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North West Wales Dendrochronology Project Ty'n Twr, Bethesda, Gwynedd



**EAS Client Report 2010/01
February 2010**

**Engineering Archaeological Services Ltd
Unit 2 Glanypwll Workshops
Ffordd Tanygrisiau
Blaenau Ffestiniog
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LL41 3NW**

Registered in England N° 286978

North West Wales Dendrochronology Project Ty'n Twr, Bethesda, Gwynedd

EAS Client Report 2010/01

**Commissioned by
Margaret Dunn
For
North West Wales Dendrochronology Project**

February 2010

**By
I.P. Brooks and K. Laws**

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North West Wales Dendrochronology Project

Ty'n Twr, Bethesda

SH 62594 66023

NPRN 10

Status: Grade II Listed (see Appendix 1)

Introduction

This report details the recording of the house Ty'n Twr, Bethesda, undertaken to compliment both the dendrochronological sampling, undertaken by Oxford Dendrochronology Laboratory, and the documentary study undertaken by volunteers for the North Wales Dendrochronology Project. The fieldwork took place on 1st February 2010.

Methodology

The plan produced by A.J Parkinson in 1992 was used as the base for the study of this house. It was slightly modified to include a window which was in the rear wall of the property and to account for slight modifications of the house made since the plan. The first storey plan was made by direct measurement. The drawings of the timberwork were carried out by direct measurement at a scale of 1:20 with the exception of the windbrace which was drawn at a scale of 1:10. Photographs were taken with a Nikon D80 digital SLR camera at a resolution of 10.2 mega pixels. Where practical all the photographs included a metric scale.

Access to the roof space was limited; however it was possible to inspect one of the trusses from the access hatch and to observe the general form of the roof structure.

Survey Report

Also known as Ty John Iorc this house is part of a small complex at the southern end of Bethesda. It occupies a plot between the A5, the B 4409 and the Afon Ogwen (Figure 1). The house is aligned approximately NW – SE on a roughly level site (Figure 2), however there is a rocky knoll immediately to the south east upon which there are the remains of a structure which may have been a tower. Only the south west end of the house contains timber work, the north east end having been re-built c. 1978 (Cadw listing description).

The house has been previously described by Cadw, for listing, by Parkinson for the Royal Commission on Ancient and Historical Monument of Wales and by Haslam *et al* (2009, 264) (see Appendix 1)

Externally the house consists of two ranges set at right angles, although only the south west end of the main range contains the original structure of the property. This range is a two storey range under a modern slate roof (Plate 1). Now rendered, the original stonework is not available for inspection. There are a series of modern slate buttresses supporting the front elevation and the south west gable end, both of which tend to lean out. The windows in the front elevation contain modern wooden frames; however one of the first floor windows is pointed (Plate 2). The windows also appear to occupy original openings on the front elevation, although the first floor windows in the rear elevations are later additions.

The south west gable end is rendered and has weatherboarding on its upper section, however a line of stones projecting from the surface presumably mark the position of a lean-to, now lost (Plate 3). To the rear of the building a line of stone is exposed at the base of the wall marking the line of the foundations at this point (Plate 4). The chimney is set just off the ridge and is set diagonally (Plate 5). It is constructed of roughly courses stone rubble.

Internally two cruck trusses have been recorded, both of which have their feet buried in the walls of the house. Truss 1 (Figure 4.1, Plates 6 and 7) has cruck frames with a collar and two pairs of massive purlins. This truss sits over the inserted fireplace and is exposed in the stairwell and first floor only. There has been some movement between the front cruck frame and the lower purlin, however this allows for the trenched joint in the purlin to be seen (Plate 8). The apex of the truss is butt jointed, with a rectangular recess for a ridge piece. Originally there were windbraces between both the cruck frames and at least the lower purlins, one of which survives between Truss 1 and the lower front purlin (Plate 8). The windbrace (Figure 5.2) is decorated with double ogee cusping. The lower front purlin has the mortice holes for the missing windbraces, but it also has a series of wooden pegs at approximately 0.5 – 0.55 m intervals which presumably mark the positions of the common rafters (Figure 5.1, Plate 9). Some of these common rafters appear to survive in the roof space, although they are no longer functional (Plate 10).

