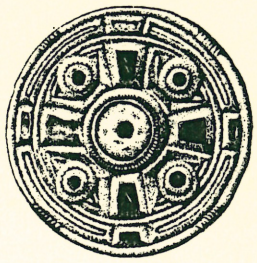

Archaeological Field Unit

St Mary's Church, Shudy Camps
A Survey of the Upper Stages of the Tower

Ben Robinson and Anthony Baggs

June 1999

Cambridgeshire County Council

Report No. 160

Commissioned By English Heritage

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Cambridgeshire County Council
Fulbourn Community Centre
Haggis Gap, Fulbourn
Cambridgeshire CB1 5HD
Tel (01223) 881614
Fax (01223) 880946

Arch.Field.Unit@libraries.camcnty.gov.uk
http://www.camcnty.gov.uk/library/afu/index.htm

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1. INTRODUCTION

Restoration works on the tower at St Mary's church, Shudy Camps, Cambridgeshire, during the winter of 1993/94 revealed the precarious nature of its upper stage. A decision was taken to dismantle the tower down to the belfry level string course and to re-construct it using a brick core and as much of the original fabric as practical .

English Heritage commissioned Cambridgeshire County Council Archaeological Field Unit, in conjunction with the Cambridge Historic Buildings Group, to undertake a rapid recording exercise as a matter of urgency before the dismantling process. This was followed by observation and recording during dismantling. The responsibility for the removal and labelling for re-use of the masonry remained with the restoration contractors (Lodge & Son Ltd).

No recording had been carried out before, or during, the preceding restoration phase which had dealt with the tower from ground level up to the belfry level string course.

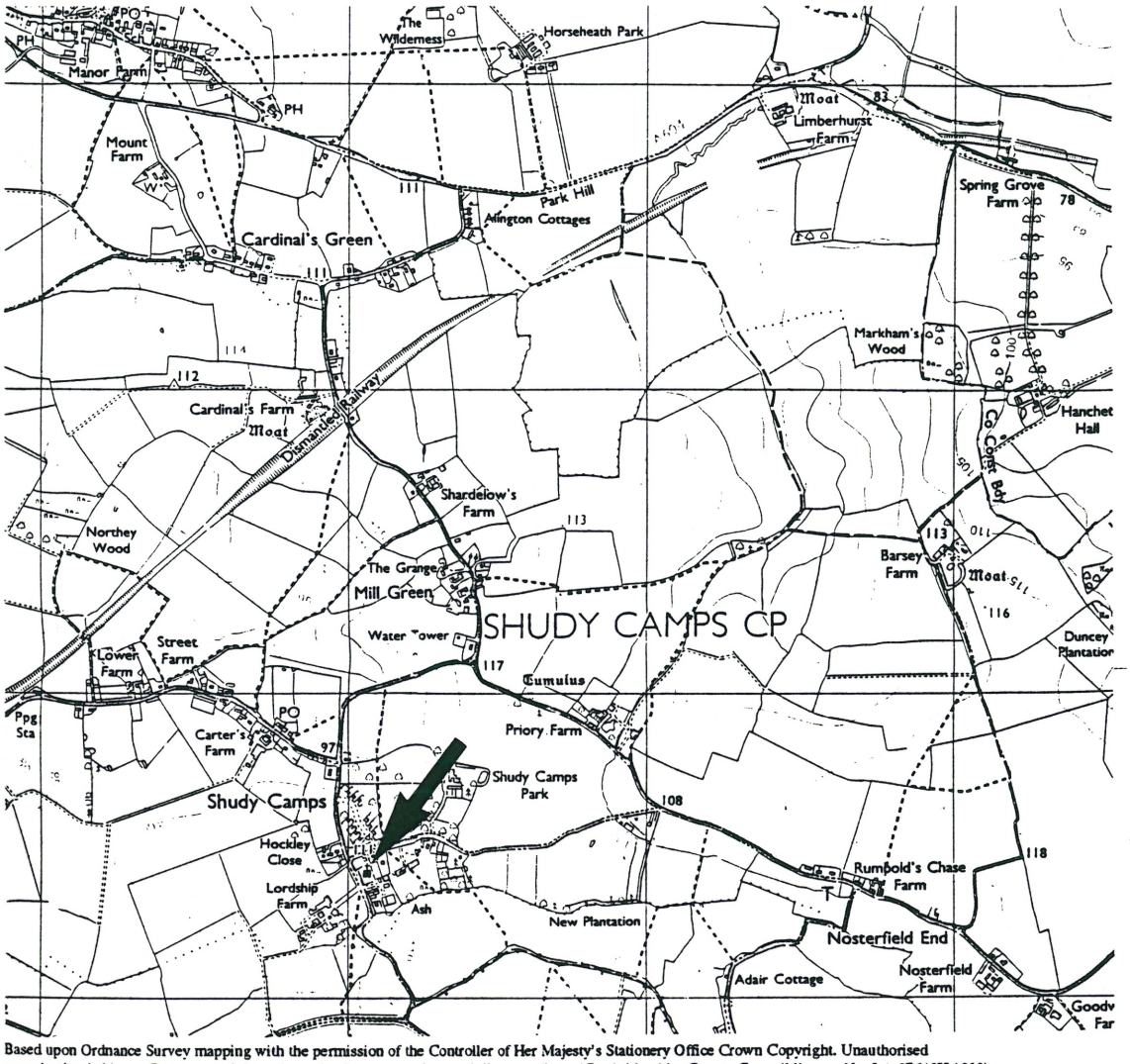


Figure 1 *Location map: based on OS Pathfinder 1028 (TL 64/74) 1:25000*

2 PROJECT OBJECTIVES

The recording was carried out to satisfy the brief prepared by Dr. Robert Harrison BArch, Anglian Team, English Heritage to provide:

I) A record of the nature and appearance of this part of the tower before its restoration and;

Ii) An interpretation of the history of this part of the tower, identifying its original constructional detail, modifications and repairs. An attempt was made to relate these to the constructional history of the rest of the church.

The work was carried out rapidly, in conjunction with the restoration schedule.

3 BACKGROUND

3.1 Location and Topography (Fig. 1)

St Mary's is the parish church of Shudy Camps, an un-nucleated village in the boulder clay borders of Cambridgeshire and Essex. The church stands in a rectangular churchyard close to the southern boundary of the parish at some 113m above ordnance datum.

3.2 Architectural Background (Figs. 2 and 4; Pls. 1, 2, 3 and 4)

There is documentary evidence for a church by about 1200 (Wright 1978). The present building is built of fieldstone rubble (mostly flint) and brick with clunch dressings. Fragments of twelfth century carvings have been re-used in the walls and the south doorway of the chancel is probably thirteenth century. St. Mary's has a chancel, a nave with south porch and a west tower. The central axis of the chancel is not aligned with those of the nave and tower and the nave is slightly trapezoidal in plan. This is probably the result of the nave being widened to the south in the fourteenth century. The north wall of the chancel is about 0.9m thick, the south wall is thinner and has a fourteenth century priest's doorway. Its east wall has been rebuilt in red brick.

The nave is more than 6.4m wide, which is unusual for a small Cambridgeshire church and it is unlikely to follow the foundations of its early medieval predecessor. The windows are in fifteenth century style, but all have been partly if not wholly rebuilt in the nineteenth and twentieth centuries. The blocked north door is fourteenth century, that on the south is fifteenth century. The porch is probably late medieval but, its south wall has been rebuilt in red brick.

The tower is only 2.7m square at ground level and has walls approximately 1.2m thick. The west window has two lights with fourteenth century tracery and the stage above has a small single light window with a two-centred head. There are cusped two-light windows of fifteenth or early sixteenth century date, in the north, south and west walls of the top stage. The east wall has a small single-light window, similar to that of the

the west wall of the stage below. The embattled parapets are of brick with limestone dressings and are late nineteenth century. There are diagonal buttresses which stop below the top stage. A stair leads to the ringing chamber in the angle between the tower and the south-west corner of the nave. The plainly-chamfered tower arch of two orders rises off brackets and is the full width of the tower.
There are five bells in an oak frame which was originally designed for four (the number recorded in 1552). The earliest of those present now dates to 1621.

