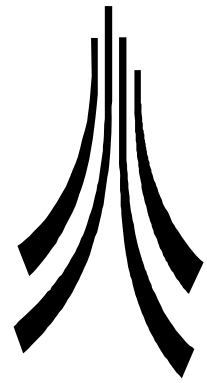


LANCASTER
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ARCHAEOLOGICAL
UNIT



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RUFFORD OLD HALL
LANCASHIRE

FABRIC SURVEY REPORT

Commissioned and funded by:

The National Trust

Rufford Old Hall
Rufford
Lancashire

Archaeological Fabric Survey

Final Report

Checked by Project Manager. Date
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EXECUTIVE SUMMARY

A survey of the timber frame of Rufford Old Hall Lancashire was undertaken in January 1995 by Lancaster University Archaeological Unit in advance of repair works to be carried out on the roof structure by the National Trust. Recording was carried out using a combination of manual and instrument survey techniques. The repairs took place in December 1995, during which the slates, felt and plaster-and-lath were removed and the opportunity was taken to record the underlying structure of the rafters, purlins and wind-braces. This watching brief phase of recording was undertaken to examine those parts of the roof which were inaccessible during the earlier phase of recording and the new information was added to the survey drawings. Record drawings include plans, cross-sections, internal elevations and 'elevations' of the roof timbers, were derived from rectified photographs taken of the exposed structure. This report presents the results of both the initial phase of survey and the watching brief phase. A separate watching brief report (LUAU 1996a) presents the results of the latter phase of recording.

During the course of the preliminary survey, stylistic dating evidence was found for the main timber frame of the building. This suggested the possibility of a later date of construction than had hitherto been favoured, but other information has since come to light favouring the earlier chronology. At present it is felt that the construction of the Great Hall is likely to have taken place in the very late fifteenth or early sixteenth century.

In addition, the opportunity was taken to examine several of the more architecturally problematic areas of the structure, including the eaves, the fireplace and the coved canopy at the western end. Evidence was found contradicting the view that the bay window was a later insertion, but suggesting that the canopy had been moved from its original position. The hypothesis that the Great Hall was originally heated by a central open hearth has not been proved. The survey has also called into question the view that the main façade of the hall was originally on the south side.

ACKNOWLEDGEMENTS

LUAU would like to express thanks to the staff of the National Trust for their invaluable support and assistance during all stages of the project. Particular acknowledgement must be made of the help of Maureen Dodsworth and Harry Hall at Rufford, and of John Bostock, Simon Power and Susan Denyer at the National Trust North-West regional office at Grasmere. Discussions with Richard Dean about the history of the hall and of the Hesketh family have been most informative. Thanks are also due to Christopher Currie and Lynn Courtenay who provided valuable material about the history and mechanics of other roofs of a similar type to that at Rufford. Frank Cowin's material on the occurrence of Stanley iconography on the Isle of Man must receive special mention. We would particularly like to thank W John Smith who has provided invaluable advice and assistance on the interpretation and analysis of the building.

This report was written by Jeremy Ashbee, based on observations before and during renovation works to the roof of Rufford Old Hall in January and December 1995. Preliminary examination and background research were undertaken in 1994 by David Michelmore. The ground-level instrument survey was carried out in January 1995 by Jamie Quartermaine, Jeremy Ashbee and Imogen Grundon with rectified photography by Dennis Thompson. The photographic-based survey of the exposed roof structure was carried out in December 1995 by Malcolm Harrison and Ian Scott. Manipulation of the survey data in CAD was by Imogen Grundon and Andy Croft. The preliminary survey was under the project management of Robert Hill and the watching brief and photographic survey under the management of Jamie Quartermaine.

1. INTRODUCTION

In 1994-1995 on behalf of the National Trust, Lancaster University Archaeological Unit undertook a survey of the timber frame of the Rufford Old Hall (Grid Reference SD 463160), in advance of and during an extensive renovation of the roof structure. The lath-and-plaster behind the principal rafters had deteriorated in several places and in addition, the wooden pegs holding the slates in position were giving cause for concern. As part of the programme of events to celebrate the centenary of the National Trust, an appeal was launched for works to make the roof watertight.

The project brief (Appendix 1) required a non-destructive survey to create an 'as is' record of the structure, to show the construction details of the building as they now stand, to analyse the buildings construction history, to provide a basis for the preparation of specifications for the roof contract work and to provide information for display and interpretation. The brief required the production of detailed plans, cross sections through the Great Hall and Drawing room wing, four internal elevations of the Great Hall and drawings showing the arrangement of rafters and slate-hanging.

A preliminary examination of the roof and research into comparable timber-framed structures was carried out in 1994 by David Michelmore.

The first phase of instrument survey was carried out between 9 January and 1 February 1995 from ground level, both inside and outside the building. Plans of the Great Hall and Drawing Room wing at ground and roof levels were produced, with sections through the Great Hall and Drawing Room wings along east/west and north/south axes. Internal elevations of the Great Hall and a recording of the underside of the Great Hall roof pitch were produced from rectified photographs. At this stage, with the exception of a small area of the southern eaves, only features visible on the surface were recorded. For this reason, the record drawings submitted to the National Trust after this phase were incomplete in several areas which were inaccessible. The results of this phase of work were presented as an interim report (LUAU 1995).

Between 11th and 13th December 1995, renovation of the slates and battens commenced and the opportunity was taken to examine the newly-exposed roof structure. This watching brief permitted the completion of the survey drawings with information regarding the formerly inaccessible parts of the roof. A record of the structure of the rafters, purlins and wind-braces was also prepared using a combination of photographic-based survey techniques. A separate watching brief report (LUAU 1996a) presents the results of this phase of recording.

This report presents the summary results of both the fabric survey and watching brief phases of work and incorporates other information of relevance to the fabric history of Rufford Old Hall which has come to light since the completion of the interim report. The purpose of this report is to set out the methodology of the recording works and to present a summary of the interpretation of the structure arising from the survey.

2. SURVEY METHODOLOGY

2.1 Project Brief and Design

LUAU submitted a Project Design (Appendix 2) for recording of the Great Hall and the Drawing Room wing in response to a brief (Appendix 1) by the National Trust which required the execution of an 'as is' record of the building fabric. This was to analyse the constructional history of the building, to provide a basis for the preparation of specifications and to provide information for display and interpretation.

The brief required the production of plans through the Great Hall and Dining Room wing. Vertical cross-sections through the Great Hall and the Drawing Room Wing and four internal elevations of the Great Hall.

It was required that the Great Hall and Drawing Room Wing building be photographically recorded in both monochrome and colour transparency.

There was no requirement for documentary research as this has already been undertaken by the National Trust in conjunction John Smith.

The brief required a dendrochronological programme be undertaken to date principal timbers within both the Great Hall and the Dining Room wing; however, in the event this element was not commissioned.

2.1.1 Watching Brief Project Design

The watching Brief Project Design (Appendix 3) provided for the recording of the Great Hall roof as it was revealed during the re-roofing works. This required the recording, by rectified photography, of the external roof slope timbers, once exposed by the contractor. A watching brief during the roof stripping provided allowed examination and analysis exposed historic or archaeological features.

2.2 First Phase Survey Methodology

Survey control was established by closed traverse using a conventional Total Station and the ground plan was drawn by EDM tacheometry using the same instrument. Plans at roof level, cross-sections, the detail drawing of the lantern and the control for rectified photography were recorded using a reflectorless total station.

General internal and external photographs were taken along with more detailed coverage of architectural details.

Elevations of the internal walls of the Great Hall, details of the rafter arrangement, external elevation of the lantern and recording of the external surfaces of the roof of the Great Hall (before removal of the roof covering) were based on rectified photography.

2.3 Watching Brief Phase Methodology

The recording of the external roof structure was carried out primarily by photographic means, and it was decided that a combination of rectified and computer-rectified photographic techniques would be necessary to produce a full record within acceptable tolerances of accuracy. The use of the two techniques was intended to provide adequate recording within the constraints of the scaffolding and a translucent plastic canopy that was constructed over the building to protect it during the renovation programme. The roof of this canopy was set above the top of the Great Hall lantern, with scaffolding lifts at intervals of around eight feet along the side walls. This permitted the establishment of camera positions suitable for the recording of the lower levels of the rafters by rectified photography, but made it necessary to record the areas nearer to the ridge by semi-oblique photographs. The computer-rectification of the semi-oblique photographs was undertaken using ARIEL software, produced by Bradford University, which has been used for a wide variety of applications and is designed to correct the distortion in photographs not taken at right angles to the plane of the surface to be recorded. The survey control was established using a Rec Elta 3 Total Station, based on the survey grid established in January 1995.

The removal of the slates and plastered laths also permitted the examination of areas of detail which were inaccessible at the time of the original site survey (LUAU 1995). Where possible, detailed drawings of these areas were prepared by hand measurement and the relevant information was added to the incomplete survey drawings. For reasons of safety, some areas remained inaccessible: these included the 'clay room' above the coving at the western gable of the Great Hall and the junction between the pitches of the Great Hall and the Drawing Room Wing. These areas were recorded by oblique photography only.

2.4 Graphic Record

The fabric survey produced the following record drawings:

- A ground floor plan of the Great Hall, Ante-Room and Dining Room at window-height (**Fig. 2**).
- A plan of the Drawing Room at window height (**Fig. 2**).
- A plan of the Great Hall at internal wall-plate level (**Fig. 3**).
- A cross-section through the long axis of the Great Hall and across the Drawing Room Wing, including the lantern in section (**Fig. 4**).
- A cross-section through one bay of the Great Hall, showing a truss and the east side of the lantern in elevation (**Fig. 5**).
- A cross-section through the Drawing Room Wing (**Fig. 7**).
- A drawing of the eaves detail (following removal of a small area of eaves covering)
- Internal elevations of the walls of the Great Hall (**Figs. 8, 9, 10 and 11**).
- Drawings of the roof pitches of the Great Hall after removal of the roof covering (**Figs. 12 and 13**).
- An exploded diagram of one bay of the internal roof pitch, showing the arrangement of rafters, purlins and wind-braces (**Fig. 14**).

3. ANALYSIS AND INTERPRETATION OF THE STRUCTURE

3.1 Outline Development

Examination of the fabric of Rufford Old Hall confirmed a previous assessment that the plan of the house "although it bristles with difficulties of detail, is clear enough in broad outline" (Smith 1971, 165). The present timber-framed structure represents a substantial survival of a common medieval arrangement of an open hall with storeyed end-wings. The drawing-room wing stands on the site of the medieval service rooms of the house, which may have been contained in a cross-wing (see below). The present structure of the drawing-room wing dates substantially to the eighteenth and nineteenth centuries. The parlour wing which formerly stood at the western end of the hall has been completely destroyed, but its former presence can be inferred from the conventions of medieval architecture and from the two doors in the present west wall of the hall which would originally have given access into this part of the house. As will be discussed below, it is now believed that the west gable wall is not in its original location.

In the seventeenth century, a brick wing was constructed to the north-east of the Great Hall at right angles to it. J.T. Smith's analysis of the building concludes that this wing was never intended to communicate with the Great Hall, but formed the residence of an entirely separate social unit; the wing and the Great Hall were not united until the refurbishment of the nineteenth century (Smith 1971, 165) and the construction of the drawing room wing. This conclusion was reached by a study of the locations of doors, but is also suggested by the considerably lower floor level in the brick wing. In the eighteenth century, a new structure was built on the site of the former service rooms between the two buildings; this was a cross-wing fabricated from timbers salvaged from the sixteenth-century buildings of Holmeswood Hall, to the west of Rufford close to the former shores of Martin Mere. In the following century, after a long period of neglect and a variety of uses (including a period when it was used as a schoolroom), the whole of Rufford Old Hall was again inhabited on a permanent basis: this was marked by a radical campaign of renovation of the fabric, especially of the cross-wing, in a neo-Tudor idiom and the construction of a new block in brick to the east of the wing. It seems likely that the Great Hall was also refurbished at this time, with the removal of the coved ceiling (Section 3.11) and possibly also the replacement of several of the angel terminals to the hammer-beams. Most dramatic of the developments to this part of the building was the construction of the large lantern in the centre of the Great Hall roof, which is supported by Trusses 3 and 4 (figs 1 and 5).

3.2 The Re-Use of Timbers and the False Hammer-Beam Roof

It has been suggested that the Great Hall contains material re-used from other buildings (National Trust 1991, 14). This is based on the design of the false hammer-beam roof, in which the hammer-beams end in sculpted angel terminals with shields; the depiction of angels is taken to imply an ecclesiastical, rather than a domestic character for the roof. It has therefore been suggested that this may imply a connection with the Dissolution of the Monasteries in the 1530s: the Stanley family, patrons of the Heskeths, took possession of the site of Burscough Priory, only five miles from Rufford, and may have salvaged materials from the roof during demolition of the priory church. Alternatively, Thomas Holcroft, who purchased the buildings of several monasteries in the north-west, had a connection with the

Hesketh family, as the guardian of one of Sir Robert Hesketh's sons (Richard Dean *pers comm*).

The angels at Rufford are similar in conception to examples in the roofs of late medieval churches, particularly in eastern England, such as All Saints', North Street, York; they also have an affinity with the spectacular 'angel roofs' of East Anglia, such as St. Wendreda, March. However, parallels can also be found in secular architecture, as at the Law Library in Exeter (Wood 1965, pl XLVIIB). Though none of the shields held by the Rufford angels presently bears any sign of decoration, they were almost certainly originally painted with heraldic devices. It should be noted that a greater number of 'secular' roofs do contain heraldic terminals to hammer-beams.

It is therefore suggested that the heraldry may have been more important than the angels to the builders of the hall. This notion is supported by the decoration of the moveable screen, in which angels are depicted holding the shields of two particularly wealthy families with marital affiliations to the Heskeths (National Trust 1991, 13-14, 46-47). The roof at Rufford is therefore not out of place in the context of late medieval domestic architecture, nor is it implausible that it was constructed specially for Rufford. Until firm evidence is found that parts of the building were brought from elsewhere (in the same way as the timber frame of the Drawing-Room Wing), it is simpler to assume that they were specifically designed for this building.

3.3 The Date of the Hall

Preliminary examination of the timber roof structure of the Great Hall and background research carried out in 1994 (LUAU 1994) indicated that the best stylistic parallels for a false hammer-beam roof of this type are found in buildings in West Yorkshire dating to the late fifteenth century, notably Calverley Hall, dated by dendrochronology to 1485-95 (RCHME 1986, 194).