Truss 2 (Figure 4.2, Plates 11-13) is of similar design to Truss 1, a cruck frame with its feet buried in the walls, with a collar and two pairs of purlins. The collar has been supported by the addition of iron plates, presumably to stabilise the structure. On the ground floor, however, it contains the remains of a post and plank partition (Plates 14 and 15). Now only occupying the central section of the room this feature originally extended to both walls and had a doorway at its south eastern end. The surviving partition has a series of four post, each approximately 0.3 m wide and 70 mm thick, linked by planks 40 mm thick (Figure 5.3). Each of the posts has bevelled edges. The positions of both the missing and surviving posts are marked by a series of carpenters marks both on the beam forming the top of the partition and on the surviving posts themselves. The marks consist of roman numerals running from two to seven from north west to south east. The numerals are made of simple chisel cuts. The marks of "II" (Plate 16) and "III"

(Plate 17) mark the positions of missing posts. "IIII" is the first of the surviving posts and is marked on both the post and the rail (Plate 18), whilst the marks for "V" are missing, but would be below the transverse beam. The mark for six is "VI" (Plate 19) and for seven "VII" (Plate 20). There are also a series of peg holes in the posts and planks of the partition which may mark the positions of furniture or a canopy attached to this partition. Below the lower rail of the partition has been supported with modern cement loosing the relationship with any floor levels.

It is assumed that the chimney and the floors have been inserted into the pre-existing structure. The fireplace has a large wooden lintel, approximately 0.4 m thick and 3.15 m long. The ceiling of the ground floor north eastern room has a transverse beam, approximately 230mm square with chamfered sides and flat stops at both ends (Plate 21). The joists are largely contemporary with each other, except for the two in the south west corner of the room which are of pine and are clearly replacements. The remaining joists are chamfered and have ogee stops at both ends (Plate 22).

The lower south western room has a rail running adjacent to the gable wall. Originally this rail would have been in contact with the wall, but the movement of the structure has detached the rail from the wall. The rail is chamfered and stopped on its front face, although the face originally in the wall retains its natural, curved, profile. At the south eastern end of the rail there is a cut out, chamfering approximately a 0.7 m length of the top of the rail (Plate 23). It is assumed that this feature marks the position of an earlier ladder access to the loft. The floor joists run between this rail and the partition. They vary between rough cut timbers and squared timbers (Plate 24) reflecting at least one phase of replacement. It is assumed that the square cut joists are later, although this remains speculative.

The current staircase is in the northern corner of the north east ground floor room. This is clearly a modern structure, cutting the rail supporting the floor joists on the front wall (Plate 25), but it partly occupies a marked curved recess in the front wall of the property which may have held an earlier staircase (Plate 26).

Within the re-built section of the house, adjacent to the front door is a curved timber (Figure 5.4, Plate 27) which is assumed to be part of the original door structure and has been returned to its original position (Parkinson 1992). It is very worn, but appears to be shaped at its top, possibly suggesting a curved or pointed door head.

Dendrochronology Sampling

Five samples were taken from this building, three from the principal rafters, one from the ground floor longitudinal beam and one from the rail forming the top of post and plank partition.

Conclusions

The south western end of Ty'n Twr retains extensive evidence for the early structure which makes up this house. There are clearly at least two phases represented together with evidence of the previous instability of the structure which lead to the destruction of the north eastern end of the original house. These phases can be summarised as:

1. A cruck framed hall house, probably with the cross passage in the re-built section of the house near to, if not at, the current front door. The surviving end of the house was divided by the partition and there was possibly a partial loft at the south west end accessed by a ladder.
2. The insertion of the chimney and ceilings to produce a storeyed house.

Acknowledgments

The recording of this building was commissioned by Margaret Dunn for the North Wales Dendrochronology Project and she also organised access to the building. The forbearance of the owner during the recording of the house is gratefully acknowledged.

