

BARN AT GLADHAYES FARM, CLAYHIDON, DEVON

(NGR ST 15235 14158)

Results of historic building recording

Mid Devon District Council planning reference 14/01736/FULL,
condition 3

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On behalf of:
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AC archaeology

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Summary

An historic building record of a barn at Gladhayes Farm, Clayhidon, Devon, was prepared by AC archaeology in June 2015 prior to conversion to residential use. The work followed on from an earlier historic building evaluation, which concluded that the barn was a probable late 16th-century cowhouse.

*The present recording mainly focussed on the roof and an internal partition. The latter was secondary to the walls of the barn but was probably part of its original construction. The roof has nailed, as well as some pegged, joints, and is therefore probably of 17th-century, or perhaps early 18th-century, date. This indicates an overall later date for the building than previously put forward. A sample of thatch was analysed and is a free-threshing bread wheat (*Triticum aestivum*), pre-modern type of bread-wheat which produced long straw suitable for thatching.*

1. INTRODUCTION (Fig. 1)

1. This document sets out the results of historic building recording carried out by AC archaeology in June 2015 of a barn at Gladhayes Farm, Clayhidon, Devon (ST 15235 14158). The recording was commissioned by Mr John Bendle, and required under condition 3 of the grant of planning permission (Mid Devon District Council (MDDC) reference 14/01736/FULL) for "conversion of barn to dwelling". Guidance on the scope of the work has been provided by the Devon County Historic Environment Team in their official consultation to the local authority.
- 1.2 Gladhayes Farm is located to the northeast of Hemyock and comprises a group of historic and modern agricultural buildings. It is situated at a height of 150m aOD, just above the floodplain of the River Culm. The underlying geology comprises Triassic mudstone of the Mercia mudstone formation overlain by Quaternary colluvium.

2. HISTORICAL BACKGROUND

- 2.1 An historic building evaluation of the barn was prepared by AC archaeology in 2014 (De-Villiers and Passmore 2014), from which the following summary is taken.
- 2.2 Gladhayes is first recorded in 1330 as Clodeheis although its origins are not known. The Devon HER entry (MDV 104627) for Gladhayes Farm simply notes that it is shown on Ordnance Survey maps. It is depicted as a long rectangular structure on these maps, and is the same shape on the earlier 1838 Clayhidon tithe map.
- 2.3 The evaluation concluded, on the basis of the roof structure, that the barn probably dates to the later 16th century. The partition at the south end is separate from the fabric of the exterior walls, and must be secondary although may have been added soon after the shell of the structure was built, but before the barn was completed. The layout of the barn indicates that it was originally used as a cow shed, with a smaller room perhaps serving as a bull's or calves' house, or as a root store with a small first-floor hayloft above.
- 2.4 The barn underwent little change until the second half of the 20th century. In line with post-war recommendations and local practices the cow shed was upgraded, although not all the barn continued in use for this purpose. The northern end was used for hay and vehicle storage, which required the insertion of two large openings into the side walls. During this period the roof covering was replaced using corrugated iron sheets

and structural repairs were made to both the roof and walls. More recently, stables have been added to the east side of the building.

3. AIMS

- 3.1** The development has the potential to remove and obscure historic features of architectural interest. The principal aim of the investigation was therefore to prepare a record of the historic building prior to the commencement of the development, with a subsidiary aim of recording any architectural features exposed during the development.

4. METHODOLOGY

- 4.1** The recording was undertaken in accordance with a written scheme of investigation prepared by AC archaeology (Passmore 2014), and in line with the Chartered Institute for Archaeologists' *Standard and Guidance for the archaeological investigation and recording of standing buildings or structures* (revised 2014), and the English Heritage 2006 document *Understanding Historic Buildings: A guide to good recording practice*.
- 4.2** The recording reported on within this document was carried out prior to construction works commencing. Due to changes to the proposed design, a new planning application will be submitted prior to any works starting, and this report has been requested to support the new application.
- 4.3** The survey comprised the preparation of a record of the internal partition, along with a close inspection of the roof structure, including the preparation of a drawn record of a sample truss and a plan showing the location of the surviving thatch under the modern roof. An inspection of the fabric of the building was also made.
- 4.4** A sample of the thatch was taken from the roof for off-site analysis, and is discussed below.

