

**The Maltings,
Worlingworth,
Suffolk**
WGW 025

Archaeological Record

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The Red House,
Shop Street,
Worlingworth, Suffolk**
(TM 2206 6856)

An Archaeological Record

This report provides a written and photographic record at English Heritage (2006) Level 2 of a range of maltings adjacent to and formerly belonging to The Red House. The report has been prepared to a brief written by the Archaeological Service of Suffolk County Council (Dr Jess Tipper, 11th June 2008, Reference: /TheMaltings-Worlingworth2008) and is intended to inform and accompany a proposed application for planning permission to Mid Suffolk District Council.

Introduction

The following report is accompanied by a CD containing a full photographic record in the form of 84 8.2 megapixel digital images (Appendix 1) but also includes printed photographs of key features (Appendix 2). Each digital image is separately described in the written report, and the CD includes the report in MS Word format. Where possible the photographs include a white metre scale rod with centimetre sub-divisions. The site was inspected on 4th July 2008.

Summary

The Maltings is a substantial and largely intact late-18th century timber-framed malthouse that represents a rare survival of its type and must be considered an important piece of industrial archaeology. The building lies 80 metres to the west of a fine, grade II-listed contemporary red brick house to which it originally belonged, but is now in separate ownership and is not listed in its own right. Despite the poor condition of its roof, which has caused some structural failure, and the insertion of 20th century concrete pig pens, the great majority of the historic frame is sound and merits listing at grade II. The building also merits a higher level of archaeological recording than was possible at the time of inspection as access to the first-floor walls was restricted by the uncertain nature of the floorboards.

The original 18th century malthouse is an impressive structure of 12 bays which extends to 30.75 metres in length by 5.4 metres in overall width (101 feet by 17.75). Aligned on an east-west axis it rises to 4 metres at its eaves (13 ft). There is no evidence of any original partitions, and the ground storey remains open, but the first floor was sub-divided into two roughly equal chambers in the 19th century. There is evidence for numerous original windows, several of which retain rectangular mullions and rails for sliding internal shutters. In all but two bays the mid-rails, most unusually, are placed 15 cm (6 ins) above the floor joists, presumably in order to accommodate a lime malting floor which no longer survives. The remaining bays probably contained external loading doors for which evidence could be established on close inspection.

The malting kiln has been removed but is likely to have adjoined the eastern gable where early heat-worn brickwork remains and 19th century maps show another structure. The western gable is open-framed below its mid-rail and probably opened on a steeping pit adjacent to a pond which is also shown on 19th century maps (the site is now occupied by a later lean-to). An extension of two bays was added at an early date to the centre of the rear elevation, and extended in turn by a further three bays before the tithe survey of 1837. The final three bays of this rear, northern wing were originally open on the lower storey and probably formed a granary or malt store with cart access beneath; an iron sack hoist survives in the roof.

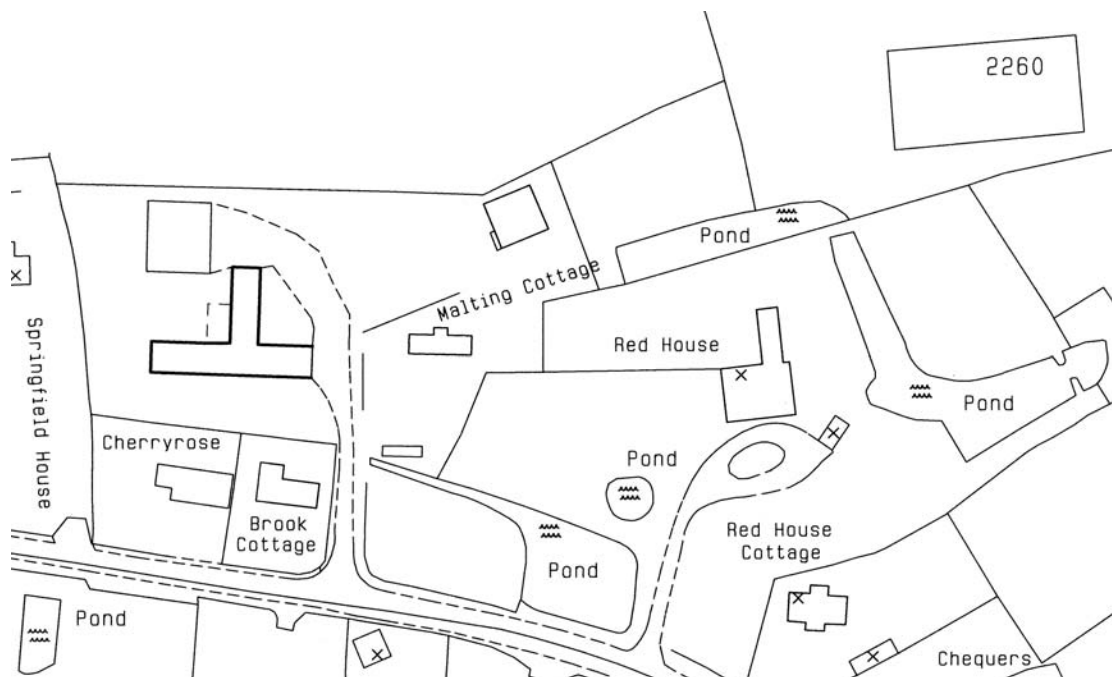


Figure 1
Existing Site Plan, showing the T-shaped malthouse to the left and the grounds of the Red House – to which the Maltings formerly belonged – to the right

Historic Context: Documentary & Cartographic Record

A limited amount of documentary research has been undertaken for the purposes of this level 2 building record, and more information about the origin, ownership and production of the Maltings may be available.

