# CITY OF LINCOLN ARCHAEOLOGY UNIT

LINCOLN CASTLE: STABILITY SURVEY
ARCHAEOLOGICAL RECORDING

By L Donel

CLAU ARCHAEOLOGICAL REPORT NO: 13

#### A Report to Allot & Lomax, Consulting Engineers, Manchester

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15/7/92

### LINCOLN CASTLE: STABILITY SURVEY ARCHAEOLOGICAL RECORDING

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Lincoln Castle: Stability Survey

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# Lincoln Castle: Stability Investigation

### Archaeological Recording

#### Introduction

A watching brief was maintained during site investigations between 8 May 1990 and 10 June 1990, so that the effect of the works on the monument might be monitored, and information obtained which might assist the engineers. It was also hoped that the investigations might answer several questions about the history of the castle:-

- 1. the extent of preservation of Roman remains;
- 2. evidence for the postulated early timber castle;
- constructional details about the Castle's later stone and earth fortifications;
- 4. subsequent alterations during the Castle's history;
- 5. dating evidence for the structural periods.

In the event, few of these problems were solved, but there was some useful information on the medieval fortifications.

#### Method

The watching brief involved the recording of test pits (1.5/2m x 1.5/2m x 2m+ deep) and test trenches (1m x 10m+ x 1m deep steps - 10m in total) excavated at specific points on the banks of the castle (see plans: Figs. 1-4). The test pits were located adjacent to the walls in order to study the foundations, while the trenches ran down the slope from these pits towards the modern ground level outside the Castle (ie the filled-in ditch). The excavated areas were viewed, drawn and photographed by the archaeologists present. Finds were collected, but were sparse and in most cases without a secure provenance.

#### The Investigations

### A. NORTH BANK (TP4, TT4, TP5, BH8) (Figs. 5-7)

Foundations were identified for the North wall, which had apparantly been set on to a alevel surface. Layers of earth and stone had then been mounded up against these footings. There was no evidence that the bank had been cut to create a foundation trench for the wall. Nor was there any solid proof of a flattening of an existing mound to take the stone foundations. Since there was no direct evidence of an earlier bank it is possible that the lower part of the bank, at least, represents the original 1068 earthwork. Whether the bank was palisaded or not and then refortified in stone cannot be shown by present evidence. Further work would be required to solve this problem.

- 1. TT4 (top 74.32OD) showed evidence of surfaces at c.71.32m OD. The section consisted of hard packed interleaved layers of dark grey earth and layers of limestone fragments, on an East-West alignment (parallel to the line of the bank and wall). Lying above the topmost layer was a series of dumps. It is likely that the surfaces acted as consolidation of the lower part of the bank and/or as a platform for further construction of the bank in the form of the overlying dump.
- 2. Cobb Hall (TP5 top 75.64m OD) a building extension was re-identified from information collected during a watching brief in 1986. The extension, running EW from the foundations of Cobb Hall, possibly contained two rooms and probably had its' access through a doorway at Cobb Hall. A further wall seen previously, was not uncovered by the test pit. TP5 was bottomed at a depth of 2m 10; a large limestone slab was found at the bottom.
- 3. BH 8 was probably on the line of the principal EW street of the Roman legionary fortress and city (and early medieval?) at depths between 7m and 9.60m. Above this was 1.7m of Post-Roman deposits, some of which may have been redeposited from the ditch.

Very few finds were uncovered in this area. They included mostly bone fragments with some Roman and medieval pot. There was no usable dating evidence.

#### B. WEST BANK (TP1, TT1, TP3, BH3) (figs. 8-9)

One test pit (TP1, top 72.76m OD) on this side uncovered significant difference in foundations from those on the North bank. The wall at approximately 1m

deep had been set directly onto layers of limestone 'flats'. The 'flats' had been regularly laid to a depth of at least lm (limit of excavation). In contrast, the other test pit, TP3 (71.83m OD), showed wall foundations lying directly on sandy earth. The discrepancy or constriction may have been connected with the different height to which the Roman city wall had survived. There were no visible structures attached to the wall nor any evidence of buttressing. Unlike the North side, the trial trench (TT1 top 66.96m OD) showed no evidence of the "surfaces" seen in TT4.

It is possible the bank on this side, over the line of the surviving Roman defences, was constructed unlike the northern side, in a single phase. The re-use/incorporation of the Roman fortifications made this a simpler task. However, one interesting point seen in Test Trench 1 was a line of boulders. It is possible that these acted as a work marker, perhaps to indicate an end or beginning of a work area. It may also have been a demarcation line for work gangs as there does appear to be a difference in construction of the bank on either side of it. Alternatively, it is possible that work in the early 19th century has obliterated much of this information (Willson archives).

Once again, finds were sparse. They included some bone and a few pieces of much abraided Roman pottery.

#### C. EAST BANK (TT6, TP6, TT7) (Fig.10)

Test pit 6 (top 72.5 OD) presented a similar picture of the foundations as did Test pit 4. There is a stepping or thickening of the wall at approximately Im to a depth of 2m. This was then set on to a layer of stone and mortar.