5. BUILDING SURVEY (Figs 2-3; Plates 1-8)

- 5.1** The barn is a long rectangular structure with a modern stable block attached to its east side. The latter is constructed of concrete blocks and wooden panelling under a slightly pitched corrugated iron roof. The barn is aligned roughly north-northwest to south-southeast, but for the purposes of this report it is described as north-south aligned. The exterior walls are constructed of subangular chert, laid in rough courses, bonded in a hard cream-white mortar. They are topped with a layer of cob, about 0.60m high, finished externally with cement render.

5.2 The partition (Fig. 2a; Plates 1-3)

The evaluation of the barn concluded that the partition at the south end of the barn was a secondary feature as it is separate from the fabric of the exterior walls. However, the position of the adjacent doorways indicated that it was an early feature, possibly added soon after the shell of the structure was built, but before the barn was completed.

The partition wall is constructed from several materials. The lower portion is chert masonry bonded in lime mortar with patches of repair in cement, and a large area of

cement render on its north face. The stone masonry is identical to the barn's external walls. Above this is a layer of cob with a high clay content. The cob has crumbled at the edges and no longer reaches the side walls. It was previously covered with lime plaster and a small portion of this survives on the east side.

On top of this cob is a horizontal wooden beam which forms the base of the wooden frame in the upper part of the partition. The wooden frame continues to the apex, and is formed from vertical wooden posts or studs with panels infilled with cob. These are covered by nailed horizontal laths that hold the cob in place but primarily supported a layer of lime plaster. Both the laths and plaster only partially survive. The cob within the panels has less clay than the cob in the lower part of the partition and a much more mixed character. The frame is not as wide as the lower portion of the wall; it is flush with the wall on its north face but is set back from the wall on its south face. In the upper part of the partition on the north side the vertical posts stand proud of the lime plastered panels which are recessed in this area.

A central gap in the lath and plaster had been thought to be an original opening but closer examination has shown it to be a later feature. The opening has been created by removing part of one of the vertical posts and two panels of cob; the socket for the vertical stud is visible in the horizontal beam below.

5.3 **Roof trusses** (Figs 2b and 3; Plates 4-8)

The evaluation of the barn concluded that the architectural features of the roof structure were all indicators of an early date and overall, a probable date in the later 16th century seemed likely. The roof structure could not be inspected at close quarters during the evaluation, and was recorded in greater detail with each of the trusses closely examined. The trusses are numbered 1-6 from north to south.

The trusses comprise a pair of principal rafters with their apexes obscured by saddles that support diagonal ridge purlins. They are braced with halved lap-jointed collars, with the laps cut into the collars only. There are two rows of through purlins, and where visible, these appear to be butt jointed using tenons, and fixed to the principal rafters. The purlins support closely-spaced secondary rafters that have batons attached. During the survey very few pegs were visible in the roof timbers with the majority of the joints fixed using nails.

Truss 1 and adjacent hip

The principal rafter on the west side has a metal strap attaching it to the lintel of the door below. The principal rafter on the east side has been altered due to the widening of the opening in the wall below. It currently rests on a metal plate attached to the top of a metal post. Attached to the east rafter are two short wooden batons and two metal straps. The batons support an additional timber that has been attached to the back of the lower part of the rafter, whilst the metal straps support two modern horizontal timbers associated with the present corrugated iron roof. The collar is nailed to the principal rafters. A wedge has been inserted into the joint of the upper purlin socket of the east rafter.

The central hip rafter has slipped to the west and no longer lines up with the ridge purlin. Where the end purlins meet the side purlins they sit on top of one another and are nailed except the lower east one where the two purlins have a trenched joint.

Truss 2

This truss is located on the opposite side of the inserted doors north of truss 1, and as with this truss on the west side the rafter has a metal strap attaching it to the lintel of the door below and another strap supporting the modern horizontal beam. The

principal rafter on the east side has been altered due to the creation of the opening below, and currently has an additional beam attached to its foot of using bolts and a metal tie. This beam rests on top of a metal post. There are also two metal straps attached to the rafter supporting two modern horizontal timbers. A square steel tie beam has been added towards the base of the truss.