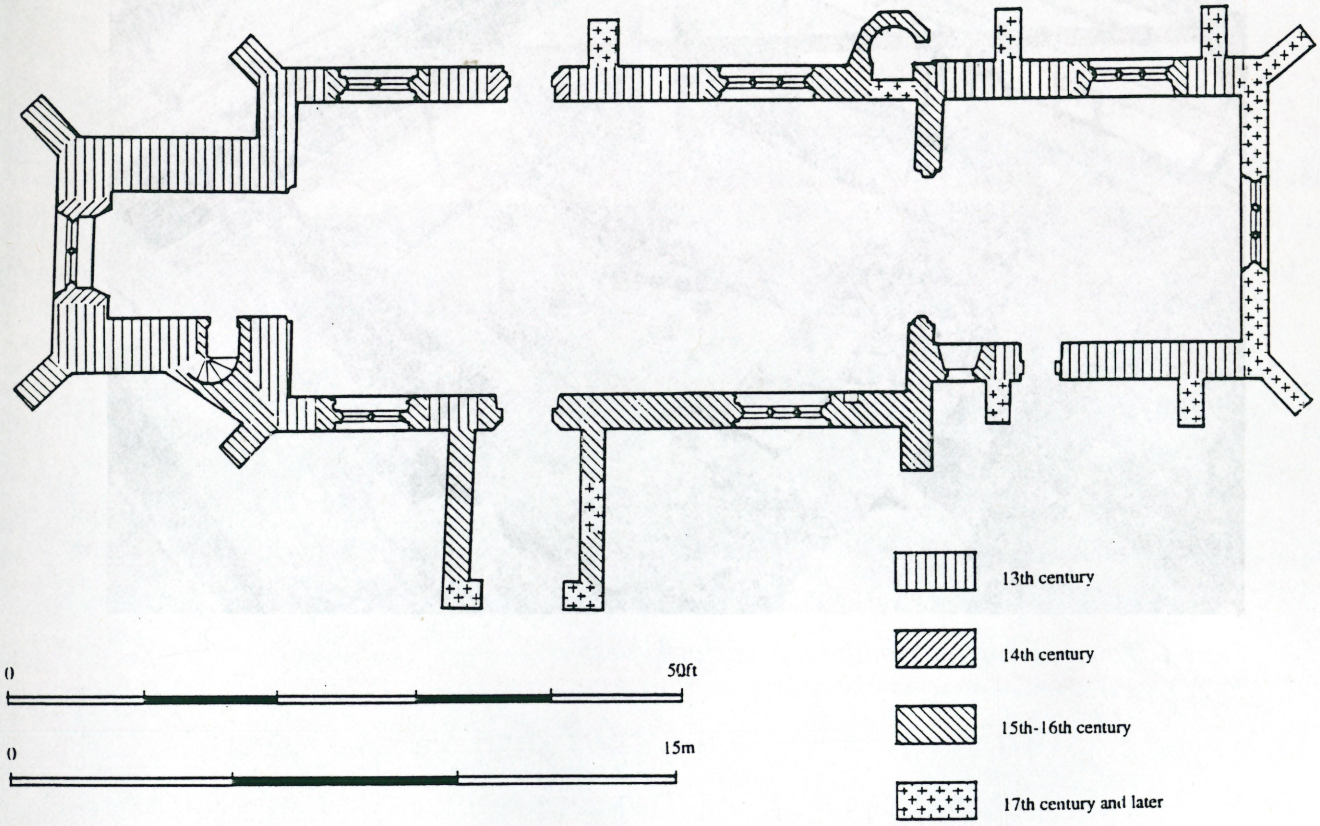


Figure 2 *Plan of St. Mary's church, Shudy Camps (Drawing by A. Baggs)*

4 METHODS

The recording work occurred in two phases: pre-dismantling recording and recording during the dismantling process.

4.1 Pre-Dismantling Recording

Most of the render which had survived on the upper stage of the tower up to the start of restoration had been stripped off before the survey to allow re-pointing. Plaster on the internal faces mostly had been left intact.

Drawings were made of the surviving plasterwork and render. Records were made of its character and inter-relationship during its stratigraphic removal.

The proximity of the builder's scaffolding did not allow photogrammetric or rectified photography of the upper stage of the tower from which elevation drawings could have been produced. The results of a rectified photographic survey (from photographs taken at ground level) commissioned by the restoration architect, Mr. P. Woods, were made

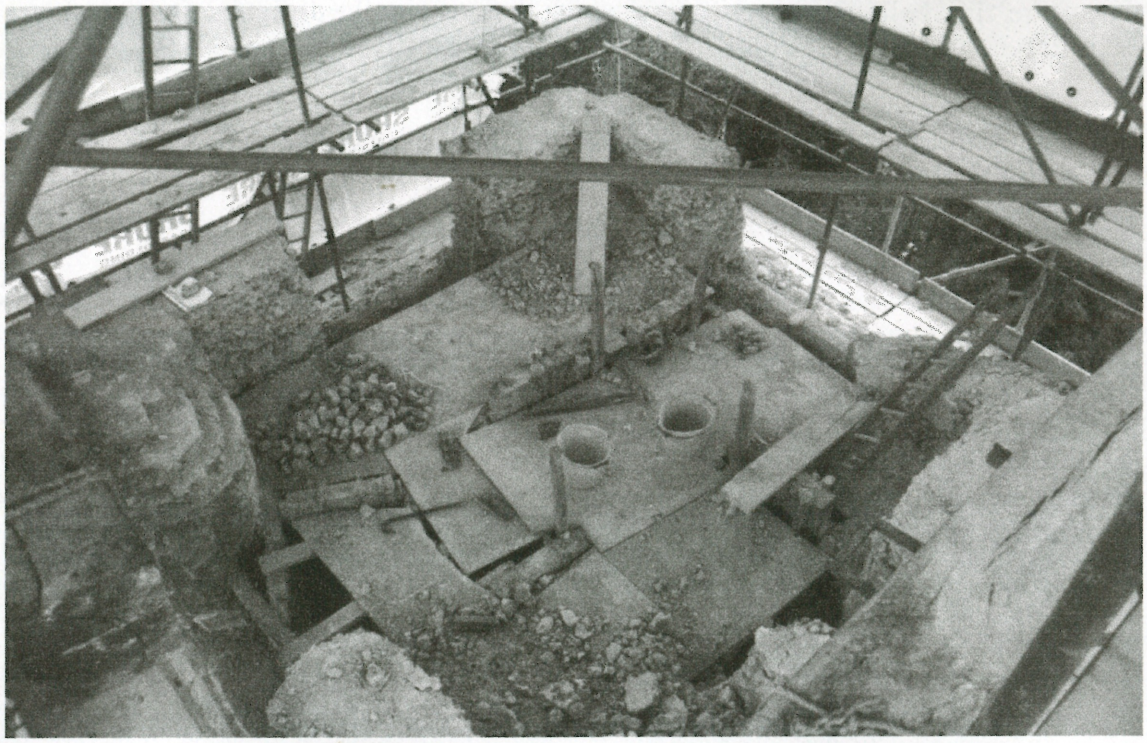


Plate 1 *Tower during dismantling, from north-west*

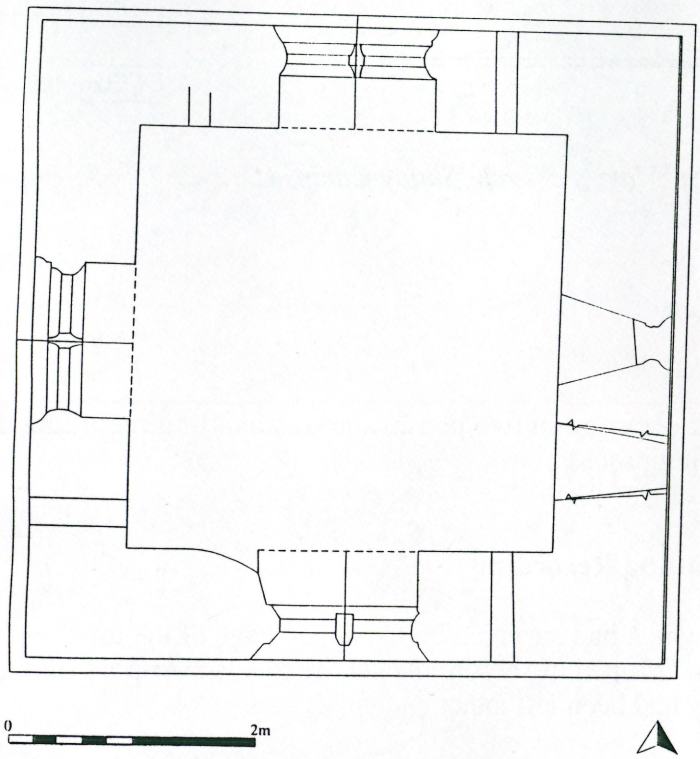


Figure 3 *Cross-section of dismantled tower at belfry level*

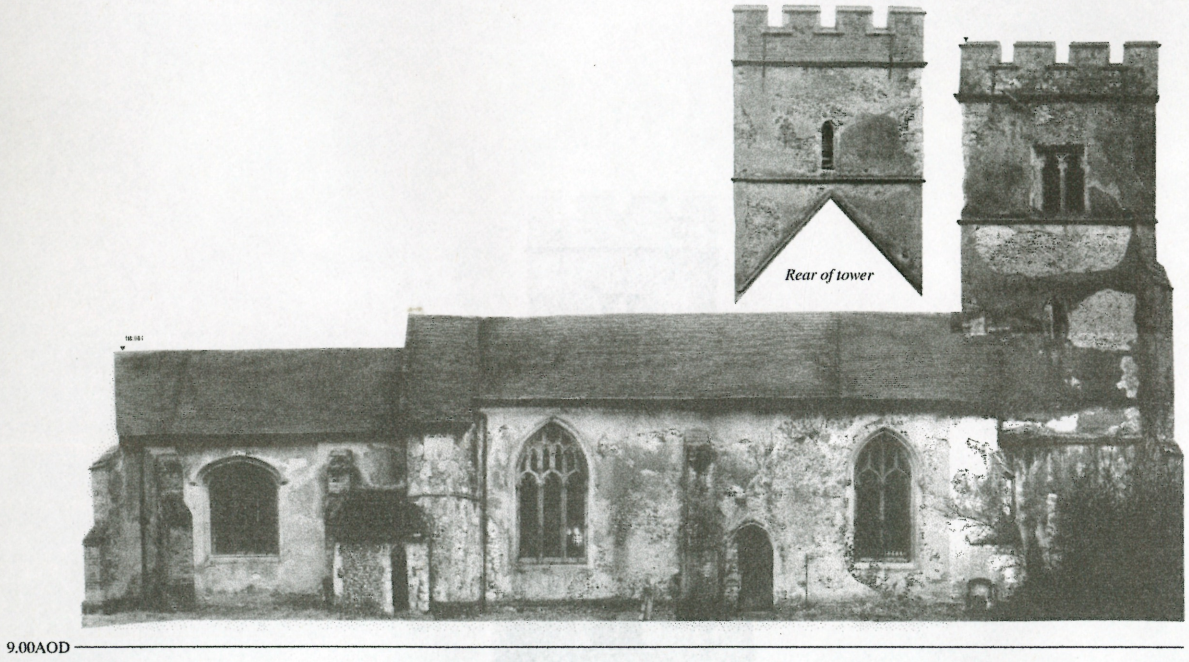


Plate 2 *North elevation (photograph courtesy of Woods Architects)*

Plate 3 *South elevation (photograph courtesy of Woods Architects)*

Plate 4 *West face of tower (photograph courtesy of Woods Architects)*

available. The results, produced at a scale of 1:50, however, did not show sufficient detail of the upper stage of the tower to serve as the basis for the survey.

