

**FARM BUILDINGS AT THE ELMS
BACON END
GREAT CANFIELD
ESSEX**

HISTORIC BUILDING RECORDING AND ARCHAEOLOGICAL MONITORING



**Essex County Council
Field Archaeology Unit**

April 2010

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**FARM BUILDINGS AT THE ELMS
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HISTORIC BUILDING RECORDING & ARCHAEOLOGICAL MONITORING

Client: Strutt & Parker for Mr. Nick Greenall

Site Code: GCATE 09

FAU Project No.: 1690

NGR: TL 5985 1942

OASIS No.: essexcou1- 69043

Planning Application: UTT/0513/05/FUL

Dates of Fieldwork: August & September 2009; March 2010

1.0 INTRODUCTION

A programme of building recording and archaeological monitoring was undertaken by Essex County Council Field Archaeology Unit (ECC FAU) on the remains of a post-medieval and Victorian farmstead at Bacon End, Great Canfield, prior to residential conversion. The work was commissioned by the architects, Strutt and Parker on behalf of Mr Greenall, the owner. It was carried out in accordance with a brief issued by the Historic Environment Management team of Essex County Council (ECC HEM), who also monitored the work.

Copies of the report will be supplied to ECC HEM and the Essex Historic Environment Record (EHER) at County Hall, Chelmsford. The archive will be deposited with Saffron Walden Museum. An OASIS online record has been created at <http://ads.ahds.ac.uk/oasis/index.cfm>.

The study of the development and impact of the agricultural revolution and Victorian High Farming is identified as an important area for further research by the Regional Research Agenda (Brown & Glazebrook 2000, 42 & 45). The Elms primarily contains structures dating from the 18th and 19th centuries, but also incorporates part of an earlier farmstead.

2.0 BACKGROUND

2.1 Site location and description

Bacon End is a hamlet situated on the north-east side of Great Canfield parish, south of Great Dunmow, on the old Roman road through the Rodings (fig. 1). The Elms comprises a Grade II-listed farmhouse, a large barn and shed used as a workshop and a brick-built animal range situated at the end of a long trackway leading off the minor road at Baconend Green (TL 5985 1942). The surrounding area is arable farmland, with a pond to the south-east, perhaps the remnants of the medieval moat to an earlier house.

The barn was last used as a workshop for its owner's furniture business and the brick ranges used to store timber and other materials. A contemporary western range was built onto the old farmhouse, which stands to the east of the complex, outside the development area (fig. 1).

The barn contains two distinct elements, both timber-framed and boarded, that form the north range of the farmstead. The brick ranges to the south form a U-shaped pattern. The yard is concreted and the outlying areas around the yard are grassed over.

2.2 Planning background

A planning application for conversion of a barn and outbuilding range to residential use was submitted to Uttlesford District Council (UDC) in March 2005 (UTT/0513/05/FUL) and approved in May 2005. Mindful of the impact of conversion on the historic integrity of the farm buildings and the possibility of encountering buried archaeological deposits during groundworks, ECC HEM advised UDC that a full archaeological condition should be attached to the planning consent, based on advice given in Planning Policy Guidance Note 16: Archaeology and Planning (DOE 1990).

2.3 Historical background & development

Cartographic and documentary research was undertaken at the Essex Record Office, Chelmsford (ERO) to understand the origins and development of the farm. References are supplied within the text. Historic map extracts are included as figures 2-6 and have been enlarged in the report to provide greater clarity. Information on the farm in the latter stages of the 20th century was provided by the present owner.

As a moated site, its origins are likely to be in the medieval period, with an earlier house occupying the enclosure. The list description describes the farmhouse as 16th century or

earlier, with 18th and 19th century additions (LBS 352665). However, the house also contains elements of a crown post roof and re-used rafters with open and secret notched lap joints datable to the 13th century (LBS 352665). These may be reused from an earlier aisled hall house contemporary with the laying out of the moat or else are *in-situ* structural remains surviving at the core of the existing house. Many of the moated sites in the district are believed to have had their origins in the 13th century (ECC HEM 2006).

The earliest surviving farm structure is likely to be barn 2, the remains of a well-constructed aisled barn dating to the 16th or earlier; i.e. contemporary with the farmhouse and the only other survivor from this period. Its dating is largely based on photographs supplied by the client (see section 4), which provided some evidence of character, carpentry and joinery.

The place name of Bacon End derives from 'Beacon End' according to Reaney (1969), which cites a reference from 1768. The earliest available map dates to this period, but shows it as 'Beacon End' (Chapman and Andre's 1777 map of Essex). The map appears to show an early farmstead pre-dating the barn and range, though the detail is very poor. What is believed to be the house and barn (perhaps the full extent of the early aisled barn 2) stand in a square enclosure, presumably the outline of the moat (fig. 2). A separate enclosure to the west contains three unidentified structures, no longer standing

A slightly clearer impression of the farmstead is gained from the Great Canfield Tithe Map of 1847 (D/CT 67) which illustrates the farm at the beginning of the 19th century farming boom, known as the 'Golden Age of Agriculture. The farmstead has been 'improved' with the addition of barn 1 (if not present on the previous map) forming one large building. The barns form a north barn range that link to an east range, still extant in part today, around a single yard. The east range included a 'brewery' (N. Greenall pers. comm.), and service buildings. To the west of the yard is a pond and pasture, the 'upper mead' (tithe award D/CT 67). Three buildings stand, one of which appears to be a second barn and the others probably concerned with accommodating livestock (fig. 3), though it is unclear whether these are the same structures depicted on the earlier map. None of these survive today. In 1847 the farm was owned and occupied by 'Isaac King(dom) Bird' with c.43 acres of land (tithe award D/CT 67), which seems rather a small holding for a fairly extensive farmyard complex.

The brick range (3) is built in the third quarter of the 19th century (1847-74), initially as an L-shaped structure (First Edition OS map fig. 4) for livestock. The Second Edition map of 1897 shows a U-shaped form, different to the more symmetrical plan form of today (fig. 5). It is possible the detail is hampered by the range meeting at the intersection of two map sheets,

or that this represents an intermediate phase. The introduction of a second 'arm' to the range helps divide the single yard into two. The best representation is on the third edition of 1922 that clearly shows the range and layout of the two yards in full (fig. 6).

During the 20th century the barn was used for storing combines and other such machinery, and the western wall was cut through for access. A fire caused considerable damage to barn 2 during the tenancy of the previous farmer (N. Greenall pers. comm.), though the exact date is unknown. The upper register and roof (though it is not known if the original roof was intact at this stage) were removed and replaced with a low single-pitch roof.

The western arm of range 3 fell down after the 1987 storm and was rebuilt as a pole-built one-bay open structure holding a diesel tank. Previously it had been the 'mirror image' of the eastern side (N. Greenall pers. comm.).

The barn became a workshop 12-13 years ago for Mr. Greenall's furniture-making business (N. Greenall pers. comm.). The former openings were enclosed, new windows and doors inserted and the exterior re-clad. The interiors were lined-out in plasterboard, obscuring the timber framing of both structures. Machinery was installed and a first floor office set up. Recently the building has been vacated and the equipment transferred to a new workshop built to the west of the farmyard.

3.0 OBJECTIVES

3.1 Historic Building Survey

The purpose of the historic building survey was, as required by the brief (ECC HEM 2006), to record the existing farm buildings to English Heritage level 3 standard prior to conversion. As part of the project, the survey was required to record plan form and context, materials and method of construction, building chronology and phasing, function and internal layout and historic fixtures and fittings.

3.2 Archaeological Monitoring

Archaeological monitoring of groundworks associated with the development was also required. These comprised the excavation of underpinning trenches around the barn and a new water main across the yard. The primary objectives were as follows:

- Identify evidence for site origins and development
- Establish the location of the medieval moat

- Identify evidence for earlier structures, floors, yard surfaces, etc.
- Record relationships between below-ground evidence and standing buildings

4.0 DESCRIPTION OF WORKS

The survey was undertaken after the barns had been stripped-out and conversion work had begun. Contractors were working on site. All but the end wall of barn 2 had been demolished and most of the underpinning around the barns completed. However, photographs were supplied by the owner of the barn before demolition and these have been included in the report as much as possible, alongside others taken during the preliminary FAU site visit. No works had been undertaken on the brick range.

The standing buildings were recorded using drawings (floor plans and internal/external elevations) supplied by the architects. The frame survey of barns 1 and 2 has been reproduced with annotations (fig. 8). A numbered block plan has been produced to show the location of the structures within the survey (fig.1).

External and internal architectural descriptions were made and building function assessed. The buildings were free to access, within health and safety limits. Ladders were used to access the roof in barn 1 whose high modern ceiling remained *in-situ* during the survey. Parts of range 3 were used to store logs and timber but were otherwise clear.

A series of photographs (digital and 35mm black & white print) were taken to record the main buildings. Specific shots were taken of any areas of important architectural detail, fixtures or fittings, or carpenter's marks. A representative selection of photographs is reproduced at the back of the report as plates 1-20. The remainder can be found in the archive.

Documentary and cartographic research (section 2.3) was undertaken to investigate the origins and development of the farm, though no evidence was found relating to the medieval phase of the site.

Archaeological monitoring largely comprised general ground reduction works and underpinning trenches around the barns. Monitoring for a new water main was carried out on the west side of the yard.

5.0 BUILDING DESCRIPTIONS

Although the structures were recorded during conversion works, they are described as much as possible as they were before the conversion began. Photographs taken during an initial site meeting (September 2006) are used in the report wherever possible, combined with those supplied by the client.

The main element is the timber-framed barn on the north side of the former yard that is built from two separate elements. The south range has brick and timber elements built in one or more stages and altered during the modern period.

As working buildings the structures are in good condition and the interiors clean and dry. Inside the barn there are very few original fixtures and fittings, which is unsurprising in view of conversion into a workshop. More historic features survive in parts of the brick range. Modern impacts mainly consist of blocked former entrances in the barn, new concrete floors throughout and a partial rebuild of the brick range. There is a hardstanding at the front of the barn where the old yard used to be that has removed or covered any earlier yard surfaces.

As the large barn on the north side comprises two distinct structures, it is described separately in this report as barns 1 and 2. These form the most prominent structure of the farmstead. Their combined size is approximately 22.3m x 8m, including the protruding north aisle.

5.1 Barn 1

Barn 1 was probably built in the late 18th or early 19th century, to augment the earlier barn, barn 2. As a distinct unit, it is a short three-bay Essex barn, 12.2 x 6.3m, with a porch on the north side, formerly with cart access through into the yard to the south. It stood on an orange brick plinth, which was replaced during the recent conversion works.

The original structure appeared largely as it does today, with the upper part plastered and lower part weather-boarded along with most of the gables. The roof is slated and hipped at the west end but not at the east, where it joins barn 2. The steep pitch of the roof suggests it was originally thatched. Slate was not commonly used until after the 1850s. The walls stand on an English-bonded red brick plinth that was probably built with the barn, though its dimensions are unknown. Pre-conversion photographs show the bottom part of the walls were rendered in cement and the floors laid in concrete, though evidence for an earlier asphalt floor was found in barn 1.

5.1.1 External description

On the south (yard) elevation (plate 1) the exterior is boarded and cement-plastered either side of the main entrance. The cart doors have been replaced by a modern entrance and window, and the space above filled in with new studs and boards. The style of the opposite (north) elevation is much the same, but here there is a porch and lean-to (fig. 1). The porch was originally fitted with a low cartdoor, the opening of which now contains a modern window (plate 2). The two-bay lean-to (1a) is typical and probably built at the same time, though some maps do not show it. Until recently it was blocked-in (plate 2) but was opened-up during the conversion (plate 3). Such a small structure would probably be used for calves or bullocks before joining the herd, perhaps held in the field to the north (fig. 6). The open side was enclosed by a gate, indicated by the surviving old gate post (fig. 7, plate 3). No original fixtures or fittings or flooring remained inside the lean-to, but the simple roof structure survives. On the west side is a single planked ledged and battened door on pintel hinges, likely to be original (fig. 7).