Truss 3

A vertical post is attached to the base of the west principal rafter and drops down to a feeding trough. It is trenched and bolted to the rafter. Towards the base of the rafter there is also a short additional rafter timber attached to the back face; this is tied to the rafter and the post by a galvanised steel tie. This additional rafter supports modern horizontal timbers associated with the present corrugated iron roof. As on truss 2, a square steel tie beam has been added to the base of the truss. The lower purlin on the west side, between truss and truss 4, has been removed.

Truss 4

As with truss 3, an additional post has been attached to the underside of the west principal rafter, and a square steel tie beam has been added to the base of the truss. On the west side of the collar an L-shaped structure of thin batons drops from the collar and attaches to the principal rafter. This may be a disused bracket, perhaps supporting a now-removed pipe.

Truss 5 (Fig. 2a)

The ends of the principal rafters are supported on the rough-hewn lintels of the windows to the south.

Truss 6 and adjacent hip

This is the hip rafter at the north end of the building. It has no distinguishing features. The hip itself has a central rafter that is trenched both into a short wooden plinth set into the top of the wall and at the apex where the ridge purlin is angled to meet it. Where the corner purlins meet the side purlins they have trenched joints except the lower east purlins, which are unjointed. The upper purlin has a slight trench joint attaching it to the central hip rafter. The lower purlin is rotten and an additional beam has been added to hold it together.

5.4 The thatch, by Cressida Whitton

The historic building evaluation concluded that the original roof covering was thatch and that the lower layers of this survive across around 60% of the barn, attached to the rafters with spars. As part of this survey a plan of the location of the surviving thatch was created to show more accurately (than presented in the evaluation) the pattern of its survival (Fig. 3).

A sample of *in situ* thatch was retrieved from the underside of the surviving thatched roof. The thatch was positioned longitudinally over the closely-spaced batons attached to the secondary rafters. As would be expected for a purpose-built barn, there was no evidence for smoke-blackening of the thatch. It comprises wheat straw stems, traditionally used for thatching in Devon, with many of the wheat ear spikelets being well preserved and containing on average 10-12 glumes. Whether the thatch was a 'base coat' of threshing waste or represents the outer layer of 'spar' straw, which according to Letts (2001) often contained longer stems and was of higher quality, is not known; however, no other crop weeds, often indicative of threshing waste, were present in the sample, and the single-stems of wheat, including the ears were well-preserved. The location of the sample from the underside of the surviving thatch would not naturally indicate an upper spar layer but it does appear to be composed of higher-quality, homogenous and long-stemmed wheat straw.

None of the wheat ear glumes contained grain and this may be due to pre-thatch harvesting of the crop since there was no evidence for mice damage. The glumes were also well-preserved and, when examined under a stereo-binocular microscope, there is little damage to the spikelets, indicating a free-threshing bread wheat (*Triticum aestivum*). The post-medieval origin of the barn indicates that the thatch was probably a pre-modern type of bread wheat which produced long straw suitable for thatching and was widely used from the Anglo-Saxon period onwards as a locally available and cheap thatching material. After the late 18th century the development of shorter-stemmed wheat reduced the use of straw for thatching (Letts 2001).

5.5 Other observations

As part of the survey the fabric of the building, in particular the openings, was more closely examined than had been undertaken during the evaluation.

In the west elevation there is a large modern opening at the north end, as well as two doorways and two window openings towards the south end. The windows and doors all have wooden frames. The large modern opening at the north end has a wooden frame, lintel and doors. The southern two doorways and the window are defined by stone voussoirs. The one to the north (within the main barn) has been partially infilled with modern breeze blocks which internally form part of a feeding passage against the east wall. Internally the current floor level is higher than the blocked doorway indicating that the internal surface has been raised and levelled when the concrete floor and feeding passage were inserted. The internal wooden lintels of the doorway and adjacent window to the south are reused beams displaying mortice sockets – the former on two faces. The window opening is slightly splayed. The pointing around the openings is mainly of lime mortar with some patches of cement mortar; the edges of the openings are generally tidy with the inside edges being slightly rounded.