Examination of the structure in January 1995 revealed one feature suggesting a later date of construction. The spandrel supporting the northern hammer-beam of Truss 4 contains a decorative scheme incorporating the 'IHS' (or 'IHC') monogram and a device of two pierced hands and two pierced feet around a central pierced heart. In view of the obvious Christian symbolism, this appears to be a religious device rather than a conventional heraldic display. Though it has been partially reconstructed in the twentieth century, the device is certainly part of an original design. Moreover, the timber performs a structural role of sufficient importance that it is unlikely to be a later insertion into an earlier structure.

In the first phase of the survey, this symbol was provisionally identified as a variant on *'The Five Wounds of Christ'*, a badge employed by insurgents during the Pilgrimage of Grace in the autumn of 1536 and spring of 1537. This event was a short-lived popular uprising in protest at the suppression of the smaller monasteries. It was at its most violent in Lincolnshire and Yorkshire, though its effects were felt in Cumberland and Lancashire. Within a matter of weeks, the rebels were disbanded and the ringleaders executed (Dodds and Dodds 1915).

The device at Rufford is found in close juxtaposition to the 'IHS' symbol, which, though very common in Christian iconography, was also used as a badge by the 'Pilgrims' (Gasquet 1889, 110): this lends some credence to its identification with this episode. A more common type of

the Pilgrims' badge depicts the heart dripping blood into a chalice, and is most commonly seen in embroidery. At Rufford it may have been felt that this motif would have been unfeasibly difficult to carve.

Following the preliminary survey, it was felt that, should the badge be confirmed as the symbol of the Pilgrimage of Grace, the Hall could not have been constructed before 1536 and might well have been built soon after. It also suggested a possibility of a reassessment of the personality and motivation of the patron of the Hesketh family, Edward Stanley, Earl of Derby. He was a devout Catholic but was charged by Henry VIII with the suppression of the Pilgrimage of Grace in Lancashire. That he hesitated to commit himself until the last possible moment has been a matter of comment for a recent biographer of the family (Bagley 1985, 38-9).

However, research subsequent to the completion of the interim report has indicated that the device was used both before and after the Pilgrimage of Grace and cannot be used as a dating criterion without dendrochronological control. It should be stressed that the connection with the Pilgrimage of Grace may still be correct, but that this interpretation cannot be supported unequivocally from the present evidence. Other evidence from the decoration of the building has since come to light. This revolves around an unusual form of the symbol of the Stanley family as Lords or Kings of Man and may be taken to support the 'early' chronology suggested by Pevsner and supported by comparative material discovered by Michelmores (Pevsner 1969a, 212; LUAU 1994, 4). The form of the badge, with feet pointing out in a straight line from the lower leg, is regarded as a great rarity by Manx historians (Frank Cowin *pers comm*). It is believed that the Rufford example is one of a very small number exhibiting this peculiarity (only three carvings are known at present), dating to a restricted date-range (c1495-1505). On this basis, it is possible that the hall was constructed in the last decade of the fifteenth century or the beginning of the sixteenth.

It is clear that an accurate date of construction of the Great Hall will only be determined with certainty by dendrochronology. Recent synthetic publications on the architecture of high-status houses in the early Tudor period have shown the dangers of dating by stylistic analysis alone. Many buildings of the first half of the sixteenth century were constructed in a deliberately archaic 'medieval' style, presumably to enhance the prestige of their owners, who wished their houses to suggest antiquity and distinction. Even at the level of the Royal Palaces, Italianate motifs of classical inspiration were re-interpreted in a craft tradition which remained tied to its Gothic roots well into the mid-sixteenth century (Thurley 1993, 98). It has been claimed that many early Tudor builders were torn between the desires to retain certain attractive elements of the past and to avail themselves of the benefits of a more modern way of life (Howard 1987, 43). At present, it is impossible to state whether Rufford Old Hall is genuinely a building of the late fifteenth century, or whether this was exactly the impression which a builder of the mid-sixteenth century wished to create.

3.4 The Coved Canopy at the Western End

The western 'upper' end of the hall contains an elaborate coved canopy over the area originally occupied by the high table. Similar canopies may be seen at Adlington Hall and Combermere Abbey in Cheshire, both of which have been restored with paintings of heraldic devices in each of the panels; that at Adlington is inscribed with the date 1505.

Aspects of the standing structure at Rufford suggest that either this is not part of the original design of the hall or that it has been moved from its original position. In particular, it can be seen to cut across and block the ornamental panelling which runs along the north and south sides of the hall. This panelling clearly continues westwards behind the plaster of the coving.

In addition, there are two ornate wooden posts to the inside of the two doorways in the west wall (fig 9). They are plainly older than the replaced timbers of the ground floor of this wall and appear to be of similar date to the doorways, which are stylistically of the sixteenth century. This wall has been radically re-modelled and it is possible that these posts are not in their original positions. As they stand, they are not related to the timbers of the coving and presently perform no structural purpose at all; they would be more explicable if they previously supported a major structural timber.

A possible resolution of these architectural problems is to reconstruct the original west end of the building with the present upper internal gable and bressumer jettied out from the west wall, rather than coved. The posts might then have supported a pair of braces running up to support the bressumer. This solution would allow the panelling of the long sides to be unobstructed in the westernmost bay of the Great Hall.

A more radical interpretation is suggested by a parallel at Samlesbury Hall, near Preston. The daïs end of this building has been radically re-ordered in the nineteenth century, but a sketch survives purporting to show the appearance of the building around 1820 or 1830 (Eaton 1936, 41). A coved canopy is shown over the central area reaching forward from the end wall to a bressumer supported by flanking posts further out in the body of the hall. Unusually, there is no gable wall above the bressumer; the hall roof can be seen to continue for half a bay beyond. A more common arrangement, as at Adlington and Rufford, is for the bressumer to support a gable wall, jettied the floor of the upper chamber beyond into the hall. The space between the posts and the side walls is filled with two doors. The high table would therefore have lain within a recessed area set back from the flanking doors and walled in on either side with screens.

It has been postulated that the canopy and the western end wall of the Great Hall at Rufford have been moved eastward from their original positions, probably at the time of the demolition of the west wing at an unknown date between 1697 and 1736 (W John Smith *pers comm*). Evidence to support this lies in the position of the moulded post at the north-west corner of the building. The form, a square post with four rolls on each face, does not appear elsewhere at Rufford Old Hall, but is identical to the bressumer supports at Samlesbury; it seems likely that the post at Rufford would have served a similar function. It is clear from the plan that this is not the same timber as the north-west corner post visible on the exterior.

Above the opening of the bay window can be seen the top part of a moulded post, resting on the lintel of the bay window (fig 8); this now supports the bressumer of the canopy and is matched on the southern side by a post running down to the dwarf wall. Both of these posts bear figural carving and appear to be of similar profiles. In this interpretation, the south-western corner post has been lost. It is now felt that these posts formerly supported a roof truss of some form, marking this bay division.

Further support for this hypothesis lies in the roof structure; the common rafters are replaced and bear no mortices for the trapezoidal decorative panels seen in other parts of the building,

but the use of cusped wind braces in this part would be more appropriate if the roof were formerly visible from the Great Hall.

To pursue the analogy with Samlesbury further, a reconstruction in which the flanking doors were half a bay further forward than the back of the Great Hall (i.e. in approximately their present positions) would render the present layout of the west wall less incongruous. As it stands, the doors are set in moulded surrounds to which they obviously bear no relation. It is therefore suggested that the present wall represents a conflation of elements from the back wall of the high table recess and the projecting doors with ornamental daïs spere-posts on either side of it.

This scenario does pose certain problems. The most likely time for the relocation of the coving would be the late seventeenth or early eighteenth century with the demolition of the east wing, up to two centuries after the construction of the bay window. The timber frame over the bay window is not deep enough to accommodate the heavy spandrels necessary for a false hammer-beam assembly; this bay must therefore have been roofed using a different kind of truss. There is a precedent for this at Samlesbury, where a sixteenth-century bay window was inserted into a cruck hall of the fourteenth century; in this instance, the roof above the bay window contained an arch-braced collared rafter truss. No evidence survives to show whether a similar layout was ever in place at Rufford, but several campaigns of repairs to the west end of the hall at Rufford have eradicated much of the evidence needed to confirm or refute this interpretation. Although several possible fabric histories have been suggested, none of them satisfactorily resolves all the problems of the structure, because of the loss of evidence. At present, most credence is given to the view that the bay window may have been part of the original design and that the west wall and canopy stood half a bay further to the west until the demolition of the west range entailed the truncation of the Great Hall. It is hoped that a dendrochronological sequence from different structural elements and the evidence gained by survey of comparable houses in the region, may lead to the resolution of these questions in the near future.

3.5 The Construction of the Bay Window

Certain aspects of the design of the Great Hall have been taken to suggest that the bay window is a later insertion into the timber frame (Rigold 1971, 277). Examination of the plan shows this to be intrusive into the bay system occupying slightly less than two bays (figs 1 and 8). Moreover, the relationship of the bay window to the main timber frame is at present particularly clumsy with regard to the west side of the bay window roof pitch, which cuts across the principal rafter of the west internal gable of the Great Hall and continues into the 'clay room' beyond (see below).

As has been discussed above (section 3.6), there is evidence to support a hypothesis that the Great Hall formerly continued half a bay westwards from the present position of the bay window, as was formerly the case at Ordsall and Samlesbury Halls (W John Smith *pers comm*). Were this hypothesis to be correct, the awkwardness of the junction between the upper gable wall and the roof pitch of the bay window would disappear and with it, much of the argument in favour of interpreting the bay window as an insertion. There is an important structural relationship between the bay window and the north-west corner post, which, in the above scenario, preserves the former position of the projecting canopy; the western spandrel of the bay window arch is pegged into the side of the post and the mouldings of the two

timbers are continuous. It is therefore thought that the bay window was part of the design of the Great Hall from the outset.

Drawings and photographs indicate that before the reconstruction of the 1950s, all but the three northernmost faces of the bay window were 'blind'; the close studding and infill panels of the lowest level continued up in the position presently occupied by the mullioned windows. This is an unusual feature and may represent a means of reducing the awkward architectural effect caused by the close juxtaposition to the west wing; if the wing projected to the north, it would have effectively blocked the western face of the bay window, making a window unnecessary. In this eventuality, the eastern face of the bay window may have been constructed blind in the interests of symmetry.

3.6 The Clay Room

During the dismantling works in 1949, when the entire west gable wall was taken down and re-erected, it was discovered that the void between the external gable wall and the internal wall above the coving was occupied by a room known as the 'clay room'. This chamber was again exposed in December 1995 by the removal of the roof covering. The room is completely empty and stripped of all decoration; the floor has been removed and the back of the coved canopy is visible. The latter has been reinforced with metal supports and all surfaces are covered with a fireproofing agent, dating from the rebuilding programme of the 1950s.

It should be noted that this room is extremely small in size and particularly low. If it was accessible from the former west wing, it cannot have been a room of any status and may have been the attic accommodation of servants, as suggested by documentary references to garrets at the western end (National Trust 1991, 14). The popular belief that this was a priest-hole, though apocryphal, cannot be entirely dismissed, but without better knowledge of the western end of the house, it is difficult to judge the likelihood of this view.

3.7 The Construction of the Eaves

Following a request from the National Trust for an examination of the eaves detail, six slates were lifted from the area of the eaves on the south side of the Great Hall and the felt was pulled back from a small area. This indicated that the junction of the hammer-beam and the wall-plate is of the standard lap-dovetail type of assembly. In particular, the hammer-beams project slightly beyond the line of the wall-plate and the dovetailed soffits are clearly visible. The common rafters sit in shallow trenches cut into the upper outside corners of the wall-plate and also project slightly beyond the line of the wall.

This examination also revealed that the internal 'wall-plate' is not a structural feature but has more of a decorative function. Between the main (external) wall-plate and the internal feature is a void of approximately 300mm in width. The internal wall-plate sits on the edge of the main wall-plate and is jointed into the hammer-beams at the end of each bay, but does not completely close the gap between the wall plate and the underside of the common rafters or the laths of the roof. Since externally the spaces between the rafters are open to the elements (though wire mesh has been placed over these openings to keep birds out), the eaves of the great hall on the south side are relatively exposed to the elements.

Arrangements on the north side are different, as the external wall-plate is concealed by coving beneath the eaves (fig 6). It has been shown that the principal rafters rest on the hammer-beams which are set in trenches in the wall-plate. As on the south side, the hammer-beams project slightly beyond the wall-plate and have dovetailed soffits. The common rafters have been the subject of extensive repairs and several of their ends are in new timbers; they are extended beyond the main wall-plate and meet the curving timbers of the coved eaves in an outer wall-plate of purely cosmetic function. (This timber appears to be of nineteenth-century date, but may have replaced an earlier timber). Where the main trusses meet the wall plate, the coving is connected to the back of the panelling by short tie-beams.

3.8 The Fireplace and Lantern

The insertion of the lantern in the 1820's was fitted in the bay between trusses 3 and 4, and involved a significant alteration to the roof design to accommodate it (Fig 5). The tops of the principal rafters were replaced with new timber, along with the cusped braces above the collar beam. The upper purlins were left intact, although lantern timber supports were added.

Until the date of the construction of the Great Hall has been determined, the question of the original heating arrangements will be conjectural. In the context of a later fifteenth century date, it is possible that an open hearth was present in the centre of the hall; this would have been ventilated by a smoke louvre set on the ridge in approximately the position of the present lantern (Howard 1987, 17-19). The replacement of the original wind-braces with new timbers at the time of the insertion of the lantern has destroyed any possible evidence for such an open hearth, such as smoke-blackening or a timber superstructure likely to have supported a smoke louvre. However, a drawing made in 1817, depicting the hall before the insertion of the lantern, shows no sign of such a structure (National Trust 1991, 51). Alternatively, should a date in the early/mid-sixteenth century be correct, a lateral fireplace set in one of the long sides of the hall would be a more appropriate part of the original design. It cannot be conclusively stated that the present fireplace was constructed at the same time as the present timber structure of the hall but nor is there any evidence that a lateral fireplace (probably in this position) was not present in the hall from the outset.

The internal mouldings of the present stone fireplace consist of two ovolo mouldings flanked by narrow fillets divided by half-hollows and define a four-centred arch with almost straight-edged spandrels (fig 10). Above the arch are narrow dagger traceried panels, meeting above the apex of the central arch. These bear a great similarity to panels in several of the spandrels of the arch braces supporting the hammer beams and though it is possible that the stone mouldings were carved in imitation of the timber features, it is equally likely that they were made at the same time. The mouldings and the architectural composition are within the mainstream of Perpendicular Gothic architecture and could therefore be accommodated stylistically in both the fifteenth and the sixteenth centuries. Observations of the fireplace after the removal of an area of plaster revealed the presence of a stone relieving arch with brick infill above (Richard Dean *pers comm*).

