

The structural history
of
DANDRIDGE'S MILL
EAST HANNEY
OXFORDSHIRE



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THE STRUCTURAL HISTORY OF DANDRIDGES MILL, EAST HANNEY, OXFORDSHIRE

Introduction

Dandridge's Mill, is a grade II listed mill building (see Appendix for listing description) on the Letcombe Brook in the village of East Hanney, Oxfordshire. This report outlines its history and structural development and was commissioned to inform a planning application by the owners to convert the building to residential accommodation; particular attention has been paid to the extent of previous internal alterations. The drawings used as a basis for the survey (Figs 2-4) are those supplied by the architects, lapd Ltd.

History

Although there were previous mill buildings on the site (a mill is shown on an enclosure map of 1803) the present building was constructed in 1820 as a silk mill; it is dated by a brick on the north elevation. There are a number of documentary references to a silk mill in Hanney in the 1820s and 1830s (Poller 2002) but a factory report of 1839 described it as unoccupied, due to a decline in trade, and in July 1842 the contents were sold at auction (newspaper advertisement). These included ten throwing and spinning machines, winding and doubling engines, shafting, pumps, iron steam pipes and a copper steam boiler.

The building subsequently became a corn mill, owned from the mid 19th century by Dennis Dandridge who lived in the mill house. It was a sizeable operation, using both steam and water power and employing 20-30 people; much of the flour was sent to Oxford (HHG 1994, 18). By the 1890s three of his sons were employed in the business (ibid 46) but in the 1920s trade dwindled to the production of animal feed only and in 1930 the foreman Guy Smith took over; he removed the machinery.

During the Second World War parts for Mosquito bombers were made there; the machinery was installed on the ground floor and powered by water via a turbine. The upper floors were used for the storage of valuable furniture removed from London before the blitz (Hammond 1999). Latterly the mill was used as the workshop of a metal

sculptor, Alan Farmer and the base for his wife's catering business (Wilts Gazette & Herald 1963).

Description

Exterior (Figs 2-5)

The building has a rectangular double-pile plan and is three storeys high with a low-pitched hipped and slated roof. It is constructed of brick in Flemish bond and the principal elevations, facing north and south, have regular rows of nine windows at each level. These are all of the same size and pattern with brick lintels, stone cills and wooden frames of 36 small lights; they formerly pivoted to open, or the central four top-lights set in a hinged iron frame could be opened separately. There is a later extension at the east end over the mill stream, one bay wide and the full depth of the building, also brick built with a lean-to roof.

The north elevation is largely as built with an original door at the west end. The raised double door towards the east end replaces a window and has an arched grey brick head matching the eastern extension. Across the width of the original building between the first and second floor windows there is a painted band with shaded black lettering reading 'DANDRIDGE BROS. MILLERS, MALTSTERS, HAY, STRAW, CORN & SEED MERCHANTS'. Between the top floor windows west of centre there is a brick dated 1820, incised and filled with lime mortar, surrounded by a series of initialled bricks, B.H, R.C, B.L, J.B and C.S.

The south elevation is largely as built; some window frames are missing (but seem to be stacked internally), one has been reglazed, another turned into a door and a third blocked. This adjoins the brick chimney to the engine house, a later addition secured to the wall by iron bands; the adjoining wall has been reinforced with three long vertical iron plates between the windows. An old photograph (Fig 1) shows that there was a part-glazed lean-to on this corner of the building, indicated by painted brickwork. This extended onto the west wall, otherwise blind apart from an original central door.

The eastern extension is built over the mill race and has straight joints to the older building. The northern half is three-storied and the southern, open to the mill race, two

storied. Openings have segmentally arched heads in dark grey glazed brick and the windows are of casement type.