In the south elevation there is a ground-floor window opening and a loading hatch above. The window opening has stone voussoirs. Both openings have single wooden shutters and deep reveals. The pointing around the openings is mainly of lime mortar with some patches of cement mortar.

In the east elevation there is a large modern opening at the north end, and a window opening that can only be seen internally. The modern opening is crudely chopped through the masonry. The opening has some breeze block repairs with cement mortar on the south side. It has no lintel, and two metal posts have been inserted to support the ends of the principal rafters above and to hang the metal door. The pointing around the opening is mainly of lime mortar with some patches of cement mortar. The window, immediately north of the partition, is blocked externally. This has a wooden frame, lintel and a cill. The latter is unusually long and extends around 1m beyond the window reveal. There is modern plaster below the window, and it is likely that the window has been formed from an earlier doorway. There is rough cement pointing within the deep splay of the window which was probably added when the door was converted into the window.

6. COMMENTS

- 6.1 The present recording has focussed on the roof structure and the internal partition. It has confirmed that the latter is secondary to the primary fabric and roof of the barn, but that it could still be part of the original construction of the building, added after the shell of the barn was completed. The first floor opening in the partition is a later insertion, and was not originally intended to provide access between the loft to the

north and the barn space within the barn. The date of the opening cannot be ascertained.

- 6.2 Elsewhere, recording of the fabric of the barn has confirmed the phasing of the openings, with no differences in interpretation to that put forward in the historic building evaluation.
- 6.3 A close study of the roof has indicated that it is later than the date put forward in the evaluation. It has some early elements, such as the through purlins, but the use of nails for most of the joints would indicate a later post-medieval rather than 16th century date (as previously put forward). The structure is probably 17th- or perhaps early 18th-century date. This would tie in with the analysis of the thatch, which indicates a pre-late 18th-century date, after which the development of shorter-stemmed wheat reduced the use of straw for thatching.

7. ARCHIVE AND OASIS ENTRY

- 7.1 The paper and digital archive is currently stored at the offices of AC archaeology in Bradninch and within three months of acceptance of the report the digital archive will be transferred to the ADS.
- 7.2 An OASIS entry, including a copy of this report has been created using the unique identified what 218263.

