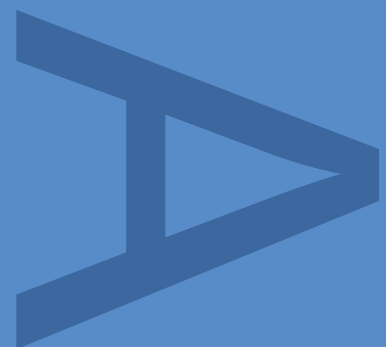


**HISTORIC BUILDING
RECORDING AND
ARCHAEOLOGICAL
MONITORING AT PLESHEY
LODGE FARM BARN, THE
STREET, PLESHEY, ESSEX,
CM3 1HF**

PCA REPORT NO. R11608

JANUARY 2014



PRE-CONSTRUCT ARCHAEOLOGY

**Historic Building Recording and Archaeological Monitoring at Pleshey Lodge Farm
Barn, The Street, Pleshey, Essex, CM3 1HF**

Researched and written by Adam Garwood

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PLESHEY LODGE FARM BARN, THE STREET,
PLESHEY, ESSEX, CM3 1HF

HISTORIC BUILDING RECORDING AND
ARCHAEOLOGICAL MONITORING

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1 NON-TECHNICAL SUMMARY

- 1.1.1 Pre-Construct Archaeology Limited was commissioned by GI Hutton (Builders) Limited to undertake a programme of historic building recording and archaeological monitoring at Pleshey Lodge Farm Barn, The Street, Pleshey, Essex.
- 1.1.2 The work was carried out in response to a planning condition (19) imposed by the Local Planning Authority (Chelmsford Borough Council) on planning permission CHL 10/01604/FUL and 4/00664/12/LBC for its conversion to a single residential unit. The planning condition (19) stated that a programme of archaeological investigations was to be carried out prior to and during construction works.
- 1.1.3 Pleshey Lodge Farm Barn is listed Grade II. The List Description records that the outbuildings north of Pleshey Lodge form a 'picturesque group of 18th century or possibly earlier barns and outbuildings'. Whilst the findings of the building recording generally agree with this assessment and can confirm that the present building is the consequence of extensive alterations carried out during the 18th and 19th centuries, it has also shown that the barn incorporates an earlier five bay 17th century barn, extensively rebuilt and enlarged in the 18th century, and 2 bays of another 17th century barn, added to the extended barn, during the late 18th or early 19th century.
- 1.1.4 The archaeological monitoring of the underpinning trenches, particularly those excavations toward the north-eastern corner of the barn uncovered some evidence of earlier activity in the form of a buried soil horizon below the barn floor and a possible pit. Whilst the validity of the latter remains unclear, the former did produce a single sherd of shell tempered Roman pottery (not retained). This was however, very abraded, suggesting, it along with the buried soil horizon were re-deposited and used to level the ground in preparation for the barn. Its presence does indicate some Roman activity in the general area.

2 INTRODUCTION

2.1 Background

- 2.1.1 Pre-Construct Archaeology Limited was commissioned by GI Hutton (Builders) Limited to undertake a programme of historic building recording and archaeological monitoring during groundworks at Pleshey Lodge Farm Barn, The Street, Pleshey, Essex prior to, and during, its conversion to a single residential unit. The work was carried out in response to a planning condition (19) imposed by the Local Planning Authority on planning permission and listed building consent CHL 10/01604/FUL and 4/00664/12/LBC.
- 2.1.2 The building recording was undertaken in accordance with a Brief (Essex County Council, 2012) and a Written Scheme of Investigation (WSI) agreed in advance of the work with the Local Planning Authority (Garwood, 2012). The works are in accordance with National Planning Policy Guidance, specifically National Planning Policy Framework (NPPF) (2012) and the local authority's policy towards built heritage and archaeology.

2.2 Site Location

- 2.2.1 Pleshey Lodge is situated to the south of The Street, the main thoroughfare running through Pleshey, and within an area of open countryside along the southern side of the village (**Figures 1 and 2**). The site enjoys a prominent location with views across the valley to Walthambury Brook and the River Chelmer, and to the eastern approach to the village and along Pleshey Road. Pleshey Lodge Farm and barn are situated immediately south of the 12th century scheduled earthworks of Pleshey Castle and directly east of the parish church of the Holy Trinity. The site forms part of the Pleshey Conservation Area.
- 2.2.2 The barn lies along the northern and eastern boundary of the farmstead, north of Pleshey Lodge (house) and the modern core of the farm. At the time of the survey the barn was redundant, although a pair of 19th century former cattle sheds/stables to the south had, in recent years, been converted to office use. The barn, due to its long term redundancy and chronic structural problems had been added to the Essex Buildings at Risk Register.

3 PLANNING BACKGROUND

3.1 Introduction

- 3.1.1 National legislation and guidance relating to the protection of historic buildings and structures within planning regulations is defined by the provisions of the *Town and Country Planning Act 1990*. In addition, local planning authorities are responsible for the protection of the historic environment within the planning system and policies for the historic environment are included in relevant regional and local plans.

3.2 Legislation and Planning Guidance

- 3.2.1 Statutory protection for historically important buildings and structures is derived from the *Planning (Listed and Conservation Areas) Act 1990*. Guidance on the approach of the planning authorities to development and historic buildings, conservation areas, historic parks and gardens and other elements of the historic environment is provided by the National Planning Policy Framework (NPPF), which was adopted on 27 March 2012.
- 3.2.2 Historic buildings are protected through the statutory systems for listing historic buildings and designating conservation areas. Listing is undertaken by the Secretary of State; designation of conservation areas and locally listed buildings is the responsibility of local planning authorities. The historic environment is protected through the development control system and, in the case of historic buildings and conservation areas, through the complementary systems of listed building and conservation area control.
- 3.2.3 Planning permission CHL 10/01604/FUL and 4/00664/12/LBC has been granted for the conversion of the barn into a single residential unit. A full archaeological condition (19) imposed upon the consent states that a programme of archaeological investigations should be carried out prior to and during construction works. The wording of the condition is as follows:
- 3.2.4 'No development shall take place within the site until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the local planning authority.
- 3.2.5 Reason: To ensure that adequate archaeological records can be made in respect of the site in accordance with Policy DC21 of the Adopted Core Strategy and Development Control Policies.'

4 METHODOLOGY

4.1 Aims and Objectives

4.1.1 The objectives of the project as set out in Section 5 of the Brief (Essex County Council 2012) were as follows:

Historic Building Recording

4.1.2 A detailed record of the farm building was to be made prior to its conversion. The record needed to consider:

- Plan form of the site
- Materials and method of construction
- Date(s) of the structure
- Function and internal layout
- Fixtures and fittings
- Original and later phasing, additions and their effect on the internal/external fabric and the level of survival of original fabric
- Context of farm buildings within their immediate contemporary landscape
- Comment on the significance of the site on a regional context

Archaeological Monitoring and Recording of below ground works

4.1.3 To identify and record any buried archaeological deposits that were likely to be disturbed or destroyed by groundwork associated with the development.

4.1.4 This work aimed to consider in particular:

- Evidence relating to the origins and development of the site.
- The relationship of below ground evidence to the upstanding buildings.
- Any evidence for earlier buildings, yard surfaces, earlier floors etc (especially in areas of floor reduction).

4.2 Documentary Research

4.2.1 A search of relevant primary sources was carried out at the Essex Records Office and the holdings of Essex Historic Environment Record. The results of the historical research are provided in Section 5 of this report.

4.3 On-Site Recording

4.3.1 The on-site building recording was carried out on the 24th and 25th January 2013 by an historic buildings archaeologist. A ground floor plan and section were drawn on site on permatrace at a scale of 1:100 (**Figures 8 and 9**). The underpinning trenches monitored during the project have also been added to the ground floor plan (**Figures 2 and 8**). Proposed plans and elevations were provided by the Client (**Figure 10**).

4.3.2 A photographic survey including high quality digital and black and white images was undertaken recording key structural features and internal spaces, as well as the external elevations of the building. A selection of these photographs has been included in this report and **Figure 8** shows their location and direction. A register of all photographs taken on site by the PCA photographer is included in **Appendix 1**.

4.4 Project Archive

4.4.1 The project archive is currently held at the offices of Pre-Construct Archaeology Limited in Brockley, London, under the site code PY19. It is anticipated that the

archive (copies of the report, drawings and photographs) will be lodged with Chelmsford Museum. The report will be prepared as soon as possible after completion of the on-site work and will be submitted to the Client and the Historic Environment Officer at Place Services (Essex County Council).

4.5 Guidance

4.5.1 All works were undertaken in accordance with standards set out in:

- Association of Local Government Archaeological Officers (1997) *Analysis and Recording for the Conservation and Control of Works to Historic Buildings*
- British Archaeologists and Developers Liaison Group (1986) *Code of Practice*
- British Standards Institution (1998) *Guide to the Principles of the Conservation of Historic Buildings (BS 7913)*
- Clark, K 2001 *Informed Conservation: Understanding Historic Buildings and their Landscapes for Conservation*, English Heritage
- English Heritage Greater London Archaeological Advisory Service (2009) *Standards for Archaeological Work*. External Consultation Draft
- English Heritage (2000) *The Presentation of Historic Building Survey in CAD*
- English Heritage (2006) *Understanding Historic Buildings: a guide to good recording practice*
- IfA (1996, revised 2001 and 2008) *Standard and guidance for the archaeological investigation and recording of standing buildings or structures*
- IfA (1994, revised 2001 and 2008) *Standard and guidance for an archaeological watching brief*

5 HISTORICAL BACKGROUND

- 5.1.1 The holdings of the Essex Record Office were consulted and a short sequence of relevant historic mapping, including a late 18th century map, the tithe map and 19th century Ordnance Survey maps, was compiled to illustrate the development of the site. The documentary research also consulted parish records and secondary sources. The historic mapping has been reproduced in the report.
- 5.1.2 Morant, in his History of Essex (1768) supposes that the castle site was 'originally a Roman fortress, which seems to have been a considerable place long before the Conquest and even in Roman times to have been a fortress or villa, for there is a ditch of entrenchment encompassing the west, north and east parts of the present village i.e. all that north of the road and having the remains of another on the south side'. Morant's observations and extent of the Roman enclosure in relation to the castle earthworks were illustrated by William Stukely in this Itinerarium Curiosum published in 1776 (**Figure 3**).
- 5.1.3 In Domesday the manor of Pleshey or Plesinchu was held by Eustace Earl of Bologne. In the 12th century the manor was passed from King Stephen to Geoffrey de Mandeville (or Magna Villa), who built Pleshey Castle, the mount, the bailey earthwork and the 'Burgus' or town enclosure in the 12th century in an effort to create a new market town. It was the centre of the biggest block of Norman estates in Essex, with a subsidiary site located at the castle in Saffron Walden. During the 16th century the manor of Pleshey and two parks were owned by Edward VI who bestowed it to Sir John Gate, who in turn passed the smaller of the two parks to Sir John Clarke. It was his son Robert Clarke who probably built The Lodge out of materials recovered from the castle, in 1629 (1/Mb275/1/32).
- 5.1.4 The Chapman and Andre map (12) of 1777 (**Figure 4**) names Pleshey Lodge, along with Pleshey Bury to the west, and the Mount to the north. At this point in time Pleshey Lodge was clearly an important site because in addition to being specifically named on this map, it is shown with an avenue of trees extending between it and the Church of the Holy Trinity. At this scale it is difficult to confidently identify the subject barn, but a large building does lie in the general area to the east of the Lodge and just south of the castle earthworks.
- 5.1.5 A clearer depiction of the farm appears on the Tithe map of 1848 (**Figure 5**). Here the barn is shown marked as Lodge Farm to the north of the house and east of the present thatched barn. Another farm building along the southern side of the moat no longer exists. Although the aisled barn is easy to identify with its distinctive midstrey along its south elevation, the plan form is different, as it incorporates an L shaped range attached to its eastern end opening into what appears to be a small stock yard. The tithe award (D/CT 275) records that Pleshey mount and moat (117) and the Homestead, orchard, garden and Lodge Farm (118) were occupied by tenant farmer William Young and owned by local landowner and resident of Langleys, John Joliffe Tuffnell esq. To the east of the barn was barn pasture (119) an area presumably in use for sheep or cattle grazing or hay.
- 5.1.6 The First Edition Ordnance Survey map of 1875 (sheet 43.2) provides a detailed representation of the barn and the locality (**Figure 6**). The house and thatched barn lie to the south and west respectively and the barn shown with the water-filled moat in very close proximity to its north-western corner. The barn at this point still incorporates the L shaped range attached to the south-eastern corner and also a series of buildings attached to the southern side of the western bays. These are the cattle/stable ranges that have recently been converted into office accommodation. While the midstrey and open-shelters are present they are not shown in detail on this map. However, the second edition Ordnance Survey map of 1895 (sheet 43.2) (**Figure 7**) shows more detail of the barn and surrounding buildings. The midstrey is shown and the open-fronted shelters to each side. The small yard to the front of the barn appears to be a small stockyard with shelters on the north and west sides and

the building on the foot of the L shaped range an open-fronted cart/utility shed. The farm has expanded to the south and west with the addition of three more farm buildings.

- 5.1.7 The entries in a valuers notebook (D/F 63/5/134) dated the 17th October 1896 for J.C. Darby gives an idea of the size and farm undertakings in the late 19th century. It records that the farm was principally in arable production, mainly wheat (306 qtrs) and barley (188 qrts) of the latter 40 qrts were threshed and stored in the barn. The farm also grew oats and hay for the horses recorded as six working horses (plough horses) and two nags. The inventory also records cows, 24 sheep and poultry. The list of implements is mainly concerned with arable use (ploughs, seed drills, clod crunchers etc).
- 5.1.8 As the general plan of the barn and surrounding buildings change very little during the following century and these maps are not illustrated in this report.