Interior (Figs 2-4, 6-7)

Each floor is open-plan and subdivided into four 'aisles' by three rows of cast iron columns which carry longitudinal ceiling beams; the central row is paired to support the double beams under the valley gutter. The original detailing is uniform throughout, in that the beams appear to be pine and the central pair is c.0.3m square. The outer beams are rectangular, c.0.3 by 0.17m, edge-set, and apparently reused as the deep outer faces are indented and striated with dowel holes at intervals, suggesting that they had a previous use as sleepers. They are composite, formed of two or more lengths with strapped and bolted scarf joints. The brick walls of the external envelope are painted internally and are essentially as built. Piecemeal alterations have been made to the arrangement of the columns and these vary from floor to floor.

Ground floor

The original flagged stone floor has recently been exposed by the removal of a 19th century boarded floor set some 0.3m higher; this has provided a benchmark for assessing the relative age of internal features. The doors in the west wall and in the north-west corner predate its installation and have been shortened at the base. The adjoining staircase against the west wall has also been modified. The double door further east is associated with the raised level and so is the stair in the centre of the range; it has a heavy bulbous newel at first floor level and probably dates to the late 19th century. In the southern half of the building there are emplacements for mill machinery close to the east wall associated with the wheel and later the turbine. In the south-west corner there was an enclosure for a steam engine behind a partially demolished brick wall, comprising a monolithic stone engine bed on a brick base and an adjoining pit; to the west there was a passage with an external door and to the north a well. A small room was partitioned off in the north-east corner, indicated by a fireplace in the east wall and differential paint finishes; this is a secondary alteration.

The north ceiling beam is carried on six cast iron columns 0.15m in diameter with heads cut down from the paired arches used in the central row. They have square base-plates which are set on the flagged floor and likely to be original to the building. There are

seven pairs of columns in the central row, all but one cast as a single unit with a flat connecting arch and a semi-circular upstand hidden by the ceiling beams. They are set on individual rectangular slabs within the floor and are original to the range. One pair (indicated by the slab and bolt holes) has been removed to insert the stair and another has been moved slightly from its original position. At the west end there are two individual columns which predate the wooden floor but may be secondary.

There are only four columns supporting the south ceiling beam, all likely to be replacements; one is a length of flanged piping and two of the others are associated with the raised floor level. The beam is truncated at the east end and replaced by several massive wooden posts set on brick sleeper walls at raised floor level and associated with former machinery; two are set on the edge of a brick-lined pit. The first floor joists to the south of this ceiling beam have been reinforced with additional timbers.

The extension at the east end is divided into two units with split-level floors. The lower south unit is open-fronted and has a modern floor over the mill-race. Wear-patterns caused by the vertical wheel can be seen in the brickwork of the original east wall. Other rooms have bare brick walls and no special features.

First floor

This level has a wooden floor of old boards with evidence for previous fixtures and machinery; there was a large hatch immediately south of the central stair. Limited areas have been patched with modern boards including the floor around a pair of millstones set on the floor between the western pairs of central columns. Evidence for associated mill machinery or hoppers is lacking so that it is uncertain whether they are in their working position. There is a small fireplace built into the south end of the west wall but no other evidence for an enclosure in this corner. The stair to the top floor is against the west wall, probably its original position; it has a plain closed string and a handrail without balusters.

The north ceiling beam is in three sections and is supported by six thin cast iron columns, 0.1m in diameter with base plates set on blocks just below present floor level. These bear on the ground floor ceiling beam and the columns of the floor below, suggesting that they are in their original positions. The parallel central ceiling beams are

carried on five pairs of cast iron columns which are not in line with the northern row. Four pairs are thinner with different mouldings and two sets have been moved from their original position by c.0.3m; there is evidence for their previous positions on the soffits of the beams. The paired columns at the west end are larger (0.14m diameter) and have heads mounted on blocks below the beams; they are likely to be secondary.

The east end of the south beam is edge-set like its northern counterpart with the same evidence for reuse. However the remainder has been cut and rotated through 90° so that the striated face has become the underside of the beam and the overall depth has been reduced. The five columns are all replacements associated with this modification; three are thin (0.08m diameter) but the two at the east end, supporting the joined and reinforced edge-set beam, are more substantial (0.12m diameter); they do not line up with the other rows of columns.

