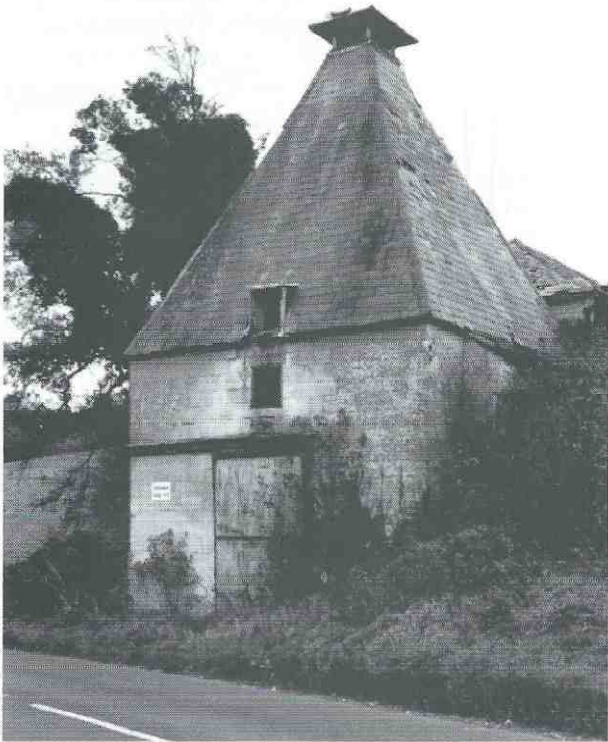


## Emergency Recording of the Malthouse at Clearbrook Farm, Midford Hill

Sheila Ely



The Old Malthouse, Midford  
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The pyramidal-roofed kiln of the malthouse at Clearbrook Farm forms a notable landmark beside the road south of Midford, just outside Bath, on the way to Frome. The malthouse is partly built into the hillside within the farm complex. It appears to have been constructed in the middle of the nineteenth century and was certainly in existence by 1851. The production of malt ceased in the 1920s, and the malthouse was converted into a cowhouse and pigery in the 1930s. The section which housed the kiln is faced with ashlar stone. However, the majority of the building is constructed from randomly coursed, squared limestone blocks. The roofs are covered in Welsh slate with red ceramic ridge tiles. The building can be divided into six elements, a lean-to steep, an eleven-bay range of three storeys which comprises two growing floors with a storage floor over, a kiln with a pyramidal roof, a two-storey lean-to which housed the maltster's office, a vaulted fuel store and a small yard or area.

The malthouse conforms to the multi-storey type in that storage was on the top floor above the growing floors. It is the only known example of a malthouse with a steep at first-floor level within a purpose-built lean-to, rather than within the growing floor range. The only other malthouse which is known to have a steep housed in a lean-to is at Letheringsett in Norfolk. However, at this site the steep is on the ground floor.

The construction of the first floor of the maltings at Clearbrook Farm is of particular note in that it com-

prises stone jack-arching formed from large rectangular dressed limestone blocks, supported by 'triangular'-section cast-iron beams and cast-iron columns. Cast-iron beams are more commonly "I"-section at this date, and although some analogies for 'triangular'-section cast-iron beams of this period are known from this period, no exact analogies for this form of cast-iron beam are known. The ashlar stone-vaulted fuel store which is built into the hillside on the southern side of the building is also of note.

The building is not listed in its own right but lies within the curtilage of Clearbrook House, an eighteenth-century farmhouse which is listed Grade II. The location of such a large-scale malthouse capable of the production of malt on an industrial scale in the context of a farm complex is unusual.

The malthouse was recorded in 1996 as part of the statutory Emergency Recording work undertaken by the Royal Commission on the Historical Monuments of England, prior to the conversion of the building into residential accommodation. The jack-arched first floor was in a state of collapse at the time of survey.

### The Documentary Evidence

The exact date of the construction of the malthouse cannot be established, although the tithe map shows that the malthouse was in existence by 1851. The dating of analogous cast-iron beams supporting the first floor indicates that it was probably constructed between about 1830 and 1851. The combined evidence from the tithe map, census returns and directories, suggest that a William Grant who was a maltster in Hinton, moved with his family to Midfordhill Farm, as it was then called, between 1841 and 1851. A 'History of Title' suggests that he may not have become the owner of the malthouse until 1861. The same evidence suggests that the first known owner was Emily Inman of Batheaston.