References

- Haslam, R., Orbach, J. and Voelcker, A. 2009 *The Buildings of Wales. Gwynedd. Anglesey, Caernarvonshire and Merioneth*. Yale University Press. 264
- Parkinson, A.J. Tyn-Twr, Bethesda, Caerns. (SH 6259 6603). Detailed notes for the Royal Commission on Ancient and Historical Monuments of Wales



Plate 1: Front elevation



Plate 2: First floor pointed window



Plate 3: South west gable end



Plate 4: Line of stones exposed to the rear of the property



Plate 5: Chimney looking north west



Plate 6: Truss 1, looking north



Plate 7: Truss 1, looking east



Plate 8: Windbrace and trussed joint on purlin



Plate 9: Pegs showing the positions of the common rafters attached to the lower front purlin



Plate 10: The roof space looking south west



Plate 11: Truss 2 looking north



Plate 12: Truss 2, south east cruck, looking north



Plate 13: Truss 2, north west cruck looking west



Plate 14: Post and plank partition looking south



Plate 15: Post and Plank Partition looking south west



Plate 16: Carpenter's mark of "II" on partition



Plate 17: Carpenter's mark of "III" on partition



Plate 18: Carpenter's mark of "IIII" on partition rail and post



Plate 19: Carpenter's mark for "VI" on partition rail and post



Plate 20: Carpenter's mark for "VII" on partition rail and post



Plate 21: Transverse beam in lower NE room, looking west



Plate 22: Joist in lower NE room, looking north



Plate 23: Cut out for possible ladder



Plate 24: Variation between the ceiling joists in the SW ground floor room



Plate 25: Rail truncated by the insertion of the stair case, looking down



Plate 26: Curved recess in the staircase, looking down



Plate 27: Re-sited door timber, looking west

Appendix 1: Sources

Information from Gwynedd Historic Environment Record

Listing Information:

Record No.	3813
Name	No 6 (Ty John Iorc Ty'n Twr)
Date Listed	6/12/50
Grade	II
History	Later C15 hall-house, inserted stack and floors C17. NE end two bays demolished c1900, exterior detail all altered c1978 and extension built on site of demolished part. The reputed hiding place of Archbishop Williams of York in Civil War. Just behind is the site of a small medieval tower, possibly the Twr Abercaseg mentioned in 1254 that guarded the Ogwen crossing and approach to Nant Frangcon. Tower is mentioned as transferred to the Griffiths of Penrhyn 1458 and house probably replaced it shortly after. Mentioned in will of 1511.
Reason	A rare substantially surviving C15 open hall, with upper end partition and C17 inserted floor and chimney.
Reference	Hughes and North, <i>The Old Cottages of Snowdonia</i> , 1908, pp22, 37; Information from Keith Morgan Esq.; P. Smith, <i>Houses of the Welsh Countryside</i> , 1988, pp415, 496, 669; RCHM, <i>Caernarvonshire 1</i> , 1956, p478.
Interior	Former 2-bay open hall with parlour to W, and entrance passage probably in present position. Door has curved right oak jamb in wall. Entry backs onto massive C17 fireplace inserted into hall, with 3.3m chamfered oak lintel. Stone winding stair cut into wall by fireplace entry, presumably C17. C17 inserted ceiling with heavy axial beam, wall beams, and squared joists with varied chamfered and ogee stops. Main beam rests on heavy post and panel partition, with openings each end, that to left possibly original. Posts are numbered 4 to 8. Unheated parlour beyond has beam against end wall, cut-back for former ladder access to loft. Slots in window lintel for shutters. Upper floor has two massive cruck trusses, the feet buried in ground floor walls. No evidence that crucks represent an earlier timber-frame building.

Double massive purlins and evidence of patterned windbracing, one carved windbrace survives.

Exterior

Whitewashed rendered walls, slate roof raised to rear c1978, and at slightly lower level on rebuilt left end. Massive rubble stone C17 diagonal stack on rear roof slope, at join between two sections. Two-storey front, old part to right with two C19 slate-block raking buttresses. Of original left end only a lean-to was left by 1915, on site of present door. As rebuilt c1978, left section has 2 square windows above, one below to left and door to right. Right section has buttress, then small square ground floor window, then small pointed first floor window, then larger square ground floor window against second buttress. To right, ground floor rectangular window and small square window under eaves above, not quite aligned. All the glazing is C20. A photograph taken c1946 shows the exterior before alterations, but does show that most of the windows retain their former size. Front is rubble stone, left end lean-to has 12-pane sash. Main range has a nine-pane sash in window to right of first buttress, crude Gothic casement pair in pointed window, and door in site of larger ground floor window. This was a plank door with 15-paned overlight. To right, ground floor window was a 9-pane sash, and little eaves window was a casement pair. Rear roof is raised up with C20 windows on former wallplate. W end has another raking buttress and C20 weatherboard in gable. Rear NE outbuilding much altered, but possibly of early date as lower

Other Sources

Description by A.J. Parkinson dated 8th October 1992 for the Royal Commission on the Ancient and Historical Monuments of Wales.

