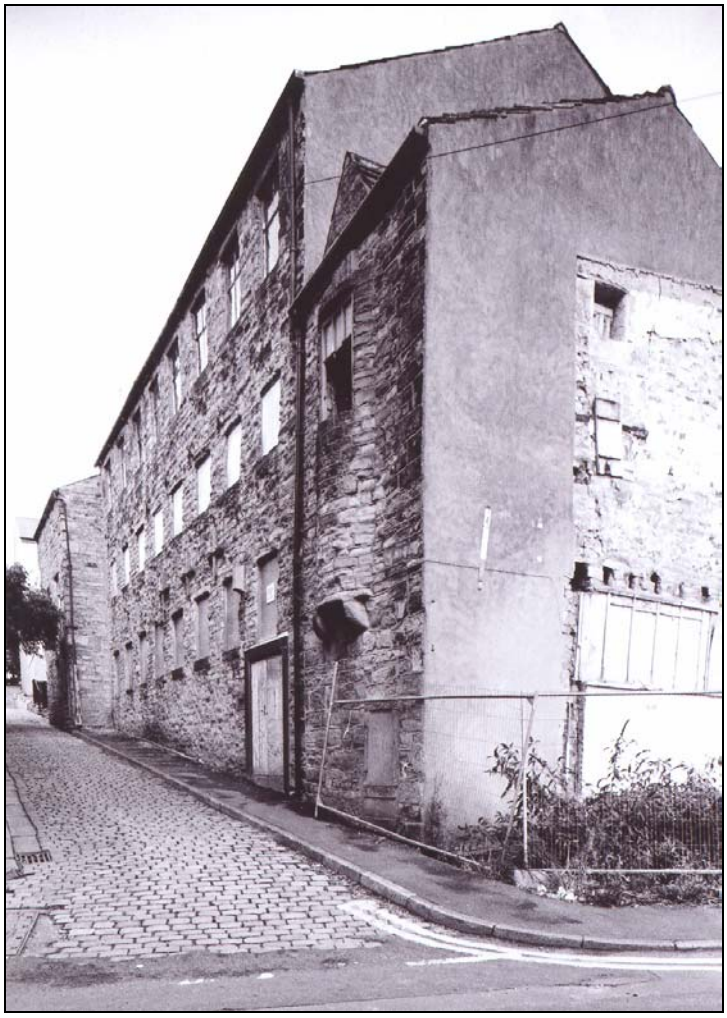
Helm Mill, Factory Lane, Padiham, Burnley

An Archaeological Building Survey

By J.M. Trippier Archaeological and Surveying Consultancy



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Client: N. Reynolds Esq.

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NON-TECHNICAL SUMMARY

A planning condition by Burnley Borough Council necessitated an archaeological building survey of Helm Mill, Factory Lane, Padiham (SD 8469 3299) prior to its redevelopment. The work was on behalf of on behalf of Mr. Nigel Reynolds by J. M. Trippier Archaeological and Surveying Consultancy. Helm Mill is a simple three storey rectangular stone-built vernacular building typical of the spinning mills that characterised the development of the factory based textile industry of the early 19th century. The upper floors are mainly carried by the load bearing external walls but there are examples of the early use of cast iron columns and a rare example of a beam –engine house although renovations have left little extant technical content.

ACKNOWLEDGEMENTS

Thanks are due to Mr. Reynolds who commissioned the survey and provided copies of his architect's drawings. The assistance provided by the staff of Burnley Local Studies Library and Lancashire County Record Office is also acknowledged.

1. INTRODUCTION

1.1 J. M. Trippier Archaeological and Surveying Consultancy was instructed by Mr. Reynolds to carry out an archaeological building recording programme at the Helm Mill prior to the renovation and conversion of the building to residential use. Mr. John Trippier BA (hons), MRICS, PIFA is a Chartered Surveyor and Practitioner of the Institute of Field Archaeologists with over 30 years experience of surveying and recording buildings of many types.

1.2 The proposed development is the subject of planning condition by Burnley Borough Council that a programme of building recording is carried out. This recommendation followed the advice given by central government as set out in *Planning Policy Guidance: Planning and the Historic Environment* (PPG15) and *Planning Policy Guidance on Archaeology and Planning* (PPG16) issued by the (then) DOE. The appointed consultants (ourselves) were required to submit a written scheme of investigation (see Appendix 1) and this report follows the programme set out in that document.

1.3 The relevant planning application number is APP/2004/1179. It is assumed that planning application numbers APP/2004/0481-2 and APP/2004/1191 relate to cleared land fronting Ightenhill Street just to the east of the mill building and presumably once part of the mill complex. The relationship of this site to the building under survey is covered at para. 5.3 of this report.

2 SITE LOCATION

2.1 The building is located on the junction of Factory Lane and Ightenhill Street in the centre of Padiham which lies some 5 km to the west of Burnley. The mill lies in an area of narrow streets just to the just to the north of Church Street which is the main road through the town centre. The national grid reference of the site is SD 7938 3402. The building's general location is arrowed in red on the map enclosed as Fig 1 and it is shown more precisely edged red on the map enclosed at Fig 2.

3. AIMS AND OBJECTIVES

3.1 Buildings are of great historical importance providing information on historical technology, social structure and lifestyles. Alterations to such buildings remove evidence for past uses and occupation of buildings and make it more difficult for future historians to understand and interpret the buildings. Helm Mill is reputedly the oldest surviving textile mill in Padiham (Rothwell 2005, 5) and in recent years many such structures have been lost through demolition or redevelopment with no record of their original form surviving. A drawn and photographic record of the building preserves 'by record' the information which is lost during alteration.

3.2 The aim of the project was to provide a 'Level 2/ 3 Survey' of the building as specified in *Understanding Historic Buildings: A guide to good recording practice* (English Heritage 2006).

3.2 The standard objectives of such a survey are to provide:

3.2.1 A written record comprising:

a) The location of the building, including name of street name and number, town, civil parish and NGR. Details of listing or scheduling;

b) The date of the recording and names of personnel involved;

c) A detailed description of the building describing its plan, form, function, age and development sequence. The names of architects, builders, patrons and owners should be included if known;

d) An account of the building's overall form and of its successive phases of development and the evidence for this analysis;

e) An account of past and present use of the building and its parts with evidence for these interpretations. An account of any fixtures, fittings, plant or machinery associated with the building;

f) Any evidence for the former existence of demolished structures or plant associated with the building;

g) Copies of other records of the building or a note of their existence and location;

h) Relevant information from other readily available sources and from owners, builders, architects etc. who may be familiar with the building;

i) A note of the building's past and present relationship to its setting; e.g. its relationship to local settlement patterns, especially those contemporary with contemporary with the building;

j) A note of the building's significance locally, regionally or nationally in terms of its origin, purpose, form, construction, design, materials and status.

3.2.2 A drawn record comprising:

a) Plans (to scale or fully dimensioned) of all main floors as existing. Plans to show the form and location of any structural features of historic significance (e.g. blocked doorways and windows; former fireplace openings; masonry joints; changes in internal levels);

b) Drawings (to scale or fully dimensioned) recording the form and location of any other significant structural details (e.g. timber or metal framing, roofs);

c) Sections to illustrate the vertical relationships within the building (e.g. ceiling heights, differing floor heights, roof trusses);

d) Drawings to show the form of any architectural decoration (e.g. moulded doorcases, mullions, cornices); a measured drawing being particularly valuable when the subject feature is precisely dateable;

3.2.3 A photographic record comprising:

a) A general view or views of the exterior of the building;

b) The overall appearance of the principal rooms and circulation areas;

c) Detailed coverage of the building's external appearance:

e) Any external detail, structural or decorative, which is relevant to the building's design, development and use and which does not show adequately on general photographs;

f) The building's relationship to its setting, other buildings or a significant viewpoint;

g) Any internal detail structural and decorative which is relevant to the building's design, development and use and which does not show adequately on general photographs.

3.3 In addition the following are required:-

3.3.1 A photographic register listing all photographs (digital images, colour slides and monochrome prints) taken; each set to be numbered sequentially;

3.3.2 A plan at appropriate scale showing the location from which the photographs have been taken.

4. METHODOLOGY

4.1 A full map regression was carried out at both the Burnley Local Studies Library and the Lancashire County Record Office archives were consulted.

4.2 A photographic record was made using Canon EOS1 and EOS500 35mm with a Canon TS-E 24mm 'shift' lens providing perspective control. SLR cameras were loaded with Ilford HP5 monochrome print films and Fujichrome Sensia ASA 100 and 200 colour slide films.

4.3 Site visits were made by the contractor on a number of occasions between the 9th of September and 8th May 2007.

4.4 The project was carried out in accordance with the recommendations of *The Management of Archaeological Projects* 2nd ed. 1991 and the Institute of Field Archaeologists' *Code of Conduct* and *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings and Structures*

5. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Helm Mill is Grade II Listed Building and a short Listed Building Description is extant (www.imagesofengland.org.uk ref.414889). It is also entered on the Lancashire County Council Sites and Monuments Record (LCCSMR; PRN16719). No detailed archaeological work is known to have been carried on the building or site itself although it has been the subject of two recent archaeological assessments. Helm Mill was discussed at para. 5.6.2. of the Extensive Urban Survey of Padiham carried out for Lancashire County Council in 2001 by Egerton Lea Consultancy where it was referred to as *New Mill*. The survey appears to base this nomenclature on the belief that the mill was 'new' in relation to Clay Bank Mill which was the first cotton factory to be erected in Padiham in 1796. On the other hand Rothwell's *Industrial Heritage: A Guide to the Industrial Archaeology of Padiham and District* of

2005 refers to it as Padiham *Old Mill* and describes it as a mule-spinning mill erected by Henry Helm in 1807 (Rothwell 2005, 5). The latter assertion is presumably based on the evidence of a datestone on the two storey building to the south of the main mill building although the Sites and Monuments Record suggests that this may not be in situ.

5.2 Both Yates' map of 1786 (Fig.3) and Greenwood's county map of 1818 shows a water wheel on the east side of the Burnley Road. Greenwood's map shows a goit supplying water to this wheel which Egerton Lea associated with the Padiham Corn Mill listed in Rogerson's trade directory of 1818. Both the tithe map and the 1848 Ordnance Survey map show the goit running from the River Calder to a building opposite Bridge End Mill just to the north-west of Padiham Bridge in the areas subsequently occupied by Sowerby Street. The water wheel shown on the early maps is therefore unlikely to have related to the subject property.

5.3 Henry Helm was in business as early as 1795, when a small cotton factory and a cottage in Padiham were insured by him (Rothwell 2005, p5). Rothwell has suggested that this factory may have been a two-storey building which ran at right angles to Helm Mill along Ightenhill Street (Rothwell 2005, p6) and presumably predated the subject property. This building is shown on the Tithe Map of 1839 (LRO DRB 1/146) (Fig. 4) as along rectangular one and on the 1st edition 1:10560 (6") OS Map of 1848 (Fig.5) as a triangular one but it was demolished prior to this survey.

5.4 However Rogerson's trade directory of 1818 (p124) lists "Ellam Elisha and Brothers" as cotton spinners and manufacturers (one of only two such enterprises listed in Padiham at that time) and presumably this business was carried on at the subject property. In the early 1820s the Helm brothers were entered under the same trade as "H.E. Helm & E. Helm" (Pigot 1823-4, p94) and as "Helm Henry & Elijah" later in the 1820s and in the 1830s (Pigot 1828, p432; 1830-1, p432; 1834, p507). In 1825 Elijah Helm had a 'factory, engine house and sizing house in Padiham. The factory and engine house is most likely to have been Grove Mill which lay some 200m to the east of helm Mill at the end of Ightenhill Street and was listed in Pigot's Directory as being occupied by Elijah Helm (and Sons) from at least 1834 (Egerton Lea 2001, para.5.6.2). In that year Henry and James Helm were also listed as sizers, cotton spinners and manufacturers at New and Old Mills in 1834 (Pigot, p507). So presumably one or both of these latter premises were at Helm Mill.

5.5 The Tithe Schedule of 1839 (LRO DRB 1/146) confirms that Henry and Elijah Helm owned and occupied both Helm Mill (plot 650) which was described as 'houses and gardens, a sizehouse, a stable, a factory, a reservoir and cottages' and Grove Mill (plot 433) which was described as a factory and croft. The latter is both described and named on the 1848 1st edition 6" OS map and it is apparent that by that date the Helm family had more than one business as Elijah Helm ran Grove Mill, whilst Henry Helm and Sons were based on Burnley Road (Slater 1848, 728).

5.6 By 1851 James and Henry Helm (the son and grandson of the 1st Henry Helm?)

were listed as cotton spinners, manufacturers and sizers and were back at New and Old Mills (Slater 1851, 418) and by 1855 their business had expanded to include not only Old Mill but also Smithygate and Victoria Mills. (Mannex 1855, 516). New Mill appears to have been incorporated into Guy Yate Mill, which appears on the 1848 OS map (Fig. 5), and by 1855 had become part of Victoria Mill which was built by the Helms in 1852-3 as their business continued to expand (Rothwell 2005, 11). It apparent from this chronology that Rothwell was correct in identifying the subject property as *Old Mill*.

5.7 Like many mills in the area Victoria Mill closed in the 1860s, when the American Civil War resulted in the lack of raw materials known as the Cotton Famine (Rothwell 2005, p11). It was, however listed in Slater's directory of 1865 (p655), as being run by Henry Helm and sons which suggests that it may have re-opened at the end of the War although according to Rothwell it remained empty until it was re-opened by another company in 1873. Helm Mill (Old Mill) itself also closed during the Cotton Famine never to reopen as such and it has since been used for a variety of uses (Rothwell 2005, 5-6). On the 1931 OS map (Fig 7), the main mill building is labelled "Hall" a use which may have been in conjunction with the Baptist Church and school which stood on the other side of Factory Lane from at least 1893 (Fig.6). According to the Listed Building Description the upper storey of the main mill was rebuilt in about 1900 (www.imagesofengland.org.uk ref.414889) and by 1994, it was in use as a warehouse (Fig 8). According to Armstrong et al (nd, unpaginated), the 1807 mill has also been known as "Fred's Factory".

