

**THE MALTING AT GOWERS FARM
TUMBLERS GREEN, STISTED
ESSEX**

HISTORIC BUILDING RECORD



Essex County Council

Field Archaeology Unit

December 2007

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**THE MALTING AT GOWERS FARM
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HISTORIC BUILDING RECORD

Client: Meditech Ltd

FAU Project No.: 1806

NGR: TL 8076 2558

OASIS No.: essexcou1-34877

Planning Application: BTE/167106

Dates of Fieldwork: 12th-13th July 2007

1.0 INTRODUCTION

A programme of historic building recording was undertaken by Essex County Council Field Archaeology Unit (ECC FAU) of a 19th century malting during conversion works to offices and workshop by BNOS Meditech Ltd, manufacturers of emergency resuscitation systems. The work was commissioned by the company, and carried out in accordance with a brief issued by the Historic Environment Management team of Essex County Council (ECC HEM), who also monitored the work.

Copies of the report will be supplied to ECC HEM and the Essex Historic Environment Record (EHER) at County Hall, Chelmsford. An OASIS online entry has been created. The archive will be stored with Braintree Museum.

2.0 BACKGROUND

2.1 Site location and description (fig.1)

Gowers Farm is situated on the eastern side of Stisted parish, in the hamlet of Tumblers Green (fig.1). The farm is still in use and has 18th-century or earlier origins. The malting forms a separate self-contained group of buildings standing on the opposite side of the road to the farm, on the road to Greenstead Green. The surrounding countryside is fairly flat and mainly arable in terms of usage.

The malting is an important Grade II listed building (LBS 116325) consisting of large brick-built malthouse, a conical kiln, fuel store and half-timbered maltstore. During the 20th-century, conversion into cattle housing by the farm resulted in the removal of important historical features and outbuildings. Despite this, it is considered one of the best-preserved rural maltings in Essex (Gould 1996).

2.2 Planning background

Braintree District Council received a planning application (BTE/167106) in July 2006 for conversion to office and workshop use. Mindful of the scarcity and importance of the listed structures and possible effects on their historic integrity, ECC HEM Recommended that Braintree District Council attach a full archaeological condition to the planning permission, based on advice given in Planning Policy Guidance Note 16: Archaeology and Planning (DOE 1990).

2.3 Historical background & development

Cartographic and documentary research at the Essex Records Office (ERO), Chelmsford, provided information regarding the development of the farm and malting. Where appropriate, references are included within the text. Map extracts are reproduced as figures at the back of the report and enlarged in many cases to enhance detail. An Essex survey of maltings (Gould 1996) and the list description were used as well as local knowledge gained from the owners of Meditech, Chris Buckenham and his father.

The malting is described in the Listing as early 19th-century in date. Chapman and Andre's map of 1777 shows a structure in the same place but the detail is not sufficient to judge if it is the same building. Gowers Farm is also shown on the map (fig.2)

Stisted tithe map of 1839 (fig.3) depicts a similar layout, though again the quality of detail is poor. In terms of the construction of the malthouse and the brick type, it is likely the structure has been built by this time. Indeed, the field to the east of the malthouse (plot 113) is known as 'Maltings Field' in the associated Award (D/CT335B). From the award, the occupant is given as William May, a tenant farmer who rented Gowers from Onley Savill Onley (sic) of Stisted Hall. Trades Directories record William May as maltster and farmer at Gowers Farm from 1845 (Gould 1996) to 1874. After 1862 he is included along with his son, Frederick.

Popular belief has it that Frederick May built the malting (C. Buckenham pers. comm.). He apparently took malt to Maldon where he sold it and came back with a cart full of cheap Flemish bricks each time, brought over as ballast in cargo ships. Not surprisingly then, the

malthouse took seven years to build (C. Buckenham pers. comm.). This story sounds unlikely, though it is true that Flemish bricks were used as decorative pieces in church walls in the 13th and early 14th-centuries when English bricks were rare (P. Ryan pers. comm.).

The first edition Ordnance Survey, produced in 1875, shows the existing malting range with two smaller structures on the south-west end (fig.4). They are likely to be part of the attached outbuilding range recently demolished. The following OS map, from 1897, shows a separate structure built along the south-west end (fig.5) that was subsequently joined to the existing range (fig.1). A pump is indicated on the north-east end that would have fed the steeping tank sited at this end of the building. Frederick May is listed as maltster at Gowers Farm up until 1898 (Kellys Directories).

It is unclear exactly when the malting ceased production, but it is believed that sometime in the 1920s it became a cowhouse/dairy for the farm (Gould 1996; C. Buckenham pers. comm.). As part of this conversion, the germinating and kiln floors were removed (including the steeping tank and kiln itself), new entrances cut through, apertures blocked, stalls inserted and the walls rendered.

The Essex malting survey (Gould 1996) describes Gowers Farm malting as “one of the best surviving mid-19th century rural malthouses in Essex.” Externally, this is still the case, but the recent conversion has led to more internal losses through further wall and floor removal and rebuilding works.

2.4 Malt production (from Garwood & Letch 2001)

Malting is the procedure where grain, usually barley, is allowed to germinate under controlled conditions. When the correct level of germination is achieved, the barley is then dried in a kiln (after which it becomes malt) to check the process. It is mainly used in the production of beer or whisky, but is also used in the food industry for products such as malt drinks, malt extract, malt vinegar and in baking. The most common malt produced is pale malt.

After the barley has arrived, it undergoes a number of processes to prevent deterioration to the grain. It is firstly cleaned and screened to remove unwanted foreign bodies and then gently dried or sweated to artificially ripen the grain. This reduces the moisture content to prevent it spoiling during storage and improves the chances of effective germination. In larger maltings, sweating was performed in separate barley kilns, a method superseded in the 20th century by mechanical drum dryers.

Once released from storage, the barley was steeped in water-filled tanks or cisterns to begin germination. Before the repeal of the malt tax in 1880, the steeped grain was then heaped into a measuring device called a couch frame, where the excise-men could calculate the amount of tax to be levied. The couching procedure remained in use by many maltsters even after the repeal, as the heat generated by heaping the grain together accelerated primary germination.

The steeped barley was then spread out, to a height of between 4 and 8 inches, on the germination floors to grow. Louvered windows controlled temperature and ventilation to the floor. A strict temperature of between 13-22°C was required for germination. Therefore in the hot summer months when temperatures on the floors would exceed this range, many malthouses ceased production, concentrating instead on cleaning and maintenance. To ensure even growth and to prevent matting of the germinating rootlets, the barley was hand-turned using broad, flat-bladed shovels or tri-pronged ploughs.

Once germinated, the green malt (as it was known) was fed into the malt kilns to prevent further germination and dried for 3 to 4 days, during which it was periodically turned by hand. After roasting, the kilned malt was dressed and polished to remove the rootlets, which were collected and sold as a by-product for animal feed. It was then transferred to the maltstore where it was sacked. The malt was stored for at least a month before it was ready for dispatch to the brewery.

During the late 19th century, pioneering individuals began to use mechanical power and labour-saving apparatus. As the malting industry developed, the malthouses became increasingly larger and more industrialised. Multi-storey malthouses emerged during the latter decades of the 19th century, built with integrated storage, grain preparation and cleaning facilities. New methods were introduced in the 20th century including pneumatic drum malting which germinated and kilned the grain inside revolving drums. This system saved on space and was independent of atmospheric influences and so could be operated all year round. Some traditionally-worked floor maltings adopted such methods, but many smaller ones remained un-mechanised until their closure in the first half of the 20th-century.

3.0 OBJECTIVES

The purpose of the historic building survey was, as outlined in the brief (ECC HEM 2007), to investigate and record the three malting buildings (germinating floors, kiln, fuel store and maltstore to RCHME level 3 standard before conversion works began. In practice, however, remedial works had started before the survey began, contrary to the requirements of the brief. Therefore the record does not show the structures before conversion.

From conversations with the client, it appears that the malthouse was in a particularly bad state when the site was acquired. The first floor oak joists were rotten and caked in barley, the damp trapped by the hardboard dairy ceiling which had become unsafe. This is the reason given for works starting before a historical record could be made. The following list shows the extent of building work already completed prior to the survey:

- Repointing/repairs to external brickwork
- Ground floors removed and stripped of dairy fixtures and fittings
- Partition walls and doors removed (retained for re-fitting)
- Internal walls stripped of cement lining
- Kiln roof refurbished
- First floor of maltstore removed and roof refurbished
- 19th-century timber structures demolished and rebuilt on former footprint

In addition, the survey was required to consider several other factors: plan form and typology, materials and method of construction, building chronology and development, function and internal layout, survival of early fixtures and fittings, spatial layout and process flow, modifications, the context of the buildings within their immediate contemporary landscape and their importance/significance on local and national levels. Fortunately, enough of the fabric remained to address many of these requirements.

