

Norton Hall Barn, St Stephen's Road, Cold Norton, Essex
Description and analysis of a brick and timber-framed barn adjacent to Norton Hall.
Surveyed 30 04 2010.

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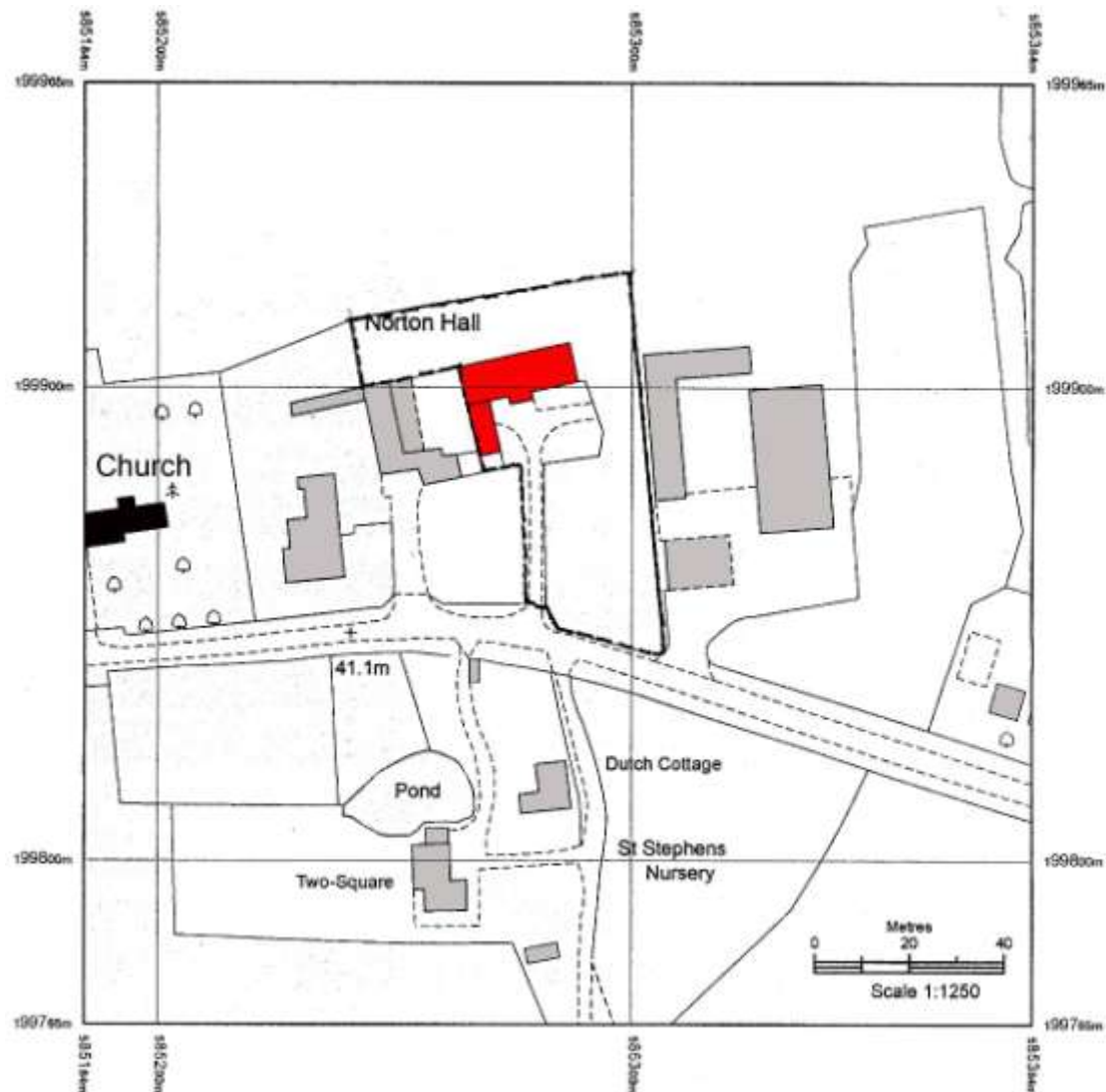


Norton Hall Barn shown centre of Google aerial photographs from 2006 (above) and 2000 below.

Location

Norton Hall Barn is located to the east of Norton Hall (TQ 85276 99902), to the north of St Stephen's Road, Cold Norton near Maldon Essex. The Barn is set back from the road by about 45m along a concreted track secured by a modern gate. The Barn itself is centred on 339408.24mE, 5726594.03mN. At its western end there is a small range of piggeries and stables centred on 339400.54mE, 5726583.20mN.

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Location plan of Norton Hall adapted from the OS. The Barn and Stables are highlighted in red.

To the west is Cold Norton Hall and its outbuildings. These are in separate ownership and were not examined as part of this survey. Cold Norton Hall is a listed building: IoE Number: 117377.



'COLD NORTON ST. STEPHEN'S ROAD TQ 89 NE (north side) 5/14 Norton Hall 1.6.84 GV II House. Late C18, extended in early C19 and C20. Red brick in Flemish bond, roofed with handmade red clay tiles. C18 range facing E, with one internal stack at SE corner and one in W wall. Early C19 range at S end facing S, forming an L-plan, with internal stack in middle of rear wall. C20 2-storey extension with slate roof in left rear angle. 2 storeys. S elevation (towards road), ground floor, 2 C19 sashes with marginal lights in segmental arches.

First floor, 3 early C19 sashes of 16 lights, with crown glass. C20 door at front of C20 central gabled porch. Dentilled course below eaves. Roof hipped. E elevation, ground floor, one C19 sash with marginal lights, 2 C18 sashes of 16 lights and one of 8 + 12 lights. First floor, 4 C18 sashes of 16 lights. The C18 sashes have crown glass. Flush 6-panel door with top 2 panels glazed, in simple fluted doorcase with shallow canopy. Roof hipped at left end, gabled parapet at right end. Original interior doors and folding shutters.'

The Barn is listed separately:

'COLD NORTON ST. STEPHEN'S ROAD TQ 89 NE (north side) 5/15 1.6.84 . Barn approx. 40 metres north-east of Norton Hall (Formerly listed as GV Barn at Norton Hall) II Barn. Late C18. Part red brick in Flemish bond, part timber framed and weatherboarded, roofed with slate. 5 bays aligned approx. E-W with midstrey to S. Original outshots each side of midstrey, with one plain boarded door and 2 halved doors with plain lights over, all in segmental arches. 4 blocked semi-circular arched openings for dunging passages. Main roof and midstrey roof half-hipped. Slightly curved through bracing. Face-halved and bladed scarfs. Hanging knees to tiebeam and collars. Lodged side-purlin roof with ridge-piece. The softwood original frame is complete.'