6. PHYSICAL DESCRIPTION

6.1 GENERAL DESCRIPTION

6.1.1 The mill comprises a stone built mainly three storey rectangular building with the main frontage to Factory Lane which lies immediately to the west and slopes downhill from north to south (see Frontpiece). At the northerly end the building projects slightly east and west giving a shallow 'T-shaped' footprint (see Fig.9). There is no current internal division between the main building and the northern one other than by temporary timber partitions at 1st and 2nd floor levels. At the south end is a stone built two-storey building running the full depth of the main mill (see Plate 1). At the roof level of the latter is the 'shadow' of slightly higher roof line on the south gable of the main building (see Plate 2). Due to the sloping nature of Factory Lane both the ground floor of this building and the south end of the main building are raised up in relation to the street level. It appears that the difference in height, which amounts to about two and a half metres, comprises 50% of made ground and 50% of 'natural' (Plate 3). Access to the mill on the west (main) frontage is by a doorway at the south end of the main building which is at street level and therefore below the level of the internal ground floor which is reached via a short flight of steps in the south west corner of the main building (Plate 1). There is also access to the mill on the east frontage by a doorway at the north

end (Plate 4). Access to the northern building is now only from the main building but there are blocked apertures in the west wall at ground floor level (Plates 5&6). There is no current access to the two-storey building from the main building but there is a blocked recess in the south wall of the latter at ground floor level (Plate 7). The only recent access to the two-storey building appears to have been at ground level in the building's east elevation. This two-storey is no longer accessible due to the removal of the adjoining ground surface (see Plate 3) and therefore this building could not be inspected internally. However an earlier brief look at the time of the preparation of the project design for this survey revealed that the internal walls had been heavily rendered apparently to provide a cold store.

6.1.2 The main building has a double pitched roof with a Welsh Slate covering. The two-storey building has a more modern covering of similar material on machine- cut purlins and rafters (see Plate 8).

6.2 EXTERNAL DESCRIPTION -MAIN BUILDING

6.2.1 West Elevation (See Frontpiece). This elevation, which fronts Factory Lane, is the most publicly visible of the complex. The whole frontage is built of regular blocks of soft yellow sandstone, typically 200 to 300mm by 150mm high, and laid to regular courses. The courses were strap pointed with 'grey ash' mortar. This elevation is braced with moulded cross-shaped iron braces. There are three just above ground floor window level and five smaller ones just above second floor window level. There is no internal evidence of this bracing arrangement and so it seems likely that they are fixed to the ends of the floor beams. The windows themselves comprise three rows of eight evenly spaced openings, the ground and second floor ones being slightly taller than the square first floor ones. There all have stone slab lintels and cills. The window frames, which are only slightly recessed, are modern timber four pane swivel casements on the ground and first floors and casements with 'drop-down' upper lights on the second floor. The doorway at the south end is slightly raised over a tiled step.

6.2.2 South Elevation (Plate 2). This elevation is obscured to some extent by south building. The part that is visible above the latter is lime rendered. Where parts of the bare wall were visible it was found to be constructed of rough sandstone bonded with lime mortar.

6.2.3 East Elevation (Plate 4). This elevation, which also extends to three storeys, is of matching construction to the west elevation being built of regular blocks of soft yellow sandstone, typically 200 to 300mm by 150mm high, and laid to regular courses. However in this instance the courses are bonded with lime mortar. Unlike the west elevation there was no evidence of bracing. There are three rows of seven evenly spaced openings at each floor level; the ground and second floor ones being slightly taller than the square first floor ones. There all have stone slab lintels and cills and generally contain modern timber four pane fixed light casement windows which are only slightly recessed. At ground floor level the window frames have been removed and the window openings

blocked up. The southernmost opening at ground floor level comprises a blocked doorway with stone slab jambs. At the north end of the elevation there is a personnel door at ground floor level above which are hoist doors at first and second floor levels.

6.2.4 Beneath the southernmost window on the ground floor the head of a blocked stone arch was partially visible above the ground surface. Further groundwork has revealed this in more detail (see Plates 9&10). However there was no evidence of the arch internally where its head must have been just below the window cill. Immediately in front of the arch was a circle of stone blocks (the base of a chimney?) and in the wall immediately to the south of the arch were iron plates with circular apertures c.100mm diameter which may have routed steam from the interior of the building to the 'chimney'.

6.2.5 North Elevation. This elevation is almost completely blocked by the northern building.

6.3 EXTERNAL DESCRIPTION - NORTH BUILDING

6.3.1 West Elevation (Plates 5 and 6). This elevation, which fronts Factory Lane, is built of regular blocks of soft yellow sandstone, typically 200 to 300mm by 150mm high, and laid to regular courses. However in this case they were laid in watershot fashion and were bonded with lime mortar. They also had good quoins. There were three former openings at ground floor level. They all had the appearance of former doorways. The northernmost one is now completely blocked with antique stonework but a stone slab lintel is still in place. The central and southernmost ones have had stone slab cill and timber casements with two fixed lights inserted at half height and blocked with antique stonework below. The southernmost one also has stone slab jambs whereas the other two openings utilise the stonework of the wall itself. There is a row of two timber casements each with three fixed lights at first floor level.

6.3.2 South Elevation. The main building largely obscures this elevation although small portions are visible to the east and west where it projects beyond the latter (Plates 4 and 5). The stonework matches that of the west elevation. The westerly projection is a blank wall but the easterly one contains windows at ground, first and second floor levels.

6.3.3 East Elevation. This elevation is completely obscured by houses which adjoin it to the east.

6.3.4 North Elevation (Plate 6).This elevation is largely obscured by houses which adjoin it to the north. However it comprises a blank wall of lime mortared sandstone blocks which are somewhat more random than those of the west elevation.

6.4 EXTERNAL DESCRIPTION -SOUTH BUILDING

6.4.1 TheWest Elevation (See Frontpiece and Plate 1). This elevation, which fronts Factory Lane, is built of regular blocks of soft yellow sandstone, typically 200 to 300mm by 150mm high, and laid to regular courses but with no quoins. It has been strap pointed with cement mortar. The elevation appears to comprise three storeys although the whole is somewhat lower in height than the adjoining main building so that the second floor of the subject building is at the same level as the first floor of the main one. At ground floor level the wall is largely blank although at the south end is a square opening with stone slab jambs, cill and lintel which has been blocked up and cemented over. At first floor level the wall is again largely blank although a prominent feature is a stone built segmental oriel bay supported by two stone projections. Above this at second floor level is a window opening containing three fixed upper lights over a void which presumably previously contained a timber casement. Above the latter is a stone plaque inscribed H. Helm 1807. The elevation is topped by a stone triangle.

6.4.2 South Elevation (Plates 11 and 12). This elevation is of roughly coursed fairly irregular sandstone blocks bonded with lime mortar. It is apparent that it was previously abutted by another building that has now been demolished. The limewashed internal wall and sockets for the first floor joists of this now demolished building are still visible in this elevation. The part of the latter which was outwith the demolished building is lime rendered as is the visible part of the south elevation of the main building (see para 6.2.2 above).

6.4.3 East Elevation (Plates 2 and 3). This wall is constructed of modern machine made brick coated with a gypsum based render. Due to variations in ground level it only comprised two storeys; the ground level which corresponds with the first floor level of the west elevation and a first floor which corresponds with the second floor of the latter. There is a modern timber doorframe inserted in this elevation at ground floor level but the door is now missing. The elevation wall has been removed at first floor level and the modern roof timbers are now visible.

6.4.4 North Elevation. This elevation is completely obscured by south wall of the main building.

6.5 INTERNAL DESCRIPTION -MAIN BUILDING

6.5.1 Ground Floor (Plates 13 & 14). This is a rectangular area some 20m by 7m. The walls are rendered and painted and pierced by windows with deep reveals. The ceiling is painted plasterboard and floor is flagged with bitumen coating. The height is 2.4m to the underside of the ceiling beams of machine cut timber which run east-west at intervals of 2m. The beams are let into the east and west walls and additional support is provided by a centrally placed row of cast iron columns running north-south. Two of the columns are set eccentrically to the east of the main run (see type C on Fig.3). These support short cross beams between the main beams (see Plate 15). The other supporting columns in this

area have unusual 'pronged saddles (see type B on Fig.3 and Plates 13 and 16). The column supporting the beam at the junction between the main and the north building has a more conventional rounded capital (see Plate 17). In the south wall is the indented blocked opening already referred to at para. 6.1.1 and shown in Plate 7.Also at the south end is a short flight of stairs leading down to a well where the front door is located and a staircase leading to the first floor.

6.5.2 First Floor (Plate 18). The plan of this floor replicates that of the ground floor. Again the walls are rendered and painted and pierced by windows with deep reveals (see Plate 19). The ceiling is painted plasterboard and the floor is of caulked timber boards, typically 180mm wide. The height is 2m to the underside of the machine cut timber ceiling beams which run east-west at intervals of 2m. The beams are let into the east and west walls and additional support is provided by a centrally placed row of cast iron columns running north-south. The columns supporting the beams have plain circular capitals below flat saddles (see Plate 20). At the north end of the east wall is a loading door (see Plate19). At the south end is the staircase coming up from the ground floor. A timber stud partition with a central door (see plate 18) separates this floor from the first floor of the northern building from which access is gained to the ground and second floors.

6.5.3 Second Floor (Plate 21).The plan of this floor again replicates those of the floors below. The walls are plastered and painted and pierced by windows with reveals somewhat shallower than those at the lower levels. The ceiling is of lathe and plaster and the floor is of caulked timber boards, typically 180mm wide. The height is 2.6m to the eaves. The ceiling timbers initially appeared to suggest a mansard roof construction utilizing three trusses but when the ceiling was removed during reconstruction it became apparent that the cross beam of the 'mansard' was in fact a tie beam for a standard roof truss (see Plate 22). At the north end of the east wall is a loading door replicating that of the floor below. The hoist mechanism was still in place (see Plate 23). A timber stud partition with a door at the east end (see plate 23) separates this floor from the second floor of the northern building from which access is gained to the lower floors.

6.6 INTERNAL DESCRIPTION –NORTH BUILDING

6.6.1 This building is an extension of the main building. At ground level they are completely intercommunicating with no dividing wall. At first and second floor levels it is only divided from the main building by temporary stud partitions. Against the north wall is a staircase which leads straight up from the ground to the second floor with a half landing at first floor level. The construction and finish is largely as for the main building.

6.7 INTERNAL DESCRIPTION -SOUTH BUILDING

6.7.1 It was not possible to access this building as the ground leading to the only entrance which was in the east elevation had been removed (see Plate 3).

However it was apparent from an earlier preliminary inspection that the ground floor walls had been heavily rendered to provide a cold room.

7. ANALYSIS AND INTERPRETATION

7.1 Helm Mill represents an early survival of a steam-powered mill in the north-eastern part of Lancashire (Rothwell 2005, p6), and is also of importance in the history of the Helm family who were the foremost cotton manufacturers in Padiham. In 1828 it was reported that "The cotton trade in this village [Padiham] is advancing to importance; Messrs. Helms have a large establishment…." (Pigot & Co. 1828, 431) and the Helms still took pride of place on the eve of the American Civil War in 1861 when it was said that "The cotton trade is of great importance; the establishments of Messrs. Henry Helm & Brothers, Messrs. James and Henry Helm, Messrs. R. Hindle & Co., Messrs. Temple & Sutcliffe, and Messrs. R. Thompson & Sons, are very extensive, employing a great proportion of the population; several new mills have recently been erected…"(Slater 1861, 354). It would appear from the documentary evidence that Helm (Old) Mill was probably part of the family's first mill, dating from 1807 and possibly 1795 (see paras.5.1-3) above).

7.2 The development of the mill complex can be traced through the cartographic evidence. On the tithe map of 1839 (Fig. 4) it appears as a series of rectangular buildings around the west, south and east sides of a yard, access being from the north. At that time the site of the southern building (the beam engine house) appears to be undeveloped. By the time of the 1848 OS map (Fig.5) this area had been filled in and the rectangular building along the southern edge of the site along Ightenhill Street south had been extended into a triangular shape. There is also a square in the centre of the yard that may represent the reservoir referred to in the tithe schedule (see para. 5.5 above). The block along the eastern perimeter of the site was now known as *Guy Yate Mill* which was subsequently incorporated into *Victoria Mill* (see OS map 1893- Fig.6 and para.5.6 above). The disappearance of *New Mill* from the historical record about the same time that *Guy Yate Mill*, appears seems to suggest that they were one and the same or, at least, on the same site. The 1893 OS map (Fig.5) also shows what appears to be a chimney within the triangular building along the south side of the site.

7.3 Spinning was the first of the two main processes within the textile industry to be industrialised during the late18th century. Handloom weaving was a much faster operation than domestic spinning and therefore the increased demand for textiles required an expotential increase in the number of spinners for every additional hand loom weaver. By the time weaving came to be mechanised in the 1820s and 30s spinning machines were already housed in multi-storey mills and it was usual for power-driven looms to be housed in the same buildings (Ashmore 1982, 4). Power looms were found to work better on ground floors because of the higher humidity and by the late 1850s single storey specialised weaving sheds were being built which also facilitated the housing of large number of heavy looms and warp beams (Dickinson 1984, 20; Ashmore 1969,

51). However the early beam engines of 100-120bhp could only power 200-250 looms (Ashmore 1969, 55). It was the introduction of compound engines and rope and belt drives from c.1880 that enabled much larger numbers of looms to be powered from one engine and prompted the construction of much larger weaving sheds.

7.4 Helm Mill exemplifies the first stage of these developments in that it comprises a very basic three storey stone building characterised by thick load bearing walls pierced by uniform rows of windows with deep reveals The modest size of some 20m by 7m in plan, the low ceilings, the timber upper floor beams and joists and a timber framed roof structure of the type found in farm buildings of the same period (Ashmore 1969, 47) are all demonstrative of the vernacular nature of these buildings. From the 1790s cast-iron columns and, later, cast-iron beams began to be used to build larger and more elaborate four or five-storey buildings of 'fire proof construction which characterised the cotton mills of the 1830s-70s. Helm Mill has some examples of the early use of cast iron columns with unsophisticated saddles supporting the ceiling beams on the ground and first floor.

