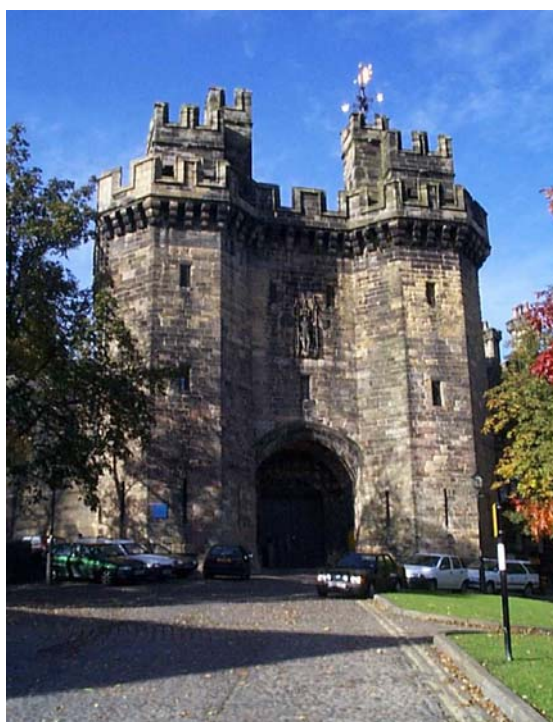


December 1998

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**WITCHES' TOWER**  
**LANCASTER CASTLE**  
**Lancashire**



**ARCHAEOLOGICAL WATCHING BRIEF**

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# Witches' Tower Second Floor and Roof Works

Lancaster Castle

Lancashire

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## Archaeological Watching Brief Report

Report no 1998-99/028/AUA7838

Checked by Project Manager. ..... Date
Passed for submission to client. ..... Date

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December 1998

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## SUMMARY

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The Lancaster University Archaeological Unit (LUAU) was commissioned by HM Prison Service to undertake an archaeological watching brief during remedial works to the top floor, and roof level of the Witches' Tower of Lancaster Castle (SD 47386183), in September and October 1998. The aim of the watching brief was to record further newly exposed areas of the timber floor previously recorded by LUAU (LUAU 1996) and to record structural fabric exposed as a result of the removing of the lead roofing and the unblocking of the upper stair turret.

The works in the upper room revealed further areas of the timber floor which had previously been recorded during the 1996 phase of works.

The upper section of the stair turret had previously been blocked, for security reasons, from both the second floor level and the roof level, but the roof level access was unblocked in the course of the present works. The upper part of the stairwell had been substantially remodelled, in the course of eighteenth / nineteenth century repair works. The lower sections, however, incorporated earlier fabric and there was also a blocked entrance extending through the north-western wall of the turret. This would have formerly led onto the parapet walk-way of the medieval curtain wall which was demolished in the mid to late eighteenth century.

The works programme involved the replacement of the lead roof, and this provided the opportunity to complete the recording of the tops of the tower walls previously obscured by the lead sheets. The stripping of the lead revealed that the stonework between the gutters and the base of the parapet walls was butted against the medieval fabric of the tower.

The roof below the lead was covered with a series of long pine boards attached to the purlins with square headed nails. On one of these had an inscription reading '*J Richardson 1860*' and would appear to be the date when the present timber roof was added.

Three inscriptions (*JD 1779*; *G Hansbrow Dec 21 1836*; *A Hansbrow 1837*) were identified carved into the lead sheet overlying the stair turret. The inscriptions, however, do not necessarily date the roofing of the turret as the lead sheets appear to have been re-used.



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## ACKNOWLEDGEMENTS

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Thanks go to John Beetles, Colin Chapman and Mike Halton of HM Prison Service for enabling access and facilitating the study. We would also like to John Russell, Ray Middleton and other staff of Mather Ellis for their cooperation and assistance during the watching brief.

The watching brief was undertaken by Peter Redmayne and Chris Wild. The draughting was undertaken by Anthony Padgett and Chris Wild. This report was compiled by Peter Redmayne and was edited by Jamie Quartermaine and Rachel Newman. The project was managed by Jamie Quartermaine.

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## 1. INTRODUCTION

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### 1.1 CONTRACT BACKGROUND

- 1.1.1 In September and October 1998 a watching brief was undertaken by Lancaster University Archaeological Unit (LUAU) on behalf of HM Prison Service during works to the roof and upper floors of the Witches' Tower, Lancaster Castle (NGR SD 47386183). The work followed on from a full fabric survey and recording project conducted by LUAU in 1993 (LUAU 1995), and also the recording of the wooden floor below the flagged surface in the second floor of the tower in 1996 (LUAU 1996).
- 1.1.2 The watching brief involved the recording of further areas of the wooden floor, exposed as a result of lifting additional slabs in the second floor room of the tower. It also became possible to record the interior of the upper part of the stair turret which had previously been inaccessible, but was opened in the course of the present consolidation programme. Finally the watching brief was required to record the masonry fabric of the upper parapet walls of the tower that were exposed as a result of lifting the lead roof, in the course of the re-roofing programme.