A large entrance was cut through the west wall by the last farmer to get combines and other machinery into the barn (N. Greenall pers. comm.). The cladding on this side is replaced and there and a modern window has been inserted with the new framing (plate 1). The eastern end was previously open to barn 2 but after the fire the upper part was filled-in above the reduced roofline of barn 2 (plate 5).

5.1.2 Internal description

Internally the barn is divided into two 4m-wide bays and a third 4.5m one on the west side. Usually the widest bay, if any, is the midstrey. The wall-framing has oak and elm in the build and comprises tall narrow studs in an unusual primary-braced form where the bracing rises not only from bottom centre but also from the top, forming a diamond-shape (figs. 8a & 8b, plates 5 & 6). This is an unusual but not unknown form, possibly constructed in this way to provide further strength against the gusty prevailing west wind and perhaps also for more economical use of timber, as shorter pieces of timber can be used. Some of the wall timbers are reused but few have been replaced. Many have suffered badly from woodworm and rot. Studs vary in size and scantling from 60-80mm x 90-100mm and spaced between 25 and 35cm apart. Most are square cut and straight, but some are quarter cut and still retain bark and some are waney; all characteristics of later timber structures. They tend to be tenoned to the sills and nailed to the braces, but some of the top ones appear to be lapped and nailed to the outside of the wall plates, which is easy to do when the available timber is not thick enough to cut square. This could not be verified in all cases though.

The west wall (plate 7) was completely rebuilt in the earlier workshop conversion to block the old combine entrance that the last farmer had made. Only one original wall stud remains. More fabric survives in the hipped gable, which is original. Here the studs are lapped rather than tenoned to the collar, another indicator of late build. Remnants of laths show the gable was plastered like the sides of the barn are today, though in a more traditional material. The east gable has been completely rebuilt since the fire and there is no indication on the tie beam that there was ever an end wall here, though there are sockets for a rail between the posts, perhaps as a low division.

Quite a lot of new timber is present in the porch (plate 6) and the wall plate on the east side is replaced, perhaps from the remnants of the old aisled barn, as the gaps between the stud mortice holes are similar. None of the studs are pegged in the porch but all are tenoned rather than lapped.

Main framing is quite slender at c.16 x 20cm with slightly curving braces double-pegged to the posts. Posts and tie beams are roughly finished, often with the bark still attached. All the bay posts are straight, apart from those at the east end that have slightly jowled heads (plate 8) and are probably reused. There are mortices for a midrail either side, which is more likely related to the aisled barn, though there is no evidence for studs to the tie beam above. A ritual mark, an inverted letter 'M' is carved into the top of the north post (plate 9). These are commonly referred to as (Virgin) 'Mary' or 'witch' marks, used to protect the crops inside from evil. The north post is on the line of the old aisle and could be *in-situ*, while the other has perhaps been moved from its location to the south wall of the barn (fig. 6). There are chisel notches either side for wattle laths that support its reuse. However, with the weather-boarding hiding any aisle tie sockets, it was not possible to confirm if these were reused arcade posts or not.

Remnants of internal plaster survive on the north wall of the first bay and it clearly continued all around the barn, keeping the interior dry and relatively well-insulated, suitable for livestock as well as grain storage. Plate 6 (left) shows how the plaster was attached to the external boarding by vertical laths and the horizontal laths above it for the external plaster.

The workshop ceiling was still in place during the survey but access was available to record the roof, which was rebuilt with replacement machine-sawn timbers and the surviving rafters cut back to accept a ridge piece when the slate roof was added. The main structure is dry and sound and has a typical pegged trenched collar purlin form (fig. 7, plate 10).

5.2 Aisled barn 2

From the outside this would appear to resemble a large low-level modern shed and could easily be dismissed as such. It is interesting to speculate how the barn looked before the fire and the extent to which it had survived up until this point. From the photographs supplied by the client, it is clear the internal layout remained intact until recently.

It is speculated that this was originally a five-bay aisled barn with a central midstrey, whose western end was rebuilt in the form of barn 1 when the latter was added. Conversely, it could be that three bays of a disused barn were reassembled on this location as part of the construction of barn 1. Whatever the case, the earlier structure is built with better quality timber and craftsmanship, with heavy studwork and thick daub panels. Since the fire and the more recent conversion works, almost all of the original structure has disappeared apart from the east end wall (plate 11), upon which much of the interpretation is based.

5.2.1 External description

The exterior is plain and weatherboarded, and the single-pitched roof that slopes downwards to the north is clad in a modern corrugated material (plate 4). All windows and doorways are modern and associated with its most recent use, though it is possible the openings conform to earlier ones. In particular, infilling either end of the western bay (bay 1 in fig. 7) suggests there was an early midstrey, and hence a five-bay layout. The English-bonded red brick plinth appeared the same as the main barn and is likely to be contemporary with it.

5.2.2 Internal description

Three bays survived of the aisled barn, each defined by heavy sole plates raised on brick piers and oak posts drastically reduced in height to carry the new lower roof (plate 12). It is likely the original layout was five bays, as each side of bay 1, according to the frame survey and earlier photographs, appears enclosed by modern studwork where the original cart doors (and perhaps a porch) were located. The bays are quite narrow, between 3 and 3.4m wide, and unusually the narrowest bay appears to be the midstrey (fig. 7). Midrail sockets suggest the eastern bay (bay 3) was partitioned-off (plate 13, right) perhaps for animals or to store a different crop.

Surviving main framing elements clearly belong to a small aisled barn. Large oak timbers have been used with dimensions of the main timbers being c.20cm thick (sill) and more (the main post is 24 x 19cm). A bridle scarf joint in the wall plate of bay 2 (north, fig. 8a & plate 13) indicates a pre-1600 date. There is a three-quarter scarf joint with an overlapped face on the east end sill plate (plate 11); a type used almost universally in the medieval period. The

lip was probably added to prevent water entering (Hewitt 1980). Main timbers are double-pegged and shores for raising the posts during construction can be seen on some of the taller posts.

The frame is close-studded with studs between 5 and 6 inches wide and 3 inches deep. All are pegged at the top and every other one at the bottom (fig. 8b) with gaps of about 40cm between. Grooves have been cut into the plates for wattle staves and there are chisel cuts and slashes for chestnut laths that held the daub.

5.3 South range 3

The south range was an important component of the Victorian period farmstead that enclosed the stock yard on the south side of barn 1. It appears to have been constructed as an L-shaped building in the mid-19th century and added to at the end of the century to create a U-shaped plan form, according to the maps. It is largely built from orange and red brick with timber elements and a pantile roof hipped in the corners and gabled to the north (plates 14 & 15).

Brick size is c.220 x 110 x 60mm, typical of red bricks of the 18th and early 19th century (Ryan 1996), laid in monk bond (two stretchers to one header) with thin mortar courses.

Most of the western arm of the range reportedly fell down during the Great Storm of 1987 and was replaced with a single open-sided bay accommodating the diesel tank (fig. 10, plate 13). The main range had been divided into a chemical store by the previous farmer, and was being used as a mess room by the building contractors. The other part had become a timber store by the owner. The eastern arm, perhaps a later addition, is mainly timber-framed and contained two loose boxes and an open-sided shed, that may originally been used for livestock or carts, but is now a garage and log store (fig. 7, plate 15).

5.3.1 External description

The western arm of the range is pole-built with a modern boarded gable (plate 16). The wall between this and the chemical store appears to have been inserted, as the bricks are darker and laid in a much thicker mortar than the main build.

The south elevation is fairly uniform. The current door into the chemical store was inserted when the store was partitioned off. Originally there was only one doorway this side, which remains at the eastern end, and is typical of the form used for animals. It is a half-heck type with pintel hinges and wooden ventilation slats above. A gate post in the corner indicates the cattle were driven into the yard on this side (fig. 10).

On the east side (plate 16) there is nothing to suggest that this is a later addition, as the brickwork and fixtures are the same as they are on the south side, which according to the maps is earlier. The only difference is an interesting piece of decorative brickwork, a diamond pattern made from burnt headers, between the door and open-sided end (plate 17). At the north end, the two open bays are divided at the front by stout wooden posts, the central post with a 'pillow' supporting the wall plate and the corner one with high straight bracing (plate 17).

Within the former yard, the eastern arm of the range is timber-framed and boarded (fig. 10, plate 15). A tethering post and chain is located one third of the way down and there is access from the loose box on this side (fig. 10).

In the centre, between the two projecting ranges, is the old cowhouse. This single stretch of brickwork contains plain modern double doors where the old cow doors were (plate 16), and an original half-heck door at the west end (fig. 10) There are no other features.

5.3.2 Internal description

The western end is post-1987 in date and houses a large diesel tank. The wall between this and the **chemical store** is inserted (plate 18), as is the adjoining wall with the old cow house (fig. 10). A corrugated tin ceiling has been added that obscures the roof structure.

The walls of the **cow house** (present timber store) have white-painted brickwork and modern boards nailed to the rafters that obscure the roof from inside (plate 20). Thin 2½ x 7 inch planks sit on the brick walls and divide the interior into three bays. These and the alternating collars are shown in figure 11 (section B-B1). All components are machine-sawn and nailed rather than pegged, and there are no signs of original fixtures and fittings apart from the roof structures and doors.

The **loose box** comprised two stalls, the dividing wall between which has been removed (fig. 10). Walling is a combination of primary-bracing and brick, the look and finish of which is very similar to the cow house. The main timbers in the north wall are all machine-sawn but the studs are sawn by hand (plate 19) and there are no signs of reuse. Mortice holes on the axial beam soffit correspond to removed studs and this also supports a floor above, probably a hay store with access from the boarded booth in the south-west corner of the room (fig. 10 & plate 20, left). Tethering rings are attached to the wall but there are no other internal fixtures or features.

Studwork in the short two-bay **open shed** has the same waney appearance as the loose box and the tie beams are also uneven and waney. Access during the survey was limited because it was being used to store building materials. As it faces away from the yard and there are no apparent gate fixtures, it is perhaps more likely to have been used as a cart shed rather than for cattle.

5.3 Building 4

Building 4 is a narrow timbered structure attached to the eastern end of barn 2 (fig. 1). Although there is some indication of a building here on late 19th century maps, it appears to have been rebuilt in its present form after the fire. It was demolished before the survey.

6.0 ARCHAEOLOGICAL MONITORING

Archaeological monitoring was carried out in two phases, firstly on underpinning and ground reduction works to the barns and secondly on the excavation of a trench for a new water main across the farmyard. No significant buried layers or archaeological features were discovered or finds collected that obviously pre-dated the construction of the post-medieval farm structures.

Underpinning trenches were dug to facilitate replacement of the brick plinth around barns 1 and 2. Further trenching for new internal wall foundations was carried out in barn 2 (fig. 12). All were dug by mechanical excavator fitted with a 0.85m-wide bucket to a depth of up to 1.2m into the natural chalky boulder clay below. Approximately 0.4m of silty clay topsoil was removed on the north side of the barns, straight onto natural deposits. The other sides were cut through modern tarmac and gravel yard surfaces straight onto natural clay. A spread of flint, cobbles and brick rubble was recorded beneath re-deposited natural clay in the southern corner of barn 1. Its thin, unmade quality suggests it was laid down to consolidate the natural clay when the brick plinth was built in the 18th or 19th century (plate 21), rather than being a former floor or yard surface.

Monitoring of the contractor's excavation of a 0.90m-deep water main trench from the existing farm trackway to the rear of barn 1 revealed topsoil over natural boulder clay at the north end, changing to modern made-ground approximately 7m to the south. The made-ground was a mixture of rough brick rubble (some with frogs), gravel and grey silty clay soil that overlay natural clay and became deeper to the south, to a maximum thickness of 0.8m from ground level.

7.0 DISCUSSION

In its association with an undefined moated enclosure, the occupation of the site of The Elms has likely medieval origins. Archaeological monitoring to the north-west of the farmhouse found no remains of the medieval farmstead and it is likely such remains were either removed when the present complex was built or lie further to the east, closer to the house. The location and outline of the moat is difficult to define on the ground and no evidence for it was encountered in any of the monitored areas.