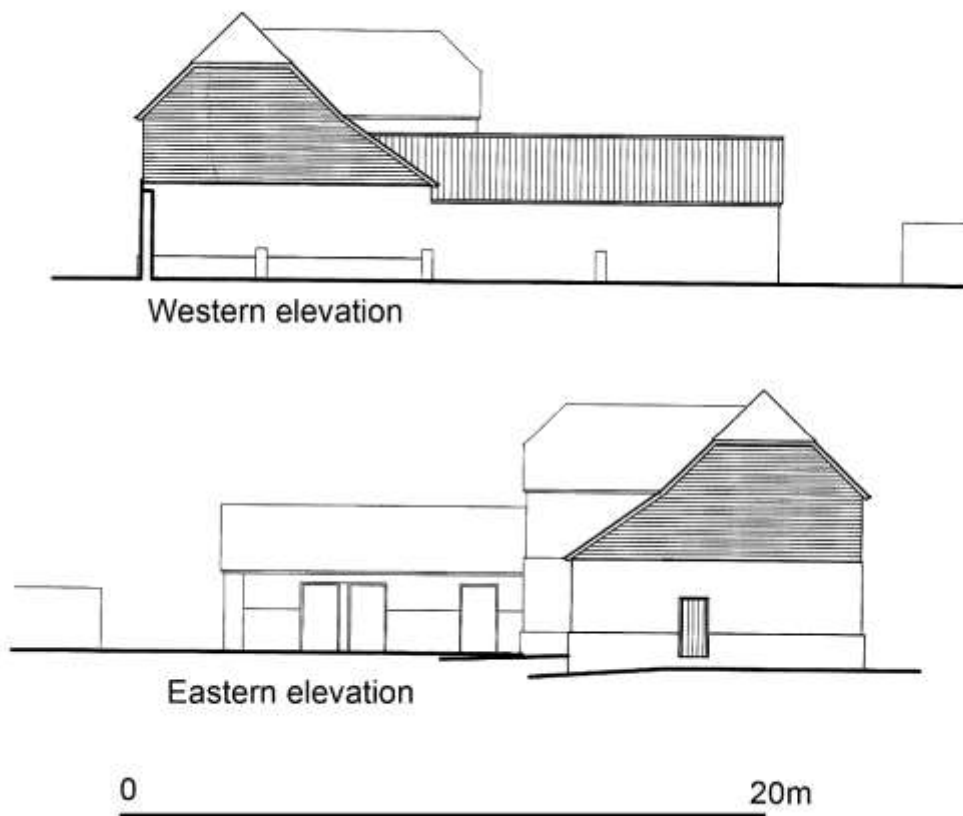


© Richard Phillips

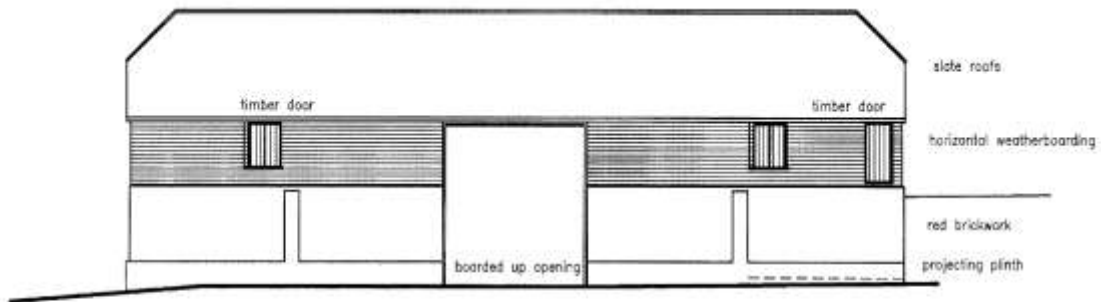
IoE Number: 117378. Date Photographed: 03 September 1999. The Images of England photograph is interesting because it shows the barn in use.

To the east of the Barn is a completely modern C21st farm complex which appeared between the years 2000 and 2006 and is clearly illustrated on the Google aerial photographs. Since then a range of long, low buildings have been built between the Barn and the C21st warehouse sized barn shown on the photographs.

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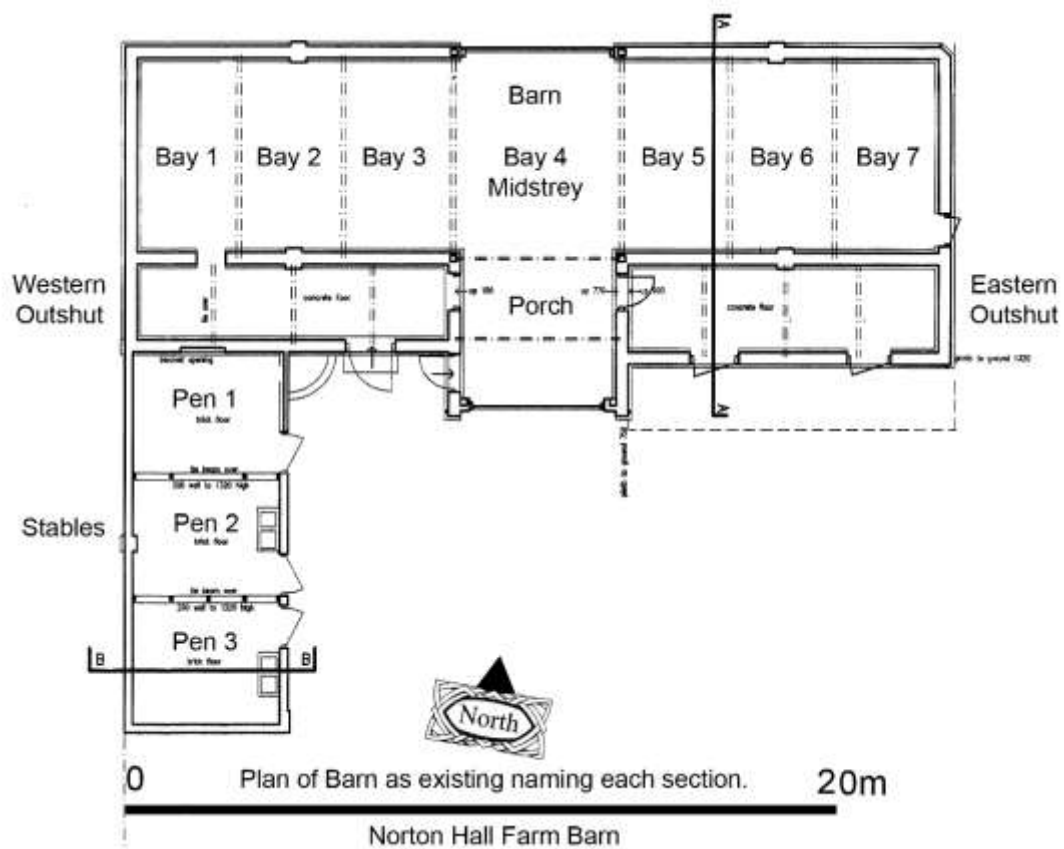
Side elevations of the Barn and Stables as surveyed by David Butt Associates. Nov 2007.



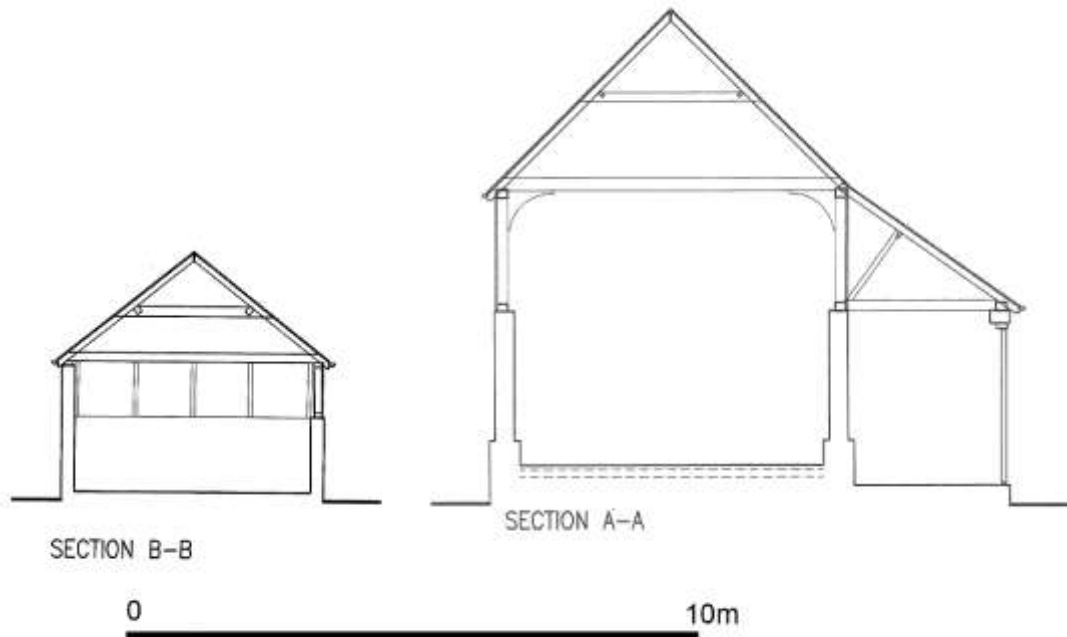
REAR ELEVATION Northern



FRONT ELEVATION Southern



Plan and main elevations of the Barn and Stables as surveyed by David Butt Associates. Nov 2007.



Sections of the Barn (right) and Stables as surveyed by David Butt Associates. Nov 2007.



General view from the SE. The front elevation is obscured by a blue portable office.

Description



The Barn and Stables from the SW. Behind is Norton Hall.

External - General Description of The Barn.