### 1.2 HISTORICAL BACKGROUND

- 1.2.1 The earliest standing fabric of Lancaster Castle is found in the keep. This large and imposing stone tower is traditionally attributed to Roger of Poitou before 1102 (Cox 1897), but if so, the keep would be the third oldest in England. It is more likely that Roger's castle, like almost all the early Norman castles in Britain, was a simple earth and timber construction. The present structure resembles keeps built in the middle of the twelfth century, and it has been suggested that its construction was initiated by David I of Scotland who is known to have ordered extensive building (probably on the keep) at Carlisle (Cox 1897). The early thirteenth century (1208-11) saw work on the castle ditch, and perhaps a hall and parts of the curtain wall and towers. Other towers and curtain were probably added in Henry III's reign (Farrer and Brownbill 1914). The Witches' Tower is believed to have dated from this period of construction (mid to late thirteenth century) on the basis of documentary evidence (Cox 1897) and also dendrochronological work undertaken during the 1993 fabric survey (LUAU 1996, 14). Tree-ring dating of samples from the roof of the Witches' Tower (a bracket and a corbel) were found to have felling dates of 1254 and 1265 respectively (Groves 1994).
- 1.2.2 Shortly after Henry IV's accession, an extensive rebuilding programme was started, culminating in the great twin-towered gatehouse (1403-13)(Cox 1897). Tree-ring dating of samples from two floor beams and a roof purlin from the Witches' Tower give felling dates of c1380-1425, c1375-1420 and after 1378 respectively (LUAU 1996, 15). Consequently it would appear that the floor and roof of the tower were remodelled in the course of this rebuilding programme.
- 1.2.3 The upper storey of the keep was rebuilt in the reign of Elizabeth (c1585), as on the north face of the keep, just below the top is a stone inscribed "*E.R. AR 1585*" (pers comm Smith M, Court Keeper, Lancaster Castle).
- 1.2.4 From the late eighteenth century, the Castle was substantially modified for use as a court and prison, during which time the medieval curtain wall and several of the

towers were demolished. The major construction phases of this later period included various extensions (1776-79); the building of civil and criminal courts, additional debtors', female accommodation and the gaoler's house (c1790-1810); construction of the remarkable female penitentiary (c1818-21); and the conversion of more rooms to single cells (c1840-60) (Mackenzie 1897). The moat was finally in-filled in 1850 and the years 1873-76 saw the demolition of cottages around the perimeter wall. Apart from refurbishment and maintenance work, and the addition of service areas, there has been no significant late Victorian or modern rebuilding.

- 1.2.5 Several alterations to the medieval structure of the Witches' Tower were made during the eighteenth and nineteenth-century refurbishments (LUAU 1996). Externally, the principal change was the replacement of the parapet, redesign of the chimneys, provision of downpipes, blocking of windows and loops in the north, south and east walls, and the enlarging of openings in the west wall. Works to the interior of the upper storey included the erection of a timber partition, laying of a flagged floor, redesign of the fireplace and certain window seats, plastering of the walls and ceiling, and repairs to the roof. Later, a second fireplace and a sink were inserted, the roof underbuilt and partly replaced, and the walls replastered.
- 1.2.6 The middle storey was sub-divided by a stone partition and the tie beams and brackets supporting the floor were inserted, above one of which was crudely braced (LUAU 1996). New fireplaces were also installed in the middle storey and upper ground floor room. At some date this century, the roof was reroofed and the door from the spiral stair to the roof top blocked. This work, along with minor alterations to convert several window recesses into cupboards, was probably undertaken as a result of the recommissioning of the prison in 1955.

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## 2. METHODOLOGY

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### 2.1 WATCHING BRIEF

- 2.1.1 The survey was undertaken in accordance with a letter from LUAU (28<sup>th</sup> August 1998) and verbal instructions from John Beetles of HM Prison Service. The watching brief involved the recording of floor timbers exposed following the removal of floor slabs on the second floor of the Witches' Tower, and the recording of the interior of the upper section of the stair turret, following the opening of a blocked doorway. Finally the watching brief recorded the fabric of the tower wall tops following the removal of the lead roof. The recording of the structure was undertaken by experienced buildings archaeologist, in the course of the development, and comprised the execution of a measured survey, from which plans and elevations were derived, and the production of a site photographic archive.
- 2.1.2 ***Fabric Survey:*** the survey followed on from an accurate detailed fabric survey of the Witches' Tower undertaken by LUAU in 1993. The present survey augmented the earlier CAD mapping, and was undertaken by a combination of instrument and hand survey techniques. The outline plan frame was the original fabric CAD based survey and additional detail was added. The survey recorded the outlines of all exposed stones, particularly quoins and ashlar, the outlines of the walls, and masonry breaks. The final drawing was generated within an industry standard Computer Aided Draughting (CAD) system (AutoCad14). The drawn archive comprises enhanced survey plots, and the additions were digitised into the base CAD drawings.
- 2.1.3 The second floor timbers were recorded in plan (Fig 2), the stair turret was recorded in plan (Fig 4), and the wall tops were recorded in plan and elevation (Figs 4-7).
- 2.1.4 ***Photographic Survey:*** a general oblique photographic record was produced of the internal elements of the building as well as all external elevations in both colour and black and white 35mm formats.
- 2.1.5 ***Fabric analysis and interpretation:*** a pro-forma context recording sheet was completed for each structural element, defining the location, form and fabric of the individual contexts.

### 2.2 ARCHIVE

- 2.2.1 A full archive of the watching brief has been produced to a professional standard, in accordance with current English Heritage guidelines (English Heritage 1991). The archive will be deposited with the Lancashire County Record Office with a copy of the report given to the Lancashire County Archaeological Service and also the Lancaster City Museum. In addition a copy of the archive will be available for deposition with the National Monuments Record in Swindon.
- 2.2.2 Three inscriptions, carved into the lead roof of the stair turret, were cut out of the lead sheet in the course of the stripping. They have been deposited with Lancaster City Museum.