7.5 The technological arrangements within the mill, particularly in relation to the supply of power are also of interest although some aspects are still unclear. Rothwell describes the gabled southern building which bears the datestone 1807 as a beam engine house (Rothwell 2005, 6). Whilst the modus operandi of such machines is well understood none are known to survive in situ in textile mills. However this particular building clearly matches their known characteristics (see Fig. 20). It appears that the 1st floor of the building is a late insertion associated with the rebuilding of the east wall in brick (see para. 6.4.3 above) and if the building was a single double height one this may well have been for a small beam engine. The indentation in the southern wall of the main building (Plate 7) may have been a transmission duct and the Listed Building Description (www.imagesofengland.org.uk ref.414889) suggests that the ground floor columns with the pronged saddles (type B on Fig.7 and Plates 13 and 16) may have carried bearings for transmission shafts. It is not clear where the boiler house or the provision of steam would have been. They would usually have been alongside the engine house which would have put it at the corner of Factory lane and Ightenhill Street. However as mentioned above (para.7.2) in this case the only cartographic evidence for a chimney shows it to well to the rear of the engine house.

7.6 The other feature of interest in relation to power supply is the stone arch and adjacent features towards the south end of the east elevation of the main building. It was noted at paragraph 7.2 that the beam engine house did not appear to be present on the tithe map of 1839 (Fig.4) which allows the possibility that the mill may have originally have been waterpowered using the arch for egress. However there were no remaining features within the mill, even when the ground floor was removed to indicate any leets or other features relating to this arch. It was also noted (para. 6.2.4 above) that, apart from being filled in with stone work, the arch was effectively blocked on the exterior by a circle of stone blocks which may have been the base for another chimney, or

possibly a support for a circular item of plant. There were also iron plates with embedded in the wall of the mill immediately to the south of the arch which contained circular apertures, c.100mm diameter, which were orientated towards this circular feature enabling the passage of water or steam between it and the interior of the mill.

8. CONCLUSION

8.1 Helm Mill is a good example of the type of cotton mill that was being built in large numbers across the north- west of England in the first phase of industrialisation of the textile industry during the early 19th century. Such buildings were essentially multi-purpose beginning life as cotton spinning mills around the beginning of the century and then incorporating weaving from the mid-1820s when power-looms came into general use. Architecturally they are of very basic three storey stone construction characterised by thick load bearing walls, low ceilings and timber upper floors and roof beams all demonstrative of their vernacular nature. Helm Mill also provides examples of some simple versions of the cast iron columns that were to enable the development of textile mills into more sophisticated structures in the mid-19th century. It also has a rare example of a beam –engine house although the renovations to this have left little extant technical content. Neat and unspectacular in appearance, mills of this type and vintage are becoming extremely rare due to either the ever present fire hazards during their period of use and subsequent redevelopment either by the manufacturers themselves or more recently. Few urban centres, even in the heartlands of traditional textile production will have more than one of these buildings surviving and Helm Mill remains an evocative part of the townscape of Padiham.

9. ARCHIVE

9.1 The archive resulting from the building recording will be deposited with the Lancashire County Record Office in a format to be agreed with the Archives Officer and within a timescale to be agreed with the Specialist Archaeological Advisor or the Planning Officer (Archaeology). A summary record of the building will be deposited with the Lancashire Sites and Monuments Record and with the National Monuments Record in Swindon.

9.2 The site archive will be prepared and stored according to the UKIC Guidelines for the preparation of excavation archives for long term- storage (1990) and the Museum and Galleries Commission Standards in the Museum Care of Archaeological Collections(1992) 'Standards for the preparation and transfer of archaeological archives'.

9.3 A copy of this report will be supplied to the Lancashire Sites and Monuments Record in Adobe Acrobat 'pdf.' format on CD-ROM on the

understanding that it will become a public document after an appropriate period (six months after completion of the field work unless another date is agreed with the Specialist Archaeological Advisor or the Planning Officer (Archaeology)). A copy of the report will also be supplied to the Local Planning Authority responsible for the planning decision.

9.4 Provision and agreement will be made for the appropriate academic publication of any results that are not to form part of further work. A brief summary report of fieldwork, to appear in the Council for British Archaeology North West *Archaeology North West* will be produced and sent to the editor in time to appear within a calendar year of the completion of the fieldwork.

10. COPYRIGHT

10.1 Full copyright of this commissioned report and other project documents shall be retained by the author of the report under the Copyright, Designs and Patents Act 1988.

11. BIBLIOGRAPHY

Abbreviations

BE : Burnley Express
BuLSL: Burnley Local Studies Library
LRO: Lancashire Record Office
OS: Ordnance Survey

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Pigot, J & Co, 1830-1 *Directory of Lancashire*, London
Pigot, J & Co, 1834 *National Commercial Directory. Lancashire Section*, London
Slater, 1848 *Directory of Lancashire & Other Counties*, Manchester & London
Slater, 1851 *Royal National Classified Commercial Directory and Topography of the County Of Lancashire…*, Manchester & London
Slater, 1858 *Royal National Commercial Directory of Manchester & Liverpool, and the Principal Manufacturing Towns in Lancashire, &c*, Manchester
Slater, 1861 *Royal National Commercial Directory of Manchester & Liverpool, and the Principal Manufacturing Towns in Lancashire, &c*, Manchester
Slater, 1865 *Royal National Commercial Directory of Manchester & Liverpool, and the Principal Manufacturing Towns in Lancashire, &c*, Manchester
Slater, 1869 *Royal National Commercial Directory of Manchester & Liverpool, and the Principal Manufacturing Towns in Lancashire, &c*, Manchester
Slater, 1882 *Royal National Commercial Directory of Lancashire and the Manufacturing District around Manchester,* **2,** Manchester & London
Worrall, 1872 *Directory of Burnley, Accrington, Church, Oswaldtwistle, Haslingden, Baxenden, Padiham, Colne, Marsden, Keighley, Skipton, and Adjoining Townships*, Oldham

APPENDIX 1: PROJECT DESIGN

A PROJECT DESIGN FOR AN ARCHAEOLOGICAL BUILDING RECORDING

PROGRAMME AT HELM MILL, FACTORY STREET,

PADIHAM, LANCASHIRE

BY J M TRIPPIER ARCHAEOLOGICAL AND SURVEYING CONSULTANCY

FOR MR N. REYNOLDS

1. SUMMARY

1.1 J. M. Trippier Archaeological and Surveying Consultancy has been instructed by Mr. Reynolds to carry out an archaeological building recording programme at the above prior to the renovation and alteration of the building.

1.2 The proposed development has been the subject of planning condition by Burnley Borough Council that a programme of building recording is carried out. The appointed consultant (ourselves) is required to submit a written scheme of investigation and this project design has been prepared in order to comply with that requirement.

2 SITE LOCATION

2.1 The building is located on the junction of Factory and Ightenhill Streets in the centre of Padiham which lies some 3 miles to the west of Burnley. The mill lies in an area of narrow streets just to the just to the north of Church Street which is the main road through the town centre. The national grid reference of the site is SD 7938 3402

3. PLANNING BACKGROUND AND SCOPE OF SURVEY

3.1 See paragraph 1.2 above. The relevant planning application number is APP/2004/1179. It is assumed that planning application numbers APP/2004/0481-2 and APP/2004/1191 relate to cleared land fronting Ightenhill Street just to the east of the mill building and presumably once part of the mill complex. The relationship of this site to the building under survey will be covered in our report (see para.9.1 below) but this project design does not include for any survey or intrusive investigation of any archaeological remains on the Ightenhill Street site.

4. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

4.1 Helm Mill, which is also known as Padiham Old Mill and No 2 Factory Lane, was a mule-spinning mill erected by Henry Helm in 1807. By 1848 it was part of a complex known as Guy Yate Mill. Some ancillary buildings may have been demolished during the 1850s when Helm built Victoria Mill in the same area. Helm Mill closed during the Cotton Famine and it has since been used for a variety of storage and retail uses (Rothwell 2005, 5-6).

4.2 An archaeological assessment of Padiham was carried out for Lancashire County Council as part of an extensive urban survey in 2001 (Egerton Lea Consultancy). Helm Mill (referred to as New Mill) was discussed at para. 5.6.2. Rothwell's *Guide to the Industrial Archaeology of Padiham and District* also contains a historical account and brief description. The building is Grade II Listed and a short Listed Building description is extant (English Heritage (IOA) ref. 414889). However no detailed archaeological work is known to have been carried on the building or site itself.

5. REQUIREMENT FOR RECORDING

5.1 Buildings are of great historical importance providing information on historical technology, social structure and lifestyles. Alterations to such buildings remove evidence for past uses and occupation of buildings and make it more difficult for future historians to understand and interpret the buildings. A drawn and photographic record of the building preserves 'by record' the information which is lost during alteration.

6. DOCUMENTARY RESEARCH

6.1 A rapid map regression exercise will be carried out and local historical studies libraries and archive depositories will be consulted. The results will be incorporated in the report described at para. 9. l below.

7. AIMS AND OBJECTIVES

7.1 The aim of the project is to provide a 'Level 3 Survey' of the building as specified in *Recording Historic Buildings: A Descriptive Specification* (Royal Commission on the Historical Monuments of England, 3rd ed., 1996).

7.2 The standard objectives of such a survey are to provide:

7.2.1 A written record comprising:

- The location of the building, including name of street name and number, town, civil parish and NGR. Details of listing or scheduling;
- The date of the recording and names of personnel involved;
- A summary statement describing the building's type or purpose, materials

and possible date(s) so far as these are apparent from a superficial inspection.

- An account of the building's overall form and of its successive phases of development and the evidence for this analysis;

- An account of past and present use of the building and its parts with evidence for these interpretations. An account of any fixtures, fittings, plant or machinery associated with the building;

- Any evidence for the former existence of demolished structures or plant associated with the building;

- Copies of other records of the building or a note of their existence and location;

- Relevant information from other readily available sources and from owners, builders, architects etc. who may be familiar with the building;

- A note of the building's past and present relationship to its setting; eg its relationship to local settlement patterns, especially those contemporary with contemporary with the building;

- A note of the building's significance locally, regionally or nationally in terms of its origin, purpose, form, construction, design, materials and status.

7.2.2 A drawn record comprising the following:

- A plan of the site showing the location of the building(s) being recorded and their relationship to other buildings on the site, access roads, etc.

- Plans (to scale or fully dimensioned) of all main floors as existing. Plans to show the form and location of any structural features of historic significance(eg blocked doorways and windows; former fireplace openings; masonry joints; changes in internal levels);

- Drawings (to scale or fully dimensioned) recording the form and location of any other significant structural details (eg timber or metal framing, roofs);

- Sections to illustrate the vertical relationships within the building (eg ceiling heights, differing floor heights, roof trusses).

7.2.3. A photographic record comprising:

- A general view or views of the exterior of the building;

- The overall appearance of the principal rooms and circulation areas;
- Detailed coverage of the building's external appearance;
- Any external detail, structural or decorative, which is relevant to the building's design, development and use and which does not show adequately on general photographs;
- The building's relationship to its setting, to other buildings or to a significant viewpoint;
- Any internal detail structural and decorative which is relevant to the building's design, development and use and which does not show adequately on general photographs;
- A photographic register listing all photographs (digital images and monochrome prints) taken; each set to be numbered sequentially.
- A plan at appropriate scale for each floor showing the location from which the photographs have been taken. Annotated architects plans may be used to achieve this end.

7.2.4 Photographs will be made using a 35mm camera to produce 5"x 7" monochrome prints. These will be enhanced with colour sides where appropriate.

8. STANDARDS AND MONITORING

8.1 The project will be carried out in accordance with the recommendations of *The Management of Archaeological Projects* 2nd ed. 1991 and the Institute of Field Archaeologists' *Code of Conduct* and *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings and Structures*.

9. POST-RECORDING WORK AND REPORT PREPARATION

9.1 A report will be produced containing the information outlined at para. 7. above.

9.2 A fully indexed archive is to be compiled consisting of all primary written documents, plans, photographic negatives and a complete set of labelled photographic prints. Labelling will be in indelible ink on the back of the print and will include film and frame number; date photographed and photographer's name; name and address of feature/building; and NGR. Photographic prints will be mounted in appropriate archival stable sleeves.

10. DEPOSITION OF ARCHIVE

10.1 The archive resulting from the building recording will be deposited with the Lancashire County Record Office in a format to be agreed with the Archives Officer and within a timescale to be agreed with the appropriate Planning Officer. A summary record of the building will be deposited with the Lancashire Sites and Monuments Record and with the National Monuments Record in Swindon.

10.2 The site archive will be prepared and stored according to the UKIC Guidelines for the preparation of excavation archives for long term- storage (1990) and the Museum and Galleries Commission Standards in the Museum Care of Archaeological Collections(1992) 'Standards for the preparation and transfer of archaeological archives'.

10.3 A copy of this report will be supplied to the Lancashire Sites and Monuments Record in Adobe Acrobat 'pdf.' format on CD-ROM on the understanding that it will become a public document after an appropriate period (six months after completion of the field work unless another date is agreed with the Specialist Archaeological Advisor or the Planning Officer (Archaeology) for Lancashire County Council. A copy of the report will also be supplied to the Local Planning Authority (Burnley Borough Council).

10.4 Provision and agreement will be made for the appropriate academic publication of any results that are not to form part of further work. A brief summary report of fieldwork, to appear in the Council for British Archaeology North West *Archaeology North West* will be produced and sent to the editor in time to appear within a calendar year of the completion of the fieldwork.

11. STAFFING

11.1 The survey will be managed by John Trippier BA (Hons) MRICS, PIFA. Mr. Trippier is a Chartered Surveyor and Practitioner of the Institute of Field Archaeologists with over 30 years experience of surveying and recording buildings of many types.

11.2 J. M. Trippier Archaeological and Surveying Consultancy hold Ordnance Survey Paper Map Copying Licence No. 100043600.

11.3 The archaeological contractor has both professional indemnity (£250,000) and public liability insurance (£2,000,000). Details will be provided if required.