Elevation drawings of stripped internal and external faces were produced at 1:20. A levelled datum line on each face provided the basis for measurements. Plans were produced at parapet and belfry level (also at 1:20). All drawings were supplemented by colour and monochrome photographs of significant architectural detail and showing the general character of exposed walls. The nature of the scaffolding tower reduced the ability to capture large expanses of walling at anything other than very oblique angles.

Stone by stone (or brick by brick) recording by area was not requested. The individual elements of discrete features within areas of brickwork and flintwork were, however, drawn. Mouldings which were to be re-used in the reconstructed structure were not recorded in detail.

Unless otherwise specified, all elevations and plans in the text refer to original drawings by B. Robinson.

4.2 Recording Brief

Regular inspections were made during dismantling work to note any features which had hitherto remained hidden. Mortar and plaster samples were taken to define the

character of the materials used and to help define areas of re-building and inserted features which could not be easily determined otherwise (see *Appendix I*).

Fieldwork was carried out by A. Baggs (CHBG) and B. Robinson with the assistance of H. Bailey (CCCAFU) in November/December 1993 and January 1994.

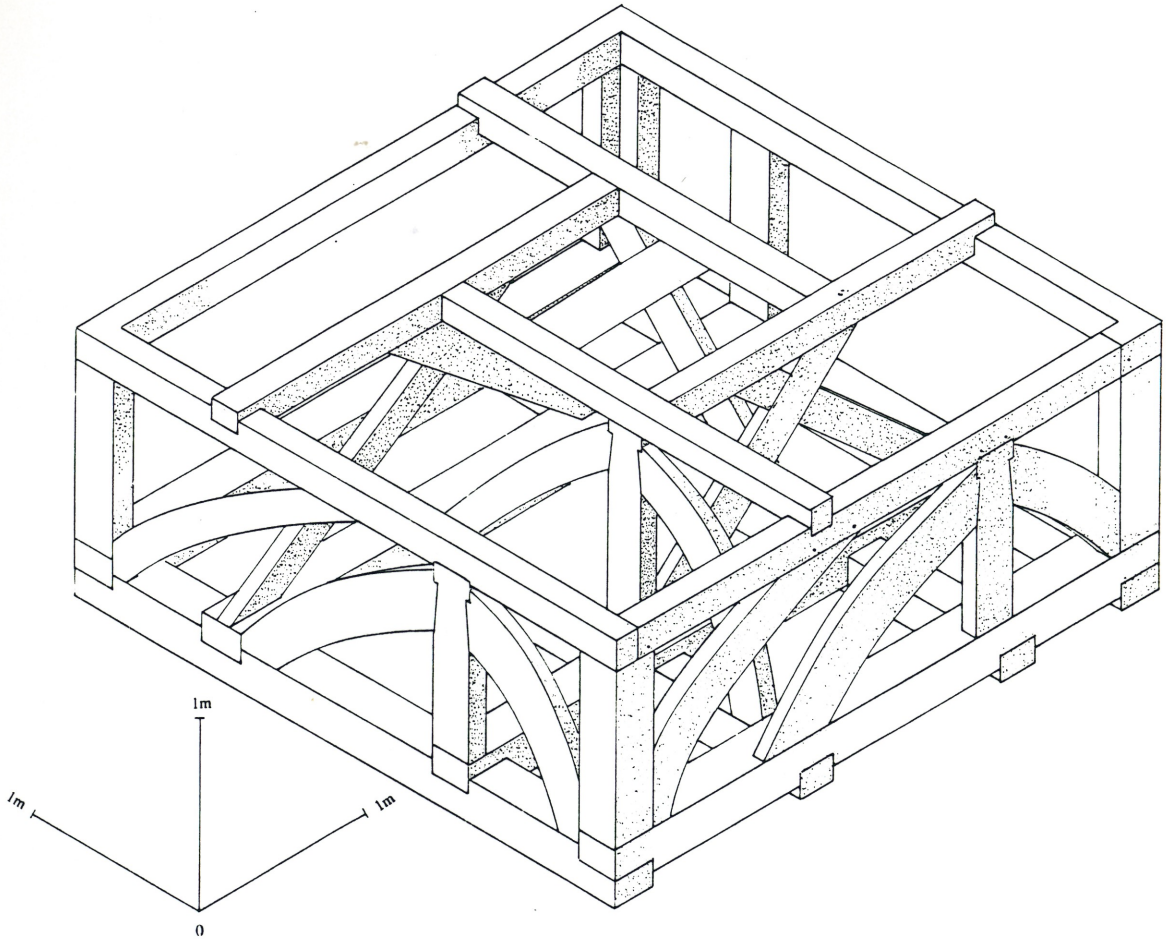


Figure 4 *Isometric plan of bell frame (Drawing by A. Baggs)*

5 RESULTS

5.1 The Parapet (Pls. 5, 10 and 12)

The parapet was of nineteenth century brick (type B1, large and regular, see *Appendix II* for brick types) with limestone dressings. Whole or part peg tiles had been used to level the top courses to take limestone coping. A string course of limestone (coping) which capped the flint rubble of the walls below parapet level was similarly levelled to take the brickwork of the parapet. There were 15 courses of brick on each face. Below the level of the battlements this was a fairly uniform English bond, though closers had been used liberally to compensate for the irregular size of the quoins. At battlement level the brick coursing was entirely irregular.

The north and south wall had limestone gargoyles and the west wall had a grotesque (all animal forms) set within the string course.

The shallow-pitch lead roof covering had recently been installed. It is probable that the Barnack limestone dressings and certainly the grotesques and gargoyles were pieces re-used from an earlier upper stage of the tower.

Plate 5 *Grotesque on west face of tower parapet*

5.2 Upper Stage North Wall (Figs. 5 and 6; Pls. 6, 7 and 8)

The render had been completely removed from the external face before the survey. The internal face was almost completely covered with nineteenth century plaster P1 (see *Appendix II* for plaster types). This plaster overlay brick coursing (of type B1 and B6) but was run out to leave the ashlars of the window reveals exposed. The second and fifth ashlars on the east side of the reveal had 'W.K.1699' and 'BR' respectively

inscribed on their west faces. Its removal revealed two small patches of plaster of types P3 and P4 (possibly also nineteenth century) above and to the east of the window. They abutted one another with no clear stratigraphic relationship. P1 also filled a shallow recess in the lower east portion of this internal face. This informal recess had been excavated into the wall to accommodate the swing of the added north-east bell.

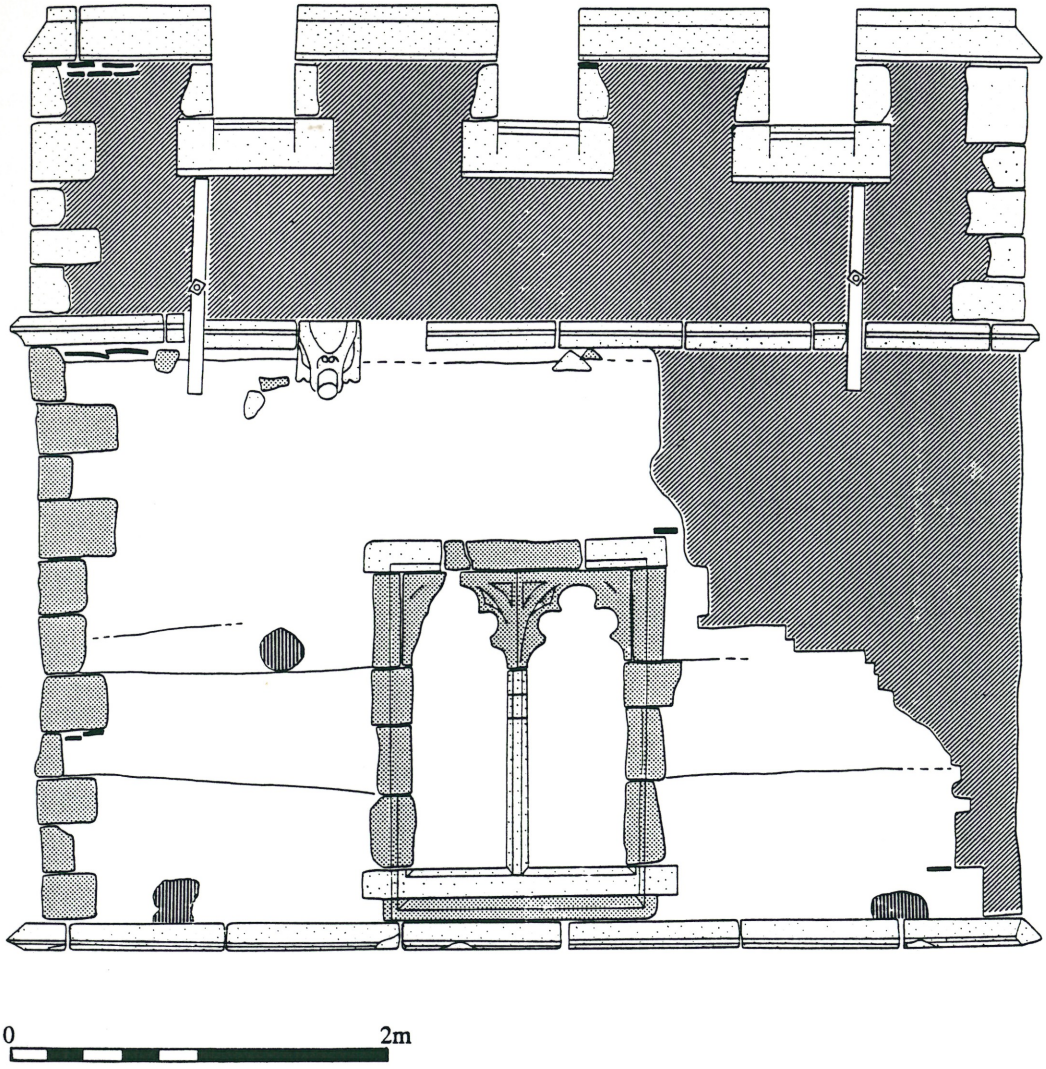
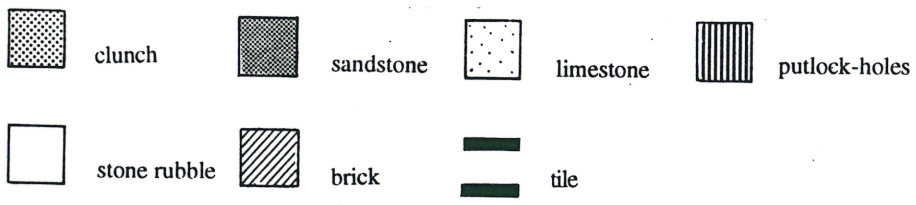