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## 3. RESULTS

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### 3.1 INTRODUCTION

- 3.1.1 The watching brief was undertaken in conjunction with a programme of structural repair work on the floor timbers of the second floor, repair works to the upper section of the stair turret and the re-leading of the Witches' Tower roof. The survey work was required to complete a record of the tower's fabric, which has in part been undertaken by the 1993 fabric survey (LUAU 1995) and the initial recording works undertaken in 1996 (LUAU 1996). The present programme involved the augmentation of the earlier survey, resulting from the exposure of previously concealed fabric.

### 3.2 SECOND FLOOR WORKS (FIG 2)

- 3.2.1 **Lifting of Flagstones:** five stone flags (LUAU 1996, nos 63-67) were lifted in the western part of the access passage at the northern end of the upper room of the tower. The flags were 12mm thick, and were bedded on an 8mm deep layer of lime plaster. Below the plaster was a continuation of the daub material previously uncovered during the lifting of the flagstones adjacent to the door from the stairwell (LUAU 1996).
- 3.2.2 The daub was thickest (64mm) where it butted the stud partition wall on the south side of the passage, tapering to a depth of only 7-8mm on the northern side of the passage. Below the daub were five thin north/south aligned floorboards. The boards sloped down towards the partition wall and were secured by pairs of square-profiled nails on to two east/west aligned timbers below.
- 3.2.3 The east/west aligned floorboards (already partially uncovered) were butted to the north/south aligned boards with the exception of the southernmost board which finished short; the gap was made up with two small pieces of board which extended a short distance below the eastern north/south aligned board.
- 3.2.4 **Central floor area:** removal of daub from the central floor area revealed further floorboards similar to those previously uncovered to the east, and showed that the southern ends of the boards were nailed to one of the main joists which had been partially uncovered during the earlier phase of works.

### 3.3 UPPER STAIR TURRET

- 3.3.1 The stairwell between the upper floor and the roof level had been inaccessible during the earlier phase of works, as the access at both second floor and parapet levels had been blocked off. The upper entrance was unblocked to enable repair works to the upper part of the stairwell and with the long term intention of providing access to the parapet from the stairwell.
- 3.3.2 The west door jamb of the upper entrance had several small sockets cut into the stonework, as well as the remains of lead and iron fittings for the door hinges. The threshold stone was still *in-situ*, beyond which were three narrow straight treads leading to the start of the spiral stair.

- 3.3.3 The outer wall of the stairwell protruded into the north-western corner of the roof area, and was butt-jointed to the inner face of the main wall. The wall continued above the stairwell in the form of a relieving arch (Plate 2), before continuing to join the parapet.
- 3.3.4 The stairs were constructed with both single and two piece treads, jointed into the outer wall. A very substantial blocking has been inserted, at the second floor level of the turret, around the newel and this partially obscured some of the treads. The blocking extended across the full width of the stair and was constructed with relatively small flat pieces of sandstone, bonded with a hard pinkish brown cement. There is also what appears to be a blocked doorway in the north-western side of the stairwell, consisting of a recessed area with a relieving arch of small sandstone blocks above.

### 3.4 STRIPPING OF ROOF LEAD

- 3.4.1 A decision was made to strip the entire roof, rather than attempt to repair the existing lead. The removal of the lead created an opportunity to complete the recording of the tops of the tower walls, to record the outer elevations of the gutters, and the plan of the flagstone surface between the base of the parapets and the gutter (Figs 4-7).
- 3.4.2 The stripping revealed that the stonework between the gutters and base of the parapet walls was butted against the medieval fabric of the tower. Some of the stones appeared to have been re-used from a string course, and had a chamfer on one edge with a hollow moulding below.
- 3.4.3 The roof below the lead was covered with a series of long pine boards attached to the purlins with square-headed nails; the boards were also pierced by other nail holes suggesting that they had been re-used. On one of the boards, at the base of the southern end of the east gutter, was an inscription reading '*J Richardson 1860*'; this would appear to be the date when the present timber roof was added.
- 3.4.4 The brick chimney, at the northern end of the roof, and the corresponding brick shaft below it, were both removed. The chimney of the early fireplace in the west wall of the upper room of the tower had been blocked with a thin stone slab before the roof had been leaded.
- 3.4.5 Three inscriptions (*JD 1779*; *G Hansbrow Dec 21 1836*; *A Hansbrow 1837*) were identified carved into the lead sheet overlying the stair turret. They were recorded *in-situ* and then cut out of the sheet; they have been deposited with Lancaster City Museum.

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## 4. DISCUSSION

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### 4.1 SECOND FLOOR WORKS

- 4.1.1 The newly uncovered floor areas (Fig 2 and Plate 1) corresponded to what had been seen during the 1996 recording programme (LUAU 1996); the daub and other make up placed over the boards probably related to the levelling up of the floor in the mid-late eighteenth/early nineteenth century when the timber partition was inserted.

### 4.2 STAIR TURRET

- 4.2.1 The blocking of the stairwell appears to be a relatively modern insertion, intended as a security measure to prevent access to the Witches' Tower roof.
- 4.2.2 The blocked doorway in the north-western wall of the turret provides no useful access at present as there is no structure on the opposite side of the wall. However, there was a former medieval curtain wall extending north from the turret, and it is probable that this doorway gave access to the parapet walkway of the former curtain wall.