Neither of the trenches excavated at the Observatory Tower (TT6, TT7) showed evidence of surfaces as seen on the North side. This was probably due to later work on the landscaping of the tower. Certainly TT6 appeared to have more in common with a terraced garden than a medieval castle. TT7 showed some evidence of the use of boulders in the OT structure. Excavation in 1974 revealed a core of boulders dated to the 12th century in the Observatory Tower. Loose boulders were also found in the make-up of Lucy's Tower (see below).

### D. SOUTH BANK: LUCY'S TOWER (TP7, TP8, TT8) (Fig. 11)

The most unusual of the four areas viewed was Lucy's Tower. Its' foundations consisted of a series of small steps, (approximately three courses) that sat directly on to a base of stone. This layer in turn overlay another

consisting of orange sand and limestone fragments. The above layers extended to a metre in depth. Below them was a layer of large, loose, limestone boulders. TP7 showed evidence for neither strong footings nor a cohesive bank/platform. It is possible that the tower had been keyed in on the inside walls rather than the outer face. Since the tower was rebuilt in the 13th century, it is possible that the foundations of an earlier square tower may still exist and were keyed in on the inside to the present circular tower. There is evidence that a change occurs in keep construction, square keeps of the 11th-12th century being replaced by circular keeps from the 13th century (Renn, Norman Castles in Britain, p.54-69). These hypotheses would need to be tested by investigation. It was certainly not the norm to place a structure on layers of loose stone though there have been some examples of this.

As to the possibility of an earlier timber castle, it seems unlikely that it occurred in conjunction with the loose boulder layers. Once again the evidence for a timber castle was not evident from the sample trenches investigated.

No dating evidence was uncovered of a reliable nature.

#### Comment - Interim Conclusions

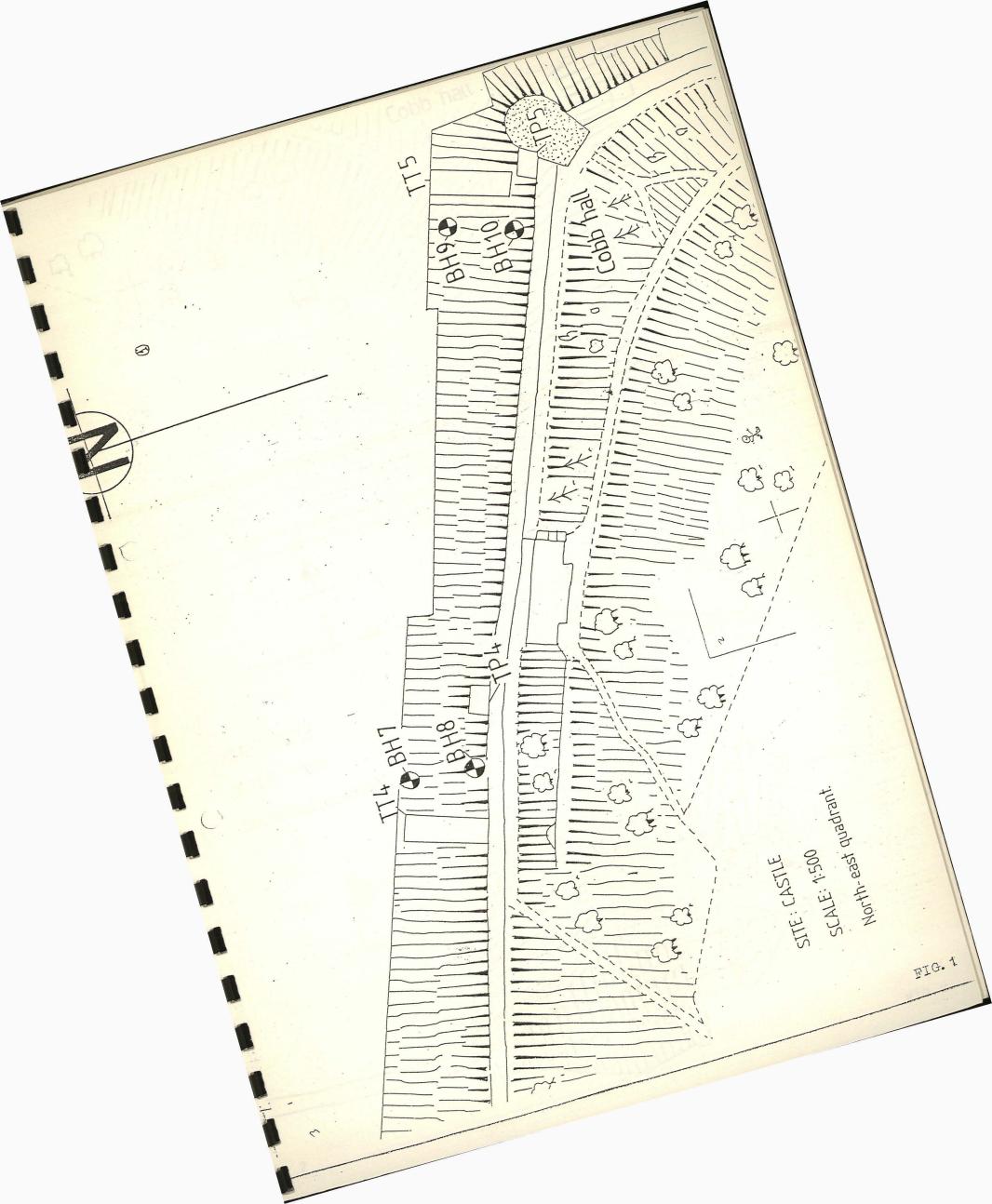
The main feature which stands out throughout this watching brief is the lack of a consistent approach to the construction of the walls of the castle. Although they differ, the banks seem more consistent than the wall foundations. It is possible that different work gangs might have accounted for this disparity in building techniques. We must also take into account that the construction was carried out taking into consideration any pre-existing structures or formations and incorporating them into the overall design. Within that, it is possible that there were individual quirks in the work carried out by any one gang. This probably is best seen on the West Bank where, in all probability, the bank is based on the earlier Roman structure.