The Worlingworth tithe map of 1837 (figure 2) shows the building in its present form, with a long northern wing, suggesting that bays 15-17 had already been added. An additional structure against the eastern gable projects slightly to the north and almost certainly represents

the now demolished kiln. The apportionment accompanying the tithe map deals with land rather than buildings, and the malthouse is not specifically mentioned, but the surrounding enclosure, numbered 206 on the map, is named as 'malt office pightle'. Malt office was the usual term for a malthouse in the 19th century, and pightle for a small enclosure. The building and land were both owned and occupied by one Joseph Adams. Adams also owned and occupied The Red House to the east of the site, along with a small arable farm of 43 acres. Unusually, The Red House was named as such on the tithe map, indicating a house of substance that would normally belong to a larger farm. Adams evidently possessed other means of income and is named in White's Suffolk Trade Directory of 1844 as both a farmer and malster. His tombstone in Worlingworth churchyard describes him as a gentleman, and gives his age as 59 at the time of his death on December 2nd 1845 (as noted by Silvester Tissington in 'A collection of Epitaphs and Monumental Inscriptions', 1857, p.471). The status of gentleman is consistent with the fine late-18th century red brick front range of The Red House, which was added to an equally impressive 16th century house which survives to the rear (Schedule of Listed Buildings and personal inspection of 1997). The Adams' seem to have been an old Worlingworth family, and appear in local documents of the 16th century (e.g. SRO FC94/A5/1). Thomas Adams of Worlingworth was described as a Yeoman in 1753 (FC94/L1/2/54), and Joseph Adams as a farmer in an apprenticeship indenture of 1817 (FC94/G2/21). A date in the early years of the 19th century cannot be ruled out entirely, but the present Maltings and the new range of the house were probably the work of Joseph's father rather than Joseph himself. More information might be contained in any family wills. The survival of a contemporary house, complete with original fixtures such as a fine stick baluster staircase, enhances the historic interest of the Maltings. The building was omitted in error from the Historical Atlas of Suffolk (Suffolk County Council 1999) which purports to show all mid-19th century malthouses in the county.

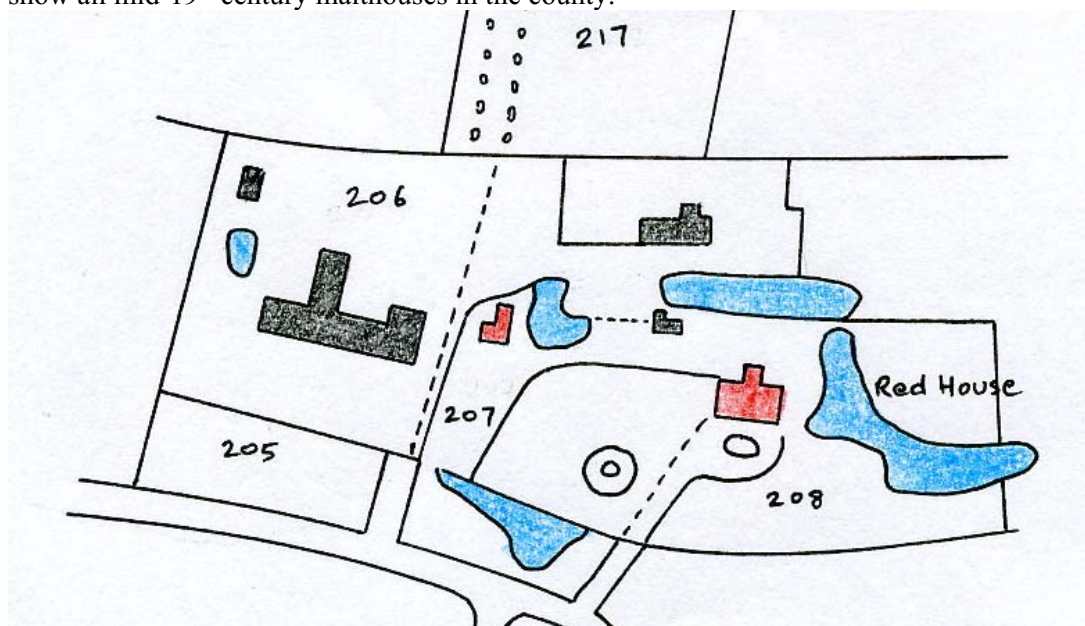


Figure 2
The Maltings and Red House complex in 1837
Redrawn from the Worlingworth tithe map (Ipswich SRO)