An undated plan which accompanies the 'History of Title' shows that the eastern end of the malthouse was supplied with water from two springs which rose from the hillside to the south-east of the building. A rectangular yard or area, with retaining walls, is shown butting up to the southern side of the building. What appears to be a light-well is shown to the east of this, butting up against the malthouse. The vaulted store to the west of this is not shown, perhaps because it was below ground. The plan also shows a path which runs from three cottages to the maltster's 'office' suggesting that there was a relationship between the occupants of the cottages and the malthouse.

The first edition Ordnance Survey plan of 1885, shows the malthouse in the same form as it is shown on the map accompanying the 'History of Title'. The farm is called Midfordhill Farm on this plan.

Research into J.D. Taylor and Sons maltsters of

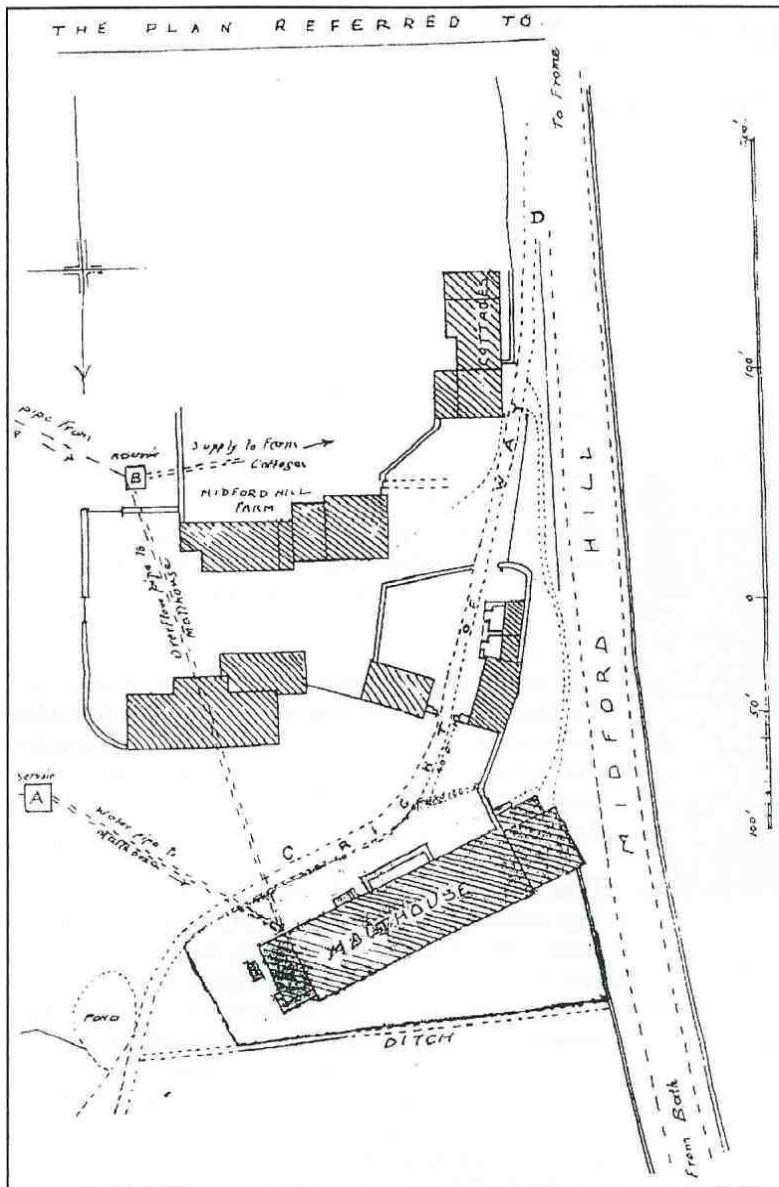


Fig 1 Undated plan from History of Title

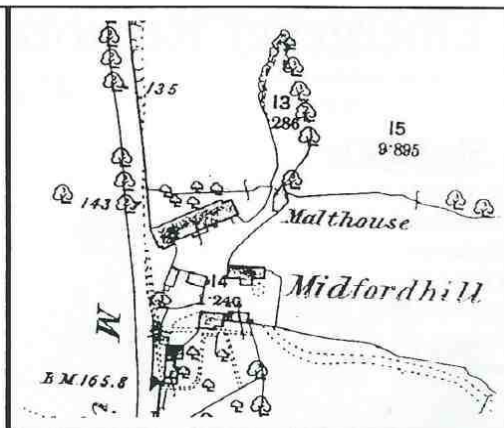


Fig 2 Ordnance Survey 25 in Plan, 1885

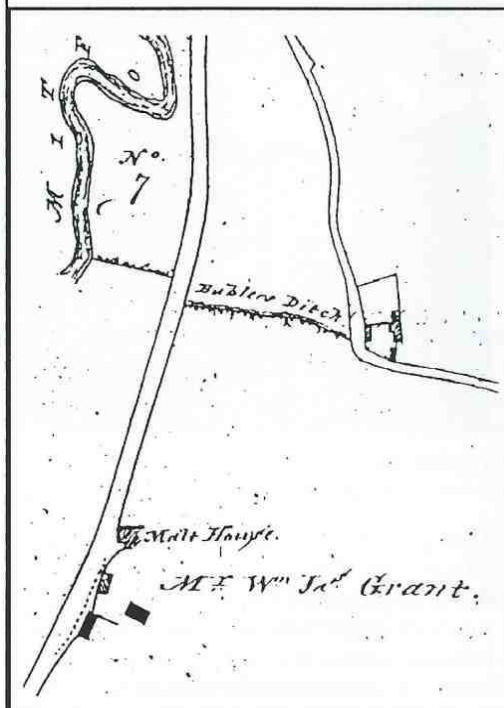


Fig 3 Extract from Hinton Chaterhouse Tithe Map, 1851

Lower Bristol Road, Bath, who acquired the building in 1900, may reveal more about the building's history.

### Description

The location of a malthouse within a farm complex would have meant that barley grown on the farm could have been converted into malt without need for further transport. The traditional malting season, which ran from about October to April, would have fitted well into the winter lull in farm work. The need to be near a main route into Bath and the large breweries there was, presumably, also a factor in the choice of location. The cost of land would also have been less than a location in Bath. Proximity to a branch off the Somerset Coal Canal may have been a factor in the choice of location. A route for a branch of the canal was planned through Midford to Radstock and a short stretch was cut to the foot of Midford Hill. The canal was completed, in part as a tramroad, in the early nineteenth century but was little used because of problems with water supply. The line of the branch was sold to the Somerset and Dorset Railway which ran from Bath to Radstock. The railway opened in 1874.

The malthouse has undergone four phases of development. The building was constructed between 183 and 1851; altered in the late nineteenth century, when a wedge-wire kiln floor was inserted, and the yard area to the south of the building roofed over to form an additional fuel store; converted into a cowhouse and piggery in the early twentieth century and into flats in 1997.

### Phase I: Mid-nineteenth Century

The inajority of the existing building belongs to this phase, that is the growing floor range, the lean-to containing the steep, the kiln, the lean-to containing the maltster's office, the vaulted coal store and the yard or area.