The house and early barn are likely to date to the 16th century or earlier. It is possible that timbers from an earlier house are included in the present one. Evidence suggests the aisled barn 2 was built at the same time as the present farmhouse and was originally five bays long with a central midstrey forming a cart throughway, based on the frame survey and pre-demolition photographs. Whether there was a porch is unknown, as are many other details of the early barn. However, judging by the small part of upstanding frame that survives at the eastern end, it is clear the building originally had a daubed exterior (rather than boarded) and was most likely thatched.

From its construction, it would appear that barn 1 belongs to the 18th century. The quality of timber is low, some timbers are reused, but the main bracing has echoes of the curved form. Bolted knee braces, introduced in the latter part of the century are absent, and it is therefore more likely to date to the earlier part of the 18th century. Its original appearance is similar to its present form, with walls boarded in the bottom half and plastered in lime render at the top; a traditional Essex form. Thus its light frame was concealed and strengthened by its covering. The extra diamond-shaped bracing added extra strength against the gusty west wind. Inside, plaster was applied between the studwork in the lower half that would have kept out draughts and provided some level of insulation against the cold. Monitoring works identified the presence of a cobble/flint spread that was insufficient to be an earlier yard surface or floor, and was more likely added to consolidate the ground beneath the southern corner of the barn.

The hip on the western end of barn 1 most likely matched one on the opposite end of the aisled barn, since removed, seeing as the aisled barn predates it. However, it is still not clear whether the 18th century barn was built onto the existing barn, perhaps replacing the west end, or if the aisled barn was reassembled from elsewhere. Since very few of the reused timbers in barn 1 are likely to come from the earlier barn, perhaps the later option should be considered, though there is every reason to suggest that the barn was reused from the site.

The early farm complex was spread out across two areas, one around the house and the other amidst presumed pastureland to the west. During the 19th century the farm grew around the yard by the house, while the open character of the other part remained the same. The rubbly made-ground and clayey levelling deposits seen in the service trench and under barn 2 probably relate to this phase of construction. Neither of the two western structures survive, one of which had the form of a barn. A second barn on a modest farm like this would appear excessive and suggests the barns had dual functions for livestock and crop storage. Brick ranges were built to the south and east of the main yard, the former of which seems to have been built in two or more stages, according to the map evidence, though this is not clear from its construction. However, it is possible the present U-shaped building replaced the L-shaped structure and belongs to the late 19th century and this would suit the dominant use of machine-sawn timber in the main construction. Many fixtures and fittings associated with animal use (troughs, hay and harness racks, etc) no longer remain.

The late 19th century farm evolved into an 'improved' complex that was based around a central yard and a cattle yard between the brick range and barn. Another yard was located to the north-east that may have been used as a paddock. During the harvest, the loaded carts entered the barn from the yard, where the midstrey is higher and once unloaded either side, exited through the porch. Gates led out to fields at the south from the cart shed and out to pasture to the west. Cattle were driven into the yard and tethered up or placed in the central part that acted as a (rather narrow) cow house. There were loose boxes for calving and sick animals and probably a cart shed on the east side, facing away from the yard. The western side is supposed to be a mirror image and probably contained a feed store and utility shed. Other structures that have not survived would have performed other farming functions.

8.0 CONCLUSION

The surviving farm structures at The Elms are important in illustrating the development of farming in Essex in the post-medieval and Victorian periods and have significant local to regional interest. Existing barns on the north side were augmented by a Victorian cattle range to the south around a sub-divided central yard. An east range was attached to the farmhouse and scattered structures stood to the west, both outside the farm complex. No evidence was found of earlier structures that are likely to have stood within the medieval moated enclosure nor the outline of the former moat.

The main barn is a good example of an 'Essex barn' with its half-boarded exterior, although its diamond-patterned wall-framing is unusual and probably built this way for extra strength. The second barn has historical interest in relation to the site and, from what remains, its likely association with the early post-medieval development of the site and the existing farmhouse. Though truncated and altered, the southern range is an attractive 19th brick structure in its own right.

In the 18th-century, existing farms were enlarged and new farms set up to benefit from improvements in agriculture and livestock rearing during the Agrarian Revolution. The 18th century barn is a well-preserved example of its type and despite some modern features, has maintained its historic appeal. This cannot be said for the 16th century aisled barn, whose outward historic appeal is lost, but its presence is nevertheless significant, either a remnant of the early post-medieval farmstead, or part of an earlier structure reassembled with the new barn. The amalgamation of earlier buildings into new ones was not uncommon in the 18th century (especially in utility buildings such as barns) when the supply of good building wood was low. Other examples have been recorded at Sheering Hall, near Harlow (Letch 2006). At the Elms, the bays of the barn are much smaller and it is interesting to speculate if this was originally part of a different building altogether. In the light of this, it is unfortunate that more of it could not be saved.

In all, this is an interesting farm group for its longevity and gradual development within the local vernacular tradition. The discovery of the aisled barn on the site is of particular interest, architecturally and historically, as is its incorporation into the later farm. The site of the Elms is also fortunate in not being overly-developed in the modern period for large-scale farming and still retains its historic space and character.

ACKNOWLEDGEMENTS

Thanks are due to Nick Greenall for commissioning the works and for his assistance during the survey, and also to the site contractors. Thanks are also due to Strutt and Parker, the architects, for supplying drawings and the staff at the Essex Records Office. Fieldwork, recording and photography were undertaken by the author and Mark Germany. Illustrations were prepared by the author and produced by Andrew Lewsey of ECC FAU. The project was managed by Mark Atkinson and monitored by Richard Havis of ECC HEM, on behalf of the Local Planning Authority.

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Fig.1. Site location

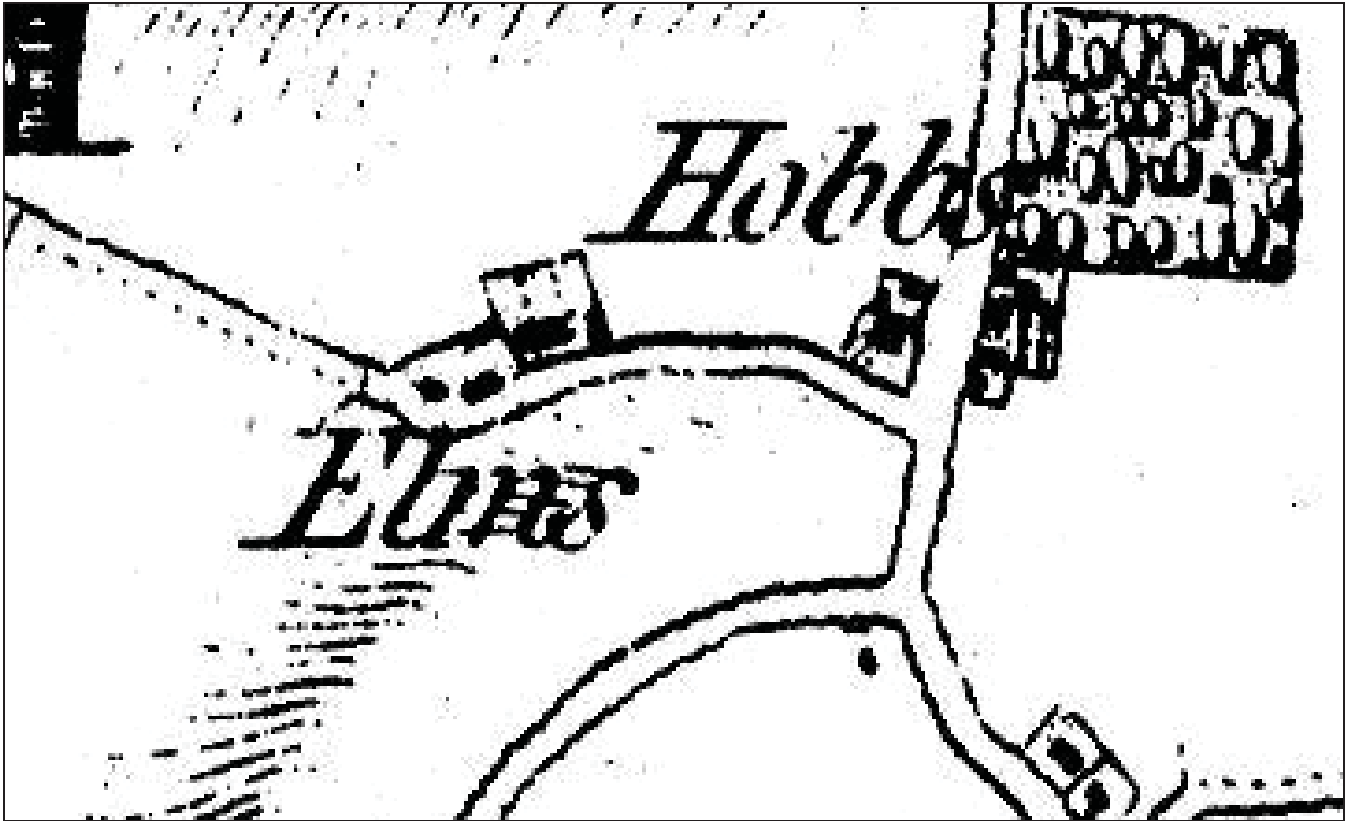


Fig. 2 The Elms from Chapman and Andre's map of 1777 (plate 7)

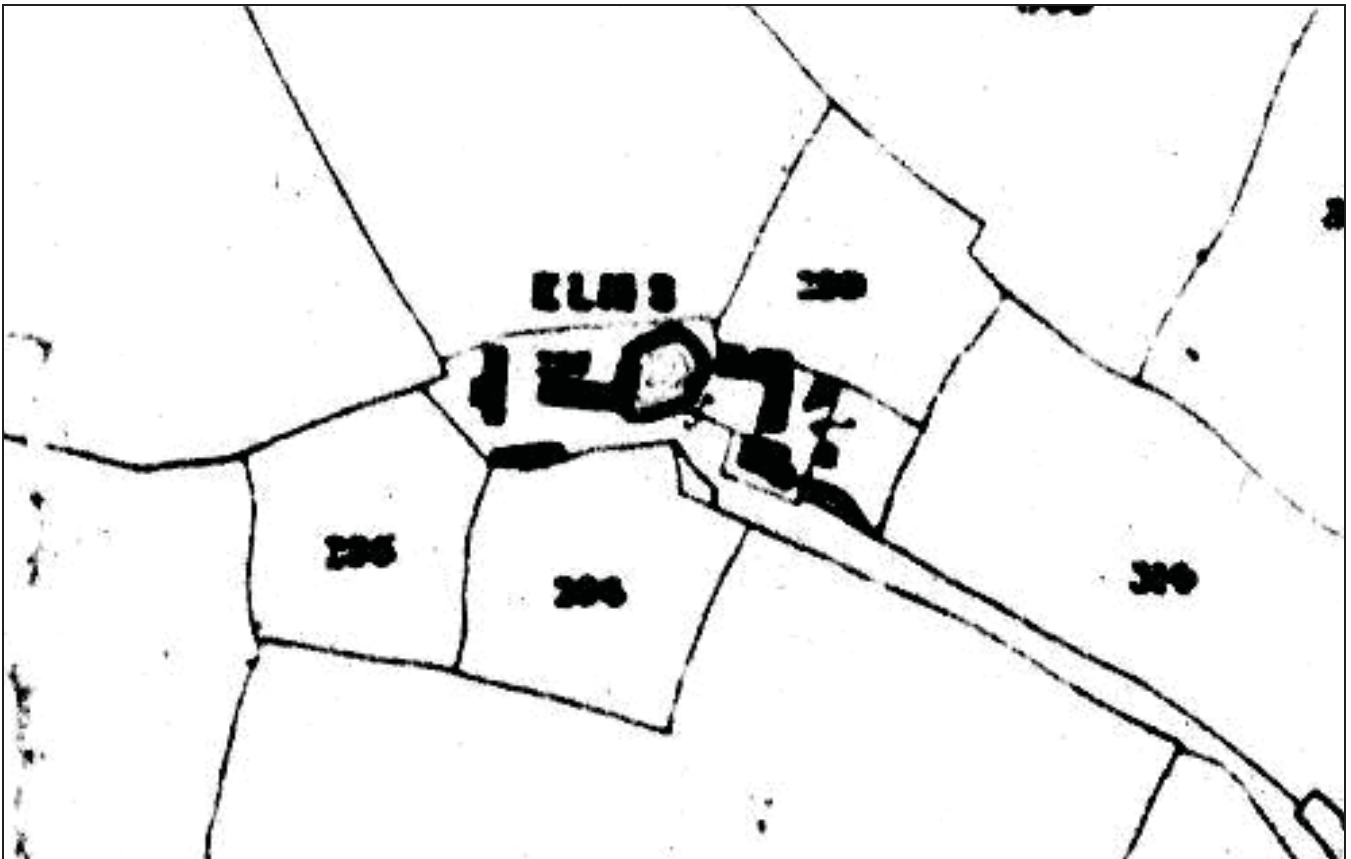


Fig. 3 Great Canfield Tithe Map, 1847 (D/CT 67)