Figure 5 *North wall external elevation*



Key referring to Figs. 5-12

A repair of up to four courses of nineteenth century brick (type B1) replaced the outermost course of flint rubble just below the wall plate on the internal face. This was reduced to three courses mid-way along the wall and two courses at its east end. At the west end of the wall, extending to about 1m below the wall plate (and forming part of a repair which had been concentrated on the west wall's internal face) was a small area of uncoursed brick rubble patching (type B5).

The northern face of a large funnel-shaped repair of the north-west corner of the tower which extended onto the west elevation was of brick types B3 and B4. These were largely irregularly bonded, using headers and closers at the repair's limits, but incorporated a pattern of three header courses separated by a stretcher course. A vertical break was visible mid way up. Perhaps indicating two phases of repair.

The central, cusped, two-light window was of perpendicular form. All jambs and tracery were of clunch. The two end pieces of the lintel and the entire mullion were limestone replacements. The sill was also of limestone.

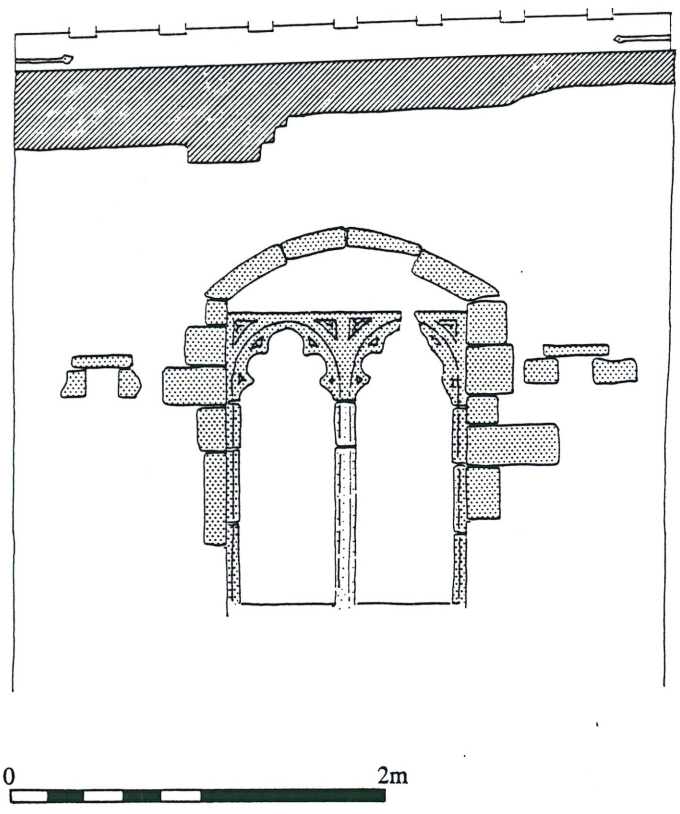


Figure 6 *North wall internal elevation (Drawing by A. Baggs)*

Plate 6 *North wall interior at belfry level*

Plate 7 *North wall belfry level light*

Two lift lines could be seen on the external face of the north wall. The first was 12 flint courses above the belfry level string course. The second was nine courses above the first to the east of the window and ten courses higher to the west. A lift line could be seen on the internal face extending across the wall at the level of the topmost ashlar of the window jamb.

Three putlock holes were visible externally, a fourth had been blocked by the brick repair of the north-west corner. The lower of these rested upon the belfry level string course. The two upper putlock holes were neatly framed with clunch and capped with limestone lintels. The lintel of the eastern putlock was found to be a fragment of grave cover (Δ11).

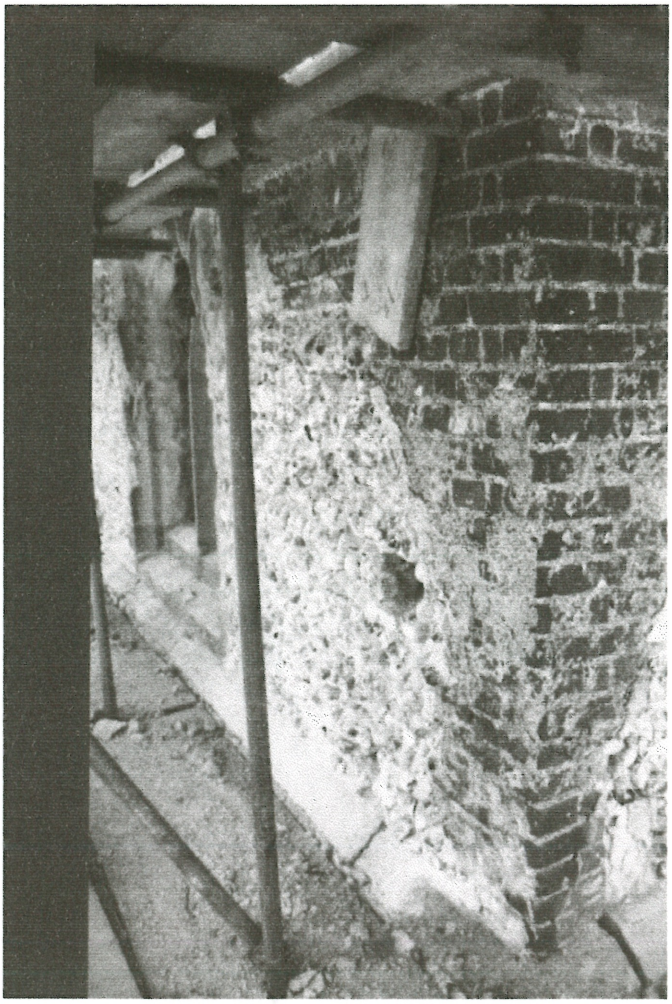


Plate 8 *Brick repair of north west corner at belfry level*

Plate 9 *West wall interior*

Plate 10 *South wall gargoyle*

5.3 Upper Stage South Wall (Figs. 7 and 8; Pls. 11 and 12)

A large patch of brown concrete render (which had evidently covered most of the exterior of the tower) remained on the western part of the external face, where it overlay a rebuild of large, regular bricks (type B6). Plaster P1 covered the eastern portion of the internal face but left exposed the brickwork of the western part of the face (also type B6), and the ashlars of the window reveal . The top ashlar of the east side of the reveal had 'HW 1786' inscribed upon it. P1 overlay P7, a small patch of hard creamy-white plaster.

The west part of this wall between parapet level and belfry level string courses, had been entirely re-built in brick (type B6, mostly in English bond though becoming irregular towards the edges of the re-build), leaving only a portion of the wall east of the window in its original coursed flint rubble form. Mid-way up the wall, on the internal face, the brickwork was offset by half a brick. Below this the wall curved to meet the window reveal in order to accommodate the bell frame.

The west jamb, east jamb and mullion of the central two-light window were of brick (type B6). The cusps, sill and lintel were of badly weathered clunch. Moulded bricks (as type Bx) formed the shape of the replaced mouldings and jambs. Render had been applied to both brick and clunch to further mimic the form of the original mouldings. The internal relieving arch of the window was segmental and formed of two courses of headers on edge (also B6).