6 BUILDING DESCRIPTIONS

6.1.1 The following descriptive text provides objective information and analysis about the listed aisled barn at Pleshey Lodge Farm at the time of the survey (24th to 25th January 2013). Interpretation of function and the phasing of the building is based on the analysis of the building fabric and available documentary information.

6.2 General Description

6.2.1 Pleshey Lodge Farm Barn is a large timber-framed and weatherboarded aisled barn aligned so that its long elevations face north and south. It has a single aisle built along the entire length of its northern elevation and a midstrey and a gabled extension projecting to the south (**Figures 2 and 8**). The southern elevation faces the farm and includes an open-sided shelter and a modern lean-to building.

6.2.2 The barn forms a group of farm buildings situated to the north-west of the historic farmhouse, lies north of the modern farm and immediately south of the considerable earthworks of the scheduled Pleshey Motte and Bailey Castle. This group of farm buildings include the subject barn and a number of later single storey 19th century sheds (now in use as offices) to the south and west of the barn.

6.3 The Eastern Elevation

6.3.1 The eastern elevation comprises the eastern gable wall of the main aisled barn and the eastern flank wall of the south-eastern extension (**Plate 1**). Both are clad in weatherboard and have pitched roofs covered in modern plain tiles. A large sliding full height door (over mid rail level) has been inserted into the eastern gable wall to enable access into the barn for modern agricultural machinery. It has two doors supported on an external steel framework of I section joists. Above the door and off-centre to the south is a blocked door opening, formerly used as a pitching door. The brick plinth is of eight courses and is a later wall, keyed into the plinths of the north and south walls, but re-built using Fletton brickwork.

6.3.2 The south-eastern extension has a tall bay wide cart door opening at its northern end, near the junction between the barn and extension. This has a two leaf plank and batten door hung on relatively modern strap hinges, two per leaf. The present door opening has been reduced in height, the former opening blocked with timber panelling below the wall plate (eaves) level to the existing lintel. The walls are clad with hot tarred feather-edge boards up to the guttered eaves. The brick plinths are built using seven courses of red brick (measuring 220-230mm x 60mm x 10mm) with an on-edge course below the sill.

6.4 Southern Elevation

6.4.1 The southern elevation faces the farmyard and is the most complex elevation. It comprises a pair of perpendicular-set gable end projections, including an off-centre midstrey and a large three bay extension, and a pair of in-line lean-to structures, located on each side of the midstrey (**Plate 2**).

Gable elevation of the south-eastern extension

6.4.2 The gable elevation of the south-eastern extension dominates the south side of the barn (**Plate 2**) and is one and a half bays in width, with a ridgeline below that of the aisled barn, which it abuts to the north (**Plate 1**). The gable elevation is clad using the same hot tarred weatherboard, although the gable and the eastern half of the elevation has been reworked and now uses modern featheredge boards. The extension rests upon a red brick plinth of 10 courses. It incorporates burnt and vitrified headers laid in a chequerboard pattern for decorative affect. The bricks measured 220-230mm x 60mm x 10mm, some with large inclusion and diagonal kiss marks. The bricks are typical of those manufactured during the 18th and early 19th centuries.

Open-fronted Shelter

- 6.4.3 An open-fronted shelter is located between the south-eastern extension and the midstrey (**Figure 8; Plate 2**). The shelter has three bays and is open to the south, probably formerly into an enclosed yard (**Plate 3**). It had a mono-pitch lean-to roof covered with red clay pan tiles, supported by an arcade of posts along its southern side. The two posts dividing the bays each support a tie beam (**Plate 4**), both oversized for the structural requirements of the shelter's roof, and re-used straight and slightly cambered tie-beams from a barn of roughly equivalent width. The roof uses replacement softwood rafters which are all quarter poles and still partly in the round. They are supported by a single purlin, also a quarter pole, and by raking struts from the tie beams. A membrane, present below the pan tiles shows that the shelter, in common with the main barn roof, has been recently repaired and improved. The arcade plate (180mm x 180mm) is in two sections with a shorter modern length spanning the easternmost bay (to the west side of the south-eastern extension). The open-sided shelter is clearly a later addition to the barn; its roof rafters are modern and its two re-used tie beams simply overlie the wall plate and the mid rail of the barn's southern wall.
- 6.4.4 A cart-door is present below the open shelter, located in the west elevation of the south-eastern extension and opposite the door opening in the east elevation of this extension (**Plates 4 and 5**). The opening has been crudely blocked but still retains its two leaf vertical plank doors, both hung on a pair of 19th century wrought iron strap hinges with round end detail. The doorway also retains both rebates for leaps at the base of the posts and the leap boards, used as part of the doorway blocking.
- 6.4.5 A single doorway cut through the weatherboard is located in the south elevation of the main barn (**Figure 8; Plate 6**). It has a simple ledge and batten plank door, also hung on iron pintles and strap hinges, the upper with round end detail. The door has a simple wooden latch and opens to the yard side. Another door opening is present to west of this door and lies just to the east of the midstrey (**Figure 8**). It is also a timber plank door, but is slightly wider and cuts through a wall stud in the southern elevation of the main barn. This doorway opens into the main barn and is secured from the inside (**Plate 21**). A large modern diagonal downward timber buttress/brace is located at the western end of the open fronted shelter. It is a composite beam formed of two smaller scantling timbers bolted together and underpinning the mid rail and wall plate.
- 6.4.6 Of interest is the weatherboarding that survives on the south elevation of the main barn to the rear of the open fronted shelter. Whilst some parts had been replaced using softwood featheredge boards, many older unpainted 8½ inch elm weatherboards remain intact and for the most part in a reasonable condition. Survival of historic weatherboarding is increasingly uncommon.
- 6.4.7 The wall plinth along the southern wall of the main barn (below the open fronted shelter) comprises 12 visible courses of red brick, with the lower eight courses set slightly forward as a step-out. It is in an irregular bond and uses red bricks measuring 210-220mm x 55-60mm x 100mm, many with burnt/vitrified faces and some with diagonal kiss marks. Generally similar to those bricks of the adjacent south-eastern extension, but in some instances, slightly smaller. The plinth has also been re-built and patched along its lengths using slightly larger bricks. This brickwork continues westwards returning along the eastern side of the midstrey. Here however, the uppermost two courses were modern on-edge courses, added during the recent renovation of midstrey which included the rebuilding of the roof structure and the insertion of new sill beams on both sides.

Midstrey

- 6.4.8 The midstrey has an elevated position when compared to the yard to the south and is reached via a gradually sloping concrete ramp. The midstrey's south and western plinth walls have both been rebuilt using modern red brick with a damp proof course, that now rest upon concrete foundations. The midstrey opening has rebates in both posts for leap boards (**Plate 8**) and has a pair of ledge and batten plank doors, both

divided into upper and lower sections and each hung on two wrought iron strap hinges with round end detail and iron pintles (**Plate 7**). Despite the missing leap boards, the doors do not properly fit the door opening and are likely to be later additions. A single doorway into the midstrey is located in its western flank wall (**Figure 8**).

- 6.4.9 The midstrey is unusual as it was constructed with a jettied gable which also incorporates a dovecote (**Plate 7**). The structure of the dovecote sits behind the gable, and is accessed via seven small, asymmetrical openings crudely cut through the weatherboard. The gable uses a building technique similar to a jetty construction, with longer wall over-sailing top plates which extend out beyond the line of wall and are braced using an inner and outer bressumer beam.

Lean-to (Plate 9 Fig. 8)

- 6.4.10 A modern lean-to building, built by partially enclosing a 3 bay open-fronted shelter, was located to the west of the midstrey. It was built on a modern brick plinth and clad in modern weatherboard. The common rafters, which continued to the east to form a single open-fronted bay against the midstrey, were all modern softwood timbers, supported by a batten nailed onto the barn wall and by the barn wall plate. It had a single central machine cut pine truss strengthened with plywood gussets, and supported by a trimmer beam nailed between two studs of the south wall. A modern eight light casement window was present in the south wall and a large composite timber buttress, similar to that used to the east below the shelter, was located within and at the western end of the lean-to. Internally the lean-to was lined out with chip board on its southern and eastern walls, but as it enclosed an area of the barns south elevation, older elm weatherboards, some measuring up to 16 inches wide, were still extant.

6.5 Northern Elevation

- 6.5.1 The northern elevation is dominated by the large expanse of the barn's northern roof, which comprises the roof of the main barn and that of the aisle which together continue as a catslide to the low eaves along the northern wall (**Plate 10**). The two roofs are however divided at their junction by a lead flashing and are covered using different materials, the upper using modern plain tiles and the lower, aisle roof, by red clay pan tiles. Deformation within the roofline is most noticeable across the bays to the rear of, and to the east of, the midstrey (Bays 4 and 5).
- 6.5.2 The timber-framing is covered using hot tarred weatherboard which extends to the brick plinth walls. The latter have been the subject of numerous rebuilds and patch repairs and are in a very poor condition. Areas of walling are breaking away at the base and rotating over to the north due to the pressure imposed upon them by the considerable raking of the timber-frame to the south. The western end of the wall plinth has been considerably rebuilt and strengthened, stepping in by six courses, while localised areas of patch repair using brick, stone and tile occur mainly towards the western end. Given the number of, and diversity of, brickwork and other repairs it is apparent that this barn has historically had long term structural problems which have impacted upon the brickwork of the northern elevation. The northern wall is interrupted by three blocked (weatherboard) windows and a single blocked door opening, the latter to the rear of the midstrey bay (**Figure 8**).

6.6 Western Elevation

- 6.6.1 The entire western elevation was clad using modern weatherboard (**Plate 11**) and was built onto a modern brick wall underpinning a concrete beam foundation. The wall has no openings and has clearly been recently rebuilt.

6.7 Internal Descriptions (Plates 12- 28)

- 6.7.1 The barn at Pleshey Lodge Farm is a large timber-framed barn aligned east-west and set out over seven roughly equal sized bays with an in-line single aisle along the north side (**Figure 8; Plates 12 and 13**). It incorporates a significant three bay gabled south-eastern extension and a smaller midstrey with an unusual jettied gable (**Figure**

8). For ease of reference each individual bay of the main barn is numbered 1 to 7 starting from east to west, while the three bays of the south-eastern extension are numbered E1 to E3 from south to north (**Figure 8**).

The Main Barn (Bays 1-7)

- 6.7.2 The most noticeable characteristic of the barn is its deformation. The frame has raked considerably to the south, particularly within the central and western bays (**Plates 12 and 14**). This has caused many of the aisle posts to rake over to the south (**Plate 13**), in turn distorting the aisle walls and transferring compression onto the opposite principal posts. This considerable loading is all too apparent in the posts and wall frames of the southern wall, which are no longer in the vertical plane and now show a distinct concavity and structural failure (**Plate 14**). If the barn had been built without a mid-rail, it is likely that the southern wall frames would have failed completely. These structural problems have clearly been a chronic long term problem, with both historic, using heavy wrought iron braces, and modern attempts at arresting the movement and repairing the outcome.
- 6.7.3 The barn (Bays 1-7) is a simple post and truss construction built mainly in oak with a clasped side purlin roof and a north side aisle. The posts, both principal and aisle posts, have gradually swelling jowled heads while all of the tie beams were straight with slightly curving arch braces (**Figure 9; Plates 12, 13 and 15**). The three principal plates are joined end on using scarf joints, correctly positioned (for support) close to the post head. The southern wall plate and the northern aisle wall plate both used face halved counter bladed scarfs with four face pegs (**Plate 16**) while the arcade plate used a more archaic edge halved and bridled scarf. The locations of the scarf joints are each close to and on the eastern side of the storey posts (particularly in Bays 3 to 6) suggesting that the each cross-frame and therefore the barn, was raised working from west to east (**Figure 8**). The six cross-frames all share very similar structural characteristics.
- 6.7.4 The wall frames (apart from the aisle) are built with a mid-rail and are primary braced in the upper register and unbraced in the lower register. The wall framing of the north aisle is either primary braced, with diagonal tension braces or has un-braced studding. A significant feature of the timber frame was the extent to which many of its components were re-used. Most of the wall studding and many of the larger structural components, particularly the mid rails and sole plates, were clearly reused from an earlier rectangular barn or agricultural buildings of a similar size.
- 6.7.5 The aisle or arcade posts are either correctly set onto an aisle plate and dwarf wall which extends the width of the aisle or onto a later adaptation using a modern brick plinth (Bays 2 and 3) (**Plates 12, 13, 18 and 19**). The arcade posts are each tied to the aisle wall frames by an aisle tie (**Figure 9**). These are pegged into the rear of the post using two pegs with additional bracing provided by a straight aisle shore pegged to the tie and the rear of the post jowled head. Raking queen struts, pegged to the tie beam, support the two side purlins (only one per roof pitch), while intermediate collars are located between, but not above, the cross-frames. A feature of the original roof structure is the use of wind bracing, in this instance thin board braces pegged and/or later nailed into the common rafters (**Plate 17**). Many of the wind braces, which should have occurred as pairs in each pitch of each bay, have been lost or are detached or deformed through roof movement. To counter this deformation many of the common rafters on the northern roof pitch including the aisle are 'doubled up' using modern softwood 4x 2 inch rafters (**Plates 13, 15 and 19**). The original rafters have a noticeably heavier scantling, oak rafter which are correctly pegged at the roof ridgeline and lapped over the backs of the arcade plate and aisle wall plate respectively (**Figure 9**).