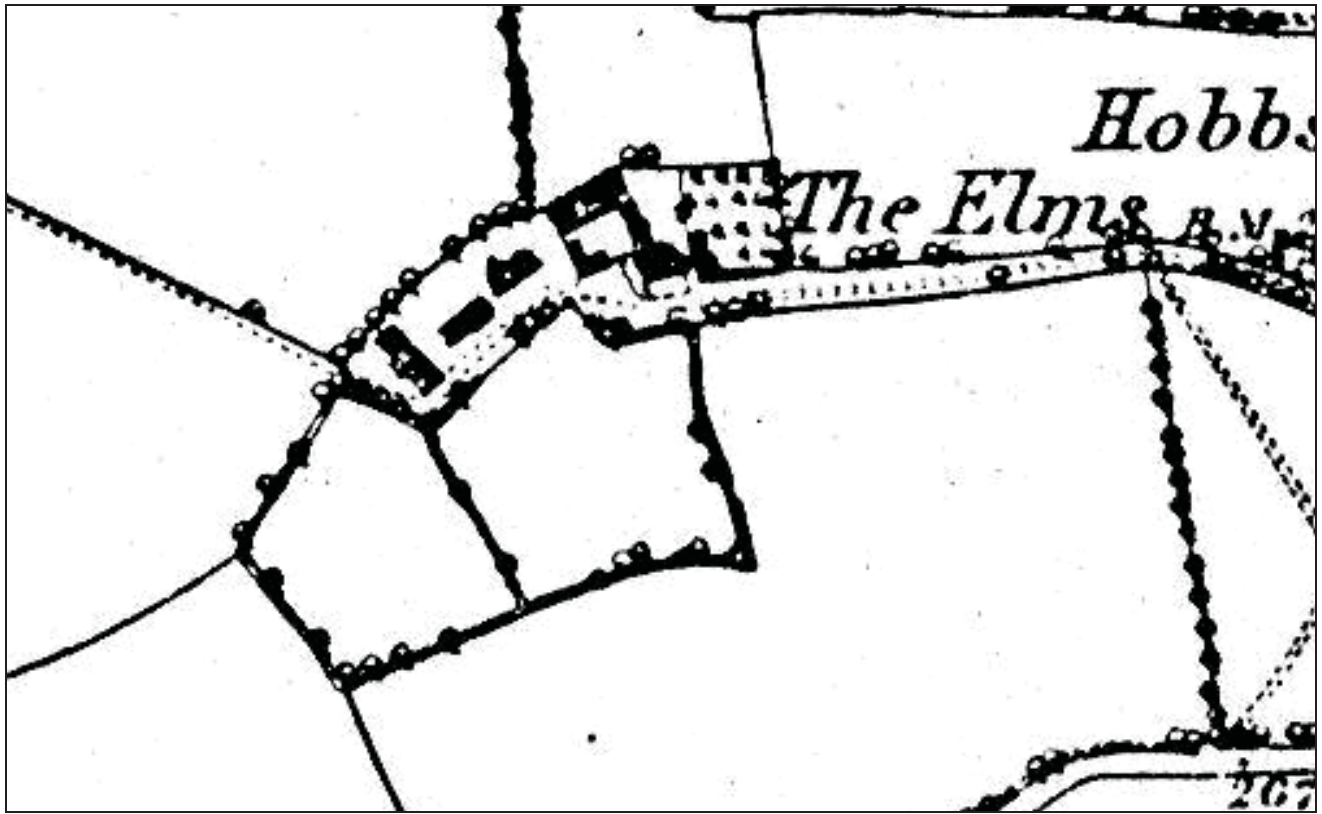


Fig. 4 First Edition 1874 OS map (sheet 32/4)

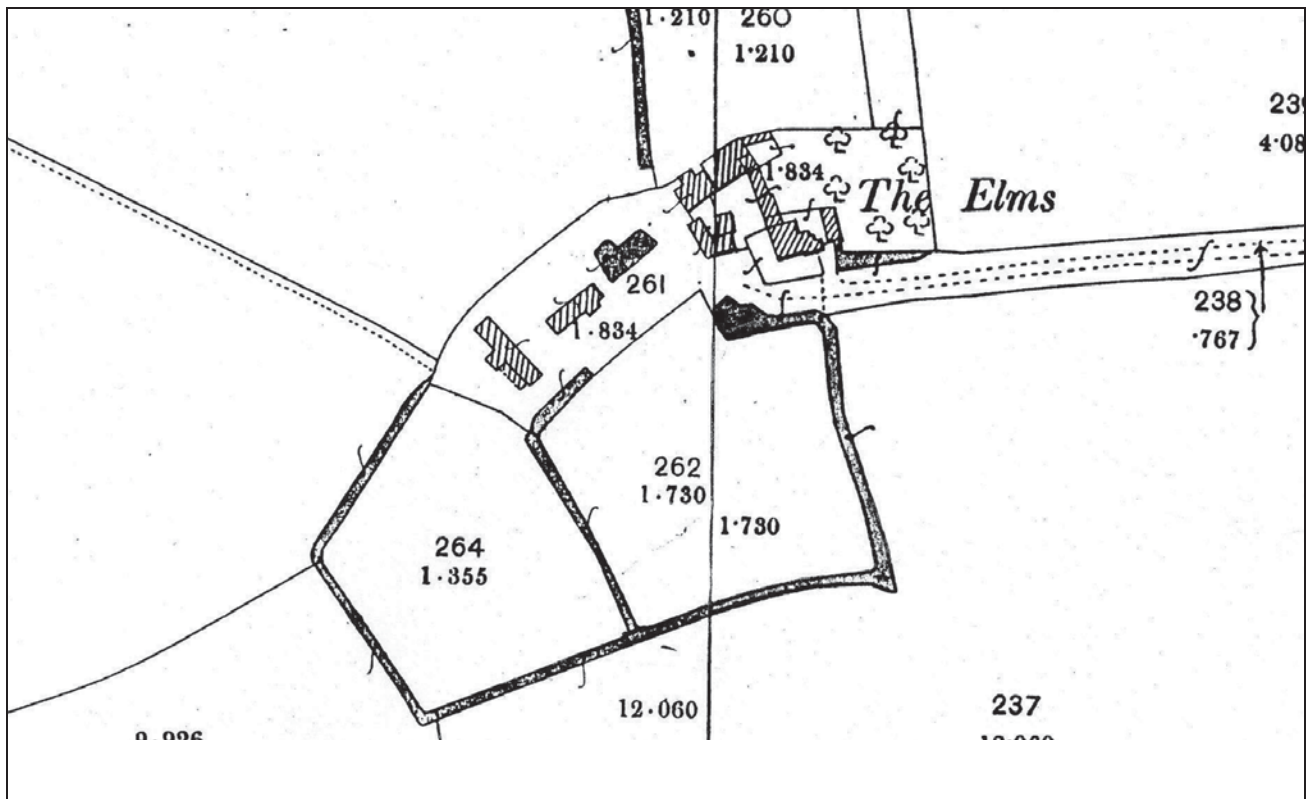


Fig.5 1897 Second Edition OS map (sheets 32/3 & 32/4)

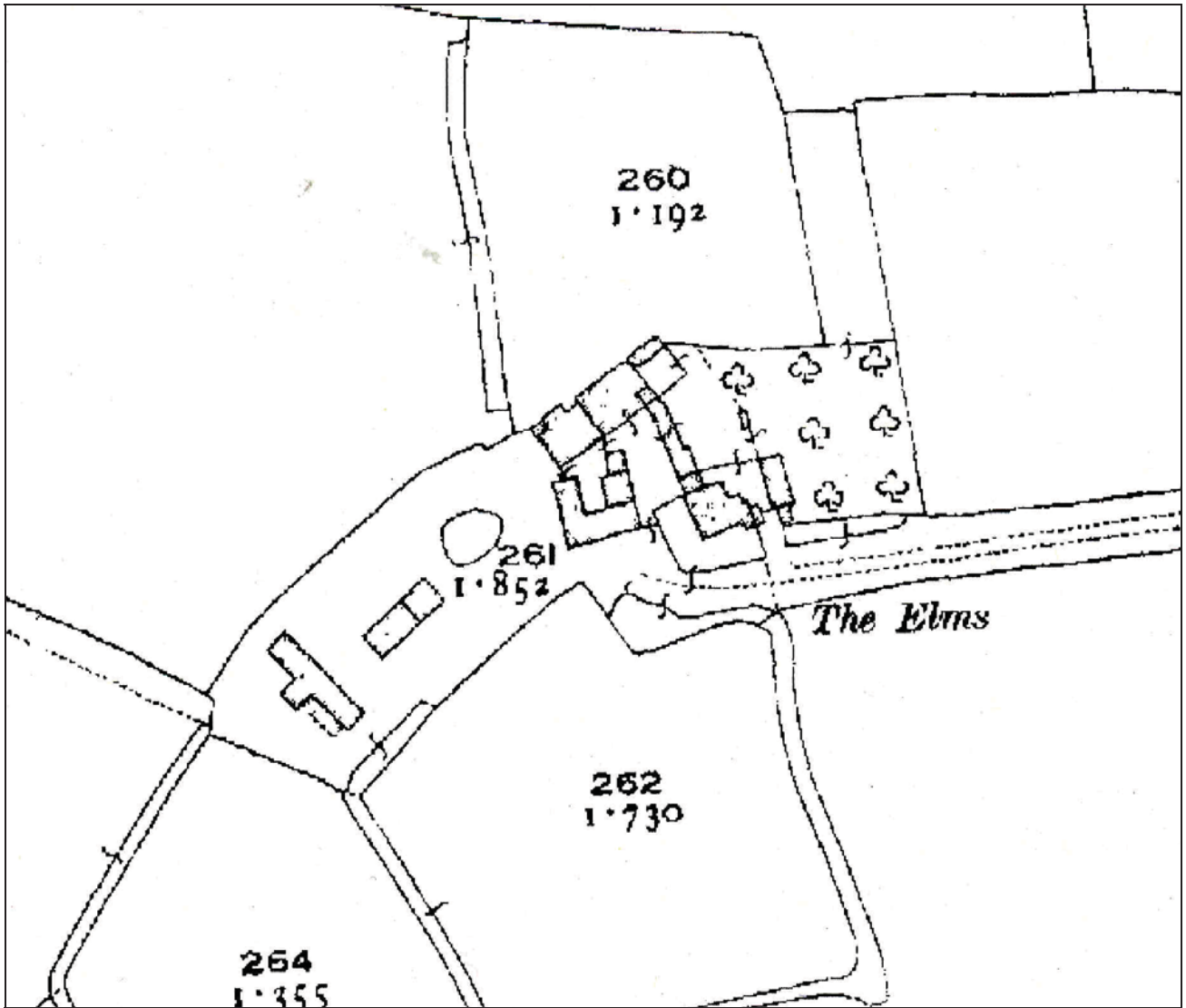


Fig. 6 1922 OS map (sheet 34)