### 4.3 ROOF LEAD

- 4.3.1 The dated inscription of 1860 on one of the gutter boards would appear to indicate a date for the re-roofing of the tower, as it would have been covered with lead shortly after construction.
- 4.3.2 There are also graffiti inscriptions on the lead sheet over the stair turret dating from between 1779 and 1837, and these pre-date the inscription dating the last re-roofing (1860). However, it is likely that the lead sheet covering the top of the stairwell has been re-used. The sheet appears to be of sandcast lead, rather than the milled lead with which the main roof area was covered. Part of the edge of the sheet had two parallel lines on the border, which crossed on the corner; these probably marked the edge of the original sheet, but have been lost from the other edges where the sheet has been cut down. The 1779 inscription, however, does provide a *terminus ante quem* for the use of the lead.
- 4.3.3 The graffiti inscriptions from 1836/7, inscribed by G Hansbrow and A Hansbrow, would appear to correspond to a small hand-written family tree (Hansbrow/LRL). This shows that James Hansbrow was appointed as keeper of the castle in 1833, died on 3rd July 1862, and was succeeded as keeper by his oldest son, Arthur Hansbrow, who died in 1867. There is no G Hansbrow listed, but no initials are given for James Hansbrow's two daughters.
- 4.3.4 Despite confirming the dates and authors of the graffiti, this does not necessarily date the roofing, as it is possible to confirm that this was inscribed onto the lead prior to its placement on top of the stair turret.

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## ILLUSTRATIONS

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- Fig 1 Lancaster Castle location plan
- Fig 2 Second Floor Plan
- Fig 3 North/south cross section through the Witches' Tower
- Fig 4 Parapet Plan
- Fig 5 West Internal Elevation
- Fig 6 South Internal Elevation
- Fig 7 East Internal Elevation



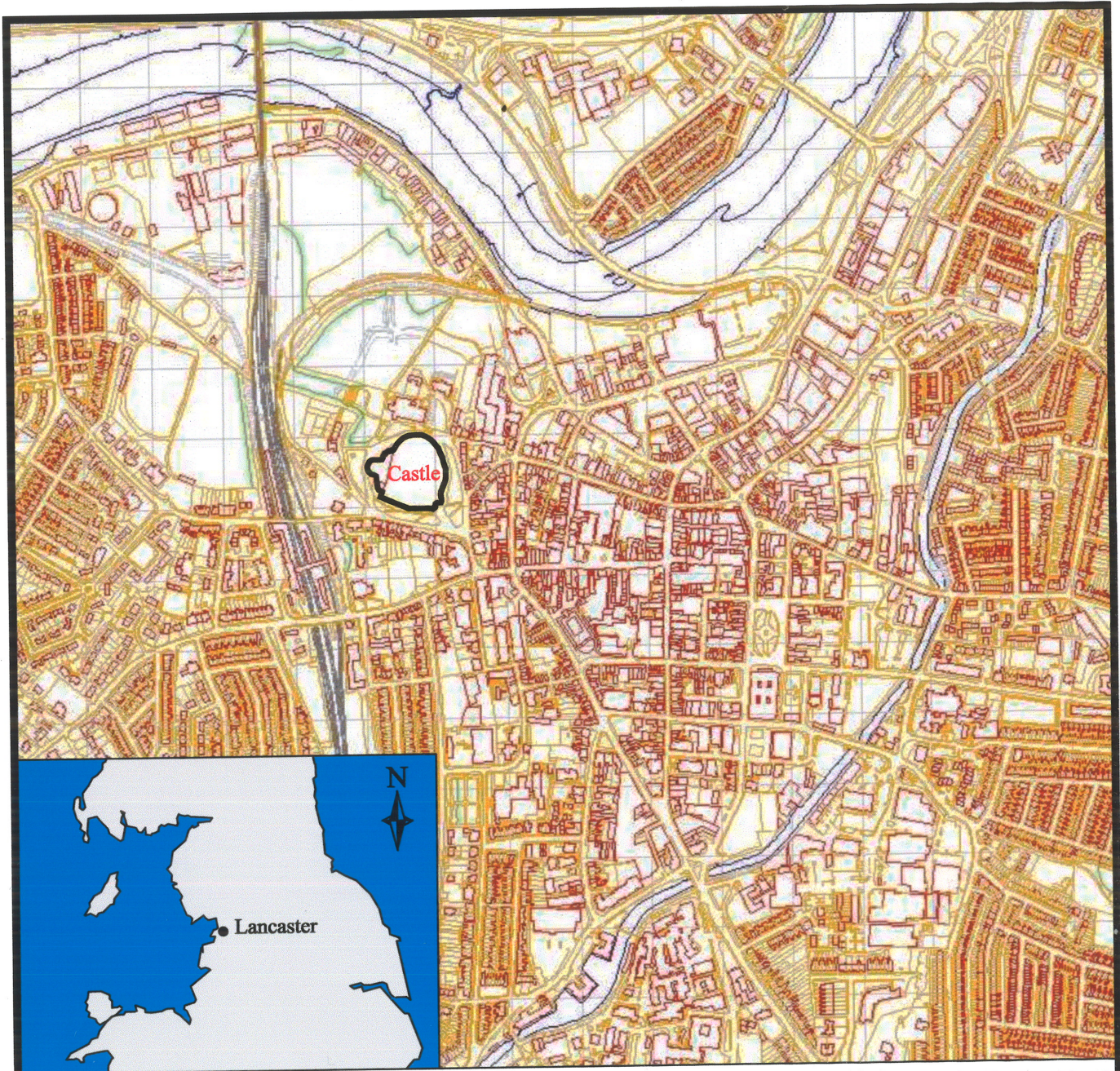


Fig 1 : Location Map



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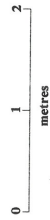
**PROJECT:**