### Access to Building and Circulation within it

The building was entered via a ground-floor entrance at the western end of the Maltster's Room. A further office, which was reached via an external stair, lay above this room. A wide round-headed doorway provided the only access from the ground floor of the Maltster's Room into the kiln area. Another doorway led from the ground floor of the Maltster's Room

to the vaulted fuel store to the east. Access to the growing floors was via a door in the northern wall of the vaulted fuel store. The upper growing floor and storage floors may have been reached by means of removable ladders through hoisting holes at the western end of the ground floor. Two single-width doorways on the southern side of the building gave access to the storage floor from the higher ground on that side of the building. Access to the steep within the lean-to at the eastern end, was via a door on the southern side of the building.

#### The Process of Malting

Malt is artificially germinated grain intended for grinding to grist in the brewing process. The first stage in malting may be drying in a separate barley kiln if the barley is over 12% moisture. However, there is no evidence for a separate kiln for this purpose at Clearbrook Farm. The barley would then be cleaned in a screen to remove any grit and foreign objects. After cleaning it would usually be dropped down through chutes in the bottom of storage bins into a steep filled with water, to begin germination. The next stage, prior to the repeal of the Malt Tax in 1880 was couching. The couch was a removable rectangular frame of known dimensions positioned in front of the steep, into which the steeped barley was put for 24 hours during which excise officers measured its increase in volume and calculated the tax payable. A couch frame would have been used in the malthouse at Clearbrook Farm, although the evidence for it is now difficult to distinguish. From the couch the steeped barley was spread out on one of the growing floors to a depth of from 100 - 200mm. While on the growing floor rootlets began to grow and it was necessary to turn the growing grain to prevent it from matting together and to ensure that the barley germinated evenly. The turning would have been done using broad flat-bladed shovels or flat-bladed forks. The temperature over the growing floor was controlled by the adjustment of shutters. In the late nineteenth century the growing phase of the process could take up to 14 days. When the 'green' or partially germinated barley had reached the required extent of growth it would be shovelled onto the kiln floor to a depth of 200 - 300mm. The grain was turned during kilning and stayed in the kiln for three or four days. The kilning process stopped germination and reduced the moisture content which was necessary for safe storage. Kilning also gave colour and flavour to the malt. Finally the malt was dressed, that is the rootlets removed and the grain cleaned again before storage. It was usual to store the malt for at least one month before it was used.