Second floor

The floor is boarded and has a number of sockets for previous fixtures; the central section under the valley gutter is largely renewed. The north-west corner seems to have been floored with Second World War packing cases which have painted labels e.g. 'OC RAF AP Mesopotamia'.

There is no longitudinal beam on the north side of the building; instead three thin cast iron columns support tie beams to the roof trusses. These are set into the north wall between the windows and replace the original roof structure which had tie beams at a higher level (partially extant on the south side); the filled sockets are visible in the north wall above window lintel level. These secondary tie beams carry queen posts and a single tier of purlins. There is a ridge board and pairs of common rafters are yoked at intervals; these correspond to the original truss positions and not to the extant roof. A mezzanine floor (of unpainted timbers) has been inserted into the roof-space and the secondary tie beams reinforced; the columns support these widened beams on heavy intermediate blocks.

In the centre of the range the parallel longitudinal beams are extant, supporting the largely renewed substructure for the valley gutter. They are carried on two rows of thin

cast iron columns, only some of which are now paired; there are five to the south and four to the north; one is missing from the east end.

There are no columns in the southern half of the building where they have been replaced by pairs of rough reused wooden posts which supported a mezzanine floor. The insertion of this floor truncated the original roof trusses which survive next to the south wall where there appears to have been a corridor. The tie beams are set into the south wall above the continuous window lintel and have raking queen posts to a single purlin. This carries an original common rafter roof with yoked pairs over the tie beams. The truncated ends of the beams are secured to the later posts by iron plates.

Conclusion

The building was constructed in 1820 as a silk mill where the initial stages of silk manufacture, throwing and spinning silk fibres into thread, were carried out (Bush 2000, 15). Its architecture is typical of textile mills of the period with rows of windows providing well-lit interiors on several levels. Comparable silk mills of similar date are Alma Mill, Macclesfield (IOE 390973), Whitchurch Silk Mill, Hants (Watts 2006, 47) or Langford Mill, Kingswood, Glos, initially a woollen mill (ibid 37).

The external elevations and the main elements of the internal layout are little altered from this time but piecemeal alterations have been made on all floors to accommodate its changing industrial use and the introduction of new machinery during its life as a corn mill (Figs 2-4). In general there has been a greater degree of alteration to the configuration of columns and ceiling beams on the south side of the building. On the top floor the original roof trusses on the north side were replaced. An external chimney serving the steam engine in the south-west corner was added to the south elevation and an extension was built at the east end. It dates to the late 19th or early 20th century and seems to have replaced an earlier structure over the mill-race which is shown on the 1877 OS map (Fig 1). The mezzanines on the top floor are 20th century additions and the more roughly constructed one on the south side may date to c.1940 when the space was used for furniture storage.

List of figures

Fig 1 Historic map and photograph

Fig 2 Phased ground and first floor plans

Fig 3 Phased top floor plan and elevations

Fig 4 Phased elevations and section

Fig 5 External photographs

Fig 6 Internal photographs

Fig 7 Internal photographs

References

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Appendix

EAST HANNEY MILL ORCHARD SU4192 (South side) 14/42 Mill approx. 10m SE of Old Mill House GV II Mill. Dated 1820 with C20 addition to left over mill race. Red brick; slate hipped roof, with lead ridges; brick stack to rear. 3-storey, 9-window range. 6-panel door to right with flat hood. 2-panel door to left of centre with segmental brick head and flat hood on brackets. C19 metal factory windows having glazing bars, with cambered brick heads to all openings. Interior: central valley is supported on 3 storeys of cast-iron columns, the lower 2 storeys a double colonnade. Little machinery remains. 3-storey, single-bay, C20 addition to left in same style.