Fig. 7. Plan of barns 1 and 2

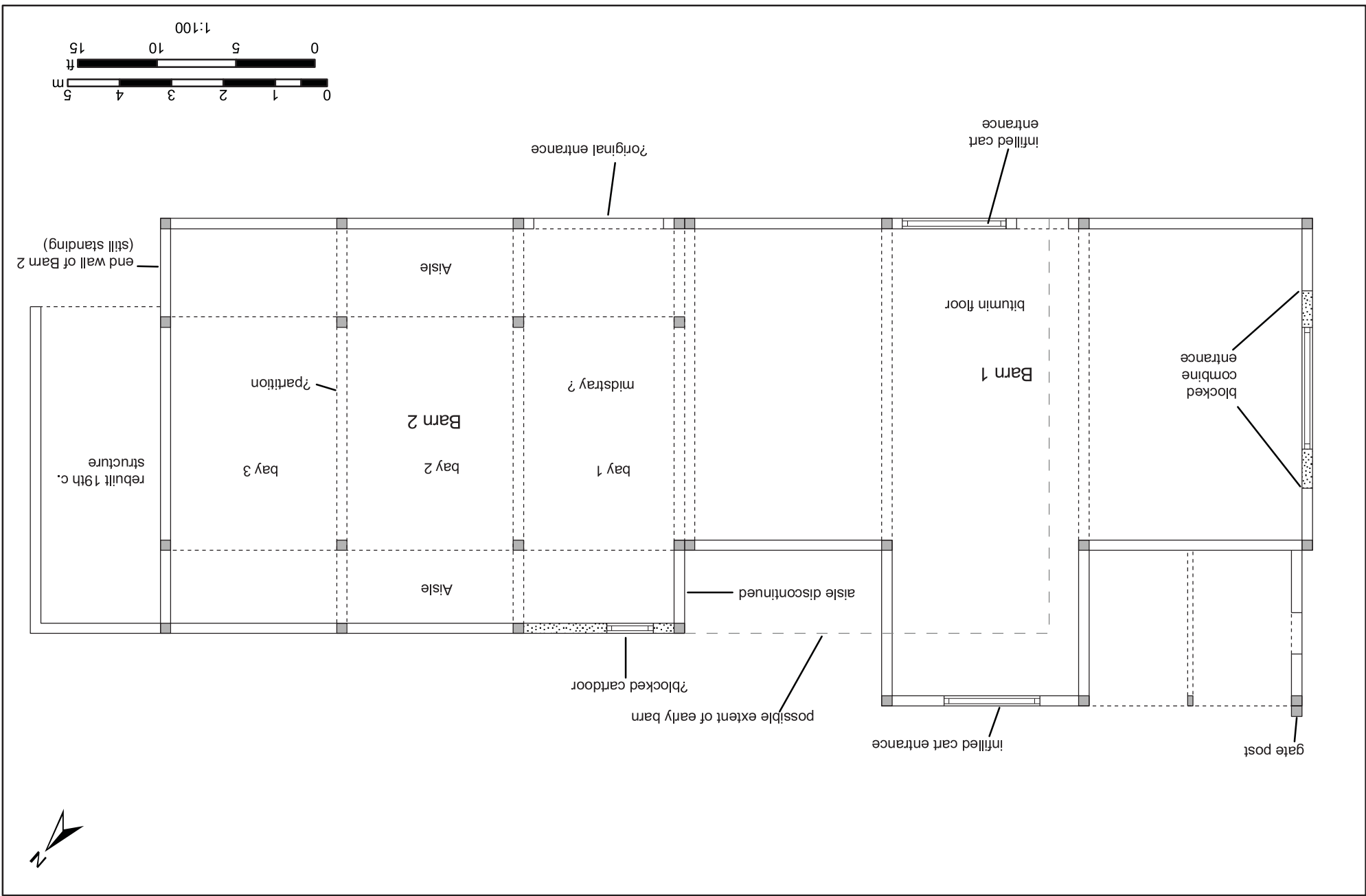
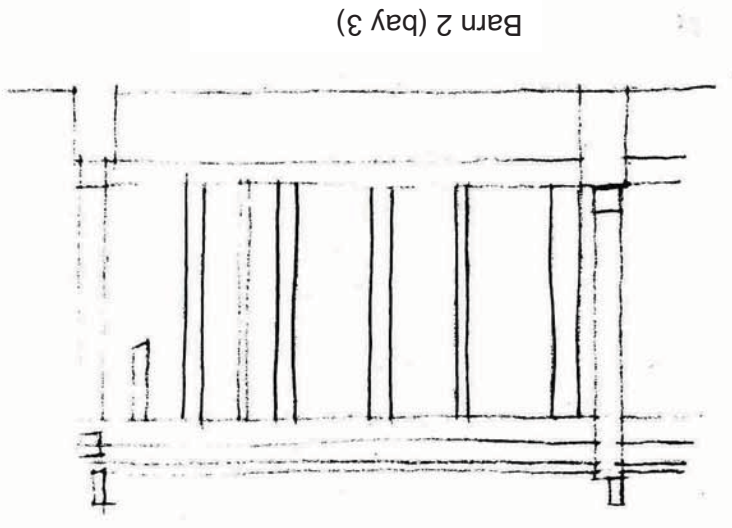
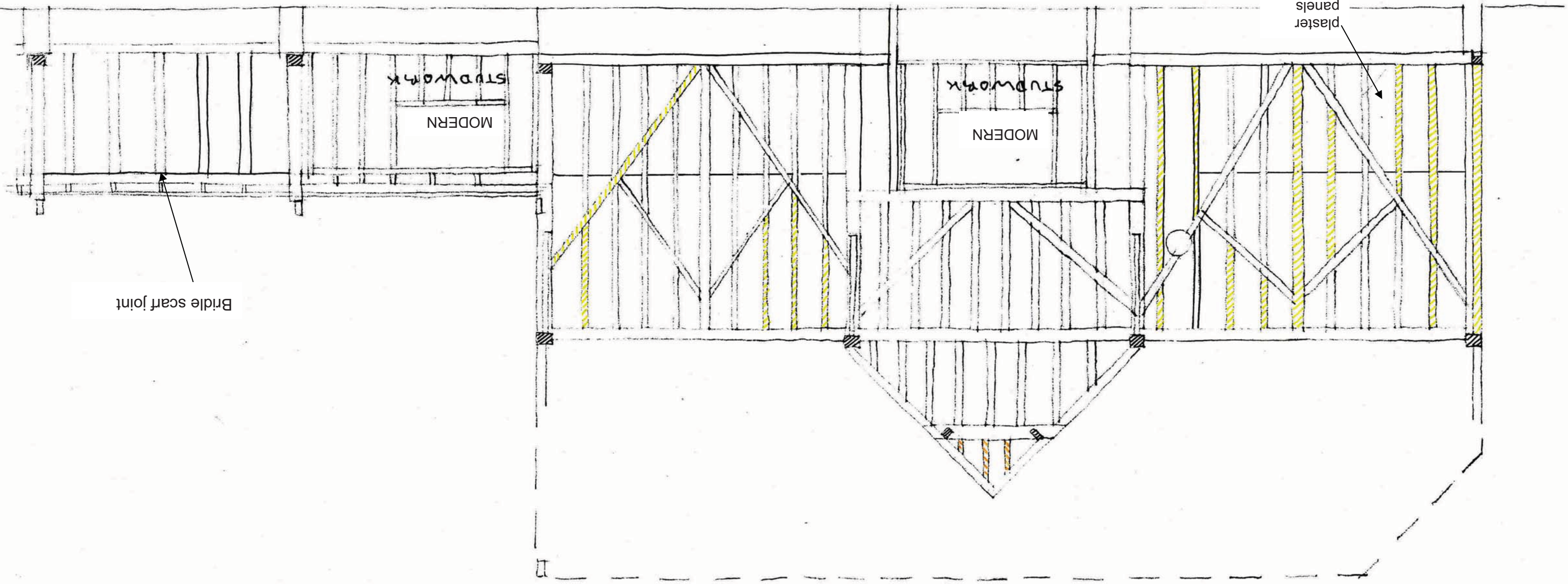


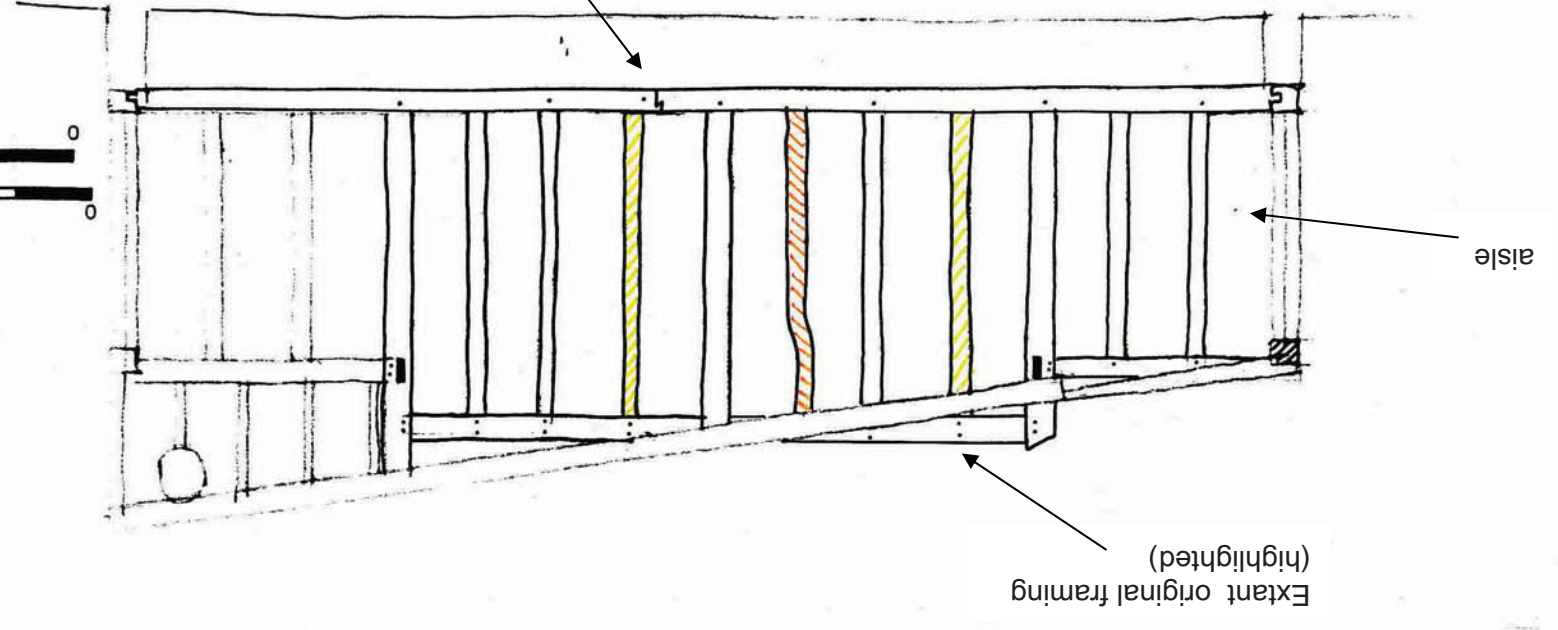
Fig. 8 Frame survey of barns 1 and 2



8a North wall



8b East Wall (barn 2)