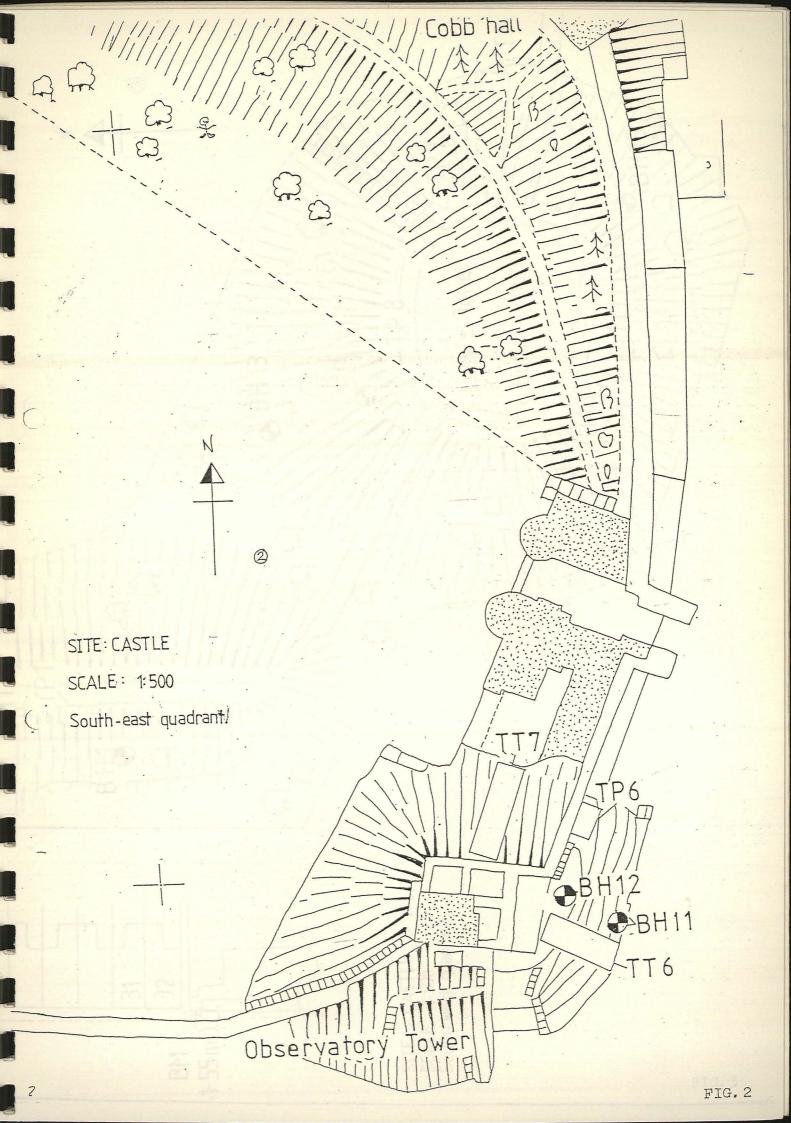
The presence of surfaces on the North side also appears as an oddity, as there is no evidence for other surfaces in the excavated areas on the other banks. The existence of a lower core of pre-existing archaeological deposits may have required more attention to consolidation than the West bank. It may be that the bank construction was viewed as several separate building projects rather than one simultaneous effort. Following this is the possibility as well, that the material available differed in part from the material excavated on the West bank from an earlier Roman ditch, one requiring better footings than the others. The

