2 ft square and 2ft deep were to be dug under the airing courts. A thirteenth cesspool, 3 ft square and 2 ft 6 in deep was to be provided at an unspecified location.
- 5.3.6 The specification also instructed the builders to construct a "Tank... wholly in Roman Cement, in one of the Prisoners' Airing Courts where shewn on the Drawings, 12 feet long, 6 feet wide, & four feet six inches deep, in the clear, the sides one Brick and the bottom Brick on edge". The prison's water supply was to be provided by three brick-lined wells, each 3 ft in diameter and about 12 ft deep. Drainage was via either 9 in or 14 in diameter barrel drains.
- 5.3.7 Interestingly, the building contractor was instructed to erect the surrounding boundary wall before starting work on any of the buildings that it enclosed, presumably to conceal the details of their construction from prying eyes. The high prison wall ran down the right-hand side of Station Street at the edge of the pavement (**Figure 6; Leveritt & Elsdon 1986: 59-60**).
- 5.3.8 The new prison was completed in 1826 at a cost of nearly £15,000 and was subsequently described as an "airy and commodious edifice" (History, Gazetteer & Directory of Lincs 1856: 844; Lewis 1848: 156-159). When built, the premises included a chapel, a treadmill for prisoners sentenced to Hard Labour, seven airing courts (for exercise), divided into classes, sixteen dayrooms and 48 sleeping cells (Leveritt & Elsdon 1986: 59-60). The treadmill had two wheels, which accommodated 34 men and was used to grind flour and cereals. It was reported that the treadmill ground sufficient flour to generate a profit of £100 for the prison authorities (Leveritt & Elsdon 1986: 59-60). Other punishments included flogging, handcuffing, punishment cells and reduced dietary allowances. The chapel was divided into eight sections, radiating from the centre, so that prisoners in any one part of the building were unable to see those in another.
- 5.3.9 The jail housed prisoners of all categories except for those convicted of capital offences. The prison population grew as the 19th century progressed. In 1835, the average number of inmates was 39. An inspection carried out in 1842 recorded 43 prisoners, of which six were female, the remainder male (LA HQS/B/5/10). The inspector noted that all the males slept in separate cells, while four females shared one room and two were accommodated

separate cells (LA HQS/B/5/10). A "convenient wash house" had been erected for the prisoners since the inspector's previous visit.

- 5.3.10 The prison was subsequently enlarged in 1848 and again in 1851-52 (History, Gazetteer & Directory of Lincs 1856: 844). Following the latter enlargement, the prison had nearly 90 separate cells. The 1851 census recorded that it held 68 prisoners, comprising 61 men and seven women (Clark 1988: 7). Of the men over half were labourers and there were two prostitutes among the women. The prison also accommodated vagrants and paupers sent from the Spalding Union Workhouse (built 1836), who received a reduced dietary allowance of 11½ ounces of bread three times per day (LA HQS/B/5/10). In the mid-1850s, the prison was governed by Mr Henry Bates, while his wife Anne served as Matron and the Rev J. Lewis was the chaplain (History, Gazetteer & Directory of Lincs 1856: *ibid.*)
- 5.3.11 By the late 1870s, the daily average of prisoners was 59 males and 13 females (Leveritt & Elsdon 1986: 59-60). In 1878, Spalding House of Correction was taken over by the Prison Commissioners, under the terms of the Prisons Act 1877 (Gooch 1940: 518). The prison was eventually closed on 31st March 1884.
- 5.3.12 Unfortunately, no plans of the original layout of the prison have been found during the present research. The earliest map to show the prison in any detail is a small-scale Ordnance Survey map of 1887 (**Figure 5**), published around three years after the institution was closed and several decades after it was enlarged. Both this map, and a larger scale map of 1889 (**Figure 7**) indicate that the below ground and ruined surface structures recorded during this project lay within a large courtyard, presumably one of the prison's airing courts.

5.4 The Drill Hall and the Regent Cinema, 1890-1965

- 5.4.1 The former prison was purchased by John Longstaff (1843-1893), a prominent local citizen for £1,800. In January 1887, the chairman of the town's Improvement Commissioners proposed that the site should be sold and a library and drill hall be built upon it, to mark Queen Victoria's Golden Jubilee (BNA Spalding Guardian - Saturday 08 January 1887: 5). By June 1889 part of the site had been sold-off for the proposed drill hall, for which a building fund was established (BNA Spalding Guardian - Saturday 29 June 1889: 5). Although scheduled for completion in May 1890, the opening ceremony was delayed after it was decided to raise the front of the building by an additional storey (BNA Spalding Guardian - Saturday 26 April 1890: 5). The drill hall formally opened on 17th October 1890 (BNA Spalding Guardian - Saturday 20 September 1890: 5).
- 5.4.2 Part of the site of the prison was sold off to enable Station Street to be widened and Victoria Street to be laid out (Leveritt & Elsdon 1986: 59-60). New houses and shops were built during the 1890s in both Station and Victoria Streets. It is believed that some of the houses in Station Street were built using materials from the prison.
- 5.4.3 The earliest Ordnance Survey map to show the Site after the construction of the Drill Hall was published in 1904 and is reproduced here as **Figure 8**. The map shows the Drill Hall extending back from The Crescent, across which it faced the Sheep Market. **Historical Plate 4** is an early 20th century view of the Drill Hall and the Sessions House across the Sheep Market. The 1904 map shows a small four-sided trapezoidal outbuilding to the west of the Drill Hall facing Victoria Street, on the site of one of the former prison's airing grounds. The terrace of five properties on the south side of Station Street (nos 19-23) are also shown for the first time.
- 5.4.4 The Drill Hall was relinquished by the Territorial Force following the construction of new premises in Haverfield Road in 1913 (<https://drillhalls.org.uk/Counties/Lincolnshire/Town/Spalding.htm>). By 1919, the old building was occupied by H. Laverton & Co., motor engineers (Kelly's Directory 1919: 522; **Historical Plate 4**). The building was subsequently repurposed and converted into the Regent Cinema, which opened in June 1927 (<https://www.heritagesouthholland.co.uk/article/spalding-cinema/>). The cinema is shown on aerial photographs taken of Spalding in 1930 (**Historical Plates 6 to 10**) and on an Ordnance Survey map of 1932 (**Figure 9**). The aerial photographs and map also show that

the partially vacant plot to the rear of the cinema was occupied by two storey outbuildings, arranged around all sides of an open triangular space. The Victoria Street frontage was occupied in 1930 by a rectangular two storey outbuilding, which is shown on the 1932 map to have a trapezoidal footprint. The triangular plot between the cinema and no. 19 Station Street remained vacant at this time apart from an outbuilding with a pent roof and rectangular footprint (**Figure 9; Historical Plate 10**). Two aerial photographs taken in 1947 are not detailed enough to show any changes to the Site, although they do show that it had not been bomb damaged (**Historical Plates 11 and 12**).

- 5.4.5 The Regent Cinema was closed on 2nd February 1959 and was eventually demolished in 1965. The trapezoidal and triangular outbuildings to the rear appear to have been demolished at the time, leaving a vacant plot at the corner of Victoria Street. An Ordnance Survey map of 1968 indicates that a bank and a library were built on the site of the cinema, the latter realising the wishes of the Improvement Commissioners 75 years earlier (**Figure 10**). The plot at the corner of Victoria Street remained undeveloped. A modern sketch map showing the area as it appeared in 1970 indicates that the bank building was occupied by the Trustee Savings Bank (TSB) (**Figure 11**). By 2015 the former bank was an appliance store. Modern mapping indicates that the library was extended to the southwest to occupy the previously vacant plot in Victoria Street at some point since 1980 (**Figures 12 and 2**).

AIR RAID SHELTER

5.5 Preparing for war, Air Raid Precautions (ARP) and Civil Defence 1924-1938

- 5.5.1 Following the defeat of Germany in 1918, the air defence organisation established during the First World War to protect London and Southeastern England against attack from German bombers was dismantled. Under the 'Ten-Year Rule', which anticipated that no major conflict would take place during the following decade, the domestic air defence infrastructure was effectively stood down.
- 5.5.2 In 1924, however, the Committee of Imperial Defence established a sub-committee to consider passive measures to protect the population of the United Kingdom against attack from the air (Doyle 2010: 6). The committee was led by the then Permanent-Under-Secretary of State at the Home Office, Sir John Anderson, and spent the following decade reviewing the experiences of the First World War and the development of new offensive weapons. The committee's discussions encompassed such issues as the provision of public air raid shelters, the issue of gas masks to the civilian population, air raid warning systems, proposals to evacuate vulnerable, maintenance of essential services areas and the introduction of lighting restrictions in wartime (ibid.; Baker 1978: 2).
- 5.5.3 It was the commencement of the German rearmament programme in the mid-1930s, however, that convinced the British Government of the need to make renewed preparation for the protection of the civilian population and infrastructure against attack from the air. In March 1935 an Air Raid Precautions (ARP) Department was set up at the Home Office, with instructions to encourage local authorities and private employers to cooperate with central government in the establishment of local ARP schemes (Baker 1978: 3; Meisel 1994: 304).
- 5.5.4 One of the ARP Department's earliest priorities was to oversee the programme to manufacture and supply gas masks to the entire civilian population. The department's secondary priority was the public provision of air raid shelters. In response to widespread concern regarding the shortage of public shelter accommodation, the Home Office hurriedly drafted new ARP legislation, which was approved by Parliament towards the end of 1937. The Air Raid Precautions Act 1937 compelled local authorities to prepare ARP schemes "for the protection of persons and property from injury or damage in the event of hostile attack from the air" (TNA HO 45/17610). Local authorities were required to submit their schemes to the Home Office ARP Department for approval, while works undertaken in accordance with ARP schemes approved by the Department were eligible for Treasury grants (ibid.; Meisel 1994: 305).

5.5.5 The Munich Crisis of September 1938 highlighted the insufficiency of existing official ARP preparations, particularly regarding the provision of shelters (Meisel 1994: 306). In the absence of any official public shelters, trench shelters were hastily dug by local authorities in public parks and open spaces. Although the threat of imminent war with Germany receded following the resolution of the crisis, calls for the public provision of air raid shelters became increasingly loud as the year progressed.

5.6 The evolution of air raid shelter design, 1938-1940

5.6.1 In December 1938, Sir John Anderson (by then Lord Privy Seal in Neville Chamberlain's National Government) told the House of Commons that the Government believed that shelters should be provided at, or close to, people's homes (TNA HO 208/1 ARP Dept Circular 28/1939). Three categories of shelters were envisaged, the selection of which was based on whether the home had basement accommodation. For private homes with basements, it was proposed to reinforce these with steel sheets, whereas the basements of blocks of flats or tenements would be reinforced to provide structurally supported communal shelters. The inhabitants of houses without basements, especially the two storey properties that comprised much of Britain's housing stock at the time, were to be supplied with "a special type of steel shelter", consisting of galvanised sheets of metal. Known colloquially as Anderson shelters, these small domestic shelters were designed to be sunk in a trench in the back garden or yard and then covered with the excavated spoil for extra protection. Initially, it was proposed that the shelters would be made available to residents of cities and boroughs likely to be targeted by enemy bombers (known as "specified areas") and were free of charge to poorer households. Once these shelters had been distributed, it was proposed to make them available for sale to householders whose annual income was over £250.

5.6.2 The roll-out of Anderson shelters to lower income householders proceeded during the spring and summer of 1939. By the time that war broke out in September, approximately 1.5 million free Anderson shelters had been distributed, although they did not go on sale to wealthier householders until later in the year (Gardiner 2004: 7; TNA HO 208/1 ARP Dept Circular 287/39).

5.6.3 In July 1939, the Civil Defence Act received Royal Assent, extending the provision of shelters beyond that envisaged by the ARP Act 1937. The new shelter policy was spelled out in ARP Department Circular 91/1939, 'Provision of Air Raid Shelters', which set out the requirement for three types of shelter:

- Shelters for employees at their place of work
- Shelters for persons at home, in or adjoining the home
- Public shelters, whether in basements of large buildings, in trenches, or in other forms of structures for persons caught in the streets and persons for whom no private shelter can be made available (TNA HO 208/1 ARP Dept Circular 91/1939)

5.6.4 Whereas all three categories of shelter had been previously envisaged, the new legislation was the first to compel employers to provide ARP services and shelters in the workplace (Baker 1978; Meisel 1994: 307). The Act also authorised public services to claim grants against expenditure incurred by the construction of air raid shelters completed before the end of September 1939, or on those that were under construction by that date (Ibid.; Civil Defence Act 1939: 38 (1a)).