4.0 DESCRIPTION OF WORKS

The standing buildings were recorded using drawings (floor plans, elevations and sections) supplied by the architects, which were checked and amended on site. These form the basis of figures 6-11. External and internal architectural descriptions were made and building function assessed. A block plan of the site is included to show the location of the structures

within the survey (fig.1). Gowers Farm itself is in separate ownership and therefore not part of the survey.

A series of digital, 120mm colour and 35mm black & white print photographs were taken to record the buildings internally and externally. Specific shots were taken of surviving areas of important architectural detail, fixtures and fittings. A representative selection of all photographs is reproduced at the back of the report as plates 1-20. The remainder may be found in the archive.

Cartographic and documentary research was undertaken at the Essex Records Office (ERO), Chelmsford to understand the origins and development of the malting (section 2.3).

5.0 HISTORIC BUILDING DESCRIPTIONS

5.1 General description (fig.1)

The malting complex is located along the edge of the road, on a north-east to south-west alignment, ideal for transporting grain in and out. Gowers Farm stands to the north-west (fig.1). Arable fields lie on the opposite side, stretching into the distance. A large modern machine shed is located in between, in the process of demolition during the survey. There are rebuilt 19th-century outbuildings attached to the maltstore. Around the buildings the area is clear and free of vegetation.

5.2 Malthouse 1

Traditional malthouses like Gowers, are long thin buildings; typically two-storied with low ceilings. The steeping tank and kiln stand at opposite ends of the germinating floors, with the area between used for growing. The grain was hoisted up onto the platform at the north end and perhaps stored on the first floor or maltstore, as there is no evidence for a separate barley store. Grain was probably germinated on both floors, though perhaps not on the first floor if raw barley was kept here. In view of this, it is possible; grain was stored in the maltstore or a separate store within the adjacent farm buildings.

As a distinct unit, the malthouse is oblong in shape and comprises eight bays on two levels. The walls are brick-built, in English bond with a third outer course in Flemish, and not buttressed. The tremendous load of wet grain on the first floor required a strong-walled structure, though the floor would also have been supported on posts or iron columns. Bricks are soft and vary from orange to red or purple and contain frequent small flints, very much

like 18th-century bricks. However, their consistent size (9 x 4½ x 2½) and the presence of frog marks suggest a 19th-century date. The plain tile roof, which has been re-laid and felted, is hipped at the north-east end and gabled at the other, where it meets the kiln roof. Oddly, the pitch of the maltstore roof is different to the kiln, and higher, perhaps suggesting the two were not built at the same time. Wooden louvres are positioned either end.

External description

Both of the long elevations have four pairs of equally-spaced wooden vents. Those on the front (north-west) elevation (plates 1-3) are in good order, while those to the rear (plate 4), exposed to the elements, have been replaced with empty four-light wooden frames. Ground floor vented windows have segmental arches while the heads of those on the first floor are set into the eaves. All have cement-rendered brick sills. Ventilation was controlled from inside by hanging shutters.

Segmental arches top two doors either end of the roadside elevation. Their doors, like all others, are plain and battened but were removed before conversion works began and stored for reinstatement. The rear elevation had a single doorway on the south-western end with a concrete lintel, perhaps suggesting a recent insertion. This has been blocked and now houses a modern window.

The north-east gable elevation is dominated by a wide inserted cattle entrance (plate 5). A single vented window stands to the north-west. On the other side formerly stood the historic pump/well seen in 19th-century mapping, which supplied the steeping tank inside. On first floor level is a wooden loading door, hung on spear-headed strap hinges and iron pintels. At the base is a small opening (for cats?). There is a central wooden lock (plate 6); a reminder that grain was an expensive commodity. Any associated loading platform was removed when the heavy cattle door lintel was inserted in the 1920s, a reused bridging joist.

Internal description

At ground floor level, internal walls have been removed and openings inserted into the kiln during the recent works (fig.6, plate 7). Above the south-west aperture (plate 7) is a loading door aperture, used to transfer green malt from germinating floors into the kiln.

Concrete flooring and 2m-wide cattle stalls have been removed in the recent works, leaving scars on the walls either side up to the windows. A pile of brick rubble marks the position of the cattle dip (plate 8). The walls show bare brickwork up to the rafters. All of the wooden first floor was stripped out in the 1920s, but its height (no more than 2m) can be judged by short

wooden plates beside the window heads that carried the main floor joists (fig. 9, plate 8), supported either on posts or cast iron columns, also not present.

The bays are approximately 2m-wide and defined by 10-cm-wide beams. A telegraph pole has been inserted to carry later bracing and to divide the two north-eastern bays (fig.6). Above, the roof trusses are formed from pre-assembled machine-sawn queen strut frames with trenched purlins, kept in compression by vertical bolted iron rods (fig. 9). Such a form is common in later 19th-century farm buildings and indicates the roof is rebuilt (plate 11).

Evidence for the brick-built steeping tank was found in the eastern corner in the form of a wall scar 1.5m from the end wall (fig.6). From here it likely extended across the later cattle door and up to the window vent, providing enough room to enter through the door at the front. A narrow pipe at the base of the wall shows where the water was drained away (fig.6, plate 9). From the evidence, the steeping tank was 1.5m wide and 0.8m high. The thin lining of render at the bottom of the wall forms an unrelated damp course extending throughout the maltstore.

The only intact fixtures to remain are the battened window shutters, primarily on the more sheltered north-west side. They were probably kept open with wooden hooks attached to the floor joists like those in the maltstore. However, these are gone and pairs of pulley wheels attached to wooden brackets during the life of the cowhouse (plate 10) whose function appears unrelated.

5.3 Barley/malt kiln 2

Gowers Farm maltings housed a single kiln placed (following the flow of the maltings procedure) between malthouse and maltstore. The distinctive cone roof would have carried a cowl, common on pre-mid-19th century maltings (Booker 1974). Its single kiln would be used to sweat the barley on entry and later roast the green malt. Important internal evidence was recorded in the survey for the largely removed furnace and kiln floor despite damage done in the 1920s.

The kiln is divided into two parts: the square-plan kiln chamber and a narrow outshot to the rear where fuel was stored and fed into the furnace. The kiln stands adjoining the malthouse on the south-west end. Its main north-west wall steps in from the malthouse wall (fig.6), suggesting one or the other is later in date, which is unlikely. The interiors and spatial layout of the building have been seriously affected by earlier and more recent conversion works, mainly replacing walls, repairing and re-laying the roof and inserting openings into old fabric.

However, the removal of internal render during the current works did allow important kiln openings, blocked in the 1920s, to be exposed and recorded.

External description

The kiln is roughly square in plan and measures c.10m square. The walls are topped by a tall tiled conical kiln roof, whose cowl has been removed and replaced with a modern weathervane. The overall height is 9m. The kiln roof appears to be built within a narrower ridged roof, whose pitch is steeper than the existing malthouse (plate 2). In contrast, the end facing the lean-to, which is built on, finishes in a hipped end.

The structure is built independently to the malthouse of bricks the same size and hue. Up to first floor level, indicated by the wire floor plate, the outer walls are the same thickness and duality of bonds, Flemish and English, as in the malthouse. Above, the walls step in on all sides in pier and panel construction in normal Flemish bond. The floor plate has 2½" headed tension bolts that held the wire mesh floor on 4" square iron backing plates to counteract the effects of heat on the wire. They are spaced approximately 26cm-apart (plate 12). The bolts are missing on the other sides.

Towards the fuel store, the eaves sweep down at 45°. A square two-light timber window faces the road, stripped of any other detail (plate 12). Existing apertures on the ground floor are modern in origin (either 1920s or more recent) but the first floor is relatively unaffected. This floor contains historic loading doors (or their openings) relating to traditional grain and malt transferral, essential in understanding the process flow of the complex.