Bay 1

- 6.7.6 Bay 1 is located at the eastern end of the barn and measures 3.92m east-west and 6.15m north-south (between posts) (**Figure 8**). The northern aisle wall frame of Bay 1 and part of Bay 2 is infilled using a 1.2m high rendered brick wall, which also

extended along the lower part of the eastern gable wall (**Plates 18 and 19**). Such walls are typically modern, post-war insertions, added as a consequence of post-war hygiene regulations associated with animal husbandry. The extent of the rendered walling coincides with a partition scar in the barn floor (**Plate 19**) and an opening in the southern elevation into the south-eastern extension (**Figure 8**). This suggests that Bays 1 and 2 and the south-eastern extension were used at some point as animal pens.

- 6.7.7 The northern aisle wall is primary braced incorporating a pair of diagonal downward tension braces pegged into the bay posts and crossing two studs (**Plate 18**). These studs are cut and nailed into the braces but pegged into the aisle wall plate. The studs typically measure 5 x 3½ inches and are all re-used, many showing grooves for staves which do not coincide with stave holes in the opposite stud. The aisle corner post reuses a cut down storey post with a jowl while the aisle wall post (7 x 4 inch) to the rear of Cross-Frame I (to which the western primary brace is pegged) has no jowl and is pegged between plate (8 x 8 inch) and sill. Heavy L-shaped nailed wrought iron straps are located at this junction and at the junction of the sill beams of the north aisle and east gable wall. The arcade sill is set onto a rendered brick plinth (0.57m high).
- 6.7.8 Cross Frame I between Bays 1 and 2 comprises an arcade post typically measuring 8 x 8 inches with chamfered edges and gradually swelling jowled head. It is tied to the outshot using an aisle tie (7 x 7 inch), slightly cambered and pegged to the rear (north) of the arcade post and dovetailed over the aisle wall plate. The arcade post is marked IV in chiselled Roman numerals by the arch brace (**Figures 8 and 9**). Due to the movement in the building the aisle tie has been pulled out of joint (showing 90mm of tenon). This was clearly an historic problem as a heavy 19th century wrought iron strap has been added, using bolts and dogs, around the post/aisle tie junction (**Plates 18 to 20**). The east-west arcade braces (6 x 4½ inch) were elegantly cut curving braces while the north-south arch braces to the tie were less curved. The tie beam was straight and lipped over the top and pinched the arcade and wall plates.
- 6.7.9 The roof over Bay 1 has seen much reworking with many of the common rafters replaced with modern softwood rafters (**Plate 18**). There are 11 rafters over the aisle, of which only two are heavier scantling and historic. The upper roof has 7 rafters per bay and incorporates four extra rafters to double up and strengthen the roof and a wind brace on the northern pitch only. The wind braces in Bays 1 and 2 are narrower and straighter than those used in the rest of the roof structure and are nailed to the rafters.
- 6.7.10 The southern wall frame of Bay 1 is open sided without studding (**Plate 26**). This is a later reworking of the wall frame following the insertion of a new south wall plate. The south wall plinth survives across this bay but has been broken through in Bay 2 to enable access between the barn and south-eastern extension.

Bay 2

- 6.7.11 Bay 2 is a similar dimension to Bay 1 measuring 3.92m (east-west) and 6.17 wide (north-south). Its northern aisle wall frame has been partly infilled using a modern 1.2m high rendered brick wall (see Bay 1 above) and comprises six vertical re-used studs, the westernmost stud cut below the plate for the insertion of a window opening (now blocked) (**Plate 19**). The arrangement of Cross-Frame II between Bays 2/3 was the same as Cross-Frame I between Bays 1/2 apart from the removal of the arcade plate and dwarf wall of the northern aisle and their replacement with a modern brick built plinth built below the arcade post. This replacement also occurs below Cross-Frame III between Bays 3/4 but nowhere else in the barn. The arcade post between Bays 2 and 3 is marked IIII in chiselled Roman numerals by the arch brace. In order to arrest the movement the frame and the roof structure of main roof and the outshot have been strengthened on the northern side using 4 x 2 inch pine rafters (**Plate 19**). This strengthening is not a feature in the southern roof pitch. The roof structure over Bay 2 incorporates a pair of thin wind braces similar to those in Bay 1.

6.7.12 The southern wall frame has been altered considerably to facilitate the addition of the south-eastern extension. As part of these works the wall plinth and sole plate has been cut and removed to unite the two areas and the studs removed from below the mid rail (to provide an opening from floor to mid rail head height; **Plate 26**). The studs over the mid rail partly remain but only to the junction of a new wall plate bridging Bays 1 and 2. This is joined in the centre of Bay 2 using a face halved and counter bladed scarf joint. The mid rails between Bays 2 and 3 were slightly joggled (**Plate 21**).

Bay 3

6.7.13 Bay 3 is very slightly narrower than Bay 2 at 3.88m and measures 6.19m in width (north-south). The northern aisle wall frame has tension braces from the top of the wall posts to the two centre studs. The studding is re-used and nailed into the braces. The northern aisle wall is raking, rotating over to the south and pulling the scarf joint in the wall plate apart. This is also the case with the bridled scarf joint in the arcade plate and the arch brace and aisle tie, all are pulled out of joint in Cross Frame III. The arcade post is marked II in chiselled Roman numerals by the arch brace. The roof structure has the same doubling up of rafters in the northern roof pitch and an absence of wind bracing between principal rafter and common rafters.

6.7.14 The southern wall frame is built with a mid rail dividing it into an upper and lower register (**Plate 21**). The upper register incorporates a single tension brace while the lower comprised six vertical stout studs, all re-used. As the studs in the upper and lower registers do not coincide, it appears the upper wall frame has been reworked. A small plank doorway, between the barn and the lean-to has been inserted into the southern wall, by cutting through a wall stud and inserting a new stud as a door jamb. Unusually (due to the amount of work required) the door opening also cut through the plate and the wall plinth. The addition of another mid-rail, overlying the original rail and bolted through the storey posts at each end, is another example of an historic repair.

Bay 4

6.7.15 Bays 4 to 7 are all larger than Bays 1 to 3 (east-west) measuring 4.33m but also slightly narrower in width at 5.94m (north-south). The northern aisle wall of Bay 4 has vertical studding (**Plate 13**), suggesting an alternate use of tension bracing and vertical studding in each bay of the aisle walls. A centrally placed window opening (blocked) in Bay 4 (**Figure 8**) has been simply nailed into the wall frame, which in common with that of Bay 3 is badly raking. The aisle wall post (Cross-Frame IV) at has a jowled head. The north side of the roof has been strengthened by doubling the rafters and by the addition of a substantial modern timber-framed structure wedged below the rafters just to the rear of the arcade (**Plate 13**). This has been added due to the structural failure of both the principal posts, the arcade post in Cross-frame IV is bent over and cracked from the aisle tie up, and the wall post in the south wall is severely cranked south and broken from the post foot to the mid rail (**Plate 14**). The east-west arcade braces are much simpler and straighter than those in Bays 1 to 3, while those to the tie-beam in Cross-Frame IV are a pair of ogee shaped braces, halved from the same timber. Cross-Frame IV appears to be the most structurally compromised of all the frames.

6.7.16 The southern wall frame continues the same pattern of a primary braced upper register, using a pair of tension braces between the post head and the central king stud (**Plate 21**). A simple doorway with a plank door had been inserted into the southern wall below the mid rail by cutting through a single stud.

Bay 5 (Midstrey)

6.7.17 The aisle wall post (Cross-Frame IV) at has a jowled head, as does the wall post in the next Cross-Frame (V).

6.7.18 Bay 5 measures approximately the same as the adjacent Bay 4 and is 4.29m (east-west) and 5.97m (north-south). It also incorporates a wagon porch on its southern

side (**Figure 8; Plate 22**), with the same width (east-west) and 5.17m north-south. There was no evidence of a corresponding wagon porch or a wagon door built into the opposite wall of the north aisle, though an escape door has been cut through the aisle wall studding (**Figure 8**). A window similar to those in Bays 2 and 4 has also been inserted to the west of the door. The aisle wall below Cross-Frame V retains its original brickwork of five courses of red bricks measuring 210 x 60 x 100mm with an upper on-edge course (**Plate 12**), and the western side of the aisle wall has been boarded up to the aisle tie using 9-12 inch wide oak boards. The roof structure continues in the same vein of strengthening works, and still retains wind bracing in both pitches just west of, and pegged into, the cross-frame.

- 6.7.19 The midstrey appears to have been completely rebuilt in recent times, but adopts the same structural characteristics using a mid-rail and primary bracing (**Plate 22**). The roof, plates and rails are all re-used or later additions. The roof is a side purlin roof with three collars, two clasping and one just supporting the purlin. The ridge has a thin ridge plank and the rafters are all light scantling with a heavier principal rafter towards the valley junction. The upper courses of the eastern wall plinth and the southern and western wall plinths are all modern brickwork, the latter incorporating a damp course membrane. The two long east-west sole plates and the southern plate are all modern insertions. A modern diagonal brace has been added to both north-south walls of the midstrey, bolted between the wall plinth and the wall posts and into the mid-rail. The wall frames have a primary braced upper register, although as the studding in the western wall does not align above and below the midrail, a rebuilding may have taken place. Another small escape door is present in the western wall (**Figure 8**). The south-western corner post is badly raking over and has been straightened and the midstrey squared up using another post. Both original posts to the entrance retain evidence for leaps (**Plate 8**).
- 6.7.20 An unusual survival within the midstrey was the remains of the stone threshing floor (**Plate 23**). This most likely extended the whole width of Bay 5, but is now mainly concentrated within the wagon porch. It takes the form of large irregular stone flags and not the more usual brick or timber threshing floor.

Bays 6 and 7

- 6.7.21 Bays 6 and 7 are equal sized bays that measure 4.37m (east-west) and 6.09-6.1m in width (north-south). They both continue the same structural characteristics as that already described for the previous bays and are subject to the same levels of raking and strengthening of the main structural timbers and northern roof pitch. Slight variations worth noting are the use of a jowled post for the westernmost wall post of the aisle and the replacement of the wall studding in the northern aisle of Bay 7 using modern timber. The lower roof structure over the aisle is a later addition of softwood rafters, cut as quarter poles. This work was carried out as part of a programme of extensive structural works in Bay 7 which saw the entire floor relaid with steel reinforced concrete, the addition of a concrete plinth along the north wall and a substantial brick and concrete foundation wall along the western gable end. The latter was completely rebuilt below the tie-beam as part of these works and the arcade posts braced.
- 6.7.22 The roof structure over Bays 6 and 7 has a full complement of wind braces, slightly curved and pegged to the principal rafters (**Plate 17**). The wall frames both have primary bracing in their upper sections and joggled mid-rails. The truss supporting the roof for the lean-to (west of the midstrey) is held by a short trimmer beam nailed between the studding. The studs are typically at 22 inch centres and the rafters at c.18 inch centres.

South-Eastern Extension (Plates 24-28)

- 6.7.23 The south-eastern extension was built perpendicular to, and at the eastern end of, the main barn on a north-south alignment (**Figure 8**). It abuts the southern barn wall and has a three bay box frame which extends in width across Bay 1 and the majority of Bay 2. In length the extension comprises three equal sized bays of c.3.2-3.26m

(north-south) and 6.98m in width (east-west). Analysis of the timber-frame revealed that the wall frames and parts of the roof of the two southernmost bays were a contemporary but re-used structure, while the northern bay, is a 'linking' structure uniting the barn and extension and forming Bay E3 in the extension.

- 6.7.24 Bay E3 has a large bay-wide cart-door opening in its eastern wall (**Plate 1**) and a now blocked former cart-door in the opposite wall (**Plates 5, 24** and **26**). In this bay, the western wall plate is held by a post that also forms the northern door post of the western cart-door opening. The southern door post of this opening butts up to the Bay E2/E3 western wall post and the door lintel is formed by a short length of plate bridging the width of bay (E3) (**Plate 24**). This opening was clearly added along with the extension (Bays E2 and E3).
- 6.7.25 The wall frames of the south-eastern extension are built in oak using a central mid rail, with a primary braced upper register and stout studding at c.18-20 inch centres (**Plates 25** and **26**). The studding shows evidence of former trenches and grooves for staves and is re-used. However the concentration of studs with trenches for a tension brace towards the corner posts suggests that these studs are contemporary with the wall frames and occupy a position close to their original location (**Plate 25**). The wall posts do not have jowls and the tie-beams are also re-used with straight but deep arch braces (**Plate 26**). The wall posts and arch braces each have chiselled carpentry marks in Roman numerals. They are marked in a circular pattern starting with the eastern post of Bay (E2/E3) marked I, then II (tagged) on the western post of the same bay, III on the western post of bay (E2/E1) (**Plate 27**) and finally IIII on the corresponding eastern post and brace. The southern gable elevation continues using the same style of timber framing with tension bracing in the upper register, but the framing above tie level is lighter scantling and appears to be a later reworking.
- 6.7.26 The roof of the extension is possibly the most interesting and diagnostic feature. The roof comprises two main structural styles, with the eastern side of the roof in Bays E1 and E2 and the western pitch of Bay E2 built as a joggled butt purlin roof (**Plate 28**) and the entire western pitch (overlying the butt purlin) and eastern pitch of bay (E3), as a side purlin roof. The butt purlin roof incorporates a wind brace in Bay E2 and seven rafters per bay, all pegged at the ridge. The western roof pitch would have originally been built in the same style but it has been reworked to a side purlin roof with the purlin set below the principal rafter and supported by both intermediate collars and raking queen struts. Both cross-frames have raking queen struts pegged into the principal rafters, but also incorporate extra raking struts, particularly on the western roof pitch to support the side purlin. The rafters over Bay E3 and the jack rafters of the valley are all modern replacements, rising up to a thin ridge board.