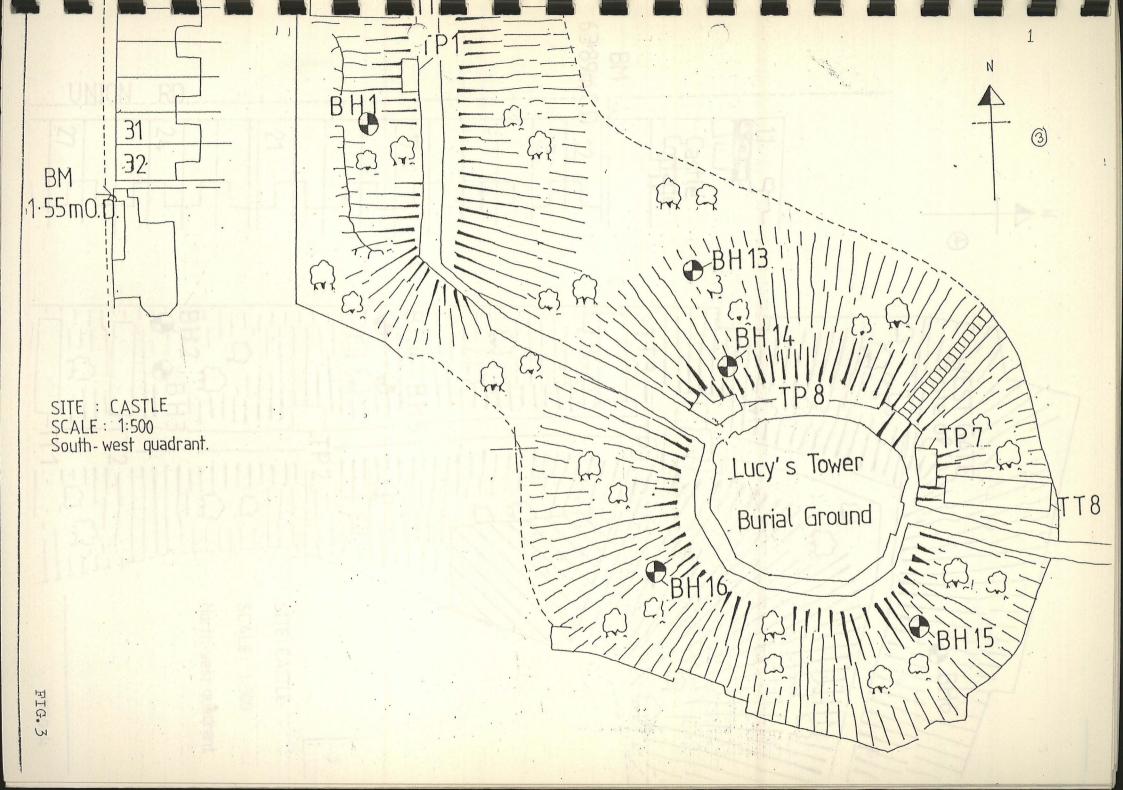
lack of datable material, as well as the limited areas with which we have had to work, as made the understanding of these structures difficult.

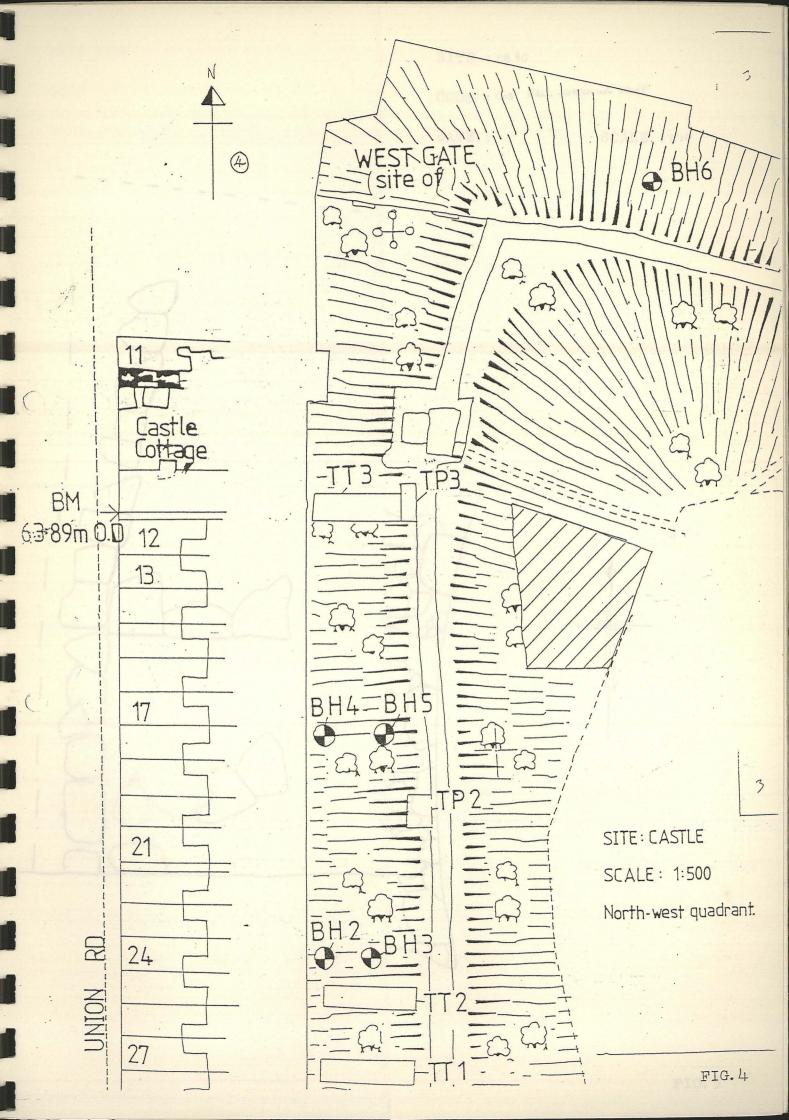
There was no evidence for the postulated early castle built from wood. Nor was there any evidence at Lucy's Tower for wooden palisade on the motte. However, the presence of the layer of loose stone boulders does not lead one to expect a wooden tower or palisade. In contrast, the defensive banks certainly could have accommodated a wooden palisade, there was, however, no definite evidence of cutting into or flattening of the banks to allow the replacement of the wooden wooden structure by the subsequent stone walls. It is conceivable that any wooden structure was a stop-gap attempt while the castle was being formally constructed in stone.