The Maltings is shown with its distinctive present outline to the left adjoining a wider building to the east which probably represents the demolished kiln. The fields of the associated 40 acre holding are named and numbered as follows (not all of which appear in figure 2): 203 Lawn; 204 Paddock; 205 Beet Land; 206 Malt Office Pightle; 207 Cottage; 208 Homestead; 209 Orchard Pightle; 217 Walk Field; 218 Office Field. The presence of the tree-lined track in Walk Field, of which no trace remains, indicates the malthouse adjoined an old road on the east and may explain its distance from the present road to the south.

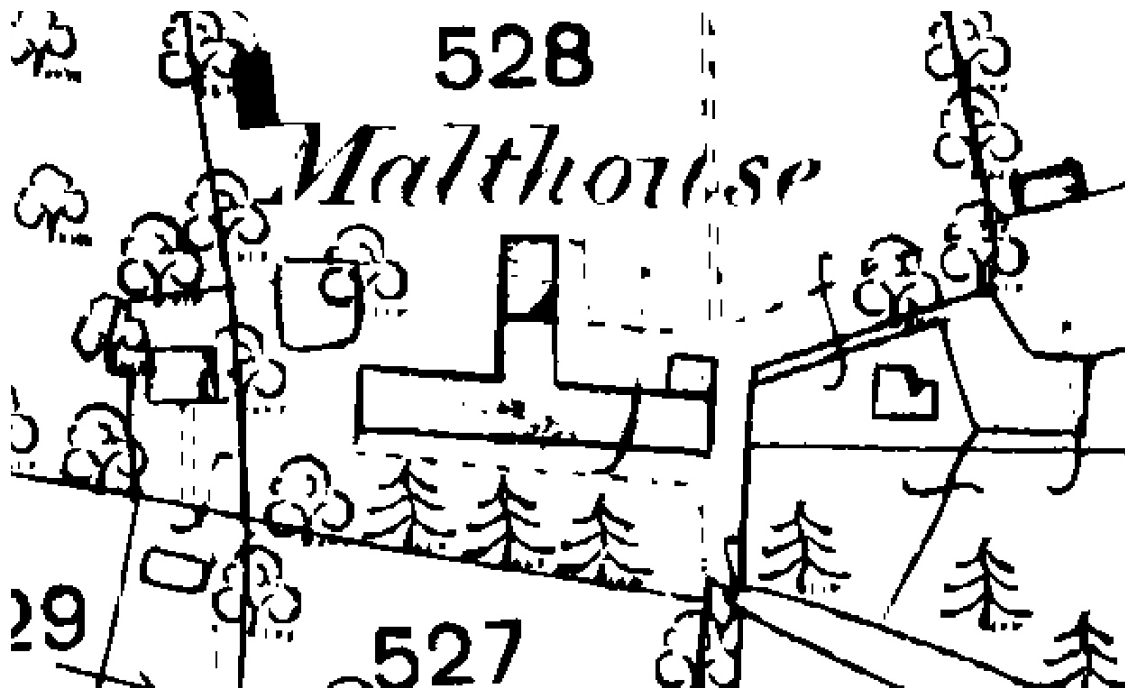


Figure 3

First Edition 25 inch Ordnance Survey of 1885, showing the same outline as the tithe map with bays 15-17 to the north identified as a separate space. The proportions of the southern range suggest it continued by one or two additional bays to the east, with a another structure adjoining the missing bays to the north, but internal building divisions are not always accurately shown