Internal description

The major surviving internal feature is the remains of the kiln furnace that occupied much of the kiln chamber (fig.6). With so little remaining, it is difficult to make a reconstruction of it. The upper walls were removed to floor level in the 1920s and now only its floor and wall outline remain against the surrounding uneven mortar/clay floor (plate 13). The furnace measures 3.2 x 2.10m and was built against the south-west wall, though evidence for its attachment was likely removed during the recent stripping-out. The worn nature of the bricks show the upper parts of the furnace were dismantled a long time ago, presumably in the 1920s. The furnace was likely to be a simple affair, probably a grated fire basket set within a low wall. Fuel -most likely coke- was fed through the stoke hole from the fuel store (plate 13) onto the grate and the heat rose up from the furnace up to the wire mesh floor. Once finished, the ash could be raked out from below the grate. At ground floor level, the kiln would have been largely enclosed to keep the heat in. First floor shovelling hatches survive,

linking to the malthouse, maltstore and fuel store (fig.6). The only remaining door is on the south-west wall (plate 14), leading to the fuel store, where the raw barley could be passed through for sweating upon arrival. The door is typical of those seen elsewhere in the survey, whether large or small; a simple ledge and batten style carried on round-ended strap hinges. Historic lath and plaster remains here to match the curve of the wall plate (plate 13) and other corners have been rebuilt or are in the process of rebuilding. Indeed, nails in the long rafters above show the whole interior was formerly plastered and limewashed (plate 14).

The location of the kiln floor is shown by a wide mortar/tile band 2.25m high up on the north-west wall. The tension bolts for the floor are held within it, terminating in iron rings that held the main wires (fig.10, plate 13 right). None remain on the opposite wall, which has been rebuilt in the recent conversion works.

Spanning the centre of the kiln at a height of 4m is a heavily soot-blackened oak beam containing the cowl shaft housing (fig. 10). It comprises a simple wooden block nailed to the plate with a 2 inch diameter recess (plate 15), enabling independent rotation of the cowl guided by the wind through its vane for effective smoke release. Shallow mortices on the beam soffit are unrelated to any other constructional features and indicate timber reuse. From the base plate, the kiln roof rises at a sharp 75° angle for some 4.8m to terminate in a circular wall plate (fig. 10, plate 14). The long rafters measure approximately 6 x 10cm and are trenched-into the collars. Some are replaced but most are hand-sawn and therefore original. Hipped rafters are attached to the bases of the south-west end rafters to create the hipped roof. No other fixtures or fittings are evident.

5.4 Maltstore 3

Malted grain was passed through from the kiln floor to the maltstore via the connecting shovelling hatch on first floor level where it would be stored before dispatch to the brewery in sacks or bins. The ground floor was usually the sacking floor and grain passed down through floor hatches. However, in this case, there is a loading door on the first floor, unless, of course, it was used for bringing barley in.

The maltstore is a half-timbered structure at the south-western end of the complex. It is oblong in shape of 3½ bays and a further half-bay extension, was originally part of the demolished weather-boarded outbuildings attached to this end, but is now, with the rest, rebuilt. Only the upper register remains from the end wall.

Originally, the maltstore was divided into two rooms on ground level and a single area on the first floor; with trapdoors (probably) located on the floor above to drop grain through. Malt was graded, sacked and stored here after roasting in the kiln. As part of the recent conversion works, the interior had been stripped-out, roof rebuilt, external cladding replaced and new first floor joists laid.

External description

The maltstore is brick-built up to first floor level and thereafter timber-framed and clad in weatherboarding, topped by a shallow pitched 35° slate roof, which may have been added with the extension. Only the south-east and north-west elevations are properly exposed, the other two mostly hidden by the kiln and malthouse. Part of the new-build shed wraps around the southern end on the ground floor. Beginning here and working to the north-east (plate 4), there is a plain empty window that appears to be inserted within a blocked doorway. Certainly the lower part has either been re-pointed or in-filled recently. This would originally have lead into the rear part of the maltstore (fig.6). A second off-centre entrance has been partly rebuilt. Further along is a possible blocked window (fig.6). Its ledge is formed by a row of on-edge headers that continue to a straight joint in the brickwork, another possible blocked entrance on this side. Above, in the weatherboarded part and just below the eaves, are a row of three-light wooden vents (plate 4), the third, with odd spacing, has been added to the secondary half-bay extension (fig.7).

The end wall of the maltstore is consistent with the rest of the structure in its half-timbered construction. It is contained within an open half-bay extension that is open on the ground floor and, as the site survey showed, contained a stair, linking to an entrance cut through the original end wall of the maltstore (fig.7). The extension has been largely rebuilt, except for the south-west wall, which contains some earlier studwork. A deeply-worn groove is located at the bottom of the brick maltstore wall (plate 16), suggesting the building was extended to house grain processing/conveyor machinery or a silo. It is clear from the grain chute on the cover plate that there was machinery located inside when the malting survey was carried out in 1995.

Internal description

The ground floor (plate 7) has recently been completely stripped out to bare brickwork. New floor joists have been inserted into the upper floor, which at the time of the survey, had yet to be boarded. Therefore recording works were carried out from a ladder stood resting against the end joist. It is likely the maltstore and top germinating floor were originally partitioned, given the humid atmosphere of the malthouse, unless both were used for storage.

Each of the 3½ bays is defined by strapped tie beams. The walls are built in primary-braced timber-framing apart from the north-west wall that adjoins the kiln and is therefore partly bricked. An open loading hatch is set within the lower section for transferral from kiln to store and beyond the kiln is an external door for passing the grain down after sacking (plate 17) into carts beside the roadside. The south-western bay is shorter than the others and is built from more slender timber (plate 18).

The rafter roof is a modern rebuilt lightweight structure. According to the client, the roof was leaking and the oak floor joists rotten when Meditech acquired the site (C. Buckenham pers. comm.).

5.6 Fuel store 4

The fuel store (plate 2) is a small single-storey building on the south-west end of the kiln and contemporary with it. It has a single pitch slate roof and entry points on the north-west the (main entrance) and south-west (fuel entrance) elevations. The two doors, and a window on the main elevation, had been removed during the conversion works and the brickwork repointed in fresh lime.

Through the removal of cement render on the wall adjoining the kiln, a blocked stoke-hole and pointed-arched shelf recess in the wall beside it were revealed (plate 19). A hole nearby in the worn brick floor shows the blocking material used did not have far to travel. The stoke-hole is tall and stands 1.6m-high, with a semi-circular arched head. No fixtures are evident, but there are small areas of render on both sides that may represent positions of removed hinges and latch fittings to a cast iron kiln door. The existing entrance into the kiln is a later feature and uses the kiln floor plate as a lintel. During the conversion works, ceiling joists had been added, through which the loading door into the kiln for sweating was seen (plate 20).

6.0 DISCUSSION AND PROCESS FLOW

Historic map evidence indicates a similar building occupying the site in the late 18th-century. Early 19th-century maps give the same impression, though neither are particularly clear. However, the existence of an adjacent field called 'malt house field' in 1839 proves the existence of a malting by this date. The Essex Malting Survey (Gould 1996) suggests a mid 19th-century date while the list description suggests an early 19th-century date (Listed Buildings Online). From the evidence, it appears the earlier date is appropriate, especially as cowl-topped conical kiln roofs were widespread in Essex before the mid-19th-century

(Booker 1974). With the introduction of the railways, slate became widespread, which was unsuitable for this roof form. Otherwise, there is little to date the buildings except in fairly broad terms. Brick size can be a useful tool to date a building. In this case they are consistently large 9 inch frogged bricks that would suggest a 19th-century date, yet frequent flint inclusions could suggest an 18th-century date (P. Ryan pers. comm.). There are no hard and fast rules, but an early 19th-century date seems fair, but does not answer the question of the identity of the 18th-century building.

The pre-fabricated roof trusses in the malthouse suggest the roof was rebuilt, probably in the late 19th-century when the outbuildings were constructed and maltstore extended and re-roofed as well. The fact that the kiln wall is out of line with the malthouse is odd, and clearly the kiln was built first, but this is not to say that either belongs to an earlier phase, as this is outweighed by the many similarities. More accurate dating may have been possible had more original fixtures and fittings survived, especially the floors, kiln and steeping tank.

In terms of layout, the malting is a variation on the Ware pattern type and may be referred to as a 'hybrid malthouse' (Patrick 1996). Like the Ware type, the building layout follows the flow of processes from grain to malt: steeping and germinating in the malthouse, roasting in the kiln and storage/dispatch in the maltstore. However, with the Ware type there is normally a store at the front end for unprocessed barley. By having one kiln, for both sweating and malting, the maltstore could be placed against the side of the kiln rather than at the end, and perhaps used as a barley store as well. Alternatively, the top floor of the malthouse may have been used, although this would seem to be wasteful in terms of the malting's growing capacity. A full analysis of the process flow at Gowers is included in section 6.1, accompanied by a diagrammatical representation in fig.11.