12. BIBLIOGRAPHY

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APPENDIX 2: FIGURES

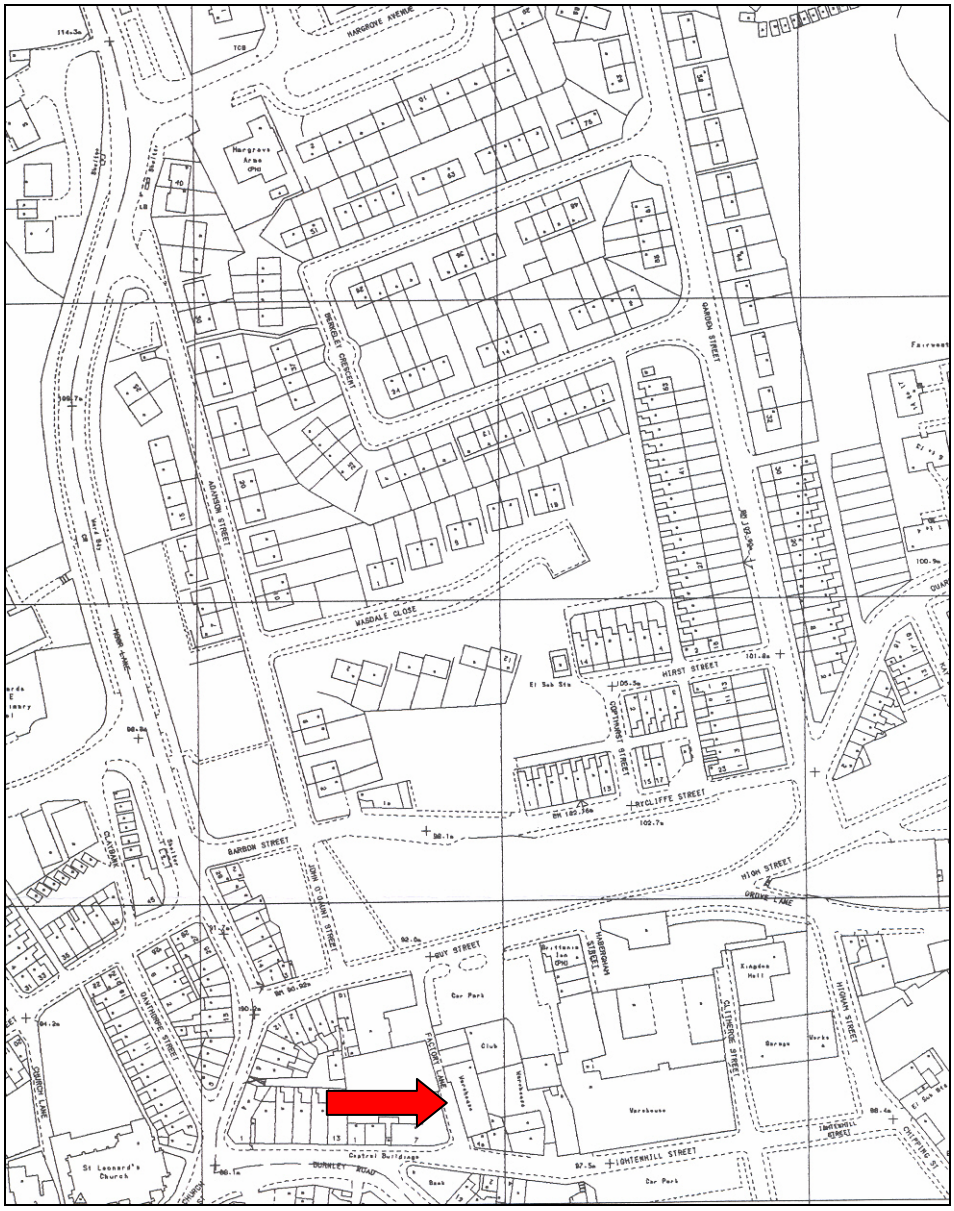

Fig. 1: Site Location

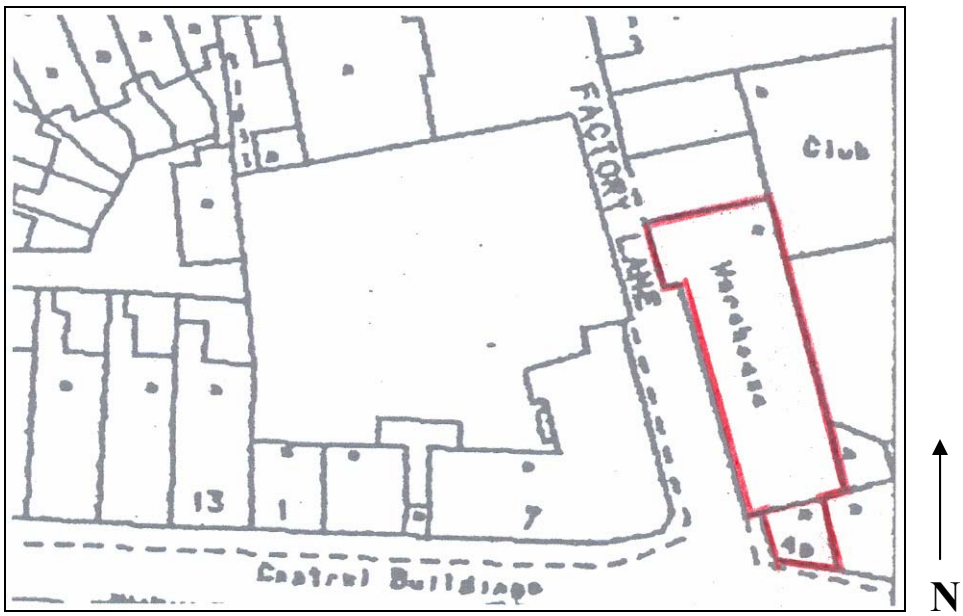

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Fig. 2: Site Plan

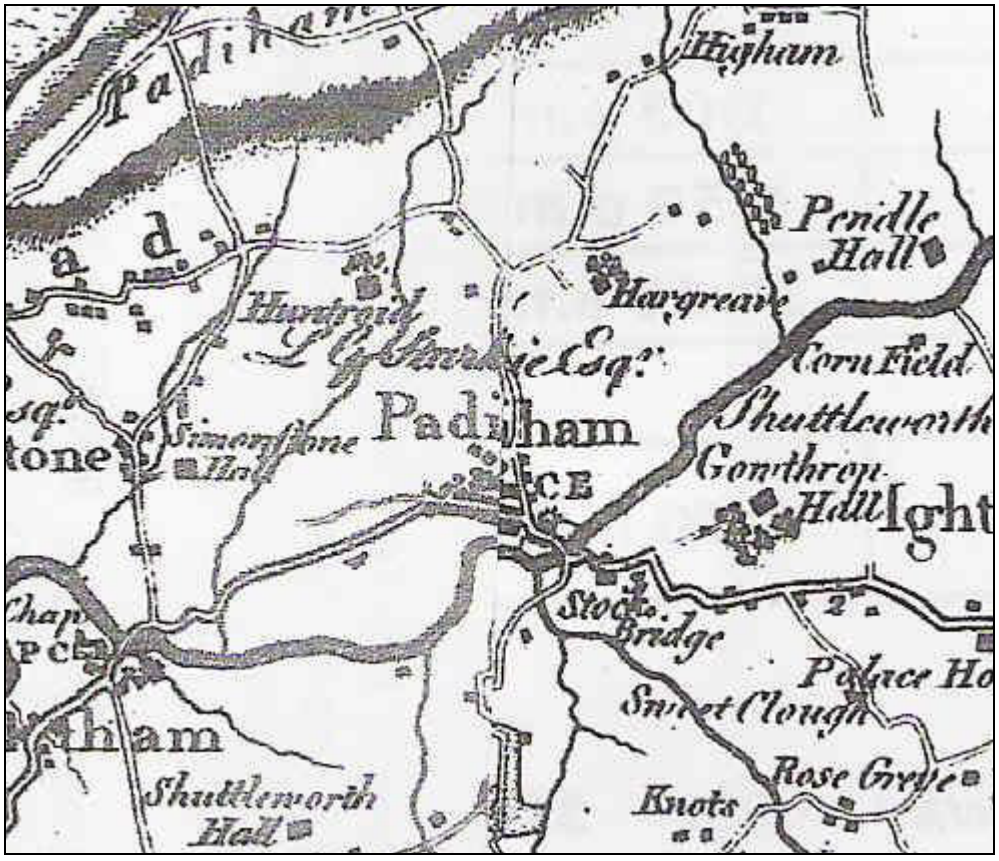

Fig. 3: Yates Map of 1786
Taken from Richardson 1982

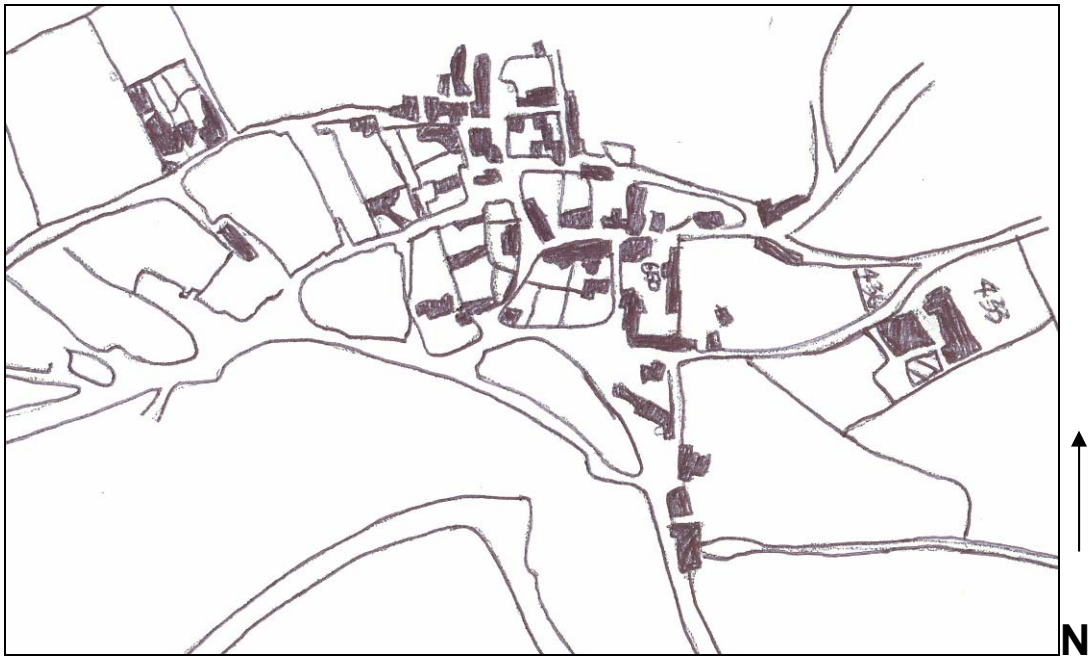

Fig. 4: Tithe Map of 1839