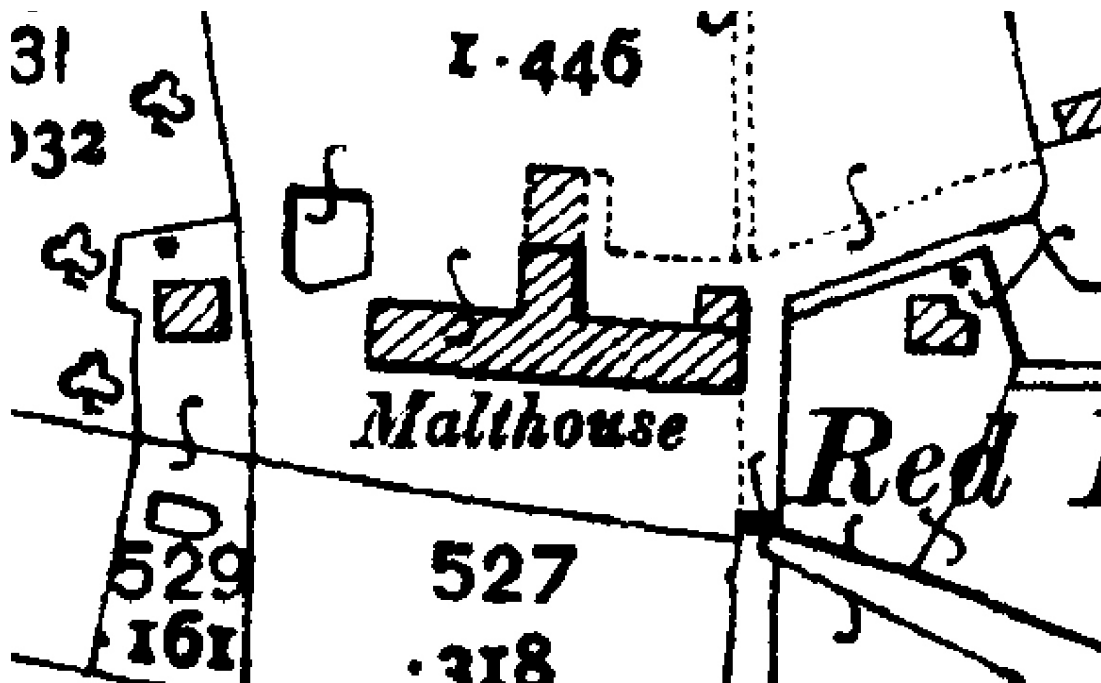


Figure 4

Second Edition 25 inch Ordnance Survey of 1904, showing bays 15-17 with broken lines to indicate the open sides suggested by the surviving structure (a technique not employed on the First Edition). The same layout, with the additional structure to the east, is still shown on maps of 1951.

Building Analysis

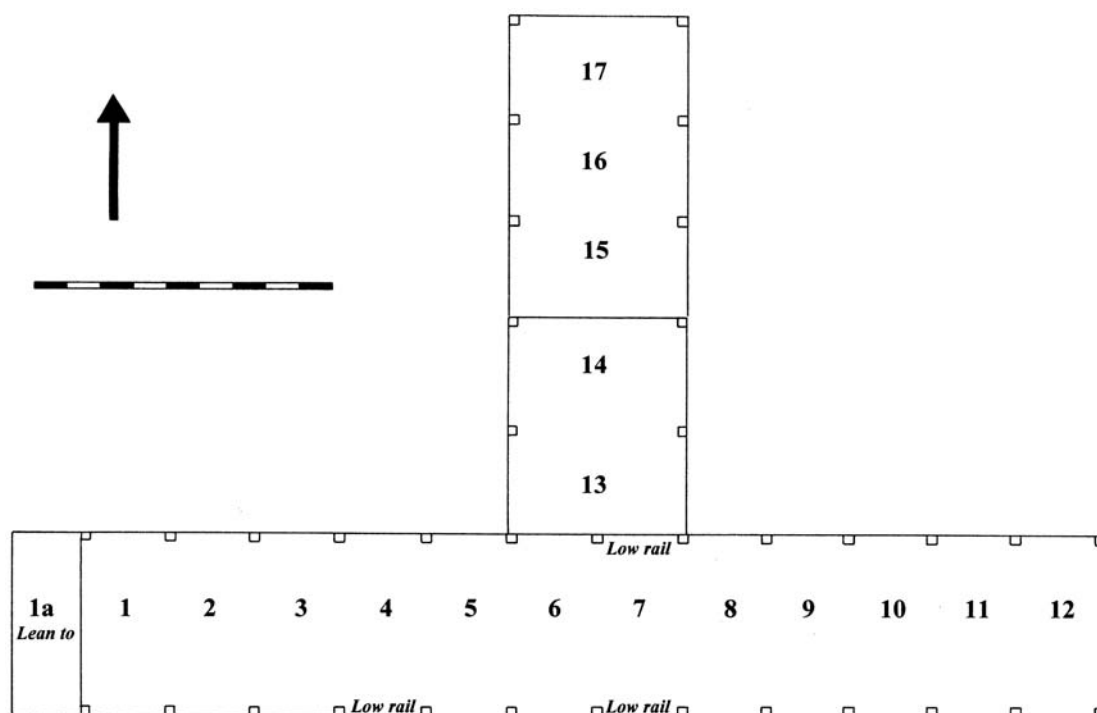


Figure 5
Schematic Block Plan of Maltings
Showing the individual bays with numbers for ease of reference in the text and photographs. The bay divisions are generally accurate but have not been fully surveyed. Scale in metres

Key

- 1-12. Original late-18th century undivided malthouse, possibly truncated to the east
- 13-14. Early-19th century extension, c.1820
- 15-17. Additional early-19th century extension, originally with open lower walls, c.1830

Original Malthouse (Bays 1-12)