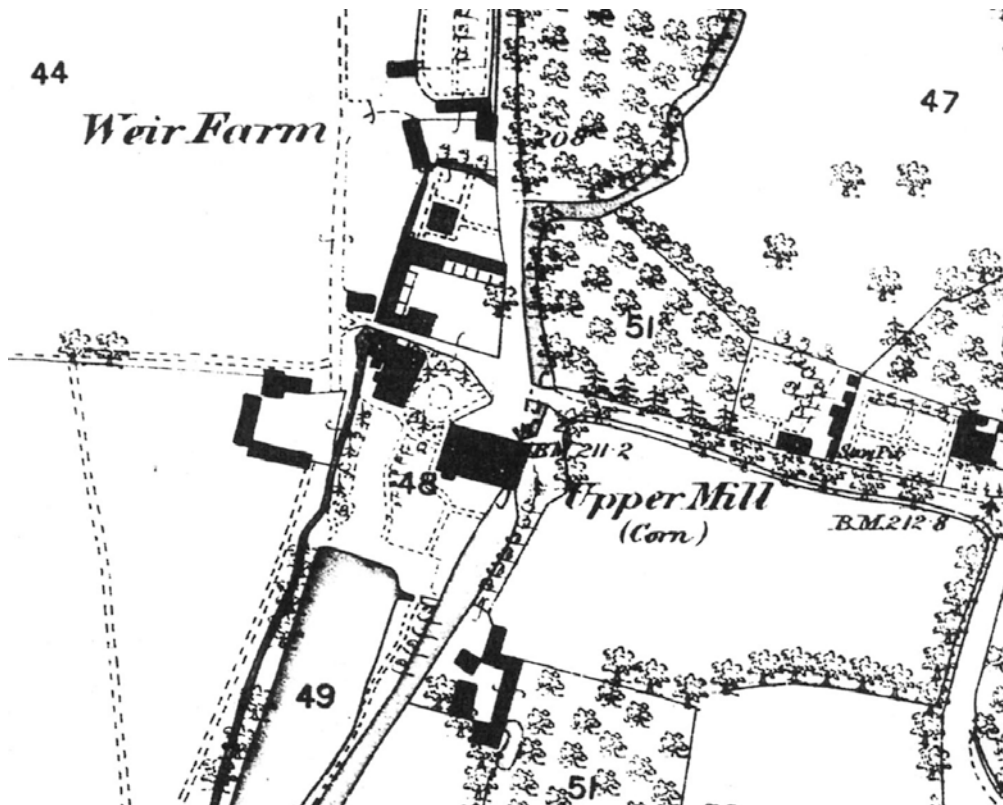


Fig 1

Ordnance Survey map 1877

Old photograph (nd) of mill from the south (Hood 1987, 92)