The present fireplace is not intrusive in the bay system, occupying two complete bays (fig 10). The spandrel supporting the southern hammer-beam of Truss 4 rests on a stone corbel above the fireplace and may always have done so. This truss and the southern post of Truss 3 appear to be cut away slightly by the stone wall which surrounds them. This is not conclusive evidence that the fireplace is a later insertion, as is generally assumed (Howard 1987, 17), but may alternatively be the result of minor alterations to a stone wall which was always part of

the design. Evidence for such alterations can be seen externally in the use of undressed masonry to the east of the chimney stack.

Comparison of the elevations of the east and west gables (fig 11) with one of the trusses supporting the lantern (fig 5) has shown that the pitch of the principal rafters beneath the lantern is dramatically shallower than at either end of the Great Hall. This suggests that the trusses in the centre of the hall are experiencing deformation under the weight of the lantern. In this area, the timber-framed northern wall has also deviated from the vertical. Hammer-beam roofs place a lateral thrust on the wall-tops: for this reason they are more common in buildings with stone walls than timber-framed buildings (Lynn Courtenay *pers comm*) and this effect is likely to be even more pronounced with the additional load of the nineteenth century lantern. Rectified photographs of the roof pitches also show that the ridge purlin has slumped considerably in the bays immediately east and west of the lantern (fig 12 and 13).

It should be noted that the drawings of the gables were produced by rectified photography, whereas the elevation of the central truss was recorded using a reflectorless total station. The recording of the walls was intended to be of analytical value, rather than dimensional precision; since the walls were not to be affected by the conservation works. It was agreed for reasons of economy that rectified photography be used to record the elevations. The accuracy of the drawing of the central truss is likely to be greater than those of the gables, although it should be noted that the drawings of both east and west end produced identical roof pitches. The LUAU survey has identified a phenomenon which is undoubtedly real, but the precise extent of the discrepancy can not be gauged from the existing drawings.

3.9 The Front and Rear of the Hall

Previous interpretations of the late medieval and early post-medieval hall houses of Lancashire and Cheshire have implied that their builders and owners were aware of the concept of the 'front' and the 'rear' of the house (Smith 1971, 159). The front should ideally contain greater elaboration of the architecture and ostentatious features, such as bay windows and decorative timber-framing.

It has been stated (National Trust 1991, 8) that there was formerly an approach to the building from the south which is shown on the 1736 estate map by T Higgins (LRO DDHF 122/2) and hence it is suggested that the present arrangement may represent a total reversal. There would originally have been a door on the south side in the bay nearest to the drawing room wing (in a position currently occupied by a window). A straight masonry joint can be seen in this position in the stone plinth, though it is felt that this is unlikely to date to the blocking of the door.

The present south exterior wall of the hall is particularly plain; it is decorated with close studding under the eaves, immediately above the stone plinth and to its full height in the westernmost bay. The windows at present run the complete height from the plinth to the timber rail below the wall-plate; a photograph of c1906 indicates that this last-mentioned timber is an insertion (National Trust 1991, 43). The scantling of most of the timbers of this wall would suggest that the studs are new and that the wall has been almost completely rebuilt. The suggestion that there may originally have been quatrefoil panelling on the south side (Pevsner 1969, 212) may be correct but there is no evidence to support it in the present structure.

At Rufford, the exterior of the north side of the hall, which contains coving under the eaves, ornate detailing of the principal posts, elaborate quatrefoil panelling and to the west end, a large bay window would appear to display all of the characteristics of the front of the house. In particular, the bay window makes very little sense on the north side (where it would have admitted less light than on the south side) unless it was felt desirable that it be placed on show.

It is possible that the present ornate appearance of the north external elevation, particularly the quatrefoil panelling, may be a later embellishment of an originally plain wall. However, quatrefoil panelling appears to be a basic feature of the design of the Great Hall; it is used widely internally in the east and west walls and in openwork panels to either side of the spere truss. Parallels for decoration of this kind can be seen at Speke Hall, also likely to date to the sixteenth century (Smith 1971, 173). In the absence of evidence to the contrary, it is assumed that it is part of the original design of the hall.

The examination of the eaves on the south side has indicated that the lap dovetail joint between the wall-plate and the tie beam is as might be expected (fig 13). There is no sign that this side of the building was ever coved, as on the north side: the rafters show no traces of having formerly run on and later been truncated.

Although there may have been an approach from the south at one stage of the buildings history, as evidenced by the 1736 Higgins map (LRO DDHF 122/2), the evidence would appear to suggest that the building originally 'faced' to the north as the north side of the hall was more highly embellished than the southern side. That this was the state of affairs by the second half of the seventeenth century is further supported by the fact that in 1662, a free-standing brick wing was added to the house bearing fashionable architectural details such as mullioned and transomed windows, gabled dormer windows and a large door-hood, later moved to the present central position (Smith 1971, 165). The suggestion that this was 'merely a tradesman's entrance' (National Trust 1991, 9) is unlikely in view of the further ostentation of the date-stone and heraldry. The fact that this wing was located on the north side of the complex presumably reflects the fact that on this side, it would be seen to best advantage.

3.10 The Movable Screen

At the eastern end of the hall, between the spere posts sits a feature euphemistically described as the movable screen. This is one of the few surviving examples in the country, and undoubtedly the most ornate, of a furnishing which must formerly have been common in high-status houses of the late medieval and early post-medieval periods. Suggested functions for the item, such as providing draught protection from the screens passage were almost certainly subsidiary to aesthetic considerations of hiding the comings and goings from the service rooms and the visual impact of the screen itself. It has also been suggested in a recent publication that the screen may have been pressed into service as a theatrical prop by a company of players, including the young William Shakespeare (named in a will of 1581 as 'William Shakeshaft') who is believed to have been employed by the Heskeths in the 1580s (Honigmann 1985, 38). However, in view of the elaboration of the carving of the screen, notably in the angels bearing heraldry and the pinnacles, carved in bizarre *scalaria* shapes, there can be little doubt that the principal value of the screen lay in its own worth as a curiosity.

At Samlesbury Hall, to the east of Preston, may be found the mutilated remains of a similar screen, dismantled in the nineteenth century and re-used in the fabrication of a 'minstrels' gallery' over the upper end of the hall. There are several important points of comparison with the Rufford Screen, including similar *scalaria* pinnacles (though apparently slightly simpler at Samlesbury), a crocketed trapezoidal base to the central pinnacle and figures of heraldry-bearing angels leaning from either side. A drawing of the Samlesbury screen made in 1833 before its dismantling shows that, despite slight differences (such as the number of panels on each face) the two screens were basically of the same form (Hodge 1990, 10). The Samlesbury screen bears an inscription of Thomas Southworth and a date of 1532. It seems inescapable that the Rufford screen would have been manufactured at a similar date. In view of its size, it seems likely that it was brought into the hall in pieces and assembled inside the building; it is not presently thought, however, that this date has any implications for the date of construction of the Great Hall itself.

3.11 The Coved Ceiling

The preliminary investigation (Appendix 4) identified shadow lines on a number of the roof timbers (Fig. 5). The positions of the shadow lines are the same on all of the trusses, and would appear to indicate differential exposure along a plane parallel to that of the roof at a separation of c0.33m from the wind braces. This would appear to reflect the former existence of an inserted ceiling, which would have had its apex on a line through the centre of the St Andrews Cross cusped brace above the collar beam. While the shadow line is for the most part parallel to the roof line, there is a significant, more vertical orientation below the hammer beams, which would suggest that the former ceiling had a coved form. Although there is sufficient consistency of the shadow lines throughout the roof to demonstrate the form of the ceiling, there are a limited number of timbers where the shadows are either absent or their form reversed and would indicate that these timbers have been incorrectly replaced following the dismantling and re-erection of the roof in 1949 (see Section 3.14). This is most noticeable on the cusped braces above the collar beam of Truss 2.

The date of the ceiling is uncertain, but had clearly been removed prior to the construction of the lantern in the 1820's and the Buckler drawing of 1817, which shows no evidence of an inserted ceiling.

3.12 The Drawing Room Wing

The two-storeyed cross-wing at the eastern end of the hall is not an original part of the design and occupies the area originally used for the buttery, pantry and possibly the kitchen. The original form of this structure cannot be ascertained; J T Smith suggests that it may have been a cross-wing (Smith 1971, 165) but there is no evidence for this at present. The east gable wall of the Great Hall contains evidence of the arrangements for communications between the screens passage and the service rooms in the wing. In place of the usual arrangement of three doors (with doors to the buttery and pantry flanking the entrance to a passage leading to the kitchen), there are five doors, all with ornately carved four-centred heads: the spandrels are nearly straight-edged (fig 11). One of these doors almost certainly led to a stairway to the upper floor of the wing, while another may have contained a serving-hatch (Rigold 1971, 277). The second door from the north end contains a groove in its southern jamb and peg-

holes in its northern end and was probably a hatch communicating with one of the service rooms. At present, all but the northernmost and the central door are blocked.

The Drawing Room wing is largely constructed in timber, and its external decoration is clearly intended to complement that of the Great Hall; it contains close-studding and quatrefoil panelling. Documentary evidence suggests that it may have been constructed originally in the early eighteenth century, when Thomas Hesketh MP leased the hall and procured the material of Holmeswood Hall near Rufford. It has been inferred that timbers from this building were re-used in the construction of the Drawing Room wing. However, the internal and external appearance of this wing dates to the 19th century and is indicated externally by the south east corner of the southern bay window, which is constructed in brick and is of the same build as the neo-Tudor block of the 1820s.

The upper storey contains the drawing room (fig 2), while the ground floor (fig 1) is occupied by the ante-room and dining room. In the dining room, no trace of the original timber is visible. In the ante-room can be seen a moulded post in the west wall, supporting a ceiling beam into which moulded joists are jointed.

The upper floor contains an elaborate roof which was presumably removed in its entirety from Holmeswood. This roof contains six trusses with arched braces supporting cambered collar-beams and two tiers of moulded butt-purlins. If this roof was brought to the site from elsewhere and re-assembled, it must have determined the width of the wing, which therefore would owe little to the form of its predecessor.

3.13 The Junction between the Hall and the Drawing Room Wing

It was noted during the first phase of the recording that the 'posts' inside the drawing room along the west wall are hollow. Close to the junction with the cornice, several of these posts contain holes through which it was possible to detect the presence of other (unvarnished) internal timbers. These were interpreted as the timbers of the re-used Holmeswood Hall, erected as posts inside the new wing in the eighteenth century and subsequently concealed within the outer posts during refurbishment in the nineteenth century.

On the ground floor, two of these posts can be observed in the blocking of two of the doors which originally led from the screens passage to the service rooms in the original east wing. It is assumed that they support a wall-plate into which the roof trusses of the drawing room are jointed, although this is presently invisible. The hall was originally dependent on access from the service rooms, which would have been impeded by these posts blocking the doors. This would therefore demonstrate that the timber frame of the Drawing Room wing must post-date the construction and original use of the Great Hall.

At the request of the National Trust, examination of the roof junction between the Great Hall and the Drawing Room wing was deferred until after the commencement of the main repair programme and the removal of the roof covering (figs 12 and 13). These works revealed that the rafters in this area are not from the original structure but are relatively recent in date; they are plain and of square section. However, peg-holes in the principal rafter of the eastern closed truss of the Great Hall showed that the purlins continued east of the hall, these purlins did not appear to be new timber and may have been the originals.

It was hoped that the works would expose the timber-frame of the eighteenth century building of the Drawing Room wing, which is encased in nineteenth century facing. However, these timbers were concealed under the laths of the wing and by waterproof covering in the area where it is presumed the wall-plate runs behind the east gable wall of the Hall. With the exception of the rafters and purlins, none of the timbers in the area of the junction were uncovered.

3.14 The Extent of Twentieth-Century Renovation

The interpretation of the structural sequence of the Great Hall is complicated by the fact that the hall has been the subject of thorough restoration works in the twentieth century. In 1949, the west gable wall was completely dismantled and re-erected with new timber as a result of infestation with death-watch beetle. In the following decade, the timber frame in the main body of the hall was also dismantled, although it was re-erected where possible using the original timbers. For this reason, the potential for interpreting the structural sequence of the Great Hall has been drastically reduced. These modern building works could be identified in the present structure by several means:

- *The wooden pegs.*
The ends of the pegs stand out on average 15-20mm from the main timbers, whereas standard medieval and early post-medieval practice resulted in a flush surface. This is, however, not entirely the result of modern renovation works; photographs of the nineteenth century show the external pegs standing proud and emphasised in white paint (Robinson 1991, 231 and Richard Dean *pers comm*). In several cases, examination showed that the pegs were loose in their holes and could be extracted freely. Most of the pegs appear to be in new wood and are lighter in colour than the surrounding timbers.
- *The presence of new timbers.*
In all parts of the Great Hall, new timbers can be identified by differences in colour, regularity and scantling. Their use varies from entire structural timbers to smaller fragments scarf-jointed to earlier material. Externally, the south wall of the building appears to consist largely of new timber.
- *The shadow-lines on the timbers.*
The preliminary investigation (Appendix 4) identified shadow-lines on several of the trusses and interpreted these as evidence for a coved ceiling, which was possibly coved. The pattern of these shadows, in certain parts of the building, is only consistent with this interpretation if several of the timbers have been moved after the removal of the ceiling but not re-inserted in their original locations (eg. the 'St Andrew's Cross' cusped braces above the collar beam in the truss immediately east of the Spere Truss).
- *The sequence of carpentry marks*
In general, the carpenters' assembly marks indicate that the timbers have been re-erected in their correct locations. However, in other instances, such as the area of the northern post, hammer-beam and spandrel of the truss mentioned above, marks are visible on the surfaces of some timbers and not on others. After removal of the roof covering, more modern marks on the outer faces of the timbers were revealed; these were both incised and chalked and employed arabic numerals rather than the form of Roman numerals used in fifteenth and sixteenth century carpentry.

- *Metal brackets on the outer faces*

Removal of the slates and battens revealed that the windbraces are not pegged into the rafters but are fastened to the principals by means of metal brackets secured by metal bolts (figs 12 and 13). It is likely that these were introduced in the 1950s.