6.8 Carpentry Marks (Plate 27)

- 6.8.1 Carpenters marks were recorded in the main barn and in the south-eastern extension. Carpentry marks in the barn are limited to the arcade posts and the arch braces of only the three eastern bays or Cross-Frames (I-III). These took the form of chiselled Roman numerals each cut on the eastern upper face of the frame and numbered II, IIII and IV, west to east. Whilst they are not in a correct numerical sequence (though IIII may possibly have been a tagged III) they clearly show that these three posts have both a location and structural relationship absent on the other cross-frames.
- 6.8.2 The four wall posts and the arch braces of the two cross frames in the south-eastern extension are all marked using Roman numerals. They use a system of circular marking starting with the eastern post of bay (E3) working in anti-clockwise direction with marks II tagged to the west, III and IIII on the eastern post of bay (E2). As above the marking shows that the two cross frames have a structural relationship and were erected at the same time.
- 6.8.3 No evidence of graffito, fair face marks or Mary marks were found.

7 ARCHAEOLOGICAL MONITORING

- 7.1.1 The archaeological monitoring of underpinning trenches was carried out across an extended period as and when the trenches were excavated. The site was visited on four separate occasions during the ground works, on 4th, 6th and 19th February and 5th July 2013 (**Plates 29 to 34**).
- 7.1.2 Trench A was located along the eastern bays of the northern wall of the main barn and extended for 8m from the north-east corner (**Figures 2 and 8**). The underpinning involved the removal of the dwarf wall and the sole plate and the excavation of a foundation trench. It was cut to a depth of between 1.3m and 1.5m below the level of the barn floor (concrete screed) and measured 0.8m wide. The underpinning trench revealed a firm orange coloured clay with flints natural deposit (103) at a depth of 900mm below floor level. This was overlain by two layers. At the top of the sequence and below the concrete floor was a firm yellow brown chalky clay layer (0.32m thick) interpreted as an internal floor surface or construction layer (101) within the barn and below it, a silty deposit (between 0.34-0.4m thick) of more organic grey silty clay (102) interpreted as a buried soil horizon below the barn floor layer. Investigation of this layer unearthed a single sherd of abraded shell tempered Roman pottery. This deposit extended beyond the limits of the trench.
- 7.1.3 Trench B was located along the westernmost bays of the northern wall of the main barn extending for 8.5m from the north-western corner (**Figures 2 and 8**). It similarly involved the removal of the brick dwarf wall and part of the modern underpinning wall below the western gable wall. The trench was cut to a depth of between 1.7 and 2m below the barn floor level. It revealed a similar natural geological deposit of heavy clay with flint (103) at the western end but and a more sandy clay (hoggin) like material towards the east. A similar layer to (101) was present just below the concrete barn floor, though the top of the layer had been latterly truncated by reinforcing works to the floor in the western end bay. A modern layer (107) associated with the floor reinforcement in the western bay, overlay and sealed a large negative feature (105) thought to be a pit or natural feature, located 2.4m from the north-western corner of the barn. It was steep sided with a rounded bottom and filled by a single mid-orange brown chalky deposit (104). Despite excavation into the side of the feature no dating evidence was recovered.
- 7.1.4 Trench C was located between and joined trenches A and B (**Figures 2 and 8**). It measured 14.5m in length and was excavated to a depth of 2.4-2.5m and 0.9m wide. Following the removal of the brick wall plinth and foundation courses a similar stratigraphic sequence as that present in Trench A was revealed. The same internal chalk and clay floor level (101) was present, although it became progressively deeper and appeared to be infilling a shallow depression as it extended westward. This shallow depression may have been a cut feature as the underlying buried soil (102) gradually disappeared as layer (101) deepened. The underlying subsoil was the same red clay and flint (103), but chalky boulder clay was also present towards the base of the sequence.
- 7.1.5 Ground reduction works in the area of the former lean-to along the southern elevation revealed a firm clay natural subsoil, much truncated by the construction of the lean to and barn, but otherwise devoid of archaeological features.

8 CONCLUSIONS AND DISCUSSION

8.1.1 The historic building survey of the aisled barn at Pleshey Lodge Farm has shown that the present building has origins in the late 17th century. This date equates with documentary records which refer to the granting of land at Pleshey to Sir John Clarke, whose son, Robert Clarke, built Pleshey Lodge out of materials taken from the castle, in 1629 (1/Mb275/1/32). Based on these records and the outcome of the fabric analysis of the barn, it seems very probable that the present building (or part of it) was built by the second half of the 17th century and at the time of Robert Clarke.

8.1.2 The list description describes the barn and outbuildings as a picturesque group of 18th century or possibly earlier barns and outbuildings to the north of Pleshey Lodge. Whilst the findings of the building survey generally agree with this assessment and can confirm that the present building is the consequence of extensive alterations carried out during the 18th and 19th centuries, it has also shown that the present barn incorporates an earlier 5 bay late 17th century barn, extensively rebuilt and enlarged in the 18th century, and 2 bays of another 17th century barn, added to the extended barn, during the late 18th or early 19th century.

8.2 Phase 1 Late 17th century

8.2.1 The earliest building comprised a five bay barn (Bays 3-7) built with a central midstrey (as present) projecting to the south with an aisle to the north. These bays are characteristically different to Bays 1 to 2 and were slightly wider and incorporate a series of different structural features. Whilst Bay 3 would have originally been part of the late 17th century barn, it was rebuilt as part of the later enlargement works. Structurally the scarf joints of the arcade plate and wall plates in Bays 3 to 6 all approximately align just to the eastern side or over the top of the cross-frame. This is not the case for Bays 1 and 2 which are bridged by two much longer wall plates up to the scarf joint in Bay 3 with a central scarf (**Figure 8**). The roof structure, though reworked also retains the original wind-braces. These are correctly pegged (and later nailed) between the principal rafter and the common rafters and are positioned in pairs on each side of the principal rafter. This arrangement can be seen in the roof over Bays 3 to 7 but not in Bays 1 to 2 where the wind-braces are much thinner and radiate from the collar and the purlins and appears to be lighter in scantling. The location of jowled aisle wall posts in Bay 5 and at the western end of the barn are a characteristic of the earlier barn and contrast with the straight aisle wall posts in Cross-Frames I to III. The eastern jowled post of the earlier barn at Cross-Frame II no longer remains and has been replaced or relocated to the eastern end frame.

8.2.2 The use of gradually swelling jowled headed posts, curving arch braces to the tie beams, stout studding (though re-used), tension bracing in the upper register and a combination of face halved and counter bladed scarf joints, which continue in use up to the 19th century and the more archaic edge halved and bridled scarf, suggests a late 17th century construction date for these bays five bays.

8.3 Phase 2 Mid18th century

8.3.1 This phase saw the first enlargement of the main barn with the addition of two bays to the east and considerable rebuilding of the 17th century barn. This work may have been as a result of the investment in agricultural buildings by land owners to take advantage of the buoyant arable markets and general interest in agriculture promoted by George III (1760-1801) otherwise known as 'Farmer George' that occurred during the second half of the 18th century. The enlargement to the east involved the partial removal of Bay 3 to facilitate the addition of Bays 1 to 2. This was achieved by scarfing in two longer plates bridging Bays 1 to 3 and two new cross-frames (I and II). The upper studwork in the south wall of Bay 3 is misaligned and shows this wall frame was partly deconstructed to enable the addition of the new wall plate. The eastern end wall frame was relocated from Bay 3 to its present location and the north aisle rebuilt, to form its present alternating bays of primary brace and vertical stud. The jowled posts of the previous barn, retained and integrated into the rebuilt aisle.

The roof was reworked and strengthened by the addition of intermediate collars either side of the trusses, new purlins, rafters and wind braces. The 18th century windbraces over Bays 1 and 2 are much thinner than the earlier examples to the west and are nailed between collar and rafter instead of common rafter and principal rafter.

8.4 Phase 3 Late 18th to Early 19th century

8.4.1 In this phase the southern wall of Bays 1 and 2 was reworked to facilitate the addition of the south-eastern extension. This extension is clearly depicted on the tithe map of 1848 at a time when Pleshey Lodge farm was in the hands of the Tuffnell family of the Langley Estate. The Tuffnell family owned considerable lands in the area and based on the size of the barn and documentary sources record a considerable mixed farm, mainly concerned with arable, but also incorporating dairy and sheep. The enlargement of the farm buildings during this earlier period may again be on the back of arable prices, particularly the high prices demanded during the Napoleonic Wars. Cartographic evidence also shows that the extension was larger than its present three bays.

8.4.2 The enlargement of the barn with a new south-eastern extension involved the replacement of the wall plate along the south wall of Bays 1 and 2 with a new plate without mortices in the soffit as no framing was required. The new extension was built up to the southern wall of Bays 1 and 2 and comprised three bays, the southernmost two bays re-using an earlier 17th century frame. These bays typically used primary bracing in the upper register, wall stout studding showing evidence of trenched tension braces and retained three bays of a 17th century joggled butt purlin roof within the eastern and western roofs. The two rebuilt 17th century bays were tied into the main barn by a linking bay with opposing doors in the east and west walls, and with a side purlin roof which extended the length of the western roof pitch and the northern bay of the east pitch (where it butted up to the butt purlin). The wall plinth of the extension used bricks with burnt headers that are characteristic of the late 18th/early 19th century.

8.5 Phase 4 Late 19th century and modern

8.5.1 Since the 19th century the building has seen many small alterations and accretions, particularly the addition of the open-sided shed to the east of the midstrey and a similar shelter to the west (now enclosed as a lean-to building). This addition may be associated with a slump in arable prices that occurred in the second half of the 19th century and a diversification into cattle. Another feature of the 19th century is the many wrought iron straps and braces that were added to counter movement in the timber-frame and the rebuilding of parts of the wall plinth along the north wall. Both illustrate that historically the barn has suffered considerably from structural subsidence, with many historic repairs and attempts to consolidate the frame, all too evident. These structural problems are still manifest in the raking of the barn with considerable deformation present within the cross-frames and wall frames of the aisle and southern elevation.

8.5.2 This deformation has also resulted in the rebuilding and strengthening of the main and aisle roofs and the total rebuilding of the midstrey roof and wall frames. Another area rebuilt in recent times is the roof structure over Bay E3 at the junction of the barn and extension. In recent years considerable attempts have been made to prop the barn using modern timber bracing, while the floor of the westernmost bays has been replaced or covered with re-inforced concrete and the western gable wall has been underpinned with modern brickwork. A similar rebuilding has also taken place along the base of the eastern gable wall.

8.5.3 In conclusion the timber-frame of the barn, by the use of components such as jowled posts, straight tie beams, face halved and counter bladed scarf joints and primary bracing, is typically post-medieval in date but characteristically had remained strongly influenced by carpentry and plan forms of its medieval predecessors. The use of aisled construction is typical of the fertile lowlands counties of the South-East and East Anglian regions, where higher grain yields, particularly in the late 17th and 18th

century, required larger barns. However, this use of aisle construction may also be a continuation of a regional style with a tradition of aisled barns from the medieval period right through to the 19th century (Harris, 1978). It seems most likely that the aisled barn at Pleshey Lodge Farm was built to accommodate these higher yields as it appears to have been adapted and significantly enlarged on two occasions during its lifetime to take full advantage of market forces and prevalent trends in 18th and 19th century farming.

- 8.5.4 The archaeological monitoring of the underpinning trenches, particularly those excavations toward the north-eastern corner of the barn uncovered some evidence of earlier activity, in the form of a buried soil horizon below the barn floor and a possible pit. Whilst the validity of the latter remains unclear, the former did produce a single sherd of shell tempered Roman pottery (not retained). This was however, very abraded, suggesting, it along with the buried soil horizon were re-deposited and used to level the ground in preparation for the barn. Its presence does indicate some Roman activity in the general area and supports Morant's and Stukely's observations.

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- 9.1.2 The project was managed for Pre-Construct Archaeology Limited by Charlotte Matthews. The building recording, monitoring and documentary research and report was completed by Adam Garwood. The illustrations were prepared by Hayley Baxter.