6.1 Process flow

Gowers Farm malting worked using traditional methods of floor malting, whereby grain was moved and processed manually through wall and floor hatches in a recognised working pattern. Much of the horizontal process flow (wall hatches/shovelling/loading hatches) remains but with no floors, there is no vertical flow (floor hatches or hoists). No evidence was encountered during the survey to show the process was mechanised during the working life of the malting, though there is evidence for 20th-century grain processing and storage facilities during the life of the cowhouse. The following description of the process flow at Gowers Farm is illustrated in fig.11.

Sacked raw grain was brought in by cart and raised or hoisted up to the loading door and onto the first floor of the malthouse (A), ready for steeping. Alternatively, it could be brought into the fuel store, raised and sweated-off in the kiln first (A1) and brought inside in the same way or brought through straight from the kiln and stored in bins in the maltstore for longer-term storage. Indeed, depending on the demand and the overall capacity of the building, it is possible the first floor of the malthouse was used for long-term storage.

In the malthouse, the grain was probably screened on the first floor to remove unwanted particles, and dropped through floor hatches down to the steeping tank below (B). The barley was soaked in water for 2-3 days (C) before being transferred to a couching frame (not observed in the survey, but usually adjacent to the steep). From here it was spread out on the growing floors to germinate (D). Grain was shovelled up to the first floor growing floors through shovelling hatches at the south end (D1). Having germinated, the green malt was shovelled to the north end, raised from the ground floor and shovelled through the loading door into the kiln, where it was roasted for 3-4 days (E). Once ready, the malted grain was shovelled through the side door and into the maltstore where it was probably dressed and polished before being stored in bins (F). Storage usually lasted around a month. After this time, the malted grain was sacked on the first floor or dropped through floor hatches to ground level for sacking. Once ready, it was dispatched to the brewery from the maltstore (G).

7.0 CONCLUSION

The malting at Gowers Farm is dated to the early 19th-century on stylistic, fabric and cartographic grounds, although the survey suggests it was built over an earlier structure shown on late 18th-century mapping, whose identity remains a mystery, but is possibly contemporary with existing buildings over the road at Gowers Farm.

Despite its largely-intact outward appearance, many features have been lost internally that would have given greater insight into its dating and character. It is unfortunate that a major conversion in the 1920s removed much historic fabric and latterly the structure has been left to degenerate through neglect. However through much-needed refurbishment works, the main fabric of this important grade II-listed building will be saved.

This is a rare survival of a small 19th-century rural malting, using traditional working methods. Malting was a specialised activity, requiring more space and time than the urban

breweries could afford (Buchanan 1980). Like the mills, these small concerns dealt with their local markets and regional economies and acted as a useful commercial sideline for the farmer, providing malt straight to the brewer's door.

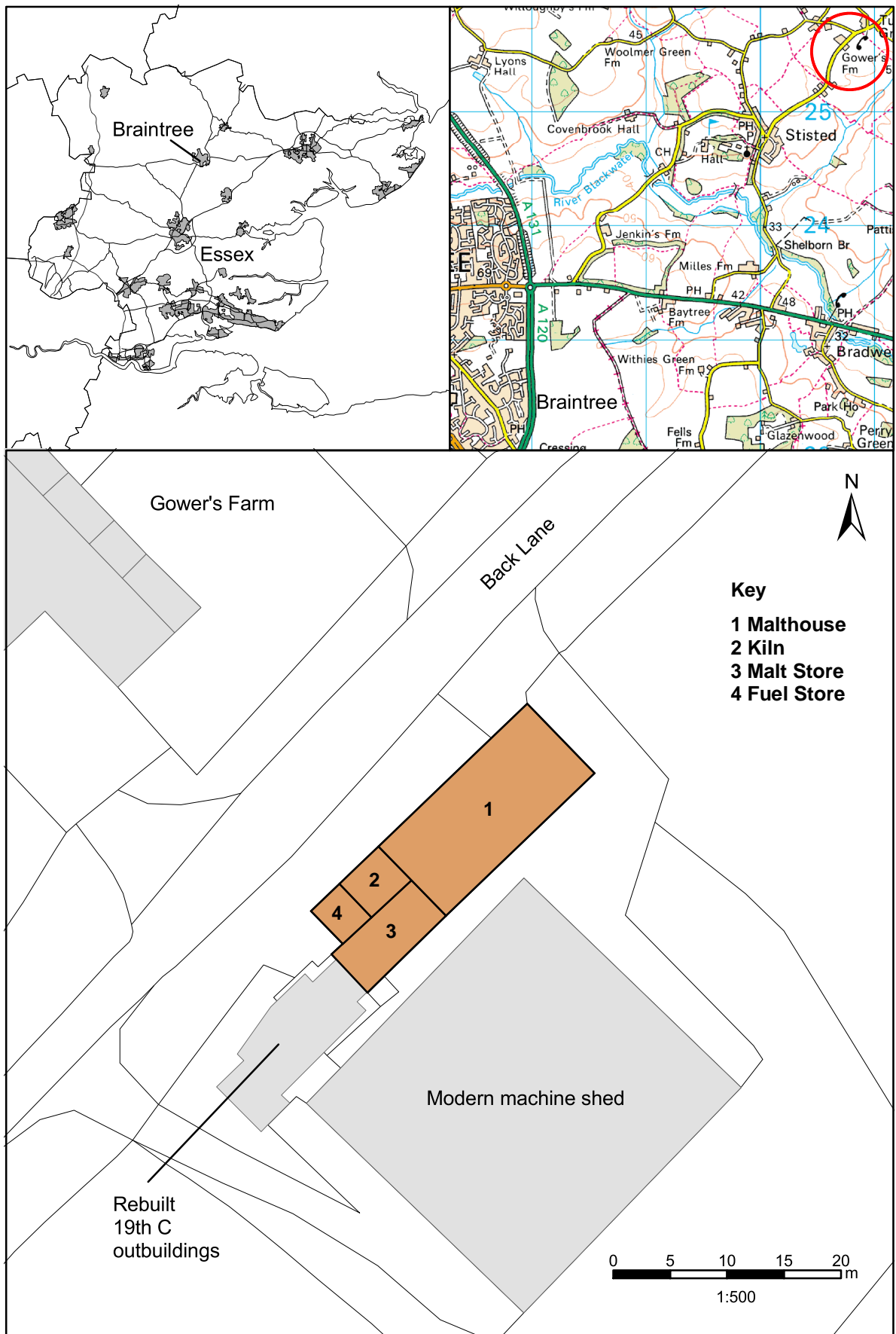
Today, the scarcity of such structures means that Gowers Malting has regional, perhaps national, importance. It is also a particularly attractive building in a good location that enhances the rural setting. The closest stylistic parallel found in Essex to Gowers Farm malting is another rural malting at Codham Little Park Farm, Wethersfield (Gould 1996), whose character was compromised in its conversion to residential usage. This is unlikely to occur at Gowers whose prominent exterior is to be retained and enhanced as part of the conversion.

ACKNOWLEDGEMENTS

Thanks are due to the owner, Mr Chris Buckenham for commissioning the works and to Pat Ryan for her views on the fabric of the buildings. The help of staff at the Essex Records Office is acknowledged. Fieldwork, recording and photography were undertaken by the author. Illustrations were prepared by the author and produced by Andrew Lewsey. The site was monitored by Vanessa Clarke of ECC HEM on behalf of the LPA.

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Fig.1. Site location and block plan