The Barn is a substantial brick and timber built seven bayed building (not 5 as stated in the Listing) with a central midstrey and southern porch. The 330mm (13in) thick brick walls are approximately 3.25m (128in) tall with a stepped plinth at about 1.1m (43in) from the ground. (Inside the floor is raised such that the plinth is only visible for 36in - exactly 3 feet).

Above this the timber-framed and weather boarded walls extend a further 2m to the eaves. The height to the ridge is approximate 8.5m. The weather boarding is mostly modern, applied with French nails and cold tarred but some older boards are present noted by their hot tarred finish and wrought iron nails.

The grey slated roof is aligned E-W and half hipped at each end and over the porch. The roof has been repaired with asbestos slates of which there is a stack just besides the main door. The roof descends in cat-slide over two outshut extensions either side of the midstrey also built in brick with timber over to form the gable ends. These were not integral to the design as the brickwork is not bonded to the main building but butted up with a very obvious join.

Each outshut has two large stable door openings - those to the east now house C20th doors while to the west the current main entrance door is set in the original opening and the other has been bricked up where the Stables have been added.

Below the doors to the east are four rough brick semi-circular arches (now bricked up) and it was evident that originally there was at least one arch to the western side as it is visible inside in the floor.

Elevations



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The southern elevation is dominated by the full height porch.

Southern Elevation

The southern elevation is centred about a full height porch which previously held two sets of opening doors on large pintle hinges hammered into the door posts. The doors have been removed and a steel frame inserted to provide support for two C20th galvanised metal skinned doors which have vertical boards screwed to them with Phillips head screws.

The section above the doors was boarded over in the later C20th as shown in the Images of England photograph taken in 1999 but since then many of the boards have fallen off revealing the machine sawn softwood battens. Towards the top, modern insulation panels are visible as are the two hanging knees that connect the top-plate to the original door posts. These are numbered I and II with a wide chisel. In general the weather-boarding is in poor condition and is all C20th being machine sawn softwood fastened with galvanised wire nails and cold tar brushed black which has badly faded.

The flanks of the porch are constructed in hard red, orange and over fired purple bricks 60-65x110x220mm set in a 10-15mm bed of hard white mortar with a flint chip aggregate. These bricks are consistent throughout the barn but differ slightly in size in the Outshut walls where most of the bricks measure narrower at 65x105x220mm. However all the walls are 330mm (13in) wide. The eastern flank is failing and the brickwork damaged.



Failing eastern flank of the porch and (right) the side entrance to the porch.

The western flank houses a C20th vertical boarded gate and ledger door with mild steel strap hinges popular from the 1920's and is a replacement for an earlier one. The original frame still bears the coat of hot tar while the inserted one does not. Here on the porch, in common with the rest of the barn the rainwater goods are C20th grey plastic.



Bricked in doorway visible in the Stables. Mortar is markedly different.

Either side of the porch are the two Outshuts. Although symmetrical with two doorways in each elevation, the Western Outshut has been obscured by the addition of the Stables and the northernmost doorway bricked in. While the blocking bricks are similar in appearance to the originals they are slightly larger at 65x110x230mm and set in a beige sandy mortar in a 10-15mm bedding joint. These are the same as the rest of the Stables walls and it is natural to assume they were put in at the same time as it was constructed.



The main pedestrian entrance and (right) a C20th water trough.

The other door in the Western Outshut has a C20th vertically boarded gate and ledger door with C21st fittings save for the very long spoon ended strap hinges. These are hand wrought and the terminals also have two incised vertical bars which is a throwback to the incision of the saltire cross and bars on door furniture. However the metal is badly rusted and has no patina so it is likely that they are mild steel. The countersunk holes are drilled rather than hot-punched so it seems they are late C19th or early C20th.

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In the corner formed by the Stables and the Western Outshut is a semi-circular brick built water trough fed by rainwater from the roof valley above. Whilst the bricks look old the construction is entirely in grey cement and so mid C20th onwards.

When comparing the Western and Eastern Outshuts it does not look like they were built quite at the same time. For one thing they are not symmetrical in plan, the eastern one being slightly wider. More noticeable however is that the rough gauged brick arches over the doors are not identical. Those to the north have three courses of brick above the levelling course before the top-plate whereas those to the south have none.



Southern elevation of the Eastern Outshut. Note semi-circular tunnels.

The Eastern Outshut has two full height C20th vertically boarded stable doors with wire reinforced glass lights above. Looking at the brickwork it can be seen that the openings are properly finished with closer bricks down to the level of the plinth. In the plinth either side of each door there are bricked up semi-circular tunnel mouths which the Listing describes as 'dunging passages'.

In each case they have all been truncated to drop the doors to the exterior ground level and then bricked in with cement bonding. In the base of each can be seen a layer of poured concrete corresponding to the current floor inside. The westernmost tunnel has a round

hasp embedded in the brickwork and the others have scars where they used to be. It is likely they were covered with wooden hinged doors when in use to contain the slurry.

It is interesting to note that all the door openings are slightly different in width as though there were a hierarchy of use. Perhaps as the animals got fatter they progressed up the building. There is evidence for at least one tunnel in the Western Outshut where it is visible in the floor inside.



The eastern elevation shows several episodes of weatherboarding.

The Eastern Elevation

The eastern elevation is composed of the wall of the original brick Barn butted against the wall of the Eastern Outshut. The Barn wall is properly closed at each corner although the NE corner has been chamfered back for half its height perhaps in repair of damage caused by vehicles rounding the corner. There is a considerable gouge in the brickwork that looks like the turn of a cart or tractor wheel about 2m off the ground and another near the inserted door.

The brickwork of the Outshut is not closed at the butt joint but has been built off using whole bricks. It is on this elevation that the difference in brick types can be most easily seen those of the Outshut being 65x105x220mm and so slightly narrower than those of the Barn at 60-65x110x220. Otherwise the bricks are a mixture of reds, oranges and overfired purples with creased faces, sharp arrises and a mixture of horizontal and diagonal pressure lines. There are occasional overfired bricks with kiss marks reminiscent of Flettons.

The 13in walls are laid in Flemish bond set in a 10-15mm bed of hard white mortar with a flint chip aggregate. A door has been inserted into the SE corner of the barn resulting in the failure of the brickwork above it.



Detail of the inserted door into the eastern elevation.

A door has been crudely inserted into the eastern elevation of the Barn. There is a steel door frame similar to that in the porch with a steel C20th door. The opening is also framed with a timber frame with a double timber lintel held with crude iron straps nailed into place. The lintels are made of reused timber and the iron is very likely to be mild steel as it is so rusty. The C20th steel frame has been cut to accommodate it.

The brickwork above the lintel is failing and there are no closers to suggest the doorway is original to the build. About two thirds of the way up the door there is a line of whitewash across the width of the Barn and outshut that suggests there was once another building or structure built against the eastern wall. This is confirmed by the substantial 13in brick footing seen in the ground some metres away which is contiguous with the northern wall of the Barn.



The weatherboarding is in three distinct sections with local repairs.

The weather boarding consists of a heavily tarred section at the top of the gable fastened with wrought iron nails which is likely original. Below is a large section of C20th machined softwood boards fixed with wire nails with a square inserted section that suggests there was an opening. However this is not borne out by the frame and it is more likely caused by a shortage of materials at the time it was reclad.

The section over the Outshut is composed of old boards that appear to have been cut and refastened and then cold tar brushed in common with the C20th softwood boards. Hot tar was still being applied well into the 1960's and is not always an indication of age. However cold brushing is very much of the later 1970's and onwards when hot tar became a health and safety hazard. (pers comm. Roy Martin, retired farmworker at Cressing Temple 1953 - 2004).



The rear of the barn from the NE emphasises the slope of the ground. Note the loft door.

Northern Elevation

The northern elevation is centred on the full height opening for the barn doors which have been removed and the void boarded over with C20th weatherboarding. The brick walls have a plinth whose visible height diminishes as the ground slopes upwards to the west. Above this the brick wall is reinforced with full height piasters. Most of the timber-frame has been reclad in machine sawn softwood boards. Some are older and some are missing.



Rear of the barn from the NW showing high level door in western end.

To the east and west there are square loft doors of wide vertical boards with wrought iron strap hinges. At the western end there is also a full height door hidden behind the plant growth. The three doors are coated in hot tar in contrast to the rest of the timber.

The roof is in poor condition and many of the tiles appear to be asbestos copies rather than the original grey slate with its distinctive chipped edges. There is a stainless steel flue left hanging in mid-air from its sealing plate.