There is no evidence to suggest that barley was dropped into the steep from the storage area above at Clearbrook Farm, as was common practice in malthouses of this period. However, evidence for this may have been swept away by alterations to the building undertaken during its use as a piggery and cowhouse in the twentieth century. Barley would have been steeped at first-floor level in the lean-to steep at the eastern end of the building, then shovelled through two splayed hatches at the eastern end of the growing floor range at first-floor level. There is little evidence for the former presence of a couch

frame at first-floor level. However, remains of hinges beside the two hatches through which steeped grain was thrown from the steep to the first-floor, show that the hatches once had doors which reached down to floor level on the side facing the growing floor. This shows that it was important that the steeped grain was held back at this point, suggesting that there may have been a couch frame at the eastern end of the upper growing floor. The green malt could then have been spread out on the first-floor growing floor, or dropped through two chutes in the floor to the ground floor. Cast-iron loops set into the jack-arching either side of the chutes probably held timber-linings for the chutes in position. The presence of an additional cast-iron column of larger diameter than the other columns, at the eastern end of the building at ground-floor level suggests, either that this was intended to provide additional support for the first floor at the point where it was supporting the maximum amount of wet grain where it was emptied out of the steep, or that a couch frame may have been held in position by the column on the ground floor.

The side-hinged shuttered windows would have been adjusted to provide the correct conditions of temperature and humidity for germination over the growing floors. Once sprouting had reached the desired stage, the green malt on the ground floor would have been transferred to the first floor via a large central large hatch at the western end of the building and either spread out again for further germination or, placed directly onto the kiln floor via two hatches in the kiln wall at first level. The kilned malt would have been shovelled off the kiln floor back through the hatches and either hoisted up to the storage floor, via two hoisting holes at the western end of the upper growing floor or hoisted out through the loading door at first-floor level in the northern elevation. All evidence of storage bins has been removed from the storage floor.