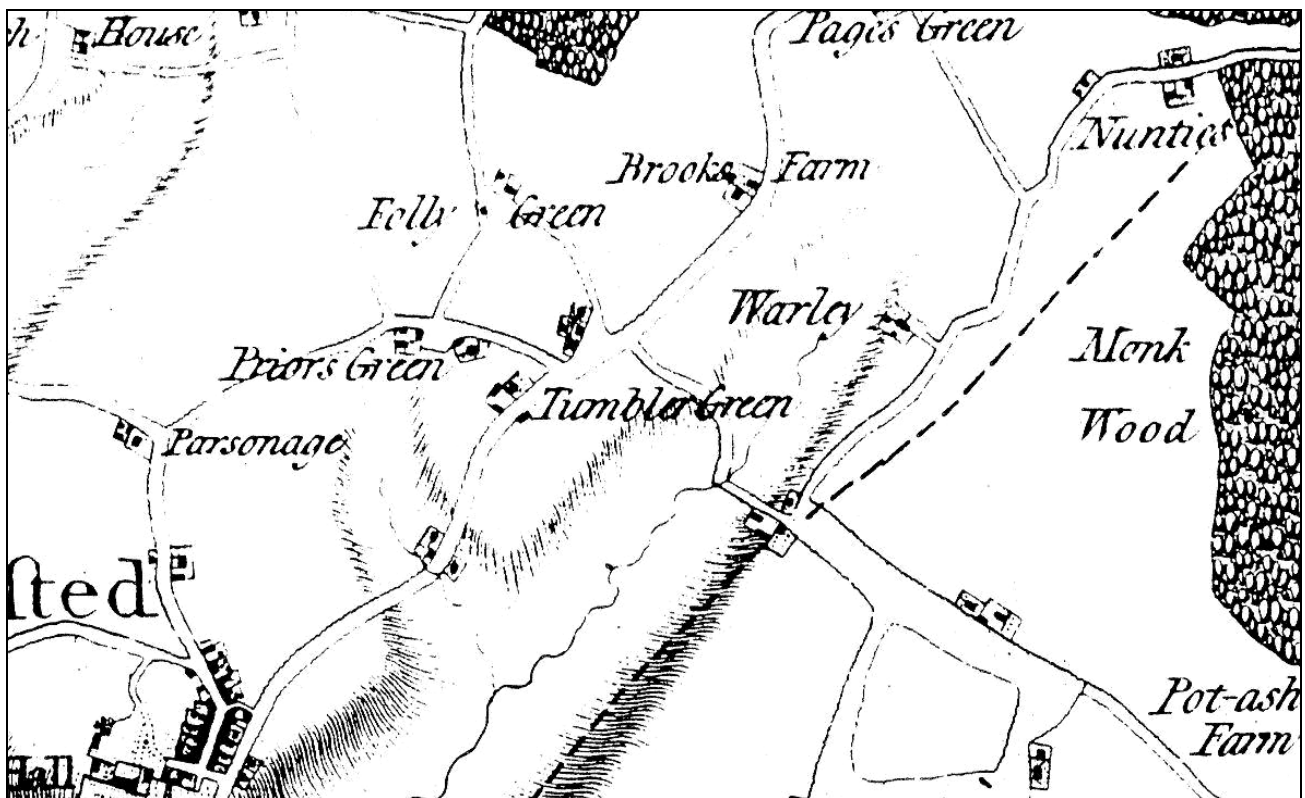


Fig. 2 Chapman & Andre map, 1777 (plate 8)

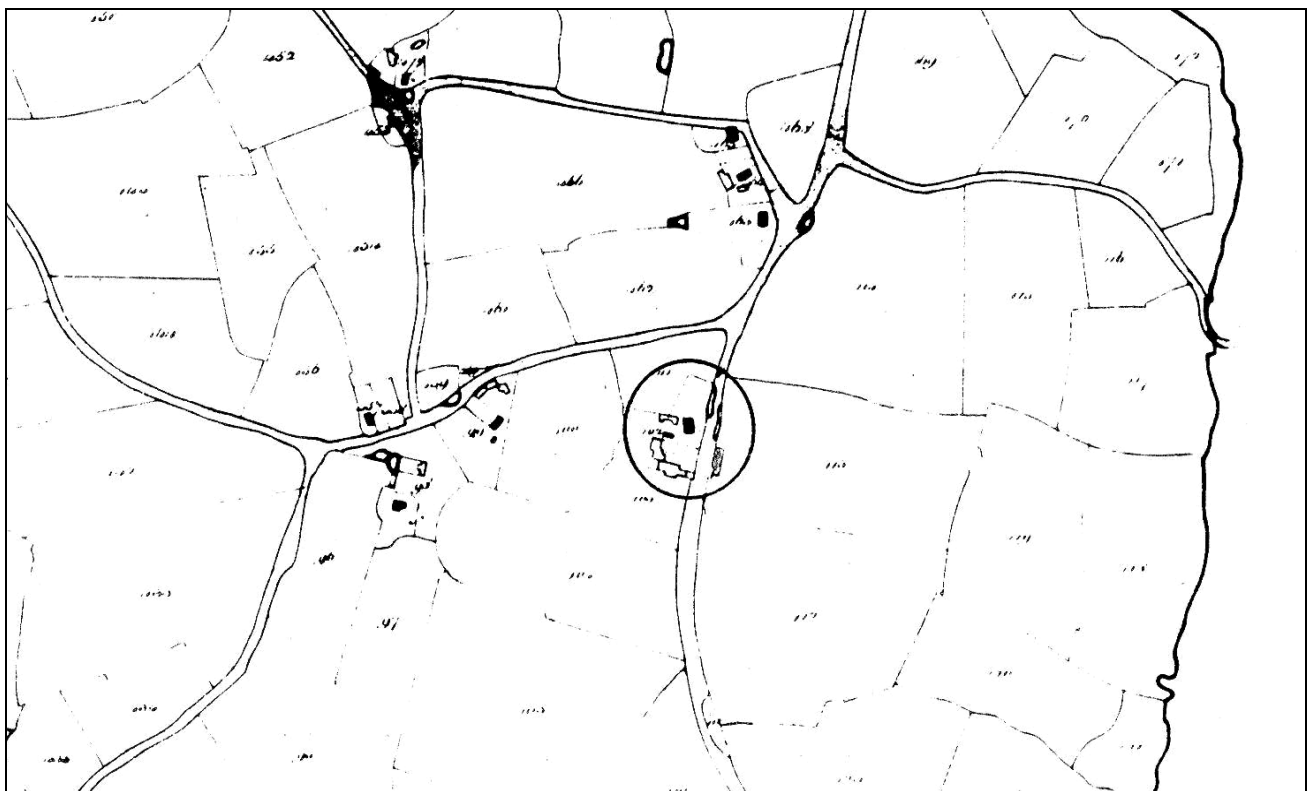


Fig. 3 Stisted tithe map, 1839 (D/CT 335B)

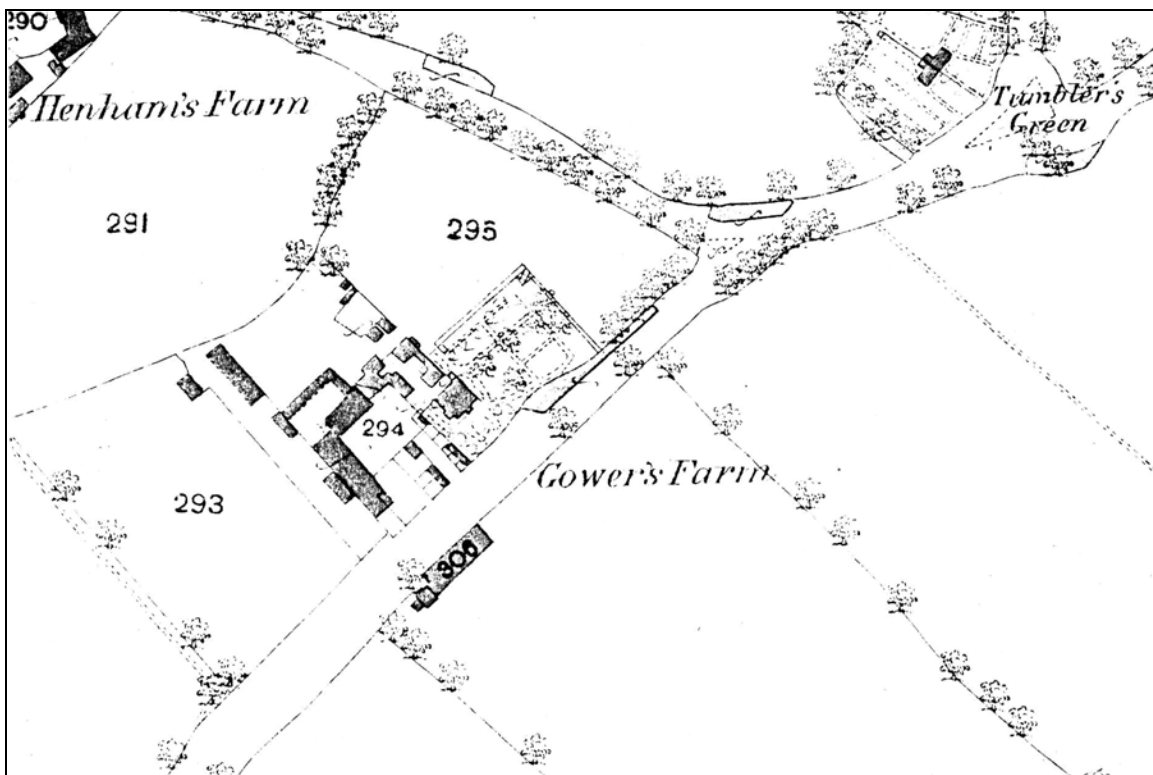


Fig. 4 First edition 25" OS map, 1875 (sheet 25.8)