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The western elevation is hidden from view in a private courtyard.

Western Elevation

The western elevation is contained within a courtyard that is the property of Norton Hall. It is a reflection of the eastern elevation but has no openings. The weatherboarding is in two sections one of older tarred boards and the greater part of modern C20th sawn softwood fastened with wire nails.

There is a wall butted to the end of the barn of a mixture of brick sizes from the other buildings set in a beige sandy mortar contrasting with the hard white flinty lime mortar of the barn. There is a break where a wrought mild steel gate is set and the wall continues built using the hard white mortar and meets the other buildings of Norton Hall.

Internal



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Inside of the Barn looking eastwards. The floors and dividing walls have been removed.

Internally the barn is devoid of any fixtures and fittings that may have indicated its early use. The floors have been removed but in the rubble can be seen many chunks of asphalt from the dressing floors that were originally present. It is also evident from the rubble that there were concrete floors and at the time of the survey these remained in the Outshuts.



The brick walls are in very good condition and a small test pit has been dug to reveal the brick foundation which descends at least one metre below the floor surface. Looking in the section it is apparent that the floor has been made up of mixed clays and brick rubble put in after the plinths were built as there is no cut for a construction trench. The plinth and foundation are therefore about 1.8m (6ft) deep. The brick wall above varies slightly in height between 2.184m and 2.260m (7ft2in and 7ft5in) around the barn - a variation caused by settlement no doubt.

On the inside the brick bond is English as opposed to the Flemish bond displayed on the outside of the Barn. There are brick pilasters corresponding with those outside.



Walls scars in the door jambs show where two dividing walls crossed the barn.

In the floor of the barn are two 330mm (13in) wide brick foundations that link the door jambs of the north doorway with the porch. In the jambs on both sides of the barn are scars in the brickwork up to at least 5ft above the plinth to show where the internal walls were



The wall panel in Bay 5 (north side) typifies the construction of the timber frame.

Above the brick walls is a timber-frame constructed in seven bays. Much of the eastern end was clad in plastic sheeting and insulation but it was still visible. The construction is consistent with a single diagonal brace in each bay dropping from the principal post and pegged into the sill plate. The narrow section pit sawn studs are interrupted and nailed in place with wrought iron rose headed cleats.

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The studs set at 15in centres are cut on a module of 2.75in x 4in deep while the principals are 7in x 6in deep. The Listing describes the timber as softwood but the grey knot free timber tinged with red is much more like elm. The structure is fully framed and appears remarkably sound and complete.



The two loft doors are fully framed and original to the build.

The two loft doors (Bays 2 and 6 north side) are of an identical gate and ledger design fastened with clenched wrought iron nails and are correctly framed. The top-plate shows no mortices above the doors showing the openings were part of the original design. The doors are fastened from the inside implying a floor or ladder to reach them.



Inserted door in the NW corner of Bay 1.

The full height door in Bay 1 on the north side is inserted. The curving down brace has been cut through and a reused stud serving as a door frame added. Above the gate and ledger, edge moulded board door two studs have been sawn off. The hinges are fastened with wrought iron bolts with flat, square nuts. Again the door fastens from the inside to a round section staple on the corner post and implies that there was a floor in use at this end of the barn.



Interior of the Western Outshut.

The interior of the Western Outshut is bare of fittings except for some horizontal timber strakes in the walls and pilaster which imply that furniture or boarding was once fixed to the walls. The rear of the blocked in doorway into the Stables is visible and a new doorway has been cut through into the Barn very recently. The brickwork is painted with tar which passes over the blocked doorway and the letters HS are painted on the wall.



The weatherboarding above the Western Outshut is clean and untarred.

The weatherboarding applied to the Barn wall and the side of the porch is in very good, clean condition and has not been tarred. This implies most strongly that the Outshut was here from the beginning protecting the woodwork.



Looking into the Eastern Outshut. Lath and plaster division still in-situ above.

The lower half of the walls of the Eastern Outshut have been rendered with grey cement and the steel racking shows that this was used as a storeroom in the C20th. Prior to that the Outshut was divided into two rooms by a timber partition in the centre.



Lath and plaster partition from the eastern side.

Remaining above the tie-beam is a lath and plaster studwork partition. The underside of the tie-beam has mortices for a stud wall below and there are timber strakes in the pilaster for nailing studwork to.



The drop slots for the leaps in the porch posts are numbered.

The porch has two very tall doorposts which are swollen at the base to accommodate built in drop-slots for the leaps. These are boards that are dropped in to create the threshold and to alter the quality of the draught of air that passed through the barn so that winnowing would be most effective. The strength of the airflow was altered according to the weight of the grain to be winnowed so that the lighter seeds would not be blown away.

The drop-slots have been numbered from I to VIII to correspond with the leaps or perhaps the type of grain. Here it can also be seen that the hinges for the doors were screw-threaded with flat square nuts.



Carved marks in the brickwork of the western flank of the porch.

In the western flank of the porch at about head height there are a number of letters and marks carved into the brickwork. One is very definitely a letter W and close by is an A with an X within it. There is also a series of vertical lines like tally marks.



Scratched tally marks in the doorjambs of the Western (left) and Eastern Outshuts.

More tally marks have been carved into the brickwork of the door jambs into both Outshuts. It is likely that some of these are apotropaic marks to ward off bad luck but the letter W is so common that it is found carved everywhere on older buildings without apparent reason.

Scarf Joints



Scarf joints in the top-plate (left) and the sole plate.

Scarf joints are important dating features in timber-frames. That in the top plate is a face halved and bladed scarf of normal design. That in the sill plate is a more unusual side halved and bridled scarf with a very short body. (Alcock et al 1996 F29 j&p). Both scarfs have the tenons from studs passed through them to arrest any side movement.

Roof Structure



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Simple clasped side purlin roof. See also the architect's section drawing.

The roof is a remarkably simple clasped side purlin design. The purlins are held by thin deep collars lapped and pegged into the rafters. There are no trusses as such as there are no principal rafters springing off the tie-beams. The rafters are all 3in x 4in in section and are battened with 1/2in x 2in battens laid on the flat to support the grey slates. The rafter pairs are nailed onto a narrow ridge piece and there is the occasional nailed on reinforcing gusset.

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Hanging knee fastened with screw-threaded bolts.

The tie-beams curve slightly upwards and are held with hanging knees which are fastened with screw-threaded bolts with flat, square nuts. The joint is further reinforced with a wrought iron L-tie fixed with a square staple and clout nails. All the roof timber has the appearance of elm and is in excellent condition.



Roof structure of the Western Outshut and the end of a tie-beam visible inside the Barn

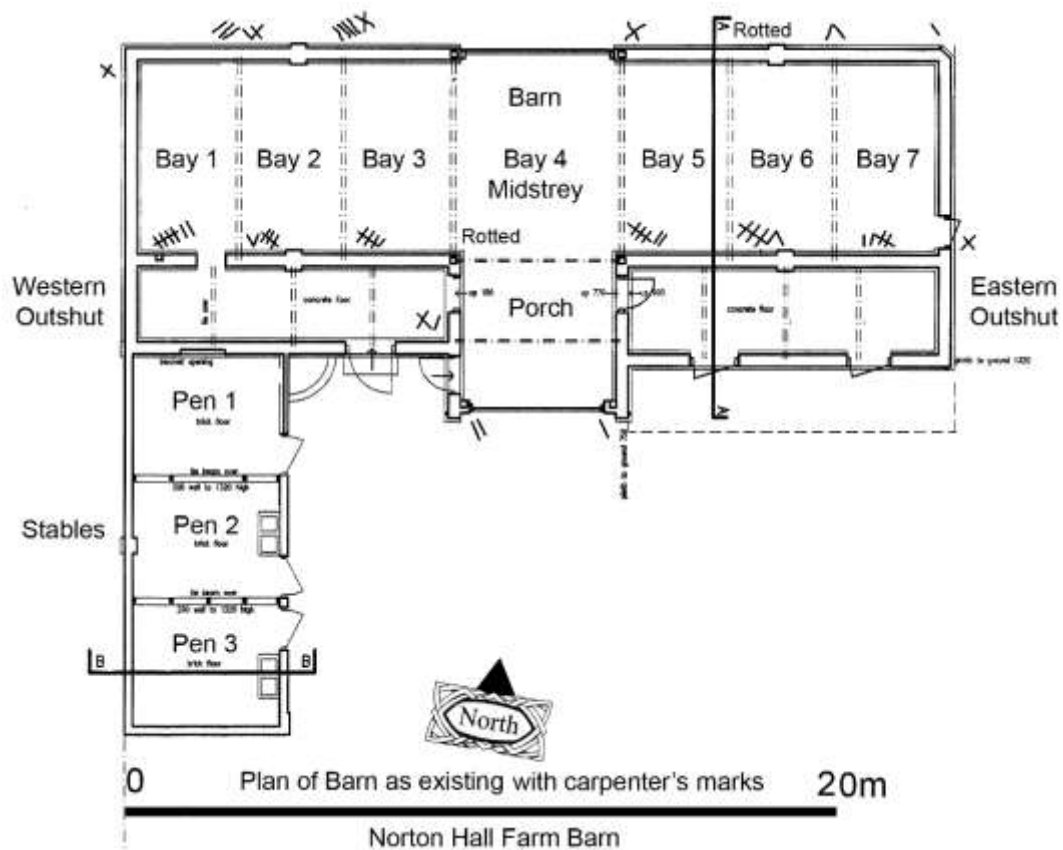
The roof structure is also simple within the Outshuts with a single purlin clasped with nailed and birdsmouthed struts off the tie-beams. The ends of the tie-beams are dovetailed across the sill plate of the barn frame. The rafters are narrower at 3in square.