Structure and Date

The original malthouse is an impressive timber-framed structure which extends to 30.75 metres in length by 5.4 metres in overall width (101 feet by 17 feet 9 inches). It follows an east-west axis and contains 12 approximately equal bays of 3.3 metres (7 feet 6 inches) between its paired storey posts. The storey posts rise 4 metres (13 feet) from the present concrete floor to the roof-plates and are secured to the horizontal tie-beams by bolted knee-braces. Some principal timbers, particularly in the western bays, contain empty mortises and were re-used from an older structure of 17th century character, and some storey posts are jowled – apparently for the same reason. The neatly chamfered binding joists which span the width of the building are of deal (pine) but the great majority of the framing, including the common joists, is of oak. The binding joists are 30 cm square (12 inches) and the tall-sectioned common joists 9 cm by 13 cm (3.5 ins by 5 ins). The ceiling joints are well-cut soffit tenons with diminished haunches and the principal joints of the frame are pegged. The wall framing contains primary braces which interrupt the common studs, to which they are

secured by pegs and nails, and is infilled with wattle-and-daub containing coppice poles of substantial section. An area of external roughcast and whitewashed daub survives in the later lean-to against the western gable, showing the original appearance of the building. The roof structure varies from west to east, with the western half containing only staggered and tenoned butt-purlins and the eastern half an upper tier of clasped-purlins with a lower tie of nailed butt-purlins; the latter appears to have been rebuilt in the 19th century but close analysis was considerably hampered at the time of inspection by the uncertain condition of the floor (weakened by water ingress from the neglected pantile roof and by the storage of heavy bales of straw). The nature of the framing and the presence of deal binding joists indicate a date of construction in the final quarter of the 18th century, or possibly the early years of the 19th century, although the general character of the building still reflects the vernacular tradition of the 17th century.

Layout and Function

The building appears to have been undivided along its entire length, and well lit by windows in alternate bays. Several windows appear to contain original square or rectangular mullions which may have secured ventilation lattices (close examination of the evidence was not possible), and many retain rails for sliding internal shutters in the manner of medieval domestic windows. Remarkably, the mid-rails of the front and rear elevations are tenoned to the storey posts but lie 15 cm (6 ins) above the level of the ceiling joists instead of at the same height as usual. The rails lie 1.3 metres (53 ins) below the roof plates and are 20 cm (8 ins) in depth, while the floor lies 1.7 metres (67 ins) below the plates. There are three exceptions to this, viz. in the front and rear walls of bay 7 and the front (southern) wall of bay 4 – but not the rear. This feature, which is unique in my experience, was presumably designed to accommodate the depth of a lime malting floor on the upper storey, and the ‘normal’ bays probably contained external loading doors; one such door still survives in bay 4, but a second, in bay 10, is not associated with a low rail. A detailed frame survey should be able to establish the original positions and precise purpose of these features. Any evidence of doors on the ground floor was hidden at the time of inspection but might well be revealed by the removal of the 20th century external cement render.

The lean-to at the western gable is a 19th century addition, but there is no evidence of original studwork beneath the mid-rail – unlike the upper part of the gable which is fully framed. The ground floor may have been open to a steeping pit associated with an adjacent pond shown on 19th century maps but now filled. The opposite, eastern gable has been rebuilt in brick of mid-20th century appearance but its plinth consists of earlier red brick which is heavily decayed. This decay was almost certainly caused by extreme heat, and it seems likely that the malting kiln, which is now absent, stood at this end of the building. A small section of tie-beam survives against this brick gable, the rest having been cut away, but was unfortunately inaccessible; it is possible that the timber frame continued to the east by one or two additional bays and enclosed the kiln as shown in figure 6 and as suggested by figures 3 & 4. Alternatively it may have simply abutted the brickwork of the kiln. The malting would have operated in the usual fashion illustrated by figure 6, with soaked malt spread on the extensive malting floors and regularly turned before the germination process was arrested in the kiln.

Northern Extensions (13-17)

Within a decade or two of the original building’s construction a new rear wing of two bays (13 and 14) and 6.5 metres in length (21.5 feet) was added to the centre of its surviving northern elevation. (It now lies to the east of the centre if the later lean-to is taken into consideration, but is shown to the west of the centre on the Ordnance Surveys before the demolition of the kiln and/or original bays from the present eastern gable.) The roof structure is a replacement of the late-19th century, and the ground floor walls were largely rebuilt in brick during the 20th century, but the original northern gable of whitewashed lath-and-plaster

is preserved within the roof of bay 15. The lintel of the central window in this gable contains empty mortises for 17th century-style diamond mullions but was re-used from elsewhere. The boarded first-floor door which links bay 7 to bay 13 is an insertion of early-19th century appearance. A ladder rises in the north-eastern corner of bay 14 but this is a later feature. Bays 15-17 were added shortly before the tithe map of 1837, on which they are shown, and formed an open-sided structure of 9 metres in length (30 feet) with a storage loft in the manner of a cartlodge and granary. Internal inspection of this building was limited to the northern bay, but its exposed mid-rails lack stud mortises and contain numbered empty mortises for door jambs flanking the storey posts. Its appearance is confirmed by figure 4 which uses broken lines to indicate its open sides. The tarred and weatherboarded walls now contain a loading door in the northern gable, but a sack hoist is still preserved in the roof. Many malting complexes included granaries of this kind for storing either grain or finished malt.