A mediaeval cruck-framed hall-house with later alterations, of considerably greater interest than suggested by the inventory account (Caerns. I, 478)

The earliest documentary reference to the house may be in the Penrhyn Cartuary (1458), in which Hoell ap Jeuan ap Kyfnerth transferred a messuage 'iuxta le tour' de abergassek' to William Griffith. The will of William ap William of Cochwillan (Penrhyn papers 63) of 1557 includes Tyn-twr among other property. There is a persistent legend that Bishop John Williams (who owned the Cochwillan estate) hid there during the Civil War. Archaeological evidence is provided by a C-14 date of 1545 for the old doorframe in the front wall, and pottery of 1475-1620 found under the oven in the later addition (ex inf. Mr K. Morgan).

The house is aligned NE-SW on a roughly level site at the foot of a rocky knoll (which may have on it the remains of an earlier structure, the eponymous 'twr' q.v.). The walls are of local rubble masonry, now rendered and with modern slate buttresses; the roof is slated. There is a slight plinth to the walls, and the gables formerly had rough upstanding copings; the SW gable has been partially rebuilt in very rough rubble (concealed behind boarding) above a stringcourse at eaves level, which may have protected the roof of a lean-to. The house has been somewhat altered: a photograph (pre-1913) shows the NE end roofless but with the stumps of the original walls, while the SW end has a new roof. The kitchen arrangements measured by Monroe and Johns have been altered and partly demolished. The doorway has been returned to its original location: one doorpost survives with a recess for the original head (the existing lintel is reused). The window to the inner room retains the lintel of the original two light window, with large mortices for (presumably square-section) jambs and a mullion.

The interior retains, much original detail. The inserted fireplace is very wide, with a slight chamfer to the bressummer, which runs for some 2ft. into the rear wall. The ceiling is supported on a main axial beam between the fireplace and a slot cut into the head-beam of the partition; the ceiling beam is chamfered with Wern-hir stops, the joists (which rest on half-beams against the side-walls) are variously stopped with Wern-hir, bullnose and ogee stops. The post-and-panel partition is very plain, and formerly had a single doorway only. The posts are chamfered, and the headbeam lines up with the crucks but may not be pegged to them. The inner room has axial joists originally pegged to the top of the head-beam but now mostly out of position: the joists are wide and flat, chamfered to the underside and rebated to the top, suggesting that originally they formed part of a 'joist-and-plank' ceiling. The SW ends rest on a half-beam close to the gable, probably inserted when the gable began to move outwards.

The modern stair is next to the fireplace. In the embrasure of the small window is the embedded foot of a cruck which is partly set into the face of the chimney. A second cruck forms the partition between the two rooms at first floor level. Both couples are similar, well-formed crucks with no ties, plain tenoned collars, butted apexes and two sets of through purlins (the lower supported by windbraces with a double-ogee cusping). The ridge is modern, but some old rafters survive, and there are traces of smoke-blackening. Neither truss shows indications of having been closed, and there are no hints of timber framed walls.

The house has clearly undergone considerable alteration. The earliest phase would seem to be a cruck-framed hall-house, probably with stone walls. Only the 'upper' end survives, consisting of the solar (originally ceiled), the dais partition, and one bay of the hall. The position of the doorway may be original, suggesting a two-bay hall and (presumably) a service-bay beyond. The date is uncertain: however, the simplicity of the trusses and the lack of a partition closing the space above the dais partition seems archaic (of Gadlys Hall, Flint), and may indicate that this was the house standing in 1458. At a later stage the chimney was inserted, and the hall ceiled. The details of the beams and joists suggest a 17th C

date. The alterations to the N end (the kitchen fireplace and oven) might be of a similar period. The lack of an original stair by the fireplace suggests that the chimney was inserted into the open hall some time before the ceiling was put in.