Carpentry marks on the stud (left) and on the sill plate. Contrast boosted for clarity.

Carpentry Marks.

It is likely that the entire frame is numbered throughout but is done so on the exterior hidden beneath the weatherboarding. The give away is that stud XXXXII in the SE corner has been put in the wrong way round. Also where the porch studs are exposed in the Western Outshut one of the studs is numbered XI on its exterior.



Carpenter's marks visible in the Barn.

There is a series of numbers on the top of the sill plate adjacent to the principal posts that do not correspond with the stud positions. There is also an X marked on each end sill plate. That in the SE corner passes under the corner post. The two hanging knees in the porch doorway are marked I and II with a bolster but none of the others are marked. All the other marks have been made with a race knife and the X's run together.

The Stables



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The eastern elevation of the Stables where it meets the Barn

Description - General

The Stables is a single storey, three bay building with brick walls and weather boarded timber insets for shutters. The machine sawn softwood roof is pan-tiled. There are three split stable doors of which some are original.

The interior is divided into three pens or stalls. Pens 2 and 3 have C20th brick built low troughs suitable for pigs or small ponies while Pen 1 has no troughs or mangers. The internal floors are brick with gutters and drains built in.

The bricks are common throughout and are pink 60 x 100 x 220mm flooring bricks washed over with cement.

The building forms the boundary with Norton Hall which is in different ownership and so the rear of the building in a private courtyard was not examined.

Elevations



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The southern elevation is obscured by a septic tank.

Southern Elevation

The southern elevation is the plain brick gable end of the Stables under white painted softwood barge boards. The brickwork has been rendered over with grey cement to about 1.32m from the ground and this carries round the front at the height of the weatherboarding.

The bricks are 65 x 110 x 230mm soft orange reds with horizontal pressure marks set in a beige sandy mortar. They are unfrogged with sharp arrises and smooth faces. This is visible in a diamond shaped brick ventilation grille set high up near the apex and better seen from inside. The brickwork is 9in Flemish bond. The building is 4.5m (14ft 9in) wide.



The eastern elevation of the Stables.

Eastern Elevation

The eastern elevation has a cement clad 9in brick wall with a C20th weather boarded timber-frame above. There are three sets of split stable doors of which two of the lower leaves are original.



Lower leaves of split stable door appear original.

The lower leaves are typified by an inverted V brace of irregular hand hewn timber nailed and clenched onto vertical edge moulded boards. Most of the door furniture has been replaced with mild steel strap hinges but there is a hand wrought iron pintle strap with a leaf terminal remaining. The wrought iron hasps are also probably original. The other doors are C20th softwood with mild steel fittings.



Interior of Pen 1. Vertical boards and thick slate tiles. Note sliding tether bar to left.

Internal Description.

Pen 1 conjoins with the brick wall of the Barn. The partition wall is of brick to 1.330m and then is finished in whitewashed weatherboard on sawn, well chewed softwood studs. The western wall is of brick while the eastern is a random arrangement of vertical boards over where the brick wall has failed. This section is where the semi-circular brick trough is built on the outside. At floor level there are two large, thick slate floor tiles inserted into the wall as though to prevent access through to the trough. There is no water trough inside the pen but there is a sliding tether bar fixed to a post on the north wall.



Interior of Pen 2 with C20th water and feed trough. Note gutter in the floor.

Pen 2 is remarkable only for its sparse fittings which consist of a C20th brick built water and feed trough low to the ground suitable for a large pig or small pony. The brick floor is formed with a gutter and a drain.



Worn down timber rail in Pen 3. There is a sliding tether rail near the middle.

The partition with Pen 3 has long ago lost its weatherboarding and the softwood rail has been worn down by the constant rubbing of animals. There is another sliding tether bar attached to the rail.



C20th brick trough and the diagonal grille in the gable end.

Pen 3 also has C20th brick feed and water trough but no other fittings. The brick grille is visible high up in the gable end.



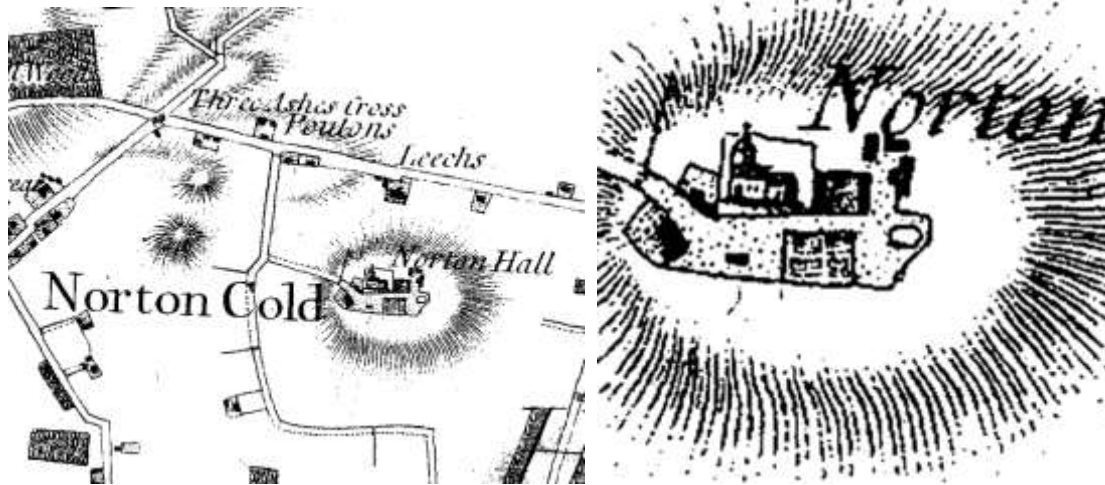
The roof is made of machine sawn softwood.

Roof Structure

The roof is a clasped side purlin construction of machine sawn softwood with 50x100mm (2x4in) common rafters and 75 x 100mm (3x4in) principal rafters set at 380mm (15in) centres. The narrow, deep collars are halved and nailed in place and there is a narrow ridge piece. The entire structure is nailed with wrought iron nails. The nibbed pantiles are hung on 50x25mm (2x1in) battens. There are no carpenter's assembly marks.

End of descriptions.