Reused timber
Replaced timber

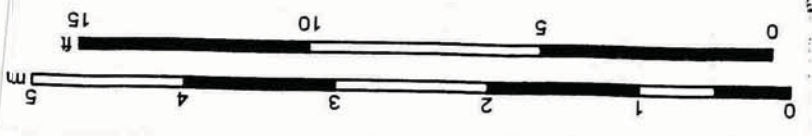
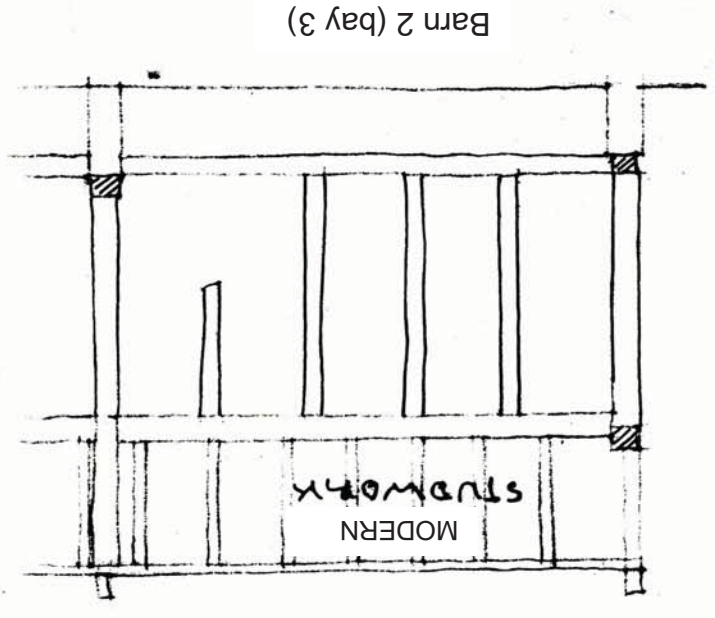
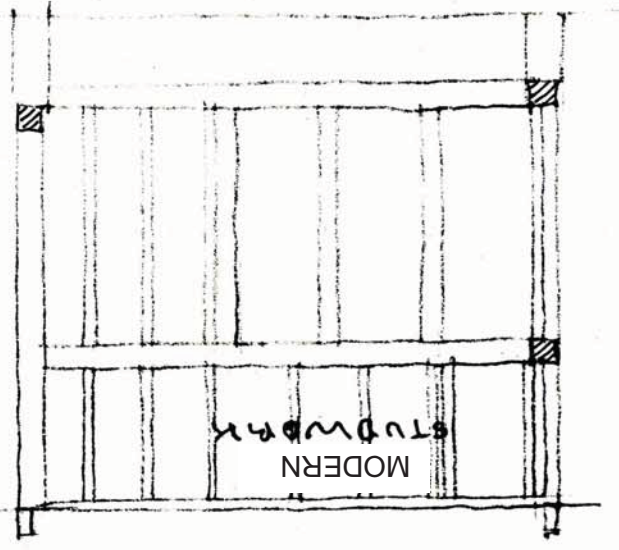


Fig. 8 Frame survey of barns 1 and 2

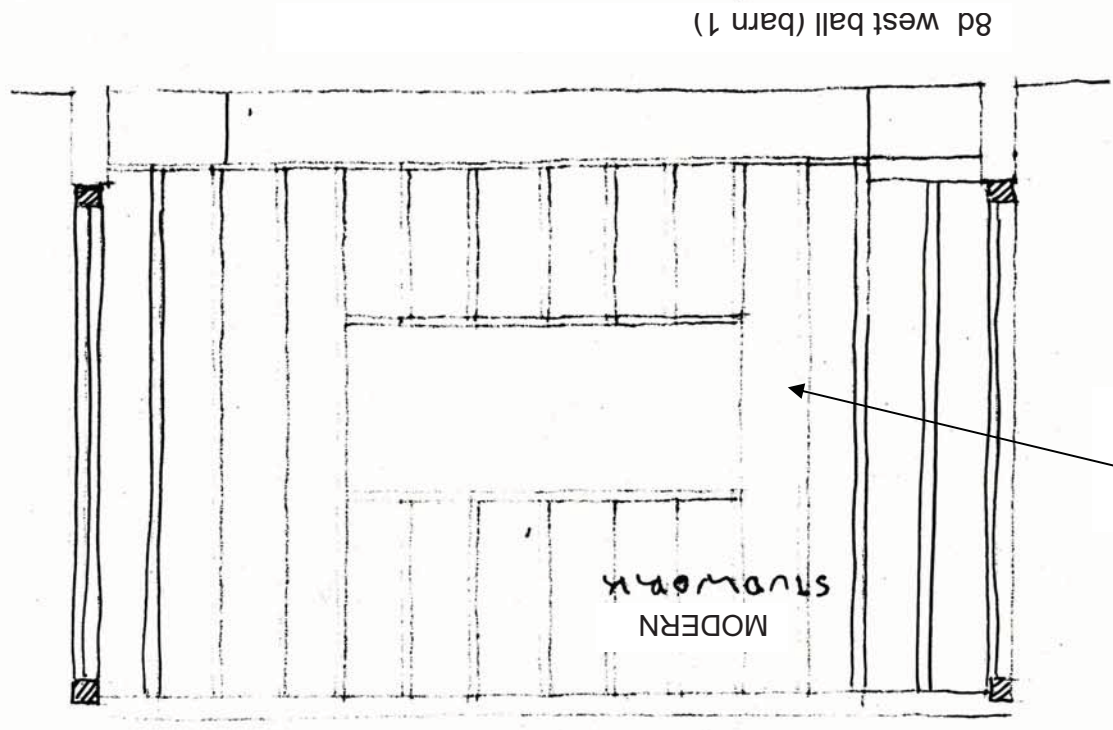


Barn 2 (bays 1 & 2)

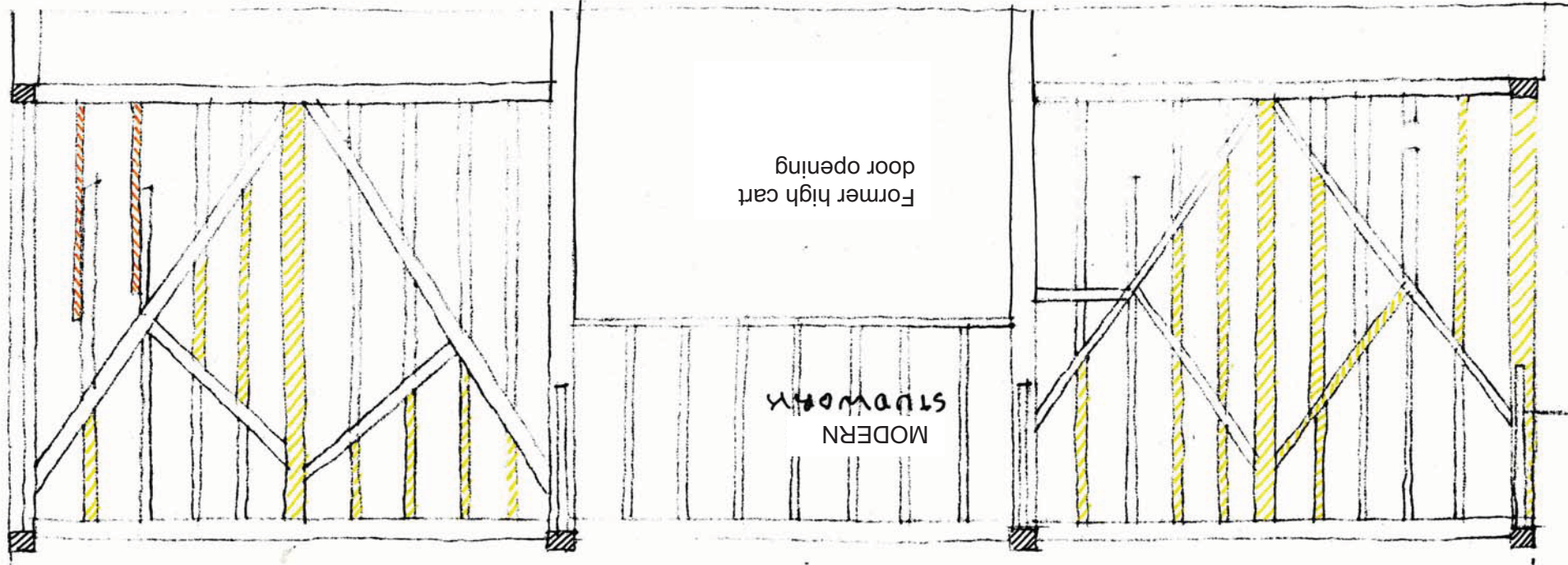


8c South wall

Blocked modern entrance



Barn 1



Reused timber

Replaced timber

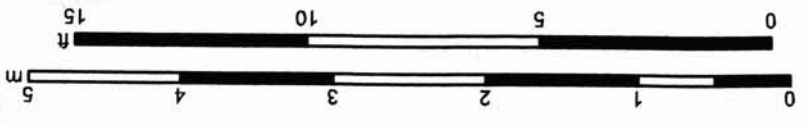
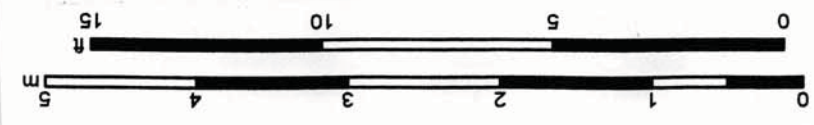