Plate 11 *South wall east quoins*

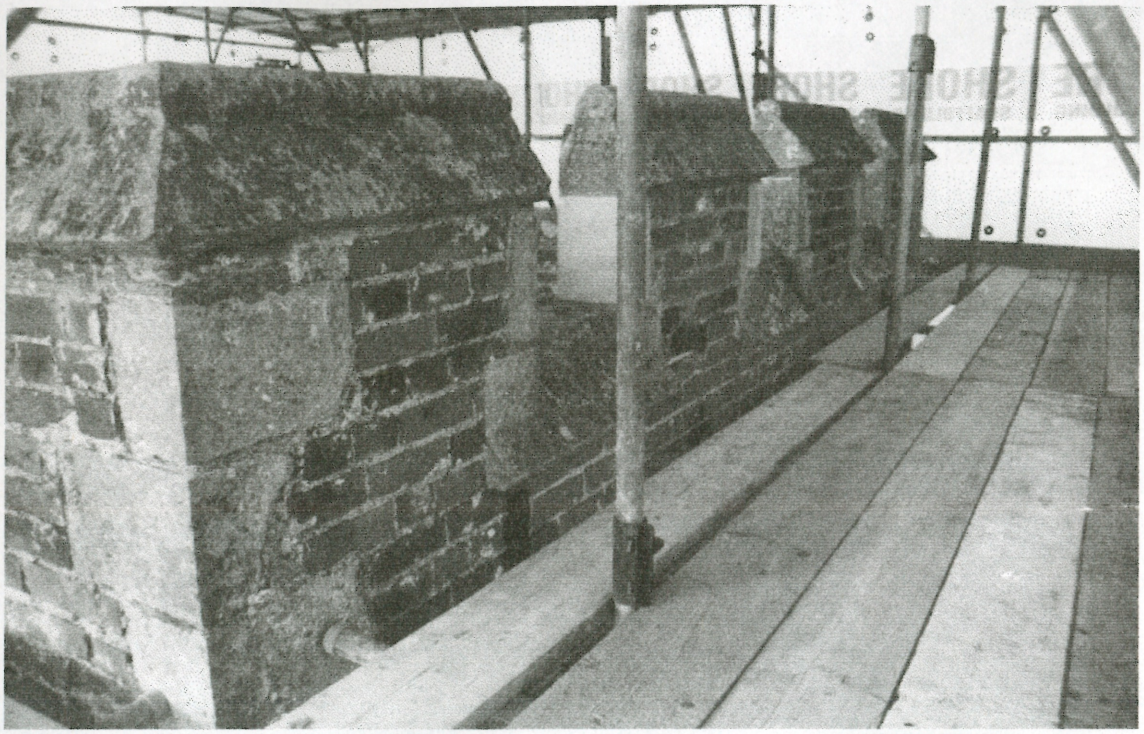


Plate 12 *South east corner of parapet*

A small brick patch (11 courses of type B2) had replaced all but two fragments of the lowest south-east quoins.

Lift lines could been seen on the external face of the small portion of original wall that remained to the east of the window. The first was 11 flint courses above the belfry level string course. A second could be discerned 12 courses above this, and a third 17 courses above the second. Only one possible lift line was located on the internal face; here the rubble was less well coursed than on the external face. The flint rubble wall was 860 mm thick mid-way up this stage and 840 mm thick just below the parapet level string course.

Three putlock holes were located. The upper of these was framed with peg tiles and a fragment of limestone on the external face. The lower two surmounted the lift lines and were blocked with clunch lumps. The middle putlock hole was neatly framed with clunch and capped with a limestone lintel on the internal face. The lintel was later identified as a fragment of grave cover (Δ 13) similar to that in the north wall (Δ 11, above).

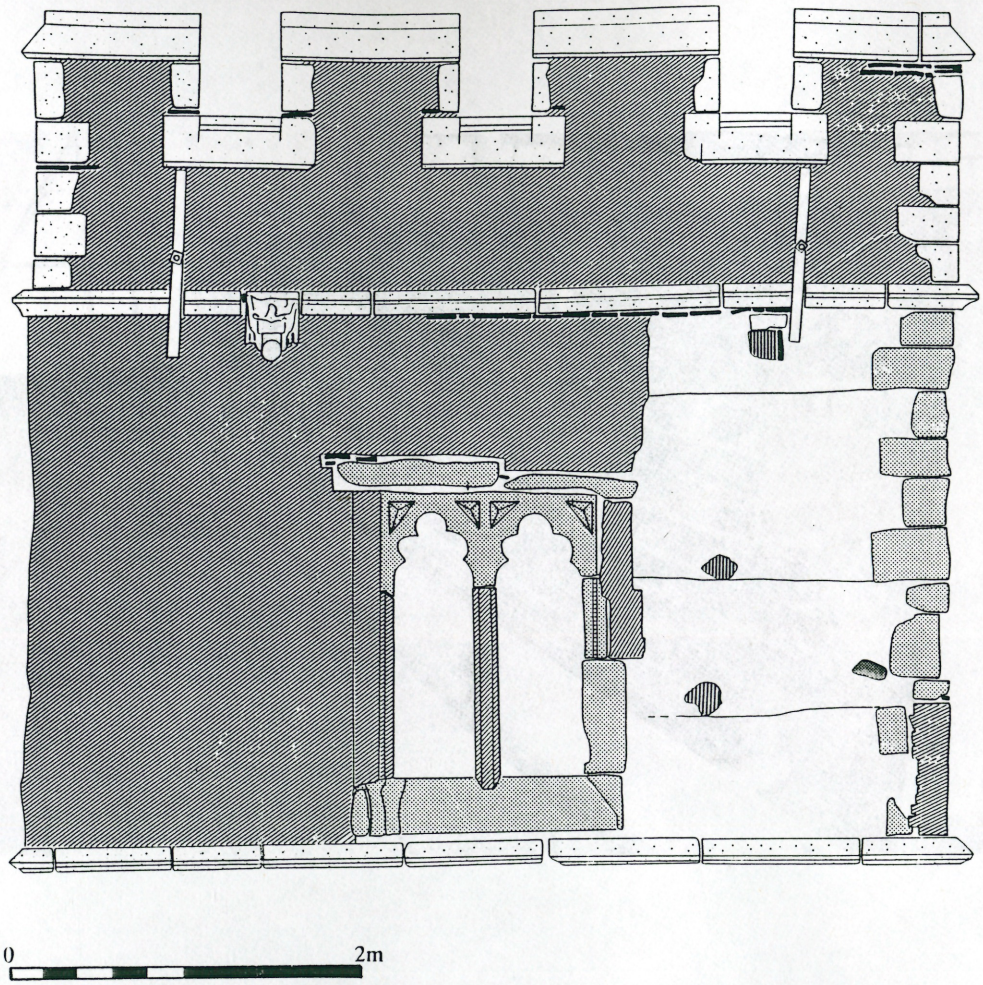


Figure 7 *South wall external elevation*

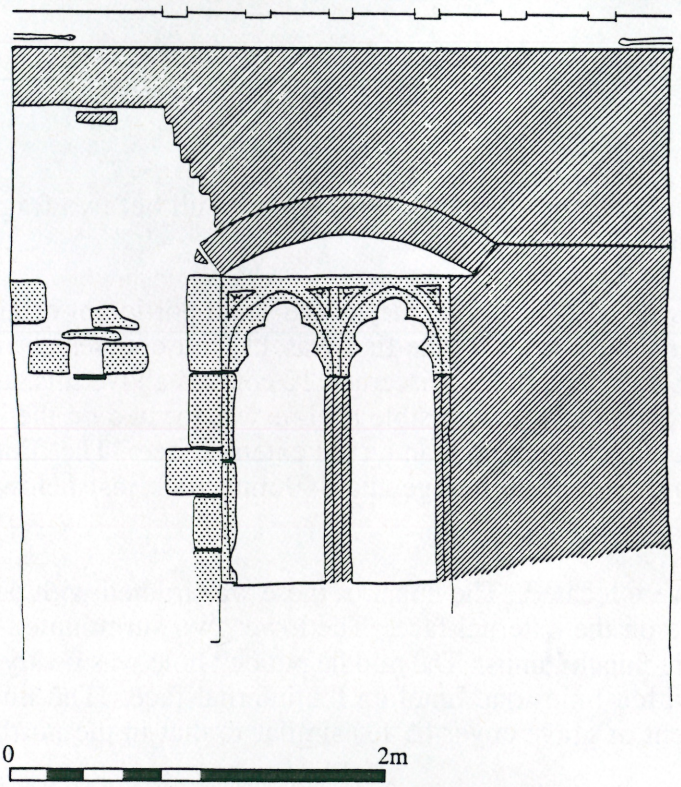


Figure 8 *South wall internal elevation (Drawing by A. Baggs)*

5.4 Upper Stage East Wall (Figs. 9 and 10; Pls. 13, 14 and 15)

All render had been removed from the external face before the survey. Plaster P1 covered most of the internal face and overlay a thick, hard plaster, P2, which in turn overlapped brickwork of type B2. P1 also sealed P5, a thin layer of plaster characterised by small rounded chalk granules and of similar consistency to the mortar bonding flint rubble courses. This plaster was confined to a patch on the lower portion of the north end of the face but also covered the reveal of the small central lancet. Here it ran out to leave the ashlars of the lancet reveal exposed. The third from bottom ashlar on the south side of the reveal bore the graffiti '1684 G.B.' on its north face.

Plate 13 *East wall interior at belfry level*

A large expanse of brick patching incorporating peg-tile fragments (12 courses, English bond, type B2 bricks – the upper two courses were inclined and separated from the lower course by half a course at one end), was encountered just below the parapet-level string course. Another smaller patch (11 courses, English bond, also type B2) abutted the north-east clunch quoins.