Later Alterations: Fixtures and Fittings

A nailed studwork partition of the mid or late-19th century divides the upper storey of the main southern range into two approximately equal halves (between bays 5 and 6). This partition is neatly boarded to the eastern compartment, which has been whitewashed, while the western compartment has not. The two halves were evidently used for different purposes, with malting perhaps taking place on a reduced scale to the hygienically whitewashed east, adjacent to the kiln, while the rest was used only for storage. A change of purpose is also suggested by the blocking of numerous original windows, which were designed to ventilate the temperature-sensitive germination process. A mid-20th century lean-to of corrugated iron was built in the north-western angle of the two ranges, and the adjacent walls rebuilt in Fletton brick, perhaps marking a final stage in the production process. The ground floor of the southern range was converted into a piggery during the 1950s or 1960s when pig production boomed in Suffolk, and remains largely filled with concrete sties. Few fixtures and fittings survive from its time as a malthouse: a grain chute of sack cloth descends from the upper storey to the lower in the south-eastern corner of bay 7, and a vertical ladder was inserted into the opposite corner of bay 6. Such features are more often associated with granaries and feed mills rather than malthouses. A large iron hopper at the northern end of bay 14 also suggests feed production and may be contemporary with the building's conversion to a piggery, but a sack trolley and weighing machine on the first floor of bay 12 probably survive from the late-19th century, as does a chain sack hoist in the roof of bays 16 & 17.

Historic Significance

The Maltings is a substantial and largely intact late-18th century timber-framed malthouse that represents a rare survival of its type and must be considered an important piece of industrial archaeology. The building lies 80 metres to the west of a fine, grade II-listed contemporary red brick house to which it originally belonged, but is now in separate ownership and is not listed in its own right. Despite the poor condition of its roof, which has caused some structural failure, and the insertion of 20th century concrete pig pens, the great majority of the historic frame is sound and merits listing at grade II. The building also merits a higher level of archaeological recording than was possible at the time of inspection as access to the first-floor walls was restricted by the uncertain nature of the floorboards. The great majority of historic malthouses are brick constructions of the 19th century, and 18th century or earlier examples are notoriously scarce in anything resembling their original condition. A grade II-listed example of the 18th and early-19th centuries has recently been recorded at Cowlands Farm in Stebbing, Essex (Colchester Archaeological Trust, Leigh Alston, 2008), but this was converted from an earlier domestic house and was not purpose-built. Comparable Tudor structures are known at Boyes Croft, Dunmow, Essex (now a museum) and in Fulbourn Cambridgeshire, but I am not aware of another timber-framed malting on this scale in Suffolk.