The survey has identified that the building and the roof particularly has been subject to considerable rebuilding, timbers have been moved and replaced, the original peg fixings have also been replaced with metal brackets. As a consequence of this drastic programme of repair, it is likely that considerable amounts of evidence for the structural development of the Great Hall have been irretrievably removed. The knowledge that the roof has been completely reconstructed without strict adherence to the previous form, means that it is not possible to interpret the construction of the original roof, with any confidence, on the basis of the present configuration and form of the roof structure. This has limited the extent and detail of the analysis on the roof structure in particular, although there are also considerable limitations imposed on the other elements of the building.

4. CONCLUSION AND SUMMARY OF THE BUILDING DEVELOPMENT

The watching brief phase of the project has permitted the examination of parts of the Great Hall which were inaccessible during the survey of the building's interior in January 1995. The resultant conclusions, however, have generally been in accordance with those drawn in the interim report (LUAU 1995).

Following the first phase of the survey, the interpretation of the building's constructional history was that most of the fabric of the Great Hall dated to a single period of construction of either the late fifteenth or the early sixteenth century (see Appendix 1). Later alterations have been particularly drastic at the west end of the Great Hall, but it is believed that the bay window on the northern side is an original feature, while the west wall and coved canopy may have been moved eastwards, possibly in the early eighteenth century. Many of the later, minor alterations to the hall were obscured by the replacement of timbers at the time of the complete dismantling of the building in the twentieth century. It has been assumed by several writers that the hall originally possessed an open hearth in the centre of the floor and that the south wall of the hall was almost entirely rebuilt with the insertion of a lateral chimney stack in the sixteenth century, but there is no evidence surviving within the present structure to support either of these assertions. The Great Hall formerly had a coved ceiling, as revealed by shadow marks on the trusses of the roof (fig 5); its date is uncertain, but had gone by the time of Buckler's drawing of 1817.

The hall was renovated in the early years of the nineteenth century at the time of its reversion to domestic use. The brick wing of the seventeenth century was constructed at right angles to the hall and was probably originally free-standing. The present Drawing Room wing is a creation of the eighteenth century, re-using substantial amounts of structural timber from a derelict timber-framed building close to Rufford. Its present appearance dates to a refurbishment of the nineteenth century, in which internal cornices, posts, doors, windows and fireplaces were inserted in a neo-Tudor style. Restorations of the fabric of Rufford Old Hall have been drastic and in most cases more thorough than at other comparable structures of similar periods in the North-West. There is no doubt that as a result of them, the Great Hall gives a far better impression of the scale and ostentation of a medieval open hall than is the case at less heavily-restored buildings. However, it is also clear that potentially important evidence for the building's evolution through time has been erased from the standing structure. On many questions, the fabric of the building is now uncommunicative.

One of the most important research questions still outstanding is the date of construction of the Great Hall. It is apparent that the timber structure contains stylistic references to medieval architecture, causing several writers, such as Pevsner, to favour an 'early' date in the fifteenth century. However, an alternative is to see the hall as a conservative (and possibly consciously anachronistic) building of the first half of the sixteenth century. The fortunes of the Hesketh family suggest that, on balance, the early decades of the sixteenth century would represent a more likely time for such a substantial investment as the construction of an ostentatious Great Hall (National Trust 1991, 49-52). In view of the importance of Rufford Old Hall in the development of the carpentry tradition of Lancashire and Cheshire, and the historical significance of individuals associated with it, the accurate dating of the hall is a matter of considerable priority. It is therefore hoped that it will be possible to implement a campaign of dendrochronological survey of specified timbers within the Great Hall in the near future.

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APPENDIX 1
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Site name and code:	Rufford Old Hall, Lancashire AUA 7422
Client:	The National Trust
Author:	J. Ashbee
Nature of project:	Fabric Survey
Author of final report:	J. Ashbee
Personnel, management:	J. Quartermaine/R. Hill
Personnel, fieldwork:	J. Ashbee, I. Grundon, J. Quartermaine
Personnel, post-excavation:	J. Ashbee, I. Grundon
Duration of project:	Nov. 1994 - Oct. 1996
Archivist:	A. Scott
Checked by:	J. Quartermaine
Archive manager:	C. Howard Davis
Project manager:	J. Quartermaine
Released by:	J. Wood

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 - 3.2 Station Description Sheets (extant stations only)

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10. **Health & Safety**
 - 10.1 Field Working Risk Assessment
 - 10.2 National Trust Guide to Fire Precautions at Historic Buildings - copy
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Rufford Old Hall

Drawing Key for Elevations and Sections

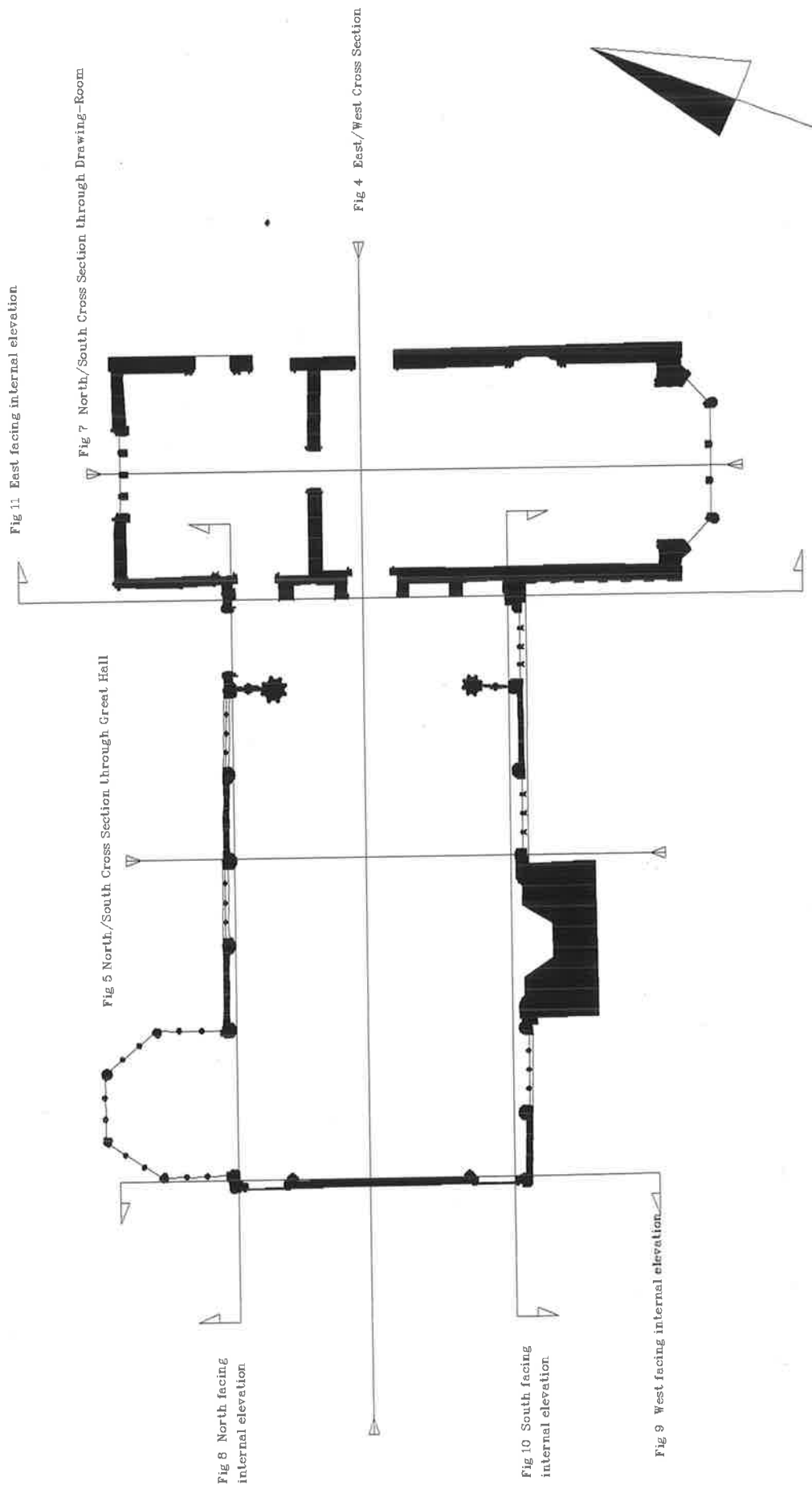


Fig 1 Drawing key for elevations and sections

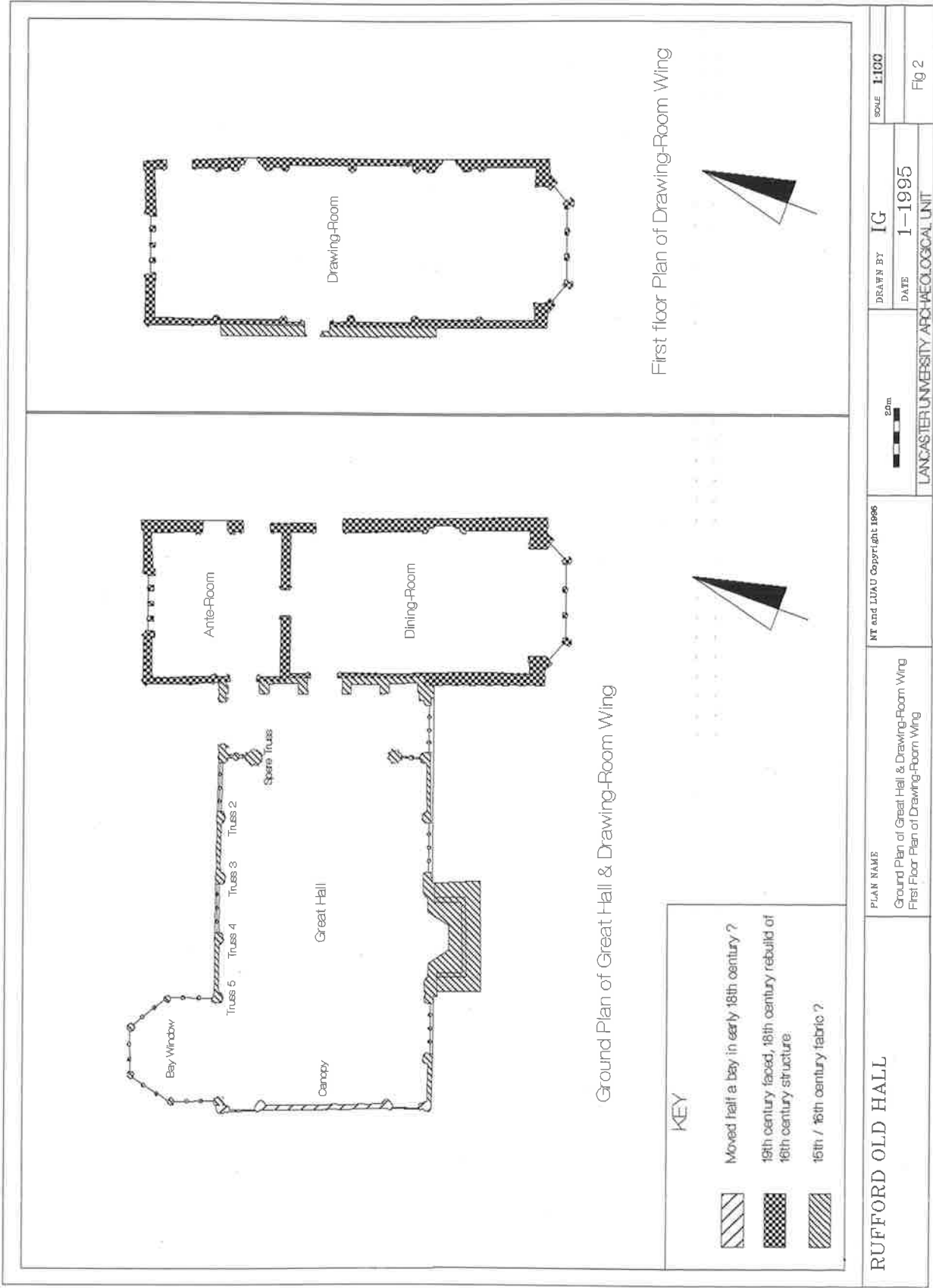
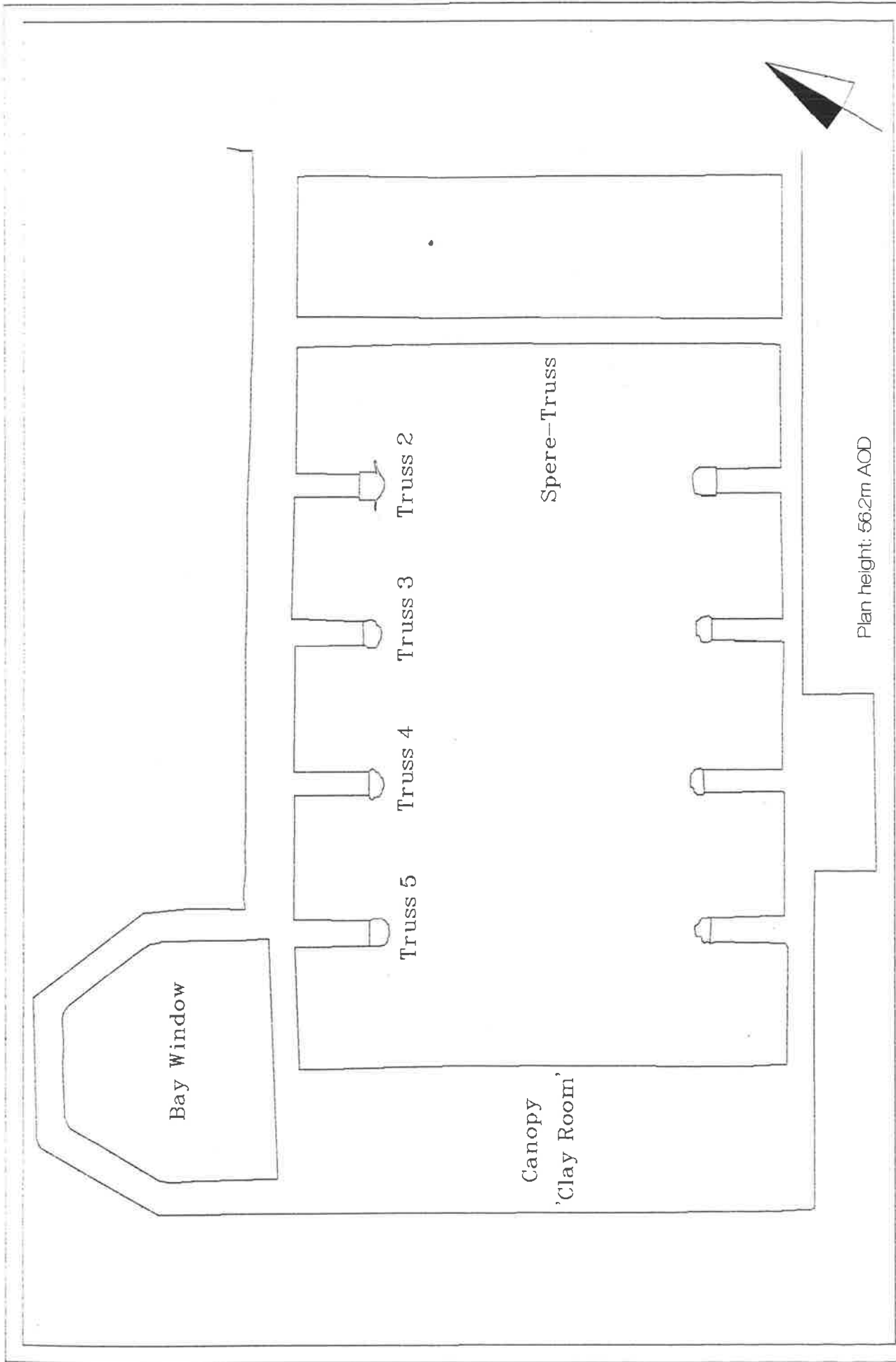