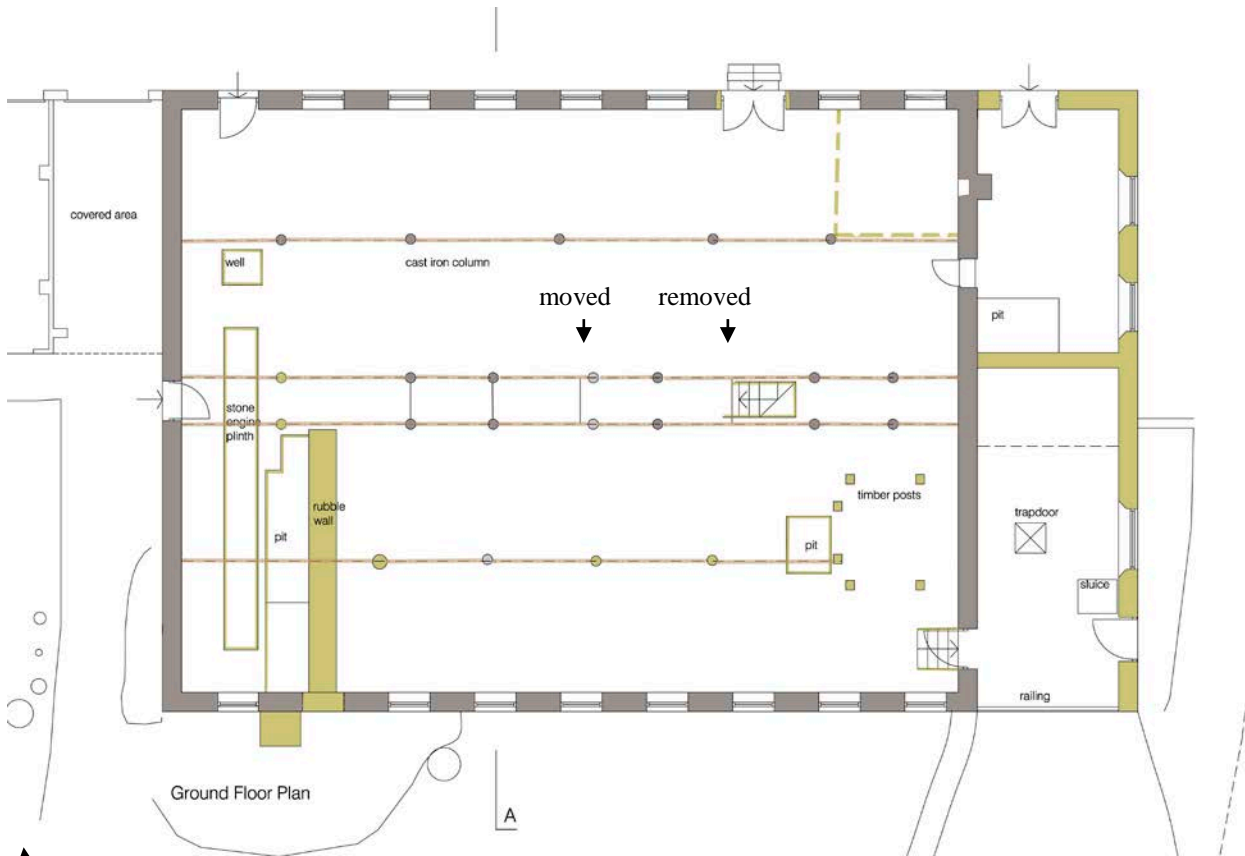
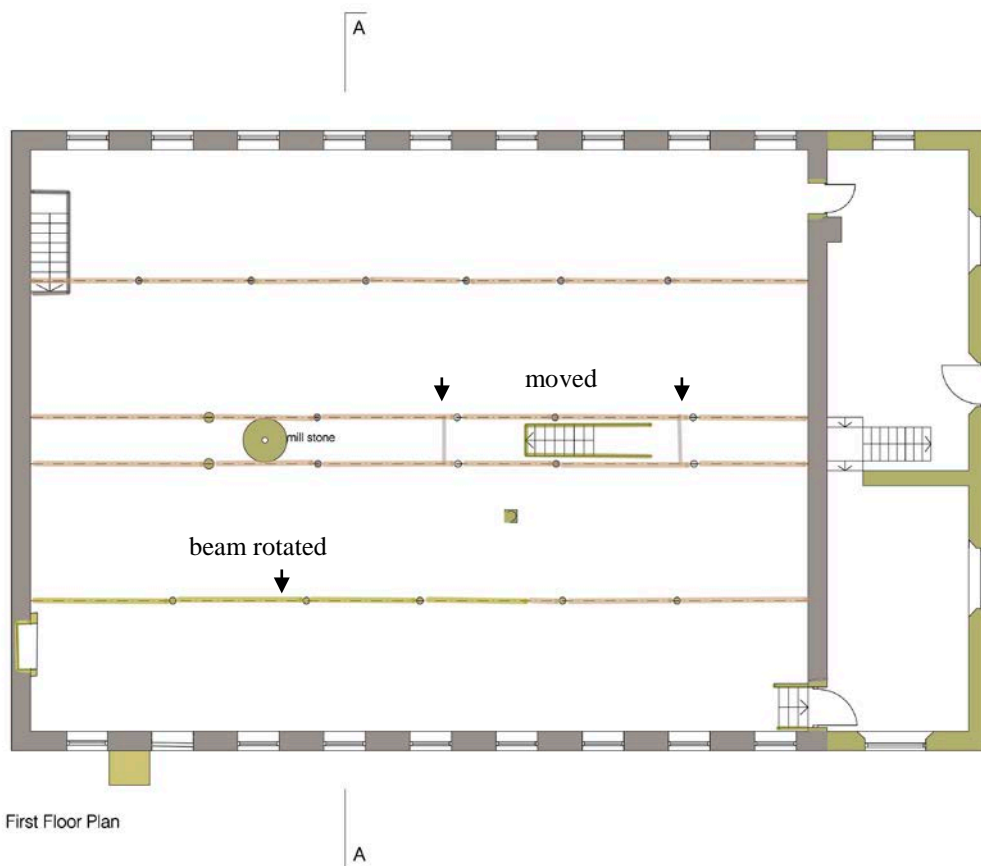