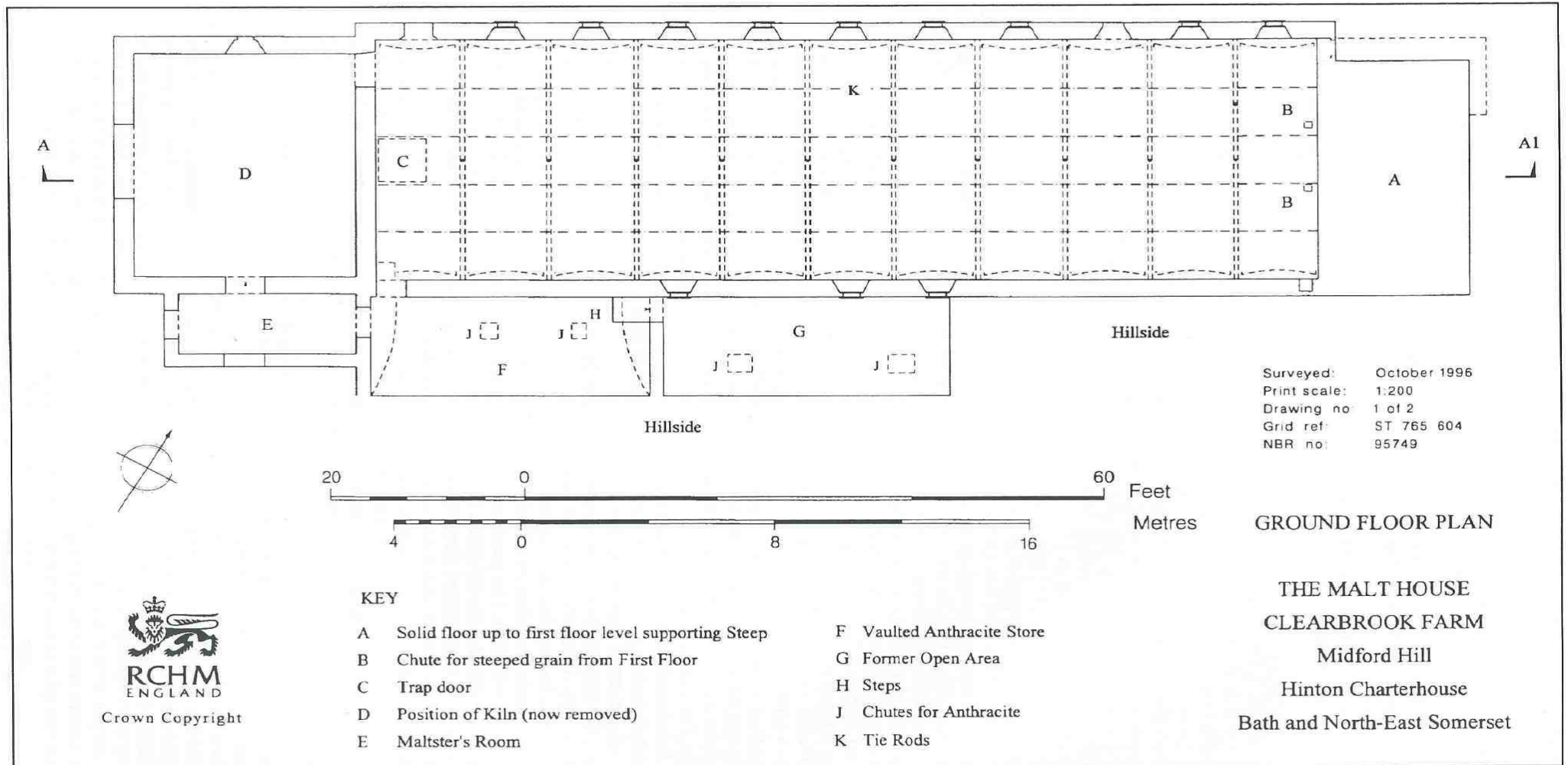
#### The Steep

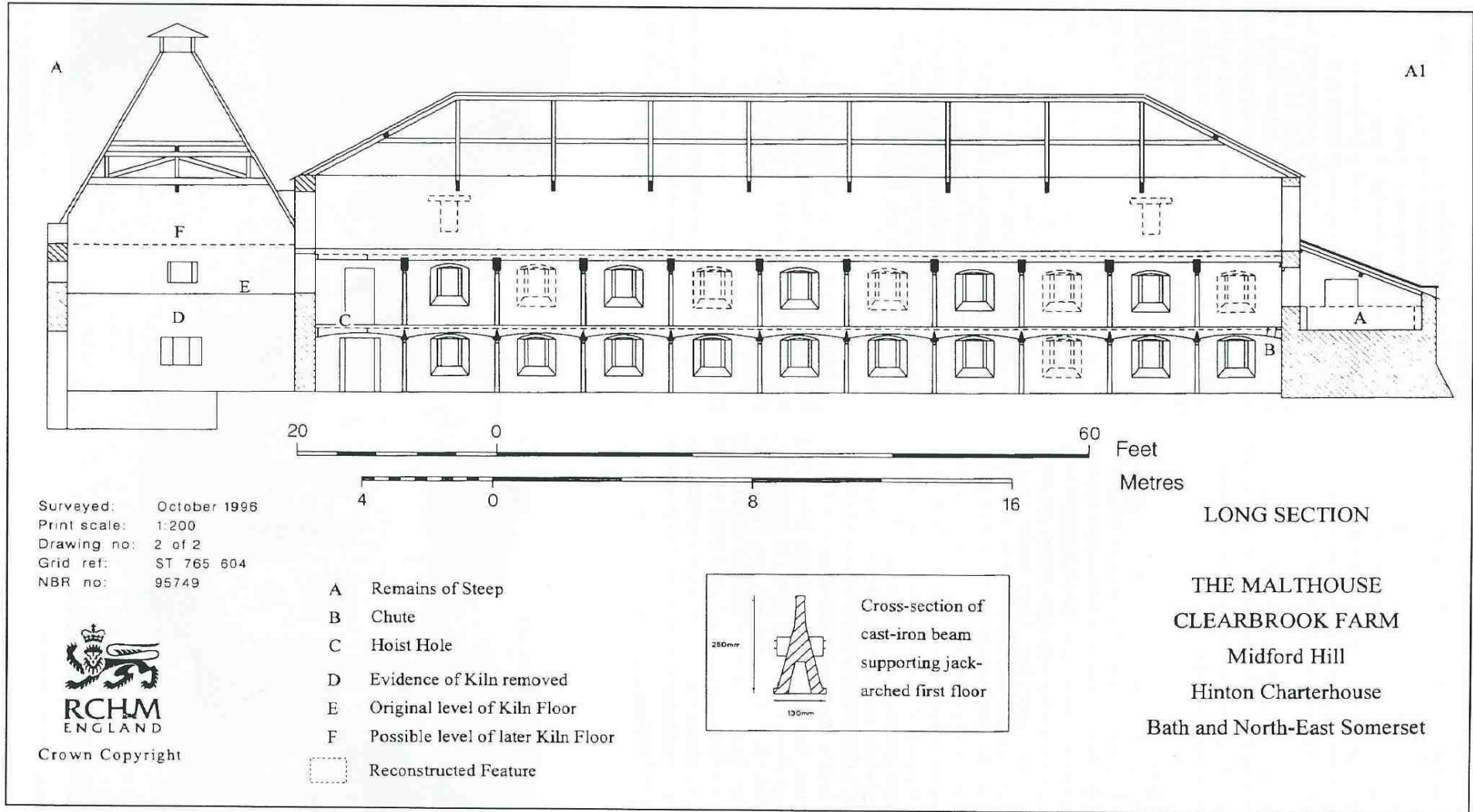
The steep comprised a tank constructed from ashlar blocks, situated at first-floor level in a purpose-built lean-to at the eastern end of the building. The lean-to had a solid floor up to first-floor level. It appears to have been located in this position to be closest to the springs which supplied it with water. The lean-to was almost entirely occupied by the steep with the exception of a small area on the southern side. Only the western side and part of the northern side of the steep survive. However, scars on the walls indicated its original size.