**LANCASTER CASTLE  
WITCHES' TOWER**

**DRAWING**

**2nd Floor Plan**

7838/uftrupp2.fcw



SCALE 1:75

**DRAWN BY:** C.W, P.R

**DATE:** September 1998

**LOCATION:**

**KEY**

Floor timbers exposed by the  
watching brief



Stone Slabs



**TITLE:**

**Second Floor Plan**

**COMMISSIONED BY:**

HM Prison Service

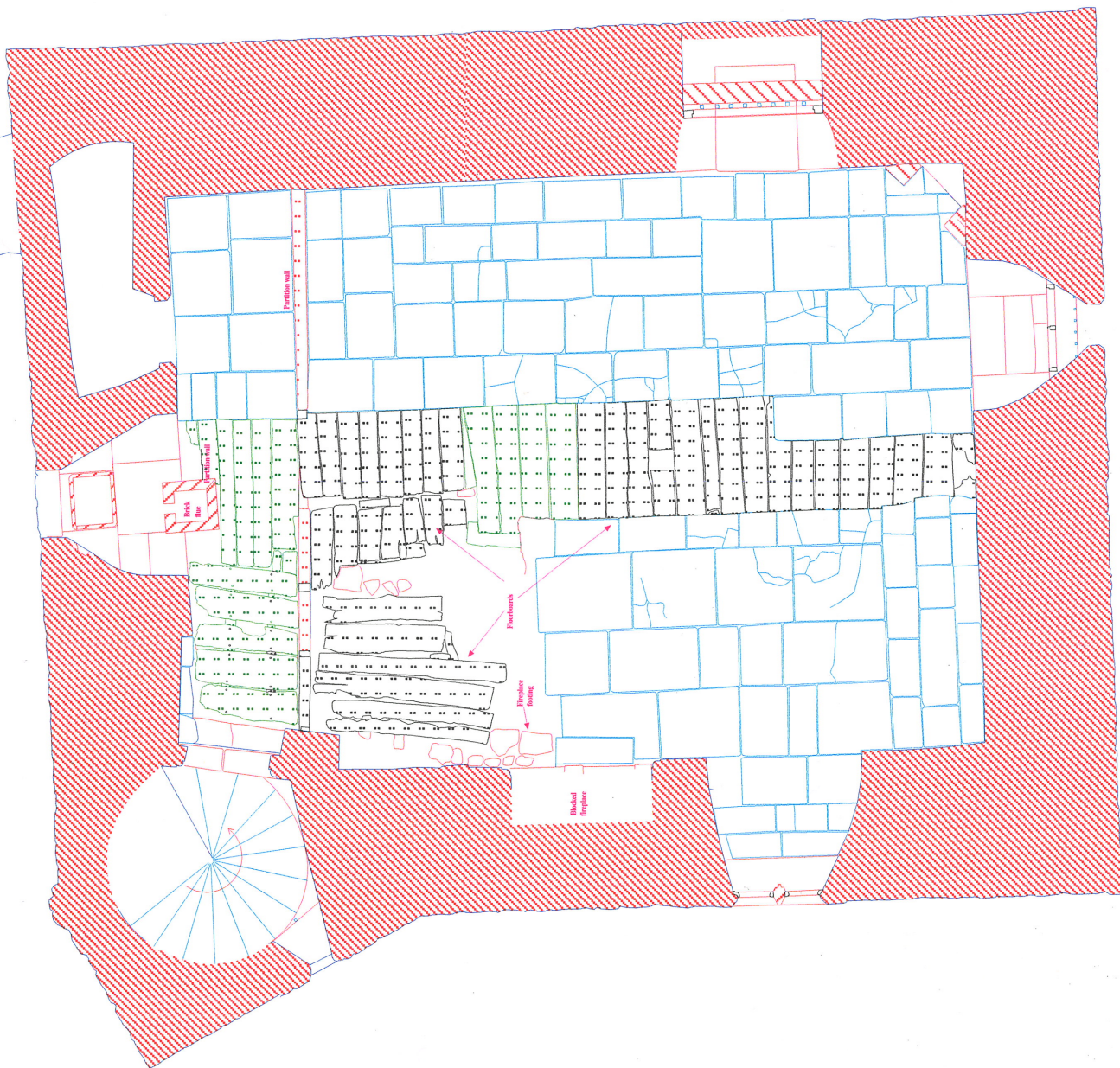


Fig 2 Second Floor Plan

Fig 3 North/south cross section through the Witches' Tower



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PROJECT:

LANCASTER CASTLE  
WITCHES' TOWER

DRAWING

PARAPET PLAN

7838 / 9802

0 1 2  
metres

SCALE 1:75

DRAWN BY: C.W. P.R.

DATE: September 1998

LOCATION:

KEY

TITLE:

EXTERNAL PARAPET PLAN

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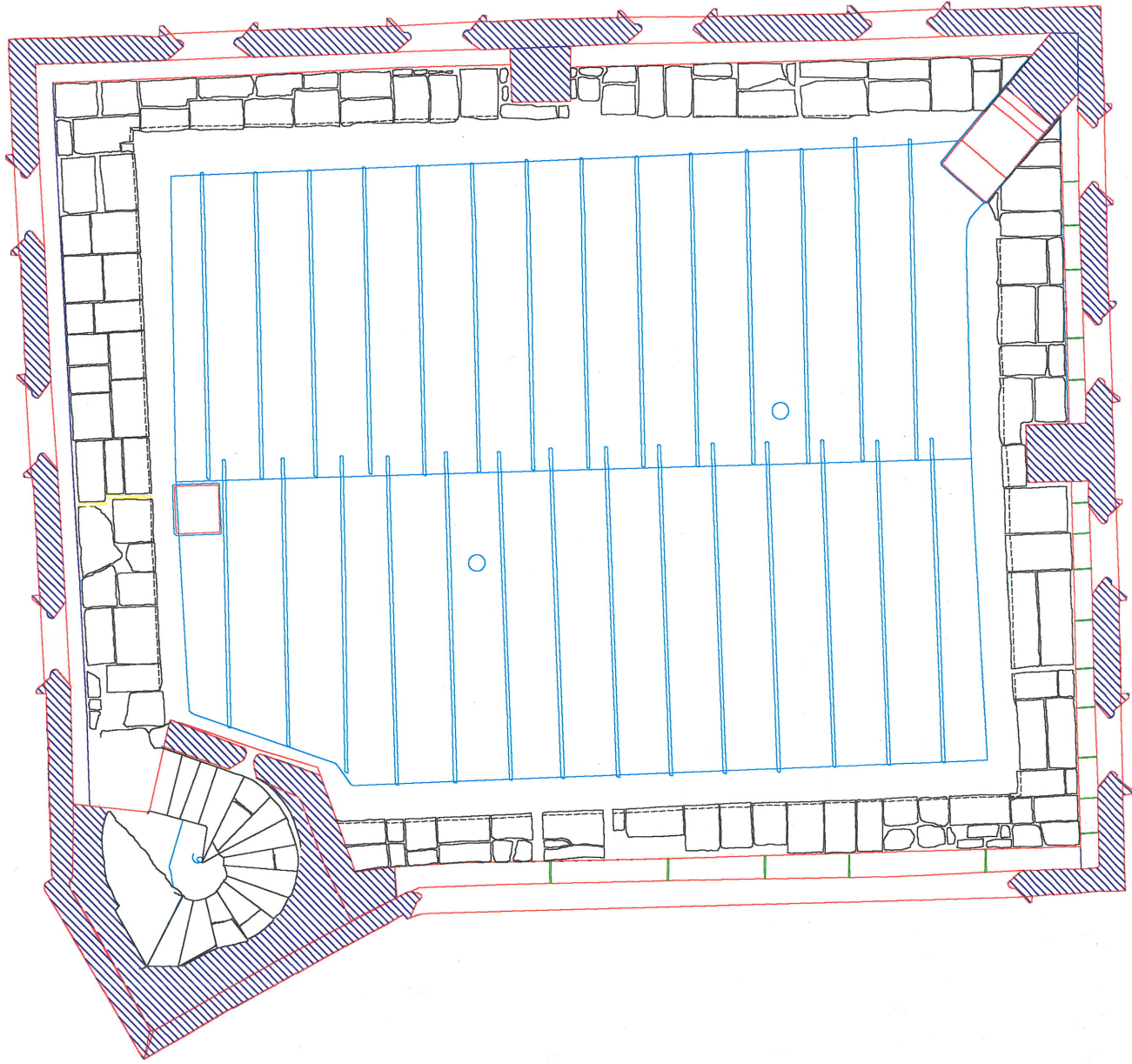


Fig 4 Parapet Plan

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WITCHES' TOWER

DRAWING

West Internal Elevation

7838 / WESTINT1.DWG

0 1 2  
metres

SCALE 1:60

DRAWN BY: C.W. P.R

DATE: September 1998

LOCATION:

KEY

TITLE:  
WEST INTERNAL ELEVATION  
(Upper)

COMMISSIONED BY:  
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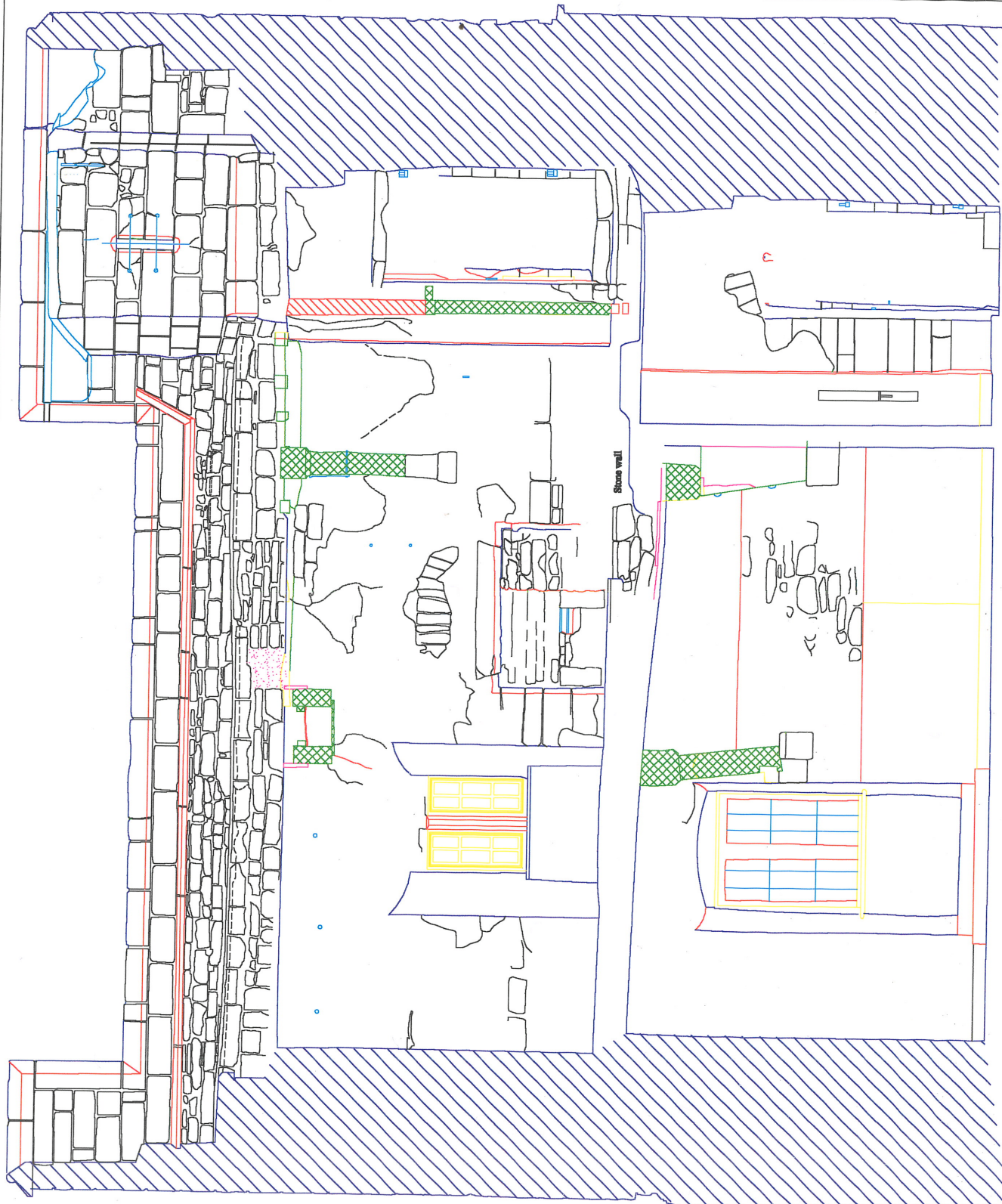