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Cartographic Sources

Map extract from *Itinerarium Curiosum* (I/Mb275/1/29)

Chapman and Andre map of Essex (12) of 1777

Tithe map of 1848 (D/CT 275)

Ordnance Survey First Edition map of 1875

Ordnance Survey Second Edition map of 1898

APPENDIX 1: PHOTOGRAPHIC REGISTER

Pleshey Lodge Farm Barn			SITE CODE: PY19		PHOTOGRAPHER : A Garwood	
DATE	FILM TYPE FILM & FRAME NUMBER	DIRECTION	IDENTIFIER	BUILDING	COMMENTS	
	Black & White	Digital				
24/01/2013	F101 (1)	1	N	External Elevations	Barn	South Elevation
24/01/2013	F101 (2)	2	NW	External Elevations	"	East and Southern Elevation
24/01/2013	F101 (3)	3	W	External Elevations	"	Eastern Elevation
24/01/2013	F101 (4)	4	SW	External Elevations	"	Northern Elevation
24/01/2013	F101 (5)	5	E	External Elevations	"	Western Elevation
24/01/2013	F101 (6)	6	SE	External Elevations	"	Northern Elevation
24/01/2013	F101 (7)	7	NE	External Elevations	"	Southern Elevation
24/01/2013	F 101 (8)	8	NW	External	Lean-to	Lean-to south side
24/01/2013	F1`01 (9)	9	NE	External	Shelter	Shelter
24/01/2013	F101 (10)	10	E	External	Shelter	Internal view
24/01/2013	F101 (11)	11	N	External	Barn	Midstrey
24/01/2013	F101 (12)	12	N	External	Barn	Midstrey/dovecote
24/01/2013	F101 (13)	13	W	Internal	"	Internal view W
24/01/2013	F101 (14)	14	W	Internal	"	Internal view W
24/01/2013	F101 (15)	15	NW	Internal	"	Arcade Post
24/01/2013	F101 (16)	16	W	Internal	"	Roof
24/01/2013	F101 (17)	17	N	Internal	"	Bay 1
24/01/2013	F101 (18)	18	E	Internal	"	Internal view east
24/01/2013	F101 (19)	19	E	Internal		Roof general
24/01/2013	F101 (20)	20	S	Internal		Midstrey (west)
24/01/2013	F101 (21)	21	S	Internal		Windbrace
24/01/2013	F101 (22)	22	S	Internal		Threshing Floor
24/01/2013	F101 (23)	23	NE	Internal		Arcade
24/01/2013	F101 (24)	24	E	Internal		South wall deformation
24/01/2013	F101 (25)	25	W	Internal		South wall deformation
24/01/2013	F101 (26)	26	S	Internal	Extension	SE extension general view
24/01/2013	F101 (27)	27	N	Internal	"	SE extension general view
24/01/2013	F101 (28)	28	S	Internal	"	Wall frame

24/01/2013	F101 (29)	29	W	Internal	"	Wall frame
24/01/2013	F101 (30)	30	S	Internal	"	Carpentry marks
24/01/2013	F101 (31)	31	S	Internal	"	Carpentry marks
24/01/2013	F101 (32)	32	S	Internal	"	Reused tie beam
24/01/2013	F101 (33)	33	W	Internal	"	Blocked cart door

APPENDIX 2: CONTEXT REGISTER

Context	Type	Trench	Description
101	Layer	A-C	Light yellow brown chalky clay. Clay floor within/below barn (0.32m deep)
102	Layer	A-B	Mid grey brown silty clay. Buried soil horizon (0.45m max)
103	Layer	All	Firm orange clay. Natural geological deposit.
104	Fill	B	Firm mid orange clay with common chalk. Fill of pit like feature
105	Cut	B	Discrete pit like cut with rounded base (1.32m x 1.14m). Filled by 104.and sealed by 101.
106	Layer	C	Light mid grey brown silty clay. Weathering or dump below 107 (0.10m deep)
107	Layer	C	Modern floor deposit (1.06m deep)

APPENDIX 3 ESSEX HISTORIC ENVIRONMENT RECORD/ESSEX ARCHAEOLOGY AND HISTORY SUMMARY SHEET

Site name/Address: Barn at Pleshey Lodge Farm, Pleshey, Essex CM3 1HF	
Parish: Pleshey	District: Chelmsford
OS NGR: TL 66600 14330	Site Code: PY19
Type of Work: Historic building recording and archaeological monitoring	Site Director/Team: Adam Garwood Pre-Construct Archaeology
Date of Work: 24/1/2013-25/1/2013 4/02/2013, 6/02/2013, 19/2/2013 and 5/7/2013.	Size of Area Investigated: footprint of building
Location of Finds/Curating Museum: Chelmsford	Funding source: Private Client
Further Seasons Anticipated?: No	Related HER Nos.: SM 22 EH UID No. 426261
Final Report: Grey Literature Report: Historic Building Recording and Archaeological Monitoring at Pleshey Lodge Farm Barn, The Street, Pleshey, Essex, CM3 1HF	
Periods Represented: Post medieval/modern	
<p>SUMMARY OF FIELDWORK RESULTS:</p> <p>The list description describes the barn and outbuildings as a picturesque group of 18th century or possibly earlier barns and outbuildings to the north of Pleshey Lodge. Whilst the findings of the building survey generally agree with this assessment and can confirm that the present building is the consequence of extensive alterations carried out during the 18th and 19th centuries, it has also shown that the present barn incorporates an earlier five bay late 17th century barn, extensively rebuilt and enlarged in the 18th century, and 2 bays of another 17th century barn, added to the extended barn, during the late 18th or early 19th century.</p> <p>The archaeological monitoring of the underpinning trenches, particularly those excavations towards the north-eastern corner of the barn uncovered some evidence of earlier activity, in the form of a buried soil horizon below the barn floor and a possible pit. Whilst the validity of the latter remains unclear, the former did produce a single sherd of shell tempered Roman pottery. This was however, very abraded, suggesting, it along with the buried soil horizon were re-deposited and used to level the ground in preparation for the barn. Its presence does indicate some Roman activity in the general area.</p>	
Previous Summaries/Reports: N/A	
Author of Summary: Adam Garwood	Date of Summary: 26/11/2013

APPENDIX 4: OASIS FORM

OASIS ID: preconst1-165200

Project details

Project name	Pleshey Lodge Farm Barn Historic Building Recording and Archaeological Monitoring
Short description of the project	A programme of historic building recording and archaeological monitoring of a listed aisled barn at Pleshey Lodge Farm was carried out prior to and during its conversion to a single residential unit. The list description describes the barn and outbuildings as a picturesque group of 18th century or possibly earlier barn and outbuildings. Whilst the findings of the survey generally agree with this assessment and can confirm that the present building is the consequence of extensive alterations carried out during the 18th and 19th centuries, it has also shown that the present barn incorporates an earlier five bay late 17th century barn, extensively rebuilt and enlarged in the 18th century, and 2 bays of another 17th century barn, added to the extended barn during the late 18th or early 19th century.
Project dates	Start: 24-01-2013 End: 05-07-2013
Previous/future work	No / No
Any associated project reference codes	PY19 - Sitecode
Any associated project reference codes	10/01604/FUL - Planning Application No.
Type of project	Building Recording
Site status	Listed Building
Current Land use	Other 2 - In use as a building
Monument type	BARN Post Medieval
Significant Finds	NONE None
Methods techniques	& ""Measured Survey"", ""Photographic Survey""
Prompt	Listed Building Consent

Project location

Country	England
Site location	ESSEX CHELMSFORD PLESHEY Pleshey Lodge Farm Barn, The Street, Pleshey, Essex
Postcode	CM3 1HF
Study area	0 Square metres
Site coordinates	TL 66600 14330 51.8022676521 0.416555967714 51 48 08 N 000 24 59 E Point

Project creators

Name of	Pre-Construct Archaeology Limited
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Organisation

Project brief originator	Essex County Council
Project design originator	Charlotte Matthews
Project director/manager	Charlotte Matthews
Project supervisor	Adam Garwood
Type of sponsor/funding body	Developer
Name of sponsor/funding body	GI Hutton (Builders) Limited

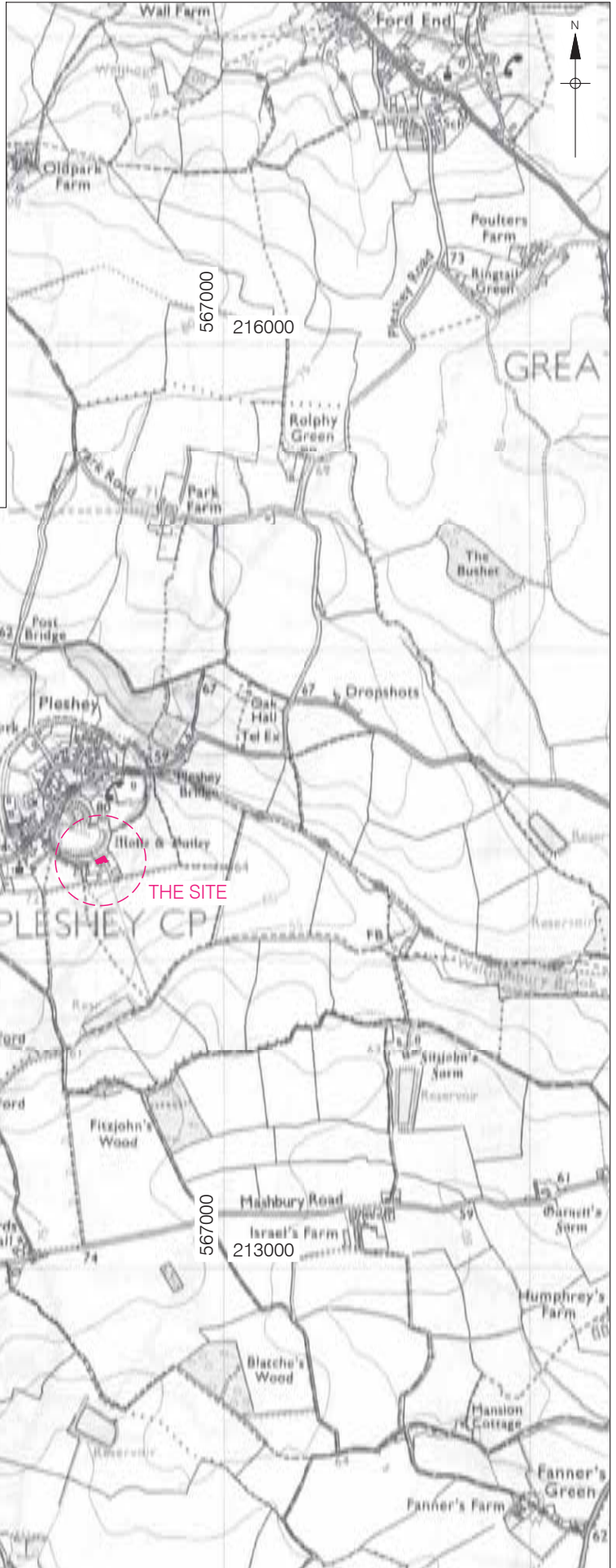
Project archives

Physical Archive Exists?	No
Digital Archive recipient	Chelmsford Museum
Digital Media available	"Images raster / digital photography", "Text"
Paper Archive recipient	Chelmsford Museum
Paper Media available	"Context sheet", "Plan"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Historic Building Recording and Archaeological Monitoring at Pleshey Lodge Farm Barn, The Street, Pleshey, Essex, CM3 1HF
Author(s)/Editor(s)	Adam Garwood
Other bibliographic details	R11608
Date	2014
Issuer or publisher	Pre-Construct Archaeology Limited
Place of issue or publication	Brockley Office
Description	A4 report

Entered by	Charlotte Matthews (cmatthews@pre-construct.com)
Entered on	21 January 2014



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Figure 1
 Site Location
 1:2,000,000 & 1:20,000 at A4