L. Donel









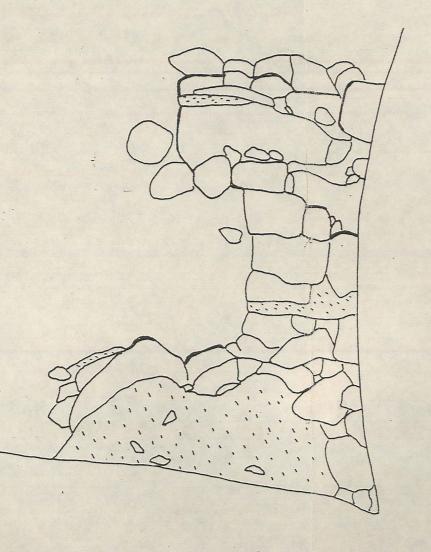


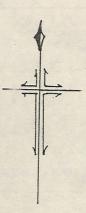
oln LN1 3BL - Tel (0522) 545326

ASTLE STIGATION SITE : CB 90

CODE : COS HALL - WATCH INC BRIEF

DATE: SCALE: 1:10





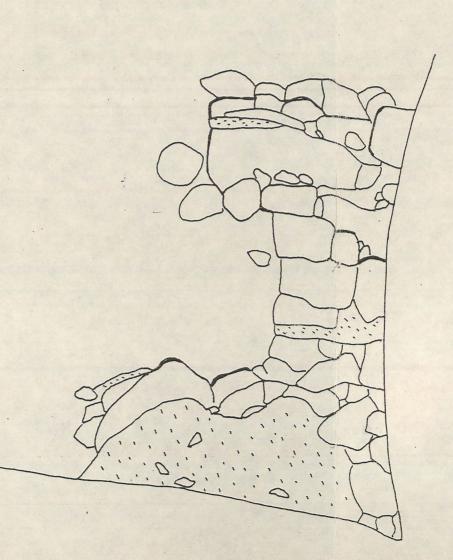


# LINCOLN CASTLE STABILITY INVESTIGATION

SITE : CB 90

CODE : COS HALL - WATCH INC BRIEF

DATE:



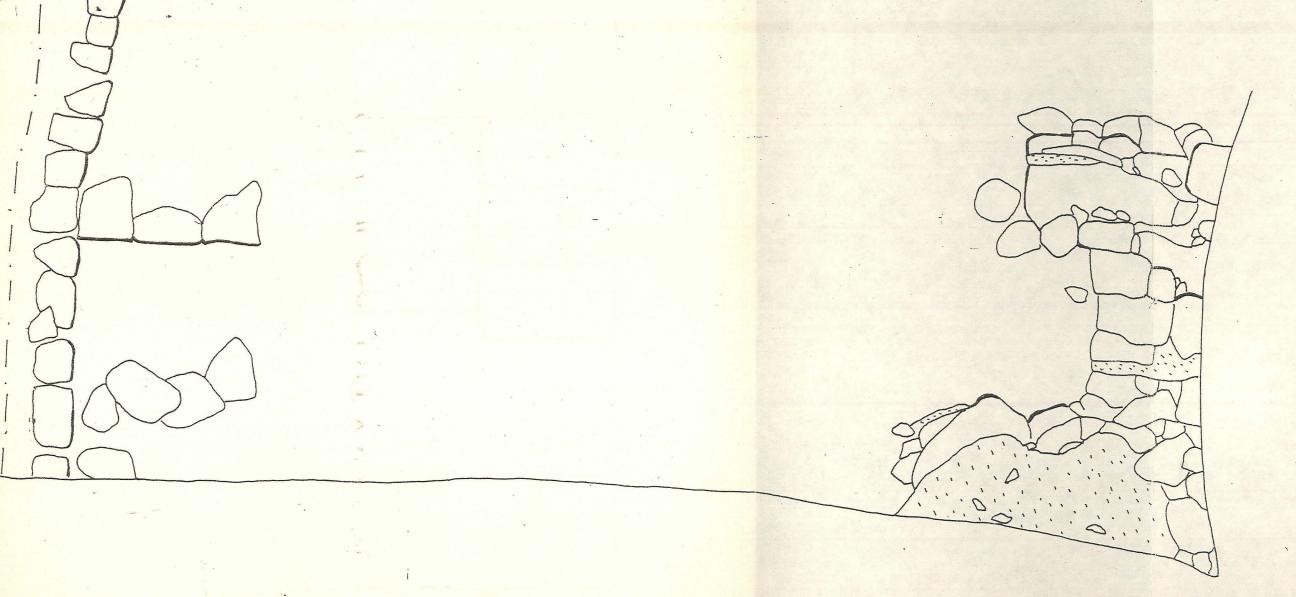


# LINCOLN CASTLE STABILITY INVESTIGATION

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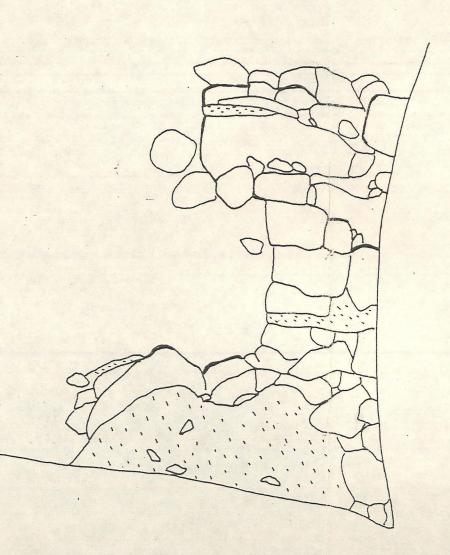


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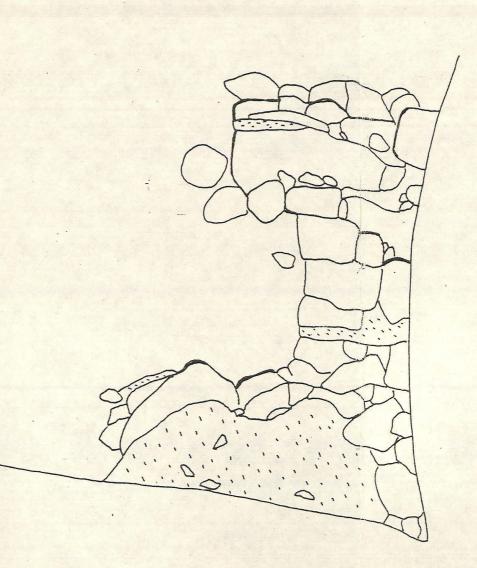


# LINCOLN CASTLE STABILITY INVESTIGATION

SITE : CB 90

CODE : COS HALL - WATCH INC BRIEF

DATE:



SITE : CB 90

CODE : TP 4

DATE : 11 | 5 | 90 .