Fig 5 West Internal Elevation



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LANCASTER CASTLE  
WITCHES' TOWER

DRAWING

South Internal Elevation

7838 / acount1.dwg

0 1 2  
metres

SCALE 1:55

DRAWN BY: C.W, P.R

DATE: September 1998

LOCATION:

KEY

TITLE:

SOUTH INTERNAL ELEVATION  
(Upper)

COMMISSIONED BY:

HM Prison Service

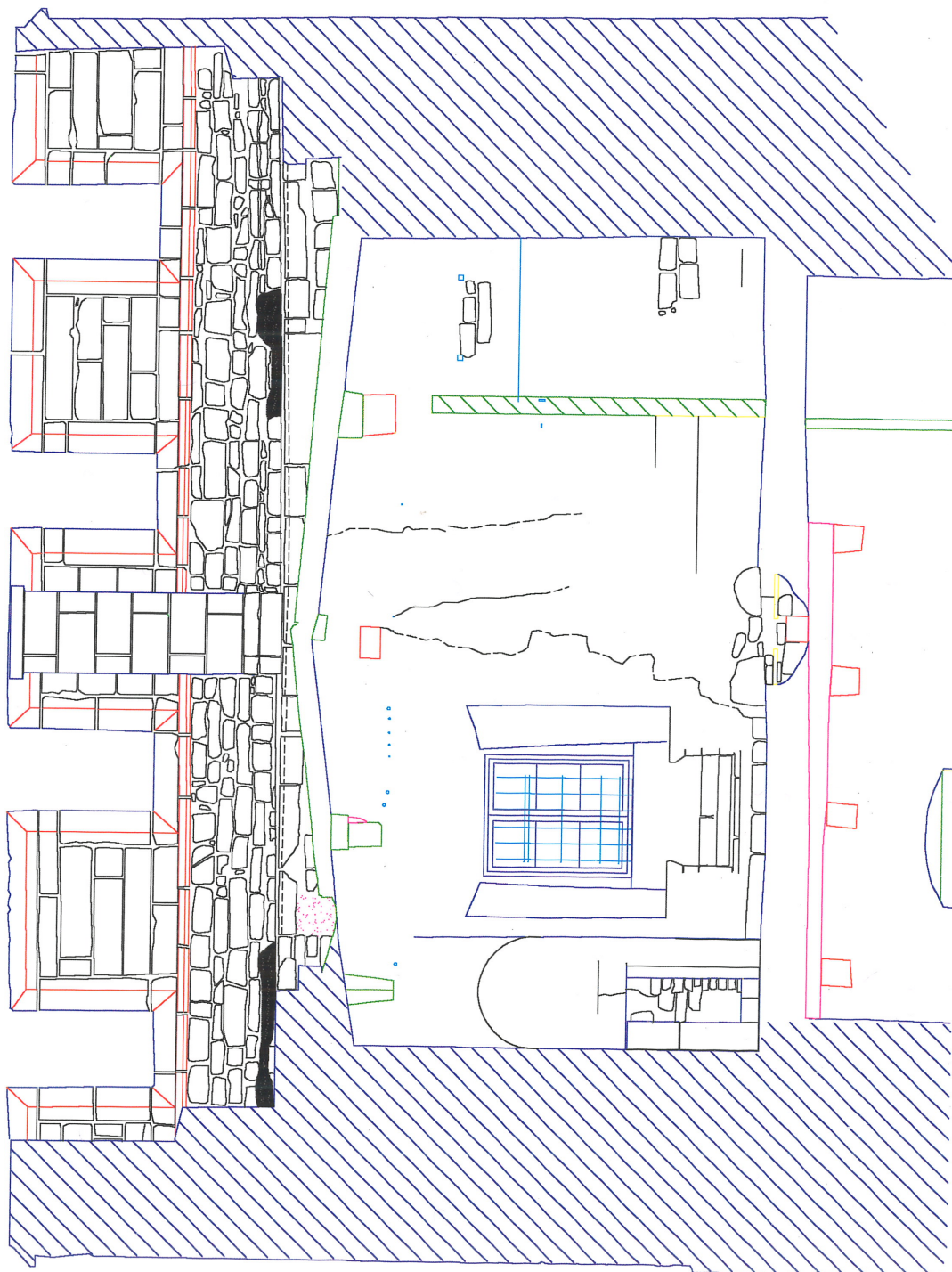


Fig 6 South Internal Elevation

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**PROJECT:**

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WITCHES' TOWER**

**DRAWING No:**  
**7838WTCH / 9801**

A vertical number line with tick marks at 0, 1, and 2, labeled 'metres'. The line is oriented vertically with 0 at the bottom and 2 at the top. The word 'metres' is written vertically to the right of the line.