5.6.5 Meanwhile, ARP Department Circular 91/1939 instructed named local authorities to undertake a survey of houses in their district to ascertain the numbers with basements that could be adapted as shelters and the numbers of blocks of flats or tenements, so that the necessary quantities of basement reinforcement materials (steel sheets and joists, supported by tubular supports) for each area could be calculated and arrangements made for their supply.

5.6.6 The Circular also acknowledged that there would be people who lived in properties that had basements unsuitable for strengthening or which had no basements or outdoor space

suitable to accommodate the steel (Anderson) shelter. It stated that "new designs of surface shelter" were being prepared for such households. Similarly, the circular was the first official document to consider the provision of public shelters for people caught in the open during air raids. Designs for these shelters had yet to be drawn up, as it was necessary for local authorities to conduct surveys to ascertain the number of such shelters required in their districts. It was estimated that authorities should aim at providing public shelter accommodation for about 10% of the population of mainly residential districts and 15% of the day population in mainly business districts.

- 5.6.7 The "new designs of surface shelter" mentioned in the ARP Circular appears to be the earliest reference in official documents to the intention to build such structures. Previously, trench shelters had been envisaged as the principal type of public air raid protection. The earliest trench shelters, such as those constructed in haste during the Munich Crisis comprised simple trenches with revetted sides in public spaces, which were subsequently roofed over with timber, concrete or steel. Later shelters of this type were built by the cut-and-cover technique, using the spoil from the trench to cover a structure of pre-cast concrete or steel panels. The pre-cast elements typically consisted of vertical wall panels fixed into slots in horizontal floor and roof slabs. This method of construction permitted a wide range of shelter sizes and layouts. Trench shelters were normally entered by a flight of steps flanked by traverses, also known as baffle- or blast walls. An emergency exit was usually provided, consisting of a vertical ladder to a ventilated manhole cover. Throughout 1939, the Home Office ARP Department issued a succession of circulars specifying standards for these structures (TNA HO 208/1).
- 5.6.8 Blueprints for the first generation of surface shelters had been completed by early May 1939, accompanied by a pamphlet titled 'Directions for the Erection of Domestic Surface Shelters', which provided specifications and simple instructions to contractors on how and where to build them (TNA HO 205/153). Three types of shelter were proposed, each designed to accommodate the residents of private houses or flats for which Anderson or basement shelters were unsuited. The smallest model was the single shelter, the internal floor space measuring 6 ft 6 in by 4 ft 6 in, which was intended for households of up to six. The double shelter was designed for two neighbouring households (**Historical Plate 13**), while the quadruple shelter was designed for four households, or residents of small blocks of flats/tenement buildings (**Historical Plate 14**). The walls of these surface shelters were to be constructed of 13½ in brickwork, mass concrete or 15 in concrete blockwork, with a 5 in thick reinforced concrete roof, a concrete floor slab if necessary and optional brick traverses (i.e., baffles/blast walls). Mixed cement and sand mortar was specified for bonding. Reinforced concrete lintels were provided over entrances. An emergency exit was to be provided in the external wall, party partition or roof, as far as possible from the entrance.
- 5.6.9 Towards the end of August 1939, just days before the outbreak of the Second World War, the Home Office ARP Department issued Circular 204/1939, which concerned the "extension of the provision of shelter in view of the present state of emergency" (TNA HO 208/2). In addition to instructions to local authorities to extend existing trench shelters where practicable, the circular recommended the provision of a new type of shelter. These were described as "surface or semi-surface shelters of individual capacity not exceeding 50 persons". These structures were much larger versions of the household surface shelters introduced earlier in the year and were to be constructed of the same materials (brickwork, mass- or concrete block walls with reinforced concrete roofs). Local authorities were advised to follow the construction principles set out in the pamphlet "Directions for the Erection of Domestic Surface Shelters", published in May of that year. No engineering drawings or specifications for the new type of surface shelters were published at this point. The main reason given for the decision to push for the construction of such shelters was speed of construction and the widespread local availability of construction materials (brick and concrete).

- 5.6.10 Six months after the Second World War began, the Ministry of Home Security¹ reviewed the progress of the national public shelter construction programme (TNA HO 208/3 Home Security Circular 38/1940). It concluded that although the small domestic brick and/or concrete shelters introduced in May 1939 had been built in large numbers, they were relatively uneconomical to build and were frequently difficult to site effectively. It was therefore decided to build fewer of these structures and instead concentrate upon the construction of the larger 48-person communal surface shelters, introduced the previous August. The Ministry considered that the latter offered "a substantial reduction in cost, labour, materials and time of erection" and that concentrating on their construction would "afford opportunity for a substantial acceleration of shelter provision". Local authorities were instructed to site the shelters either "in the immediate vicinity of groups of houses in vacant spaces or in the streets". The Civil Defence Act 1939 had previously empowered local authorities to build public air raid shelters "on any highway", subject to a notice period of fourteen days (TNA HO 208/1 ARP Dept Circular 158/39).
- 5.6.11 Formal specifications for the communal shelter were issued as an appendix to Circular 38/1940. Four designs were produced, each comprising four internal shelter units intended to accommodate 12 persons per unit and 48 per block. The four different layouts were designed to enable adaptations to sites of varying sizes. The dimensions given below are the internal floor space of each compartment within the shelter:
- Rectangular (9.0 ft by 5.0 ft) type with traversed entries ('Scheme/Type I' **Figure 13**)
 - Square type (6 ft 8½ in square) with traversed entries ('Scheme/Type II' **Figure 14**)
 - Rectangular (6 ft 9 in by 6 ft 9 in rectangular) type with traversed entries ('Scheme/Type III' **Figure 15**)
 - Rectangular (10.0 ft by 4 ft 6 in) type with traversed entries ('Scheme/Type IV' **Figure 16**)
- 5.6.12 It was emphasised that these shelters were designed "to provide adequate protection at the most economical cost" and that they therefore did "not call for a high standard of finish". Unlike earlier communal shelter designs, which lacked doors, shelters of all four types were to be fitted with doors "of the simplest and cheapest form, fixed direct to brickwork without frames".
- 5.6.13 An accompanying scale of costs assumed that the maximum unit costs of the four variants (including traverse walls) were as follows:
- Scheme/Type I: £94 10s 0d
 - Scheme/Type II: £92 10s 0d
 - Scheme/Type III: £100 0s 0d
 - Scheme/Type IV: £111 0s 0d
- 5.6.14 Each of the four shelter types was to have either a 3 in thick concrete slab floor, or, if built on a roadway, would use the existing paved surface. The thickness of the reinforced concrete roof ranged from 5 in (Type I shelters) to 5½ in (Types II, III and IV). The dimensions of the reinforced concrete lintels over the entrances of all types were to be 13½ in by 6 in. Each shelter was provided with an emergency exit at the opposite end to the entrance. The brick walls forming the internal shelter compartments were to be 9 in thick. Given that these shelters were intended to be built near people's homes, the provision of lighting, sanitation or even seating in communal domestic shelters was considered unnecessary at this point.

¹ The Ministry of Home Security was established immediately after war broke out in September 1939 (Baker 1978: 5). The Ministry absorbed the former Home Office ARP Department and was initially led by Sir John Anderson, who occupied the double office of Home Secretary and Minister of Home Security. Sir John was replaced in both roles by Herbert Morrison in October 1940.

- 5.6.15 Owing to the exigencies of wartime production, the supply of steel products for ARP services was rationed by the Government from mid-April 1940 (TNA HO 208/3 Home Security Circular 64/1940). A few days later, local authorities were advised to concentrate on the construction of alternative shelter designs to the Anderson, which used a relatively substantial quantity of steel in its construction, the cost of which increased in response to the imposition of rationing (Ibid. Home Security Circular 68/1940; Home Security Circular 77/1940). The restricted availability of steel also led the Ministry to change to the specifications for household surface shelters, the roofs of which were to be constructed without reinforcing bars (TNA HO 208/3 Home Security Circular 68/1940).
- 5.6.16 By early June 1940, the ongoing steel shortage led the Ministry of Home Security to instruct local authorities to cease using steel to reinforce the roofs of certain types of individual and communal domestic shelter, on the grounds that there was "no reason why steel reinforcement should be used" (TNA HO 208/3 Home Security Circular 137/40). Later events were to reveal the short-sightedness of this decision. Exceptions were made for Type II and III type shelters because "designs which avoid the use of reinforcement cannot be conveniently adapted to these dimensions".
- 5.6.17 Two further Home Security Circulars concerning specifications for shelters were published shortly before the German aerial bombing campaign began in earnest. Towards the end of July 1940, a circular was issued that instructed local authorities to ensure that public shelters could be made gas proof (Ibid., Home Security Circular 194/1940). This was to be achieved by the provision of gas curtains, which were either to be fixed in place inside shelters or "obtained and kept available for installation at short notice". Despite having forbidden the provision of lighting, sanitation and seating in domestic communal shelters as recently as February, in August 1940 the Ministry relented in the case of the first and third, although the installation of sanitary ware remained unacceptable, owing to the resulting reduction of internal space (TNA HO 208/3 Home Security Circular 201/40). Acquiring timber for seating at this stage of the War was, however, a considerable challenge for local authorities owing to a nationwide shortage of timber, which had led to timber rationing since April. The shortage was caused by the German blockade on timber imports from the Baltic, Britain's largest pre-war source of softwood (Edgerton 2011: 51).

5.7 Improvements to air raid shelter design during the Second World War, 1940-43

- 5.7.1 In early 1939, the Home Office Research Branch was formed under the leadership of Dr Reginald Stradling, Chief Adviser on Research and Experiments. The Branch supplied data to Sir Alexander Rouse, the Chief Engineering Adviser, whose principal role involved the application of structural and shelter programmes (Baker 1978: 5). The Branch was advised by the Civil Defence Research Committee, which approved a research programme into the effects of high explosive weapons against a range of structures. By the start of the Second World War in September 1939, the branch had undertaken three full-scale bombing trials on a brick basement, an underground reinforced concrete structure and a brick-built surface building, as well as a blast and splinter trial (ibid.). The Research and Experiments Department was transferred to the Ministry of Home Security on its formation and promptly evacuated to Princes Risborough in Buckinghamshire when war broke out.
- 5.7.2 Although the sporadic air raids that took place during the summer months of 1940 yielded some information about the characteristics of enemy bombs, it was not until the German bombing campaign against British towns and cities began in earnest in early September 1940 that the performance of air raid shelters could be assessed. Unfortunately, the raids quickly exposed the shortcomings of each major category of shelter then in use. The best performing type was the humble domestic Anderson shelter, the occupants of which usually survived near misses by enemy bombs (ibid.: 16). Amongst the worst were trench shelters, especially the largest examples, owing to the funnelling effect of the trenches on the blast (ibid.: 16-18). One of the worst such incidents occurred during a particularly heavy raid on London on 15th/16th October 1940, when a bomb fell on a public trench shelter in Kennington Park, South London, killing at least 50 people (Conen 2023: 171). Although some basement shelters performed well, examples where the reinforcing joists rested on new or existing brick walls proved highly dangerous to occupants in the event of direct hits

or near misses, resulting in several incidents in London in which large numbers of shelterers were killed. Slightly better, but still problematic, were semi-sunk brick shelters with reinforced concrete roofs, which proved to be highly vulnerable to the effects of both direct hits and near misses (Baker 1978: 15-17). On 29th December 1940, a 250 kg High Explosive (HE) bomb fell close to the entrance to two 50-person public shelters in Southwark, killing fourteen of the eighteen people sheltering inside.