Fig 2: Ground Plan of Great Hall / Drawing-Room Wing and First Floor Plan of Drawing-Room Wing



RUFFORD OLD HALL	Great Hall Roof Plan	NT and LDAU Copyright 1996	 	DRAWN BY IG DATE 6/1996	SCALE 1:100
LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT				Fig 3	

Fig 3 Great Hall Roof Plan

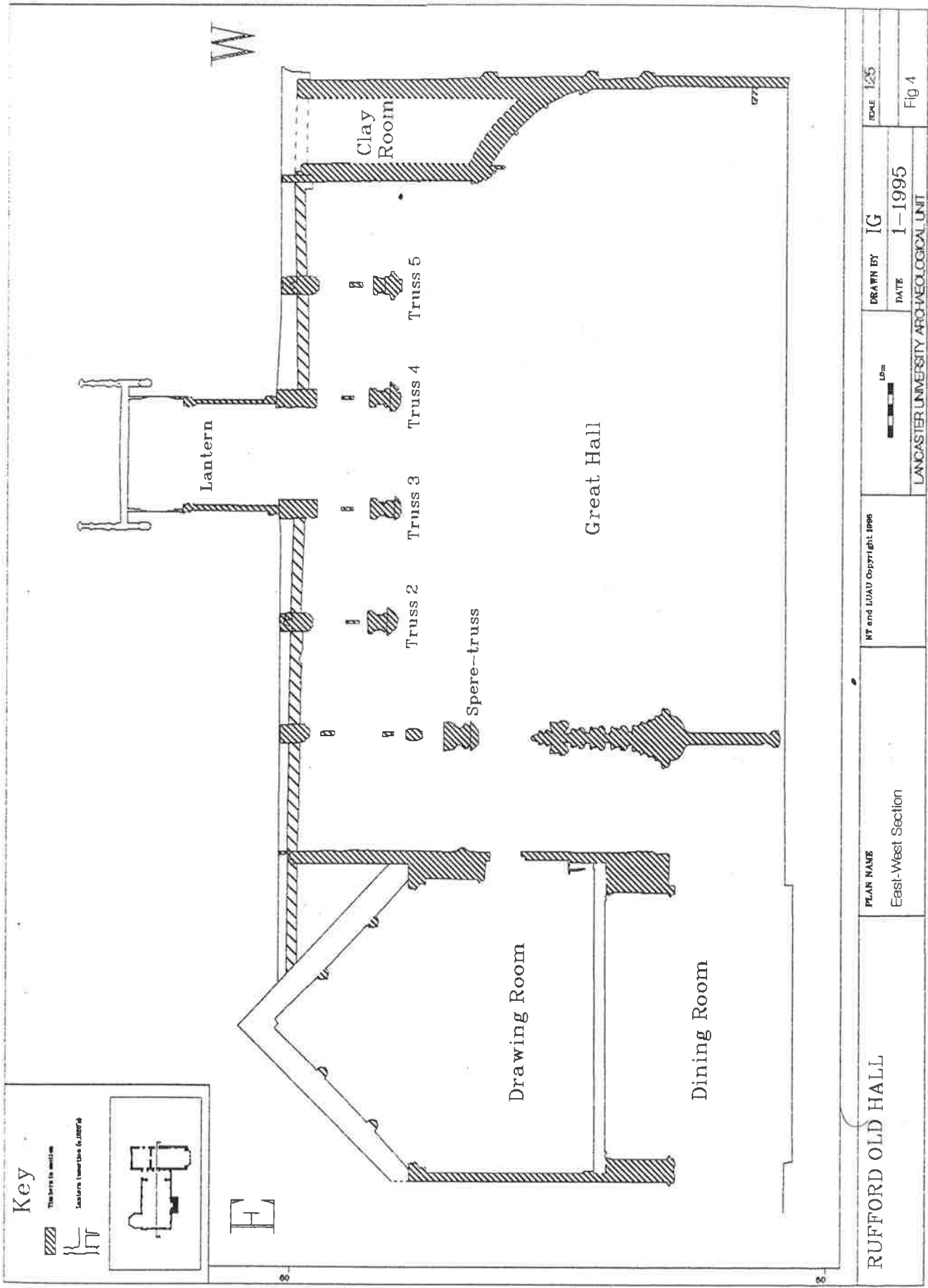


Fig 4 East-West Cross Section through Great Hall and Drawing Room Wing

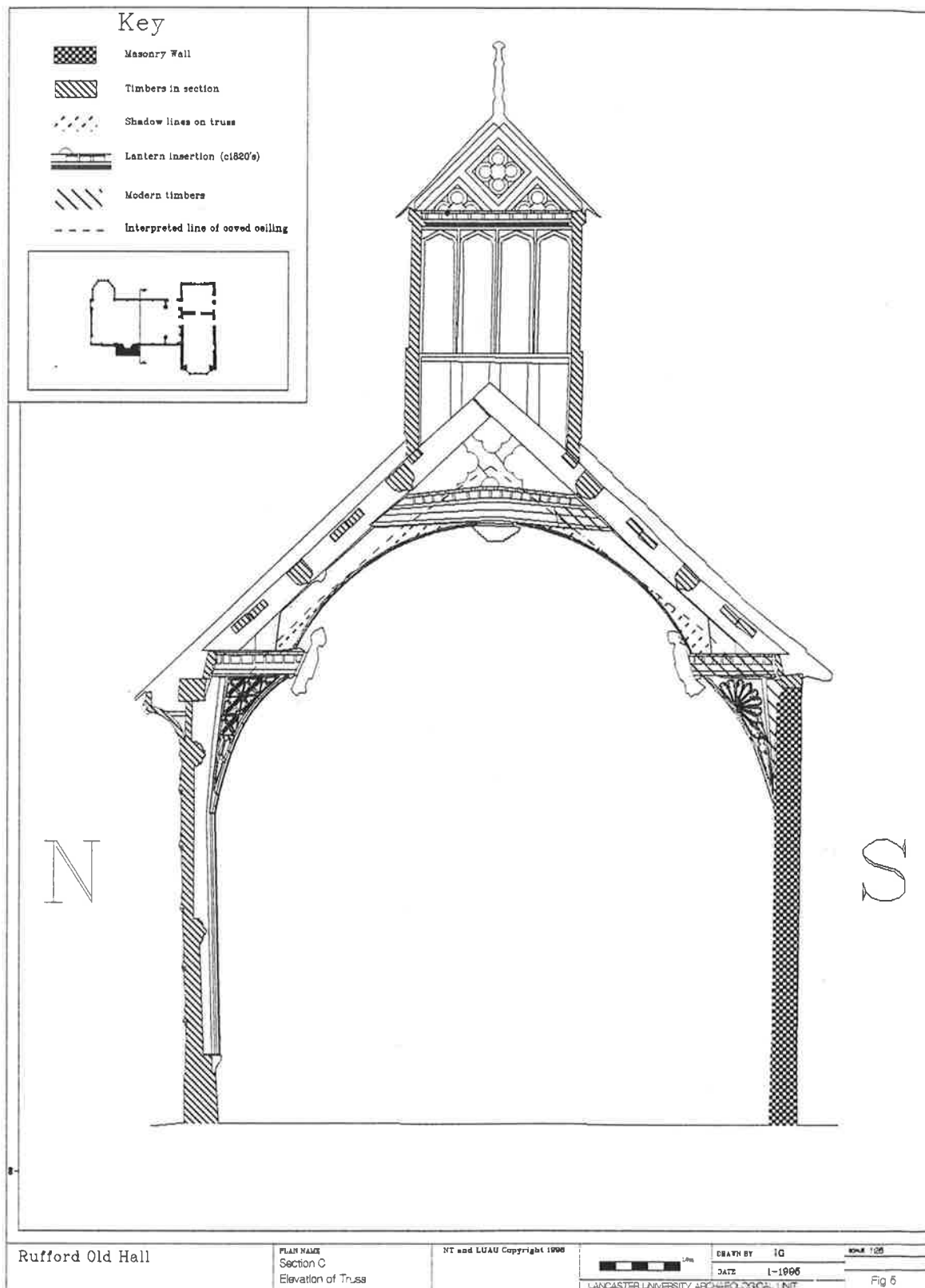


Fig 5 North/South Cross Section through Great Hall

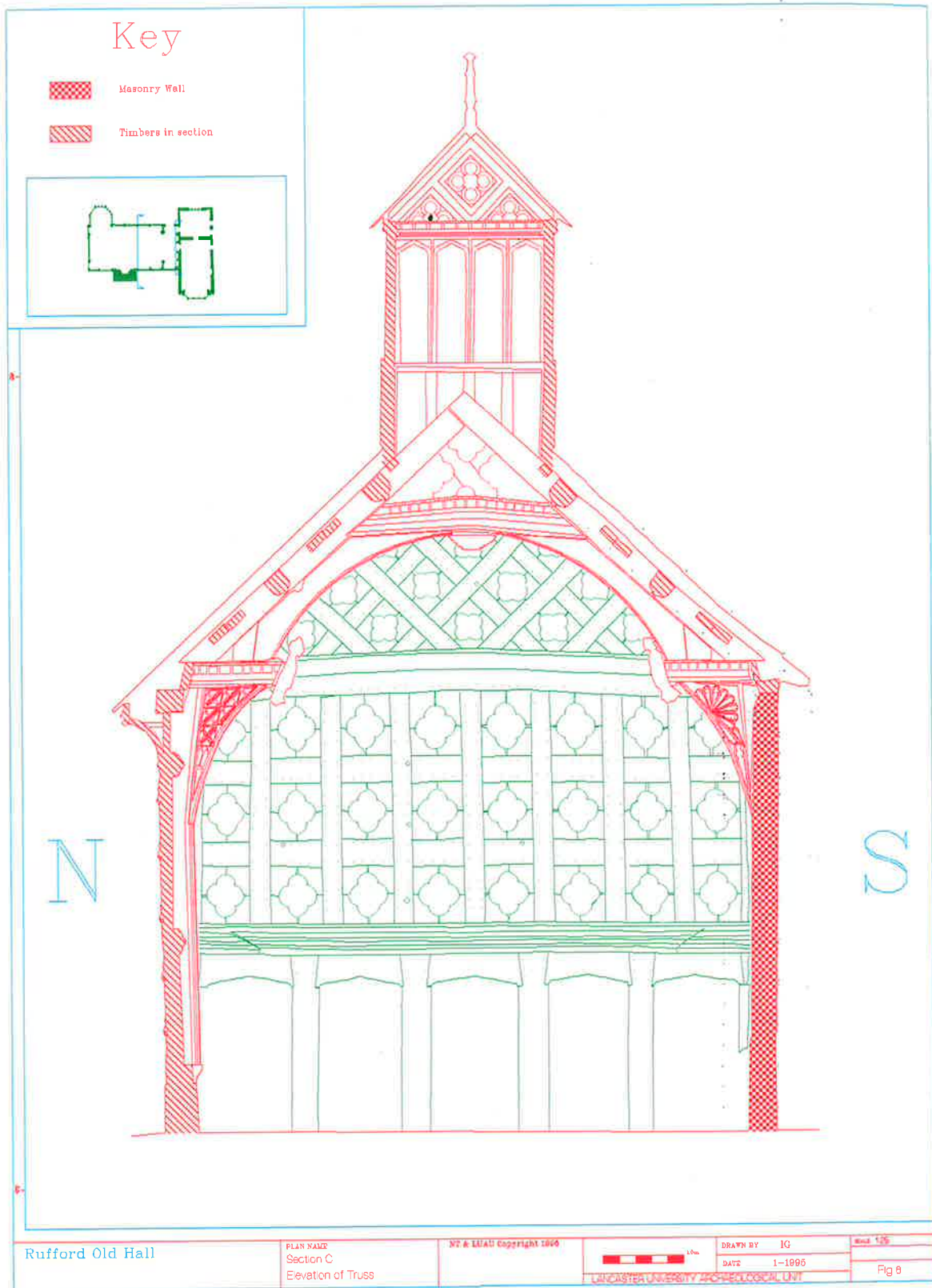
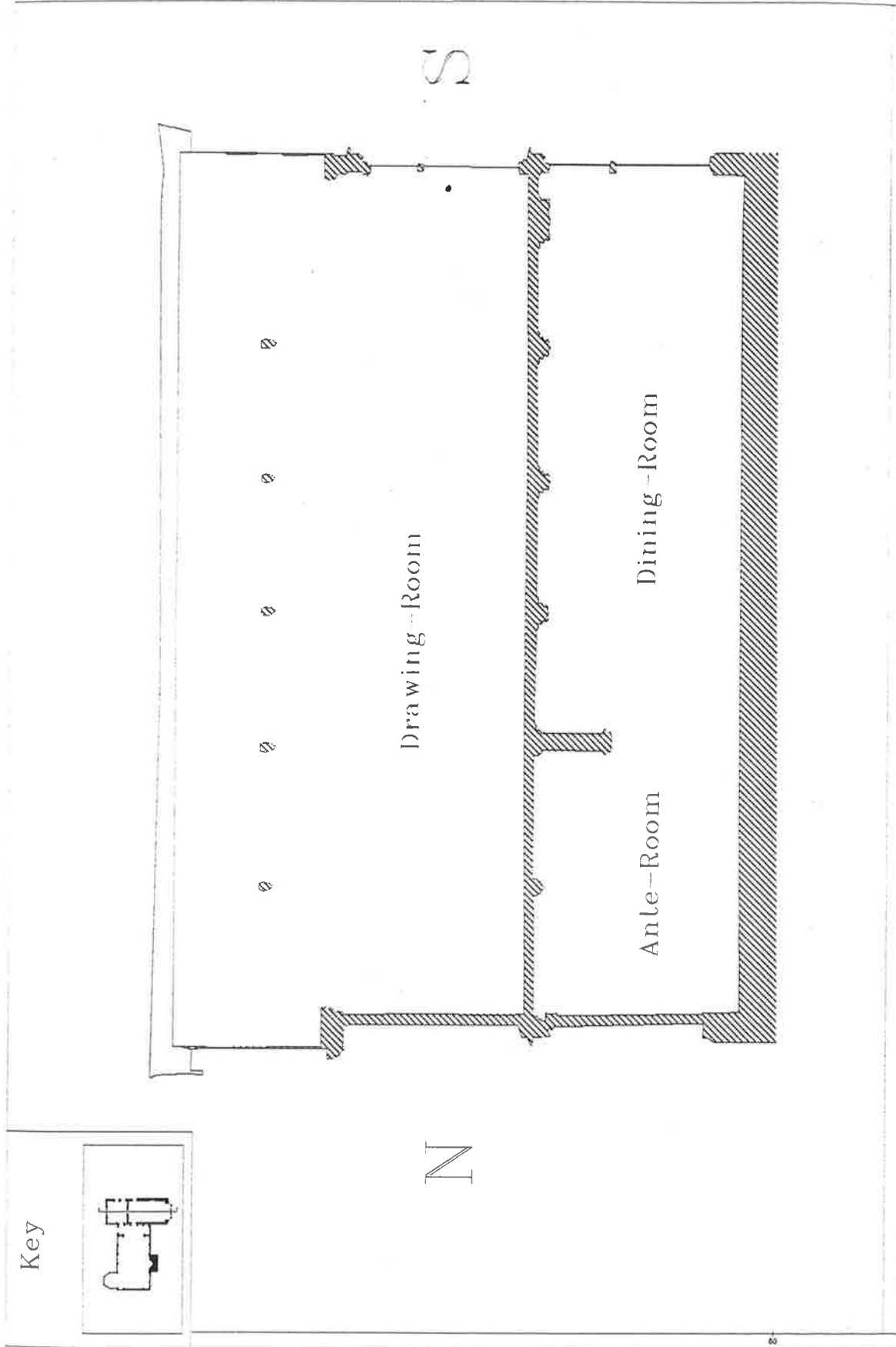
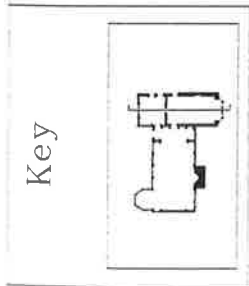