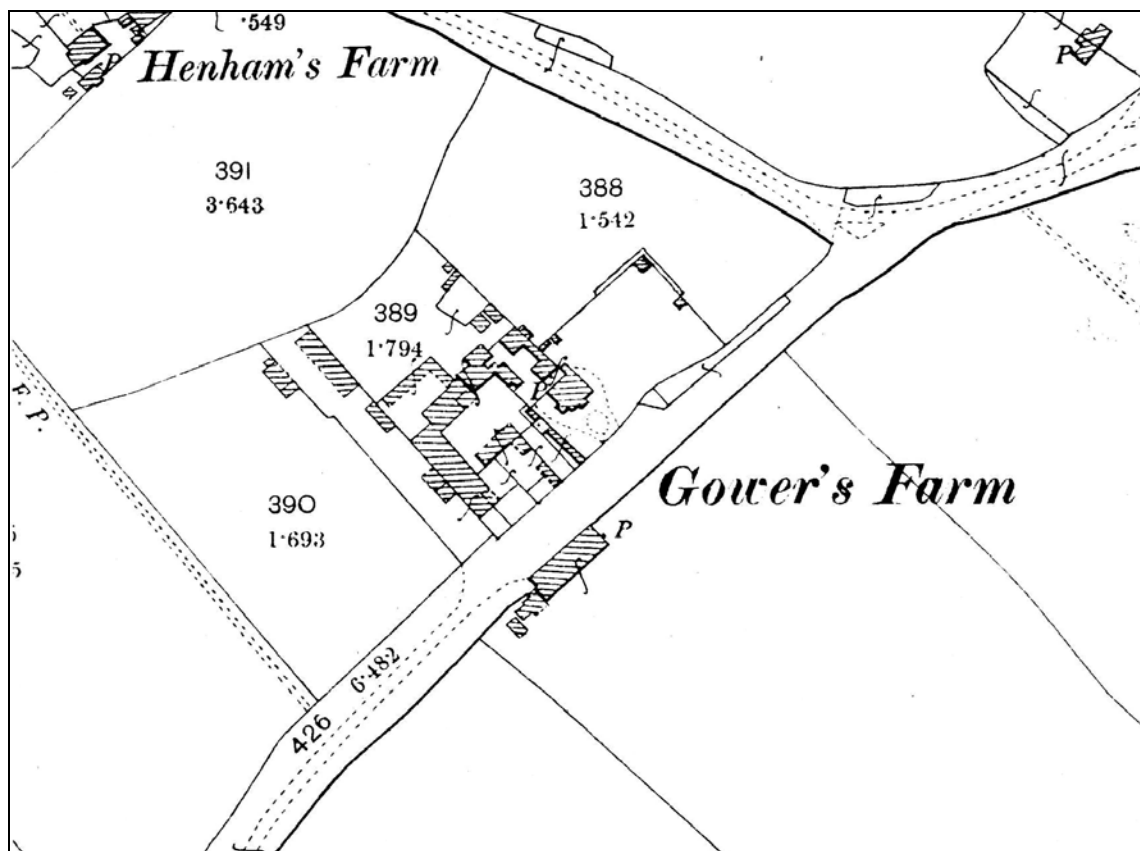


Fig. 5 Second edition 25" OS map, 1897 (sheet 25.8)