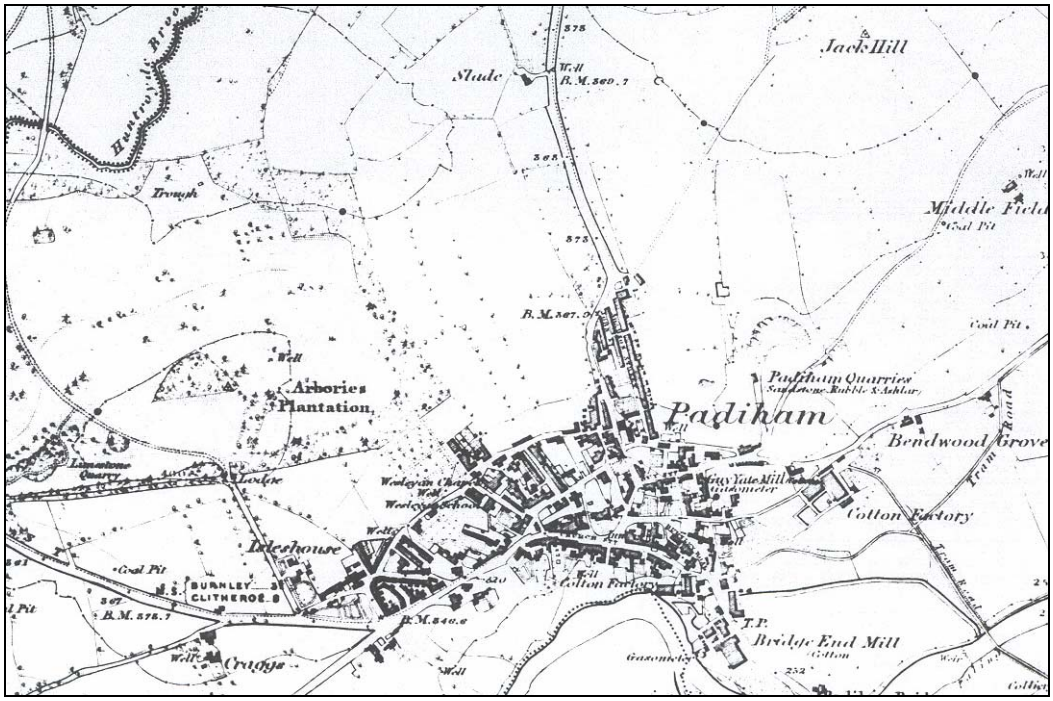

Fig. 5: OS 1848, 1:10,560, Sheet 55

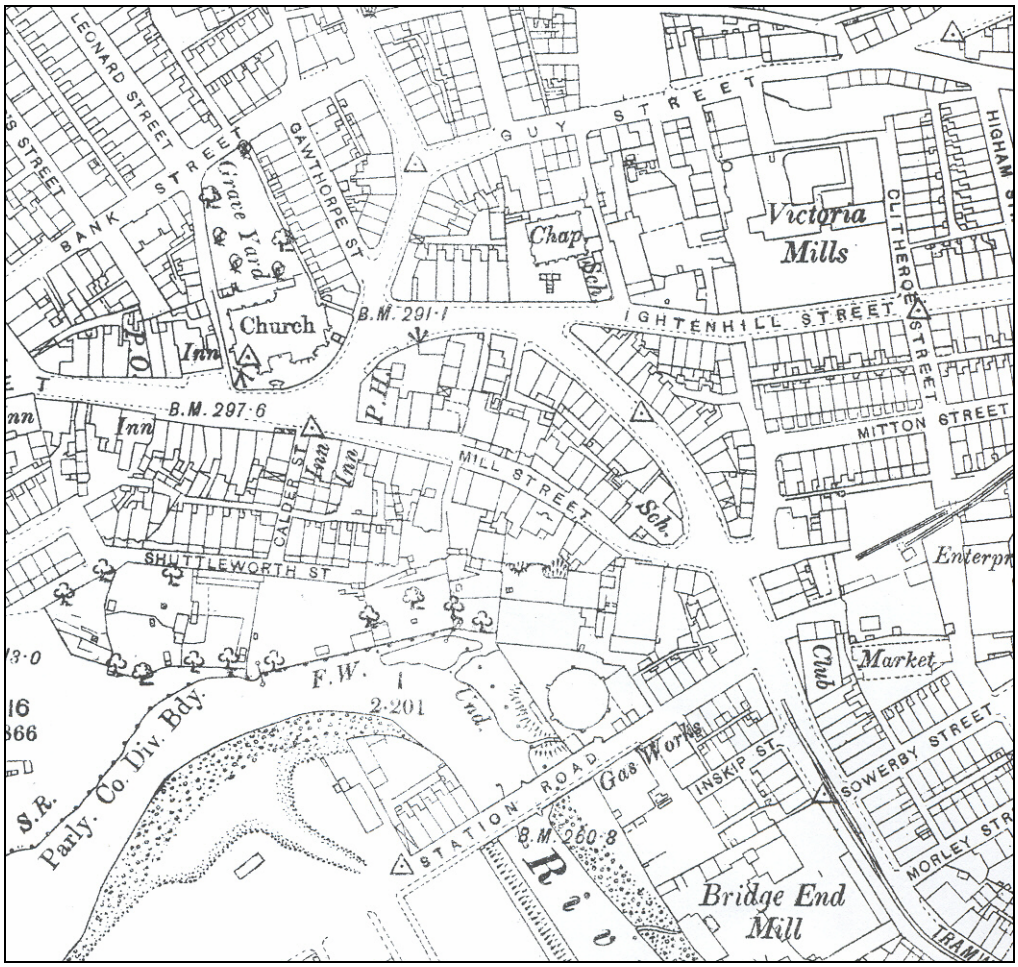

Fig. 6: OS 1893, 1:2,500, Sheet 55.16

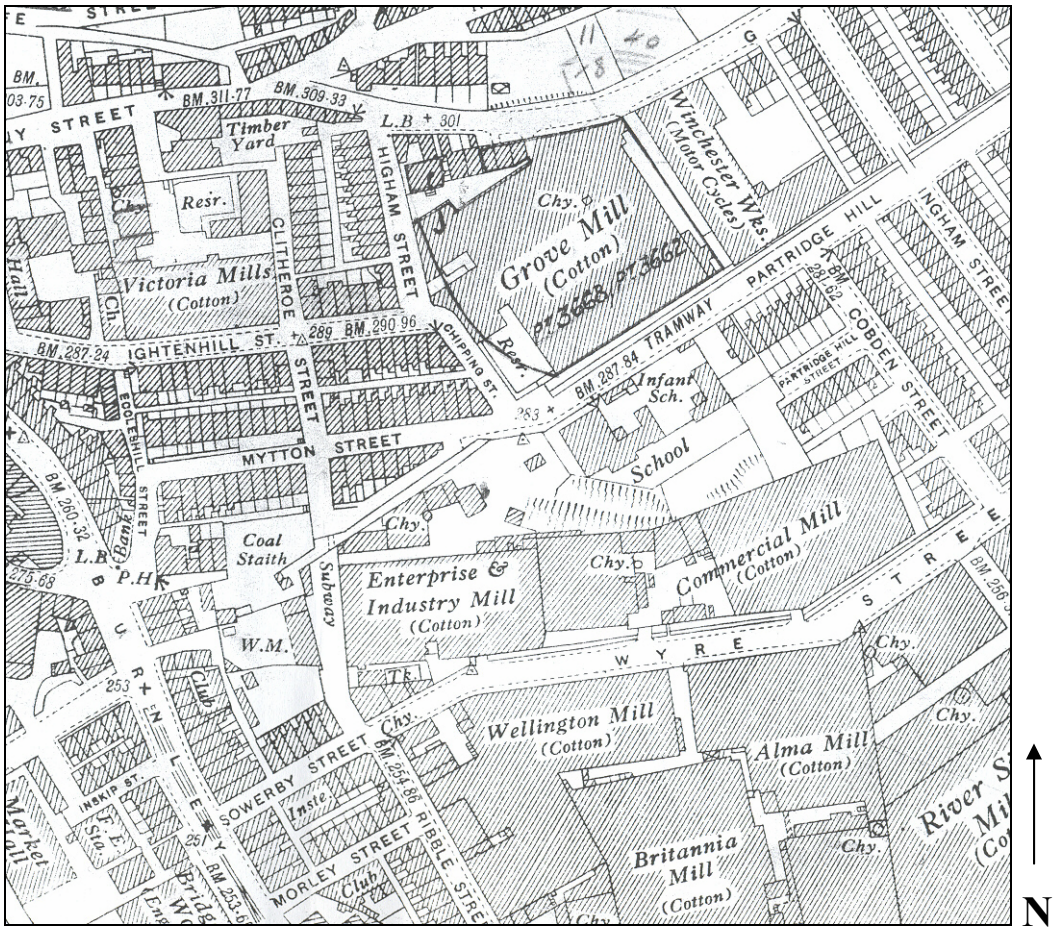

Fig. 7: OS 1931, 1:2,500, Sheet 55.16

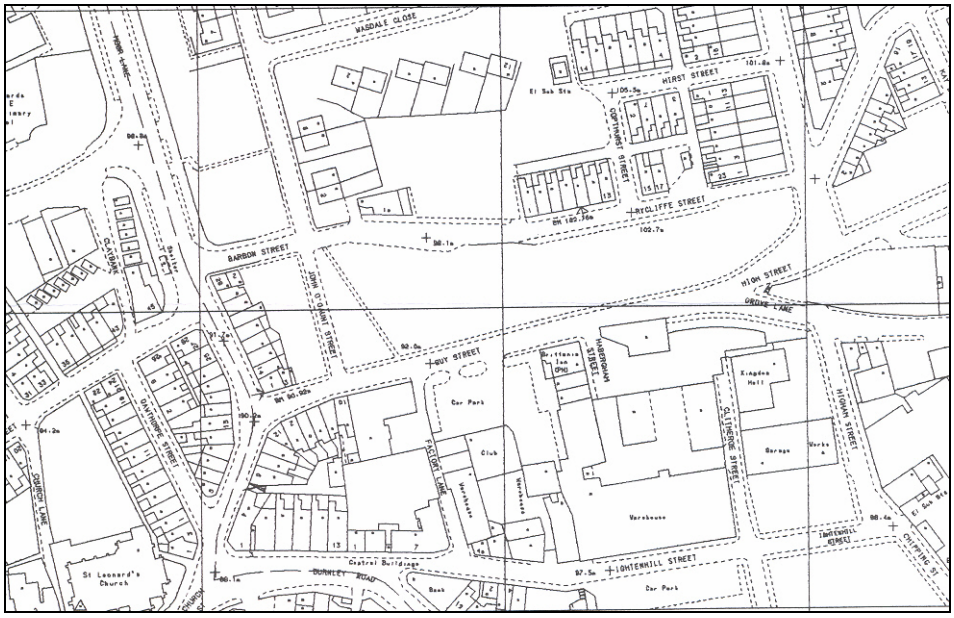

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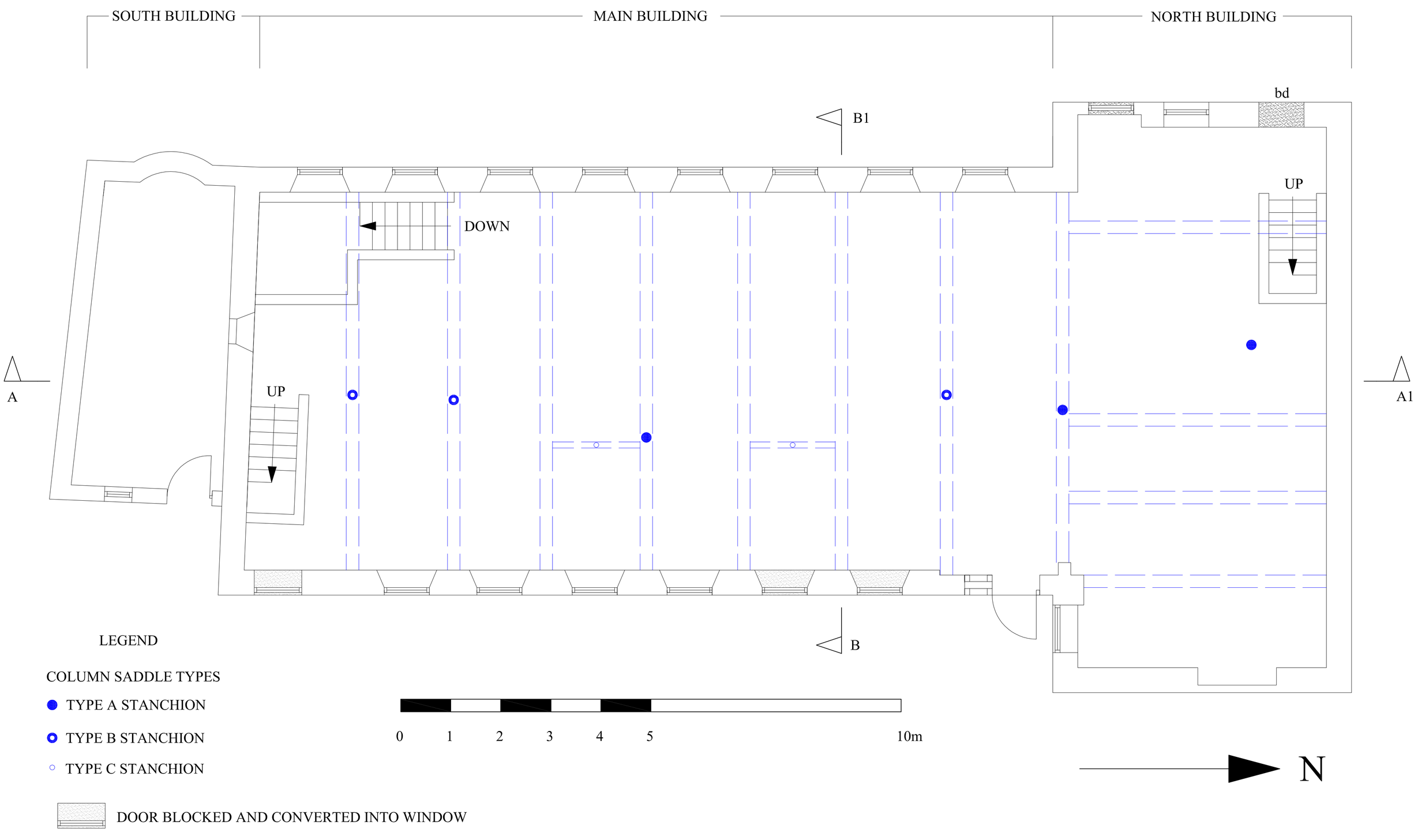
Fig. 8: OS 1994, 1:2,500, Sheet SD 7934