**SCALE 1:60**

**DRAWN BY: C.W, P.R**

DATE: September 1998

**LOCATION:**

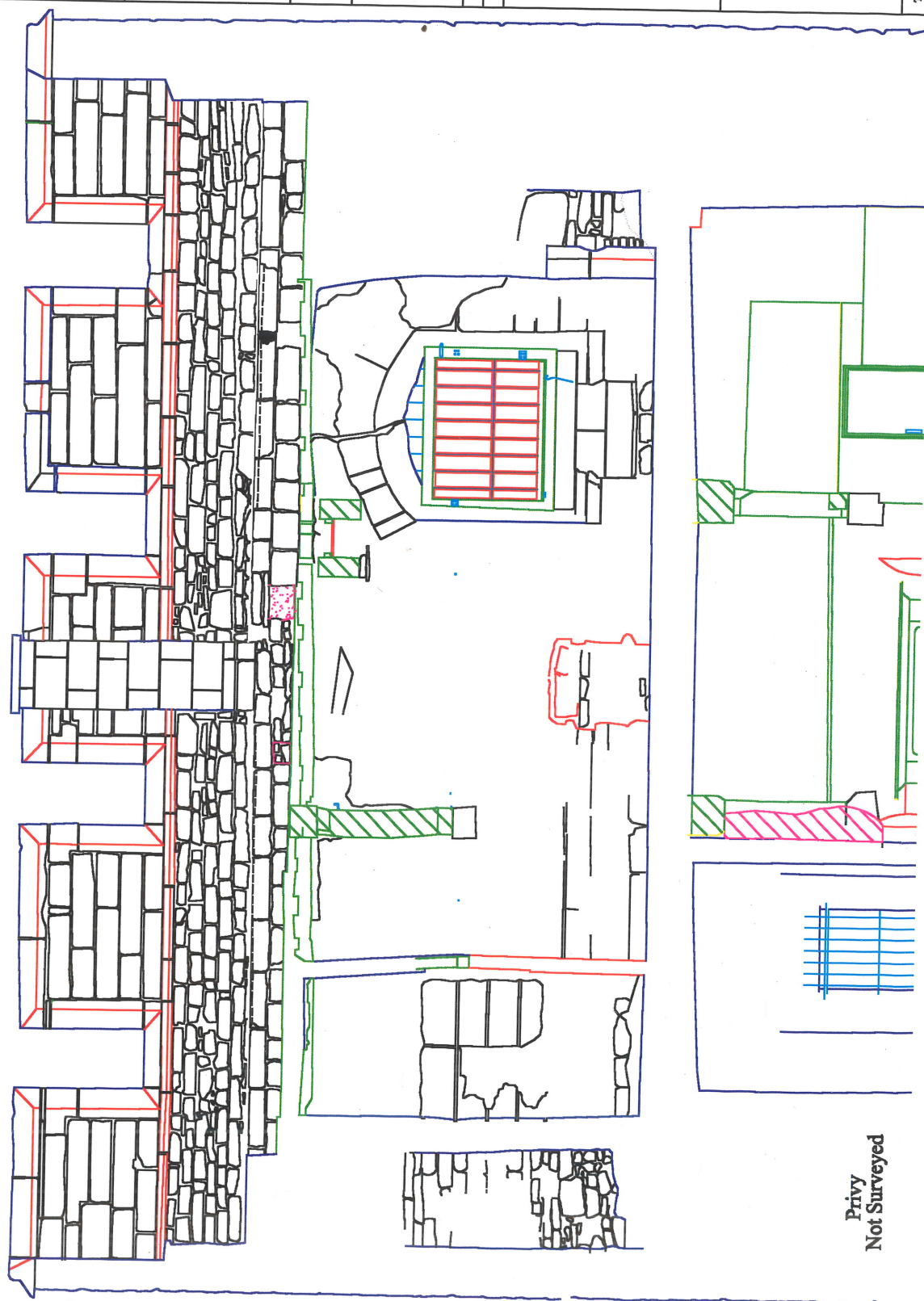
**KRY**

**TITLE:**

**EAST INTERNAL ELEVATION**  
(Upper)

**COMMISSIONED BY:**

## HM Prison Service



### Fig 7 East Internal Elevation



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## PLATES

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- Plate 1 Second Floor timbers viewed from the east
- Plate 2 Interior of the stair turret viewed from the east
- Plate 3 Roof of the Witches' Tower following the stripping of the lead
- Plate 4 Roof of the stair turret from the south



Plate 1 Second Floor floor timbers viewed from the east



Plate 2 Interior of the stair turret viewed from the east



Plate 3 Roof of the Witches' Tower following stripping of the lead



Plate 4 Stair Turret from the east