Fig 6 North/South Cross Section through the Great Hall, incorporating part of the East internal elevation

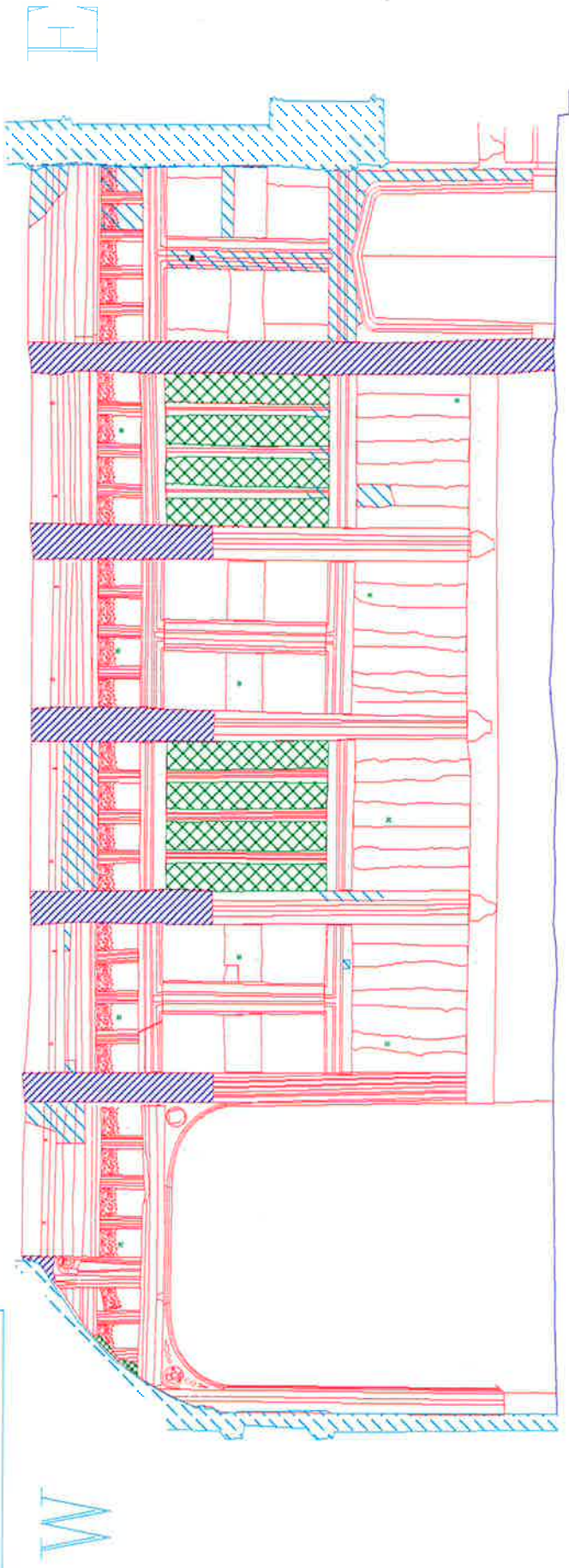
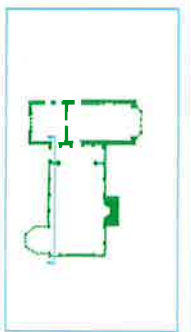


RUFFORD OLD HALL	PLAN NAME North-South Section of East Wing	NT & LDAU Copyright 1996		DRAWN BY IG DATE 1-1995	SCALE 1:25 Fig 7
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Fig 7 North/South Cross Section through Drawing Room Wing

Key

-  Modern timbers
-  Truss timbers in section
-  Wall in section
-  Window glass



RUFFORD OLD HALL

PLAN NAME
North Internal Elevation

NT & LUAI Copyright 1996

10m

DRAWN BY IG

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SCALE 1:25

Fig 8

LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

Fig 8 North facing internal elevation

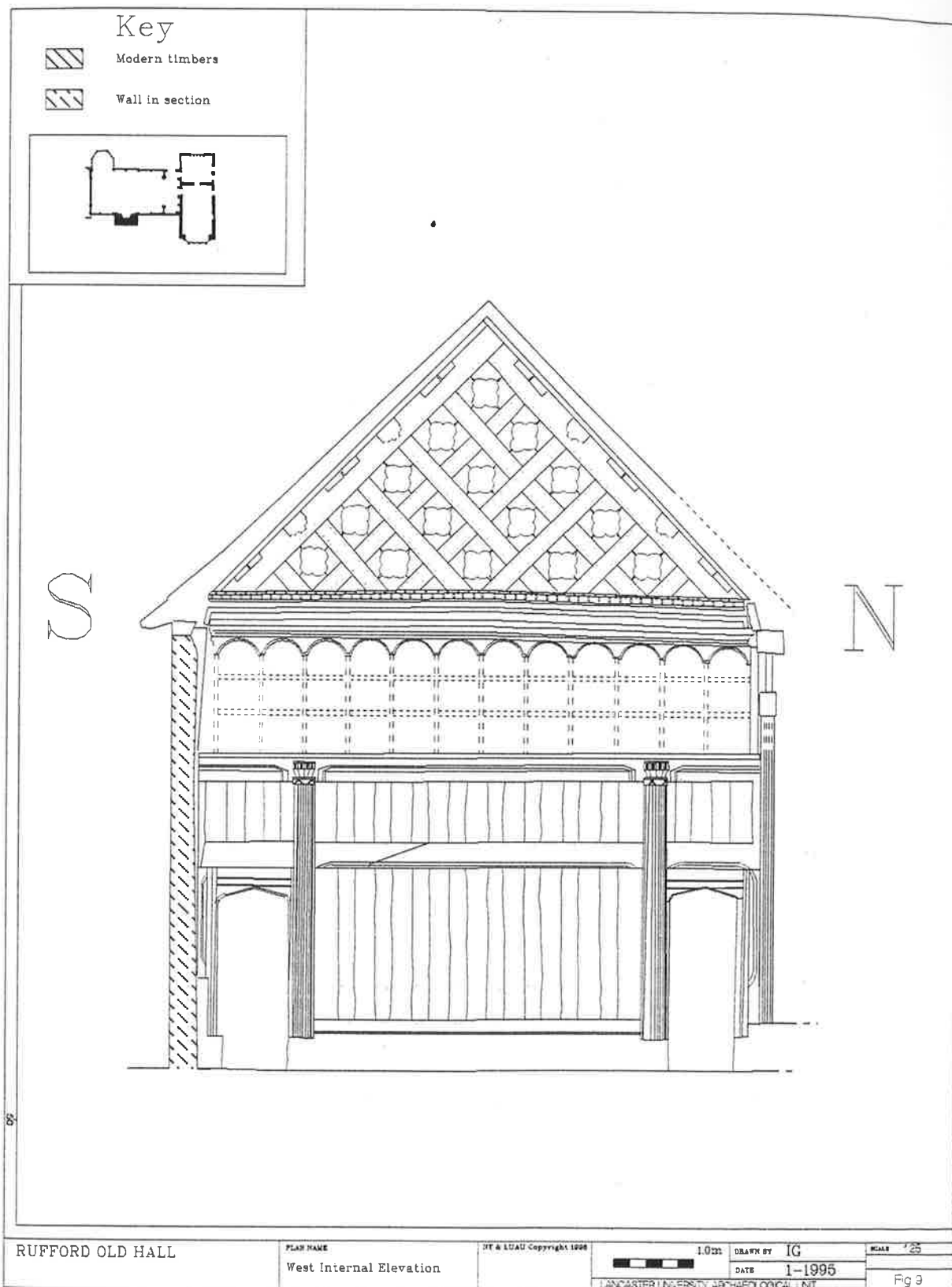




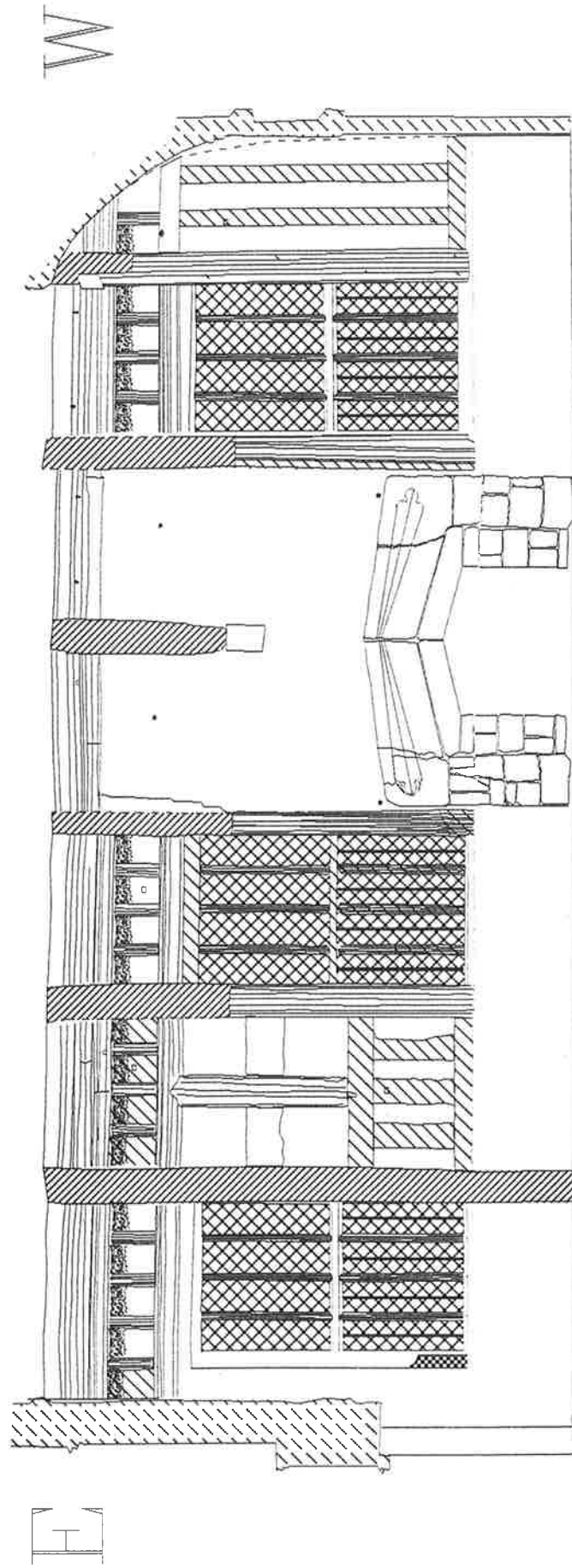
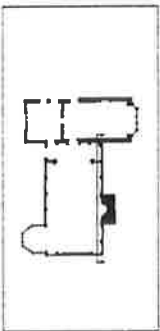