On the internal face, two courses of brick (type B1) supported a false tie beam. To the south of that, a large patch of brick (B2) extended down to the level of the head of the single light window. Two timbers were set in the brickwork. One was central and vertical and had been roughly cut off at the top to allow for the brickwork. At the bottom it rested on a horizontal timber which stopped a short distance from the south

wall. This timber formed the top of the inner face of a small blocked, inserted window whose plastered reveals were partly of brick (also B2 – a continuous build with the

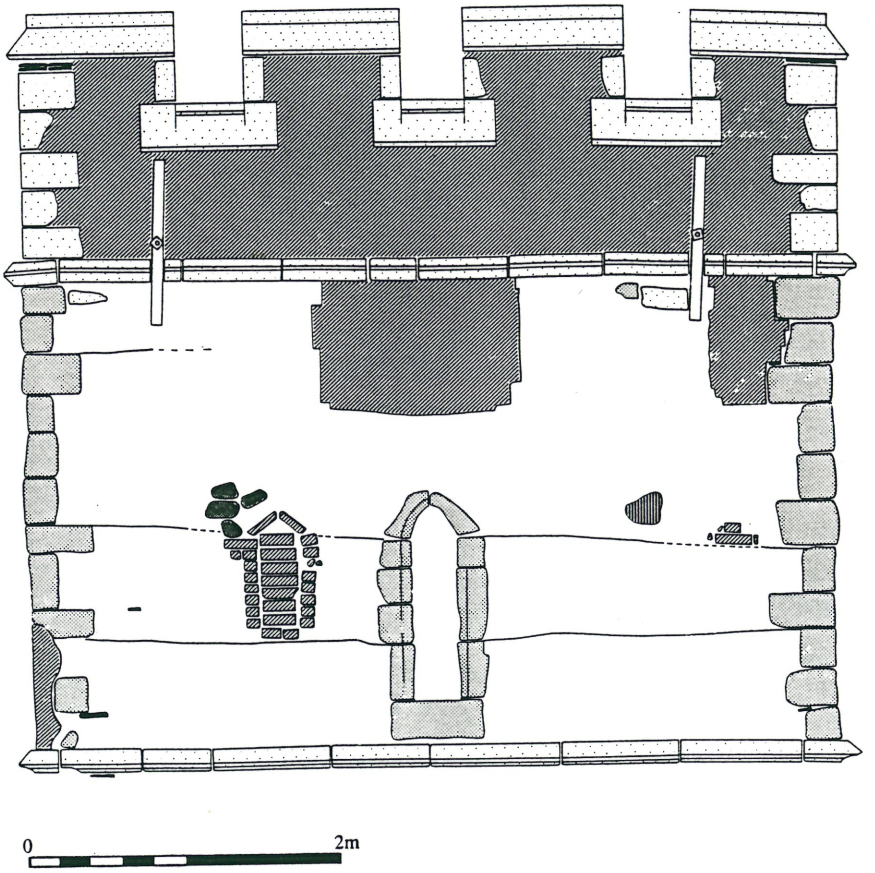


Figure 9 *East wall external elevation*

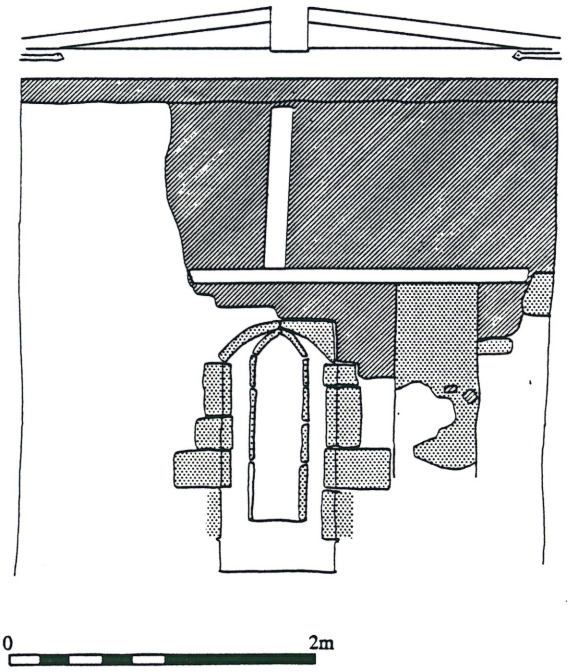


Figure 10 *East wall internal elevation (Drawing by A. Baggs)*

patch and timber work described above) and partly of flint. The blocked reveal of this curious opening was packed with clunch blocks, including one with moulding similar to that of the sides of the two main two-light windows. It had been sealed with plaster P1.

On the external face the opening was framed with half-bats and one complete brick (of type B7, a smallish irregular unevenly fired brick) and capped with two brick slips/tiles (similar in consistency to B7). It had obviously been inserted and seemed to have no real function. This, together with the original window, formed an incongruous and asymmetrical addition to the east wall. It had been bricked up with bricks of type B8. The central lancet of the east wall was formed of clunch.

Plate 14 *East wall belfry level blocked light*

Externally, the upper three courses of flint were set in harder mortar than was encountered elsewhere in this wall.

Two lift lines could be seen on the external face. The first was 11 courses above the belfry-level string course, the second was 10-11 courses above the first. The upper lift line was markedly thicker than the lower (up to 30mm). Short lengths of two possible lift lines could be discerned above these at the southern end of the external face but could not be traced any further due to the irregularity of the coursing at this height. No lift lines were observed on the internal elevation.

A single putlock hole, sealed with a clunch block, was seen to the south of the two windows. A second at the same level was seen to the north.

Plate 15 *East wall thirteenth century light*

5.5 Upper Stage West Wall (Figs. 11 and 12; Pls. 8 and 9)

All the render had been removed from the external face before survey, but plaster (type P1) covered most of the internal face. This sealed two courses of brick (type B1) below the false tie beam, and a crude rubble repair (of brick type B5) at the north end.

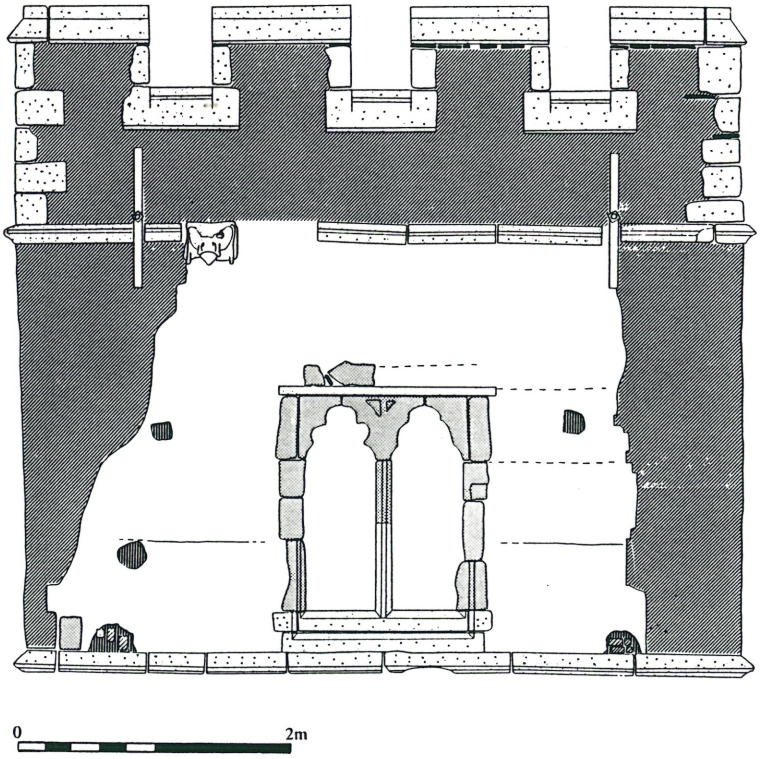


Figure 11 *West wall external elevation*

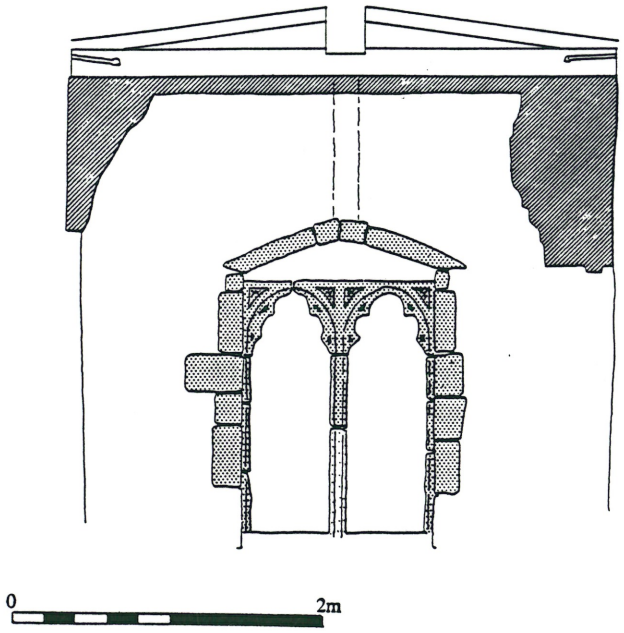


Figure 12 *West wall internal elevation (Drawing by A. Baggs)*

It ran out to leave the window reveal ashlars exposed. The second and fifth ashlars had 'NCR' and '1776 M' inscribed on them. The second and fourth ashlars of the south reveal were marked '16' and '1690'. It sealed plaster (P3) which was confined to a small central patch above the window. This patch of plaster had a central scar (*c* 200mm wide) indicating the position of a former vertical timber which had run from the centre of the window arch to the roof.

There were two extensive areas of brick patching on the external face. The northern patch was of type B3 and B4 and replaced all but a fragment of a single clunch quoin. The southern patch (type B6) was part of the rebuild of the south-west corner of the tower and was the entire width of the wall .