8. ACKNOWLEDGEMENTS

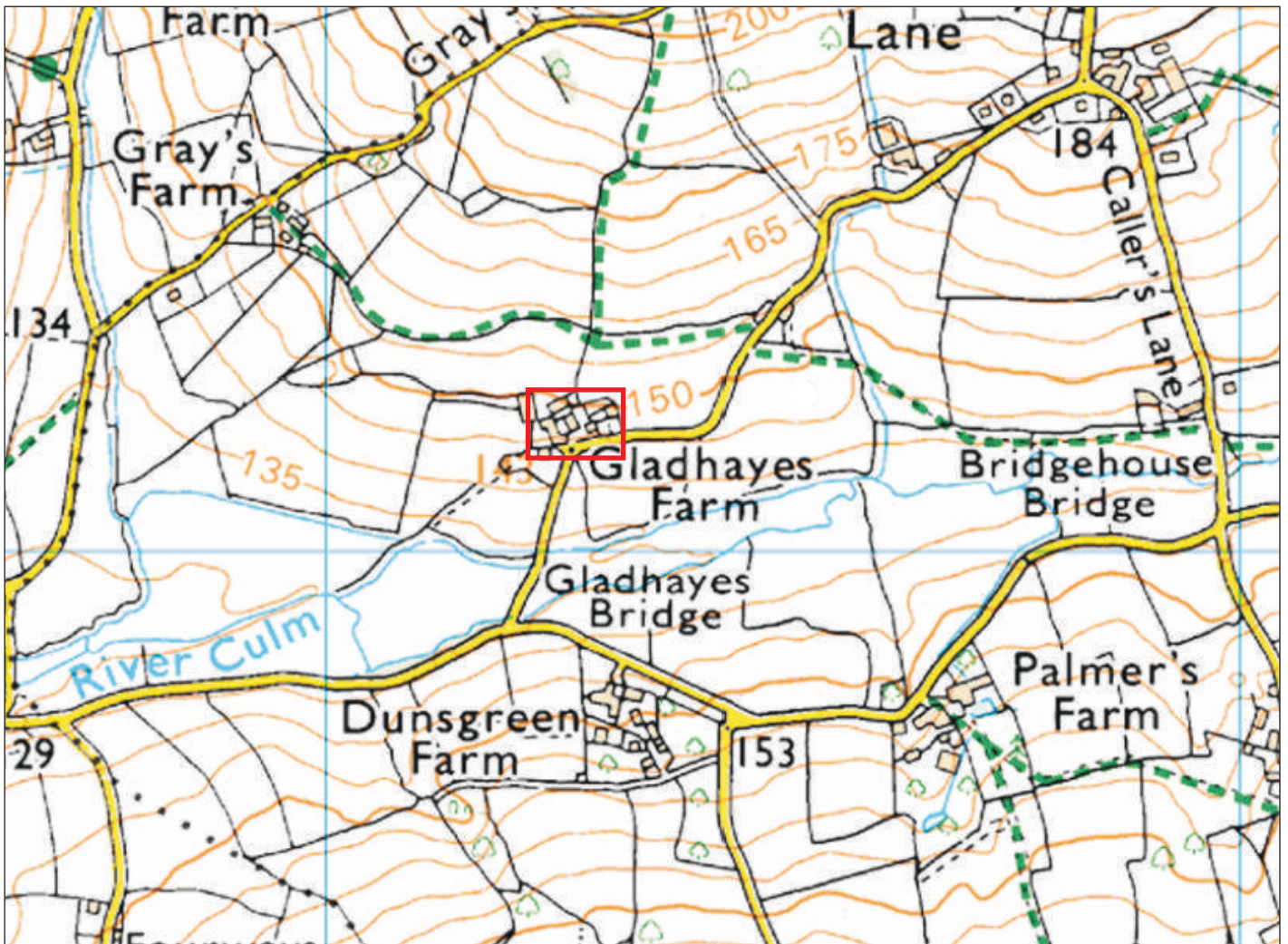
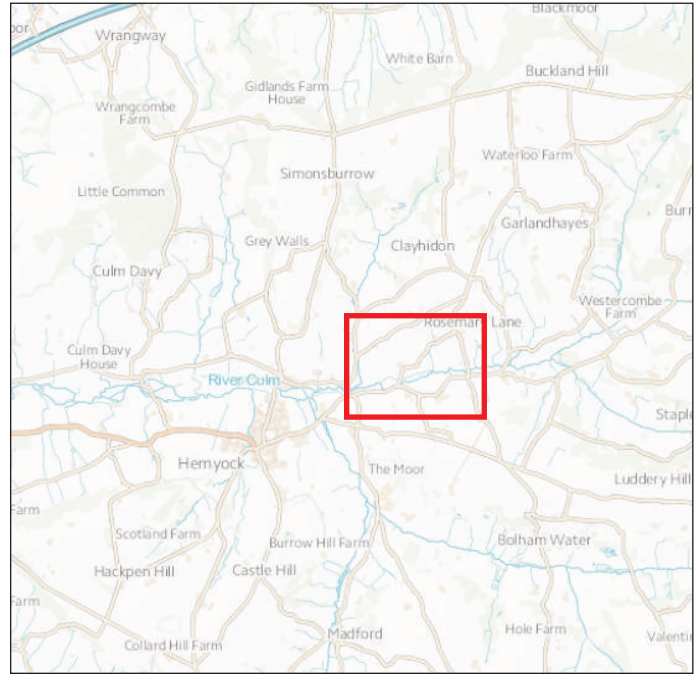
- 8.1 This report was commissioned by Mr John Bendle, and managed for AC archaeology by Andrew Passmore. The fieldwork was carried out by Stella De-Villiers and Paul Rainbird. The report was written by Stella De-Villiers with analysis of the thatch conducted by Cressida Whitton; the illustrations prepared by Stella De-Villiers.