- 5.7.3 The performance of surface brick and concrete shelters was generally poor, badly shaking public confidence (ibid.: 19-21). Although not designed to be bomb-proof, these shelters proved vulnerable to near misses by even relatively small bombs. A twelve-person double domestic surface shelter in Lambeth with 13½ in walls and a 5 in thick reinforced concrete roof was destroyed by a near miss by a 50 kg bomb, which demolished the walls and lifted the roof slab, which then collapsed on the shelter below. Whilst that shelter was empty at the time, the occupants of a 48-person communal shelter in Birkenhead were rather less fortunate on 2nd October 1940, when a 50 kg bomb fell 4 ft from the wall of the four-compartment structure, demolishing the wall of one compartment and killing two of the 10 occupants and seriously injuring two others. Five days later, a near miss by a 250 kg bomb dislodged one of the external walls of a 24-person public surface shelter in Manchester, causing the roof to collapse along its entire length. These instances demonstrated how both large and small bombs could shake down the walls of surface shelters, either by earth shock or blast from near misses, which caused the roof slabs to fall into the shelter. **Historical Plates 15 and 16** are contemporary photographs of surface air raid shelters in Camberwell that managed to withstand the effects of 'near misses', albeit with some structural damage.
- 5.7.4 In response to comments made by Herbert Morrison, Minister of Home Security, in October 1940 regarding the lacklustre performance of certain types of air raid shelters, the Design and Development Section of the Research and Experiments Department set about devising measures to address the shortcomings of existing shelter design (Baker 1978: 29). The group's main priority was improving the design of communal street and domestic shelters, which had proved somewhat ineffective during the first six weeks of the Blitz. Prototypical designs of improved shelters incorporated internal steel portal frames embedded in the fabric of the structure, although the concept was dropped owing to the large quantities of steel required and the fact that the steelwork was neither ductile nor continuous. The possibility of replacing brick and concrete shelters with equivalents constructed entirely of reinforced concrete was considered and abandoned owing to the shortage of the timber necessary for formwork, which led the men from the Ministry to explore the potential of reinforced brickwork instead.
- 5.7.5 Investigations revealed that it was possible to insert vertical ¼ in diameter steel reinforcing rods within the mortar joints of brick walls laid in English bond (ibid.: 30-31). The rods were spaced 4½ in apart in the wall and were carried continuously into the roof, thereby creating a ductile portal structure, capable of absorbing the energy transmitted by a nearby blast while retaining its form. Instead of continuing the reinforcing rods into the floor slab or underlying road surface, the proposed design specified that the walls would rest on a bituminous felt course at ground level, which was thought to enable the shelter to slide when subjected to earth movement, thereby absorbing some of the energy of an explosion.
- 5.7.6 Certain key recommendations of the Research and Experiments Department were published on 11th December 1940 in Home Security Circular No.290/1940 (TNA HO 208/3). Local authorities were advised that all new brick and concrete surface shelters were to be built in accordance with a new design (Drawing No. ARPD/CE/158), which embodied three important construction principles:
- The use of reinforced brickwork in place of ordinary brickwork
 - The introduction of a bituminous damp proof course
 - The introduction of the principle of oversailing the roof
- 5.7.7 It was stated that the first and second measures would increase the resistance of the shelter to the effects of earth shock, while the second and third would mitigate dampness,

which had been a frequent complaint of shelter users. The circular also advised local authorities to disregard instructions to cease using steel in shelter roofs issued earlier that year. Drawing No. ARPD/CE/158 is reproduced here as **Figure 17**.

- 5.7.8 **Historical Plate 17** reveals how the incorporation of vertical reinforcing bars in the brickwork of surface shelters worked in the event of a near miss by an enemy bomb. The photograph shows a surface shelter in Bellamy's house and stables, Lincoln, which had been damaged by a German bomb falling nearby. While the end wall of the building has been largely demolished, exposing the twisted vertical reinforcing bars in the brickwork, the shelter has maintained its structural integrity, the reinforced brick walls continuing to support the reinforced concrete roof.
- 5.7.9 Home Security Circular 290/1940 also prescribed several measures intended to improve the performance of existing brick and concrete surface shelters. Since it began inspecting bomb-damaged shelters in the summer of 1940, the Research and Experiments Department had noticed numerous examples where lime mortar or a mixture of lime and cement mortar had been used to bond the brickwork. The excessive use of lime mortar in shelter construction was presumably a consequence of the various cement shortages that occurred during the summer of 1940, when cement was required in immense quantities to build fixed concrete obstacles and emplacements as anti-invasion defences. The result was a significant quantity of surface shelters with defective brickwork that was prone to total collapse in the event of a near miss (TNA HO 191/128 MoHS Technical Note on Shelter Improvement 1st March 1941). Given the danger that such shelters represented, the circular instructed local authorities to inspect them for defects and those that were found deficient were to have the joints scraped out and grouted with cement mortar. In fact, the latter advice was contrary to the recommendations of the Research and Experiments Department, which considered that lime mortar was always unsafe in shelters and could only be made safe by inserting strengthening steel portals inside the structure (Baker 1978: 33).
- 5.7.10 The circular also stipulated measures to reinforce the relatively small number of surface shelters built with brick arched roofs, and a series of recommendations to counterpart the problems caused by damp. The latter included covering roofs with layers of bituminous felt and inserting drip courses, as well as raising thresholds to prevent water entry over the floor of shelters and constructing canopies between baffle walls to prevent rain from driving in through unprotected entrances.
- 5.7.11 Testing of the modified design of brick surface shelter took place at Stewartby, Bedfordshire in February 1941 (Baker 1978: 34-37). Six shelters of different design were arranged in a circle around a bomb, the detonation of which was intended to simulate a near miss. The shelters under test included an unreinforced example built to the February 1940 pattern, several experimental brick and reinforced concrete variants and the 290/1940 model. The latter performed well in the test, the only damage being severe cracking to the brickwork. The design was described as "an immediate and immense success in exactly the form in which left the designer's drawing board", albeit by the designer himself. **Historical Plate 18** shows a similar bomb test of various surface shelter designs conducted at Richmond Park, London in June 1941.
- 5.7.12 A technical note published in March 1941 to accompany and clarify Circular 290/1940 noted that surface shelters had been built in the preceding two months without steel reinforcement within their brickwork, owing to difficulties with obtaining the necessary $\frac{1}{4}$ in steel rods (TNA HO 191/128 MoHS Technical Note on Shelter Improvement 1st March 1941). This was clearly unsatisfactory, prompting the Research and Experiments Department to stipulate that "on no account should any more shelters be approved for construction without the prescribed reinforcement in the walls". Instead, it was suggested that rods of larger diameters could be used to reinforce the brickwork. If the available rods were too large to fit in the brickwork joints, the technical note suggested that a concrete core wall of 5 - 6 in thickness should be formed between two skin walls of brick, within which the reinforcing rods should be positioned at intervals of no more than 18 in (**Figure 18**).

- 5.7.13 The note also presented an important modification to the 290/1940 surface shelter, which involved tying the vertical reinforcing rods into the floor of new build shelters. The principle of ensuring that the structure was able to move horizontally when subjected to a blast was carried over to the new design by basing the floor on a layer of building paper, over a layer of rubble, clinker or ash foundation, screeded level (**Figure 19**).
- 5.7.14 As the German bombing campaign continued into the Spring of 1941, the Ministry of Health reviewed the effects of prolonged shelter occupation upon the civilian population. A particular concern was the scale of sanitary provision necessary for people confined to shelters for many hours. Although the Ministry of Home Security had previously advised against installing sanitary ware owing to considerations of space, by early 1941 it was accepted that some level of sanitary provision was necessary in all but the smallest domestic shelters. A Ministry of Health Circular of March 1941 stipulated that ad hoc provision of conveniences was necessary in shelters with a capacity of 50 or more persons if they were likely to be used for sleeping (TNA HO 191/128 MoH Circular PRO12/41).
- 5.7.15 Although waterborne sanitary systems were considered desirable on hygienic grounds, it was realised that these were impractical for small surface shelters and that water mains and sewers were vulnerable to the effects of bombing. Such systems were permissible if a suitable water supply and convenient drainage were available, and they could be built at reasonable cost; in practice they were only viable for the largest communal shelters. Dry sanitation systems (pails, either water filled or dry) were recommended for shelters where waterborne systems were impracticable, i.e. most shelters other than the very largest. Closets (pail or WC) were to be provided on a scale of two per 50 people, with separate compartments provided for each sex. Closets were to be situated as near as possible to the entrances of shelters, either outside or inside the building. Where closets were installed within shelters, they were to be partitioned from the shelter's occupants. Pail closets could be partitioned by screens constructed of non-absorbent materials, although doors were to be fitted to women's closets "in all cases". Ideally, high level ventilation would be provided for all types of closet. Lighting for closets was to be in accordance with British Standard specification ARP 26, which specified low wattage lighting. Refuse was to be collected and pails emptied on a daily basis by local authority personnel. Electric heaters compliant with BS/ARP.54 could be fitted, subject to the approval of the MoHS Regional Technical Officer (MoH Circular P.R.O. 27/1941).
- 5.7.16 The question of hurriedly erected surface shelters of sub-standard construction continued to cause concern throughout the Spring of 1941. A Home Security Circular issued in May 1941 informed local authority engineers and technical officers of the most common indicators of poor-quality workmanship, following a thorough inspection of the surface shelters in an unnamed town (TNA HO 191/128 HSR 114/1941). The most serious defects in workmanship included:
- Use of mortar not in accordance with the specification (e.g. deficiency of cement in mortar, deficiency of lime in gauged- lime mortars, use of unsuitable and inferior sand)
 - Joints not filled with mortar
 - Erection in dry weather without adequate wetting of the bricks
 - Use of bricks inferior to the specification
- 5.7.17 Local authorities were instructed to inspect their shelters for evidence of defective workmanship and to identify contractors guilty of breach of contract and take legal action if necessary. Egregiously poorly built shelters were to be closed to the public, pending demolition or strengthening. Although many local authorities inspected their shelters and closed faulty examples, a proposed comprehensive nationwide shelter inspection programme failed to materialise (TNA HO 186/2244). **Historical Plate 19** shows the inadequately bonded brickwork in a Lincoln surface shelter, with the vertical reinforcing bars also visible (Wade 2011: 48).
- 5.7.18 Likewise, a proposed poster campaign intended to overcome public reticence about using surface shelters was shelved owing to concerns about the number of unsatisfactory

shelters still in existence. The publicity campaign was further delayed by the German invasion of the Soviet Union in June 1941, which greatly reduced the frequency and intensity of air raids against Britain. Several attempts were made to revive the campaign when the aerial bombing campaign resumed between 1942 and 1944, and 144,000 posters were printed in anticipation of their distribution. The posters continued to gather dust until the end of the War in Europe, following which they were pulped by His Majesty's Stationery Office (HMSO).

- 5.7.19 Various methods of strengthening the brickwork of defective and unreinforced surface shelters were tested in 1941 and it was decided that the most effective solution was to add an extra brick skin to the exterior of the structure (TNA HO 191/28 MoHS Circular CE/GEN/50). Circular CE/GEN/51 outlined several options for bonding the new brickwork into the old, while Home Security Circular 75/1942 consolidated the results of the work of the Research and Experiments Department into surface shelter design, presenting four preferred strengthening techniques (TNA HO 205/166). **Figure 20** shows one of these, which entailed keying a 4½ in skin of brickwork into the existing, with a 1 in thick layer of cement mortar between the old and new bricks containing the vertical reinforcing rods.
- 5.7.20 It appears that the labour required to build new surface shelters was withdrawn during the Summer of 1942 (TNA HO 191/228 MoH Circular PRO.91). At the same time, the programme to heat existing communal shelters was terminated and the issue of new CURA stoves for shelters was halted.
- 5.7.21 The programme to strengthen existing pre-290/40 model surface shelters in accordance with Circular 75/1942 was still underway in May 1944, shortly before the German V-weapon offensive began (TNA HO 186/2244). Surface shelters continued to be used as a refuge during this period, particularly in those areas that were in the range of the V1s and V2s launched against Britain from the Continent. From December 1944, the Luftwaffe attacked Britain using air launched V1s from bombers flying across the North Sea. The last V-weapon raids were launched in early April 1945.