Fig 9 West facing internal elevation

Key

-  Modern timbers
-  Truss timbers in section
-  Wall in section
-  Window glass



80

RUFFORD OLD HALL

PLAN NAME
South Internal Elevation

NT & LNUAU Copyright 1996

1.0m



DRAWN BY IG

DATE 1-1995

LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

SCALE 1:25

Fig 10

Fig 10 South facing internal elevation

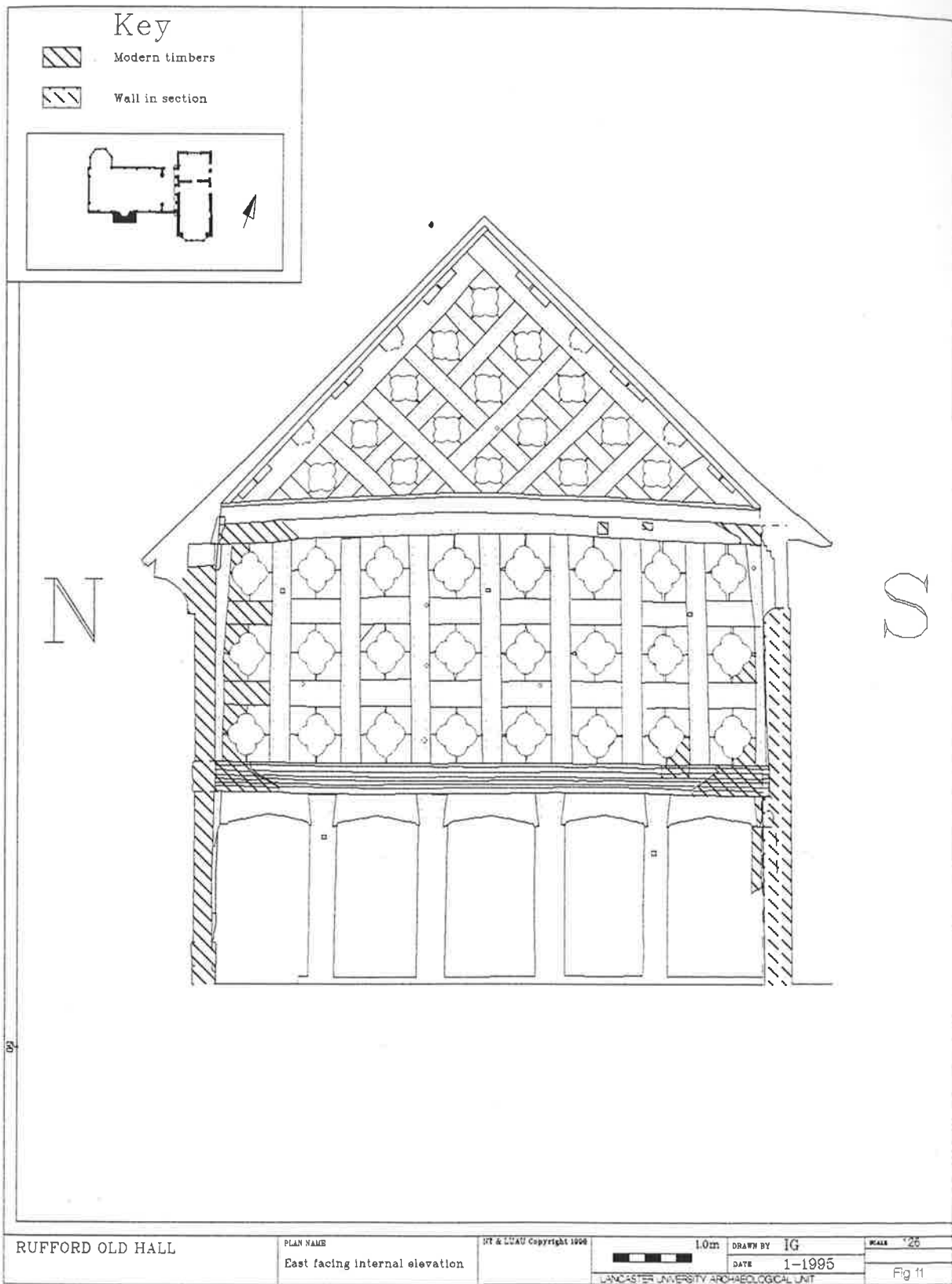
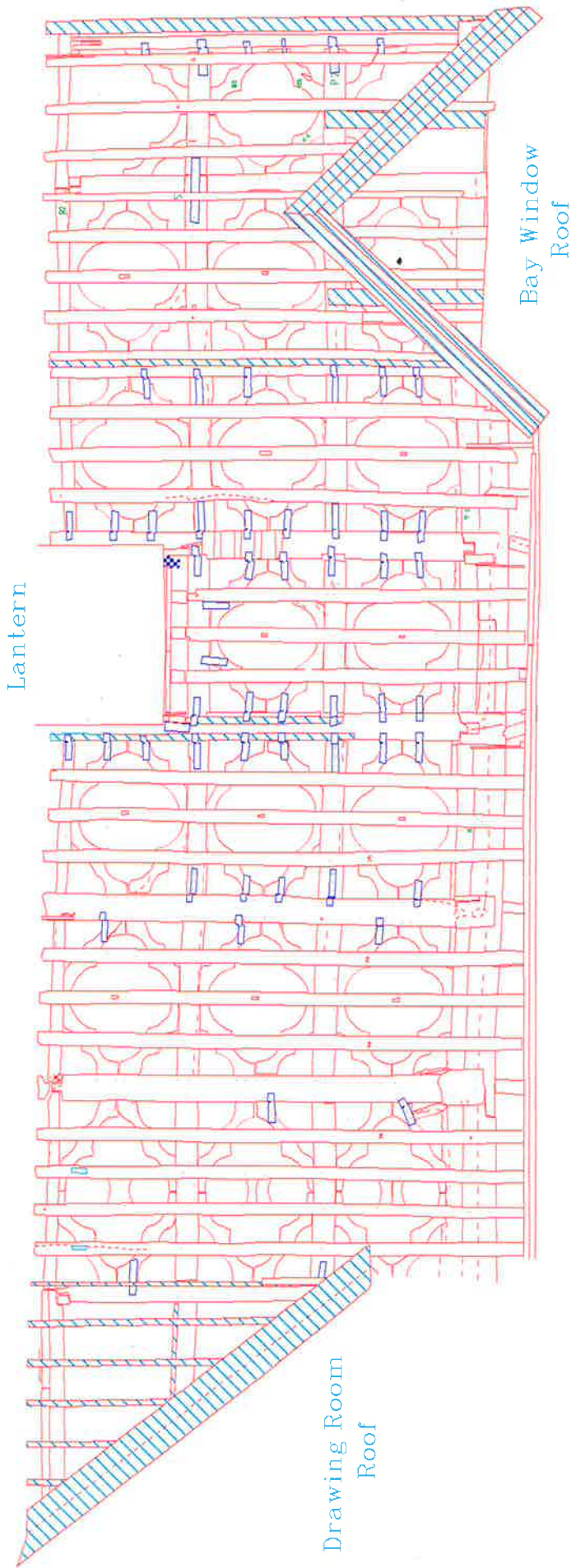


Fig 11 East facing internal elevation

E

W



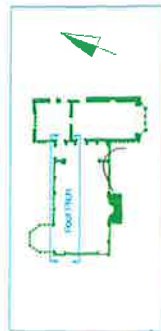
Drawing Room
Roof

Bay Window
Roof

Lantern

Key

-  Modern timbers
-  P2
-  1850's metal roof brackets



Northern Roof face in Plane of Roof Pitch

RUFFORD OLD HALL

PLAN NAME

North External Roof Face

NT & LUUAU Copyright 1995

1.0m



DRAWN BY AC & JQ

DATE 2/1996

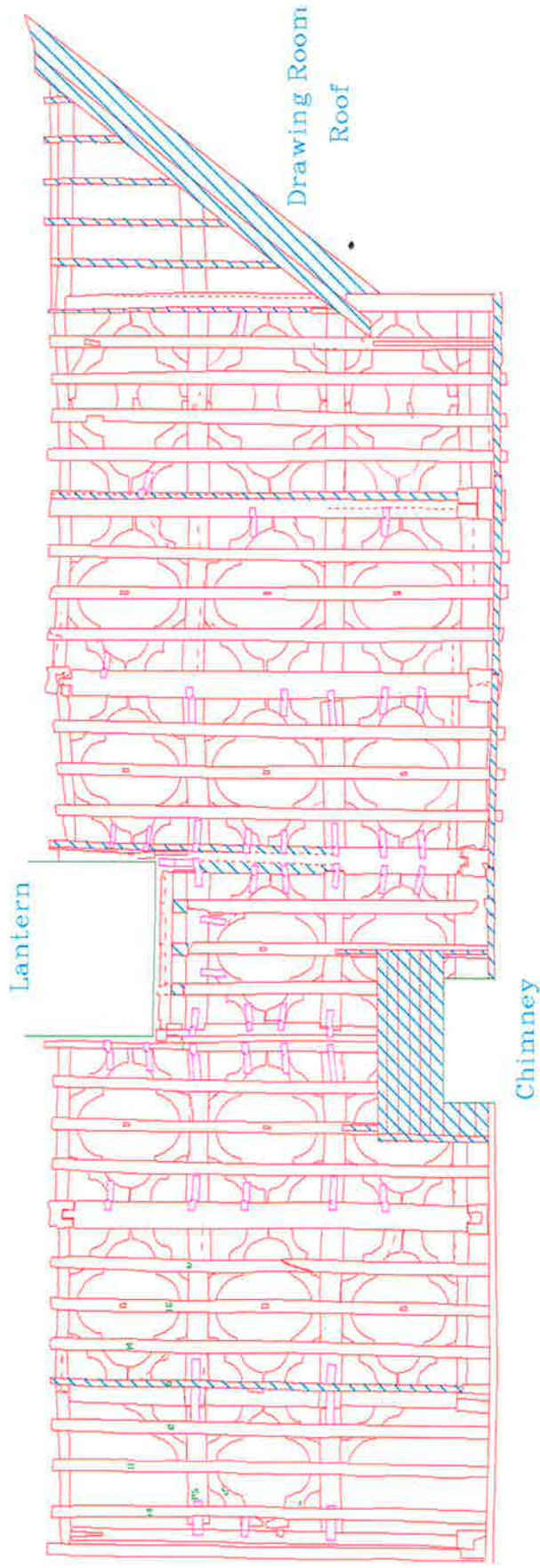
SCALE 1:25

LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

Fig 12

Fig 12 North facing external roof structure

E

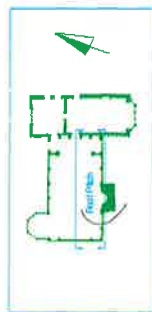


Key

Modern timbers

Carpentry marks

1950's metal roof brackets



Southern Roof Face in Plane of Roof Pitch

RUFFORD OLD HALL

PLAN NAME

South External Roof Face

NT & LUAV Copyright 1985

1.0m



DRAWN BY AC & JQ

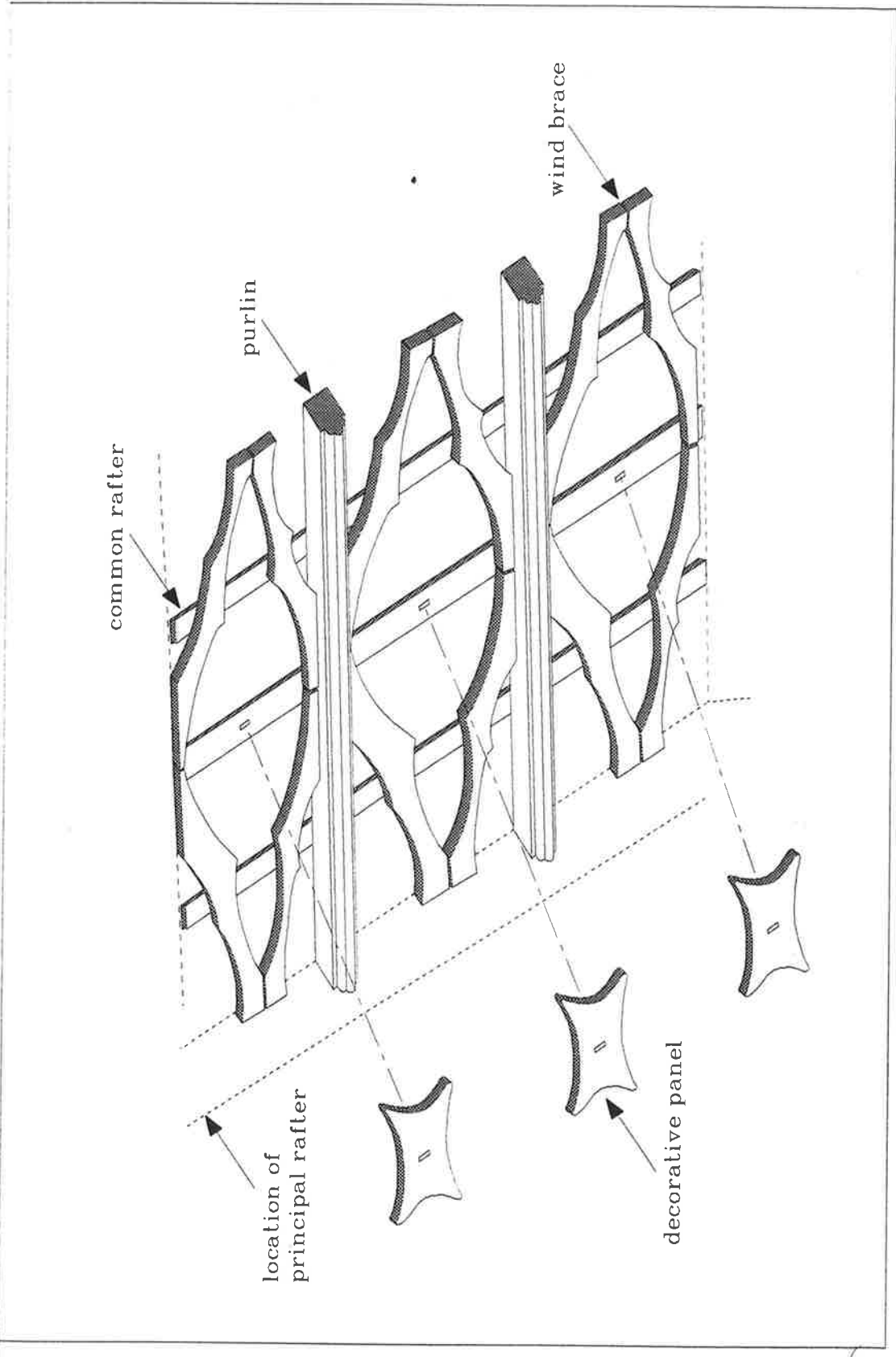
DATE 2/1996

SCALE

LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

Fig 13

Fig 13 South facing external roof structure



<p>RUFFORD OLD HALL</p>	<p>DIAGRAM SHOWING CONSTRUCTION OF RAFTERS & WIND BRACES OF INTERNAL ROOF PITCH</p>	<p>COMMISSIONED & FUNDED BY: THE NATIONAL TRUST</p>	<p>NOT TO SCALE Fig 14 LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT</p>	<p>DRAWN BY: JFR. JA DATE: 04/96</p>
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Fig 14 Diagram showing roof construction