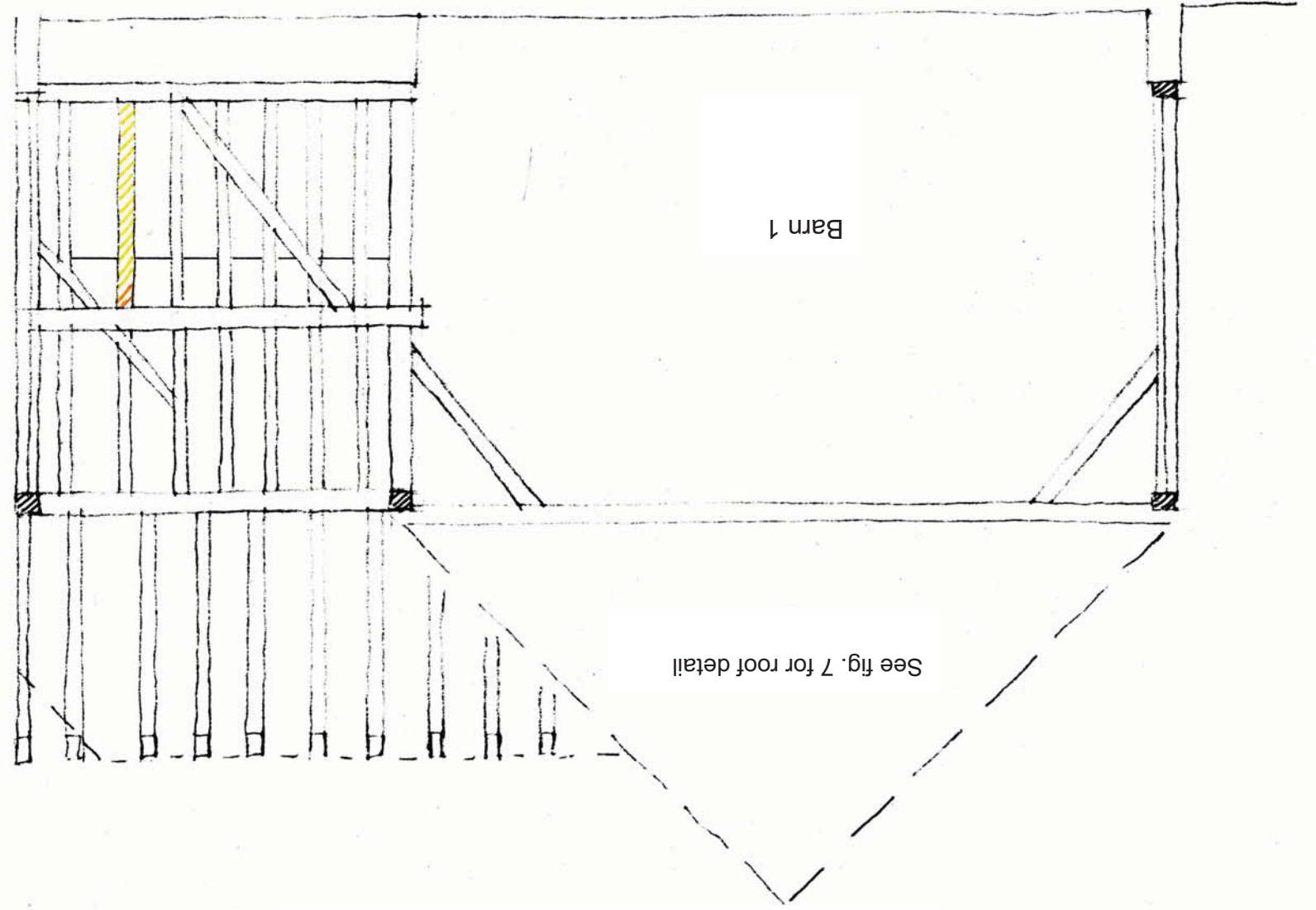


Fig. 8. Frame survey of barns 1 and 2

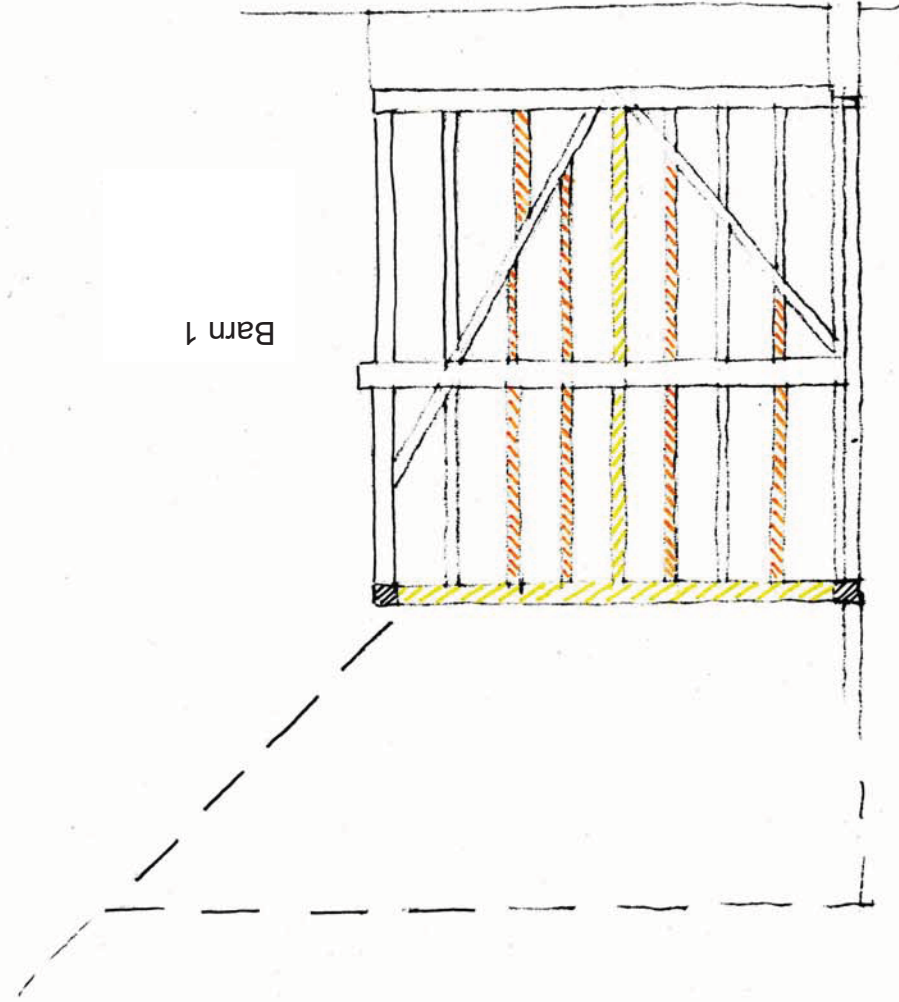


Reused timber 
Replaced timber 

8e West wall of porch



8f East wall of porch



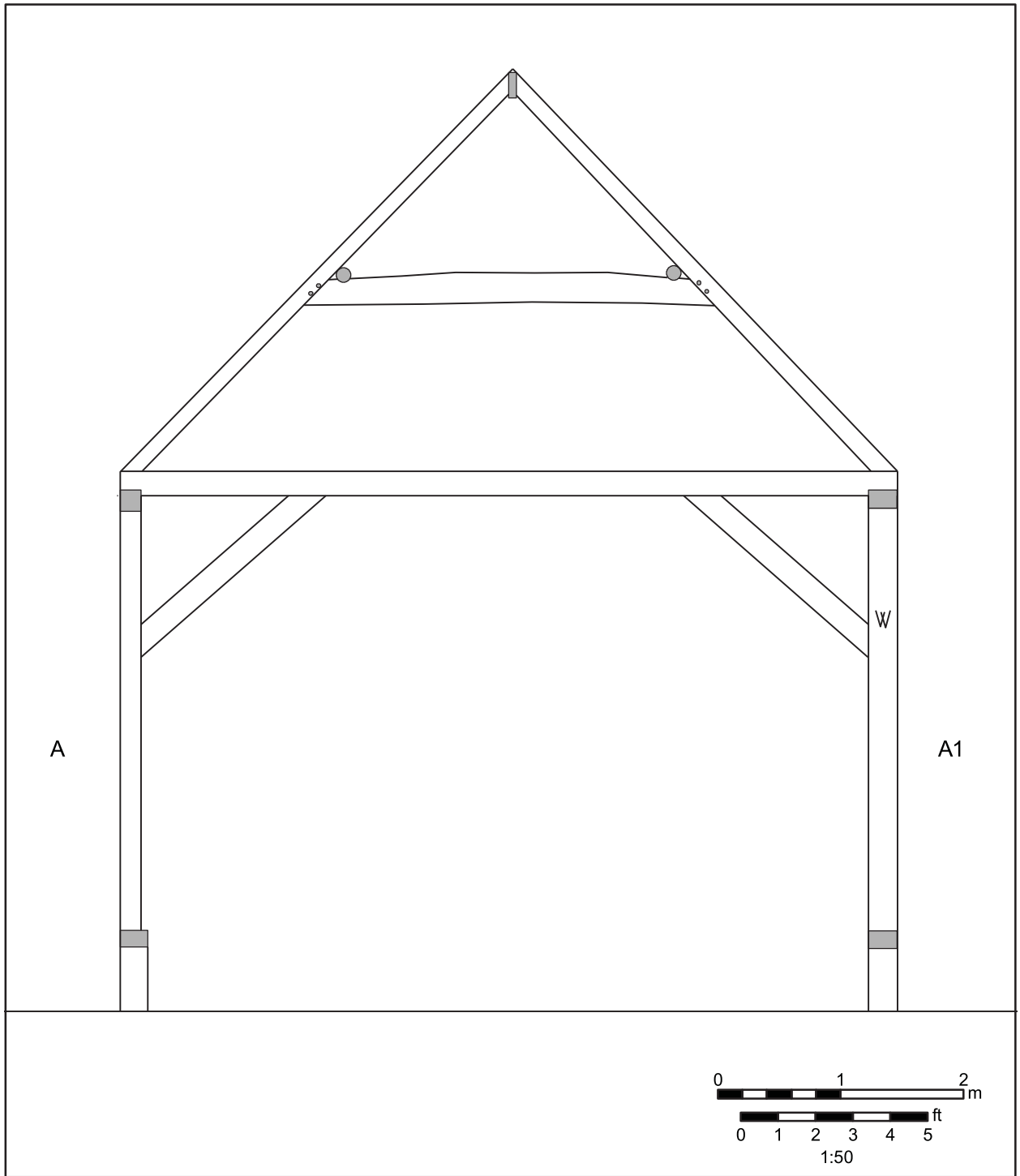
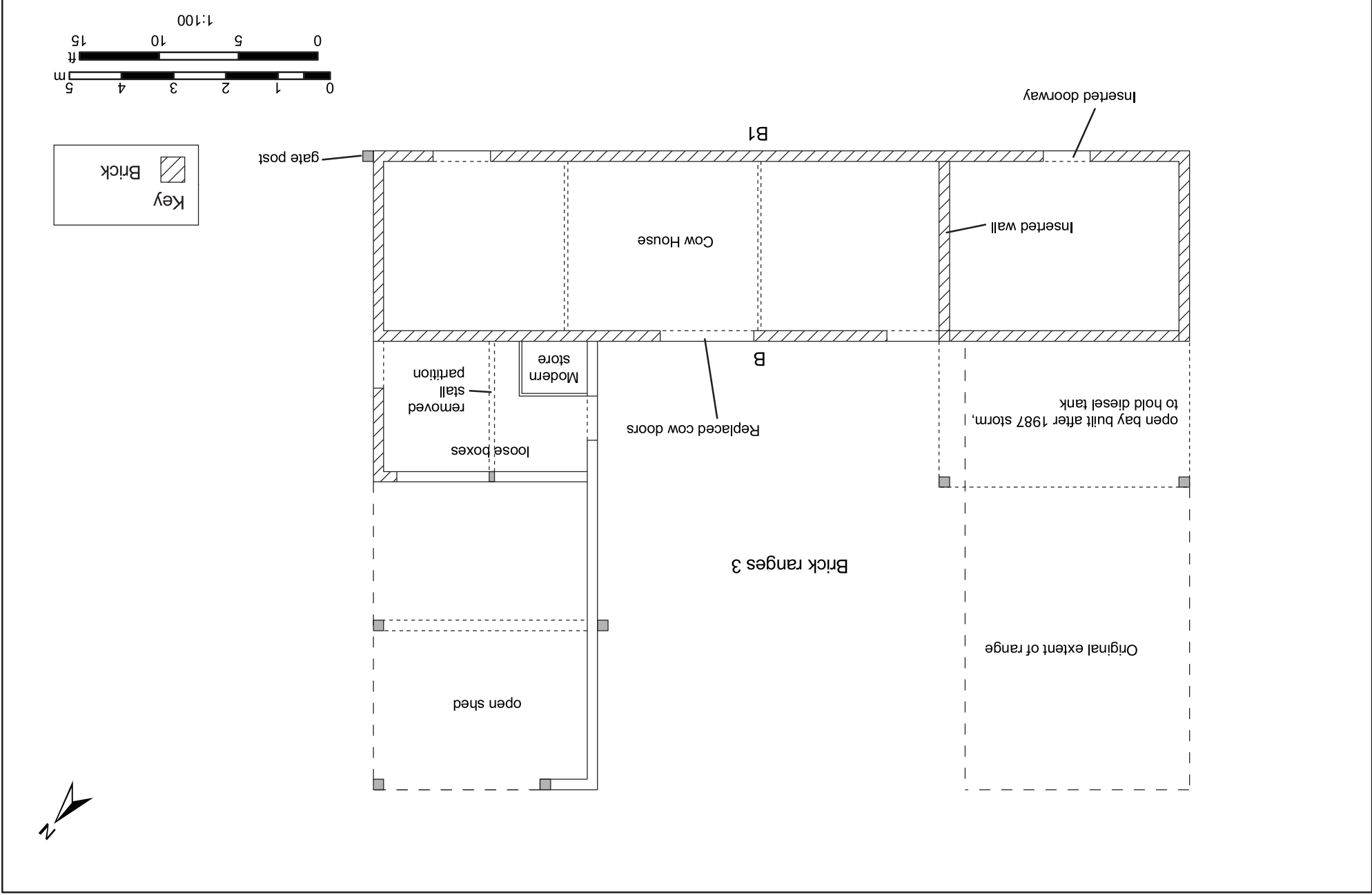