5.8 Spalding during the Second World War

- 5.8.1 During the Second World War, responsibility for Air Raid Precautions measures within the Spalding area lay with Spalding Urban District Council. Although Lincolnshire Archives holds Council records dating to the period, these had yet to be catalogued and were not available to the public at the time of writing.
- 5.8.2 Lincolnshire Archives also holds records produced by Lincolnshire Constabulary, which contain information about the impact of the conflict upon the town. Although it lay some distance away from the industrial cities and ports that were the main targets of enemy bombing, Lincolnshire contained a significant quantity of military assets during the Second World War, including Chain Home radar stations, Army camps and above all airfields. In fact, the county boasted more military airfields (49) than any other by the end of the War (<http://www.raf-lincolnshire.info/history/worldwar2.htm#:~:text=In%20the%20fighter%20war%2C%20particularly%20from%201940%20to,Sqn%20sinking%204%20U-boats%20on%204%20May%201945.>).
- 5.8.3 Spalding and its environs were attacked by enemy aircraft on at least four occasions during the Second World War. These include raids on 25th February 1941, when a soldier was seriously injured by enemy action at Old Leake and a raid on 11th April the same year, when two civilians were seriously injured (LA CONSTAB 2/3/2/1/7). The most destructive raid took place during the early hours of 12th May 1941, when two civilians were killed and a further three died of their injuries later, while five were slightly injured. During the raid, large quantities of incendiary bombs fell on the town. Although many were extinguished, others landed on the upper floors of buildings, starting fires, resulting in ten business premises being gutted. These included Penington's, Woolworth's and Boots. A further nineteen were seriously damaged and ten slightly (LA CONSTAB 2/3/2/9).

- 5.8.4 Another raid occurred on 2nd August 1942, when five people were slightly injured. The raid was part of a larger attack launched by enemy aircraft against Lincoln, a target of the 'Baedeker' raids against cultural and historical targets. In total, eight houses in Spalding Urban District were destroyed by enemy air raids during the War, four were damaged beyond repair; 68 were damaged but repairable and a further 676 were slightly damaged (LA CONSTAB 2/3/2/9).
- 5.8.5 The surface air raid shelter was built on a hitherto undeveloped triangular plot of land adjacent to no. 19 Station Street to the west and the former Regent Cinema to the southeast (**Figure 9**). An Ordnance Survey map of 1968 is the earliest to show the shelter (**Figure 10**). A sketch map of Spalding detailing the names of businesses c.1970 identifies the shelter as a 'STO', presumably a store used by an unspecified business or individual (**Figure 11**).

6 BUILDING DESCRIPTIONS

6.1 Introduction

- 6.1.1 The locations of the structures described below are shown in **Figures 2** and **21** and the locations and directions of the photographic plates of all buildings and structures are shown in **Figures 23** to **26**.

6.2 Structures and Remains of Structures on the Victoria Street Site

- 6.2.1 The remains of a north-south red brick wall was visible at ground surface level as a course of bricks one brick length wide (**Figure 21**; **Plates 2** to **4**) on the Victoria Street site (**Plate 1**). The wall aligns with the prison wall shown on the 1889 map (**Figure 7**). If this is the prison wall, its west side would have been the external side facing onto an airing court (see Section 5.3) and its east side would have been internal as shown on **Figure 7**.
- 6.2.2 The remains of a vaulted structure, potentially a water cistern, were observed in the north-west corner of the Victoria Street site (**Figure 21**; **Plates 5** to **9**). The structure had been infilled with soil deposits and rubbish had accumulated around its current entrance, although it was no longer high enough to enter due to the height of the infill. The vaulted structure was constructed of a course of bricks, one brick length thick that had been skimmed internally with cement. The vaulted structure appeared to continue beyond the site boundary under Victoria Road. A drainpipe was visible perpendicular and just below the centre of the arch of the structure. Another arch was visible at the east end of the remains.
- 6.2.3 The manhole to another vaulted structure lay close to the library wall (**Figure 21**; **Plates 10**, **11**, **13** to **20**). The internal wall of the roughly oval manhole (0.4m x 0.58m) appeared to be constructed of brick that was lined with cement (**Plates 17** to **20**). The manhole was about 0.23m deep before it opened out into the water cistern.
- 6.2.4 The remains of an east-west red brick wall visible at ground surface level as a course of bricks two brick lengths wide was visible to the north of the water cistern and may represent the remains of its north wall (**Plates 5**, **10** to **16**).

Interior of the water cistern

- 6.2.5 The internal sides of the vaulted ceiling and that of the north, south and west walls of the vaulted structure were covered with cement render (**Plates 21** to **24**, **31** and **32**). Two drains were visible at the base of the south wall of the water cistern (**Plates 21** to **24**).
- 6.2.6 The east wall was constructed of smooth red machine-cut brick in English bond (**Plates 25** to **30**). The wall was clearly an inserted wall with straight joints where it met the earlier vaulted structure. The base of the wall has been covered with concrete with a corrugated surface, presumably formed by pressing sheets of corrugated iron into its surface that have since been removed. The corrugations are vertical on the north side of the wall and horizontal on the south side. This inserted wall lies on the same alignment as the east wall of a trapezoidal building that fronts Victoria Street on the 1904 map (**Figure 8**). It is possible that the wall was inserted in the cistern to give support to this overlying wall. The trapezoidal building was presumably built in the 1890s following the demolition of the prison and at the same time as the construction of the drill hall.
- 6.2.7 At the time of recording the water level was approximately 0.6m deep. The base of the vaulted structure was covered with building rubble (**Plates 33** and **34**).

6.3 Public Surface Air Raid Shelter

Exterior:

- 6.3.1 The air raid shelter is a rectangular structure, 13.30 m (42.65 ft) in length by 5.77 m (18.93 ft) in width, which stands next to the east elevation of no. 19 Station Street, from which it is separated by a narrow passage (**Figures 2** and **21**; **Plates 35** to **74**).

- 6.3.2 The shelter is constructed of brick and concrete. It comprises a concrete slab base, up to 17 cm (6.69 in) thick, upon which stand Fletton brick walls laid in English garden wall bond, 29 courses in all, with a course of headers at the foot of the walls (**Plates 35 to 47**). The walls are surmounted by a concrete slab roof, 12 cm (4.72 in) thick (**Plates 37, 38, 41, 44 to 48**).
- 6.3.3 The east wall is the principal elevation of the shelter and contained three bricked-in openings prior to the time of recording (**Plates 35 and 36**). There were two former entrances, one at the north- and one at the south end of the elevation, each surmounted by a concrete lintel (**Plates 38 to 40**). These originally provided access to the internal compartments of the shelter.
- 6.3.4 The southern entrance had been opened for the purposes of recording and a temporary timber door fitted (**Plate 39**). The north entrance had been blocked with Fletton bricks of the same pattern as that used in the brickwork of the shelter (**Plate 40**). In the northern portion of the elevation a bricked-in former window opening was observed (**Plate 41**). The latter aperture appeared to cut the brickwork of the wall, suggesting that it was a later feature, presumably created post-war. Both the southern entrance (prior to reopening) and the window opening were infilled with modern red bricks, laid in stretcher bond (**Plate 36**).
- 6.3.5 A smaller opening was present in the east elevation of the shelter, a short distance to the north of the southern entrance (**Plate 42**). This appears to have been crudely cut or punched into the brickwork, although a simple cement sill had been fashioned on its lower edge, to reduce rainwater ingress into the interior of the structure. This appears to have been a post-war modification. Also noted in the east elevation of the shelter were three rows of metal brackets, inserted into the mortar of the wall (**Plates 40, 41 and 43**). These extended from a point approximately halfway along the elevation to the northern corner. Each bracket had an eye at the top, which would have allowed string or wire to be threaded through (**Plate 43**). It is conjectured that these may have supported planting along the northeast end of the elevation, reducing the structure's visual impact from the street.
- 6.3.6 The north elevation of the shelter was constructed in the same manner and materials as the east (**Plate 44**). The concrete base of the shelter was visible to its full thickness above the adjacent pavement. The wall appears to have been whitewashed at some point, presumably during the post-war period. Four rows of simple timber slats had been embedded into the mortar, forming anchoring points for nails or screws (**Plate 45**). It is possible that they may have supported an advertising hoarding. A single metal bracket had been inserted into the mortar above the top row of slats, which is also likely to have been an anchoring point of some description (**Plate 45**).
- 6.3.7 Access to the western elevation of the shelter from Station Street was obstructed by a sheet of corrugated metal blocking the narrow passage between the shelter and no. 19 (**Plate 44**). **Plate 46** reveals that the space between the shelter and the adjacent property was extremely narrow, although historical maps do indicate that the rear return of no. 19 had been rebuilt and widened by the late 1960s (**Figure 10**). Owing to the narrowness of the confined space between the two structures, it was not possible to obtain a clear view of the western elevation of the shelter. There was no obvious sign of an emergency exit, although the north end of the elevation was not visible.
- 6.3.8 The south elevation of the shelter was structurally identical to the north elevation (**Plate 47**). At the time of recording, it was located in the yard at the rear of no. 19 Station Street and was not publicly accessible.
- 6.3.9 The roof of the shelter comprises a thick concrete slab (**Plate 48**). Testing with a magnet suggested that it contained ferrous reinforcing bars. Closer investigation of the interior revealed exposed metal reinforcing bars (**Plate 63**). Lichen and debris on the surface of the roof obstructed clear views of construction details, although there appear to be some faint impressions of timber shuttering. Timber shuttering on the concrete internal ceiling was clearly visible (**Plates 54, 62 to 69**).
- 6.3.10 The roof oversailed the walls of the shelter, in the manner prescribed by Home Security Circular No.290/1940 (TNA HO 208/3). The overhang is visible in **Plate 46**, which also

shows that the shelter had a drip course corresponding with the example specified in the Circular as a means of preventing water infiltration from the concrete roof into the brickwork of the walls (**Figure 51**).

Interior:

- 6.3.11 The interior space of the shelter was divided into six interlinked compartments (**Figure 26**). The northern and southern halves of the shelter mirrored one another, each containing an entrance lobby adjacent to the east elevation of the structure, with outer and inner entrances, leading into two parallel narrow corridor-like compartments, subdivided by a longitudinal north-south aligned partition wall. Adjacent to each entrance lobby was a small cubicle, accessible from both compartments in each half of the shelter. Two substantial brick piers attached to the east and west walls provided lateral strengthening and support for the roof at the centre of the structure (**Figure 26; Plates 54 and 55**). This layout was slightly more elaborate than the simple planform shown in early ARP/Home Security Circulars (**Figures 13 to 16**), although it (just about) maintained the principle of providing separate compartments for shelterers.
- 6.3.12 Access to the interior of the shelter at its southern end was gained via the outer south entrance in the east elevation (**Plate 49**). Attached to the inside of the concrete lintel over the outer doorway was a wooden bracket and the probable impression of a horizontal timber member (**Plate 50**). The bracket was flanked by holes in the lintel. Below the lintel there were holes in the mortar between brick courses on either side of the entrance, one of which contained a small piece of wood containing a hole for a screw, suggesting that these were attachment points for a simple wooden doorframe (**Plate 51**).
- 6.3.13 At the far end of the lobby was the inner entrance to the main shelter chamber, which was oriented at 90° to the lobby and outer entrance, providing a degree of protection for occupants against blast effects (**Plate 52**). The inner entrance was surmounted by a substantial concrete lintel, to which was attached a horizontal timber batten spanning its full width, with a vertical batten attached to the brickwork on the left side of the doorway below (**Plate 53**). A hole in the brickwork of the wall to the right of the doorway indicates where a corresponding vertical member was attached on the other side of the inner entrance (**Plate 53**). Fibres (hessian?) protruding from beneath the horizontal member suggest that a gas curtain was originally attached to this simple timber frame.
- 6.3.14 **Plates 54 and 55** show the interior layout of the main shelter compartments, as seen from the south inner entrance. A longitudinal partition wall, one half-brick in thickness and constructed of bricks laid in stretcher bond separated the east and west shelter compartments. This insubstantial wall had been partially demolished at its southern end, presumably to facilitate movement/storage of materials during the post-war period (**Plate 56**). The partial demolition revealed that the partition wall was constructed of London Brick Company (LBC) 'PHORPRES' Fletton bricks, a brand name that was in circulation between 1901 and 1974 (**Plate 57**; <http://solwaypast.co.uk/index.php/14-brick>). The central partition was not continuous at either its north or south ends and there was a full height opening in the centre, which accommodated a ceiling-mounted light fitting (**Plates 66 to 68**).
- 6.3.15 Adjacent to the south entrance lobby was the south cubicle, the entrance to which was surmounted by a concrete lintel (**Plate 58**). Attached to the lintel over the doorway was a horizontal timber batten, similar to that seen over the outer face of the inner (south) entrance. While the latter was part of a frame that probably supported a gas curtain, there was no obvious evidence that the batten over the cubicle entrance had any associated timber members or attachment points in the nearby brickwork. This suggests that the batten there may have supported a lighter piece of material. Given that the cubicle probably contained simple sanitary facilities (most likely a pail), it is likely that the batten supported a modesty curtain, designed to conceal the occupant of the cubicle.
- 6.3.16 The north entrance lobby and north cubicle shared the same configuration and were built to the same design as their counterparts at the south end of the shelter (**Plates 55 and 59**). Inspection of the outer (north) face of the inner (north) entrance revealed a timber frame

attached to the concrete lintel and brick doorway, like that seen in the corresponding location in the south entrance lobby. The frame was in better condition than its counterpart and included both its horizontal and vertical members (**Plate 60**). Attached to the frame via several small nails were thick fibres, most likely hessian (**Plate 61**). These probably constitute the remains of the gas curtain at the northern entrance to the shelter.