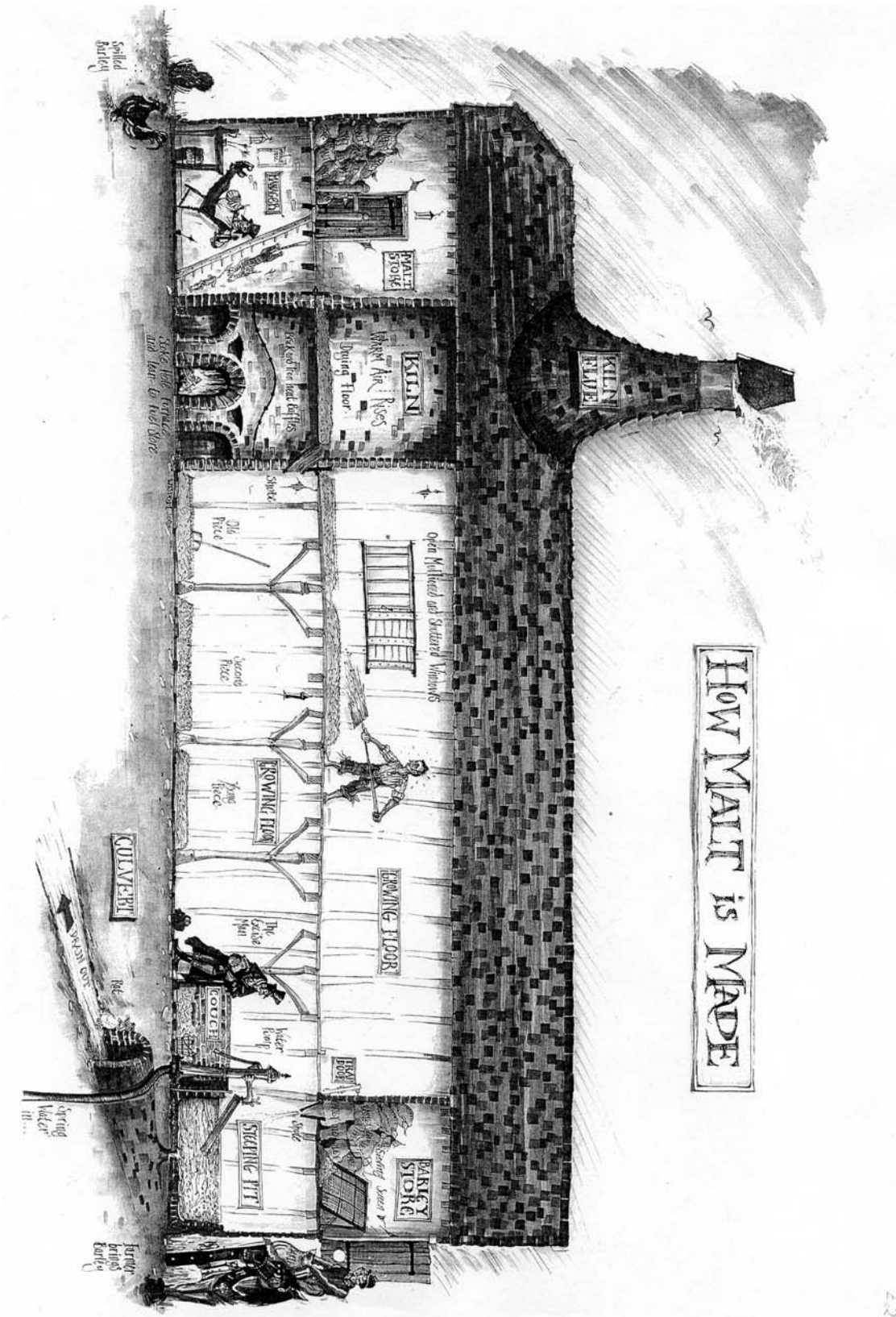


Figure 6
 Stylised illustration of the 16th century maltings at Dunmow, Essex (now a museum owned by Essex County Council) showing the malting process. The maltings at Worlingworth was larger but was probably arranged in the same manner when viewed from the rear (north)

Appendix 1 (on accompanying CD): Full Photographic Record

Description of Photographs in Appendix 1

Photograph no.

1. General view of entrance to site from Shop Street showing maltings to right.
2. General view of maltings from site entrance to south-east.
3. General view of site from north-east showing maltings in centre.
4. General view of site from north-west showing maltings to right and Red House to left.
5. Exterior of western gable showing lean-to addition.
6. Exterior of southern elevation from south-west.
7. Exterior of southern elevation showing central bays.
8. Exterior of southern elevation showing eastern bays and first-floor loading door in bay 10.
9. Exterior of eastern gable showing secondary brickwork and entrance.
10. Exterior from north-east showing later rear wing to right.
11. Exterior of eastern end of rear elevation showing rear wing to right.
12. Exterior of eastern elevation of rear wing (bays 13 & 14).
13. Exterior of rear wing from east showing northern gable to right.
14. Exterior of bay 17 from east showing evidence of open arcade.
15. Detail of eastern post between bays 16 & 17 showing numbered jamb mortises.
16. Detail of external eastern elevation of bay 17 showing carpenters' numerals and primary brace.
17. Internal elevation of northern gable of rear wing showing original deal framing.
18. External northern gable of rear wing.
19. Western external elevation of rear wing showing lean-to in angle of southern range to right.
20. Interior from north of lean-to in angle of rear wing (left) and southern range.
21. Exterior from north-west.

22. Exterior of western end of southern range from north-west showing western lean-to to right.
23. Interior from entrance in eastern gable showing rebuilt ceiling and later pig sties to left.
24. Detail of rebuilt softwood ceiling at eastern end of southern range.
25. Ground floor of southern range looking east from bay 2 showing pig sties to right.
26. Ground floor of southern range from east showing collapsed original ceiling in western bays.
27. Detail of original ceiling in western bays showing deal binding joist and numbered oak common joists.
28. Ground floor looking east from western bay 1 with southern elevation to right.
29. Detail of original southern window lintel in bay 2 showing mortises for square mullions.
30. Internal wall framing in northern elevation of bay 6 showing primary bracing.
31. Detail of original wattle-and-daub infill in bay 6 of internal northern elevation.
32. Ground floor looking west from bay 11 with southern elevation to left.
33. Ground floor looking east from bay 7 with southern elevation to right.
34. Grain chute made of sacking in south-eastern corner of bay 6.
35. Detail of inserted ladder in south-western corner of bay 6.
36. Storey post in north-eastern corner of bay 11 showing mid-rail 15 cm above binding joist.
37. Detail of scar in original infill between high mid-rail and floor level.
38. Original roughcast render of western gable from lean-to looking to north-east.
39. First floor of southern range looking west from bay 5.
40. Southern internal elevation of bay 5 showing remains of window shutter groove.
41. Southern internal elevation of bay 4 (right) showing loading door and low mid-rail.
42. Detail of southern storey post between bays 4 and 5 showing lower mid-rail is bay 4 to right.
43. First floor interior of western gable showing rear walls of bays 1-4 to right.
44. First floor internal northern elevation of bays 4 & 5 with partition to right.