BUILDING PLAN GROUND FLOOR



BUILDING PLAN FIRST FLOOR

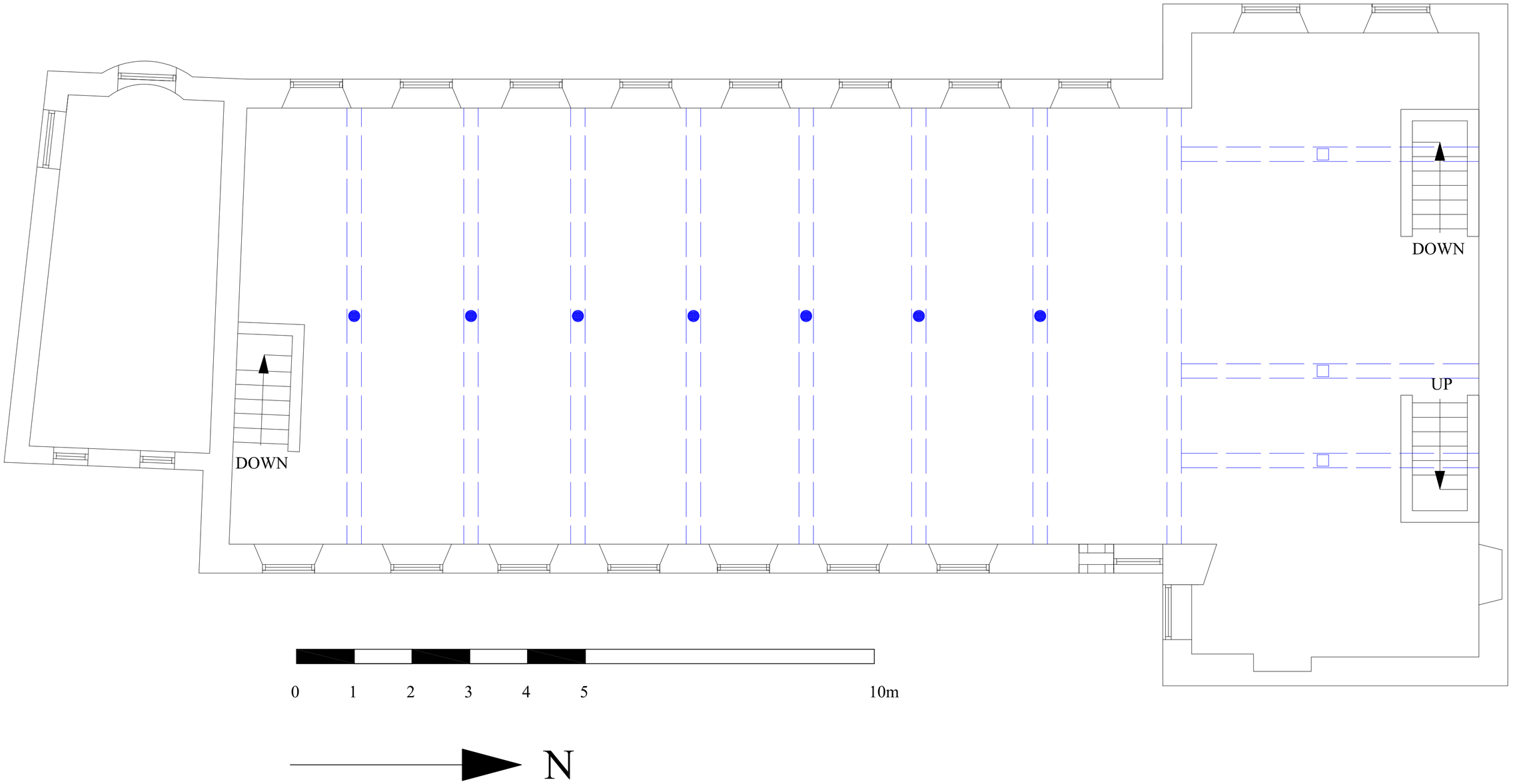


Figure No. 10

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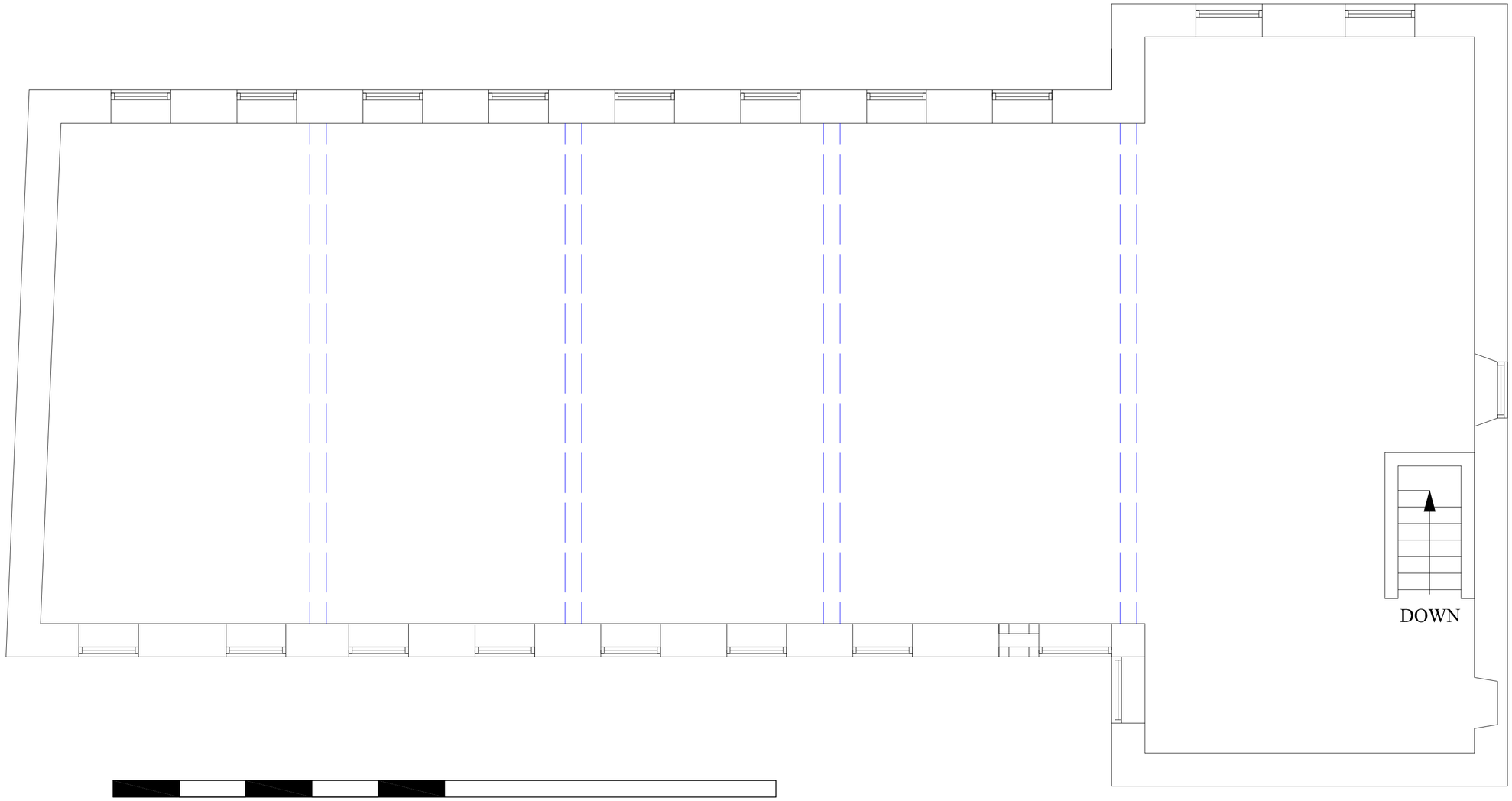
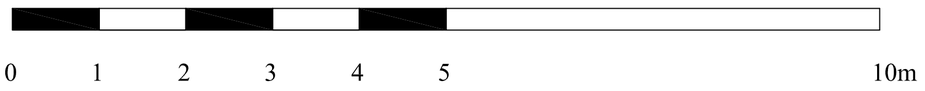


Figure No. 11

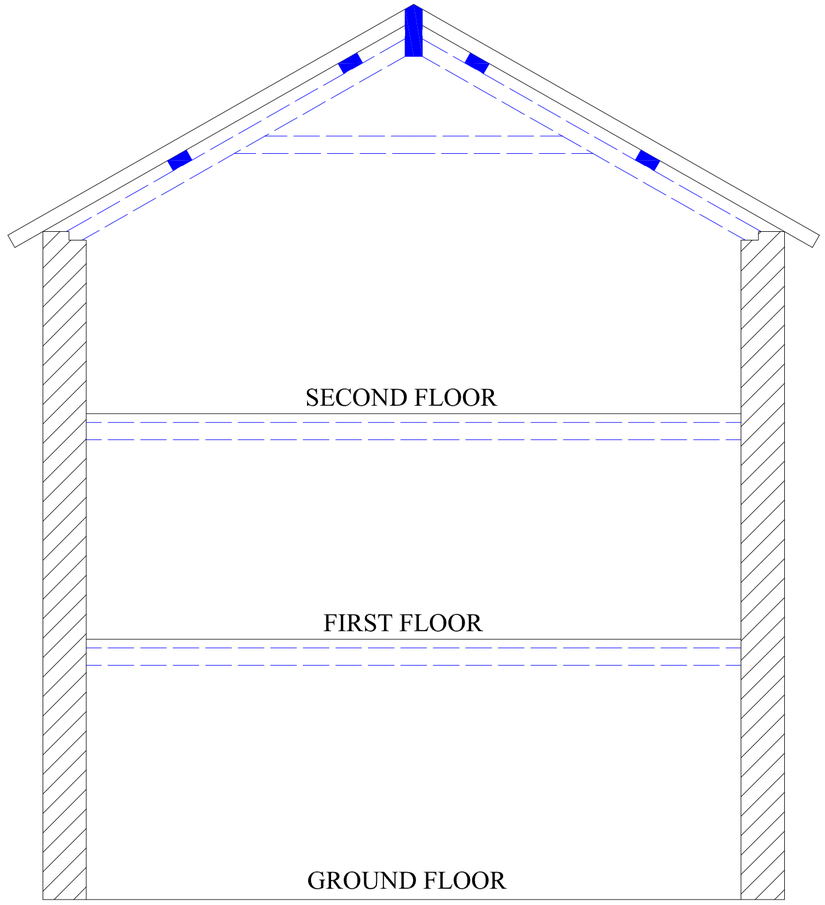
WEST ELEVATION

Figure No. 12

EAST ELEVATION



SOUTH ELEVATION



EAST - WEST SECTION B-B1

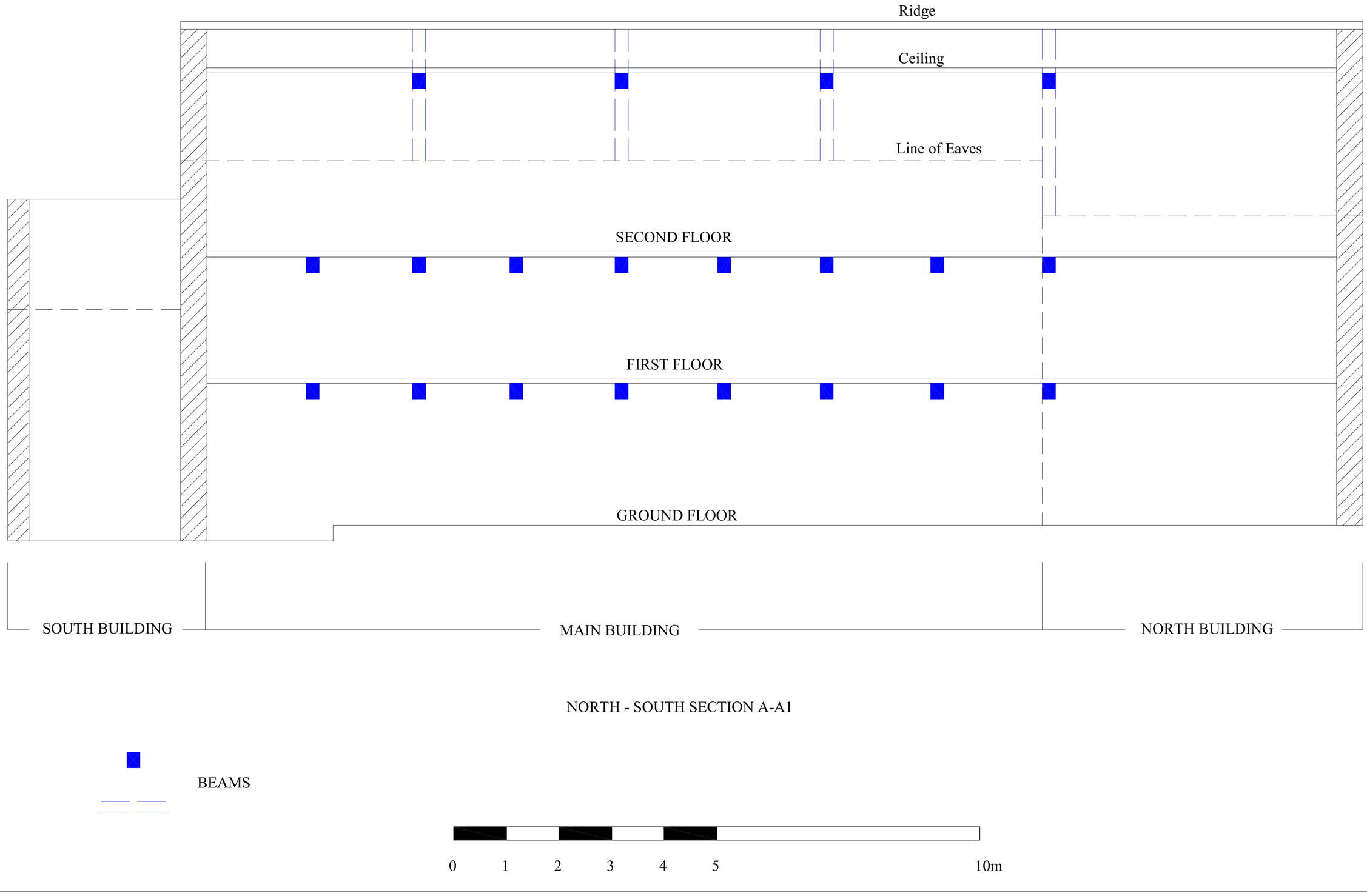
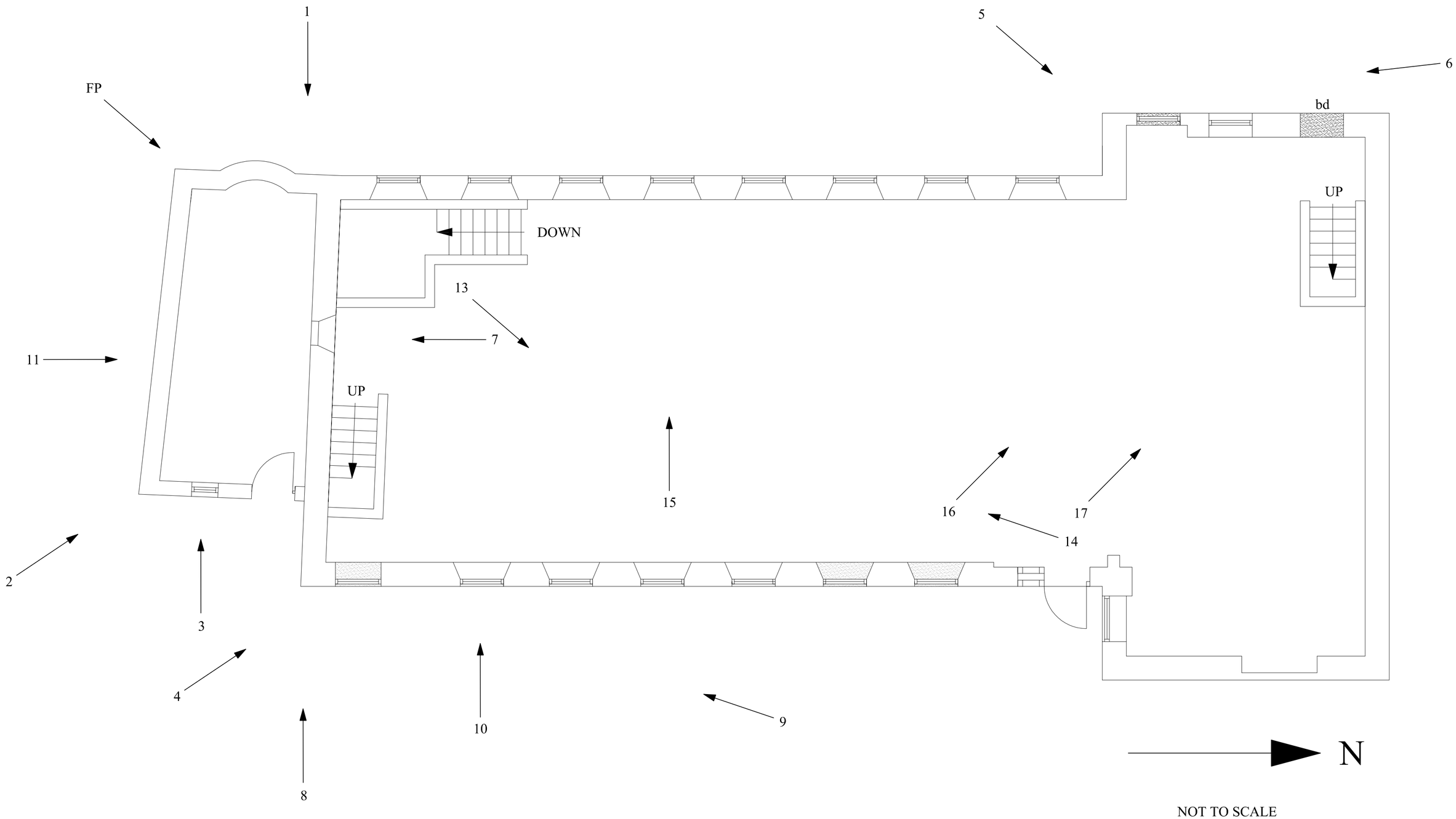