Topographical Survey from Maps



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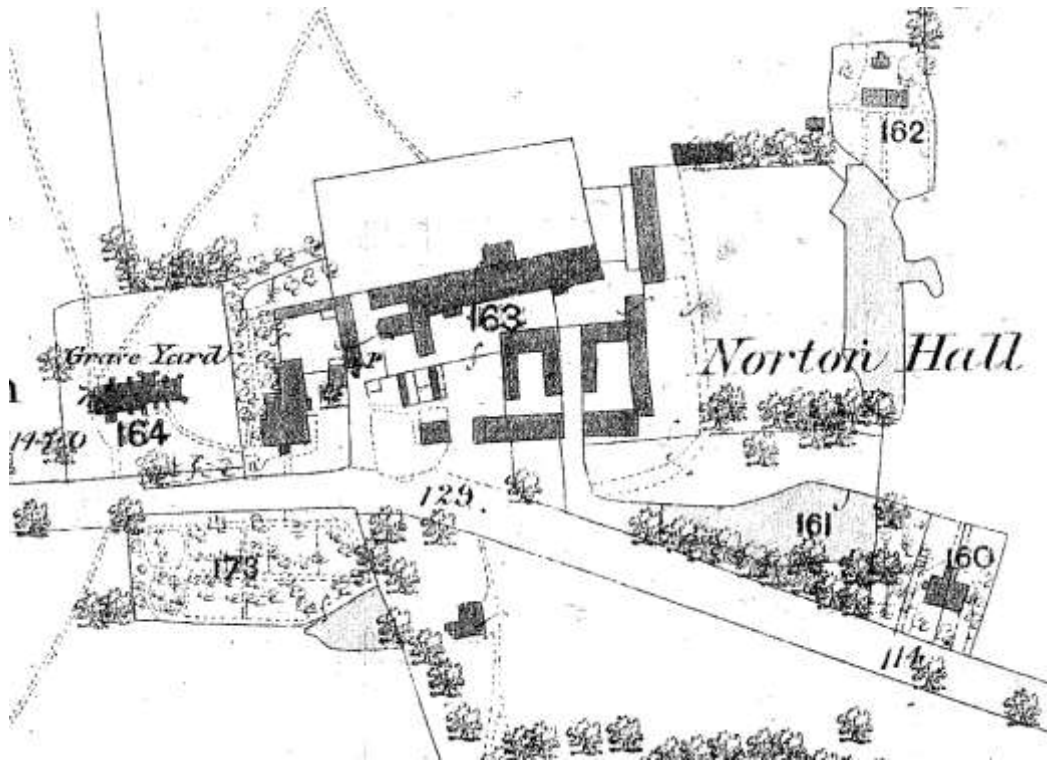
1777 Chapman & Andre Map of Essex

Chapman and Andre record the location as Norton Cold and clearly show Norton Hall besides St Stephen's Church. The layout is distorted but the house and farm buildings correspond loosely to the modern disposition of the site. It is evident though that the Barn is not in place but there is another barn shaped building (with a porch) to the east.



1839 Tithe Map

The 1839 Tithe Map is not oriented N-S but E-W to suit the typography. Norton Hall itself is shown as a large black blob while the many farm buildings are more clearly delineated. The Barn is obscured by the number 55 but it can be seen to be part of a range of buildings. The Stables are not present. Plot 55 refers to the House (Norton Hall) as a rectory owned by The Hon Gov's of the Charter House and occupied by William Clarke. The Church however is Plot 75 and is owned and occupied by the Rev. William Holland who presumably received the tithes.



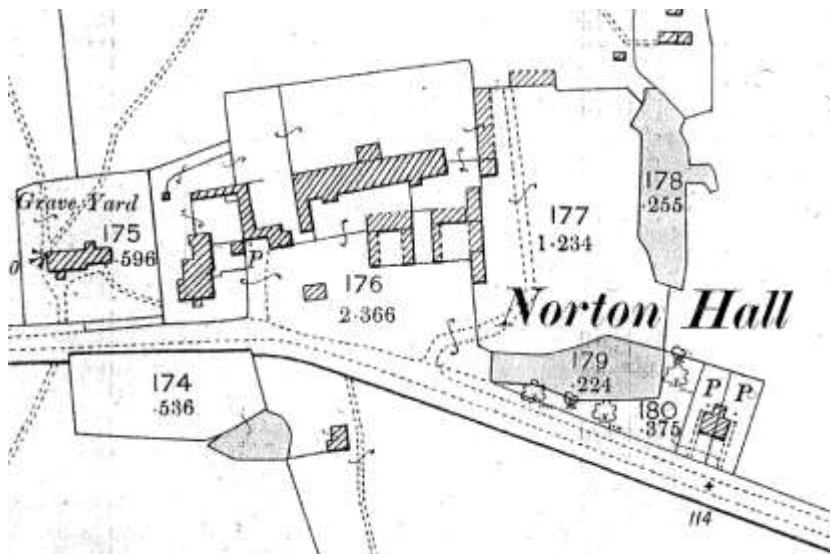
1873 1st Edition OS Map

The First Edition Ordnance Survey gives a very clear depiction of the site at that time. The barn is shown conjoined with another large building to the east which is almost certainly another barn with a porch to the south. The Stables are shown in place and there are two conjoined buildings to the west.

To the south of the Barn there is a highly developed farmyard. The many fence lines imply that animals are being kept here and led to be watered at the two large ponds to the east. There is also a pump shown to serve the farmyard.

Close to the pump is a small scale self-contained complex of two small buildings and fenced pens and to the south again, nearest the road, another small building accessed down a short path.

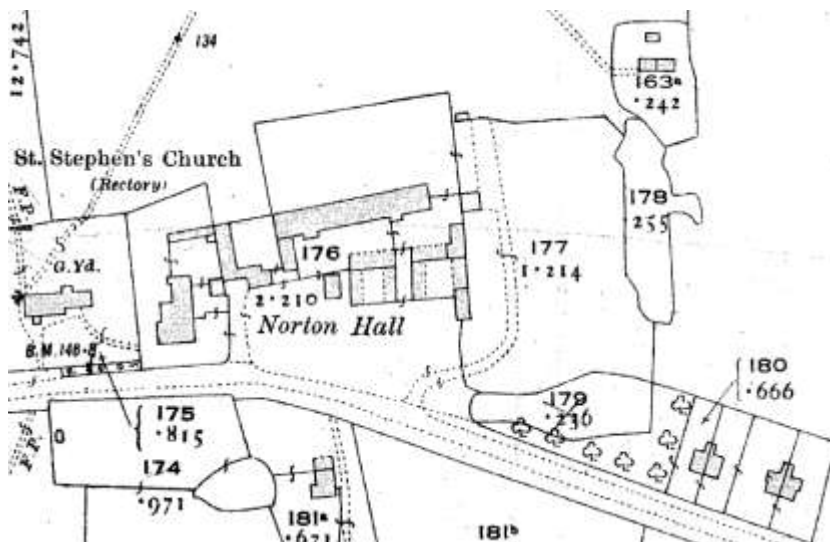
There is also a small building to the north of the barn which is probably a shelter for the fenced off barns field.



1896 2nd Edition OS Map

The Second Edition OS shows that most of the buildings are open sided by the use of dashed lines to show the openings. This indicates that they are animal shelters. There is a marked change from the previous map. Buildings to the south have disappeared and the fence lines have changed. The southern pond (marked 179) is now longer connected to the farmyard.

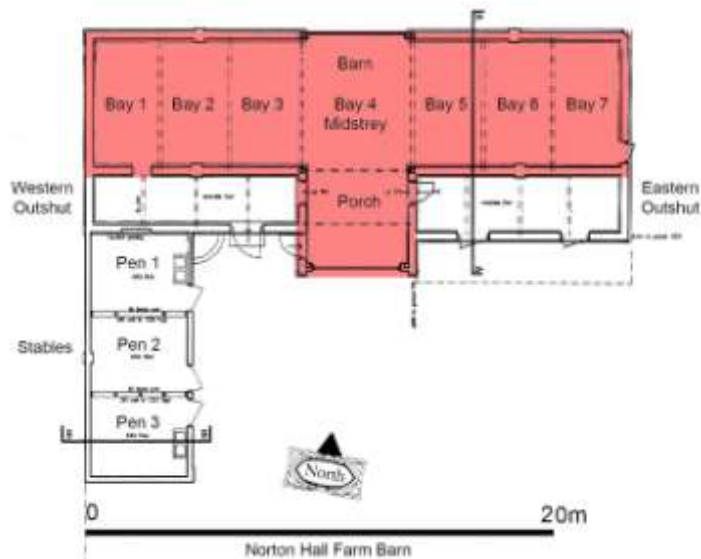
The two buildings connected to the western side of the Barn and Stables are gone and an extra fence has contracted the size of the barns field creating a new paddock. The little complex south of the barns has also gone.