The centrally-placed window was of cusped two-light perpendicular style. Its tracery and jambs were of very badly eroded clunch. The sill was of limestone, as was part of the mullion (a repair). A thin limestone lintel had been inserted beneath its crumbling clunch predecessor.

Attempts at re-pointing during earlier restoration work had resulted in the collapse of part of the flint rubble wall beneath the grotesque and parapet level string course. At this level on all of the tower's external faces, very little mortar remained to bond the rubble together. That which remained was powdery but became much firmer towards the base of the stage.

The flint rubble walling was 860mm wide at mid-window level and 800 mm wide just below the parapet level string course. It was less well coursed above the window on the external face than elsewhere suggesting a rebuild. A lift line was visible 11 courses above the belfry level string course to the south of the window; a possible second could be discerned 11 courses above the first. The lower of these could also be traced in the northern portion of the wall.

Four putlock holes were located. The south upper one was blocked with a lump of clunch. The others were blocked with brick.

5.6 The Grave Cover (Figs. 8 and 13)

Three pieces of a grave cover were recorded as dismantling progressed. Two pieces (Δ11 and Δ13) had been reused as putlock lintels in the north and south walls. The third piece (Δ12) was removed from the north wall. The three pieces formed the mid section of a Barnack school grave cover. This example shows the raised central ridge and double 'omega' design developed in the twelfth century (Butler 1957).

The use of fragments of the grave cover in the modifications and repairs to the upper part of the tower confirms the presence of an earlier church and disturbance of the grave long after the initial burial.

5.7 Graffiti (Fig. 14)

Two pieces of medieval graffiti were noted on clunch masonry. The first came from the hidden face of the fifth ashlar in the east side of the north window. This was an

inscribed geometrical compass design, commonly found as a mark on medieval worked stone.

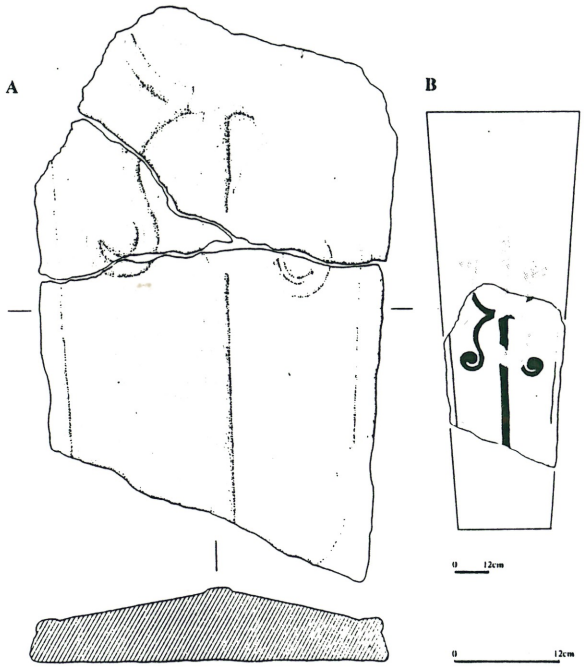


Figure 13 *Grave cover of Barnack stone* (Δ11, Δ12 and Δ13) *(Drawing by C. Malim)*

The second came from the east facing face of the eastern sill in the south window. A nine-men's morris board was found in association with another design, probably also a board game, rather than an aid to assist architectural measurements. The position of this piece suggests that upended it formed a convenient temporary gaming table during the building works.

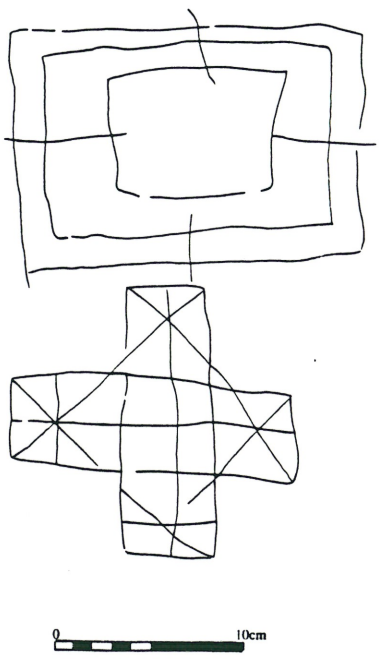


Figure 14 *Graffiti 'games': east facing face of the eastern sill in the south window*

6 DISCUSSION

The majority of twelfth and thirteenth century towers in south Cambridgeshire fall into a small number of distinctive types. One group (including Orwell and Bassingbourn) has decorative panelling of the upper stage. Another (including Hildersham and Babraham) is internally about 4.5m square with walls over 1m thick. The tower at Little Chishall is 2.83m square and has walls a little over 1.2m thick. It is unbuttressed and rises in only two stages, being slightly lower than the ridge of the nave roof.
The plan of the tower at Shudy Camps is very similar to that at Chrishall in Essex (approximately 2.75m x 2.9m) which is described as twelfth century with buttresses added in the fifteenth century (RCHM 1916).

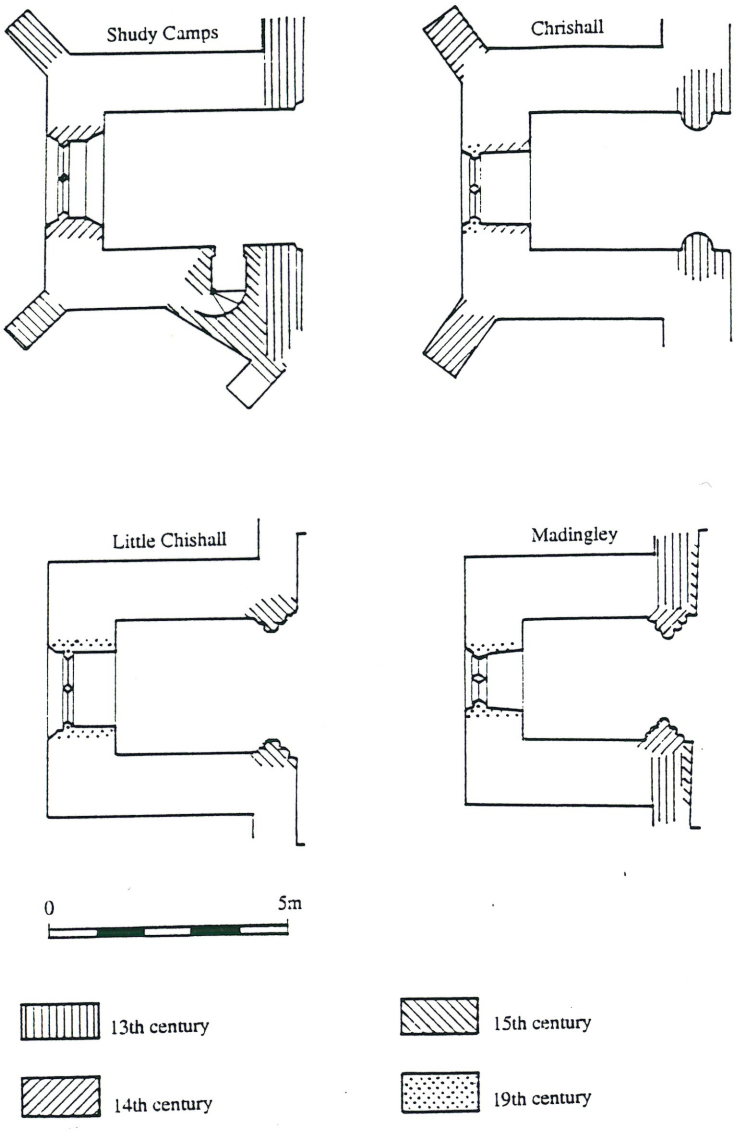


Figure 15 *Plan of towers at Shudy Camps, Little Chishall, Madingley in Cambridgeshire, and Chrishall in Essex.*

The tower at St Mary's is tall and narrow, suggesting that it preserves the dimensions of an earlier tower (twelfth or thirteenth century) which was later re-built or modified and heightened.

Unfortunately the restoration work on the lower stages was carried out without an archaeological provision and its construction details have now been obscured by restored fabric. The relationship between the upper stage and construction of the lower stages is thus obscure. One of the masons who worked on the stripping and harling (or rendering) of the lower stages of the tower considered the buttresses to be additions. It may well be that these were built to support the heightened tower. Earlier additions to the tower would have included the west window and tower arch.

The impetus for heightening the tower would have been provided by the installation of the bell frame, which has not been closely dated but is presumed to be no later than the mid-sixteenth century. The top stage, bell frame, buttresses and ringing chamber stair were probably all added at the same time, in late fifteenth or early sixteenth century.

The post-medieval history of the top stage is one of structural failure and repair. The design of the original bell frame provided for one bell to swing in each direction, which may have gone some way towards balancing out the considerable stresses caused by ringing. Modifications to accommodate a fifth bell left only one swinging north-south. This may have contributed to the structural stresses experienced by the upper stage of the tower, which combined with neglect of the fabric may have contributed to the periodic failure of the walls in the eighteenth and nineteenth centuries and its recent distressed state.

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Appendix I

Mortar /plaster analysis (by Dr. G. C. Morgan, University of Leicester)

The mortars were first examined microscopically. This revealed that they all contained quantities of chalk gravel and, therefore, the subsequent chemical analyses should only be considered to be approximate.

The samples examined were a representative cross section of those described in *Appendix III*. They showed that they were all lime based but included some chalk and limestone gravel, together with small quantities of sand and flint. Two of the samples also had traces of brown and white hair in them. They were dissolved in dilute hydrochloric acid to remove the lime (and also in this case some of the aggregate) and leave the residual aggregate for grading and identification.