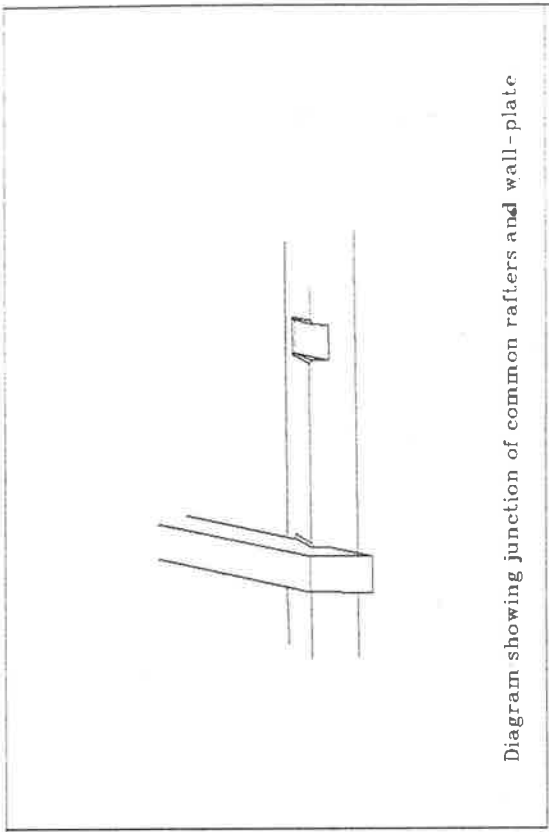
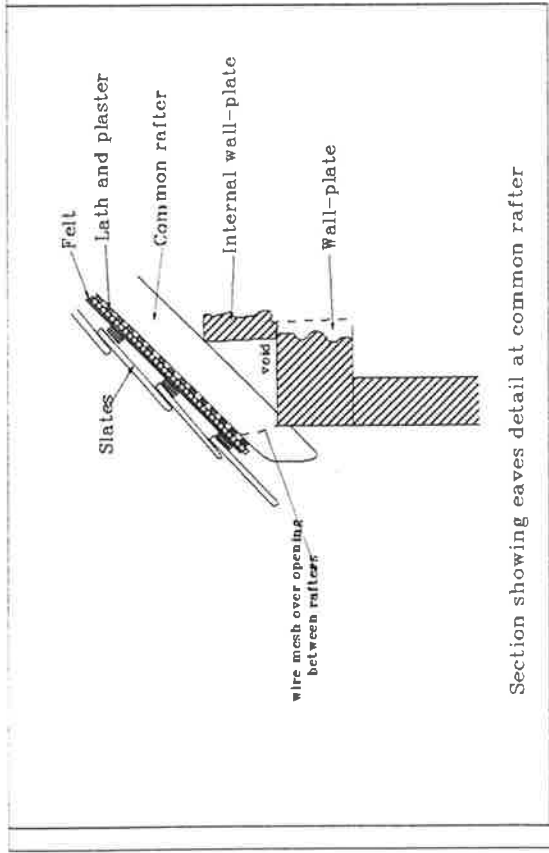


Diagram showing junction of common rafters and wall-plate



Section showing eaves detail at common rafter

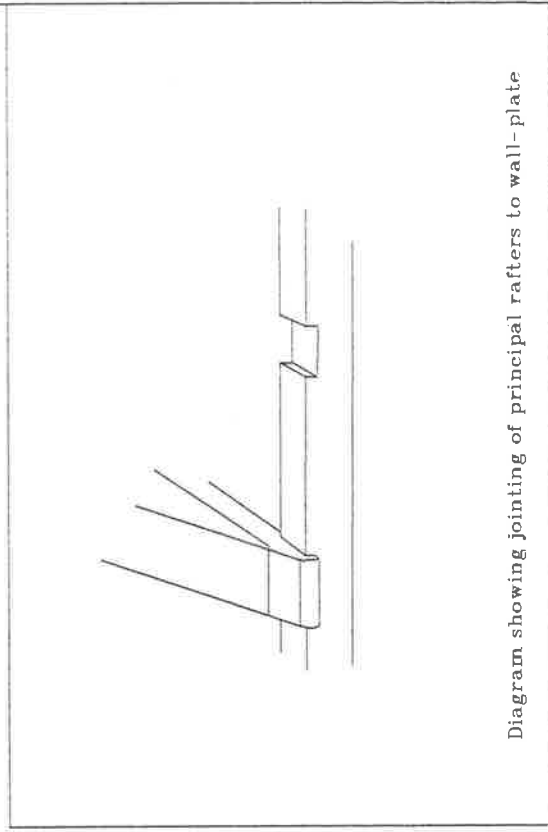
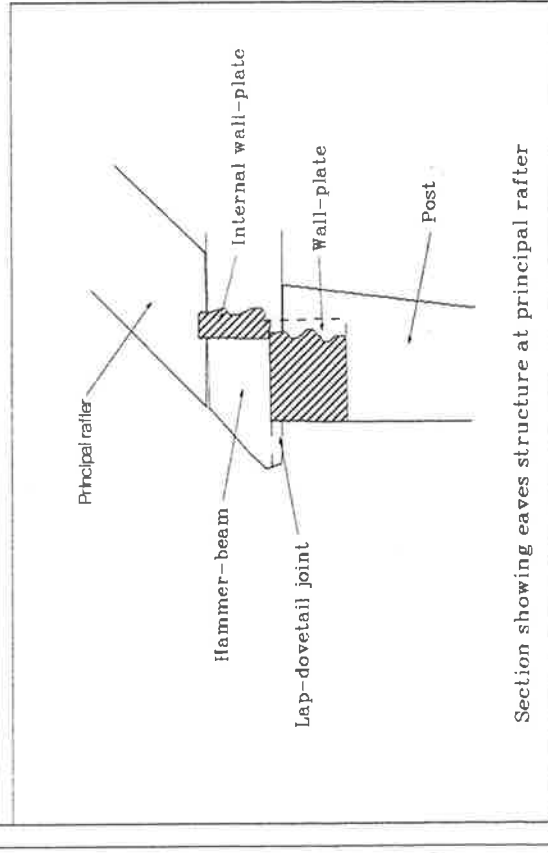


Diagram showing jointing of principal rafters to wall-plate



Section showing eaves structure at principal rafter

RUFFORD OLD HALL	DIAGRAM SHOWING CONSTRUCTION OF RAFTERS AND WALL-PLATE AT EAVES LEVEL		NOT TO SCALE Fig 15	DRAWN BY: JFR, JA DATE: 04/86
	COMMISSIONED & FUNDED BY: THE NATIONAL TRUST		LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT	

Fig 15 Diagrams showing eaves detail

PLATES

Plate 1. Internal view of roof, showing hammer-beam with angel terminal

Plate 2. Spandrel of hammer-beam

Plate 3. Internal entrance to the bay window, showing truncated post.

Plate 4. View of the roof from the north-west, showing exposed roof structure

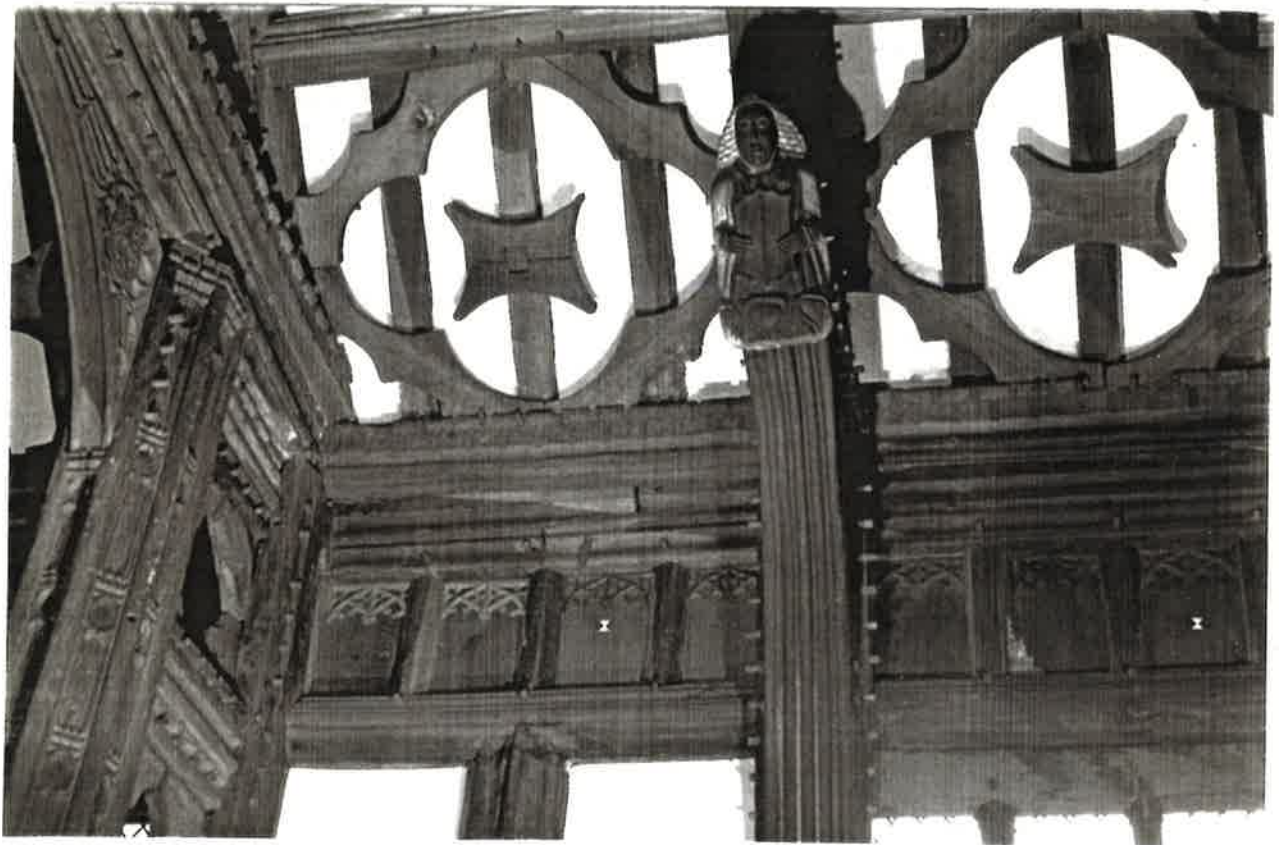


Plate 1. Internal view of roof, showing hammer-beam with angel terminal



Plate 2. Spandrel of hammer-beam



Plate 3. Internal entrance to the bay window, showing truncated post.

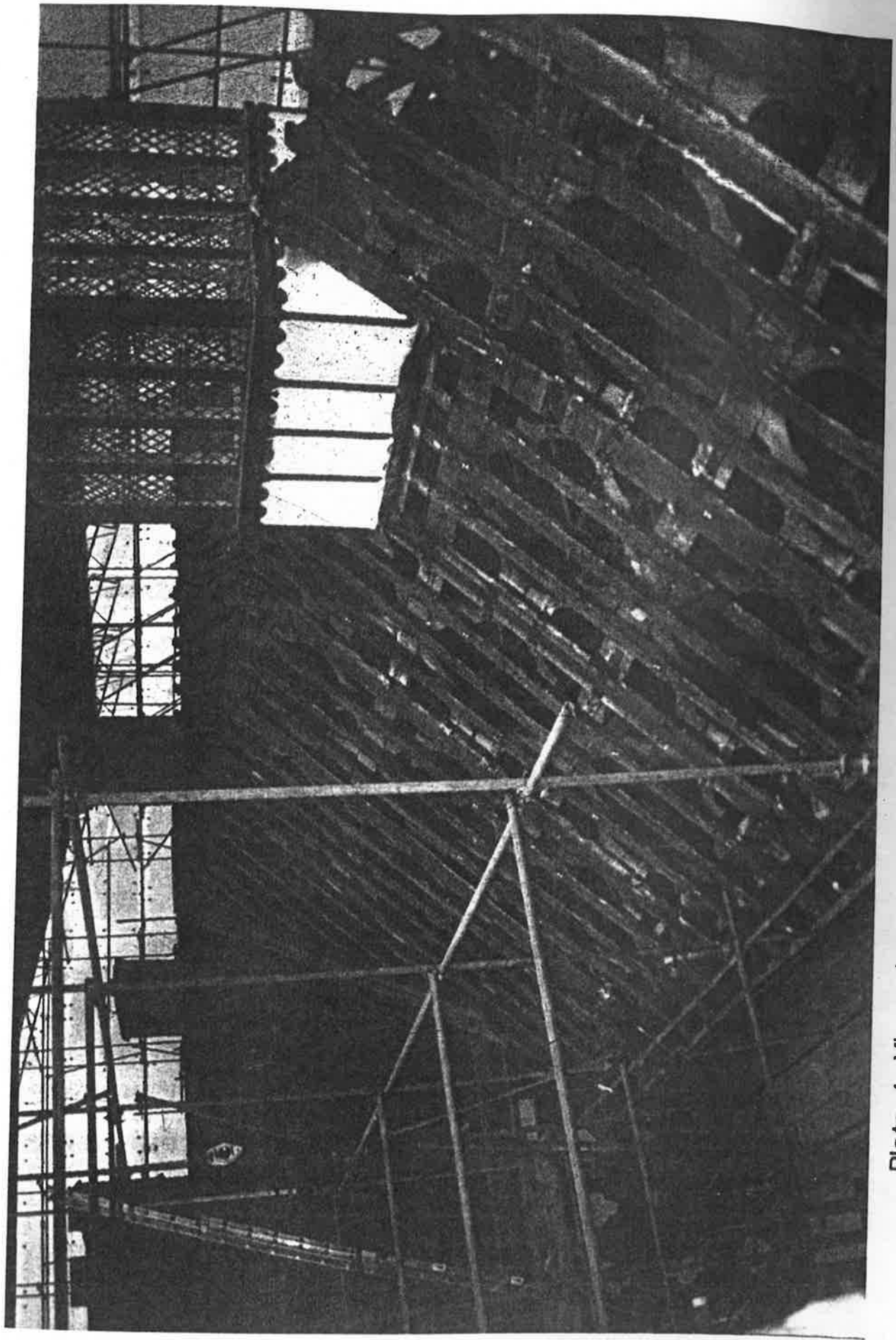


Plate 4. View of the roof from the north-west, showing exposed roof structure