#### Growing-Floor/Storage-Floor Range

The first floor was supported by shallow jack-arching which was constructed from dressed limestone blocks measuring 100mm in depth. The jack-arching was supported by 'triangular'-section cast-iron beams and cast-iron columns. The jack-arching was strengthened by square-section tie bars which ran the length of the growing-floor range. The cast-iron beams measured *circa* 4.20m in length, two lengths spanning the building. The beams were 'triangular' in section but had compartmented recesses in the soffit. Each recess measured about 360mm in length. The beam ends broadened just before the point at

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which they were set into the wall but were of constant height in long section. The way in which the beams linked with the columns at ground and first-floor levels was not visible at the time of survey. Cast-iron beams of this sectional form are not common. The jack-arching supported a lime and rubble screed which probably originally had a plaster surface, but is now covered with a cement screed.

The storage floor was of plank construction and was supported on heavy timber beams set on pennant stone corbels. There were cast-iron spreaders above some of the stone corbels.

#### Fenestration

Each bay on the northern side of the growing floors was lit by a small unglazed rectangular window at ground and first-floor level. Each window had iron security bars on its outer face and a simple side-hung ledged timber shutter with strap hinges, set inside the line of the security bars. Three similar windows opened onto a small yard or area, cut into the higher ground on the southern side of the building. One shutter survived at the time of survey. The large number of small shuttered windows in the northern elevation clearly indicates that the ground and first floors were growing floors. The shuttered windows would have been used to control the temperature and humidity on these floors. There was a single taking-in door at first-floor level at the western end of the north front. This door was presumably for loading malt direct from the kiln onto carts. The top floor of the growing-floor range had only two windows in each of the long elevations. Additional natural light was provided to this floor by large areas of roof lighting which remained *in situ*. The lack of windows to provide ventilation indicates that this floor was used for storage.