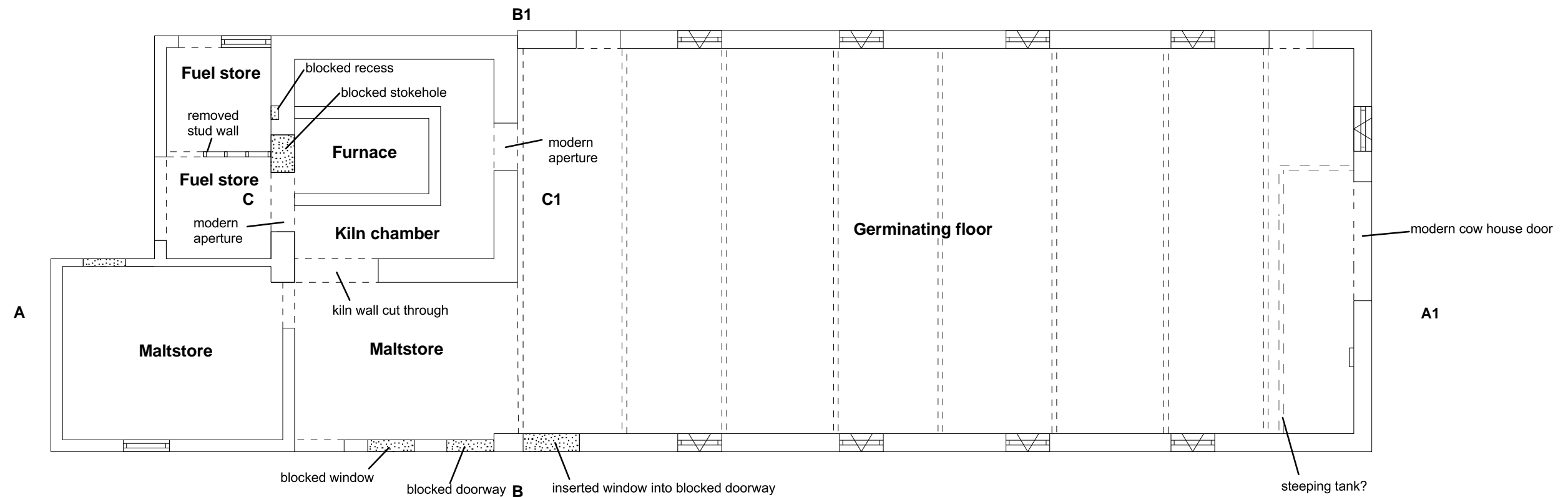


Fig.6. Ground floor plan of malting

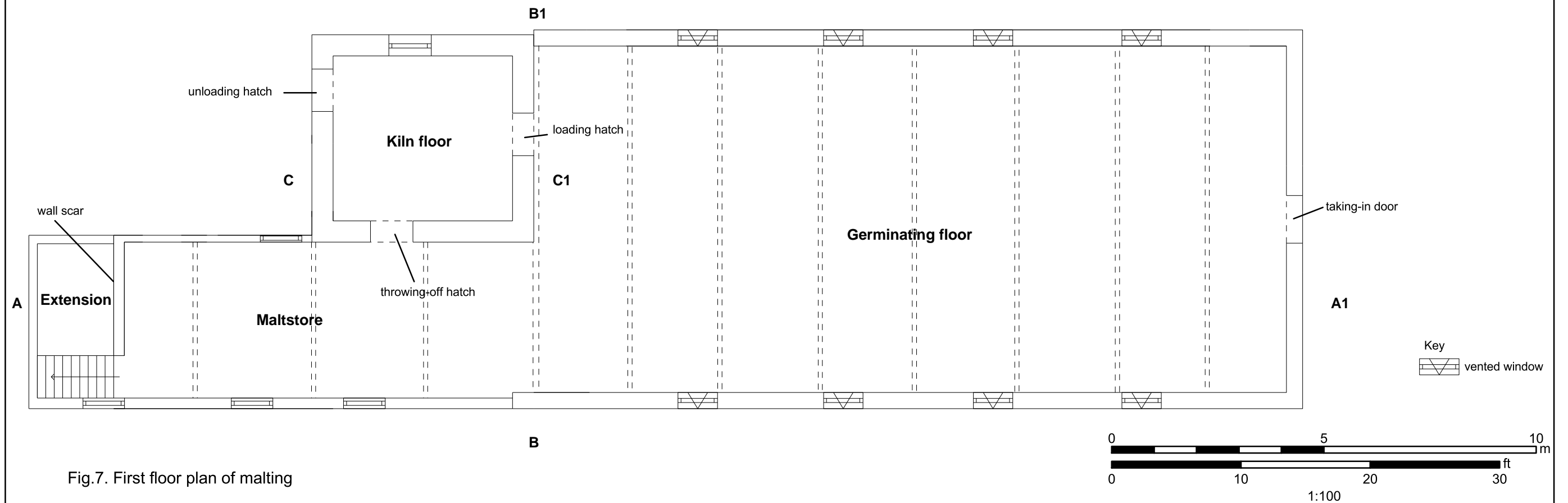


Fig.7. First floor plan of malting

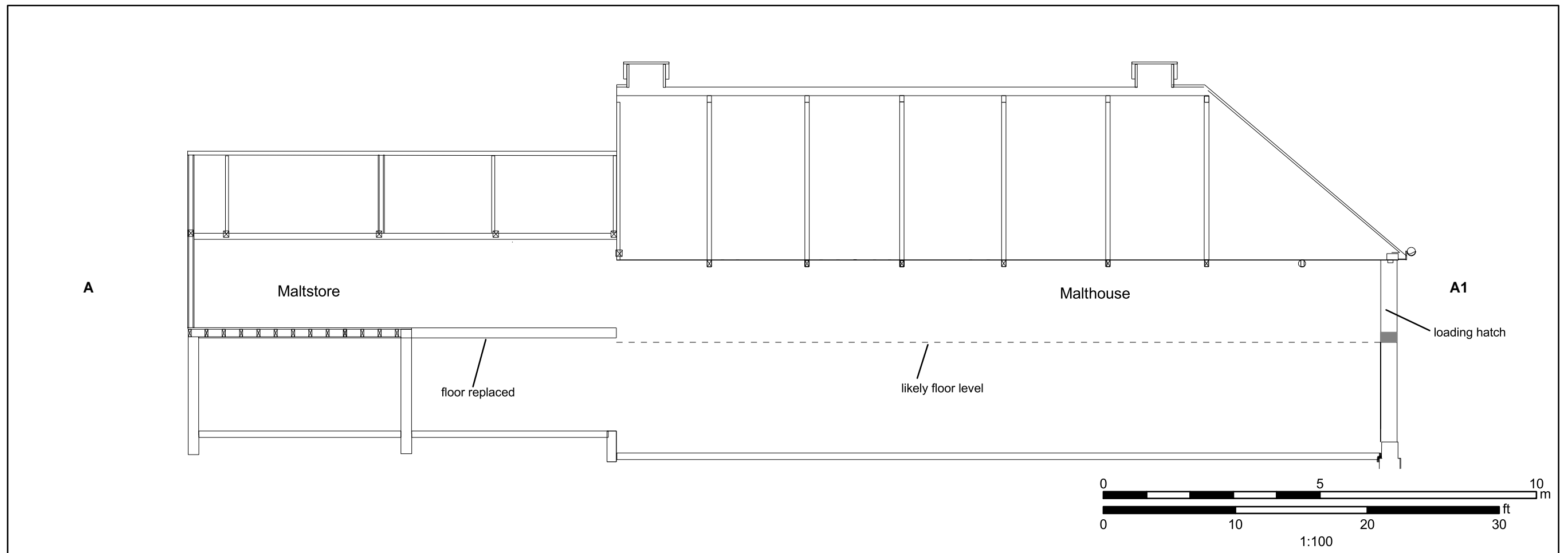


Fig.8. Long section through malting (A - A1)

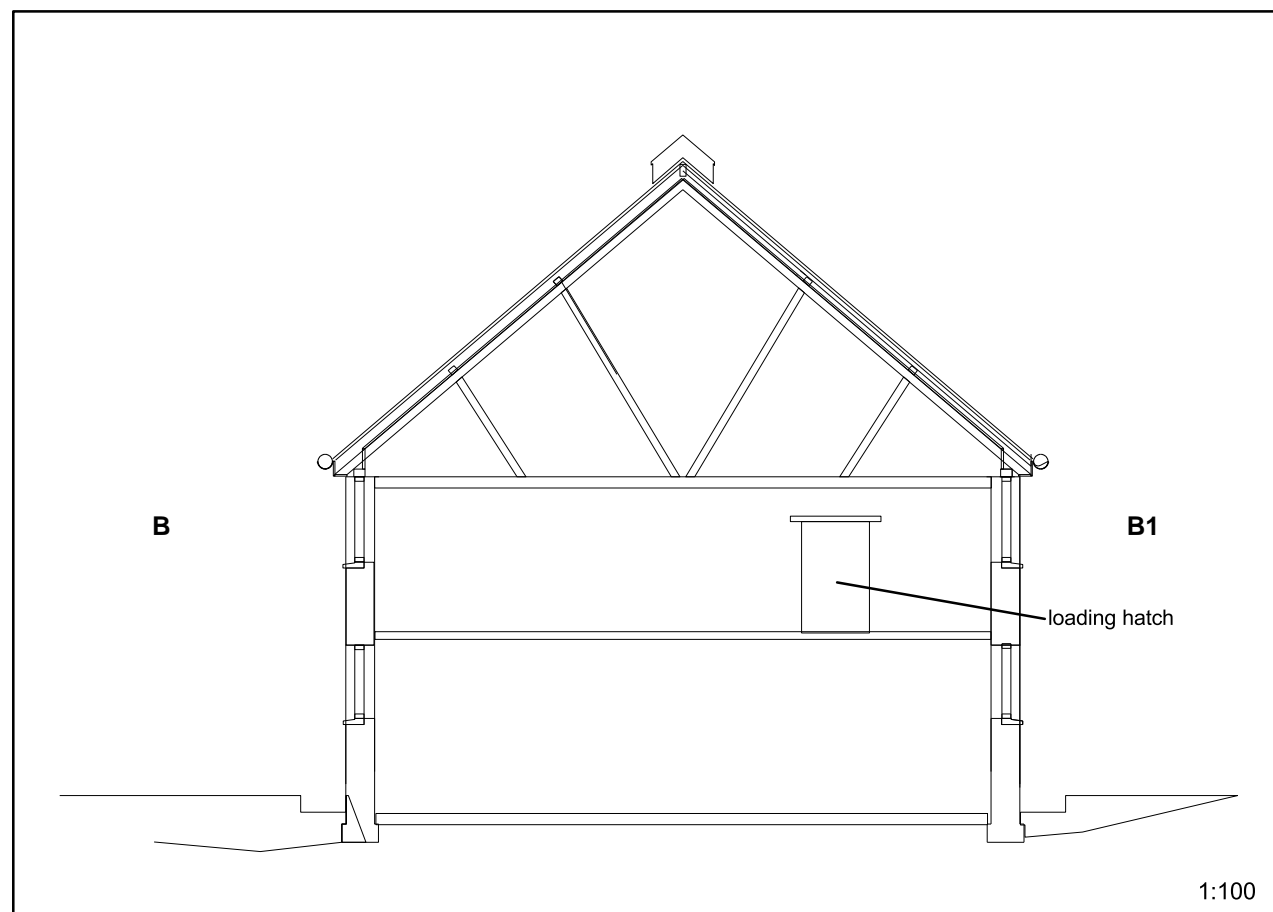


Fig.9. Section through malthouse (B - B1)

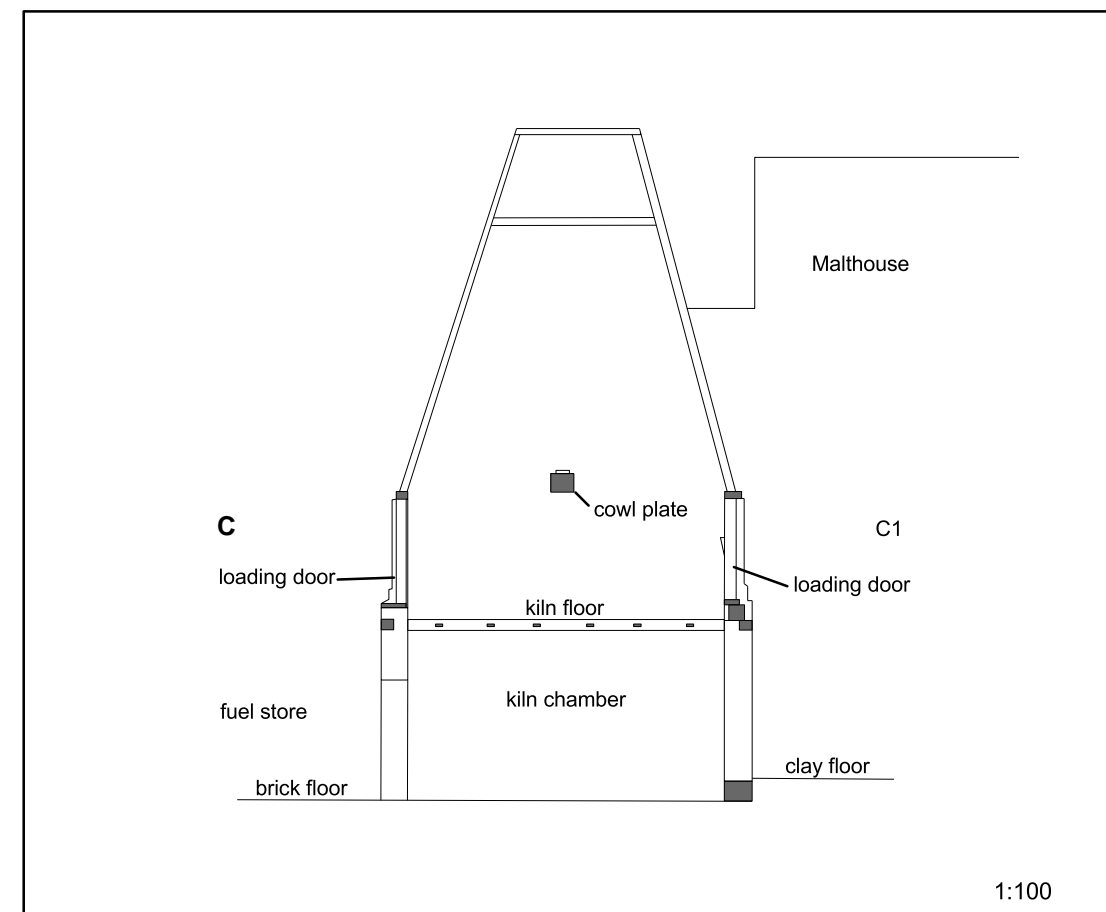


Fig.10. Section through kiln (C - C1)