- 6.3.17 **Plates 62, 63, 64 to 67** illustrate the method that was used to construct the concrete roof slab. The roof was formed of cement poured over a framework of metal reinforcing bars into timber formwork, the shuttering formed by short lengths of timber. **Plate 63** shows that bars were laid longitudinally (north-south) at right angles to the shuttering. No lateral (east-west) bars were seen during the recording exercise.
- 6.3.18 Lighting: the mains electrical supply to the shelter was originally carried via below ground cables that passed through the floor slab at the north end of the building (**Figure 26**). These emerged in the east shelter compartment, at the base of the brick wall flanking the inner (north) entrance (**Plate 64**). Originally, the cables would have led to a fuse box mounted on a high-level wooden board attached to the brickwork adjacent to the lintel of the inner north entrance (**Plate 65**). The fuse box had been removed, although several broken Bakelite components lay on the floor below (**Plate 64**). The board was in poor condition at the time of recording. A junction box was still attached to the board, the wires connecting it to the long-disappeared fuse box having been severed.
- 6.3.19 The light fittings were characteristic of the 1930s and 1940s. A metal conduit carried the wiring to three light fittings attached to the ceiling, which illuminated the interior of the shelter. The lighting layout is illustrated in **Figure 26**. One fitting was attached to the ceiling of the east shelter compartment, close to the inner (north) entrance (**Plate 65**). The second fitting was mounted centrally in the gap in the central partition wall, providing light for both east and west shelter compartments (**Plates 66 to 68**). It appears that the bulb in this fitting was attached sideways, diffusing light across the two compartments. The conduit terminated at the third light fitting, which was attached to the ceiling near the southern end of the west shelter compartment (**Plate 69**). Both this and the northernmost light fitting were built to a slightly different design to the central light, the bulbs being attached vertically. This would have directed their light downwards, illuminating the area inside the north entrance lobby and outside the south cubicle, respectively.
- 6.3.20 Seating: abundant evidence of the remains of supports and attachment points for bench seating was found in both east and west shelter compartments (**Figure 26**). In the west compartment, this comprised simple brick piers attached to the floor slab along the central partition wall and the inner face of the west elevation (**Plate 70; Figure 26**). The piers survived up to heights of three brick in places; others had been knocked over, the displaced bricks still lying on the floor (**Plate 70**). Timber blocks had been inserted into the fifth course of bricks from the floor as anchoring points, presumably for wooden benches (**Plates 70 and 71**). In the east shelter compartment, it appeared that the brick piers were attached to the floor slab along the inner face of the east elevation only. Identical wooden anchor points to those seen in the west compartment had been inserted into the inner face of this wall to support a probable bench for users of the shelter (**Plate 72**).
- 6.3.21 Miscellaneous: other features of the shelter of uncertain function were also recorded. These comprised two parallel timber battens attached to the upper level of the brick wall pier in the west shelter compartment (**Plates 66 and 73**). These may have served as an attachment point for a notice, perhaps outlining shelter regulations etc.
- 6.3.22 **Plate 74** shows the inner face of the brick infill in the inserted opening in the east elevation of the shelter. The exposed brickwork of the aperture had been skimmed with cement to provide a degree of weather proofing to reduce water infiltration of the outer wall of the shelter. Although the opening evidently dated to the post-war period, its function remains unknown.
- 6.3.23 Condition: The shelter appeared to be in good structural condition and most of its interior fittings had been well preserved.

7 DISCUSSION AND CONCLUSIONS

Introduction

- 7.1 This report presents the results of built heritage recording of a non-designated Second World War public air raid shelter on land at Station Street and a number of structures including a below-ground cistern on land at Victoria Street in Spalding, Lincolnshire. The recording of the structures was requested by the Curator to ensure that a record was made prior to demolition or in the case of the below-ground cistern infilling with concrete. The aim was to provide a better understanding of the structures, to compile a lasting record, to analyse the results and to disseminate these results.
- 7.2 The building recording was undertaken to Historic England Level 2 and included documentary research; a laser scan survey of the air raid shelter and the below-ground cistern to provide a 3D model, plans and a section of each; a photographic survey, and a descriptive and interpretive written description of the structures.

Structures and Remains of Structures on the Victoria Street Site

- 7.3 Spalding prison at the south-west end of the Sheep Market was completed in 1826 and subsequently enlarged in 1848 and again in 1851-52. The prison closed in 1884. The remains of a north-south red brick wall recorded on the Victoria Street site aligns with the prison wall shown on the 1889 map (**Figure 7**). If this is the prison wall, its west side would have been the external side facing onto an airing court and its east side would have been internal as shown on **Figure 7**.
- 7.3.1 The remains of a vaulted structure, potentially a water cistern, were observed in the north-west corner of the Victoria Street site. Its vault was constructed of a course of bricks, one brick length thick that had been skimmed internally with cement. The vaulted structure appeared to continue beyond the site boundary under Victoria Road. Two drainpipes were associated with the structure. The structure would have lain within one of the prison airing courts shown on the 1889 map (**Figure 7**).
- 7.3.2 A below ground vaulted structure or water cistern recorded on the Victoria Street site was similar to one described in the specification for Spalding Prison that instructed the builders to construct a "Tank... wholly in Roman Cement, in one of the Prisoners' Airing Courts where shewn on the Drawings, 12 feet long, 6 feet wide, & four feet six inches deep, in the clear, the sides one Brick and the bottom Brick on edge". Although the water cistern recorded during this project is larger at 16ft 2in long, 7ft 7in wide and 6ft 3in high, it is conceivable that it was a similar tank that was built in one of the airing courts at the prison (**Figure 7**).
- 7.3.3 The remains of an east-west red brick wall visible at ground surface level as a course of bricks two brick lengths wide was visible to the north of the water cistern and represents the remains of its north wall.
- 7.3.4 The internal sides of the vaulted ceiling and that of the north, south and west walls of the vaulted structure were covered with cement render. Two drains were visible at the base of the south wall of the water cistern. The east wall of the water cistern was constructed of smooth red machine-cut brick in English bond. The wall was clearly an inserted wall with straight joints where it met the earlier vaulted structure. The base of the wall has been covered with concrete with a corrugated surface, presumably formed by pressing sheets of corrugated iron into its surface that have since been removed. This inserted wall lies on the same alignment as the east wall of a trapezoidal building that fronts Victoria Street on the 1904 map (**Figure 8**). It is possible that the wall was inserted in the cistern to give support to this overlying wall. The trapezoidal building was presumably built in the 1890s following the demolition of the prison and at the same time as the construction of the drill hall. At the time of recording the water level in the cistern was approximately 0.6m deep. The base of the vaulted structure was covered with building rubble.

Air raid shelter

- 7.4 At the time of the Munich Crisis in September 1938, the British Government envisaged that trench and basement shelters would comprise the main forms of public and private air raid protection in the event of war with Germany. In early 1939, the Home Office realised that it was also necessary to provide shelters for residents of properties which lacked basements or suitable outdoor space to erect the domestic Anderson shelter. Designs were published of a range of small domestic surface shelters constructed of brick and concrete sufficient to accommodate between one and four households (**Historical Plates 13 and 14**).
- 7.5 Shortly before the outbreak of war in September 1939, the Government encouraged local authorities to build much larger versions of these shelters – suitable for up to 50 people – as a means of rapidly increasing public shelter provision. Formal specifications for these communal surface shelters were published early the following year (**Figures 13 to 16**). Shelters built to these early standards were spartan structures with unreinforced 13½ in thick brick walls sitting atop a 3 in thick concrete slab and surmounted by a 5 to 5½ in thick reinforced concrete roof. Internally, they were to be subdivided by 9½ in thick walls into four separate compartments. Because they were intended to be built either near people's homes, or to serve as refuges for those caught in the open during air raids, local authorities were discouraged from providing services and facilities such as lighting, sanitation and even seating in communal surface shelters. As 1940 progressed and shortages of materials essential for the war effort began to bite, the standards for public shelter construction were relaxed to the extent that the use of steel reinforcing bars in shelter roofs was officially discouraged, a policy that was to prove somewhat short-sighted.
- 7.6 The shortcomings of communal surface shelters were revealed to lethal effect after the German aerial campaign against Britain began in earnest in September 1940. While they were never designed to be bomb-proof, they proved vulnerable to near misses by even relatively small bombs. Numerous incidents were recorded of brick shelter walls being shaken down by the effects of blast or earth shock, causing the concrete roof to fall in on the shelters' unfortunate occupants. In response, the Research and Experiments Department of the Ministry of Home Security set about devising measures to address the shortcomings of existing shelter design. The solution lay in creating a ductile portal structure, capable of absorbing the energy transmitted by a nearby blast while retaining its form. This was achieved by ensuring that the brickwork of new shelters was reinforced by steel bars, which were carried continuously into the concrete slab roof (**Figure 17; Historical Plate 17**). Revised specifications for surface shelters were hurriedly issued in December 1940 and local authorities were instructed to adhere to them when building new shelters. Government specifications for new shelter building were further refined in 1941 and 1942 following extensive research and development (**Figures 19 and 20; Historical Plate 18**).
- 7.7 The brick and concrete surface air raid in Station Street Spalding was built to a different specification than the designs issued by the Ministry of Home Security in January 1940 (Circular 38/1940). Although the concrete roof slab was slightly thinner than the specified thickness, it was at least reinforced, unlike many erected between June 1940 and January 1941. Interestingly, the partition separating the east and west shelter compartments was much thinner than the 9 in thickness prescribed for internal walls, which were designed to ensure that the internal space of the shelter was divided into four self-contained units.
- 7.8 There was no evidence of external traverses or blast walls to protect the entrances, although these may have been demolished. Occupants were, however, protected from the effects of blast by the 90° degree angle between the inner and outer entrances at either end. Further protective measures included the gas curtains fitted outside the inner entrances to the shelter, compliant with Circular 194/1940. Evidence of a simple timber doorframe inside the south (outer) entrance indicates that the shelter was fitted with doors conforming with the standard set out in Circular 38/1940.
- 7.9 The facilities contained within the shelter were of a higher standard than the minimalist brick and concrete boxes prescribed by Home Security Circulars issued in early 1940. The

provision of two closets (equipped in this case with pails, rather than WCs) for the use of occupants conformed with Ministry of Health Circular PRO12/41, issued in March 1941. Likewise, the electrical lighting installation was evidently installed in anticipation that people might be confined to the shelters for many hours. Both lighting and seating were only officially permissible after August 1940.