Haslam, R., Orbach, J. and Voelcker, A. 2009 *The Buildings of Wales. Gwynedd, Anglesey, Caernarvonshire and Merioneth*. Yale University Press. 264

At the S end, just off the lane leading W to Tregarth, No6 TŶ'N TŴR, the oldest building. The l. half modern, the r. half a much altered C15 hall-house, the reputed hiding place of Archbishop Williams of York during the Civil War. Diagonal C17 chimney, set back from the ridge. Small window openings, one pointed. (Large fireplace. C17 upper floor, with chamfered and ogee stops to beams. Post-and-panel partition. Two cruck trusses, with large purlins and surviving wind-brace.)



Figure 1: Ty'n Twr, Bethesda
Location
Scale 1:25,000

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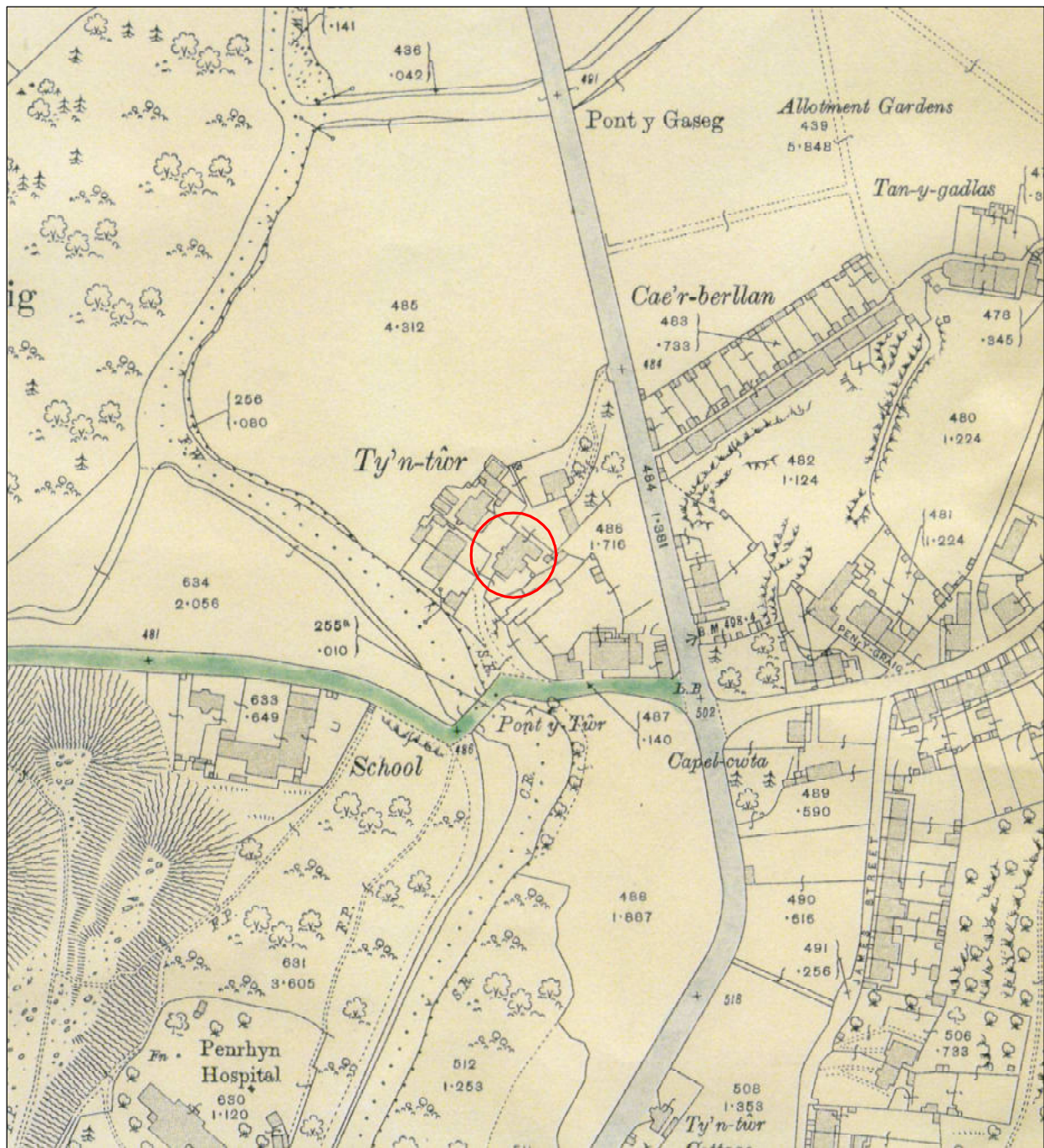
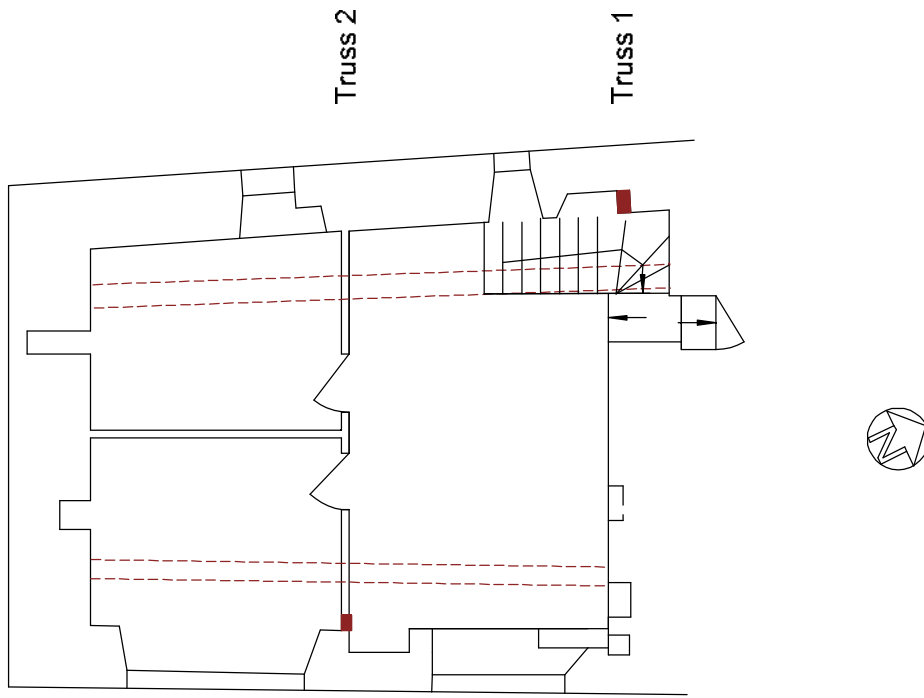
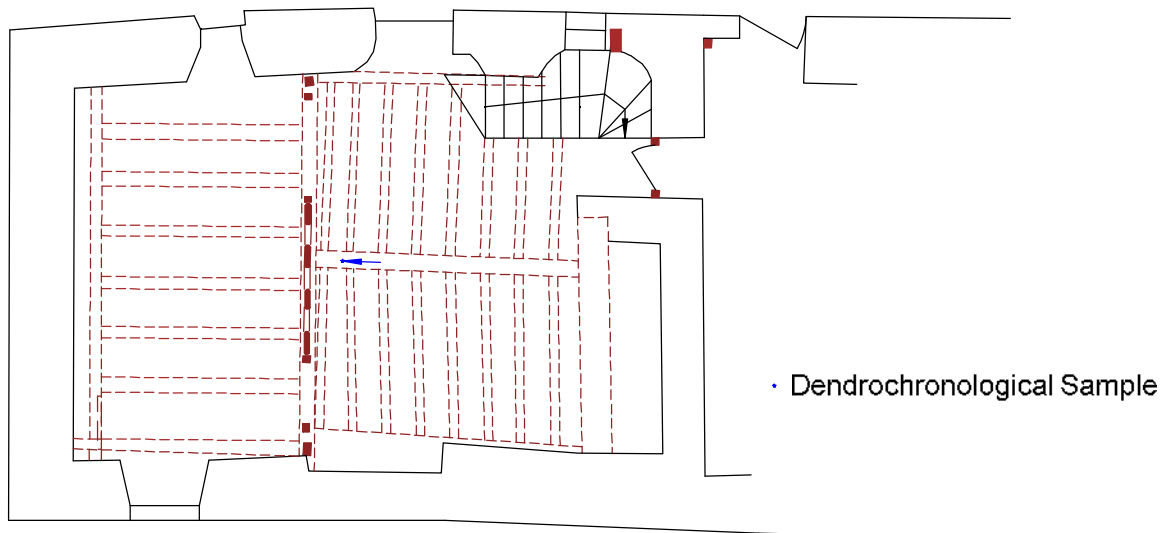