45. First floor internal northern elevation of bay 3 showing high mid-rail and shutter rails.
46. Detail of original window shutter rails in first floor northern elevation of bay 3.
47. Secondary first-floor partition between bays 5 & 6 seen from west.
48. Internal southern first floor elevation of bays 4 and 5 showing loading door to right.
49. Internal elevation of western gable showing re-used timbers in roof structure.
50. Detail of re-used timber in staggered butt purlin roof structure with western gable to right.
51. Roof structure in eastern half of southern range showing first-floor loading door in bay 10 right.
52. Detail of clasped-purlin roof structure with eastern gable to left.
53. First floor southern internal elevation of bays 9-12 (right to left).
54. First floor southern internal elevation of bays 7-11 (right to left).
55. First floor southern internal elevation of bays 6 & 7 showing low mid-rail in bay 7 to left.
56. First floor partition from east showing ladder in south-western corner of bay 6 in centre.
57. First floor partition from east showing rear northern wall of bay 6 to right.
58. Detail of knee brace and atypical (presumably re-used) storey post in rear wall looking west from bay 7 to 6.
59. Internal first floor northern elevation of bay 6 showing door in bay 7 to right.
60. Internal northern first floor elevation of bay 7 (centre) showing door and low mid-rail.
61. Detail of boarded first floor door to rear wing in bay 7.
62. Northern internal first floor elevation of bay 8 (left) showing poor condition of floor.
63. Detail of original window mullions & shutter rails in first floor northern elevation of bay 8.
64. Detail of reed flecking at junction of southern roof with rear wing.
65. Upper storey of southern range looking towards eastern gable from bay 6.
66. Northern internal elevation of first floor showing bays 6-12 (left to right).

67. Upper storey of southern range looking east from bay 6 showing southern elevation to right.
68. Ground floor of rear wing looking south from bay 14.
69. Ground floor of rear wing showing hopper in north-western corner of bay 14 from east.
70. First floor of bay 14 from east showing 20th century iron hopper with original gable to right.
71. Upper part of hopped in bay 14 from east.
72. Roof Structure of rear wing looking south from north-eastern corner of bay 14.
73. First floor of rear wing looking south to bays 6 & 7 from bay 14.
74. Rendered northern external first floor elevation of bay 6 with weighing machine and trolley.
75. First floor door between rear wing and southern range from bay 13.
76. First floor of rear wing looking north to original gable & ladder in north-east corner of bay 14.
77. Detail of re-used diamond mullion mortises in first floor northern window of bay 14.
78. First floor of bays 15-17 looking towards northern gable.
79. First floor western internal elevation of bays 15-17 (left to right).
80. First floor eastern internal elevation of bays 15-17 (right to left).
81. Detail of iron sack hoist in roof of bay 16.
82. Detail of iron sack hoist chain in roof of bay 16.
83. South-western corner of bay 15 showing former external gable of bay 14.
84. South-eastern corner of bay 15 showing former gable of bay 14 with original window to right.

Appendix 2 (pp. 14-21): Selected Printed Photographs



A2.1 General view of maltings from site entrance to south-east showing overgrown condition of main southern façade (rebuilt eastern gable visible to right)



A2.2 Exterior of southern elevation showing easternmost bays with first-floor loading door in bay 10



A2.3 Exterior of eastern gable showing secondary brickwork and entrance. Earlier brickwork at base shows signs of heat abrasion.



A2.4 Exterior from north-east showing later rear wing to right and eastern gable of original southern range to left



A2.5 Interior of southern range looking east on ground floor from western bay 1 with southern elevation to right and 20th century pig sties to left. Note intact original ceiling



A2.6 Detail of original deal binding joist with oak common joists secured by soffit-tenon joints with diminished haunches. The common joists bear incised carpenters' numerals



A2.7 First floor of southern range looking towards western gable with rear walls of bays 1-4 to right



A2.8 First floor internal northern elevation of bay 3 showing high mid-rail 15 cm above floor and a blocked window aperture with original sliding shutter rails. Some timbers re-used.



A2.9 Internal elevation of western gable showing re-used timbers in original staggered butt-purlin roof structure



A2.10 Roof structure of clasped-purlins with nailed butt-purlins in eastern half of southern range (looking towards eastern gable). Note first-floor loading door in bay 10 to right



A2.11 Internal northern first floor elevation of bay 7 (centre) showing boarded door to rear wing and lower mid-rail than adjacent bays



A2.12 Detail of original first-floor window mullions & shutter rails in northern elevation of bay 8.



A2.13 Northern internal elevation of first floor showing bays 6-12 (left to right)



A2.14 Rendered external elevation of bays 6 & 7 from bay 13 showing first-floor door in bay 7 to left with weighing machine and sack trolley to right



A2.15 First floor of rear wing looking north to original gable & ladder in north-east corner of bay 14 showing large hopper to left



A2.16 First floor of bays 15-17 looking towards northern gable and showing sack hoist chain and wheel in roof