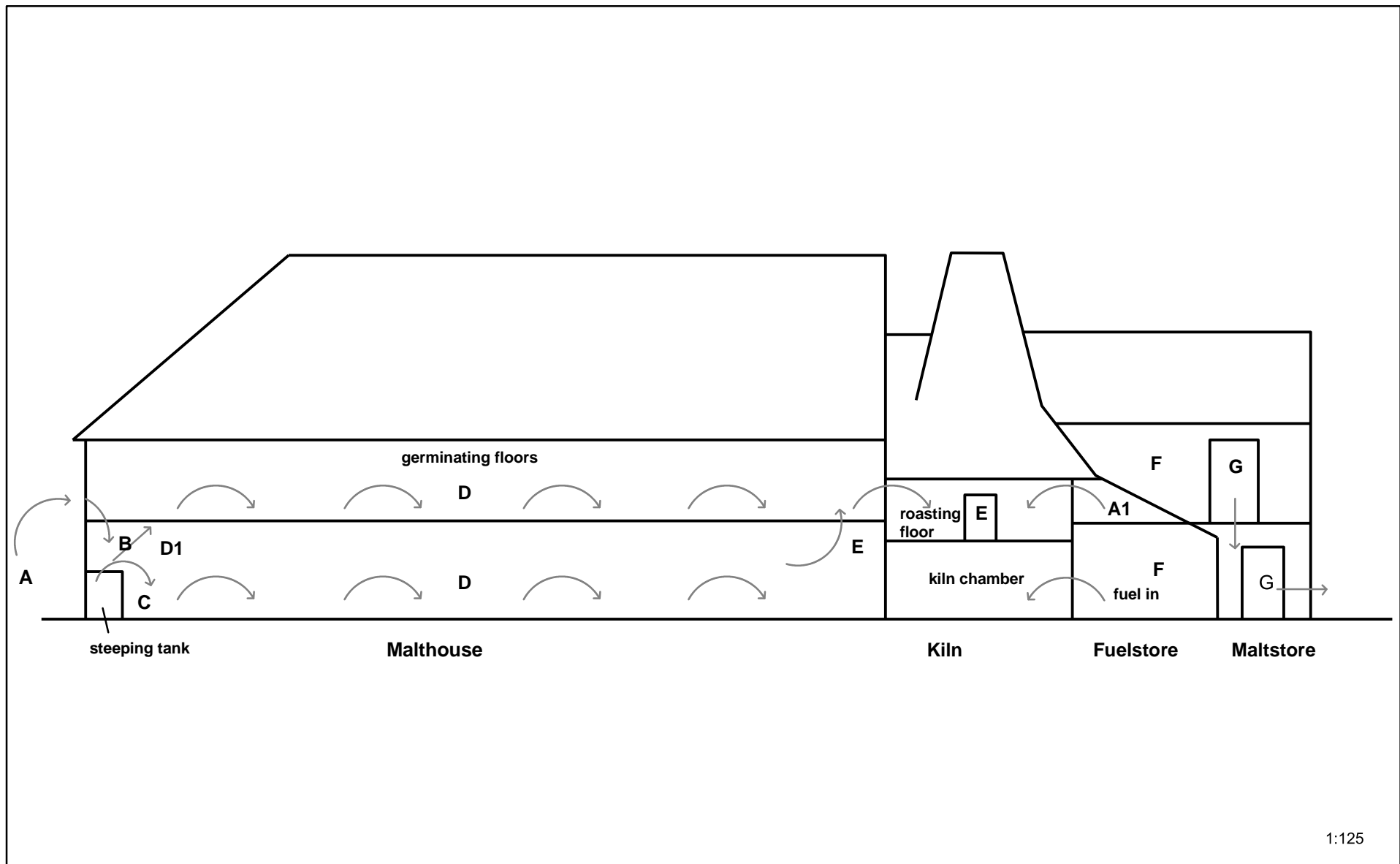


Fig.11. Process flow diagram



Plate 1 Malting with rebuilt outbuildings



Plate 2 Malting viewed from west



Plate 3 Malting viewed from north



Plate 4 South-east elevation of malthouse and maltstore



Plate 5 Loading door into malthouse above cattle doorway



Plate 6 Loading door from inside



Plate 7 Interior of malthouse viewed to maltstore and kiln (south-west)



Plate 8 Interior of maltstore viewed to north-east (to former steps)



Plate 9 Evidence for steeping tank



Plate 10 Shuttered malthouse window vent



Plate 11 Roof truss and louver viewed from interior of malthouse



Plate 12 Tension bolts for wire mesh kiln floor and fuel store



Plate 13 Remains of kiln furnace and blocked stoke hole



Plate 14 Kiln roof and cowl plate



Plate 15 Detail of cowl shaft base



Plate 16 External south-west wall of maltstore within rebuilt area



Plate 17 First floor of maltstore viewed to west (kiln and loading apertures)



Plate 18 Maltstore first floor viewed to south



Plate 19 Blocked stoke hole and wall recess inside fuel store



Plate 20 Loading hatch for sweating barley in kiln

Appendix 1: Contents of Archive

Site name: Gowers Farm Malting, Tumblers Green, Stisted

Project no. 1806

Index to the Archive

Document wallet containing:

1. Research Archive

- 1.1 ECC HEM design brief
- 1.2 ECC FAU written scheme of investigation
- 1.3 Two copies of client report (one unbound)
- 1.4 CD containing digital images, architects drawings & copy of report (pdf-formatted)

2. Site Archive

- 2.1 Photographic register
- 2.2 Photographic record (digital & 35mm monochrome prints & 120mm colour prints & negatives)
- 2.3 Site notes & annotated survey plans
- 2.4 Architect's drawings

Appendix 2: EHER Summary Sheet

Site Name/Address: Gowers Farm Malting, Tumblers Green, Stisted, Essex	
Parish: Stisted	District: Braintree
NGR: TL 8076 2558	OASIS record No.: essexcou1-34877
Type of Work: Building recording	Site Director/Team: Andrew Letch ECC FAU
Dates of Work: 12-13th July 2007	Size of Area Investigated: N/A
Curating Museum: Braintree	Funding Source: Meditech Ltd
Further Work Anticipated? None	Related EHER No.: 15031
Final Report: Summary in EAH	
Periods Represented: Post-medieval (18th & 19th-century), modern	
<p>SUMMARY OF FIELDWORK RESULTS:</p> <p>Recording works were undertaken during office conversion works of a Grade II –listed early 19th-century malting, formerly owned by Gowers Farm, located on the other side of the road. The malting is a Ware pattern hybrid style, whereby the building layout reflects the process flow from barley to malt, but without a separate barley store. It has been noted as one of the best-preserved maltings of its type in Essex (Gould 1996).</p> <p>The malting is built on the site of an earlier, 18th-century building, according to map evidence. The malthouse roof was replaced in the late 19th-century. It used traditional floor malting techniques until its closure, in or slightly before the 1920s, when the interior was stripped out to form a cattle shed/dairy for the farm. In recent years the building has been left empty and left to deteriorate. Recent works, carried out before the survey, involved stripping out of 1920s features and rebuilding the malthouse, attached late 19th-century outbuildings and the kiln roof. The germinating floors, furnace and roasting floor had already been removed.</p> <p>Although much is missing internally, the exterior retains the form of an early 19th-century malting in its conical kiln roof, two-storey growing floors, fuel store and half-timbered maltstore. In addition, its mellow brickwork and weathered tiled roofs marks it out as a rare and particularly attractive survival from the Industrial Age.</p>	
Previous Summaries/Reports: None	
Author of Summary: A. R. Letch	Date of Summary: 6th December 2007