Fig.9. Section across barn 1

Fig.10. Plan of brick ranges 3



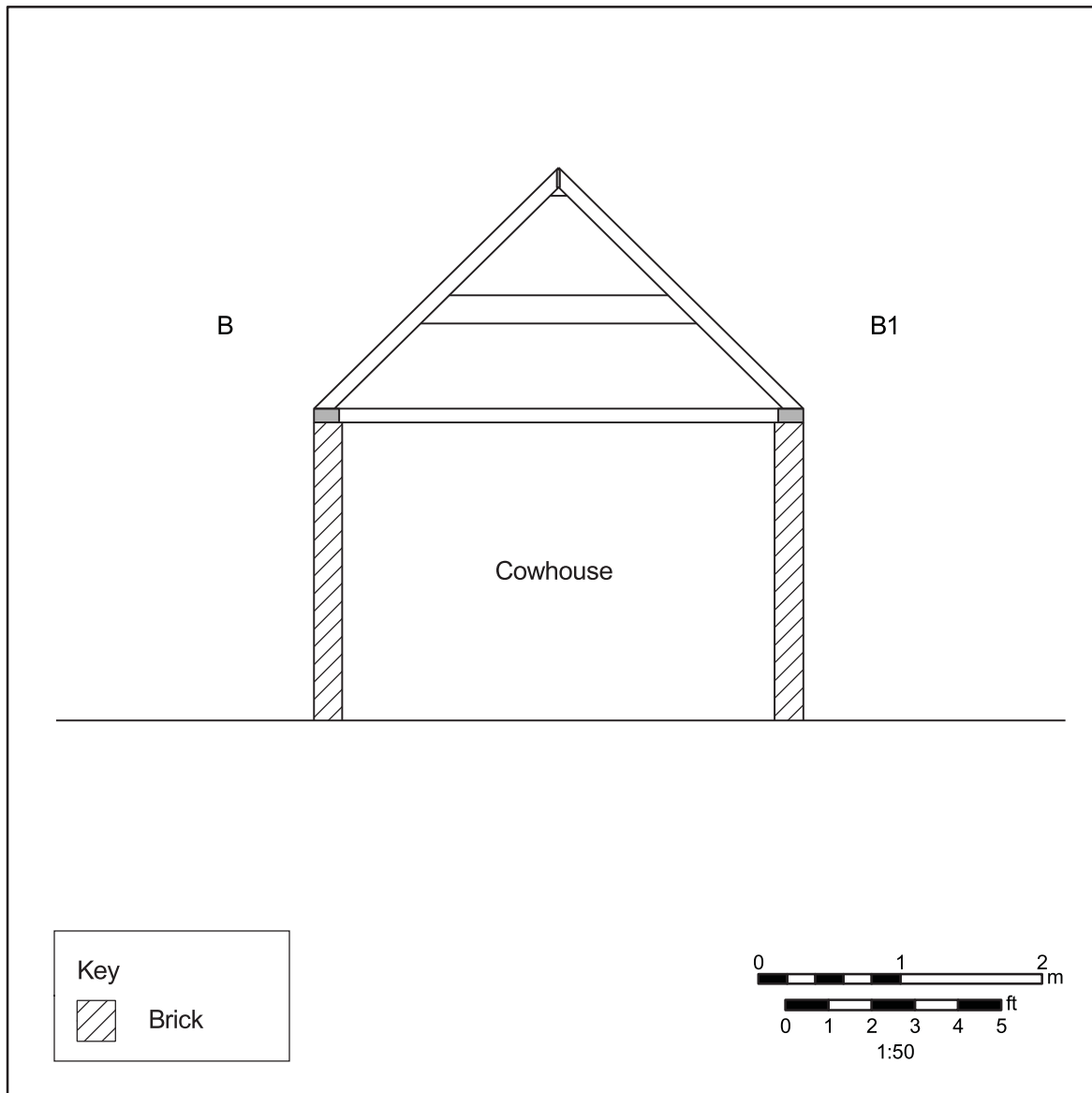
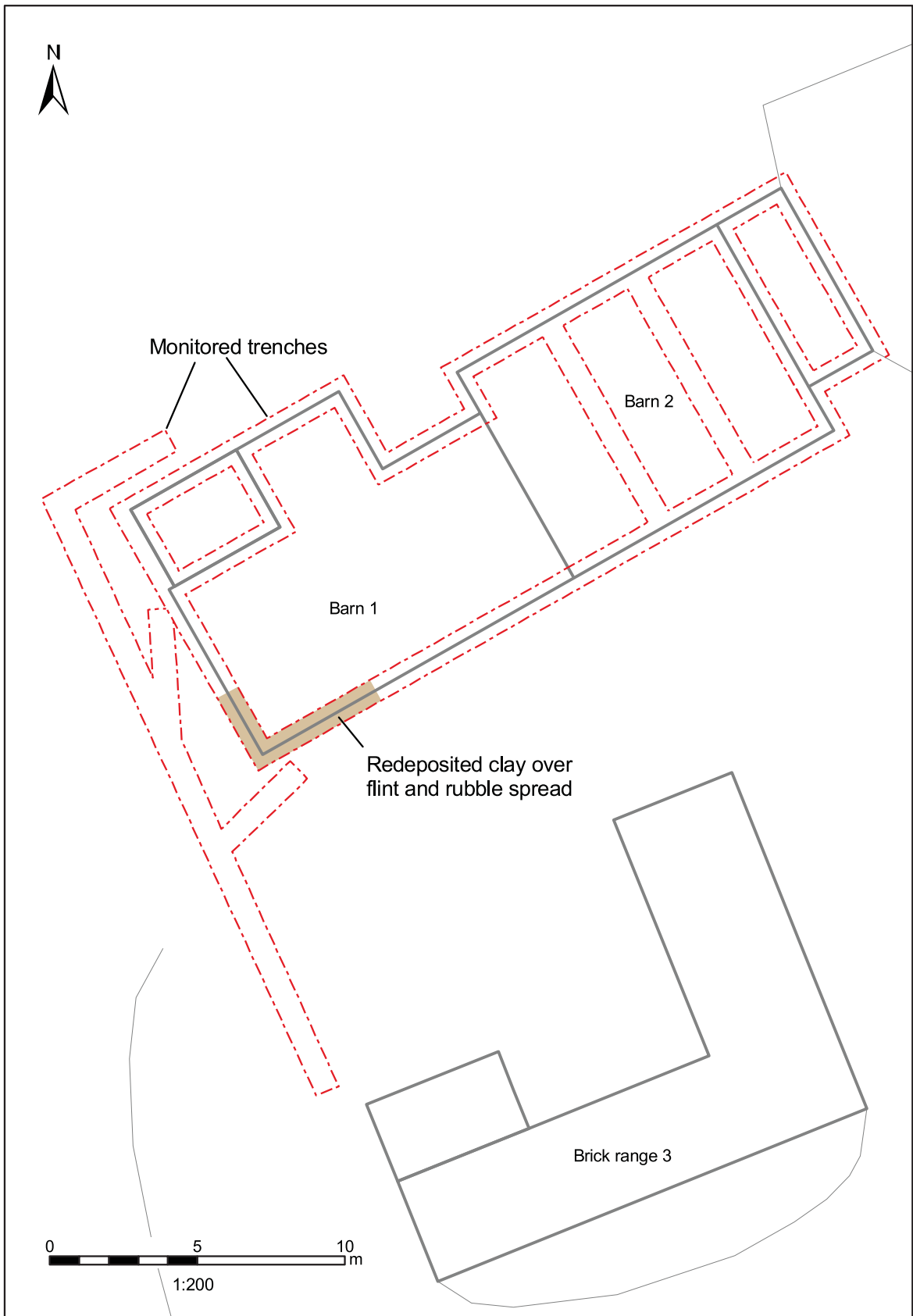


Fig.11. Section through brick range



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Fig.12. Areas of archaeological monitoring



Plate 1 Barns 1 & 2 viewed to north



Plate 2 Barns 1 & 2 viewed to south-east



Plate 3 Lean-to 1a



Plate 4 Barns 2 & 1 viewed to south-west



Plate 5 Interior of barn 1 viewed towards barn 2



Plate 6 Porch and diamond-shaped bracing on north side of barn 1



Plate 7 Barn 1 viewed to west



Plate 8 East end of barn 1, after barn 2 demolition



Plate 9 Ritual mark on north-eastern post of barn 1



Plate 10 Roof frame in barn 1, viewed to west



Plate 11 Extant east end of barn 2



Plate 12 Pre-demolition photograph of barn 2 interior



Plate 13 Bay 2 north of barn 2



Plate 14 Brick range 3 viewed to north



Plate 15 Loose box and shed viewed to west



Plate 16 Range 3 viewed to south-east



Plate 17 Typical doorway on eastern side of range and diamond patterned brickwork



Plate 18 Interior of chemical store



Plate 19 Interior of cowhouse viewed to east



Plate 20 Interior of loose box



Plate 21 Flint and rubble spread under southern corner of barn 1

Appendix 1: Contents of Archive

Site name: The Elms, Bacon End, Great Canfield, Essex

Project no.: 1690

Index to the Archive:

Document wallet containing:

1. Introduction

- 1.1 HEM design brief
- 1.2 FAU written scheme of investigation
- 1.3 Client/archive report
- 1.4 Unbound version of report
- 1.5 CD containing digital photographs & copy of report, pdf-formatted

2. Site Archive

- 2.1 Photographic record (digital prints & monochrome 35mm prints & negatives)
- 2.2 Photographic registers & thumbprint sheet
- 2.3 Site notes & annotated survey drawings
- 2.4 Monitoring record sheets
- 2.5 Architectural survey

No artefacts were collected.

Appendix 2: EHER Summary Sheet

Site Name/Address: The Elms, Bacon End, Great Canfield, Essex	
Parish: Great Canfield	District: Uttlesford
NGR: TL 5985 1942	Site code: GCATE 09
Type of Work: Building recording & Archaeological Monitoring	Site Director/Team: Andrew Letch ECC FAU
Date of Work: Aug & Sept '09, March '10	Size of Area Investigated: 30 x 30m
Curating Museum: Saffron Walden	Funding Source: Mr N. Greenall
Further Work Anticipated? No	Related HER/LB Nos. LBS 352665 (house)
Final Report: Summary in EAH	OASIS Ref: essexcou1- 69043
Periods Represented: post-medieval, Victorian	
SUMMARY OF FIELDWORK RESULTS:	
<p>Recording works were undertaken on the remains of a mixed-phase post-medieval and 19th century farmstead in advance of residential conversion. The group comprises a large barn at the north end of the yard facing a brick range to the south. Another brick range to the east is outside the development area. The development area lies within the area of a medieval moat and the present farmhouse, to the east of the surveyed complex, is Grade 2-listed and likely to date from the 16th century or earlier.</p>	
<p>The main barn comprises three bays of a probable five-bay 16th century aisled barn and three bays (including midstrey) of an 18th century barn. It is not clear whether the earlier barn component was already standing on the site or whether it was partly re-assembled from elsewhere on the site when the latter was built. The brick range was built to contain livestock during the 19th century, though its precise development is unclear from maps. A small modern structure was attached to the barn, but is now demolished.</p>	
<p>The surviving farmstead at the Elms retains the plan form of a typical Victorian mixed farmstead, with a barn at one end and an animal range at the other end of a sub-divided central yard. The most significant structure is the aisled barn, which unfortunately was damaged during a fire and rebuilt in modern times. Good quality studwork survived in the lower register, though only the eastern wall now remains following partial demolition before the building survey started. The 18th century barn is a good example of a typical small plastered Essex barn of the period, with a board and plaster exterior and diamond-pattern primary bracing, while the southern range has some attractive brickwork. All the structures have been altered to a greater or lesser degree but retain their historic character and vernacular value in an isolated position without disturbance by any modern large-scale farm structures.</p>	
<p>Archaeological monitoring works undertaken on underpinning trenches around the barns and a new water main on the west side found a flint and rubble spread under re-deposited clay beneath consolidating the southern corner of the barn but no below-ground evidence of the medieval moat or associated structures.</p>	
Previous Summaries/Reports: None	
Author of Summary: Andrew Letch	Date of Summary: 20th April 2010