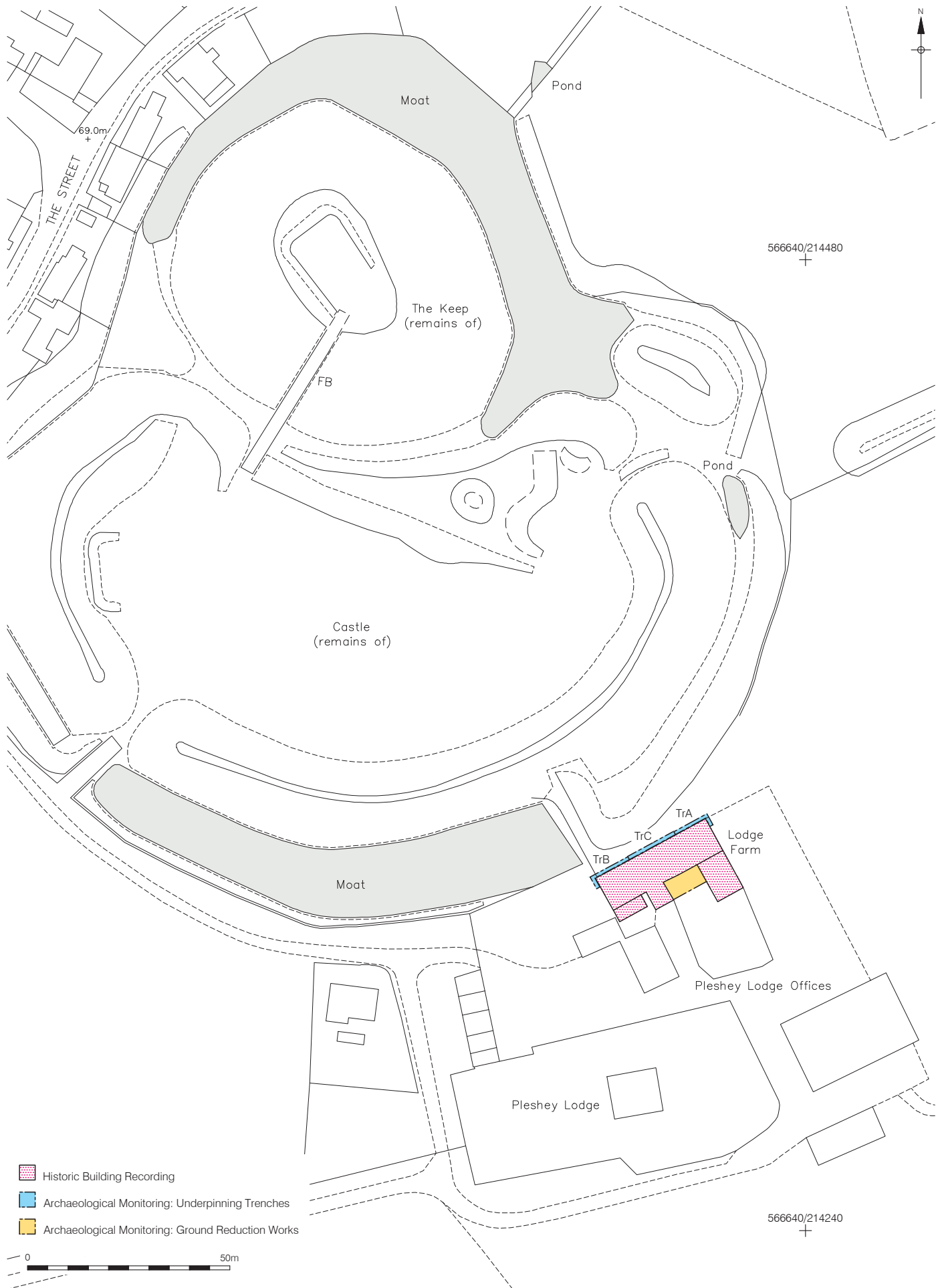


Figure 2
 Detailed Site Location
 1:1,250 at A4

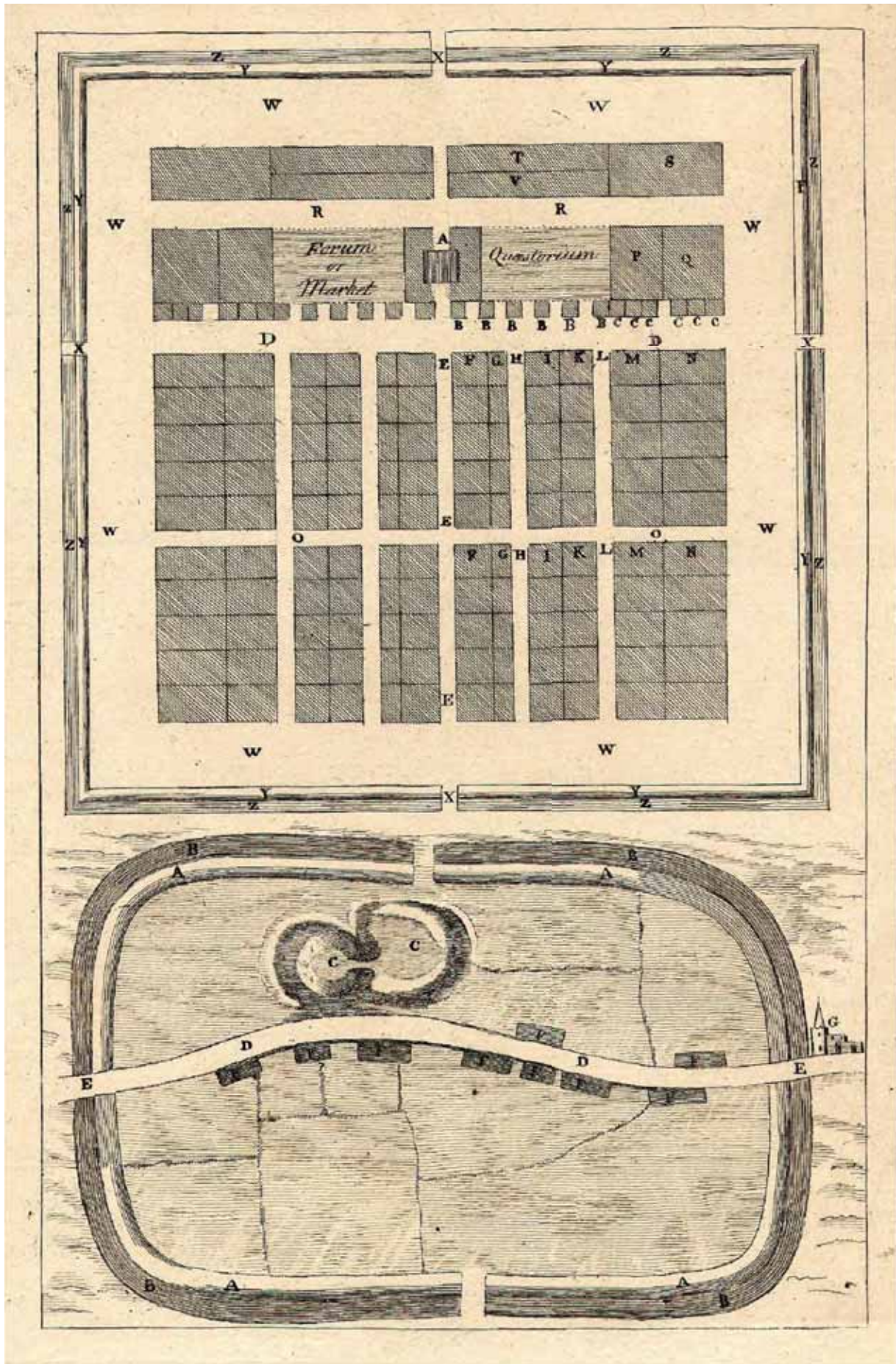
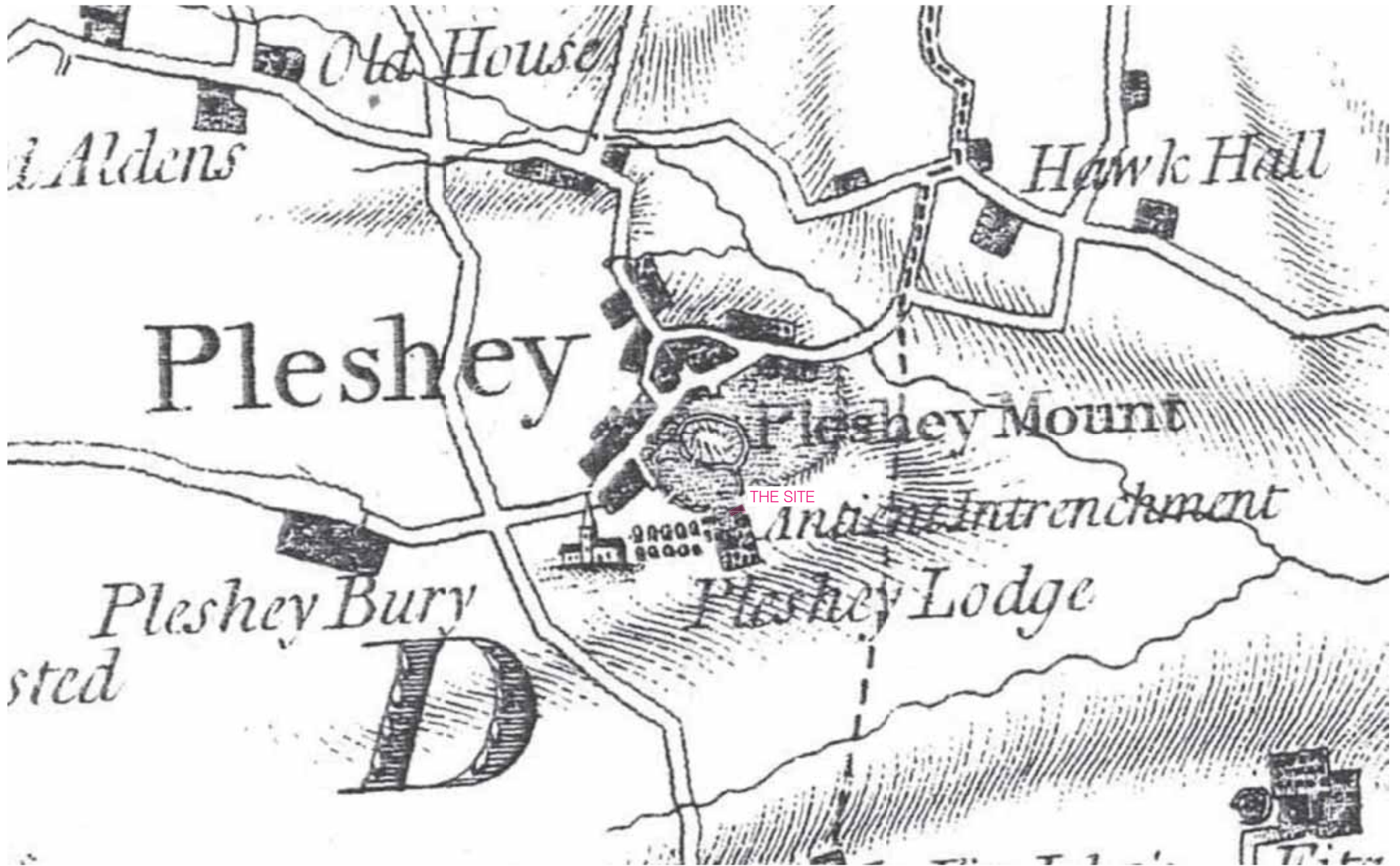
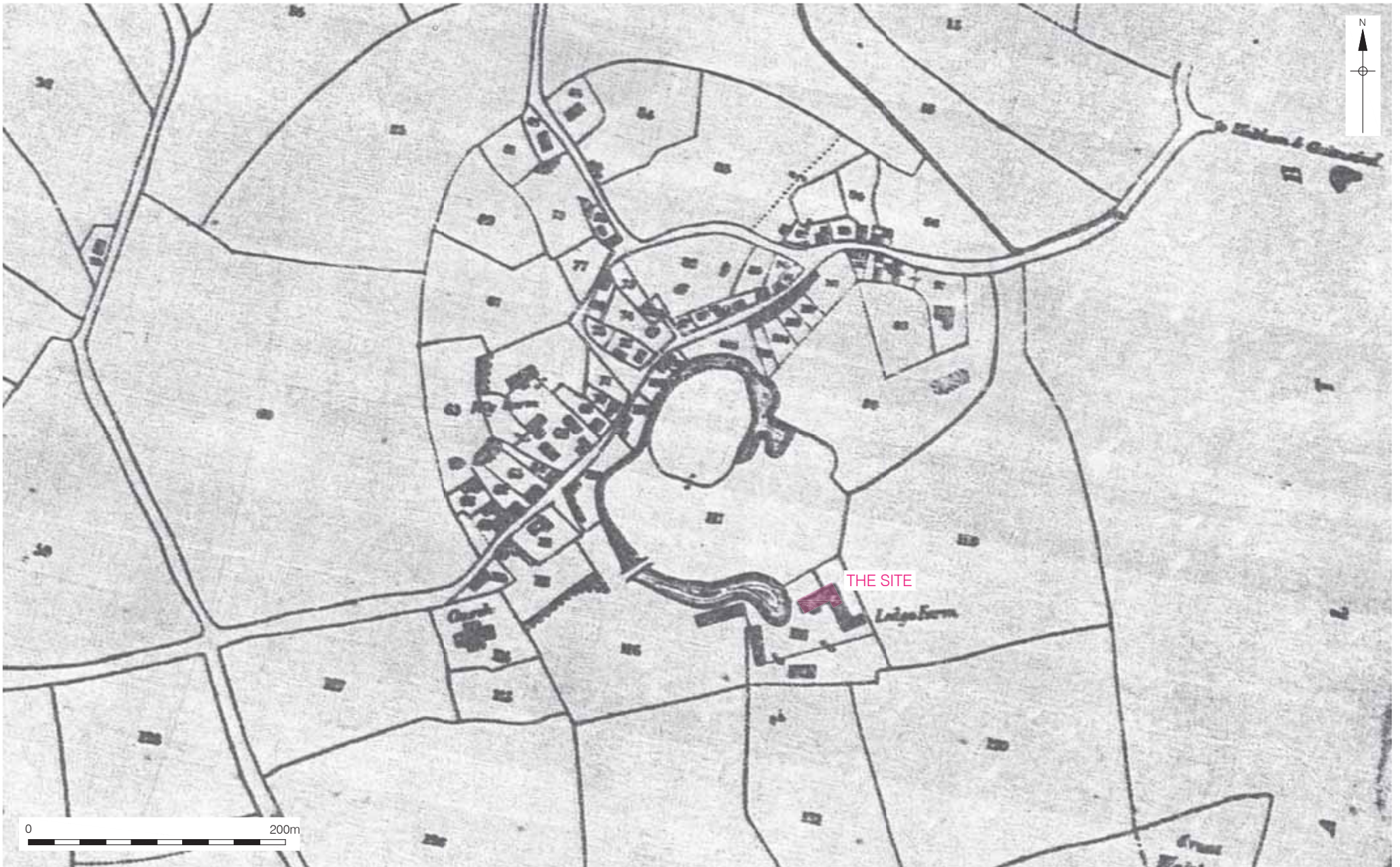