Ridge
Ceiling
Line of Eaves
SECOND FLOOR
FIRST FLOOR
GROUND FLOOR
SOUTH BUILDING
MAIN BUILDING
NORTH BUILDING
NORTH - SOUTH SECTION A-A1
BEAMS
0
1
2
3
4
5
10m

FIG 16: PHOTOGRAPH REGISTER

Plate Nos. in Report	Description	Monochrome Prints	Colour Slides	Date of Shot	Direction of Shot
6	West elevation north building	M1/35-6	C1/10	28/9/06	SE
4	East elevation whole building	M1/33-4	C1/12-15	28/9/06	NW
	North end of roof	M1/32		28/9/06	NW
	South end of roof	M1/31		28/9/06	W
8	Roof of south building	M1/30		28/9/06	W
12	Former roof line of south building	M1/27-9	C1/11	28/9/06	NW
11	South elevation south building	M1/25-6	C1/6-9	28/9/06	N
FP	West elevation whole building	M1/22-4	C1/16	28/9/06	NE
1	West elevation south building	M1/20-1	C1/9	28/9/06	E
5	Blocked doors in north building	M1/18-19		28/9/06	NE
3	East elevation south building	M2/11a		2/11/06	W
2	East elevation south building	M2/12a		2/11/06	NW
17	Type A stanchion ground floor	M2/13a	C2/10	2/11/06 9/11/06	NW
16	Type B stanchion ground floor	M2/14a	C2/7-8	2/11/06 9/11/06	NW
15	Type C stanchion ground floor	M2/15-16a	C2/9	2/11/06 9/11/06	W
13	Ground floor	M2/17-19a	C2/5-6	2/11/06 9/11/06	NE
14	Ground floor	M2/20-1a	C2/3-4	2/11/06 9/11/06	SW
18	First floor	M2/22-3a		2/11/06	NW
20	Stanchion Saddle first floor	M2/24 &26a	C2/1	2/11/06 9/11/06	NW
19	Loading doors first floor	M2/25a		2/11/06	NE
21	Second floor	M2/27 &29a	C2/2	2/11/06 9/11/06	SW SE
23	Loading doors and hoist second floor	M2/28 &30a			NE

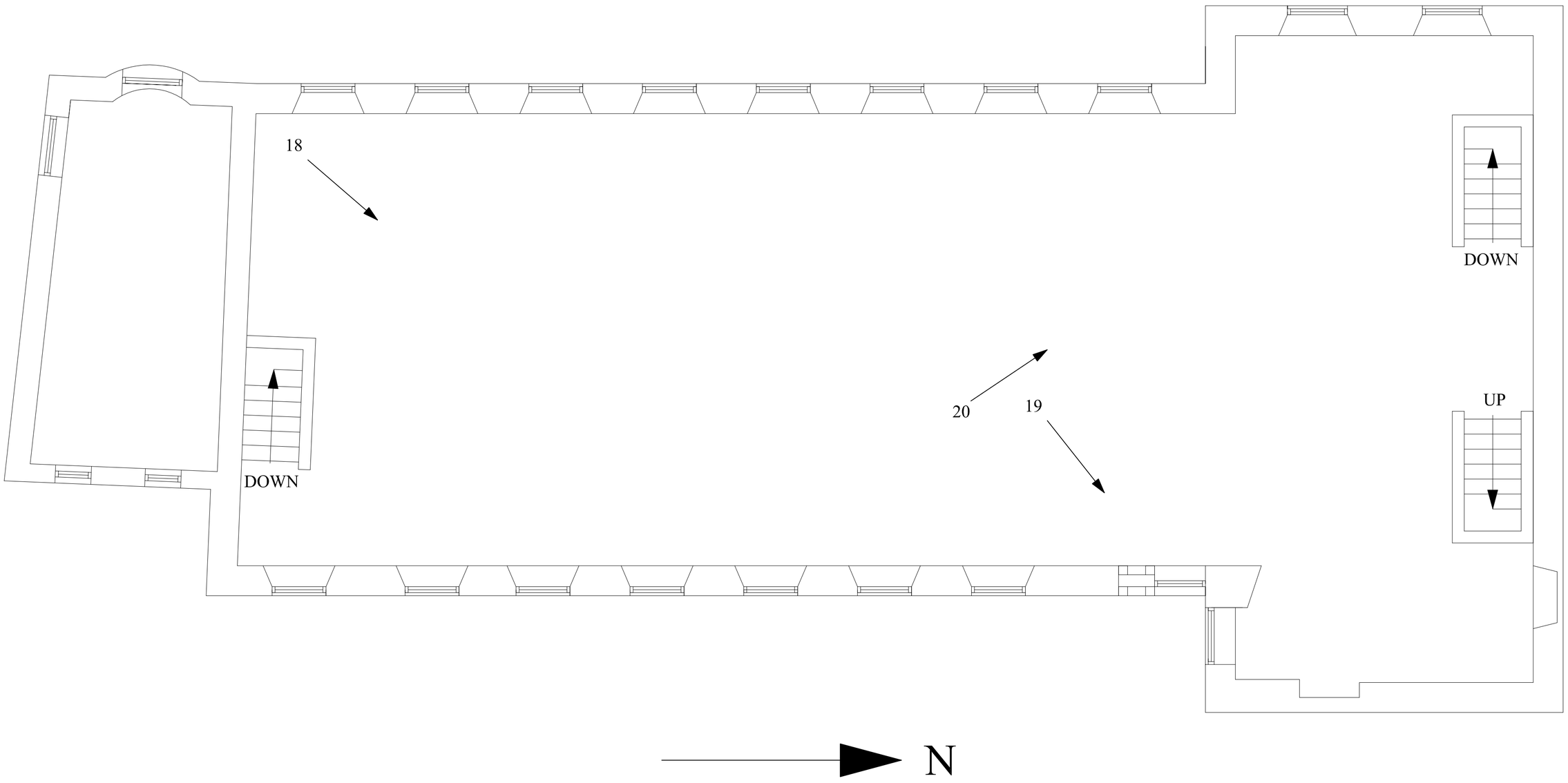
	Recessed windows-west wall -second floor	M2/31a	C2/0 &11	2/11/06 9/11/06	SW S
	Ground floor	M2/32a		2/11/06	N
7	Recess in south wall ground floor	M2/33-4a		2/11/06	S
	West elevation	M2/35-6a		2/11/06	NE
22	Roof timbers-second floor	M3/3-5	C2/12 &13	9/11/06	S
10	Arch in south end of east elevation of main building	M4/29-32		8/5/07	W
9	Location shot of arch in south end of east elevation of main building	M4/33-36		8/5/07	SW

PHOTOGRAPH LOCATION PLAN GROUND FLOOR



NOT TO SCALE

PHOTOGRAPH LOCATION PLAN FIRST FLOOR



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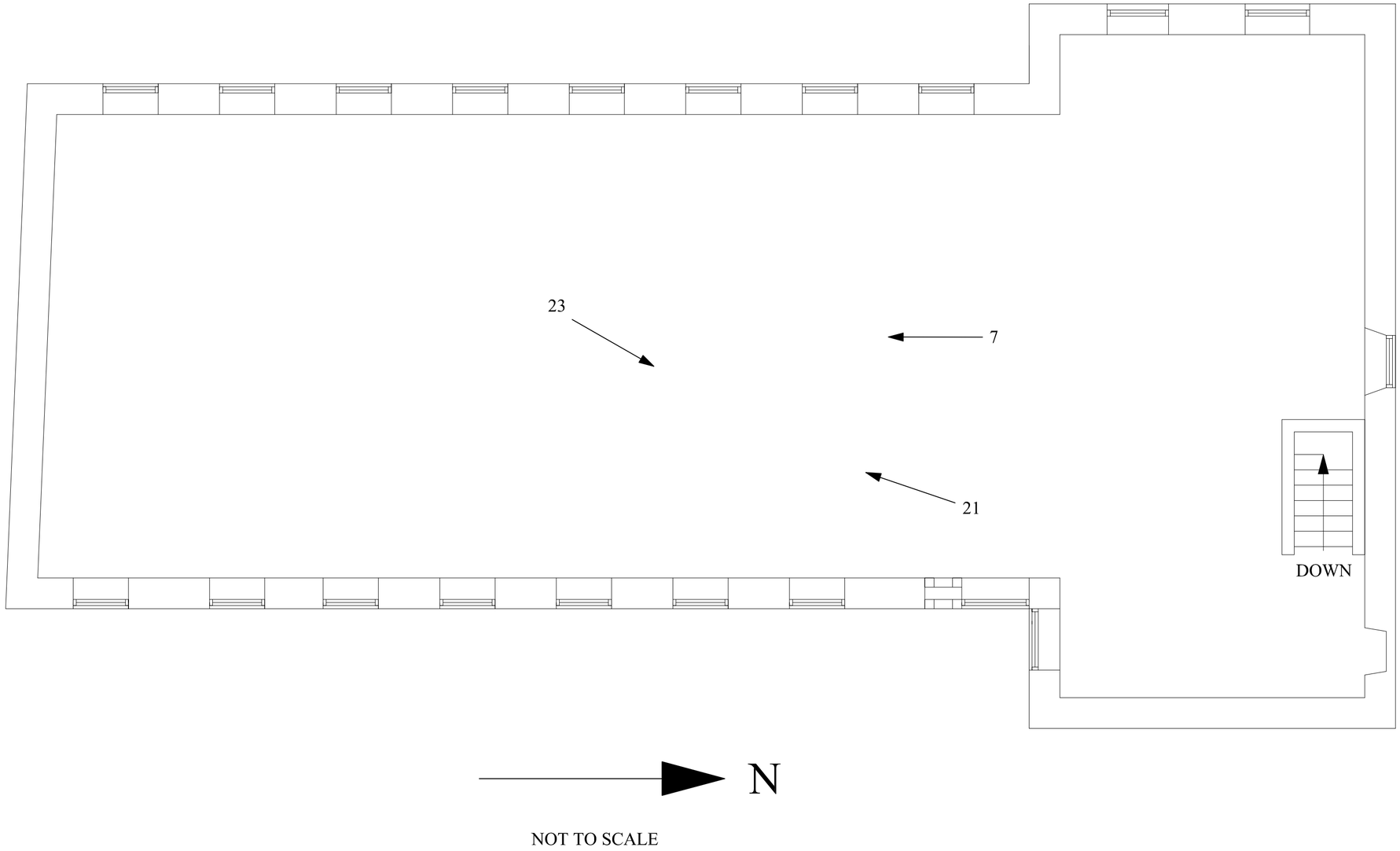

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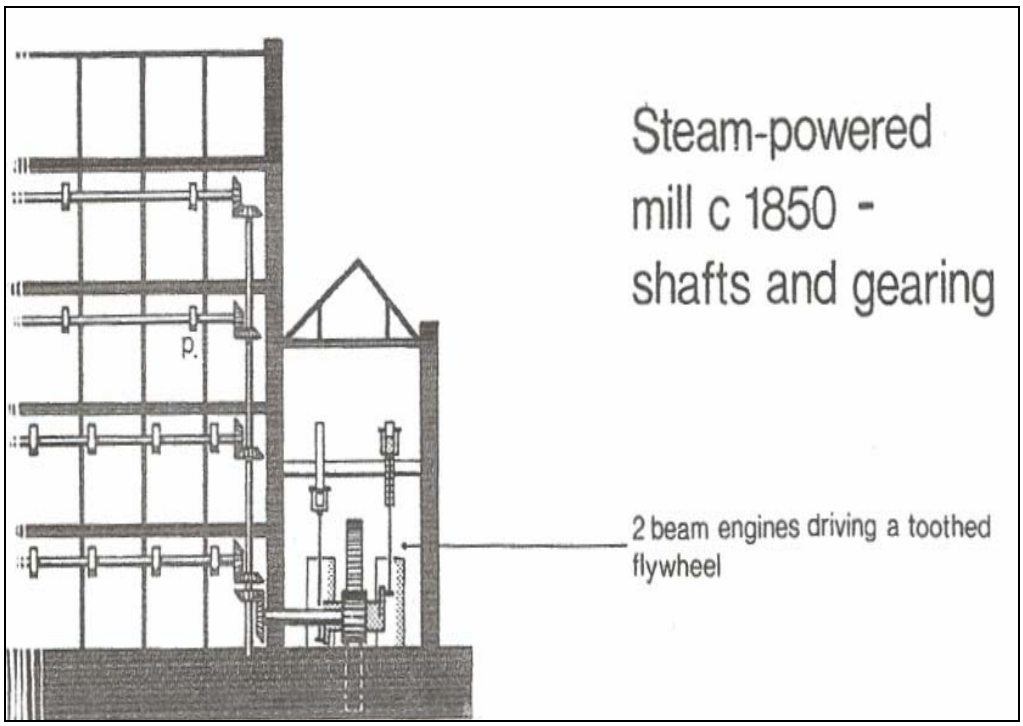