- 7.10 The quality of construction and the relative refinement of the facilities available inside the shelter suggest that it may have been built slightly later than those that hurriedly erected in 1940 in accordance with Circular 38/1940; or alternatively that Spalding District Council expected shelters to be built to a slightly higher specification than those built to standards issued by the Ministry of Home Security in early 1940. It seems likely that it was designed with Ministry of Health Circular PRO12/41 and Ministry of Home Security Circular 290/1940 in mind, although its compliance with the latter standard can only be confirmed by an Archaeological Watching Brief during its demolition.
- 7.11 The uses to which the shelter was put during the post-war period remain incompletely understood. A map purporting to show the area c.1970 indicates that it was used as a store, perhaps by a neighbouring business (**Figure 11**), which appears credible. The insertion of a window in the east elevation and the evidence of a possible trellis on that wall and an advertising board/hoard on the north elevation remain somewhat enigmatic. It is even conceivable that it was used by the bakery at no. 19 Station Street as an additional retail outlet at some point.
- 7.12 Historic building recording of the air raid shelter confirmed that it was in good condition and contained several surviving features of historical and technical interest, such as the remains of the gas curtains and the electrical lighting installation. Once a common feature in the streetscapes of British towns and cities, surviving public brick and concrete surface shelters are increasingly rare. Consequently, it is a building of both local and national historical interest. The shelter is therefore considered a well-preserved example of a non-designated heritage asset of low-to-medium significance.

8 BIBLIOGRAPHY

Primary and unpublished sources

Lincolnshire Archives (LA)

CONSTAB/2/3/2 Title: World War II Date: 1940-1945

CONSTAB/2/3/2/3 Title: Reports of air attacks and unexploded bombs. Description: Boston and Spalding divisions. Date: 1940-1945

CONSTAB/2/3/2/1/7 Title: List of casualties due to enemy action: Spalding Division Date: 1941-1942

HQS/B/5/13 Title: Several bundles, inc. Contracts for building Spalding House of Correction 1823. Printed sealed copies rules re governor and medical offices, no date. Bundle, draft and copy rules, Spalding House of Correction 1837-9. Date: 1619 – 1850

HQS/B/5/10 Title: Bundles as follows: Returns by visiting justices, gaolers, to Secretary of State re prisoners and expenses of gaols, Spalding, Boston, Skirbeck, 1835-42, 4 bundles. Various special reports and memoranda Spalding gaol 1842. Date: 1835 – 1850

The National Archives (TNA)

HO 45/17610 CIVIL DEFENCE: Air Raid Precautions Act, 1937: interpretation. 1938

HO 186/2244 SHELTERS: Campaign to popularise surface shelters, 1941-1945

HO 191/128 Copies of circulars on surface shelters, 1941-1942

HO 197/6 New designs for surface shelters. 1941-1945

HO 205/153 "Directions for the Erection of Domestic Surface Shelters" 1939

HO 205/165 Surface, trench and underground shelters: modifications in design. 1940

HO 205/166 Surface shelters: strengthening. 1941

HO 207/489 REGION No 5 (LONDON): Air raid shelters: construction and design. 1940-1942

HO 207/490 REGION No 5 (LONDON): Air raid shelters: strengthening and improvement. 1940-1942

HO 208/1 Air Raid Precautions circulars, numbers 2/1939-159/1939. 1939

HO 208/2 Air Raid Precautions circulars, numbers 160/1939-351/1939. 1939

HO 208/3 Home Security circulars, numbers HSC 1/1940-311/1940. 1940

Secondary and published sources

Baker, Lord of Windrush. 1978. *Enterprise versus Bureaucracy: the Development of Structural Air-Raid Precautions during the 2nd World War*. Oxford: Pergamon

Clark, B. 1988. *Mid-Nineteenth Century Spalding: A Portrait* Arcturus Press

Connen, J. 2023. *The Bombing of London 1940-41. The Blitz and its impact on the capital*. Market Harborough: Matador

Doyle, P. 2010. *ARP and Civil Defence in the Second World War*. Oxford: Shire Publications Limited

Edgerton, D. 2011. *Britain's War Machine. Weapons, Resources and Experts in the Second World War*. London: Allen Lane

Gardiner, J. 2004. *Wartime Britain 1939 – 1945*. London: Headline Book Publishing

Gooch, E.H. 1940. *A History of Spalding*. Spalding: Spalding Free Press

Gould, M. & Thompson, G. 2011. *Historic Building Recording of a World War II Air Raid Shelter at the Former Thames Water Site, Waverley Road, Plumstead, London Borough of Greenwich SE18 7SU*. Unpublished report: Pre-Construct Archaeology Limited

Leveritt, N & Elsdon, M.J. *Aspects of Spalding, 1790-1930*. Spalding: Chameleon International

Lewis, S. (Ed) 1848. *A Topographical Dictionary of England*. Originally published by S Lewis, London. British History Online <http://www.british-history.ac.uk/topographical-dict/england> [accessed 21 August 2023].

Matthews, C. 2023 *Written Scheme of Investigation for Historic Building Recording of a Public Surface Air Raid Shelter on Land adjacent to 19 Station Street, Spalding, Lincolnshire, PE11 1EB* Pre-Construct Archaeology Unpublished WSI

Meisel, J.S. 1994. 'Air Raid Shelter Policy and its Critics in Britain before the Second World War', in *Twentieth Century British History, Volume 5*, No. 3, pp.300-319

Page, W. (Ed) 1906. *A History of the County of Lincoln: Volume 2*. Originally published by Victoria County History, London. British History Online <http://www.british-history.ac.uk/vch/lincs/vol2> [accessed 21 August 2023].

Spalding Past & Present. Spalding: The Spalding Free Press Co. Ltd.

Start, D. 1993. *Lincolnshire from the Air*. Sleaford: Heritage Lincolnshire

Taylor, G. 2016. *Former Sessions House, Sheep Market, Spalding, Lincolnshire. Historic Buildings Appraisal*. Unpublished report: Archaeological Project Services

The Spalding Monthly Magazine, 1867. Spalding: A Porter

Wade, S. 2011. *Air Raid Shelters of the Second World War*. Barnsley: Pen & Sword

Online Sources

Ancestry.com

British History Online. URL: <https://www.british-history.ac.uk/>

British Newspaper Archive (BNA). URL: <https://www.britishnewspaperarchive.co.uk/>

Dictionary of Scottish Architects 1660-1980. URL: <https://www.scottisharchitects.org.uk/>

Heritage South Holland. URL: <https://www.heritagesouthholland.co.uk/heritage-south-holland/>

Historical Directories of England & Wales. URL: <https://specialcollections.le.ac.uk/digital/collection/p16445coll4>

Key to English Place Names. URL: <http://kepn.nottingham.ac.uk/>

RAF Lincolnshire.info. URL: <http://www.raf-lincolnshire.info/index.htm>

The Drill Hall Project. URL: <https://drillhalls.org.uk/index.htm>

9 ACKNOWLEDGEMENTS

- 9.1 Pre-Construct Archaeology Limited would like to thank Darren Woods of Birdwood Construction Limited Group for commissioning this report. Thanks are given to the staff of the Lincolnshire Archives, The National Archives, the Spalding Gentlemen's Society Library and Museum and Spalding Library for their assistance during the research.
- 9.2 Charlotte Matthews managed the project for Pre-Construct Archaeology (PCA) Limited. The historic building recording was undertaken by Rebecca Nichols, assisted by Rob Otter. Marcus Abbott carried out the laser scan survey. This report was researched and written by Guy Thompson and Charlotte Matthews (Structures on Victoria Street) and the figures were prepared by Hayley Baxter.

10 APPENDIX 1: OASIS FORM

OASIS Summary for preconst1-518662

OASIS ID (UID)	preconst1-518662
Project Name	Descriptive Buildings Record (Level 2) at Land at Station Street and Victoria Street, Spalding, Lincolnshire PE 11 1EB
Sitename	Land at Station Street and Victoria Street, Spalding, Lincolnshire PE 11 1EB
Sitecode	LASS23
Project Identifier(s)	
Activity type	Descriptive Buildings Record (Level 2)
Planning Id	H16-0707-22
Reason For Investigation	Planning: Post determination
Organisation Responsible for work	Pre-Construct Archaeology Ltd
Project Dates	04-Aug-2023 - 11-Aug-2023
Location	Land at Station Street and Victoria Street, Spalding, Lincolnshire PE 11 1EB NGR : TF 24555 22674 LL : 52.78727533149629, -0.154501853850428 12 Fig : 524555,322674
Administrative Areas	Country : England County : Lincolnshire District : South Holland Parish : South Holland, unparished area
Project Methodology	A programme of targeted primary documentary research was undertaken at The National Archives (TNA), Kew and at the Lincolnshire Archives. Secondary and published material of relevance were consulted at the Spalding Gentlemen's Society Library, Spalding Library and online. The recording of the air raid shelter and the cistern were carried out on 4th and 11th August 2023. The methodology for the recording of the air raid shelter was detailed in the Written Scheme of Investigation. This comprised Historic England Level 2 record of the air raid shelter. A laser scan survey of the air raid shelter and the cistern was completed on site to provide a 3D model of each structure. Scaled AutoCAD plans and sections of both structures and the front elevation of the air raid shelter were produced from the resulting point cloud. The drawings have been used in this report to show the location and direction of the photographic plates. A GPS survey was carried out on the Victoria Street site to locate the remains of walls visible at ground level. High quality digital colour photographs were taken of all the recorded structures.

Project Results	Pre-Construct Archaeology Limited (PCA) was commissioned by Birdwood Construction Limited to undertake built heritage recording on land at Station Street and Victoria Street, Spalding, Lincolnshire PE11 1EB. The recording of an existing public surface air raid shelter and several structures including a below-ground chamber thought to be a water cistern was undertaken in advance of demolition or in the case of the water cistern its infilling with concrete and the proposed redevelopment of the Site. The recording was carried out as a condition of planning permission. Spalding prison at the south-west end of the Sheep Market was completed in 1826 and subsequently enlarged in 1848 and again in 1851-52. It closed in 1884. The remains of a north-south red brick wall visible at ground surface level on the Victoria Street site aligns with the prison wall shown on the 1889 map. If this is the prison wall, its west side would have been the external side facing onto an airing court and its east side would have been internal. The remains of a vaulted structure, potentially a water cistern, and a more complete water cistern recorded on the Victoria Street site are thought to have been constructed for use by Spalding Prison and would have lain within one of the prison airing courts. The air raid shelter is a rectangular structure, 13.30 m (42.65 ft) in length by 5.77 m (18.93 ft) in width, which stands next to the east elevation of no. 19 Station Street, from which it is separated by a narrow passage. The shelter is constructed of Fletton bricks and concrete. It has a concrete slab base and a concrete slab roof. The east wall is the principal elevation of the shelter and contained two bricked-in original openings prior to the time of recording. One at the north- and one at the south end of the elevation. These originally provided access to the internal compartments of the shelter. The roof of the shelter comprises a thick concrete slab. Testing with a magnet suggested that it contained ferrous reinforcing bars. The interior space of the shelter was divided into six interlinked compartments. The northern and southern halves of the shelter mirrored one another, each containing an entrance lobby adjacent to the east elevation of the structure, with outer and inner entrances, leading into two parallel narrow corridor-like compartments, subdivided by a longitudinal north-south aligned partition wall. Adjacent to each entrance lobby was a small cubicle, accessible from both compartments in each half of the shelter. Two substantial brick piers attached to the east and west walls provided lateral strengthening and support for the roof at the centre of the structure. This layout was slightly more elaborate than the simple planform shown in early ARP/Home Security Circulars, although it (just about) maintained the principle of providing separate compartments for shelterers.
Keywords	Cistern - POST MEDIEVAL - FISH Thesaurus of Monument Types Air Raid Shelter - 20TH CENTURY - FISH Thesaurus of Monument Types
Funder	Private individual
HER	Lincolnshire HER - unRev - STANDARD
Person Responsible for work	Charlotte Matthews
HER Identifiers	
Archives	