#### The Kiln

The section of the building which contained the kiln was faced with fine ashlar stone. A decorative crystal-encrusted stone was built centrally into the western elevation facing the road. A similar stone could be seen in the southern elevation towards the eastern end of the growing floor/storage range. It seems unlikely that there was originally a door opening at ground-floor level in the west wall of the kiln although there could have been a window. There were two small windows at first-floor level in the northern and western walls. The kiln furnace had been removed. It was possible to deduce that the kiln was probably square in plan with the stokehole on the southern side, closest to the maltster's room and the fuel store. The level of the former kiln floor was visible from the present first floor. The kiln floor lay at the bottom of a single band of ashlar blocks which lay above a band of struck stone which represented the point where the kiln vaulting was keyed into the side walls of the kiln. The scar left indicated that the kiln was vaulted and constructed from ashlar limestone. The kiln probably had a perforated ceramic tile kiln floor. The level of the kiln floor corresponded with the sill of the hatches from the upper growing floor. The hatches were round-headed and splayed with smooth grey slate sills. They originally had shutters.

#### The Maltster's Room and Maltster's Office

Both the Maltster's Room and Maltster's Office were plastered and had skirtings unlike the remainder of the building which was limewashed internally.

#### The Fuel Store

The fuel store was constructed as an ashlar stone vault. Fuel was dropped via two chutes through the upper part of the vault from the high ground on the



The Malthouse, North elevation

Photograph by S. Ely

southern side of the building. Remnants of anthracite lumps were still present on the floor of the store at the time of survey. A door at the eastern end of the store opened onto a small yard or area. Anthracite was used after 1900 after a scare about the arsenic content of coal and coke.

#### The Yard

To the east of the fuel store lay a small yard or area which had been cut into the higher ground on the southern side of the building. The sides of the yard were formed by limestone retaining walls. Three shuttered windows opened onto the area from the ground and first-floor growing floors. The windows would have provided a through draught across the growing floors.

#### The Roof Structures

The roof structure of the growing-floor range is pitched and is supported by king-post roof trusses with raking struts, with expanded tops and bottoms, resting on a timber tie-beam. There is a single rank of through purlins.

The kiln roof is pyramidal in form and is supported by two sets of braced timber tie-beams set one above the other, and at right angles to each other. There is a square cowl at the apex of the kiln roof with a pyramidal aluminium cap which is probably not original.

#### **Phase II Late Nineteenth Century**

The open yard on the southern side of the building was converted into a second fuel store in the late nineteenth century. The ceramic tile kiln floor may also have been replaced with a wedge wire floor at his time. Alternatively a wedge wire floor may have

been inserted at a higher level above the original kiln floor providing two kiln floors, a practice which is known to have happened in other malthouses in the late nineteenth century. The insertion of a wire floor was indicated by a scar which was visible about 300mm above the present second-floor level within the kiln. A flat-topped dormer may have been inserted in the western side of the roof structure at this time in order to provide light to the newly-created kiln floor. The wire kiln floor appears to have been abandoned relatively quickly and reused to roof over the yard which became an additional fuel store. The roofed-in yard was supplied with fuel from the high ground on the southern side of the building via two holes left in the wire roof. An open-fronted shed was built over the two subterranean fuel stores towards the end of this phase. This building was probably used to provide shelter for cattle.

#### **Phase III Early Twentieth Century**

The production of malt ceased in the 1920s. The building had been converted into a multi-storey pigery and cowhouse by 1931. The pigs were housed on the former growing floors and the cows on the former storage floor.

Externally the conversion involved the creation of two single-width doorways within former window openings at ground-floor level on the northern side of the growing floor/storage range. Alternate windows at first-floor level in the same elevation were enlarged and drains, installed from each opening. A doorway was created at second-floor level at the eastern end of the building. This doorway opened onto a staging which partially cut through the roof of the lean-to steep and was supported on brick piers. The doorway and staging probably related to the removal



General view of Malthouse, view from SE

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of slurry. A doorway was created towards the eastern end of the southern elevation at first-floor level, giving access to the former upper growing floor. A double-width doorway was formed in the southern elevation at second-floor level providing access to the cowhouse through the open-fronted building.

Internally the conversion involved the demolition of the kiln vault and the insertion of two wooden floors in place of the kiln. These were constructed at the same level as the first and second floors within the growing-floor/storage range. A doorway was created from the first floor of the maltster's room to the newly-created first floor within the former kiln area. Two further doorways were formed from the kiln to the growing-floor range, one at ground floor and one at first-floor level. A double-width doorway was probably created in the west-facing elevation of the kiln at ground-floor level. A substantial concrete floor, partly formed into a loading bay was built behind this opening. What appeared to have been a mill for the mixing of feed was installed within the former kiln area. The doorway from the second floor onto the upper kiln floor was probably enlarged at this date. Animal stalls, feed troughs and thick cement screed floors were laid over all three floors of the growing-floor/storage range. The tie beams relating to the roof structure in the growing-floor/storage range were cut through and replaced with iron strap work, to create greater headroom. A small blocked opening which is visible from the exterior at first-floor level on the southern side of the building close to the eastern end of the growing-floor/storage range, may relate to a recess which is now partially blocked, visible on the ground floor internally level below this

point. The two features may relate to water supply to this end of the building during this phase of use. The building incorporated a lift for pigs, although it is unclear where this was located.