Taken from Cossins 1975 pg. 268

Fig. 20: Diagram of beam engine in textile mill

APPENDIX 3: PLATES

1 of 2

Front Piece:	**West Elevation whole building**
Plate 1:	**West elevation south building**
Plate 2:	**East elevation south building**
Plate 3:	**East elevation south building**
Plate 4:	**East elevation whole building**
Plate 5:	**Blocked doors in north building**
Plate 6:	**West elevation north building**
Plate 7:	**Recess in south wall ground floor**
Plate 8:	**Roof of south building**
Plate 9:	**Location shot of arch in south end of east elevation of mail Building**
Plate 10:	**Arch in south end of east elevation of main building**
Plate 11:	**South elevation south building**
Plate 12:	**Former roof line of south building**
Plate 13:	**Ground floor looking north-east**
Plate 14:	**Ground floor looking south-west**
Plate 15:	**Type C stanchion ground floor**
Plate 16:	**Type B stanchion ground floor**
Plate 17:	**Type A stanchion ground floor**
Plate 18:	**First floor looking north**
Plate 19:	**Loading doors first floor**
Plate 20:	**Stanchion saddle first floor**
Plate 21:	**Second floor looking south**

2 of 2

Plate 22: **Roof timbers second floor**

Plate 23: **Loading doors and hoist second floor**

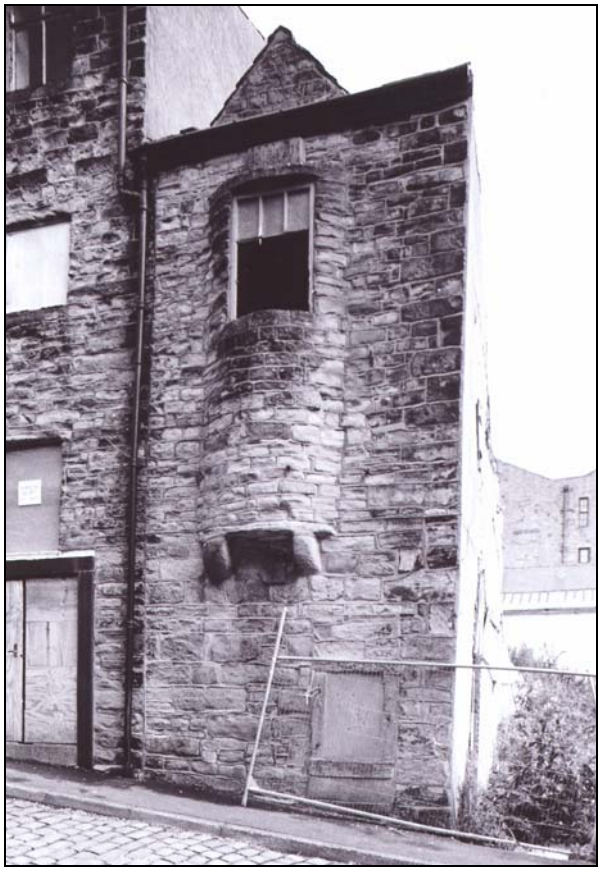

Plate 1: West elevation south building

Plate 2: East elevation south building

Plate 3: East elevation south building

Plate 4: East elevation whole building

Plate 5: Blocked doors in north building

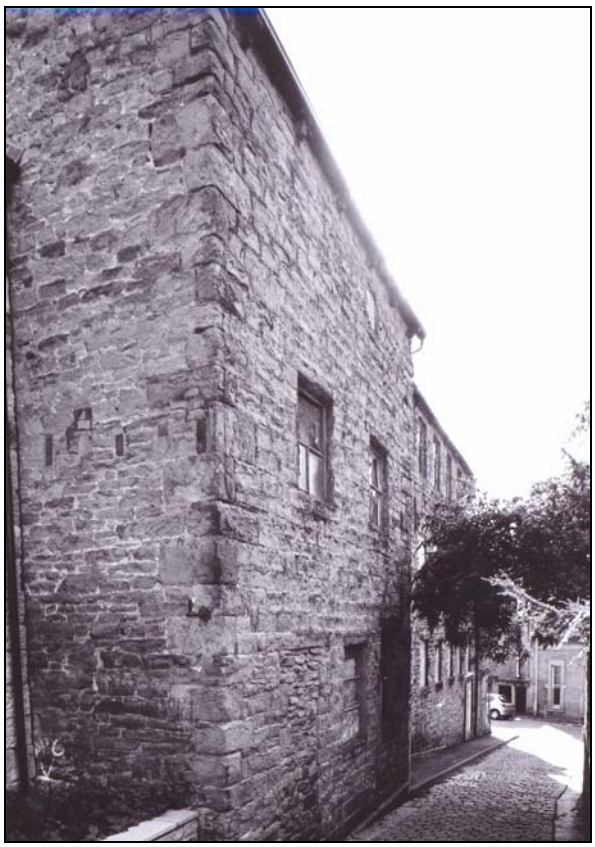

Plate 6: West elevation north building

Plate 7: Recess in south wall ground floor

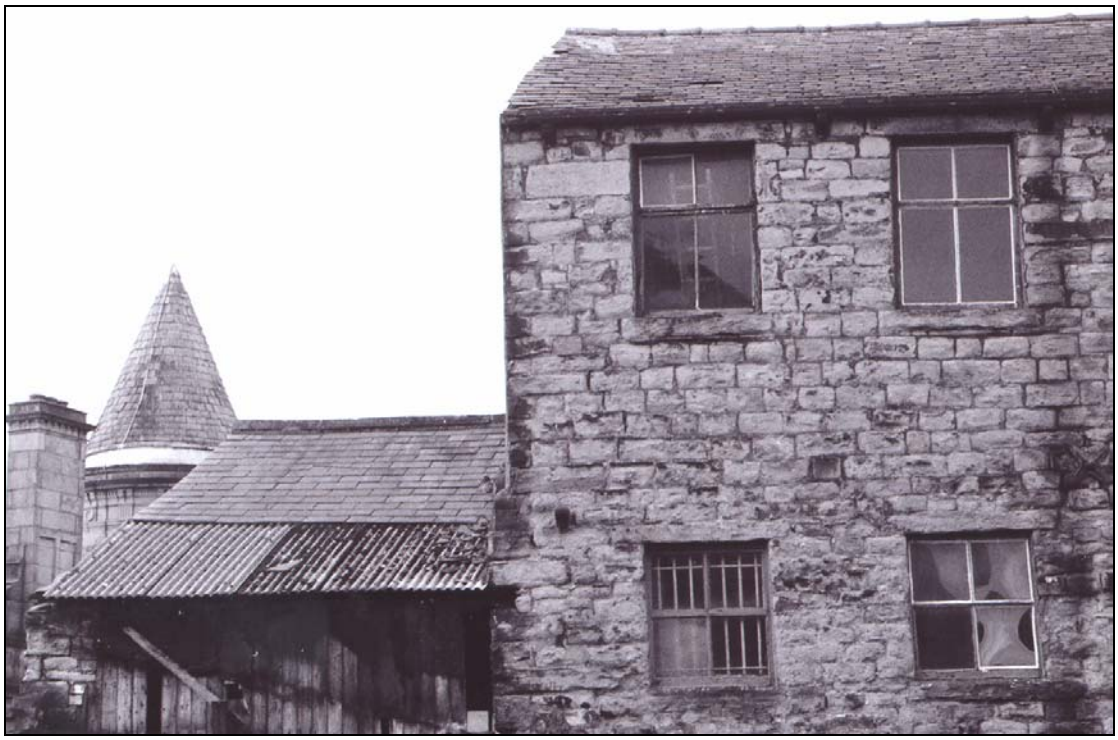

Plate 8: Roof of south building

Plate 9: Location shot of arch in south end of east elevation of main building

Plate 10: Arch in south end of east elevation of main building

Plate 11: South elevation south building

Plate 12: Former roof line of south building

Plate 13: Ground floor looking north-east

Plate 14: Ground floor looking south-west

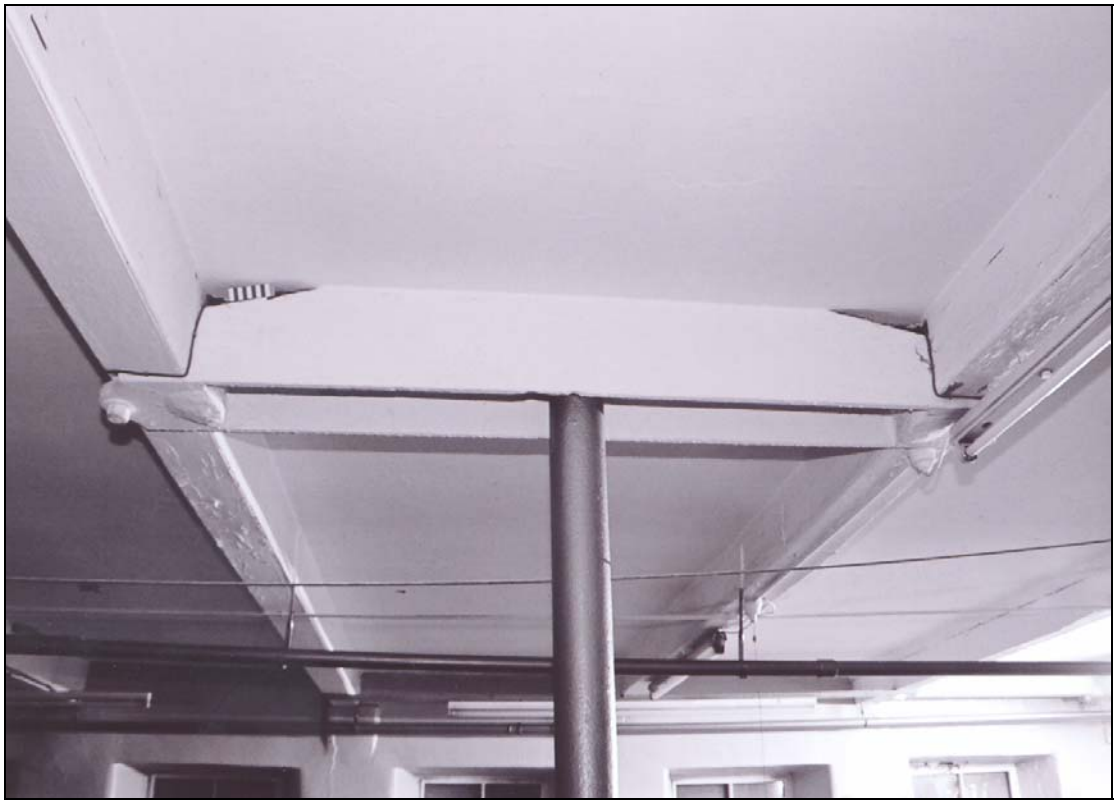

Plate 15: Type C stanchion ground floor

Plate 16: Type B stanchion ground floor

Plate 17: Type A stanchion ground floor

Plate 18: First floor looking north

Plate 19: Loading doors first floor

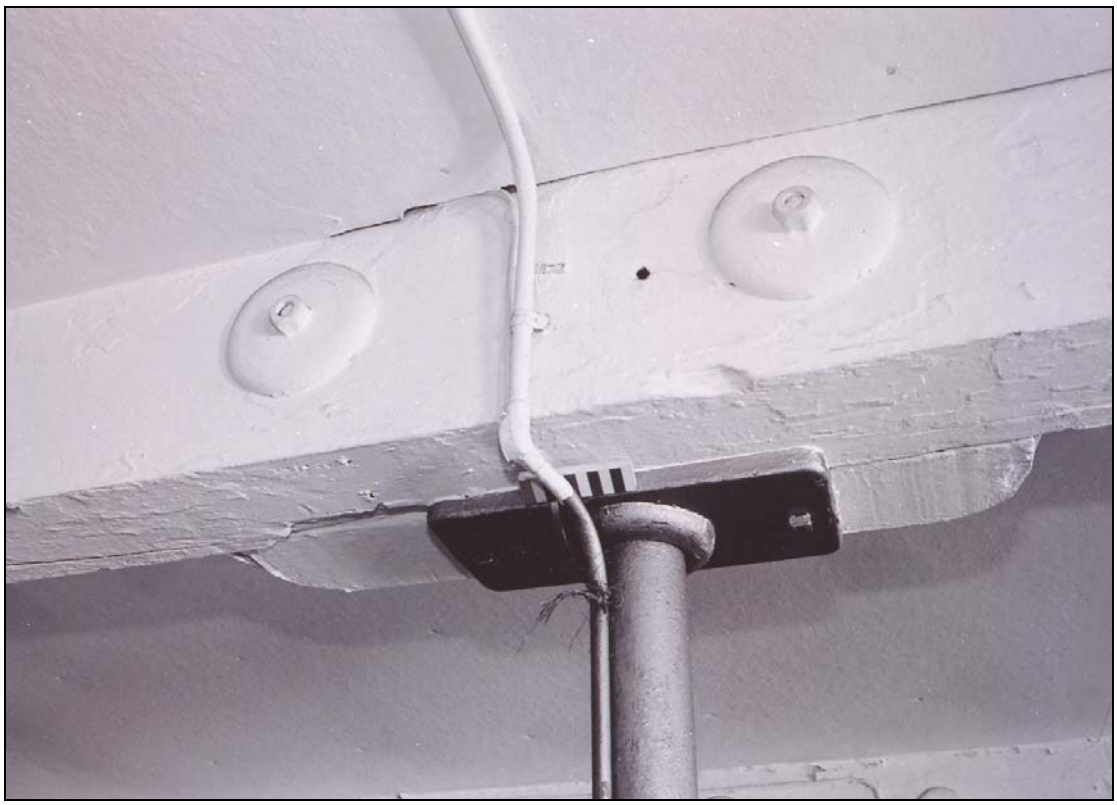

Plate 20: Stanchion saddle first floor

Plate 21: Second floor looking south

Plate 22: Roof timbers second floor

Plate 23: Loading doors and hoist second floor