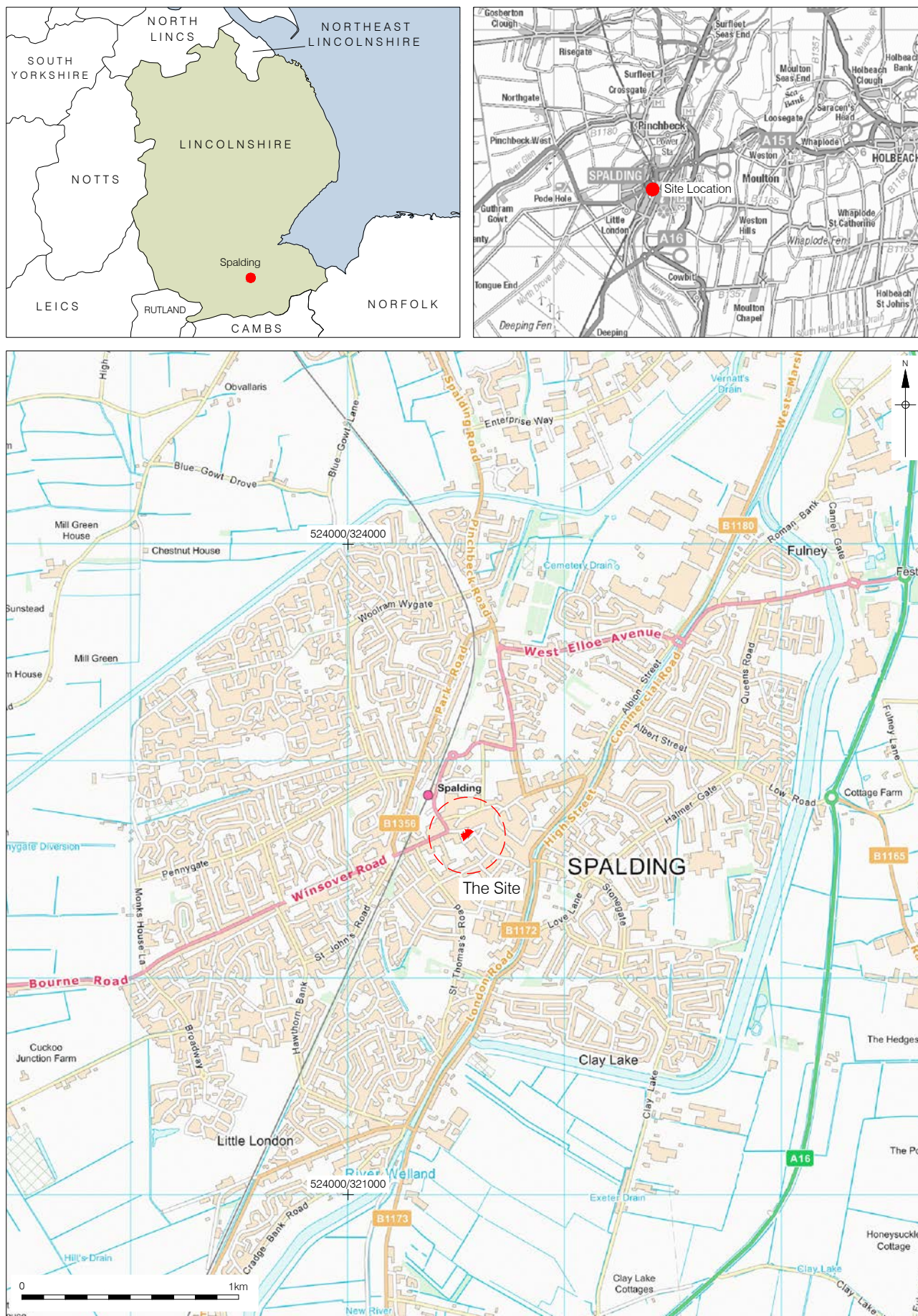






Figure 3
John Grundy's Map of Spalding, 1732
1:4,000 at A4

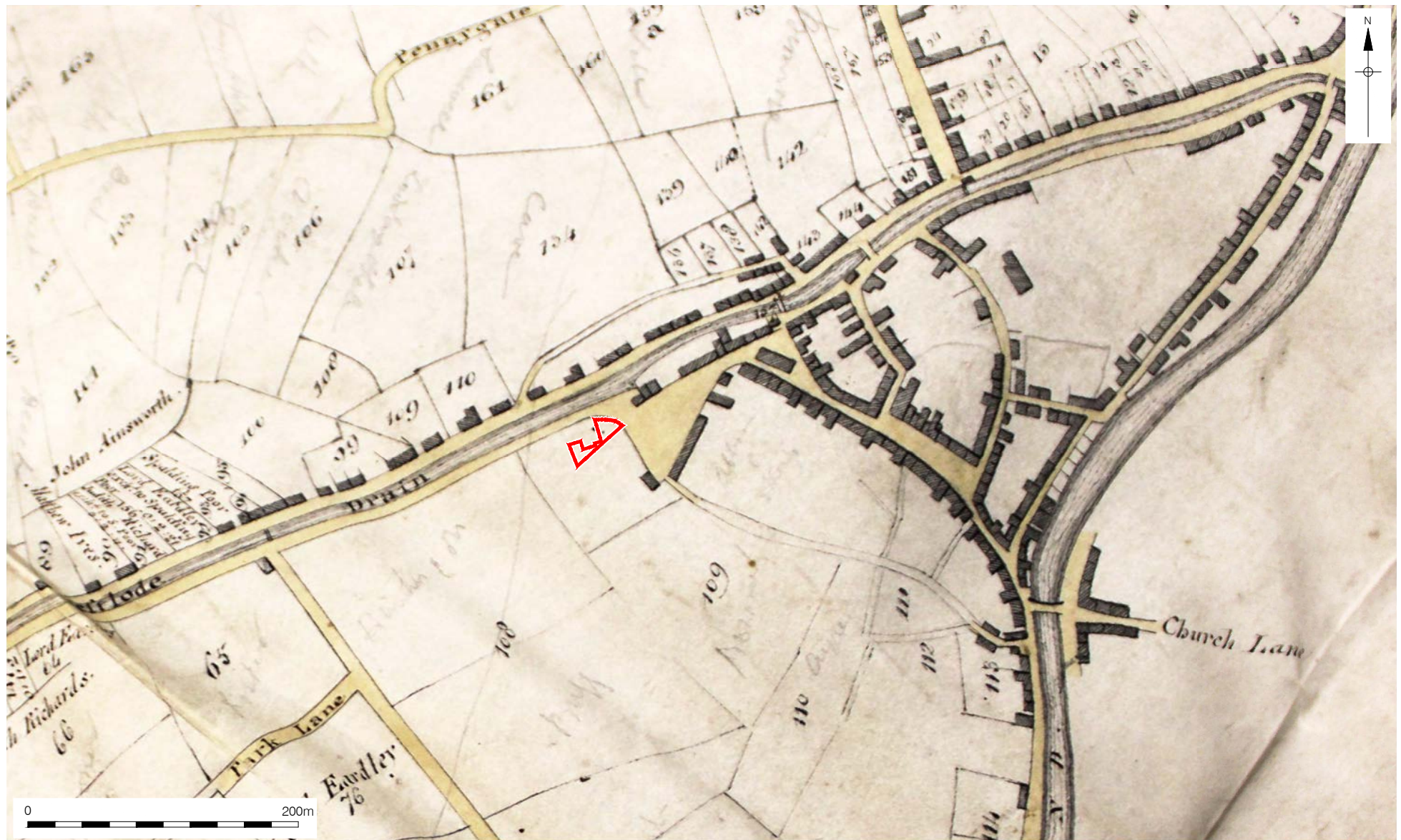




Figure 5
Ordnance Survey (6 inch), surveyed:1887; published 1887
1:4,000 at A4

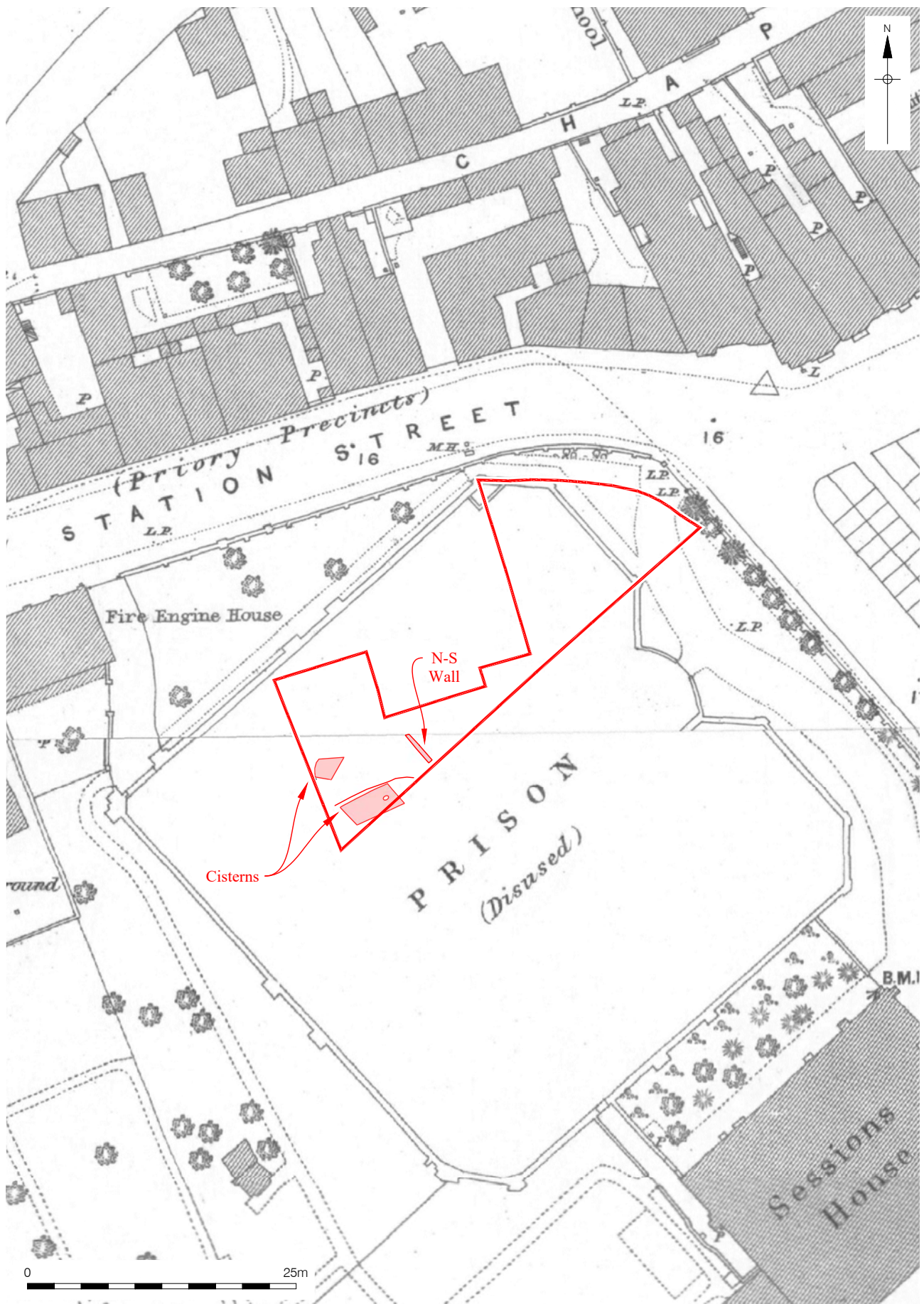






Figure 9
Ordnance Survey (25 inch), Revised:1929; Surveyed: 1932
1:800 at A4

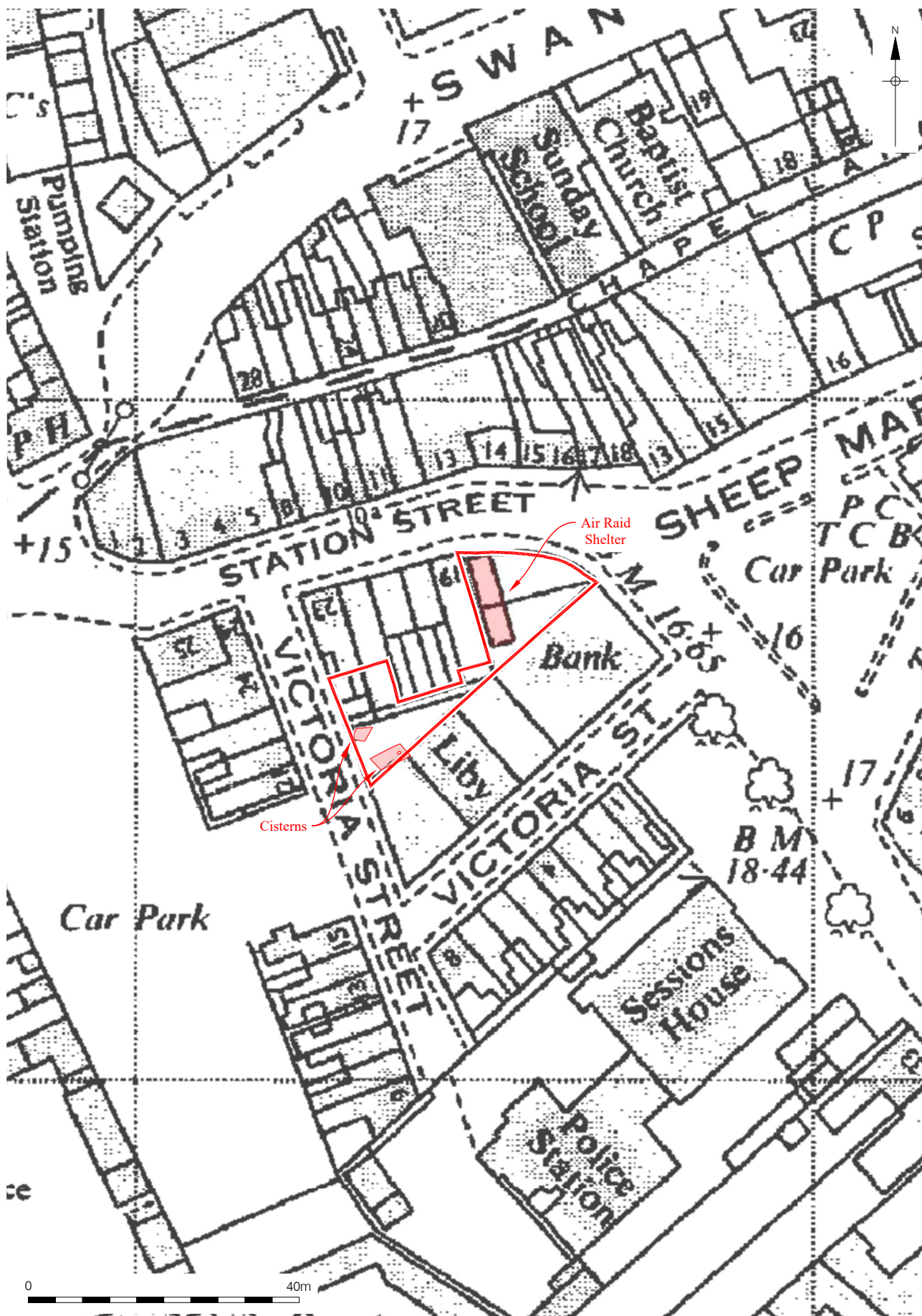
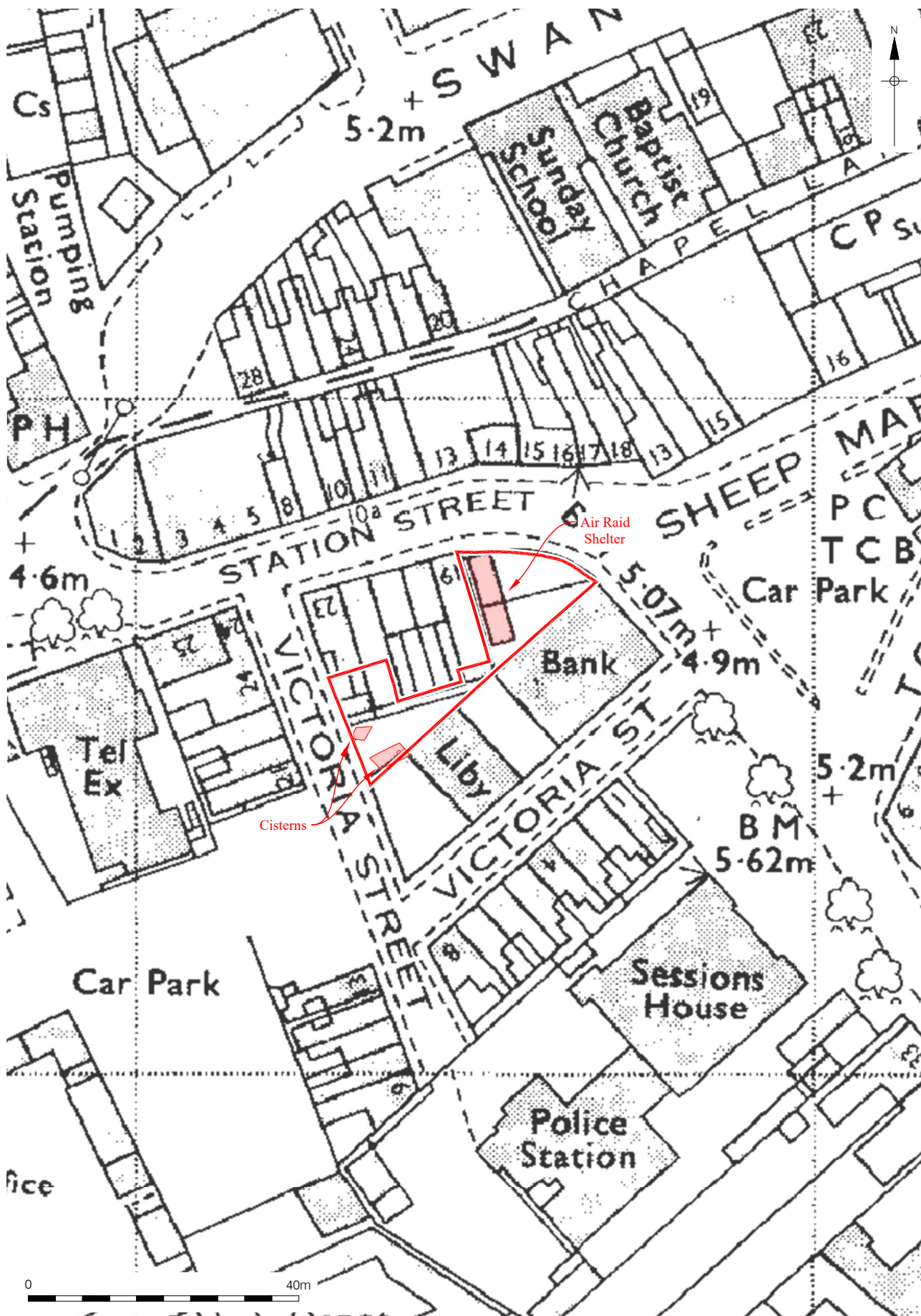


Figure 10
Ordnance Survey, 1968
1:800 at A4

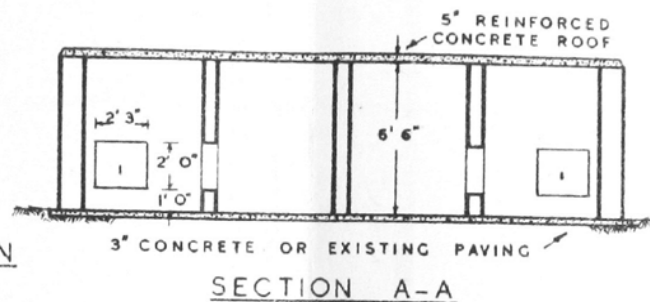
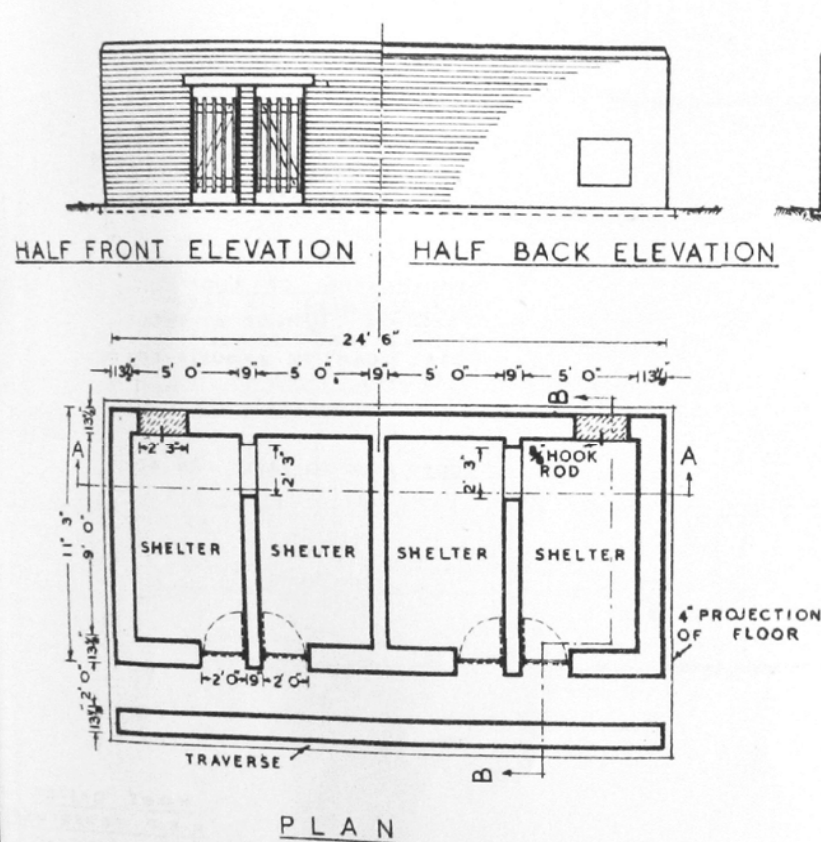


Figure 11
Street Plan showing the site c.1970
1:800 at A4



DOMESTIC SURFACE SHELTER FOR 48 PERSONS

ON THE BASIS OF 3 1/4 SQ. FT. OF FLOOR SPACE PER PERSON
RECTANGULAR (9' 0" X 5' 0") TYPE WITH TRAVERSED ENTRIES

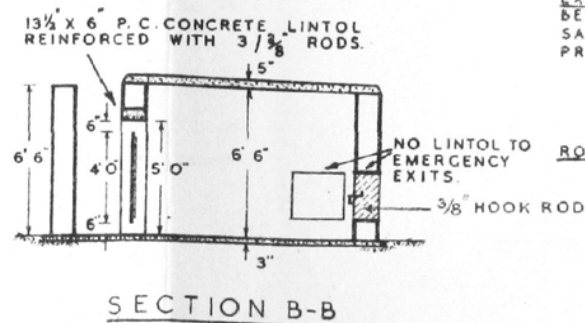