The open-front of the building which had been added to the southern side of the malthouse during Phase II, was filled in and new door and window openings created in the infilled openings.

#### Phase IV Late Twentieth Century

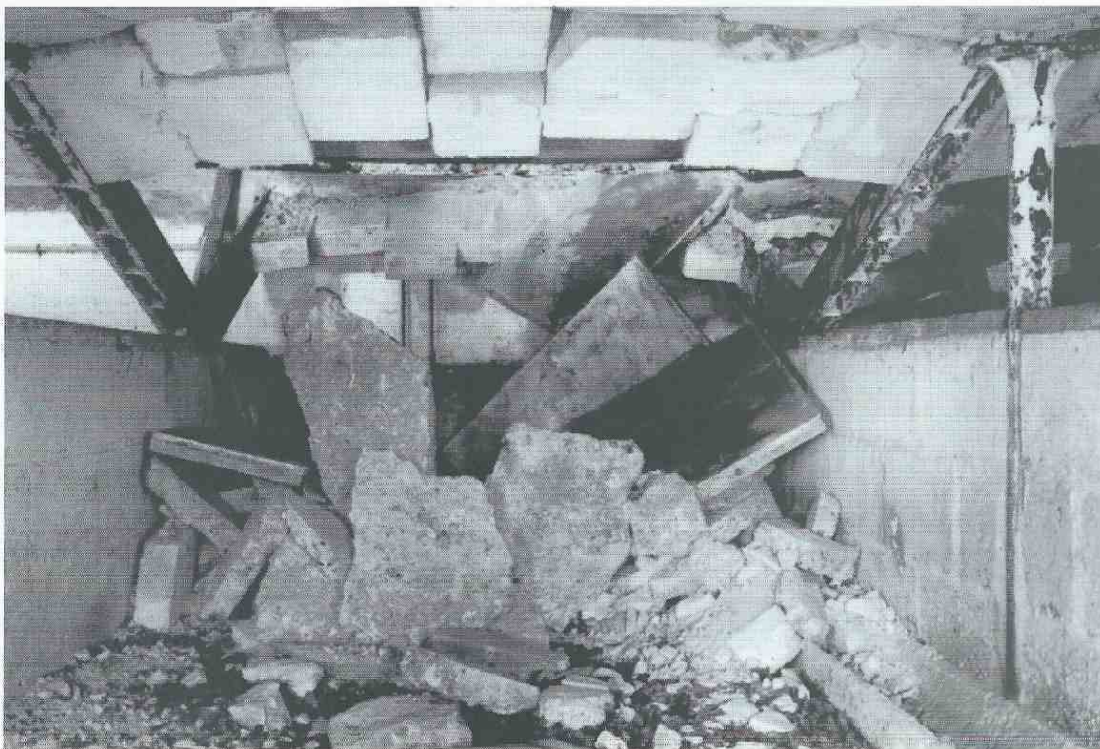
The open-fronted building constructed on the high ground adjoining the southern side of the growing floor range was demolished in 1997 and the malthouse converted for domestic use.

#### Acknowledgements

The author wishes to thank Mr and Mrs Cross of Clearbrook Fann for allowing access and for the supply of documentary evidence. Thanks should also be expressed to Amber Patrick for her assistance during the survey and James Davies who photographed the building.

#### Notes and References

1. Patrick, A., 'Establishing a Typology for the Buildings of the Malting Industry', *Industrial Archaeology Review* XVIII No.2 (1996) 180-200
2. See the more detailed report *Clearbrook Farm Malthouse* by the RCHM(E) NBR No.95749
3. In the possession of Mr and Mrs Cross of Midfordhill Farm. Drawn up by their solicitor
4. Sheet 21/2, Surveyed in 1884
5. Russell, R., *The Lost Canals of England and Wales* (Newton Abbot, 1971) 30
6. More detailed information on the sites where similar beams are known to exist is given in RCHM(E) report No. 95749, note 2



Ground floor, principal range, collapsed stone jack-archway

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