9. SOURCES CONSULTED

De-Villiers, S., and Passmore, A., 2014, *Barn at Gladhayes Farm, Clayhidon, Devon, (NGR ST 15235 14158), Results of an historic building evaluation, Mid Devon District Council planning reference 14/00011/FUL*, AC archaeology document no. **ACD858/2/1**

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Accessed via <http://www.archaeologyuk.org/ba/ba58/feat1.shtml>

Passmore, A., 2014, *Barn at Gladhayes Farm, Clayhidon, Devon, (NGR ST 15235 14158), Written Scheme of Investigation for historic building recording, Mid Devon District Council planning reference 14/01736/FUL, condition 3*, AC archaeology document no. **ACD1138/1/1**



0 250m
 Scale 1:7500@A4


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PROJECT

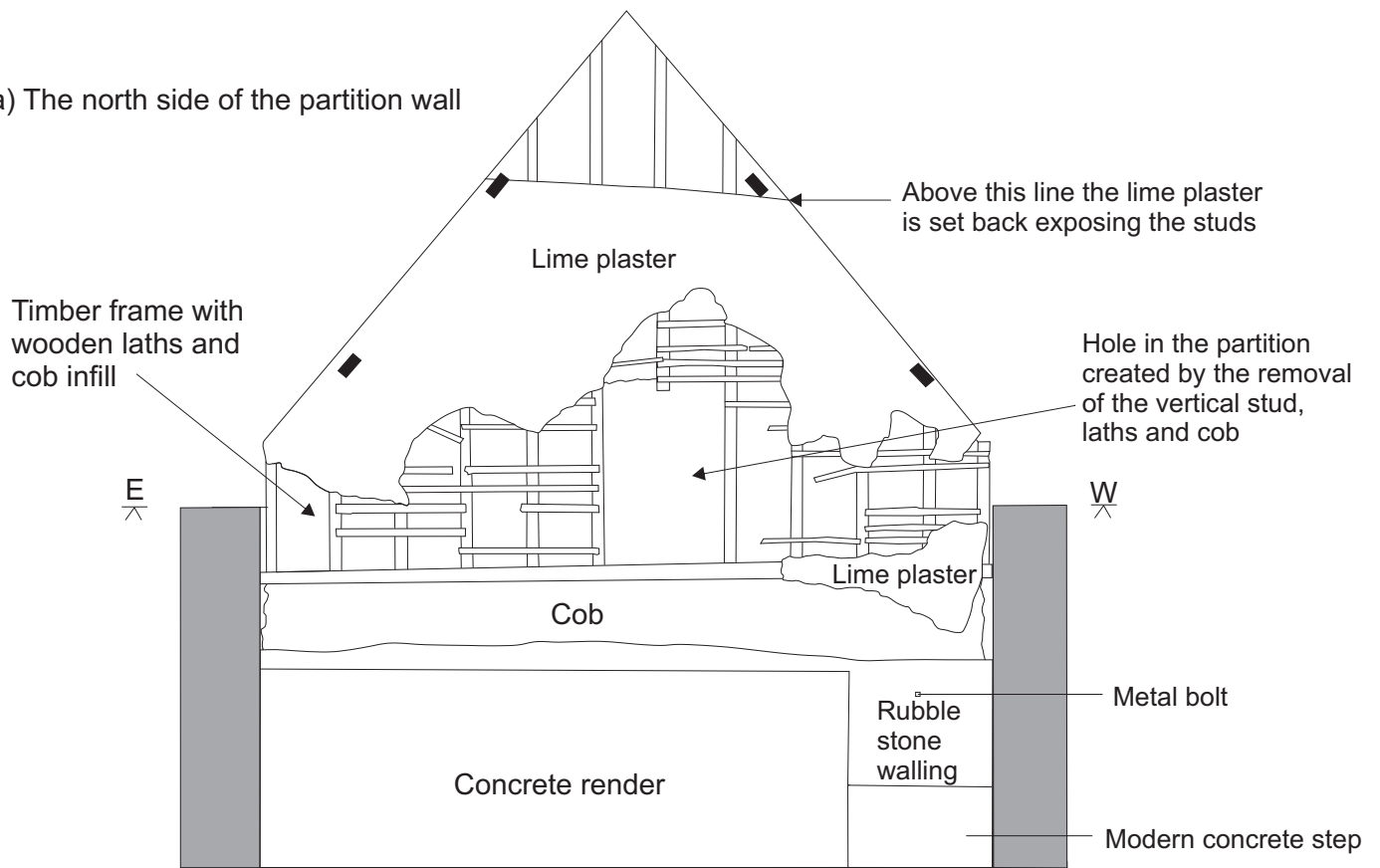
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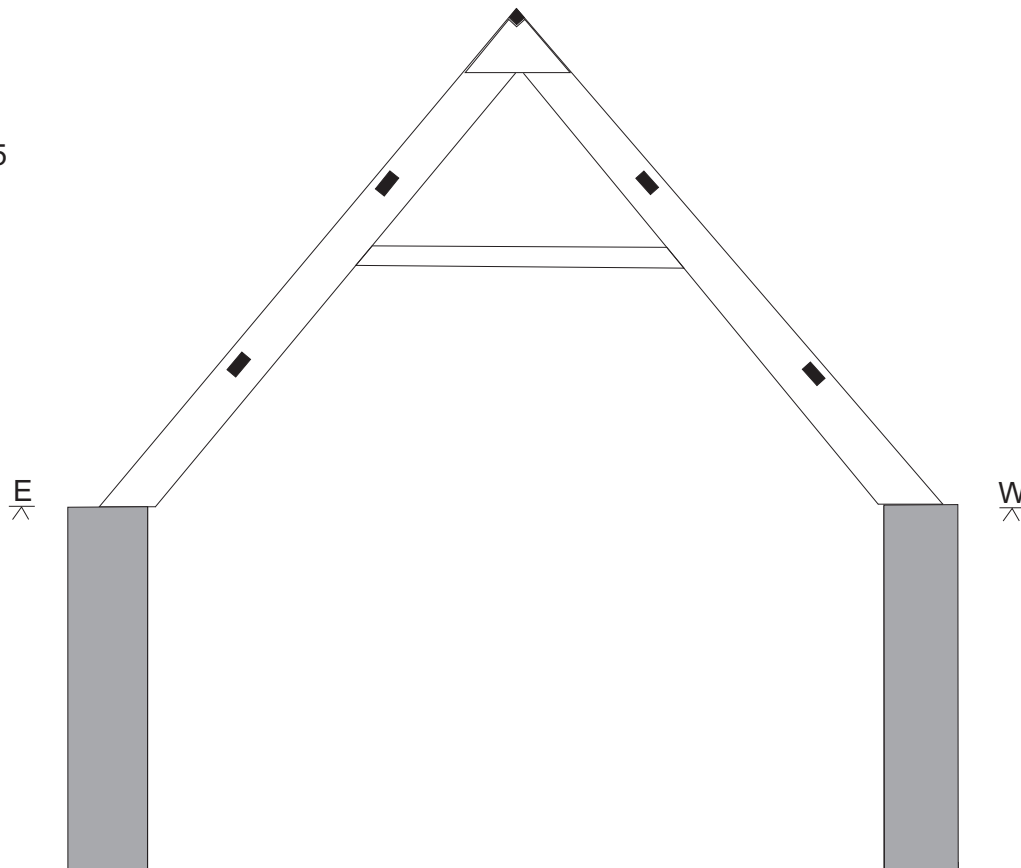
Fig. 1: Site location