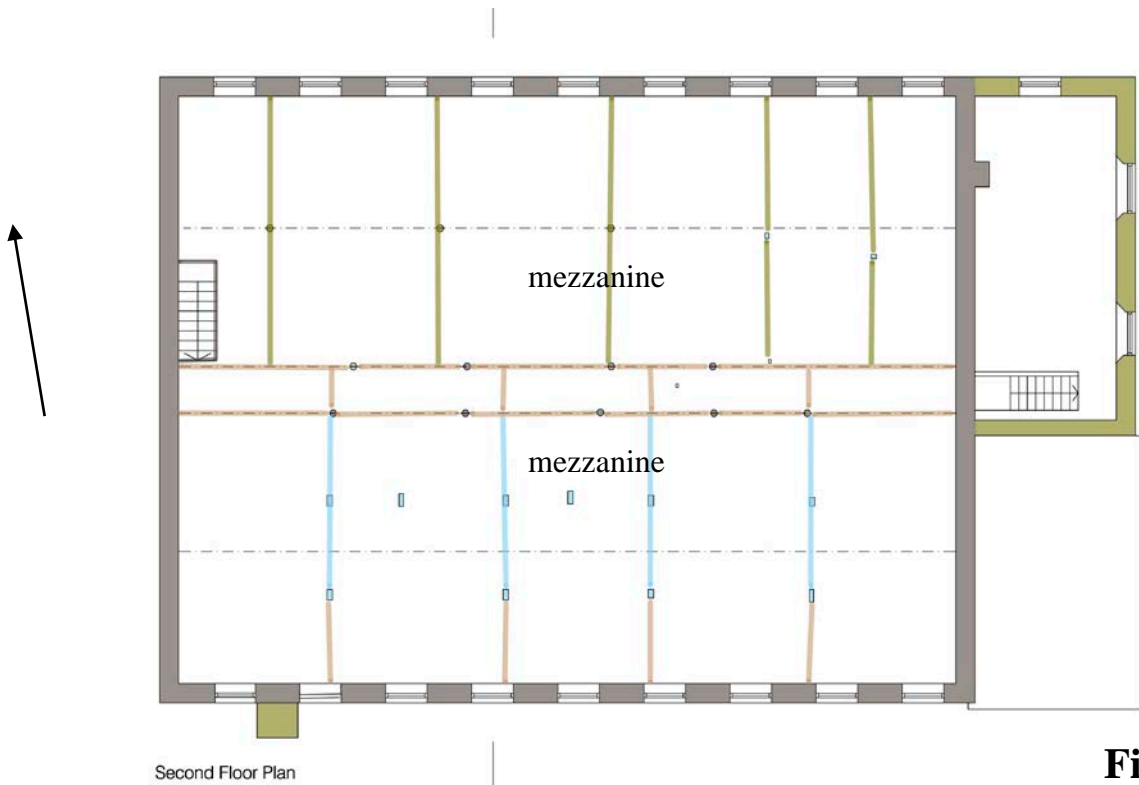