The samples all fell into one of two group (**Table 1**):

◊8, ◊12, ◊16 and ◊17 were all cream mortars with large lime lumps and chalk gravel. ◊1 and ◊11 were both fine mortars with black surfaces containing sand, some chalk gravel and brown hair.

The analysis showed that some of the aggregate had dissolved giving somewhat lower figures than might be expected, and that the lime or aggregate contained fossil material. Also found were traces of burnt clay or brick with clinker, probably being lime kiln residues. The coarser part of the aggregate was angular flint with smaller amounts of chert and quartzite. The finer part was sub-angular quartz sand. Traces of mica and glauconite were also present the latter probably coming from the chalk. The hair was mainly brown cattle or horse (mainly 15–75µm but up to 90µm) with smaller quantities of white wool (mainly 15–40µm). Although the quantities of weight are small it does represent an appreciable amount in view of its light weight. Table 1 gives the relative amounts of gravel (>2mm) sand and (0.15–2mm) and silt (<.15mm) sizes together with the acid soluble content and the estimation of the dry slaked lime used.

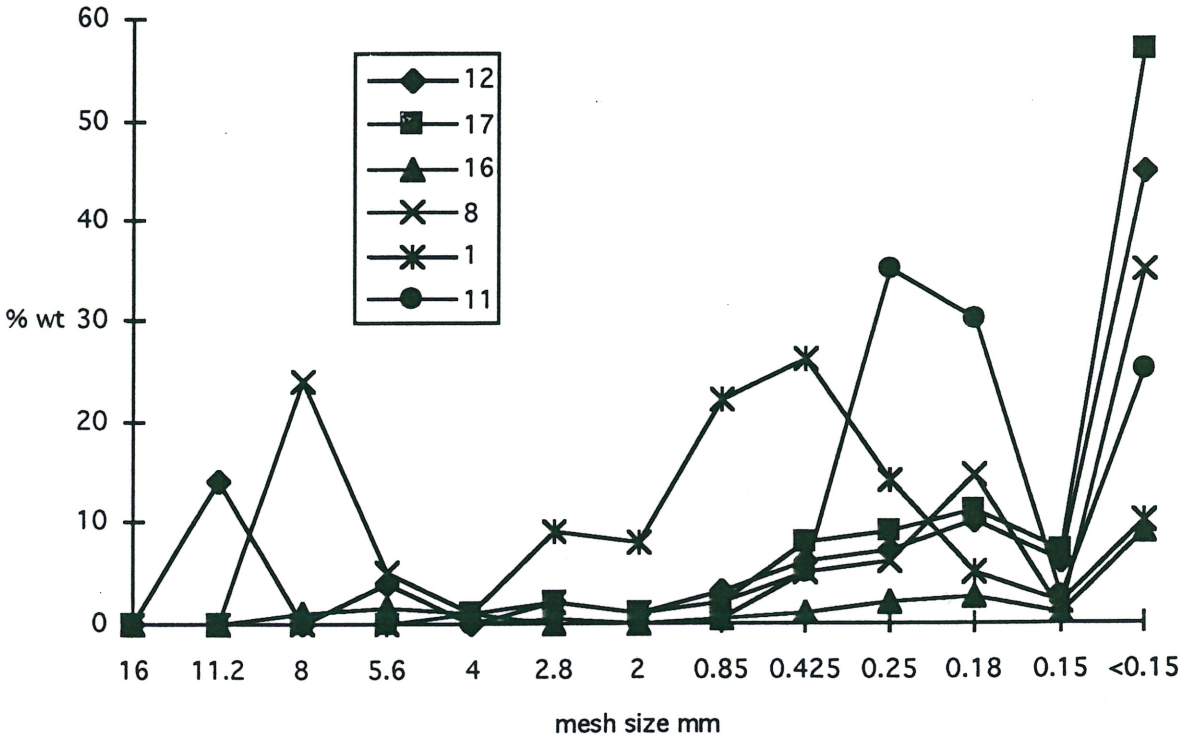
Sample No.	Gravel	Sand	Silt	Sol %	Lime %	Hair	Comments
1	19	70	11	64	47	0.2	brick / clinker
8	32	32	36	67	50	trace	
11	1	73	26	77	57	0.2	brick / clinker
12	23	32	45	69	51	-	brick / clinker
16	14	39	47	67	50	-	
17	4	39	57	69	51	-	brick / clinker

Table 1 *Results of analyses of mortars/'plasters*

The particle size distribution graphs (**Fig. 1**) show that a variety of different deposits were used. In view of the results it is probable that only samples 1 and 11 had any appreciable amounts of quartz sand deliberately added, and others could have simply

used chalk gravel which had some sand included with it. It would be necessary to analyse local sand deposits to see it this was likely. The very high silt levels seen in all the samples except ◊1 and ◊11 is due to the presence of finely divided silica, mainly derived from the chalk gravel. It could also have come from the lime but as all the samples have fairly similar acid soluble levels it can be seen that despite a higher soluble level for ◊11 it does have a lower silt content than say ◊12. ◊12 and ◊17 appear to have similar aggregates, whilst ◊8 is fairly similar. The others do not have much in common. The acid soluble values are much higher than one might expect for late medieval mortars made without soluble aggregates, where an acid soluble content of about 30% to 40% might be found, giving between 20% and 30% by weight of slaked lime. Assuming that the chalk aggregate is giving the high levels seen then the amount of slaked like originally used may not have been as high as the 50% by weight suggested (dry slaked lime not lime putty), but the original lime used may not have been fully calcined or completely slaked which would also give misleading results.

The analysis of lime based mortars and plasters containing calcareous aggregates is always difficult. These samples are fairly typical, giving only some useful information. As mentioned at the start, the estimation of the amount of lime used in the original mixture is often little more than a guess together with information gained from the



analysis of mortars with non-calcareous aggregates.

Fig. 1 *Particle size distribution graph*

Appendix II

Brick and plaster types

Type	Colour	Dimensions	Description	Inclusions
Brick				
B1	Red (2.5YR 5/8)	227x113x69mm	Regular, sharp corners.	None visible
B2	Red (10R 5/6)	213x105x58mm	Regular, sharp corners. Evenly fired.	v. occasional small pebbles (<7mm)
B3	Weak red (10R 4/4)	222x107x60mm	Regular with sharp corners, slightly warped. Uneven firing with black (reduced) ends.	v. occasional small flint inclusions (<3mm)
B4	Red (2.5YR 5/6)	213x115x48 - 52mm	Regular, sharp corners. Even firing.	None visible
B5	Red (2.5 YR 5/8)	??x95x48mm	Irregular, rounded, uneven corners. Uneven firing	v. occasional quartz inclusions (22mm)
B6	Red (2.5YR 5/8)	230x111x69mm	Regular sharp corners (same as B1?)	v. occasional inclusions (<20mm)
B7	Red (2.5YR 5/8)	190x106x53mm	Irregular, very rounded. Uneven firing with reduced black patch	occasional large quartz inclusions (<10mm)
B8	Yellowish red (5YR 5/8)	217x102x59mm	Regular, slightly rounded corners	v. occasional angular flint and rounded pebbles (<10mm)
Plaster				
P1	Cream	25 – 35mm	19th century, painted with dull grey paint. On inner surfaces	Animal hair, small sub-angular flint and small rounded pebbles
P2	Cream	25 – 35mm	Similar to P1 but without animal hair	Small sub-angular flint and small rounded pebbles.
P3	Cream with grey surface		Possibly 19th century	very small rounded stones
P4	Beige	25 – 30mm	Possibly 18th century	small sub-angular flint and chalk and very fine sub-rounded stones
P5	Creamy yellow	20 – 30mm	Crumbly	small chalk pebbles and sub-angular flints
P6	Creamy yellow		Very crumbly mortar	
P7	Creamy white			chalk fragments and small stones

Appendix III

Summary descriptions of mortars and plasters

Samples	Context no.	Sample size	Description
◊1	1	1 litre	Creamy white, hard, plaster with grey coating, occasional very small flint pebbles and abundant animal hair
◊2	2	1 litre	
◊3	3	1 litre	Creamy white hard plaster with very small pebbles and chalk lumps, no animal hair
◊4	4	1 litre	Creamy white hard fine plaster with small flint chips and very small pebbles
◊5	5	1 litre	Yellowish white plaster with angular flint inclusions
◊6	6	1 litre	Yellowish white mortar with large angular flint inclusions
◊7	7		Creamy white plaster with chalk lumps and small stones
◊8	5	1 litre	Yellowish white crumbly plaster with angular flints and rounded chalk lumps. Surface smoothed to finish
◊9		1 litre	Yellowish white crumbly mortar with medium angular flints and flat pebbles
◊10		1 litre	Yellowish white mortar with small angular flints
◊11	2	1 litre	Yellowish white plaster with grey coating, small amount of hair, chalk lumps and flint
◊12	6	1 litre	Yellowish white mortar with occasional chalk lumps and flints
◊13			Mortar from a fragment of tile forming the jamb of a putlock
◊14		10cl	Yellow white mortar with small angular flint inclusions
◊15			Yellow white plaster with flat cobbled flint inclusions
◊16	6	25cl	Yellowish white firm mortar with small chalk lumps and flint inclusions
◊17	6		Yellowish white mortar, firm but brittle with chalk lumps and occasional flints
◊18		25cl	Grey yellow mortar with small rounded flint pebbles

Cambridgeshire
County Council

Archaeology

The Archaeological Field Unit
Fulbourn Community Centre
Haggis Gap
Fulbourn
Cambridge CB1 5HD
Tel (01223) 881614
Fax (01223) 880946