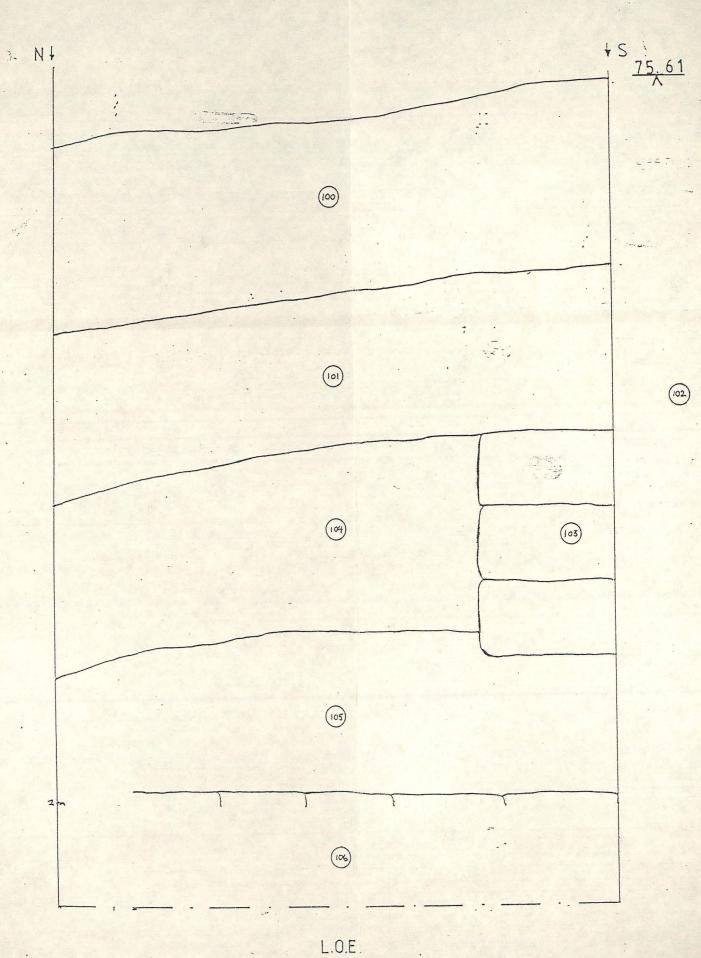
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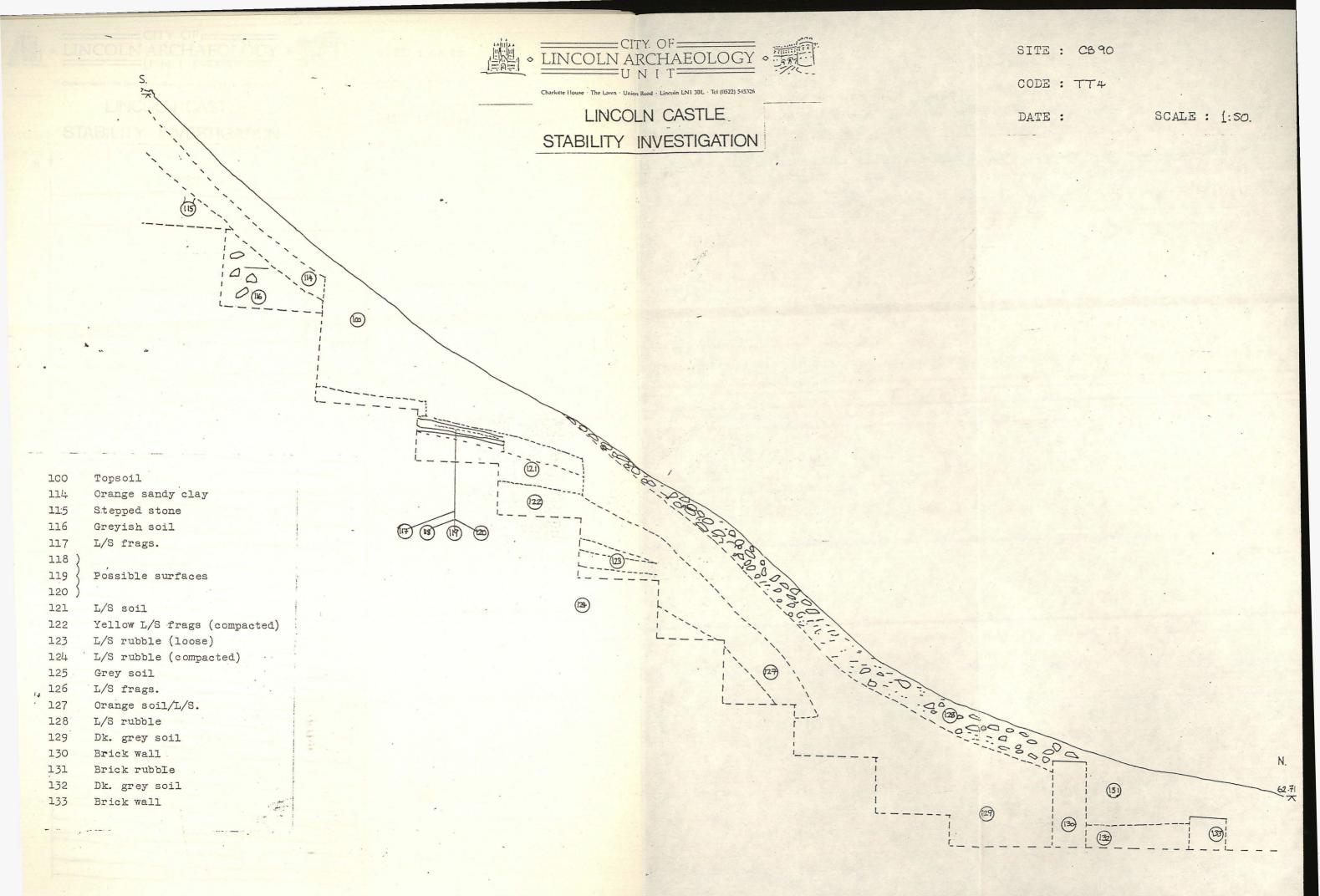


### LINCOLN CASTLE STABILITY INVESTIGATION

#### KEY ...

- 100 Dark grey soil with 1/s frags
- 101 Orange sandy soil, 1/s brash
- 102 Castle Wall
- 103 Footings
- 104 Orange sandy soil, lg.l/s
- 105 White sand, 1/s chips
- 106 Stone







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SITE : C8 90

CODE : TP /

DATE : 21/5/90

SCALE : 1:10

LINCOLN CASTLE

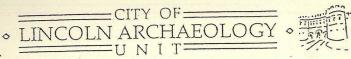
STABILITY INVESTIGATION NY TOPSOIL (141)

5 COURSES - CASTLE WALL

FLAT LAID LIMESTONE ORANGE SOIL

L.O.E.

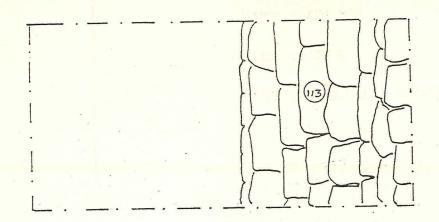


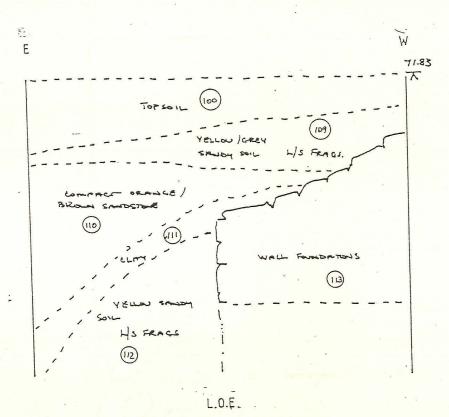


Charlotte House - The Lawn - Union Road - Lincoln LN1 3BL - Tel (0522) 515326 LINCOLN CASTLE STABILITY INVESTIGATION SITE: CB 90

CODE : TP3

DATE : 18/5/90





## LINCOLN CASTLE STABILITY INVESTIGATION

SITE : CB 90

CODE : TP 6

DATE : 21/06/90 SCALE : 1:10

(107)

Stepped footing

rough stones, boulders/morter

L.O.E.