Fig 2
Ground floor plan

First floor plan

<i>Grey</i>	1820
<i>Pale grey</i>	columns moved
<i>Brown</i>	ceiling beams
<i>Green</i>	later 19 th century
<i>Blue</i>	20 th century





Second Floor Plan

Fig 3
Top floor plan

North elevation

South elevation

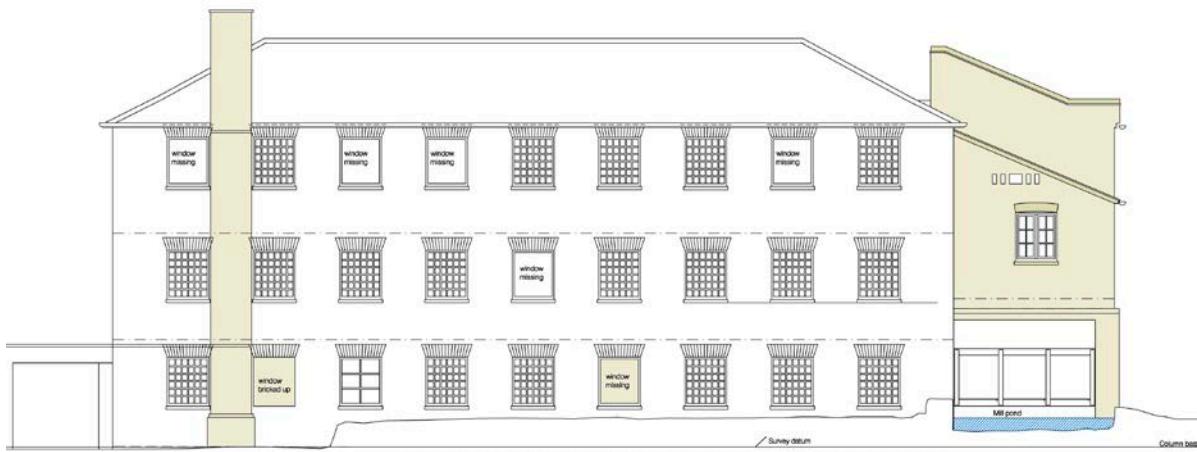
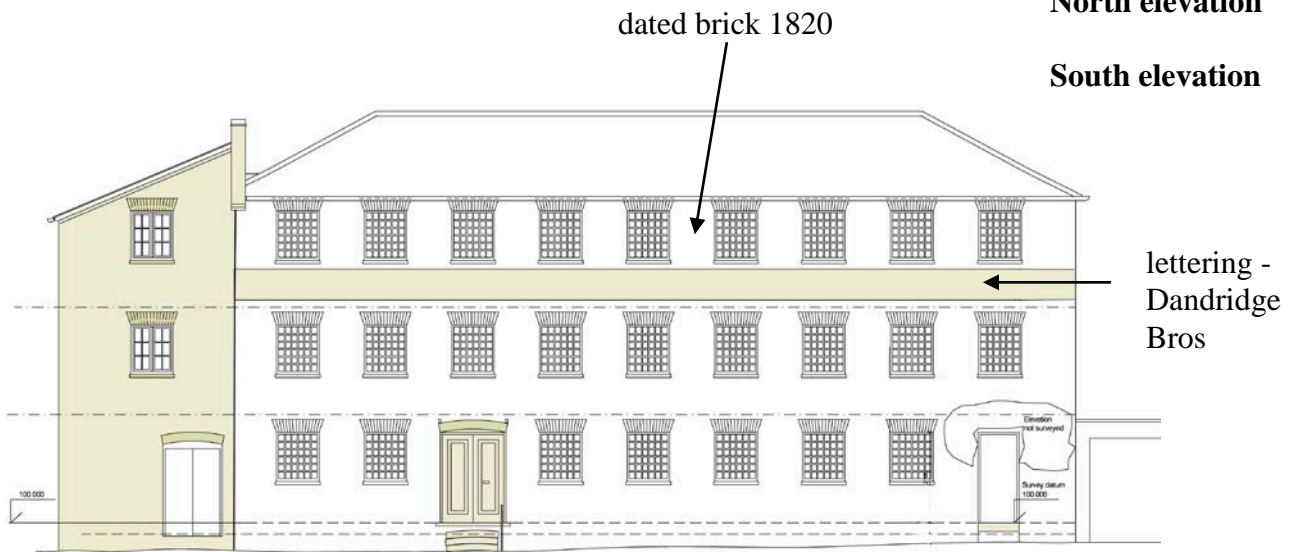
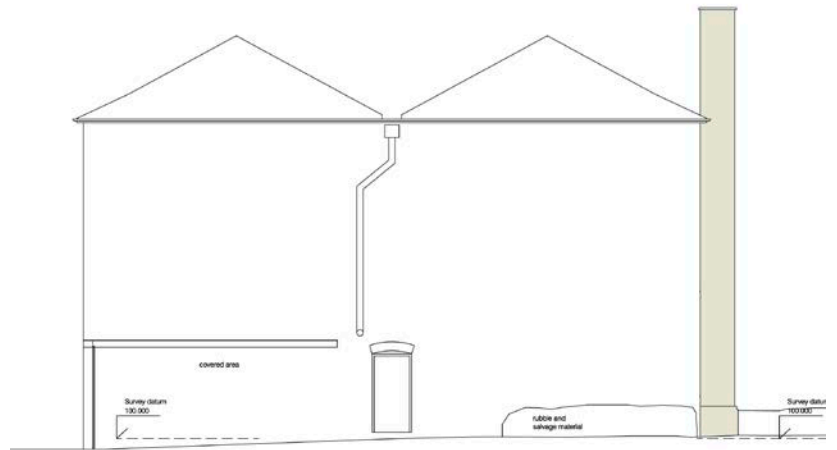