Figure 2: Extract from the 1914 Ordnance Survey, Caernvonshire XII, 10 Map Scale 1:2500



3.1 First Floor



3.2 Ground Floor



Figure 3: Ty'n Twr, Bethesda
Plan
Scale 1:100

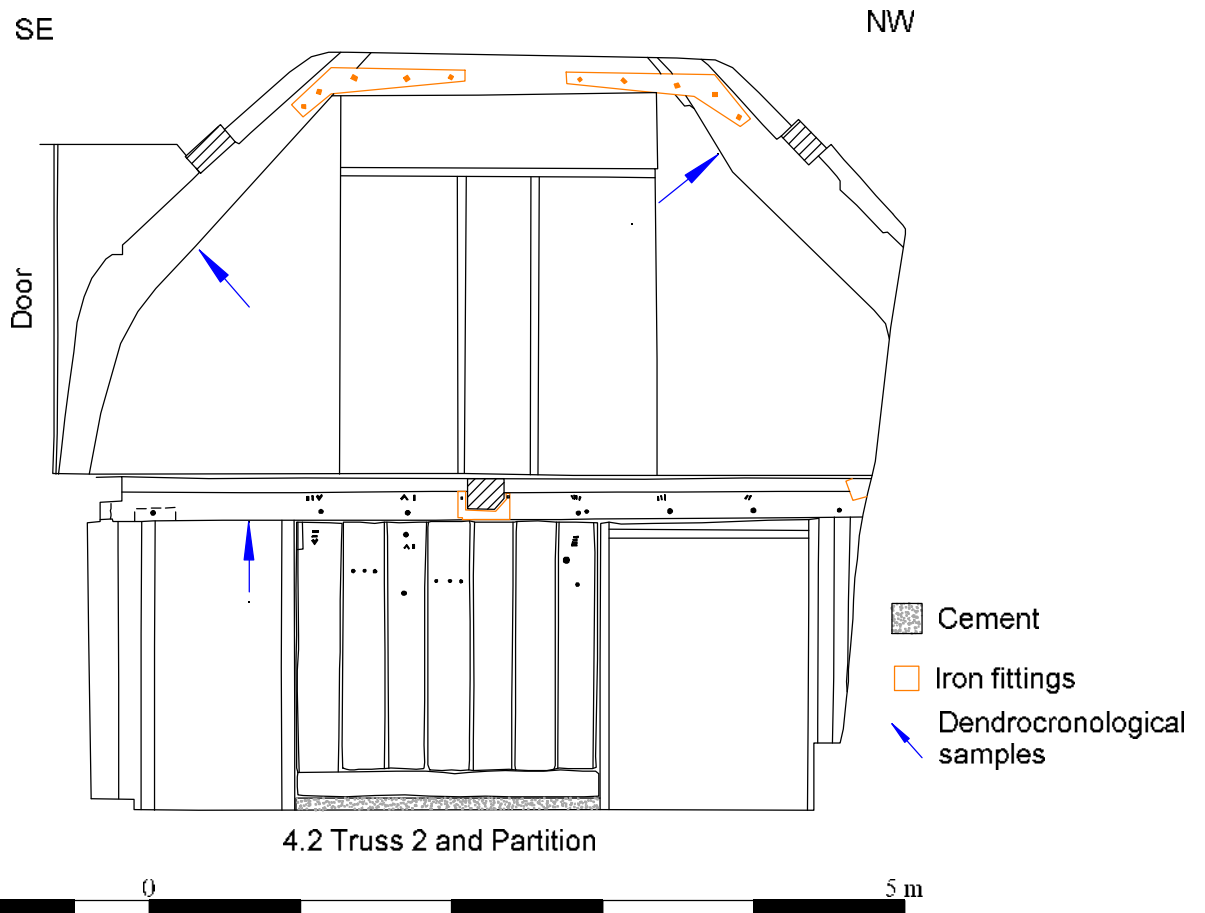
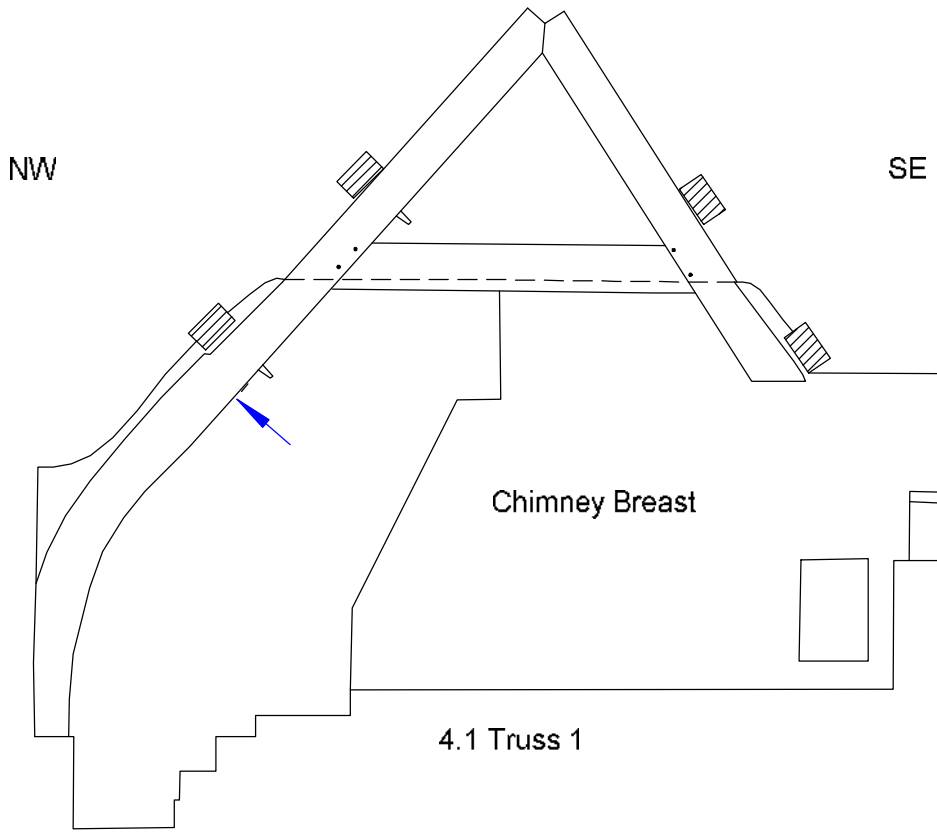
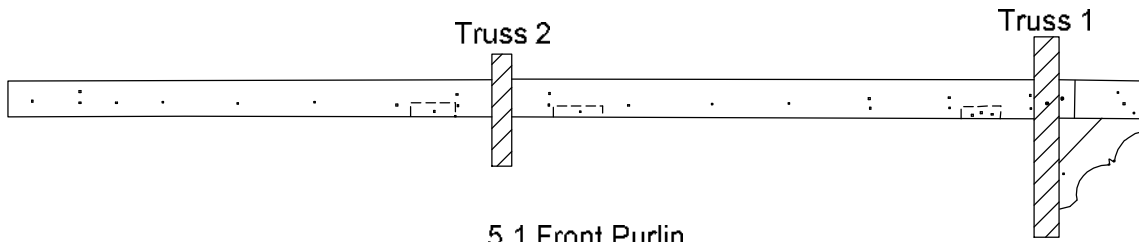
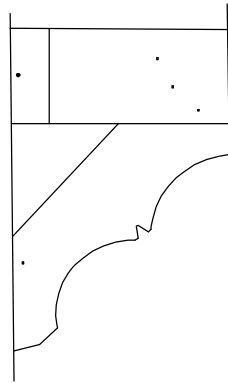


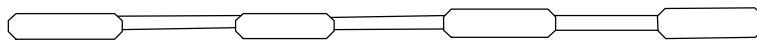
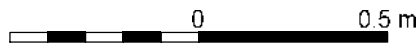
Figure 4: Ty'n Twr
Trusses
Scale 1:50



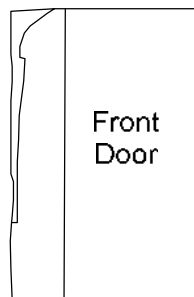
5.1 Front Purlin
Scale 1:50



5.2 Detail of Windbrace
Scale 1:20



5.3 Section through the post and plank partition
Scale 1:20



5.4 Timber near Door
Scale 1:50



Figure 5: Ty'n Twr
Detailed drawings