Figure 3
Map Extract from Itinerarium Curiosum
not to scale





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04/12/13 HB

Figure 5
Tithe Map, 1848
1:4,000 at A4

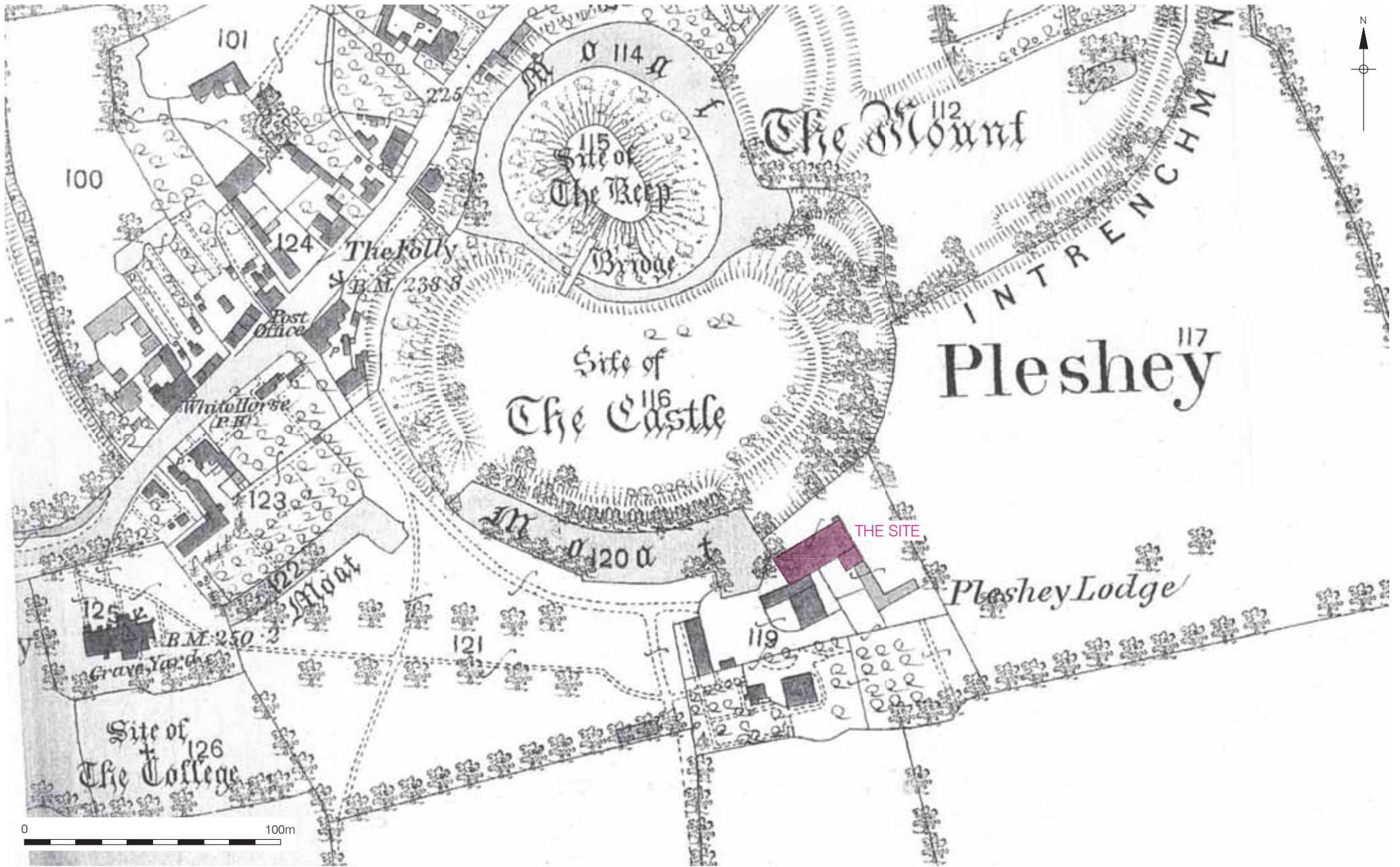
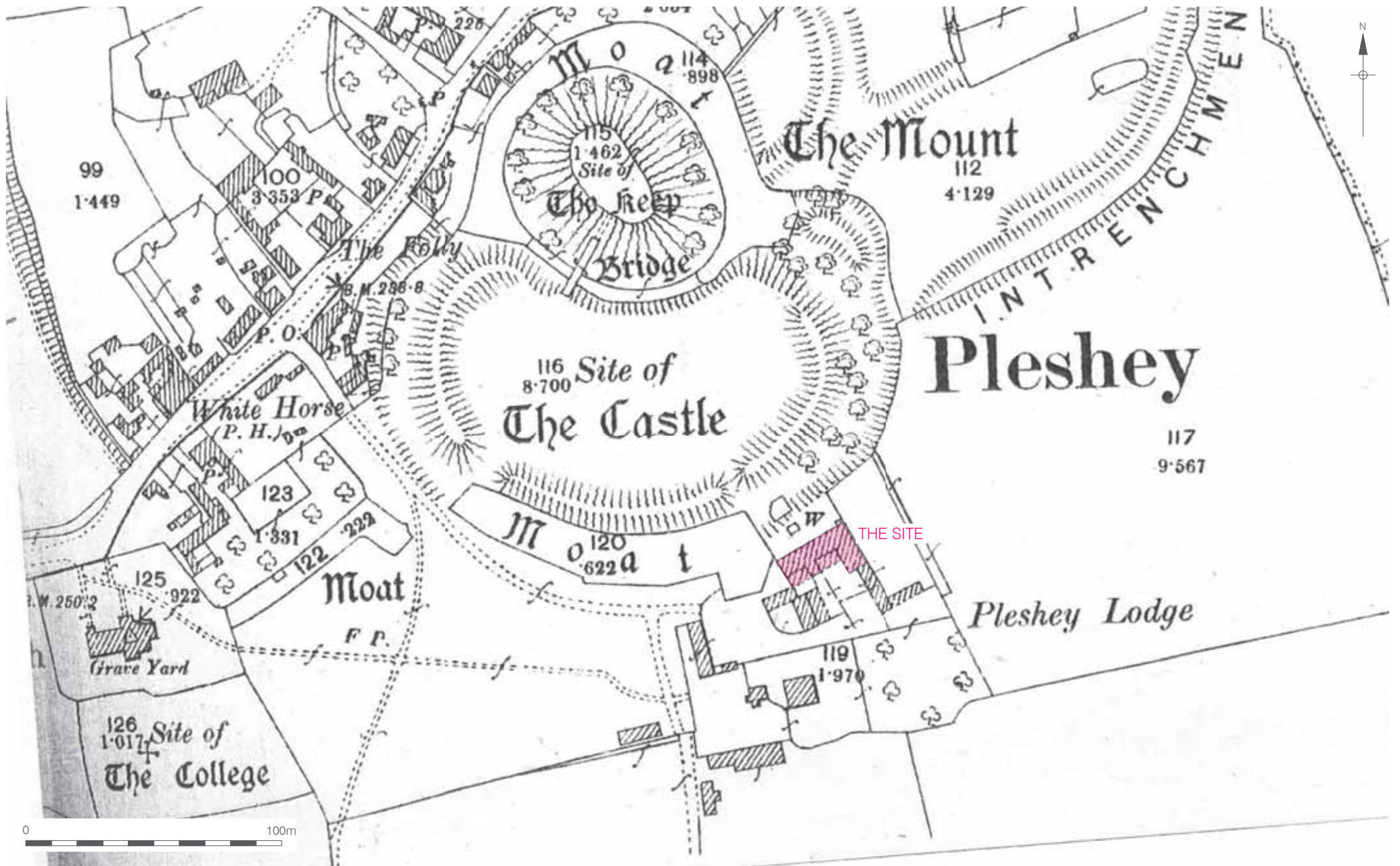


Figure 6
Ordnance Survey First Edition Map, 1875
1:2,000 at A4



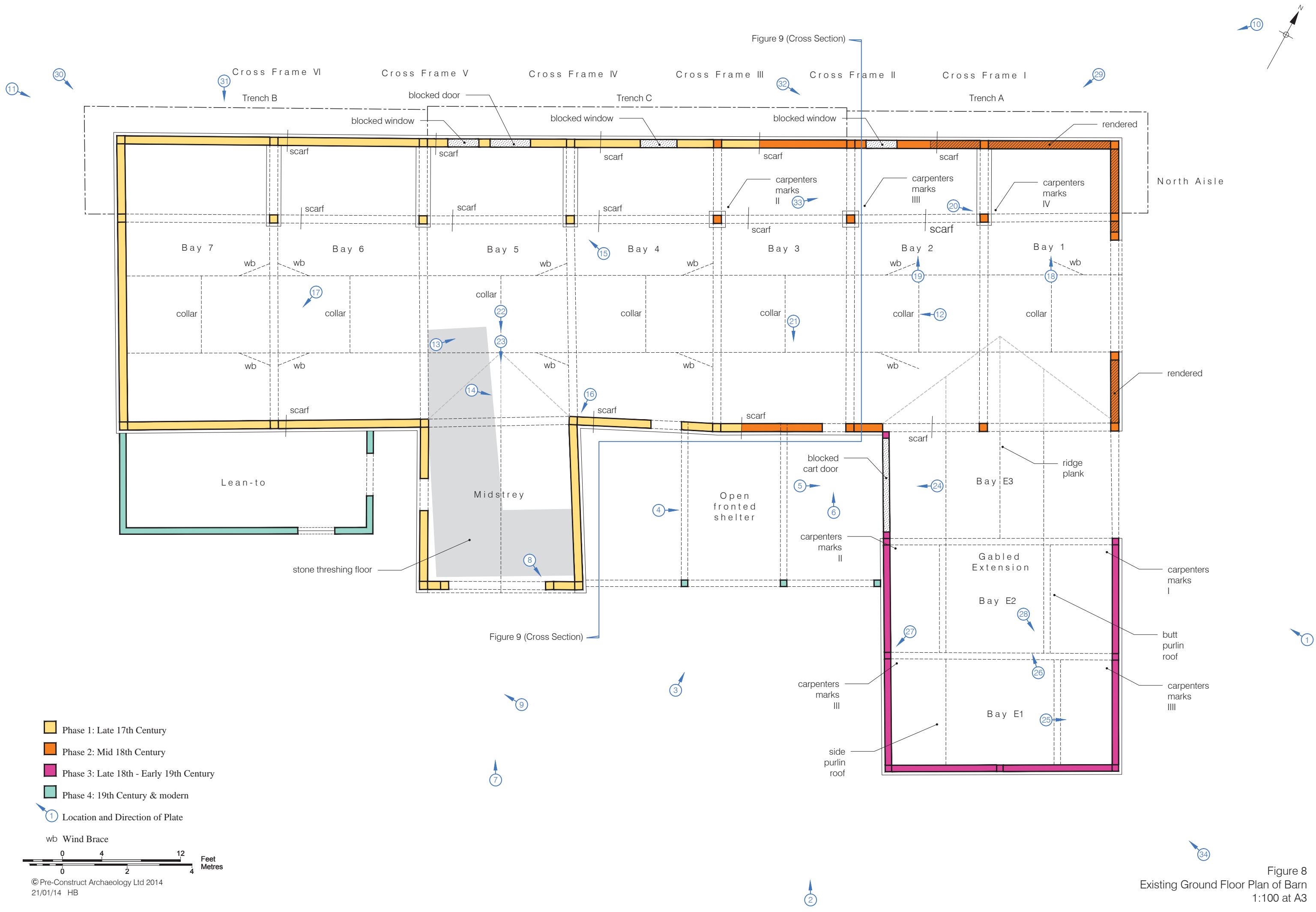
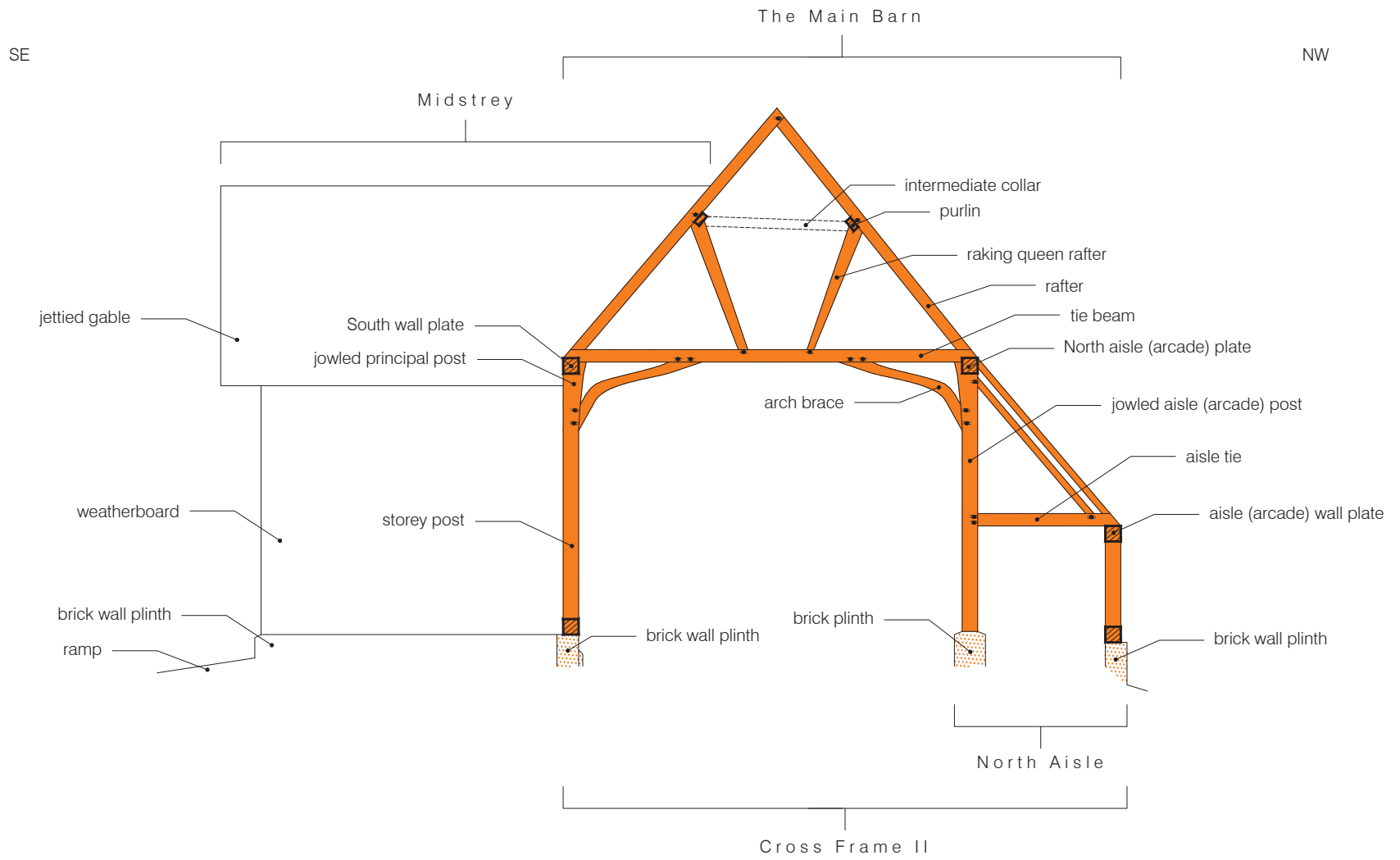