Fig 4

West elevation

East elevation

Section



Grey
Pale grey
Brown
Green
Blue

1820
 columns moved
 ceiling beams
 later 19th century
 20th century

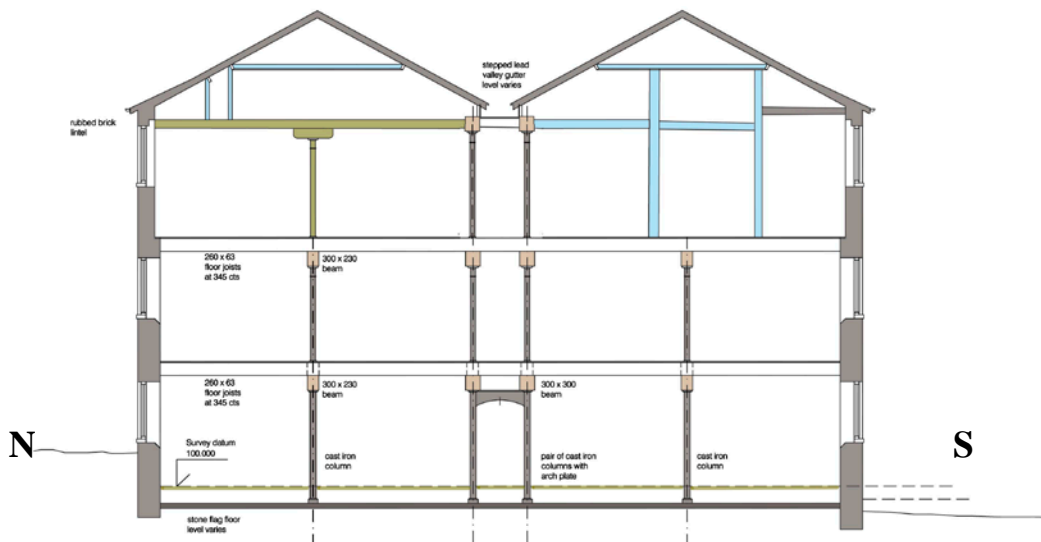




Fig 5

(clockwise from top)

North elevation

View from the south-east

South elevation

West end of south elevation





Fig 6
(clockwise from top)

Room over mill-race showing wear caused by wheel

Ground floor looking east with original columns

Ground floor, engine bed in south-west corner

First floor looking south-east; original columns in foreground

Ground floor, secondary posts in south-east corner





Fig 7

(clockwise from top)

First floor looking west showing rotated beam

First floor looking west, millstones

Top floor, mezzanine structure on south side

Top floor, mezzanine structure on south side & original roof

Top floor, original tie beams truncated by mezzanine structure on south side

North side looking east with mezzanine