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LINCOLN ARCHAEOLOGY

SITE : CB 90

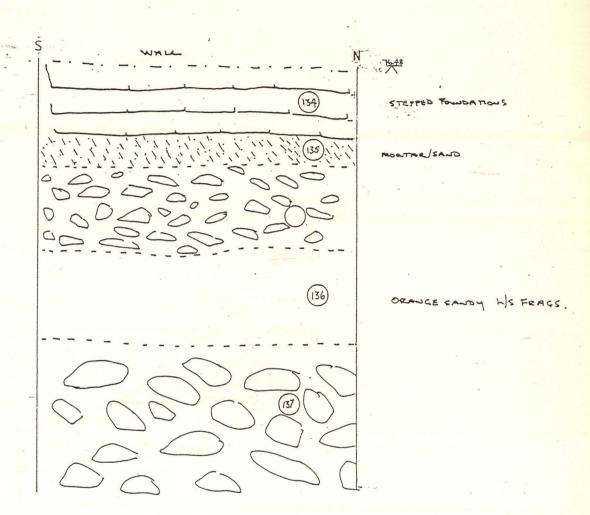
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CODE : TP7

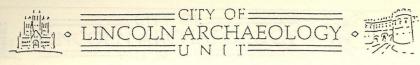
LINCOLN CASTLE
STABILITY INVESTIGATION

DATE : 21/5/90

SCALE : 1:20



L.O.E.



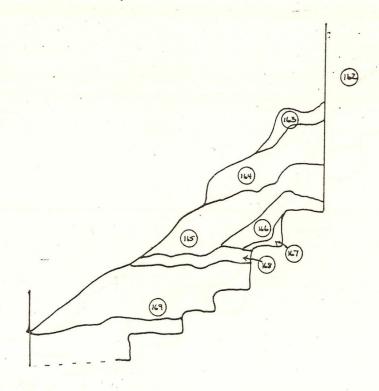
### LINCOLN CASTLE STABILITY INVESTIGATION

SITE: CB 90

CODE: TTI (TOP)

DATE:

SCALE: 1:50



162 Castle wall

163 Loose L/S and dk. brown soil

164 Clay/cobbles

165 Orange gravel/clay

166 Orange sandy gravel/boulders

167 Orange gravel

168 Limestone boulders/clay

169 Orange gravel/clay/ limestone frags.





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### LINCOLN CASTLE STABILITY INVESTIGATION

SITE: CB90

CODE: TTI (BOTTOM)

DATE:

SCALE: 1:50

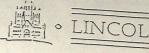
170 Organic soil/clay

171 Orange sandy gravel/boulders

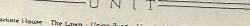
172 Limestone boulders/frags./ sandy gravel

173 Orange gravel/boulders

174 Limestone frags./modern refuse





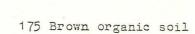


### LINCOLN CASTLE STABILITY INVESTIGATION

SITE: (890

CODE: TT 7

DATE:



<sup>176</sup> L/S frags.

<sup>177</sup> Sandy gravel/limestone frags.

<sup>178</sup> Limestone boulders/frags.

<sup>179</sup> Limestone frags., brick, mortar

<sup>180</sup> Limestone boulders/frags.



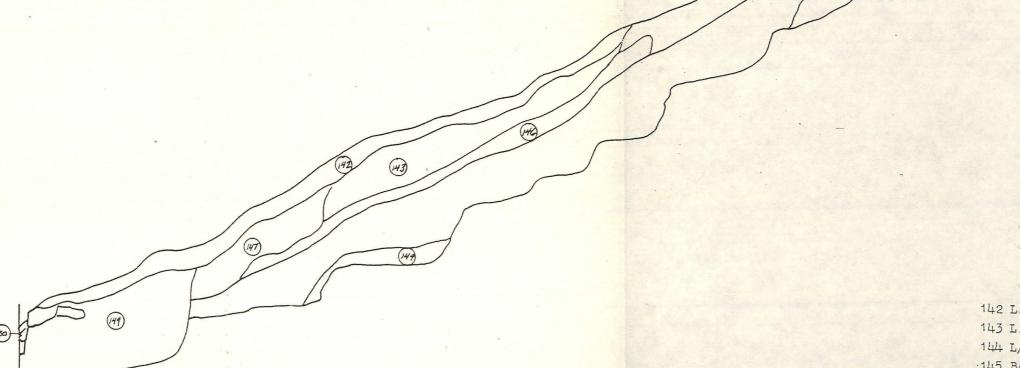
# LINCOLN CASTLE STABILITY INVESTIGATION

SITE: CB90

CODE: TT8

DATE:

SCALE: 1:50



142 Limestone frags.

143 Limestone frags./boulders

144 L/S frags.

:145 Boulders

45

146 Limestone frags. / sandy soil

147 Sm. L/S frags. and soil

148 L/S frags. and yellow soil

149 Grey soil

150 Retaining Wall