1920 3rd Edition OS Map

By 1920 the farmyard has contracted a little more. The open shelters to the NE have vanished and a smaller building appeared in the eastern field. A wall has been built from the western end of the Barn to the adjacent building. The small building near the road has been removed and another of similar scale has appeared much closer to the barns.

Phasing and Discussion.



Phase 1. Original build of the Barn c. 1800.

The style of the brickwork and its hard white mortar together with the trussless design of the elm timber-roof with its bolted on hanging knees points very strongly to the Barn being a Napoleonic War Era barn of c. 1800. The iron work, in particular the screw-threaded bolts and the wrought iron L-ties applied to the tie-beams reinforce this date. An earlier barn would have had forelock bolts.

It is a quality building, much more upmarket than the typical barn of the times which would have been built of reused timbers robbed from an outmoded oak building. This is probably because it was in the ownership of Charterhouse School. The school was founded by Thomas Sutter who lived in Cold Norton Hall in 1610. At the time he was described as the richest commoner in England having made his fortune from soldiering and coal mining in Durham. (Essex Family History website).

The Barn was built as a traditional threshing barn with an asphalt dressing floor and a sophisticated numbered leap to alter the height of the threshold according to the grain to be winnowed. The midstrey was divided from the other bays with two brick walls which may also have supported the haylofts on either side. Although removed later on, the carpenter's marks for the bearers remain as do the two high level doors fastened from the inside.

The other marks of interest are the letters and symbols carved in the porch. The W is often attributed to V V for the Virgin Mary (Virgin of Virgins) and is often carved quite frenetically on C17th timbers over and over again. However W is a very common initial and is found all over the county on older buildings. The resident of Norton Hall from at least 1839 (Tithe Award) to 1874 (Post Office Directory) was one William Clarke and this may refer to him as it is carefully carved.

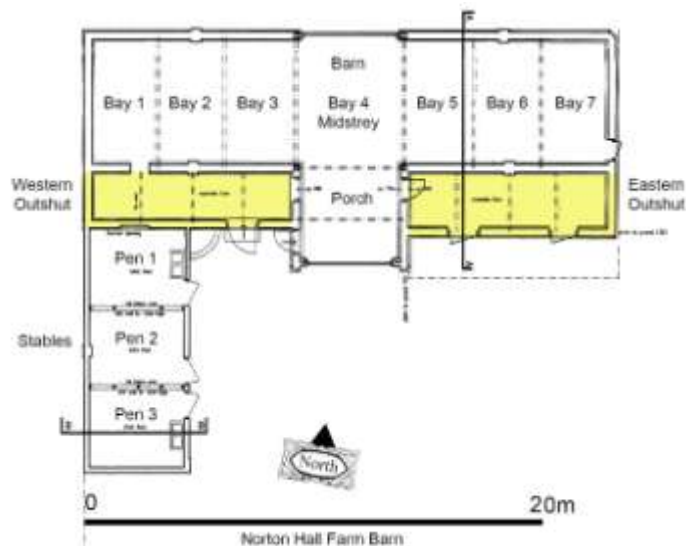
The other symbol resembling an X within an A is more likely an apotropaic mark. It may be a variation of the Chi-Rho symbol which is often combined with Alpha and Omega. Belief in

witchcraft was rife in the C18th and C19th centuries especially in Essex where there were 'cunning men' such as James Morrell of Hadleigh and George Pickingill ready to capitalise on the superstition. Reports of witchcraft were making the newspapers as late as 1858 when Murrell was reported as charging 3s 6d for a cure. Appendix 1. George Pickingill of Canewden was described as the last witch in England when he died in 1909. Canewden is only 7 kilometres away as the crow flies and was renowned for its 'six witches'.

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There are also a number of marks resembling tally marks and this is most likely what they are. Having recently surveyed Lower Barn Farm in Hungerdown Lane, Lawford, a large number of these marks are present outside the pigpens which are dated to 1851.

In the Tithe map of 1838 the Barn is shown conjoined with a similar sized and shaped building to its east. This was likely to be another Napoleonic War Era barn as they are quite often found in pairs. It has since been removed in the C20th and the inclination is to think it was a timber building which could be dismantled without leaving a scar on the Barn.



Phase 2. Early C19th. Addition of the Outshuts.

It may be that the barn was built with the Outshuts from the first and that it was expedient to butt the additions up against the original barn but this seems unlikely. There seems to be a sequence with all barns from this period that the threshing barn is built, technology or farming practices change and the extra accommodation is suddenly required.

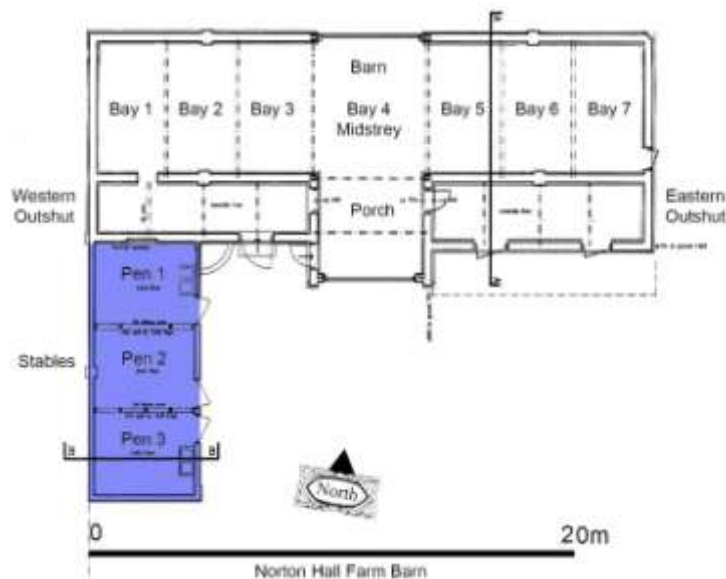
The bricks are slightly narrower in width and more constant in depth and they are laid in a different way. The rough gauged brick arches over the openings are also different in character to the lintelled openings in the porch. It seems likely that the Outshuts were built within only a few years of the Barn because the weatherboarding inside the Outshuts is very clean and unweathered. Certainly it was never tarred. It may be, of course, that there was a contractor to build to the Barn and another to build the Outshuts using their own tried and trusted methods and suppliers.

The use of the Outshuts is implied by the plinth level doors and the dunging passages. The small size of the cells within the Outshuts points to pigs being kept and fattened there. Pigs

are kept confined in small pens and fed up to boost their bacon. The doors are often high up to stop the pigs from charging them down or clawing through them. The arrangement would allow four large pigs to be kept either side of the porch.

The Eastern Outshut was divided in two with a studwork partition right up to the roof where it was clad in lath and plaster and this is probably a function of the kind of husbandry being practiced there.

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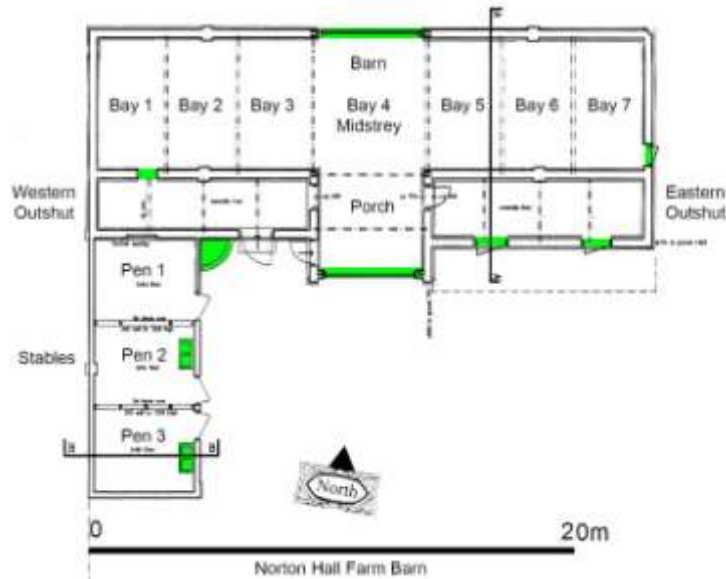


Phase 3. Victorian Stables.

The Stables appear on the maps between 1839 and 1873 and its position, materials and design all confirm this date. One of the doors into the Western Outshut was blocked up using the same bricks and mortar as the walls of the Stables so the design of the pigpens was also changed.