Figure 8
Existing Ground Floor Plan of Barn
1:100 at A3

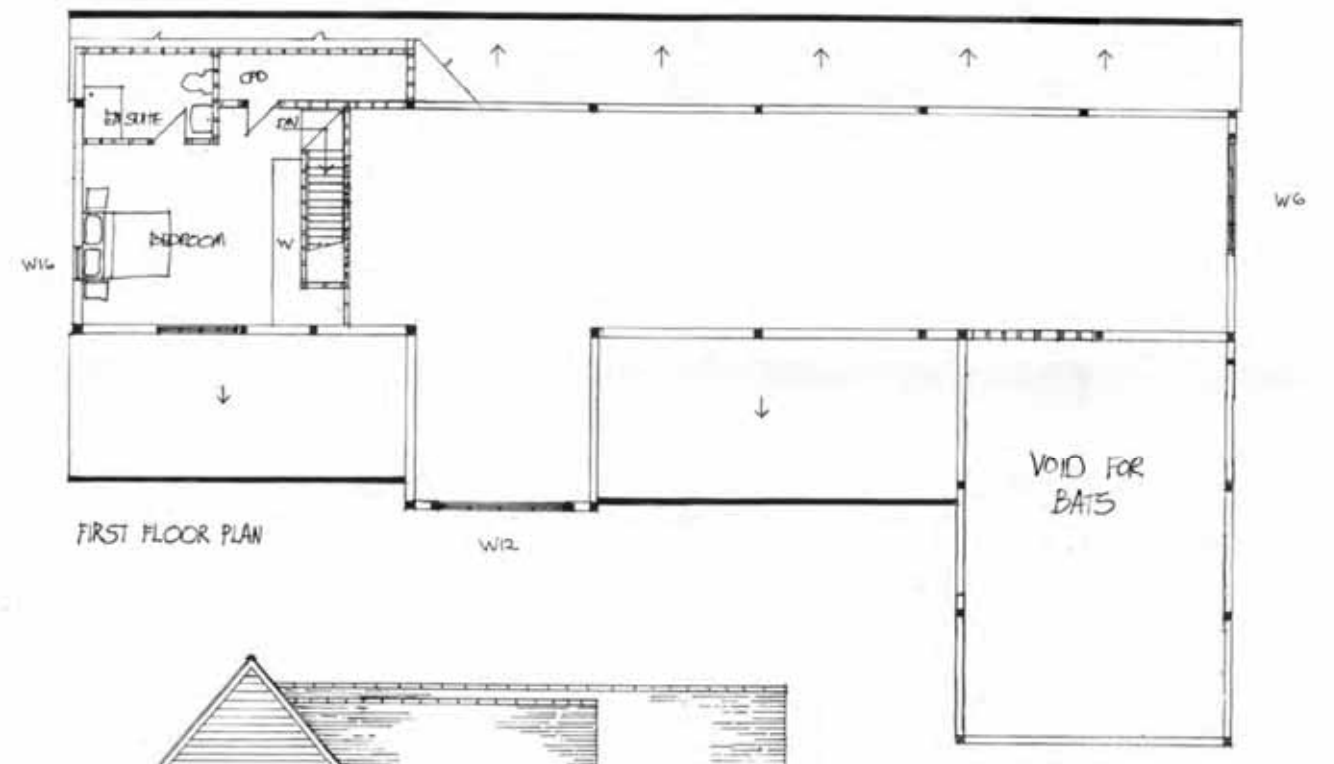
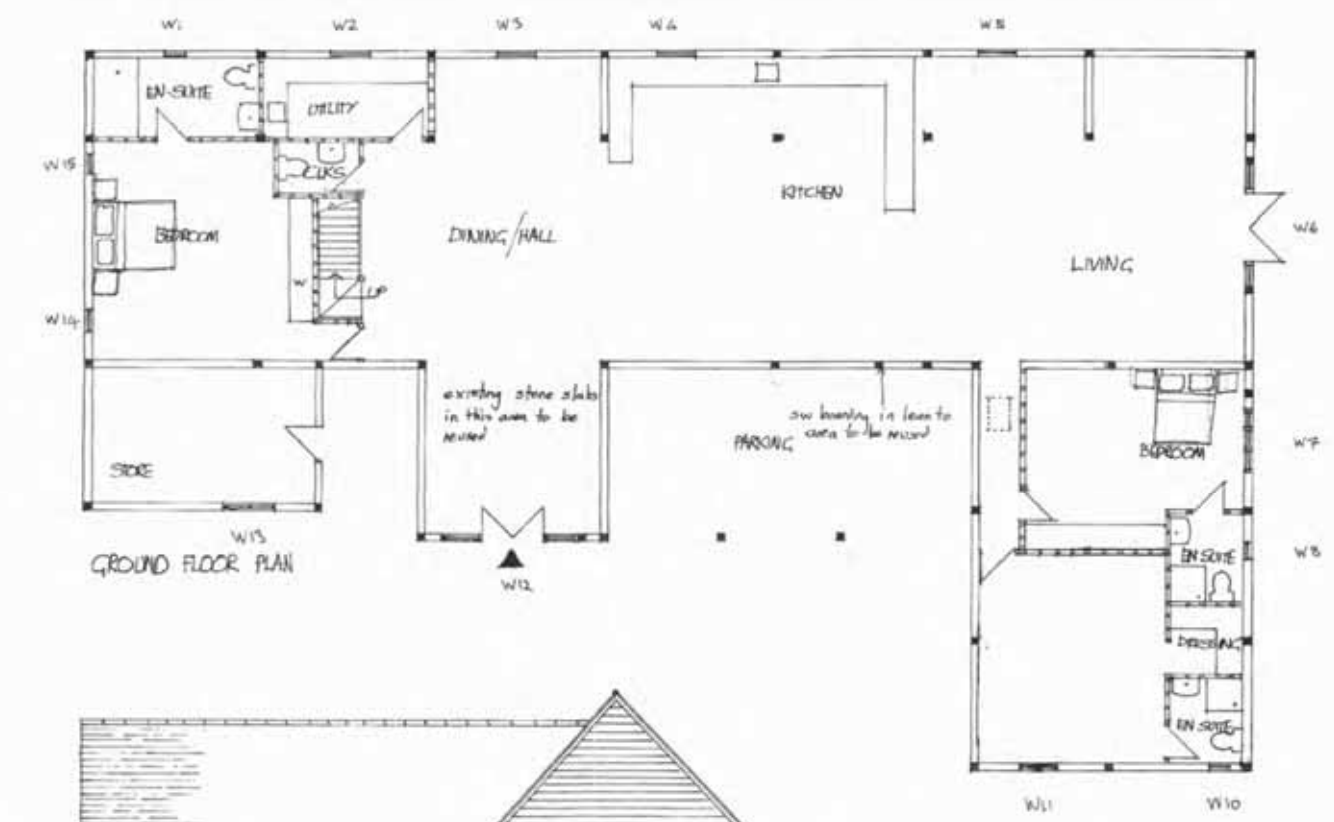


Phase 2: Mid 18th century Timbers



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Figure 9
Stylised Cross Section through Barn
South East Facing
1:100 at A4



W6 PVC frames to be set in from front face of building & glass in window to be lightly overcast

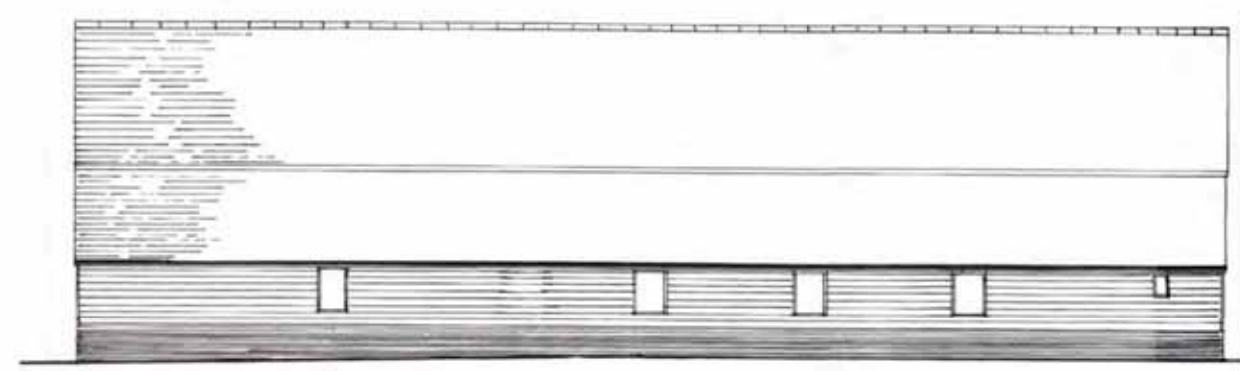
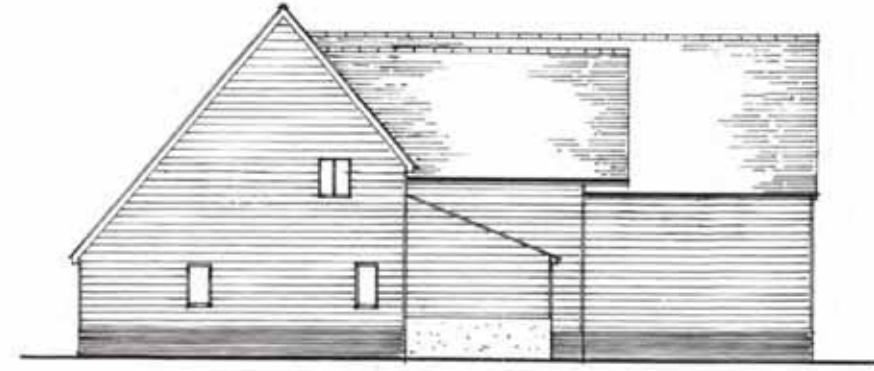


Figure 10
Proposed Plans & Elevations
1:200 at A3



Plate 1 Eastern Elevation, looking west



Plate 2 Southern Elevation, looking north



Plate 3 Open-fronted shelter, looking north



Plate 4 Open fronted shelter showing blocked cart door, looking east



Plate 5 Blocked cart door and boarded door leap under shelter, looking east



Plate 6 Door in south wall of the main barn under the open fronted shelter, looking north



Plate 7 Midstrey with over-sailing gable dove-cote, looking north



Plate 8 Rebates for leap boards in the east post to the entrance of the midstrey, looking south-east



Plate 9 Lean-to Building, looking north-west



Plate 10 Northern Elevation, looking south-west



Plate 11 Western Elevation, looking east



Plate 12 Interior of aisled barn, looking west



Plate 13 Interior of aisled barn, looking east



Plate 14 Deformation of wall post (Bay 4/5) and wall frame, looking east



Plate 15 Jowled post of northern arcade, looking north-west



Plate 16 Face halved and counter bladed scarf joint in south wall plate, looking south



Plate 17 Wind brace over Bays 6 and 7, looking south-west



Plate 18 North aisle Bay 1, looking north



Plate 19 Northern aisle Bay 2, looking north



Plate 20 Historic repair using wrought iron strap (Bay 1/2), looking east



Plate 21 Southern wall frame at Bays 2 (left), 3 (centre) and 4 (right) showing misaligned studding, looking south



Plate 22 Midstrey (Bay 5), looking south



Plate 23 Remains of the stone flag threshing floor in the midstrey, looking south



Plate 24 Blocked cart door in western wall of Bay E3 in the south-eastern extension, looking west



Plate 25 Eastern wall frame of south-eastern extension (Bay E1), looking east



Plate 26 South-eastern extension, showing deep arch braces, looking north-west



Plate 27 Carpentry marks (III) on wall post and brace of Bay E1/2 in the south-eastern extension, looking south-west



Plate 28 Joggled butt purlin roof in eastern roof pitch of Bays E1/E2 of the south-eastern extension, looking south-east



Plate 29 Trench A showing soil horizon (102)



Plate 30 Trench B North-west corner of barn and west wall



Plate 31 Trench B Pit feature (105), looking south



Plate 32 Trench C showing continuation of soil (102)



Plate 33 Underpinning works along northern aisle, looking east



Plate 34 Underpinning south-eastern extension, looking north-west



Plate 35 Post-War aerial view of Pleshey Castle, Lodge Farm and Barn (left).

PCA

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