NOTE: CONSTRUCTION TO BE IN ACCORDANCE WITH HOME OFFICE, A.R.P. DEPT. HANDBOOK, "DIRECTIONS FOR THE ERECTION OF DOMESTIC SURFACE SHELTERS"

SPECIFICATION OF ROOF
REINFORCEMENT : LONGER SPAN,
 $\frac{3}{8}$ " RODS AT 15" C.C.S. 9' 9" + 3" LONG;
 18 Nos. : SHORTER SPAN $\frac{3}{8}$ " RODS
 AT 5" C.C.S. 23' 0" + 3" LONG; 23 Nos.;
 TOTAL QUANTITY 715 FT = 268 LBS.

EXTERNAL EMERGENCY EXITS TO
BE FILLED WITH BRICK IN DRY
SAND, POINTED ON BOTH SIDES
PROVIDE AND FIX 3/8" HOOK ROD

ROOF LAID TO FALL 1 IN 40.



ROOF LAID TO FALL 1 IN 40.

ROD

HOME O

A. R. P. DEF

DRAWING

FEBRUARY

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 105–112

nal domestic surface shelter with tr

January 1940 © The N

January 1940 © The N

Figure 13

Rectangular (9.0 ft by 5.0 ft) Type 1 communal domestic surface shelter with traversed entries,

January 1940 © The National Archives

1:100 at A4