There are few original fittings, no feed troughs or mangers and only two sliding tether rails to show if they were used for ponies. The stable doors however are more suitable to horses than pigs as the pigs shred the wooden doors to pieces and as two original leaves are still in place this did not occur. The floors are brick with gutters and drains and not the dunging passages associated with the more unpleasant pigs.

In 1873 there were two buildings west of the Barn and Stables but they were short lived and were removed by 1896. The hayloft in the western half of the barn was still in use as a full height door was inserted into the NW corner.



Phase 4. C20th

The Stables were maintained as such and a brick water cistern was built in the crook of the building with the Barn. It is probably a rebuild of an earlier version put in to capture the rainwater from the roof valley but it has been completely rebuilt with cement pointing and rendering.

Two of the pens have brick built water and feed troughs and the doors and external weather-boarding have been repaired or replaced. The division between Pens 2 and 3 has lost its weatherboarding and the animals have worn away the rail by rubbing it, again indicating horses.

A concrete floor was laid inside the entire Barn and Outshuts and the dunging passages in the Eastern Outshut were bricked up. The plinth in the eastern Outshut was cut through to insert full height doors for pedestrian access to the newly created store. The hayloft floors probably came out so that modern machinery could be inserted.

A doorway was cut through the eastern wall with a steel door frame and at the same time the main porch doors were replaced with a steel frame and half doors overlaid in vertical boards to look less offensive. The roof has been repaired using asbestos copies of the original slates. The interior was insulated and lined with plastic sheeting to cut down draughts. There was also a stove of some kind with a stainless steel flue.

In very recent times the concrete and asphalt floors have been removed and the dividing walls demolished. The wall scars were patched with grey cement. A doorway has been knocked through from the Western Outshut into the Barn and a water supply in a blue alkathene pipe installed.

Discussion.

After the French Revolution of 1789 there was a long period of instability culminating in the Napoleonic Wars of 1799 to 1815. Britain and France declared outright war in 1803. England also went to war with the USA who in 1807 declared the Embargo Act preventing European vessels from trading with America. War was declared in 1812 and ceased in 1815.

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The Barn is a typical building of the Napoleonic War Era which ignited the rush for farms to convert to grain production to capitalise on the grain embargo imposed during the hostilities from AD1799 to AD1815.

‘Napoleonic Barns’ sprung up all over Essex. They are built to a pattern, one that does not reflect the earlier barns and their intrinsic dimensions based on rods. It is significant that the Barn is measured in exact dimensions of feet and inches. It is composed of simple frames using primary bracing with nailed in interrupted studs. The brickwork is high quality and reflects the wealth of the owners of the farm.

At the same time wrought iron fixings, in the form screw threaded bolts and the traditional ‘blacksmith’s joints’ were being incorporated in the build as part of the original design and removed the need for heavy jowelled posts. Spandrels were replaced with hanging knees bolted into place which were economic on space as well as materials. They also allowed free movement in the haylofts which had become a feature of the barns.

There is a tendency to think that barns were large, open buildings without internal divisions or floors but this is purely down to all the divisions being removed in the C20th to install modern machinery, in particular seed dressers and grain dryers. A classic example of this is the Barley Barn at Cressing Temple c.1206 but heavily modified throughout its life. The Barley Barn was divided off completely at each end by 12ft high weatherboarded stud walls and the aisles fenced with gates to keep sheep. The divisions were photographed still in place by John Tarling in 1936.

Eventually the wars came to an end and trade resumed its old pattern which was disastrous for the newly improved farmsteads. There was an exceptional harvest in 1813 which drove the prices down due to over-supply. The farmers had borrowed heavily to build their new buildings and the resulting decline in prices led to a recession.

The economic climate would have been reflected in the farm buildings whose function may have been changed when the farmers used increasing mechanisation in the production of grain to reduce their labour costs. The Outshuts may have been added as a result of these improvements and changes of process. The pigs and their by-products would certainly have contributed significantly to the economy of the farm.

By the 1840’s the concept of Victorian High Farming emerged. According to G.E Mingay in Victorian Countryside (2000) High Farming ‘was the achievement of high production by the widespread application of new knowledge and equipment. Land was drained to grow more grain and other food for more and fatter stock, yielding in turn more manure and heavier crops.’

At Norton Hall Farm in 1873 we see a fully developed farmyard system fully corralled for animal husbandry. As Mingay says 'To house valuable stock, preserve its manure and promote greater efficiency in the working of the greater complexities of the system, new buildings in new configurations were required. Implements of unprecedented complexity and dedication to single tasks became increasingly common and steam power invaded, first the barn and eventually the field.' The Outshuts were designed for pigs but the rest of the farm was full of open sided animal shelters for cattle and horses.

By 1896 the farm is reconfigured and contracted in scale. Lord Ernle wrote that, "Land deteriorated in condition. The counties which suffered most were the corn-growing districts, in which high farming had won its most signal triumphs. On the heavy clays of Essex, for example, thousands of acres which had formerly yielded great crops and had paid high rents, had passed out of cultivation into ranches of cattle or temporary sheep-runs"

In the C20th the farm contracted further and the 1920 OS shows that more buildings have been vanished. By now reliance on the horse was waning and the need to keep so many was lost. The Stables were maintained however, probably for riding ponies. The barn was kept secure with new doors and the inside lined with insulation and plastic sheeting to create a controlled environment.

The rest of the farm buildings were recently demolished and Google Earth shows that a new C21st farmyard is springing up next to the site.

Acknowledgements.

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Appendix 1

The Ipswich Journal (Ipswich, England), Saturday, September 25, 1858

It is a painful duty to have to narrate in this boasted enlightened age instances of the grossest superstition prevailing in some of our rural parishes of this county, and we are sorry to say, by no means confined to the lower classes.

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East Thorpe, on Monday evening last, presented probably one of the most disgraceful scenes that ever occurred in North Essex since the days of the famous Matthew Hopkins, the witch finder, of Maningtree. It appears that Emma Brazier, age 22, the daughter of a labourer in the above parish, has lately caused much annoyance by making use of most violent, abusive, and filthy language, under the pretence that she has been bewitched by a neighbour - a Mrs. Mole, 75 years of age, wife of a labourer, who has for many years at the Hall Farm, and who, with his wife, is of irreproachable character. The poor old woman has been accused by the Brazier family of working marvellous spells upon their live stock, such as causing one of their pigs to climb a cherry tree and help itself to the fruits from the top boughs!

Recourse was had by the girl's parents to a cunning man, named Burrell, residing at Copford, who has long borne the name of "The Wizard of the North:" but her case was of so peculiar a character as to baffle his skill to dissolve the spell, Application was next made to a witch doctor named Murrell, residing at Hadleigh, Essex, who undertook to effect a cure, giving a bottle of medication, for which he did not forget to charge 3s. 6d., and promising to pay a visit on Monday evening to the "old witch," Mrs. Mole, and put an end to her subtle arts. Matters had reached this stage during the temporary absence for a few weeks of the rector, who on his return was deeply pained to find that, after years of earnest labour, such gross ignorance should still exist in his parish that the belief in the bewitchment of the girl and the Satanic agency of an inoffensive old woman was all but universal.

Having visited the girl (suspecting from her violent conduct that she was insane) he called in the relieving officer of the district, who concurred in thinking that she was unfit to be at liberty, and recommended her removal to the union-house for examination by the parish surgeon, at the same time giving an order for her admission, but which the overseers refused to act upon, assigning as the reason for such refusal that there was a man coming from Hadleigh who was expected to cure the girl. The rector next sought the advice of the magistrates, and obtained a promise that the police should have an eye upon the neighborhood.

In the meantime the news of the expected coming of the witch-doctor spread far and wide, and about eight o'clock there could not have been less than 200 people collected near the cottage of Mrs. Mole to witness the supernatural powers of the Hadleigh wizard. Drunkenness and riotous conduct were the characteristics of the meeting; and to protect Mrs. Mole from actual violence the rector was obliged to mount guard at the cottage door: for, although the proceeding took



place immediately before the parish constable's windows (and he had known of the intention for some days previously), he never attempted to disperse the crowd, or took any steps to prevent or put a stop to the disgraceful riot. Ultimately two of the police made their appearance, and the crowd dispersed. The young woman has since been apprehended for threatening the life of her neighbour, Mrs. Mole, and bound over to keep the peace; and we sincerely hope that no more will be heard of this disgraceful affair. - Essex Standard.