 Location of site

a) The north side of the partition wall



b) Truss 5



PROJECT

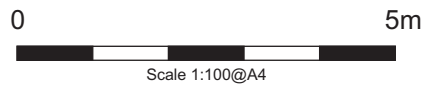
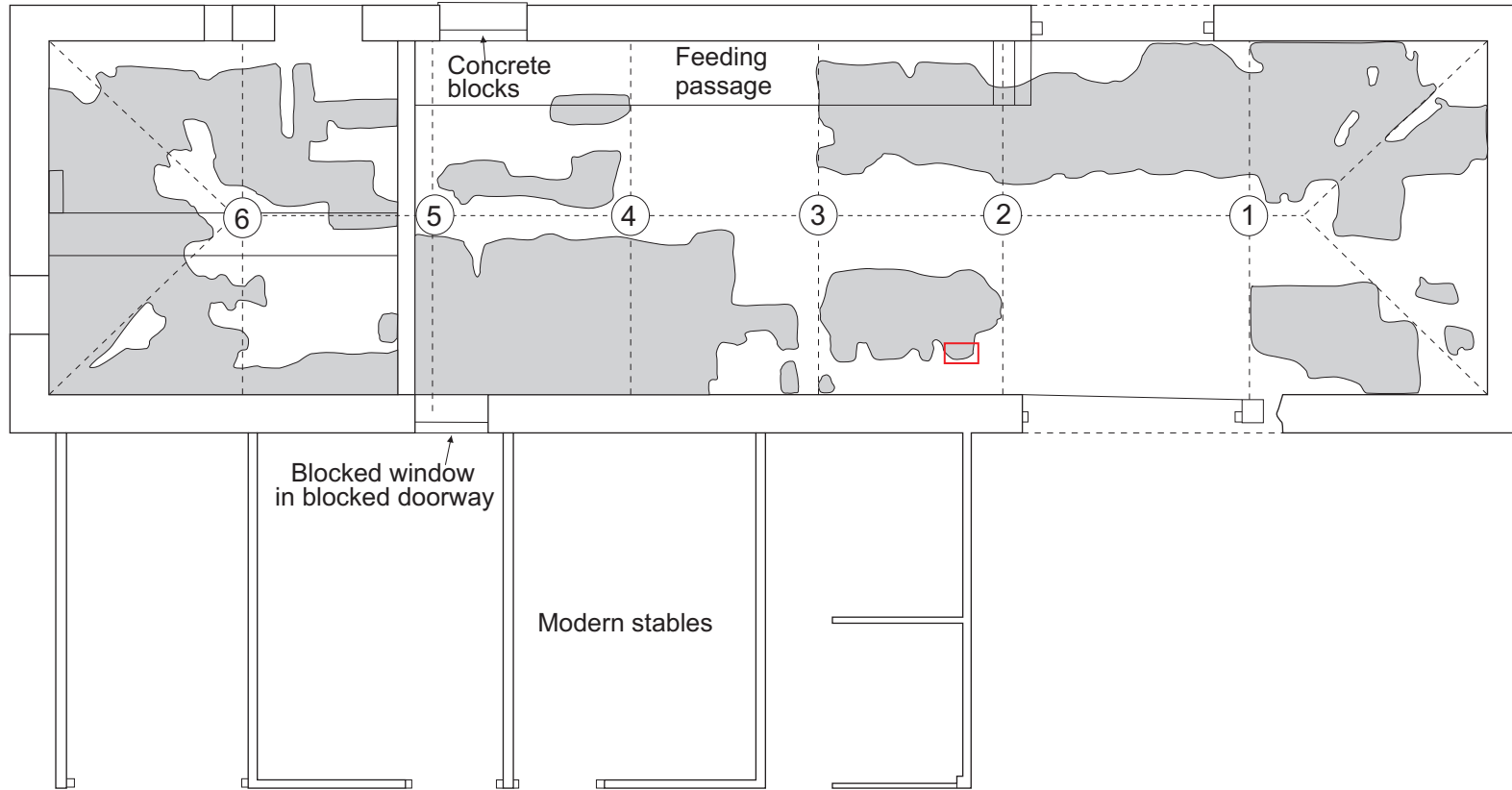
Barn at Gladhayes Farm, Clayhidon, Devon




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Fig. 2: The partition wall and truss 5

0 3m
Scale 1:50@A4

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-  Location of thatch
-  Truss numbers
-  Sample of thatch taken from this area

PROJECT
Barn at Gladhayes Farm,
Clayhidon, Devon

TITLE
Fig. 3: Plan showing
location of thatch





Plate 1: Partition wall within the barn, looking southwest



Plate 2: Top part of the partition wall and the upper part of roof truss 5, looking south



Plate 3: Central part of the partition wall showing the removed stud and socket in the beam below, looking south



Plate 4: General view of roof trusses, with truss 4 in the foreground, looking north



Plate 5: General view of north end of the roof, showing repairs, looking north



Plate 6: General view of the south end of the roof, showing where the central hip rafter has moved, looking northeast



Plate 7: General view of roof showing trusses 1 and 2 and areas of thatch, looking southeast



Plate 8: General view of roof showing trusses 3 and 4 and areas of thatch, looking southwest

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